#Thalophila	AGI_CODE	Description	Sequence
GCT-001A01	AT1G16720.1	oxidoreductase/ transcriptional repressor	GAGTGACAGATTAGCATGCAAAGATTCATATTCCAATCCAACGTATTTATACAATATAAGGAAAAAACGAGAGAATTTGAAAATAATATTATAATTTTTT GAAGGTTGAGCTCTGTTTTGTAGTAGAAGCAGAGTTTTCTCAAAAAATGGTGGGTGGTATTGTTGGCAGTAACATGGCGGCGACTGATGCGAGGTTT CTAAGTTCGAATTTTGGCAACAGTTTCAACATCAACACCAGAATTCACAGATGGGATTTTCACGATCGGTCCCAAATCGCAATCCCTAGGGCTCAATC TTCATCTTCTCCACCTCCATCTTCTTCCTCCGACAAGAATCGCCGCGAAAAGAAGACCAGAAATCTACCCGTAACCACAACAACTACAAAGGAAGGC GAAGAGACGGTGGCGAAGAAACTCGACGGAGCTCCGCCGCCGGCTCAATCTCCATCTCCGCCGCAACTGAAACTGGACGATGTGAATCCAGTGG GTTTGGGGAGGCGATCGCGGCAGCTCTTCGACGAGGTGTGGCGGAAATTCTCTGGATTGGGTCAGATTTCGAGGACGACACGACCGGATGAGCA GGAGACTCTTGACAGTCTTCTTATTAGAGAAGGACCTATGTGTGAATTCGCTGTTCCCGGCGCTCAAAACGTCACCGTTTTAGTAGTCGGAGCCACT AGCCGAATCGGCCGTATCGTCGTCCGTAAACTCATGCTCCGTGGCTACACCGTCAAGGCATTGGTGAGGAAAACAGATGAGGAAGTGATCAGTATG TTGCCAAGATCAGTAGATATTGTGGTCGGAGATGTGGGAGAACCGTCAACGCTCAAATCCGCAGTGGAAAGCTGCAGCAAGATCATCTATTGCGCC ACTGCTCGGTCTACTATCACTGCAGACCTTGTCCGGGTTGATCATTTGGGTGTTTATAACCTCACCAAGGCCTTTCAGGATTACAACAACAGACTAG CGCAACTAAGAGCTGGTAAAAGCAGCAAAAGCAAGCTTTTAATCTCGAAATTCAAGTCGGCTGAGGCACTTGACGGTTGGGAAGTTCGTCAAGGAA CTTACTTTCAGGACACAACTGCTTCCAAATATGATGGTGGAATGGATGCTAAGTTCGAGTTCACAGAATCTGAGAGAGCTGAGTTTTCAGGTTATGTT TTCACTCGAGGAGGATATGTTGAGTTGTCGAAGAAACTTTCACTTCCACTGGGTTCCACACTTGACAGGTATGAAGGCTTAGTTCTTTCTGTTGGTG GGAACGGAAGATCGTATGTTGTAATCCTCGAAGCTGGTCCATCATCAGATATGTCTCAGAGCAAGCTGTATTTCTCAAGAATTACTACCAAAGCAGG ATTTTGTCGGGTAAGGGTGCCATTTTCAGCTTTTCGTCCGGTTAATCCAGAAGATCCACCGCTATATCCATTTCTCGTTCACACATTGACAATACGTT TTGAGCCTAAAAGACAGAGACCTGTTGATGGTCTTGCTGGTGCACAACAAGATTTAAGAAGCTTTAGCCTTATATTCGAGTACATCAAAGCTTTGCCT GCGGGTCAAGAAACCGACTTTATTTTGGTATCGTGTACTGGTTCAGGAGTAGAACCCAACAGGAGAGAGCAAGTGCTAAAAGCTAAGAGGGCTGGT GAAGATTCCTTGAGAAGATCAGGCCTTGGATACACCATCATACGTCCCGGTCCCTTGAAGGAGGAGCCAGGCGGGCAACGAGCGCTGATATTTGAT CAAGGAAACAGAATTTCTCAGGGCATCAGTTGTGCGGATGTGGCTGATATCTGTGTCAAGTCACTGCACGATTCAACCGCGAGAAACAAAAGCTTTG ATGTTTGCCATGAATACGTGGCTGAGCAGGGAATAGAGCTCTACGAGCTGGTGGCTCATTTGCCAGACAAGGCGAACAACTATCTGACTCCTGCTT
GCT-001A02	AT1G51500.1	CER5 (ECERIFERUM 5); ATPase, coupled to transmembrane movement of substances	GAACTTAGAAGAAGAACAAAAGTCTATCTCTCTCCTCTCTCTCTAAGTTCTTATTCGAGATCAAACACAAATGGAATTAGAGAGTACGAGCAATGGCC GGCCTTCTCGTCGTCCTCCTCCTCCTCCGCCGCCGCCGCCGGAGATTGGACGTGGAGCGTACTTGGCGTGGGAAGATTTAACGGTGGTTATACCA AACTTTAGTGGTGGTCCGACTCGACGGTTACTCGATGGACTCAACGGGTATGCTGAACCGGGTCGAATCATGGCCATTATGGGTCCTTCCGGATCC GGCAAGTCCACGCTTCTTGATACACTCGCAGGTAGACTTGCAAGAAACGTGATTATGACCGGTAATCTTCTATTGAACGGAAAGAAGGCAAGATTAG ACTACGGCCTCGTCGCTTATGTAACACAAGAGGACATTTTGATGGGAACACTAACGGTGAGGGAGACAATAACGTACTCAGCTCATCTAAGGCTTTC AAGTGATTTGACCAAAGAAGAAGTCAACGACATTGTCGAAGGCACAATCATGGAGCTTGGTCTTCAAGATTGTGCAGACAGAGTCATAGGTAATTGG CACTCCAGAGGAGTGAGTGGCGGCGAGAGGAAACGCCTCAGCGTTGCGTTAGAGATCTTAACGCGACCGCAGATTCTGTTTCTTGACGAACCCAC AAGTGGTTTGGACAGTGCTTCTGCTTTCTTTGTGATTCAAGCGCTTAGGAACATCGCTCGAGAGGGAGCTAGAACCGTTGTGTCATCGATTCATCAA CCTAGTAGCGAAGTTTTCGCTCTCTTTGATGATCTTTTCTTGCTCTCTGGTGGTGAGACTGTTTACTTTGGTGAAACCAAGTTTGCTGTTGAGTTCTTT GCTGAAGCGGGTTTTCCTTGCCCTAAGAAACGGAATCCTTCTGATCATTTCCTTAGATGTATAAACTCTGATTTTGATACAGTTACAGCTACACTCAA AGGATCTCAGAGGATGCGGGAGACACCAGCTACATCAGATCCTTTGATGAATCTAGCAACATCTGAGATCAAAGCTAGGCTTGTTGAGAATTACCGT CGTTCAATCTACGCCAAATCTGCAAAATCTCGGATCCGTGAATTTGCTAGCATTGTAGGAGATCATGAGATGGAAGTGAGAAAGGGAAGTGAAGCG AGCTGGTTTAAACAGCTAAGTACTTTGACAAAGAGGTCGTTTGTGAACATGTGCCGCGATGTTGGATACTACTGGTCAAGAATTGTGATATACATCGT GGTATCGATCTGTGTTGGGACAATCTTTTACGATGTAGGACACAGCTACACATCGATCTTGGCTAGGGTTTCTTGTGGTGGATTCATTACCGGTTTC ATGACTTTCATGTCCATTGGAGGGTTTCCTTCTTTCATTGAAGAGATGAAAGTGTTCTATAAAGAGAGATTGAGTGGTTACTATGGCGTCTCGGTTTA TATTATATCAAACTATGTCTCTTCTTTCCCGTTCTTGGTAGCGATCTCCGTCATCACAGGGAGTATTACTTACAACATGGTGAAATTCCGTCCAGGGT TCTCGCATTGGGCCTTTTTCTGTCTCAACATATTCTTCTCTGTCTCAGTCATTGAGAGTCTCATGATGGTTGTGGCTTCTCTTGTTCCAAATTTCTTGA TGGGTCTCATTACAGGAGCTGGTATCATTGGAATCATCATGATGACTTCTGGATTCTTCCGTCTGCTTCCTGATCTTCCAAAGATTTTCTGGCGCTAC CCTATTTCCTTCATGAGTTATGGTTCTTGGGCAATTCAGGGAGCATACAAGAACGATTTTCTTGGCCTAGAGTTTGAACCTATGTTCGCGGGAGAAC CCAAGATGACTGGAGAGGAAGTGATAAGAAAGATATTTGGAGTTAAAGTCACACATTCGAAGTGGTGGGACTTAGCAGCGATCGTGTTGATCCTTGT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001A03	AT5G06980.2	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT3G12320.1)	GATCTTTCTCTCCTTCACTCACAAGTCACAAATCTGCAAGATAGACACGAACTCATAATCTTGGTTTTCGTAAAAGAAAAAAAGAGAGGAGATTTCTTA TTCAGATCTGAACAAAGTTGAAACTAATCATGGATCGTTATTCAAGGAGGAACTCAGAGGATCTAGTAGTGCCTAACTATCAGGAGACATCAGATTCA TACCCATCTCCTGATATGTGGGGTGGATGGAGCATGAACTCTCAGAAAGCTGCGGAGAAATGCTTCGACTTTGATGTGATTAACAATGGATTCAGTG GAGGATTATACAGTCAGATGGAGATGGAGATGGAGATGGAGATGGGGACGAGTGGAGAAGTAGAAGAAGAATCAAAGAGGTTAAAGGCGGCTGGT GATTGTTTCTACCGCCCAACGTCGTCGCTTCATGATTTCGATGGAATCCAACAGATGGATGACATATTCTTAAGTTCCATTTTGGAGGATGTTCCAGG GAATGAGGGTCTTCATTCTTTCAGTGAGTTGGATAATGACAGTCCCGGTCCTTCCTCTGCGTATCTCAGCAATCTCGATGGCATAGAAGTCCCGATG TTCCATTATGATTGGGAAACTTGTCAAGACATGCCTCTTATGGGGGAGCATGAGGCATCAATGAAGATCTCGGAGCTATGTGAGGAAAATATGGAGG AGCCGTCTAATGAAGAAGTTGTGTTGCAGGATCTACAAAGGGCTACAGAAAAGTTGACAGATGATACCCGCAAATGCTTCCGCGATACATTTTACCG GCTTGCGAAGAACTCACAACAGAAGTCAGAATCCGGCAACAACAACCCGGAGGAGTTCCTTGAGGATGGAACAAGTAGGAACAGAGATCAGAAGA CTGAACTGGAAACAAATTCAATCGACAGAGCAATCGCCAATCTCACATTCAACAAGATGGAATCCAACATGAGAAATTTGCCTCCACCAAAGAGAGT TTCTTGTAATCAAGGATAAGGGGAAAGTTTCAGAACAAAAACCTTATCATCATCTTTAGTATGTGTATATATTATGTATTGTGCGTGTGTGTGTGTGTG TATATGCTTTGGCTTGACTTTGCCAAGCTTCAGTTTTGATCTCTATTTCAATACACTCTGATGAGCTTCGTTGACTTTGTTCCTGGATTTCATTTTCTCG
GCT-001A04	AT4G03190.1	GRH1 (GRR1-LIKE PROTEIN 1); ubiquitin-protein ligase	GGGATCACCCATTTCTGAATCAAATCTCAAACCTTTTTTTTTTTGTTCATCTCTCTCTCTGTTCTGATGGGTCTCCGATTACCATCAAAGGTTCTTGAG CATATCCTCTCCTTCGTCGATTCCAACGAGGATCGGAACTCAGTTTCTCTGGTCTGCAAGTCATGGTTCGAGACTGAGCGGCGAACTAGGAAACGT GTCTTTGTCGGCAACTGTTACGCGGTCAATCCTGCGGCGGTTGCACGGCGGTTCCCGGAGATGAGATCTCTGACTCTGAAGGGTAAGCCTCACTTC GCCGACTACAATTTGGTTCCTGACGGTTGGGGAGGCTATGCTTGGCCGTGGATTGAGGCTATGGCGGCGAAAAGCCCGTCGCTTGAGGAGATTAG GTTGAAGAGAATGGTGGTGACTGATGAGTGCTTGGAGAAGATTGCTGCTTCGTTTAAGGATTTTAAAGTCCTTGTGTTGACTTCTTGTGAAGGTTTCT CCACTGATGGTCTCGCAGCCATTGCAGCAACTTGCAGAAACCTGAGAGAGCTGGAATTGCGAGAATGCATAGTTGAAGATCTAGGAGGAGACTGGC TTAGCTACTTCCCAGAAACGTTGACCTCTCTTGTCTCTCTTGACTTCTCTTGTTTAGACTCGGAGGTTAAACTCTCCGACTTGGAGCGTCTCGTGAGC AGGTGTCCAAACCTCAAGTCTCTCAAGCTGAATCGAGCCGTGACTCTAGACGGACTCGAGAGCTTACTTCGTCGAGCTCCACAGCTGGTTGAGCTT GGCACAGGTTCTTTCTCCGATGAACTGACTCCAGAAGCGCTTTCAAAGTTGAGAAAAGCTTTTGCAGAGTTGAAGCAACTTAAGTGCTTATCTGGTC TTTGGGATGTCCTCCCTGAGTATATTCCGCTTCTTTACTCTGTTTGTCCTGGTCTTACCTCGTTAAACTTGAGCTATGCTACTGTTCAAATGCCTGATC TTGTCGATCTTCTGAGTCGATGCTCGAAATTGCAGAAGCTATGGGTAATGGACTTGATAGAGGACAAAGGTCTCAAAGCTGTTGCCTCGTCTTGTAA GGAACTGCGAGAACTAAGGGTGTTTCCATCTGGAGCAGATCTCGATGAAACAAATGTAGCTCTGACGGAGCAAGGTCTGGTCTCTGTGTCGGAAGG CTGTCCAAAGCTTGAATCTGTTCTCTACTTTTGTGTCCAGTTTACAAACGCGGCTTTGGTTACCATCGCAAGAAACCGTCCAAATATCAAATGCTTCC GCCTCTGTGTGATGGAGCCATTTGCTCCTGATTACAGAACACATAAGCCACTCGATGAAGGTTTCAAAGCCATAGTAAAGGGATGCAAGGATCTTCA ACGTCTCTCTGTCTCTGGTCTACTCACTGACAAGGCCTTTGAATACATTGGAATATATGCCAAGAAGCTTGGGATGCTATCAATAGCTTTTGCTGGG GACAGTGATTTGATGCTTCATCACTTGTTGTCAGGCTGTGAGAGTTTAAGGAAGCTTGAGATAAGAGATTGCCCTTTTGGAGACGCTGCGCTACTGG AGAACGCTGCGAAACTAGAAACCATGCGATCCCTTTGGATGTCGTCTTGCTTTGTAAGTTTCGATGCTTGCAAGCTCCTGAGTCAGAAAATGCCAAG GCTCAATGTCGAAGTCATTGATGAACATCCTCCAGAGACAAGGCCTGAGAGCTCTCCAGTTGAGAGGATATACATATATCGAACACTCGCAGGACC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001A05	AT4G18880.1	AT-HSFA4A (Arabidopsis thaliana heat shock transcription factor A4A); DNA binding / transcription factor	GAAGGAGCAACGAGGTTTCGAGAAGCAAAATCAGTTTTTTTTGTTTTGTCCTTCTTTTATCTGATTAGGTGAGATTTAATGCGAAAAGGGATCTAGATT CGTTGAATTTCCTAGGAGGGTTTTGGGTTTTGGAAGATTCTTCTTTGATTGGCTTCATTTACGAAACAGTGGTGGATTTAAGAGATTTCTCTCTCACTT TGTTGAAGCTCGAAGCTATTTTTTTGGGAGGGAATTATGGGTTTTGATTTGAAACAGAGCTTTTATCTTCAGCTTCTAGATTTATCCAGTTTTGATCTA AACTAGTGATAATACTTAAGTCATCGAACTGAAAGTTTCAATCTTTGGTTCTTGAAGCTTTGTAGTTGATTAAAAAGGAGTTTCTACTTCTGTTTTATTG AGTGTGATTGGGAGCTTTTGTAGTTTATCTATAAGTGTTTTTAGAGATGGATGAGAGTAATCATGGAGGTTCATCAAGCTCACTCCCACCTTTCCTCA CCAAAACATATGAGATGGTTGACGATTCTTCATCGGATTCAATTGTCTCGTGGAGCCAGAGCAACAAGAGTTTCATCGTTTGGAATCCGCCAGAGTT TTCCAGAGGCCTTCTTCCCAGATTCTTCAAGCACAACAACTTCTCAAGCTTTATCCGCCAGCTTAACACATATGGGTTTAGAAAAGCTGATCCTGAGC AATGGGAGTTTGCAAATGAGGATTTTGTGAGAGGTGAACCTCATCTAATGAAGAACATTCATAGACGCAAACCTGTTCACAGCCACTCTTTACCGAAT CTGCAAGCTCAGCAGAATCCGTTGACTGATTCAGAACGACAGAGAATGAATAACCAAATCGAGAGACTGACTAAGGAGAAAGAAGGATTGCTTGAG GAGTTGCATAAACAAGAGGAGGAACGAGAGGTGTTTGAGCAACAAGTGAAGAAGCTAAAAGATCAGTTACAACACATGGAGAAGCGTCAGAAAACA ATGGTTTCGTTTGTCTCTCAGGTGTTGGAAAAACCAGGTCTTGCTTTGAACCTATCTCCGAGTCTCCCTGAAACAAACGAGAGGAAAAGAAGGTTCC CTAGGCTCGGGTTTGAGCCGATGTTGGAAGAGAACCAAACGTGTGTTGTTGCGAGAGAGGAAGGTTCCACAAGCCCTTCTTCACACACGACAGAAC ATCAGGTGGAACAGCTAGAGTCATCGATAGCGATTTGGGAGAATCTGGTGTCGGAATCTTGTGAGAGTATGGCTCAATCAACAAGAAGCATGATGA CACTTGATGTGGATGAATCATCTACTTGTCCAGAGAGCCCTCCTCTTTCTTGCATACAGCTGAGTATCGATACACGTCCCAAATGTCCTCCTTCTCCA AGGATCATCGACATGAACTCCGAGCCCGATGTTTCAAAAGAACAGAGCACTGTTGCTCCTGCTCCTCCTCCTCCAGCAGCAGGAGTGAACGATGTC TTCTGGCAGCAGTTTTTGACGGAGAATCCTGGCTCAGCCGAGCAACGGGAAGTTCAATTAGAGAGAAAAGACGATAAAGCTGAGGATCGAAGTGAG
GCT-001A06	AT4G22240.1	plastid-lipid associated protein PAP, putative	GAGCTTCGAATTTTTGGTCGAAGAAAAGAAAGAAAAAAAAATGGCGACGGTACAATTGTTCAGCCAATCCCCCTGCAAAACTCGAGTTTCGAGCTCA GCAAACTCAAAATCCCTTTCCAAGCCTCCGATTCTGGTGCCGGCAAGCTCGATTACTCGCCGTCCAGTGCTCTCGACCGGACGATTCGCTGTTTCC CGGGCGGATTTCAGAGTACGAGTCACCGATGCGGAAGACGAATGGGGTCCGGAGACAGGGGAGAGAGGATCTGCTCTATCGGTGGCGGAGGAAG CAATCGAAGCCGTGGAGGAGACGGAGGTTCTCAAGAGAACACTGGCGGATTCGTTGTACGGAACAGATCGTGGTTTGAGCGCGTCGAGCGAGACC AGAGCCGAAATCGGAGATCTGATCACACAGCTCGAGTCGAAAAACCCTACCCCGGCTCCGACGGAAGCTCTCTTCCTTCTCAACGGCAAATGGATC CTCGCCTACACATCGTTCGTTGGTTTGTTCCCTTTGCTTTCACGAGGAATCGTGCCTTTAGTAAAAGTCGATGAGATCTCACAAACCATTGATTCAGA AAACTTCACCGTCCAGAACTCCGTTCGTTTCGCTGGTCCTTTAGCTACAACCTCAATTAGCACAAATGCCAAATTCGAAATCCGAAGCCCAAAACGC GTCCAGATTAAGTTCGAGCAAGGAGTAATCGGGACTCCTCAGCTAACGGATTCGATTGAGATCCCTGAGTATGTTGAGGTTCTTGGTCAAAAGATTG ATCTTAACCCGATCAGAGGGTTGCTTACCTCGGTACAAGACACAGCCTCGTCTGTGGCTAGAACCATATCGAGCCAACCACCATTGAAATTCTCTTT GCCAGGGGACAATGCACAGTCTTGGCTGCTCACGACTTATCTGGACAAAGACATTAGGATCTCTAGAGGAGACGGTGGAAGCGTCTTTGTGCTTAT CAAAGAAGGAAGCCCTCTCTTGAACCCTTGAACCGCCAAAATCTCTCTCTCTCGTCTATTCTTAGTACAAAATAAGTGTTCAATAGTGTTGTTATAGG TTTACTTCTTAATCGTTATTATTAACTCGGATAATATGGAAATTAAGAAATAATGTTGAAACTGCTATGTAGCTTCTTTTGCTATGGCCTATAGGTCTAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001A07	AT4G37270.1	HMA1 (Heavy metal ATPase 1); copper-exporting ATPase	AAGTTGGATCCTATATTTTGGTTGGAACTGGTGAGATTGTTCCTGTAGATTGCGAAGTCTACCAAGGTAGTGCTACCATAACAATTGAGCACTTGACT GGGGAAATAAAGCCATTGGAGGCAAAAGCTGGAGATAGAGTGCCTGGCGGTGCAAGAAATTTGGATGGCAGAATGATTGTGAAGGCTACGAAGGC ATGGAATGAGTCGACGCTTAACAGGATTGTACAGCTGACCGAGGAAGCACACTCTAATAAACCCAAACTTCAGAAATGGCTGGATGAGTTTGGGGA GAATTACAGCAAGGTGGTGGTTCTTTTGTCACTTGCTATTGCCTTCCTAGGTCCATTTTTGTTCAAGTGGCCTTTTCTCAGCACCACAGCATGCAGAG GATCTGTCTACAGAGCATTGGGACTTATGGTGGCTGCATCACCATGTGCTTTGGCTGTTGCTCCATTGGCTTATGCTACTGCTATTAGTTCCTGTGC AAAAAAGGGAATATTGCTGAAAGGTACACAGGTTCTAGATGCTCTCGCTTCTTGCCATACGGTTGCTTTTGACAAAACCGGGACCTTAACGACCGGC GGCCTTACTTGCAAAGCAATTGAACCCATTTATGGGCACCAAGGAGGTAGTAATTTAAGTGTAACAACTTGCTGCGTTCCAAATTGTGAAAAAGAAG CTCTTGCCGTAGCGGCTGCGATGGAGAAGGGCACCACGCATCCTATTGGAAGAGCTGTGGTAGACCACAGTGTGGGAAAGGACCTCCCTTCTATT TTTGTTGAAAGCTTCGAATATTTTCCTGGTAGAGGCCTTACTGCTACTGTAAATGGTGTTGAGTCAGTAGCTGAAGAGAGTAGATTACGCAAAGCATC ACTTGGTTCTATAGAGTTCATTACCTCGCTCTTTAAATCAGAAGATGATTCGAAACAGATTAAGGATGCTGTAAACGCCTCTTTGTACGGAAATGAATT TGTTCATGCCGCTCTTTCTGTTGATCAAAAGGTAACATTGATTCACCTCGAAGATCAGCCTCGTCCAGGTGTATCAGGAGTTATAGCAGAACTTAAAA GCTGGGGCCGACTCCGAGTAATGATGTTAACCGGGGACCATGATTCAAGTGCTTGGAGAGTTGCAAACGCAGTGGGTATTACTGAAGTGTACTGTA ATTTAAAGCCAGAGGATAAGCCAAACCATGTAAAGAACATCGCTCGAGATGCAGGTGGAGGTTTAATCATGGTAGGCGAAGGGATTAATGATGCTC CAGCCCTAGCAGCTGCAACAGTCGGGATTGTTCTTGCTCAACGAGCGAGTGCCACGGCAATTGCTGTTGCCGACATCTTACTGCTTCGGGACAACA TCACCGGTGTTCCCTTCTGTGTAGCTAAATCCCGCCAGACAACATCACTGGTAAAGCAAAATGTGGCTCTTGCATTGACATCGATATTCTTGGCCGC TCTTCCCTCAGTTTTAGGGTTTCTTCCATTGTGGTTGACGGTACTTTTACATGAAGGCGGGACTCTTCTCGTGTGCCTCAACTCAGTACGTGGTCTGA ACGATCCATCATGGTCGTGGAAACAAGACATAGCTCATCTAATCAACAAGTTAAGCTCACGAGAGTCCACCAGTAGCAACAACAGTTTGAGCTCTGT
GCT-001A08	AT2G38330.1	MATE efflux family protein	GGTTCTCTTTCTTTCCCTCCGCCGAGATTTTCTGTCCGTCTCTCTCTCTGCGATGGCGGCGGTCACGACCTCCTTCTCTCTCTCTCCCCTTCGATCT CTCTCAATTTTCCAGCTTCACAATCTTCCTCGGAACCCTAATTCATCTATTCGAAGAACAATCGTCTTTAAATCTTCGCCTCGGGATGATTCTCCCTCC GTCACCGCTTCTTCTAAAGATTCCTCTCGGCCGCCGGAAAAACAGCAGAGTCCTCTGAATTTACAGAATCTATTGGAATCTCCTGAACCGGAACCTG ATCCCAAACCGGATCCTGGGATTGGTAAAATTGGAATGGAGATTATGTCGATTGCATTACCGGCGGCATTAGCTTTGGCCGCCGATCCTATAACATC GCTTGTTGACACGGCGTTTGTCGGCCATATTGGTTCAGCAGAATTAGCTGCAGTAGGAGTCTCGGTTTCTGTATTCAATTTGGTGTCGAAGCTCTTT AATGTTCCTTTGCTTAATGTCACAACATCGTTTGTTGCGGAGGAGCAAGCAATTGCCGCTAAGGATGATAATGATTTTACGGAAACAAGAAAGAAAGT GTTGCCTTCTGTTTCAACCTCCTTAGCTCTTGCAGCTGGTGTTGGTATTGCAGAGGCCATTGCGCTCTCTCTTGGATCTGATTTCTTGATGGACATAA TGGCTATACCTTTTGTATGTCTAAGCTTCTCTCAGATCACAGTACAAACCATTTATCTTTGGAGTTTCGTAAGTGGTTGGTAAATTTTCAGGACTCACC GATGCGAATACCAGCAGAGCAGTTCCTCAGACTTAGGGCCTATGGTGCACCGCCCATCGTAGTTGCATTGGCTGCGCAAGGAGCTTTTCGAGGTTT CAAGGACACAACCACGCCTCTATATGCCGTGGGCAAGTATTGCACAATATAATCTTCTTCTTATTTTTCTCGTATTTATGCATGACTGAATCTGCGGA GATAGAATTATGATCAACATCTACATGACCACCAGTTATTGTATAGACATATGAGTAACATAGACATGACCTCCAATGTTGTAGTTTGAATCATATTTA CAACCGTATATTCACATTAGCACATGCATGTTATGGAGATATATGTTTGTGATATGTAAACTTTGGATCAACAGTTGCGGGGAACGTGGTCAATGCGA TATTGGATCCAATTCTGATATTTGTTCTTGGTTTTGGTATCTCTGGTGCTGCGGCTGCTACTGTGACATCTGAGTACGTCCAAAAATGTGATACTTGA TTGCGTTTATACTTCTGTGGAAGCTAAATGACAACGTGGTTTTGCTTTCTCCTCAATTCAAAGTGGGAAGAGCCAACCAGTACCTCAAATCAGGTATC TCCATAAATTGTTCGAGTTTCTTTACATTACTCAAGCGCAAAATGCTACTACTACATATATGAAACATGTTGATTCATGCTTAGGTGGGCTTCTGATTG GTAGAACGGTTGCACTGCTTGTGCCATTCACGTTGGCTACTTCATTAGCAGCTCAGAAAGGGCCGACTCAAATGGCTGGCCATCAAATCTGCTTGG AAATTTGGTTGGCCGTCTCTTTGCTCACCGATGCTTTAGCCATTGCTGCACAGGTCTATAGTCCTTTGAAAAGGATCATTTCGAGCTAATATAATAAG ATACAAGAATAAAGTTTTGTGGAAAAGTATTCACTTAAATTCTCTCTCCCTGGCCTATATTCAGAGTCTGCTTGCGACCAGTTTCTCTCAAGGAGAATA CAAACAGGCCCGAGAAGTTATCTTTGGAGTCCTTCAAGTTCGTATTCCCTAGCGCCCATGTTTCATATATACAAAAGTCGCAATATTTTTATGTGTTTG ATGGTATTCTGAGCAGATAGGTTTAGCAACTGGAGCTGGGTTTGCTGCTATTTTGTTCATCGGATTTGAACCATTTTCGAGCTTATTTACAACGGATT CAGAAGTTCTAAAGATTGCTTTGTCAGGGACCTTATTTGTGGCTGGATCTCAACCGGTGAATGCTCTAGCGTTTGTTTTTGATGGGCTCTATTACGGA GTCTCTAACTTTGGATTTGCCGCTTACTCTATGGTTATTGTCGGATTCATATCTTCCTTGTTTATGCTTGTGGCTGCACCAACGTTTGGCCTTGCCGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001A09	AT3G46830.1	AtRABA2c/AtRab11A (Arabidopsis Rab GTPase homolog A2c); GTP binding	GACGCCCAAAACAAATTAAAACAGTTCGTCAGAATTTTCCATTTTTCCACCATTGATTAGGAGAGAAAAACATTCGTAGATTGTTTGAAAAGAAACGAA ATCTCTCCTCCCAGTAGAAGTTTCTTCCTTTTCAGATCTGAAGCAAACCCTTCAAAAAATCGATTTCTCGATTCATCCGCCATTTTTTTTCTTCTCAAAC GAAAGGGGTACACGATCGTTTTTCGTCTTCTGATTTTACTTGGTCTCGTCTTAATTTCGTTGGATCTGTTGAAGTTTTTTTCAACGATGTGTGTTTGAT TATGGAGACGAGGGTTCTGATTCCGAGACGTTTCTCATTTGTGTATATAGGTTGATTGCGAGATCGGAGAAAGGTGAAAATGGCGCATAGGGTTGG TCAGGAATACGATTATTTGTTTAAGATCGTGTTGATCGGCGATTCCGGCGTTGGGAAATCGAATATCTTGTCGAGATTCACCAGGAATGAGTTTTGTT TGGAATCCAAATCCACTATCGGTGTCGAATTCGCCACCAGAACTACTCAGGTGGAAGGAAAGACGATCAAGGCTCAGATCTGGGACACTGCAGGAC AGGAGAGGTACAGGGCCATCACCAGCGCTTATTACAGAGGCGCAGTTGGTGCACTTCTTGTGTACGACATCACCAAGAGACAGACTTTTGACAATG TCTTGAGGTGGTTGCGCGAACTGAGAGACCATGCGGATTCCAACATTGTGATCATGATGGCTGGGAACAAATCCGACCTGAACCACTTGAGATCCG TTGCTGAGGAAGATGGTCAGAGTTTGGCTGAGAAGGAAGGTCTCTCTTTCCTGGAGACATCTGCGCTTGAAGCAACAAATGTTGAGAAAGCATTTCA GACCATCTTAGGAGAGATTTACCATATCATAAGCAAAAAGGCACTGGCTGCACAAGAAGCAGCGGCCGCTAATTCCGCAATTCCGGGACAAGGAAC TACGATTAACGTTGATGACACATCTGGAGGCGCGAAACGAGCATGTTGCTCTACTTAAACTAAAGGTAACAGTAGATCATAAAAAAAAACTTTTTTTA TGATAATGGGACGAAAACAGAAGGAGACAAGGAAATAAGAAAATAAAGCAATGGTTATTTTGTCTCAAGGGAGATTGCCAAATTGGCAAATCATATTC GGTAAACGCACCCATCAATCAGAGAAAACTACTTGTGAGAAAAACAAATTCAATAAAACTGGAAGAGAAACAGAGAAAGGCGACAACTTTTTTGTTTC AGATTTTGACAAATGTTTTCTGGGCGATCCAAGCTTGTCCAAAAGGTTGAGACTTTTAGAAGATATATATAAAACGGGAGGTGTATAGGTTAGTGAAA TTGAATGGCGCAACAAGGGCAGGGAAGCATGGAACCTGAAGCTCTCGACGACATCATTCGACGTTTGCTTGATTACAAAAACCCTAAGCCAGGGAC GAAGCAGGCTATGATGCTCAACGAGTCTGAGATCCGATTGCTTTGCGTCGTCTCCAAAGAGATATTCCTTCAACAGCCCACTCTCCTTGAGCTTGAT GCCCCCGTCAAGATCTGCGGTGATATTCACGGTCAATACTCCGATTTATTGAGGCTTTTCGAGTATGGAGGTTTCCCTCCTGCAGCAAACTACTTAT TCTTAGGAGACTATGTCGACCGAGGGAAGCAGAGCTTGGAGACTATCTGTCTTCTGCTTGCCTACAAGATCAAATACCCTGAGAACTTTTTCCTCTT AAGGGGAAACCACGAGTGTGCATCTATCAACAGAATCTACGGATTCTACGACGAATGTAAACGAAGATTCAGCGTGAAGCTCTGGAAAGTGTTCACA GACTCTTTTAACTGTCTCCCTGTGGCTGCTGTCATAGACGAGAAGATACTTTGTATGCACGGTGGACTTTCACCAGATTTGACCAGTGTTGAACAGA TCAAGAACATAGAGCGTCCAACTGATGTTCCAGACTCTGGTTTGCTCTGTGACCTTCTTTGGTCTGATCCTAGTAAAGACGTCAAGGGCTGGGGGAT GAATGATCGTGGAGTCTCCTACACTTTTGGACCTGACAAAGTTGCTGAGTTTCTGATTAAAAACGACATGGATTTAGTCTGTCGTGCCCACCAGGTT
GCT-001A10	AT1G09250.1	transcription factor	GAACGCGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGACTCGTGTAGATTTGCATTTTTCTTAGATCCGTTCTAATCTAAAACC TCATCGACGTCGATTTTCTGAATCTCTCTGGTTGTTTGCGAACAGTGAGGAAGACGAAGAGATTGTTGTGGTTTTTTGCCTATTTTACAGAGGCTTTT CTAAATATCTGGGTTTAATGGTGGATTCTCTGTTTCCTCACATCGAAACCACCGGTAACAACGCGTCTCCGGAGTCGAGCCGGAAGAAGCGGAGGA TATCAGAAACGGCGAAGGAGGCAGAGACAGAGGCTCGACGGATCAACGAAGAAAGCTTGAAGAGATGGAGAAGGAATCGTGTGCAGCAGATCTAC GCTTTCAAGCTCGTCGAAGCTCTGCGTCGCGTTCGTCAGAGGTCAAACGACGACGCCGGTAAAGTCAACGGGAGCTCGGCGCGAGAGATACGCG AGACAGCGGATCGAGTTCTGGCCGCGTCGGCTCGCGGCACGACTCGGTGGAGCAGGGCGATCTTAGTGAGTCGCGTCCGAGAGAGGCTGAAGAA ACACAGAAAGGCGAAATCAACTGGAAATTTCAAATCGAGAAAAGCTACGACGGAGACGACGACGAAGCGGATTAGATTGCCAGCGATTGAGAGAAA ACTGAAGATTCTCGGCCGGTTGGTTCCCGGTTGCCGGAAAGTCTCCGTAACGAACCTTTTAGATGAAGCGACGGATTACATCGCGGCTTTAGAGAT GCAGGTCCGAGCCATGGAGGCTCTCGCCGGACTTCTAGCCGCCGCTGCACCACCGATGACGTTGACCCGACTCTAACGGCGGCAGTTAGTTTGTC AGTTGTTTTTTTTTTTTTTGTCGTAGTTTGTCAGTTGTTAAAATTAGCTTTTTAACCTTTTTACCCCTTCATTTGGCTGAAAGCTTTTTTTTGTTTGTGT
GCT-001A11	AT4G36800.1	RCE1 (RUB1 CONJUGATING ENZYME 1); small protein conjugating enzyme	GGTCGAGAAAAAGCTACGATTGTATCATTTCAACATTTTTTTCTTCTGTTTCTTCGTCGTTTAGTTTCCAAGGACGAGAATCCGGTGAGGGAGAGAGA GAGAATCGGCGACCTTTGATTGGCTCTTAATCTGTTTCGATTTTCGCTTTTTACACCGAAATTACCAAACTTGCTGTGTGAGTTTCAGAAGCAATGATT GGGTTATTTAAAGTAAAGGAAAAGCAAAGAGAACAAGCTCAAAATGCTAATAGAGGAGGAGCTTCTGTGAAGAAGCAATCTGCTGGCGAACTTCGTC TTCACAAAGATATTTCAGAGTTGAACCTTCCAAGCTCTTGTGCGATCTCATTTCCTAATGGCAAAGATGATTTGATGAATTTTGAAGTGTCCATTAAAC CCGATGATGGATACTACCACAATGGTACATTTGTTTTCACGTTCCAAGTGTCTCCTGTGTATCCACATGAAGCTCCAAAAGTGAAATGCAAAACCAAG GTTTATCATCCCAATATCGACTTGGAAGGAAACGTTTGCCTGAACATCCTGCGTGAAGACTGGAAACCGGTTCTTAACATTAACACAGTTATCTATGG ACTCTTCCATCTTTTCACGGAACCCAATTCCGAAGATCCCTTGAACCACGAAGCAGCACAAGTTTTAAGGGATAACCCGAAGCTGTTTGAGACCAAT GTCCGGAGGGCAATGACTGGTGGATATGTCGGTCAGACCTTTGTCCCGCGCTGTATCTAACAAAGAAGCTCTGGTTCGTCTTCTTTAAGCAAAAAAG ATAAGAACCGAACCCTTTATCCGCCAATTGTACTTGTTCGTCTTCTCAAGAAAACCTTGTTTGTTTGTTTGCTCTTGTAAAATTACATTATGAAAAACC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001A12	AT4G04220.1	disease resistance family protein	GCATAAGACAAAGAGCTCTAGAAAAATGCAGAAACCATGTCTTTTGTCCTGGTTCCTCTTCTTCTTCCTTCCACAATTATCTTTTTCTTGCCAACCAGA CCAAAGACAATCCCTTCTCGAGTTCAAGAACTGTCTTACTCAGAGCATCAAGAACCAGTCGACAACAAAAATCAACTTGGCAGGTTTAAAGAAATGG AAGCAAAACTCAGATTGCTGCAAATGGAAACTCGTGAGATGCAACGCTCATTCGCCTTCAAGAGAGGTGATAGAGCTGAATCTGAGCTCTCTTGTCG TCTCTGGCTCAGTGAGTTCAAGCGTTTTGAGACCGATTCTGCGTATAATCTCTCTTGAAGCGCTCGATGTCTCTTCTAATTTCATACAAGGAGAGATT CCTGGAGATGGGTTTGTGAACTTGACCAGGCTTATTTCTCTTGACATGAGTGATAACGCCTTCAATGGCTCTATCCCTCCTAGTTTGTTTCAACCTCA GAACTTATCGGTTCTTGCGCTATCAAGAAACAACTTCACTGGTAAGATCCCTGACACAATAGGCGAAACGTCCGTCATAGTATTGACGTTGTCAGAA AACAACCTCTCAGGATCAGTACCAAAGTCTATTTCAAAGAACTCCAGGCTGATGTTGCTGGACTTGTCAAAGAACAGACTTTCAGGTGAATTCCCTA GATTCAACTTGAACTCAAATCTTCAGCTGCTCGATATATCTTTCAACGAGTTCTCAGGGGATGTTCCAGCTTCCTTTGGGTCATACACAAGATTTCTTA AAATGGATCATAACAATTTCAGTGGTGAATTCCCTCAGGACTTCACAACATGCCCATTGAAGCATCTTGATCTTCAAGATAACAAAATCTCTGGTAAAT TCCCGAGTTTTATCTCCCGGTTATTCCCAGCTCTAGAGGTGTTTATCATGAGAAACAATTCCCTCGAAGGTTCAATCCCAGAAGACATATCAAATCTC ACAGGTCTTAAGATCTTGGATCTGTCCGAGAACAATCTTGATGGACCTATCCCTTCATCTCTTGGGAATCTCAGAGCCATGAGTCAGTCTCCCATCTA TGTATATTATGATTTCTATACCGGACCCGGATTCAGCGTCGAAATGGGTGAATACCTTCACATACCCGATTTCGTAGTGAACTGGAAGAATTCAAAGC AAGGCATTGCTCACAGGAATAGCCACCTCTACACTATTTTAGATCTCTCTAAGAACAGCTTTTTCGGAGAAATCCCACCTTCTTTAGGCAATCTCATA AGATTAAAGGTTTTGAACCTCTCCCACAACAACATATCTGGATTAATCCCACAAAGTTTTGGAGATCTTGAGGAGCTAGAGGTCCTAGACCTTTCATA CAACAACCTCTCTGGCCATATCCCACAAACGTTTTCCAAGCTCGGAGAGCTAACTACTTTAGGTTTGAGCCACAACAAGCTTTCAGGTATAATCCCTA AAGGTCCTCAGCTAGACAGGTTAAACGATCCAAACATATACGCGGGCAACAACAACATCTGTGGAGAGCAAATCCAAGTATCATGCTTTACACAAGC
GCT-001A13	AT3G14230.3	RAP2.2; DNA binding / transcription factor	GCTGGAGAGTAACAACAAACCATAGCGAGATAGGAAAATAAAGAAAACACCCCAAAATAACCAAATATTTATAGTTTCGCCGCTAAGTTTCAATTTCT TAACATTTAACACCCTGAAAGAGTAGTGATTTTGTGAAAGCCGCCATGTGTGGAGGAGCTATAATCTCCGATTTCATTCCGCCGCCGAGTTCCCGCC GCGTCACCAGCGAATTTCTCTGGCCGGATCTGAAAAATAAGGGAAAAGCTTCGAAGAAGAGATCGAAGAAGCGGTCCGATTTCTTCGATTTGGACG ATGAATTCGAGGCTGATTTCCAAGGGTTTAAGGATGATTCTTCTTTTGACTGCGAAGATGATTTCGATGTCGATGATGATGTGATGCCCTTTGTCTTC ACCGCAGCTACCAAACCCGTGGCTTCCGCTGCCGCCTTCGCCTCCGCTGGTTCAGTTTCTGGCAAGAAAACTGTAGAGTGCGATGTGCAAGCTGAT AAATCTGCCAAGAGGAAGAGAAAGAATCAGTACAGGGGGATTAGGCAGCGTCCTTGGGGAAAATGGGCTGCTGAGATCCGTGATCCGAGAAAAGG CTCTCGGGAATGGCTTGGAACATTCGACACAGCTGAGGAAGCAGCAAGAGCTTATGACGCAGCTGCACGCAGAATCCGTGGCACTAAAGCTAAGG TGAATTTTCCAGAGGAGAAGAAGATCCCTAGCGTCTCTCAGAAACGCCCTGCTGCTAAGACCAGTAATCTTAAGAAGCCAGTGGCCAAACCAACCC AAAGTCCAGCTTTTGTTCAGCCGCCAACACATCTGAGTCAGTACTGTAACAGCTCCTTTGACAACATGGGACAAAACTCCTTTGGTGATATGAGTTTC ATGGAAGAGAAGCCTCAGATGTACAACAACAATCAGTTTGGGCTATCAAACTCGTTTGATGCTGGGGGTAACAATGGATACCAGTATTTCAGTTCTG ATCAGGGAAGTAACTCATTCGACTGCTCTGAGTTCGGCTGGAGCGATCATGGCCCCAAGACACCCGAGATCTCTTCAATGCTAGTCAATAATAACCA AGCTCCGTTCACTGATGAAACCAATGCAGCCAAGAAGCTCAAAACCAACTCTGATGATCTGATGGTATACCTTGACAACGCCTTATGGGAGTCTCCA TTAGAAGTGGAAGATATGCTCGGCGCAGATGCTGGCCCTGTGACTCAGGAAGAGGAAAACCCAATGGACCTATGGAGCTTAGATGAGATCAATTCC ATGCTGGAAGGAGTCTTCTGAATTGCTTGATGGGTTGTCTAGTTTGTATATAAAAGCTGTGTGTTGGATTTTGCTGTTGGGGGGAGATGGTACAAGT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001A14	AT1G74740.1	CPK30 (calcium-dependent protein kinase 30); calcium- and calmodulin-dependent protein kinase/ kinase/ protein kinase	GGAGCTAAACCCGCGTTTTCTCTTCTCTGCAAGACTGCAGCAACTCACCGCTTCGCCGGCGAAAATCCGCCGTCACCGTAGTATTTCCCAGAAAAC CCTCCAGGAATTAGCATTAAACGAAGCTTCTCCAAACTAATACTTTCTTCATTTTCGTCTGCTGAGTTACTGAGTTTTGAAAACTCGGAGCATGGGTA ATTGTATCGCCTGCGTGAGGTTTGACCCGGAAAACTCAAAACAAACCCAGAACCCGAAGAAGAAACGACCCGATCGGAAACGTAACCCGTACGACG ATCCCGATGGTCTAAGATCCCACGGGCCGATACGCGTCCTCCCCGACGTGATTCCGATGAGTCATCGGACTCAGATCAGCGACAAGTACATCCTAG GTCGAGAACTCGGTCGCGGAGAATTCGGAATCACATATCTCTGCACGGACCGGGAGACTCGTGAAGCTCTGGCTTGCAAATCGATCTCAAAGAGG AAGCTCCGGACCGCCGTCGACGTGGAGGACGTCCGTCGCGAGGTCACGATCATGTCCACCATTCCCGATCACCCGAACGTCGTGAAACTCAAGGC GACCTACGAGGACAACGAGAACGTGCATCTGGTGATGGAGCTCTGTGAAGGAGGCGAGCTTTTTGATCGGATCGTCGCCAGAGGACATTACACCG AGCGTGCGGCGGCCACCGTCGCGAGAACCATCGCCGAGGTCGTGAAGATGTGTCACGTCAATGGCGTTATGCATAGAGATTTAAAGCCTGAGAAT TTCTTGTTCGCTAACAAGAAGGAGAACTCTGCACTTAAAGCCATTGATTTTGGCTTATCCGTGCTCTTTAAACCTGGAGAGAGGTTTACAGAGATTGT AGGGAGTCCATATTACATGGCTCCAGAAGTGTTGAAGAGAAATTATGGACCGGAGGTTGATGTGTGGAGCGCTGGAGTTATCCTCTATATCTTGCTC TGTGGTGTTCCTCCGTTTTGGGCTGAGACTGAACAAGGTGTGGCTCTTGCAATCTTGAGGGGAAATCTTGATTTTAAGAGAGACCCTTGGTCGCAGA TATCCGAGAGCGCAAAGAGCCTTGTGAAGCAGATGTTGGACCCTGATCCCACTAAGCGTTTGACTGCTCAGCAAGTTCTTGATCACCCTTGGATTCA GAATGCAAAGAAAGCTCCAAATGTTCCTCTAGGGGATATCGTTAGGTCAAGGTTGAAGCAATTCTCCATGATGAATAGATTGAAAAAGAAAGCTCTG CGCGTTATCGCTGAGCACTTGTCTCTTCAAGAAGTTGAAGTGATCAGAGACATGTTTACACTGATGGATGACGACAACGACGGTAAAATAACGTATC CGGAACTCAGAGCTGGACTAAAGAAAGTCGGTTCACAATTGGGCGAGCCAGAGATCAAAATGTTGATGGAAGTGGCGGATGTTAACGGAAAGGGA TGCTTGAACTATGGAGAATTTGTCGCAGTGATAATCCACTTGCAGAAGATGGAGAATGATGAACATTTCAGACAAGCTTTTATGTTCTTTGACAAAGA TGGAAGTGGATACATCGAATCAGATGAACTACGGAAAGCTTTAACCGACGAGTTGGGTGAGCCAGACAATAGCGTTCTACTCGATATAATGCGAGA AGTTGATACTGACAAGGATGGAAAAATAAACTATGATGAATTTGTGGTGATGATGAAAGCTGGTACCGATTGGAGAAAAGCATCAAGACAATACTCA AGAGAGAGATTCAAAAGCTTAAGCTTAAACTTGATGAAAGATGGGTCATTGCATCTCCACGACGCACTCACTGGACAATCTGTTGCCGTTTGATCTTT
GCT-001A15	AT5G12850.1	zinc finger (CCCH-type) family protein	GCCGGTCACACCAGTTACCTCTCATCCGTTTTCGTTTTTCTTCCTAACACCCAAAAAAAAAAAAAAAACGCTCTCTCGCTCGCTCAGCTGAAGGTGATC GATCTTCATCTCCGTCTTAGATTTGTGCATCTTTGTCTATTGCATTTTACCATTCTGGATCTGGAAATGTTGTTCTCTCTTCTGGGCATTACCGTCTAG ATTCAGCTGGTTTGTGTTCCGGATCGCACGATTCGGCTTCTGATCTTCCCACAAGGCATACGTTATTGGTTGATTCACTCCCATCTTTTGGTTGATCA ATTCAGATCTTTTTCCGGTGCCGATAAAGCATGTGTGGTCTCTCTAAGAAGTTGGATACGGATAATAACACTCTTTCATCGCTGTCAGACCAAGAGTG TGATTCTGTGGCCAAACCCATGAACGATGCTGAGTGGGAACATTCATTCTCTGCCTTGCTTGAGTTCGCTGCAGACAACAATGTGGAGGGCTTTAAA CGTCAACTCTCTGTTGTGCCCTGTATCAACCAGGAGGGTCTCTGGTACAGACGCCAGAGGTTTGTTAGAAAAATGGTTCTTGAACAAAGAACCCCTC TGATGGTTGCTTCGATATATGGAAGCTTAGACGTTGTGAAGCTTATTCTTTCTTTCCCGGAAGCGGAGTTGAATCTGTCTTGCGGTCCAGATAAAAG CACTGCTCTTCATTGCGCTGCCTCTGGTGCTTCTGTGAATTCCTTGGATGTTGTCAAGCAGCTTCTGAGTGCAGGAGCAGATCCTAATATCCCTGAT GCTCATGGGAATCGTCCTGTTGATGTTCTCGTTGTGTCTCCACACGCTCCCGGTTTAAGAACCATCCTTGAAGAGATCTTGAAGAAAGATGAGATTA TTTCTGAAGATCTGCATGCCTCGTCATCTAGCCTAGGATCAAGCTTCCGGTCTCTCTCGTCATCACCAGATAATGGCTCCTCCTTACTCTCTTTAGAT TCAGTATCCTCTCCGACTAAGGTGAACGGGATGGATGGAACATTTGCATCAGAGAAGAAGGAGTACCCAATTGACCCATCATTGCCCGACATCAAAA GTGGGATTTATTCGACCGATGAGTTCCGTATGTTCGCGTTTAAGATCCGTCCATGTTCTCGAGCTTATTCTCATGACTGGACTGAATGTCCATTCGCA CACCCAGGTGAGAATGCCAGGAGAAGGGACCCGAGGAAGTTTCACTATACATGTGTCCCATGCCCGGATTTTAAGAAGGGTTCCTGTAAGCAAGGC GATATGTGTGAATATGCTCATGGGGTGTTTGAATGCTGGCTACACCCTGCTCAGTACAGAACACGATTGTGCAAGGATGGGATGAGTTGCAACCGA AGGGTTTGCTTCTTTGCTCACGCAAATGAGGAGTTGCGTCCCTTGTACGCTTCCACAGGCTCTGGCTTGCCATCTCCTAGGGCTTCTTCTGCTGTTT CCACCTCTACCATGGACATGGCTTCAGTTTTGAACATGTTACCAGGCTCACCATCTGCTGCTCAACATTCGTTCACCCCTCCAATCTCTCCTTCTGGA AATGGTGTTATGCCGCATTCATCCATGGGTTGGCCTCAACAGAACATACCTGCGTTGCATCTTCCTGGAAGCAATATCCAGTTGAGTCGCCTGAGAT CTTCTCTAAACGCTAGAGATATTCCTTCTGAGCAGCTTAGCATGCTGCAAGAGTTTGAGATGCAGCGTCAGCTCGTTGGCGATATGTCTAGTCCACG TTTTATGAATCATTCCGCTCGTCCCAAGACCCTGACCCCTTCGAATCTGGAAGAGATTTTCTCATCCGAGGTTTCATCCCCTCGCTTCTCTGATCAAC TTGCTGTCTCATCTGTTCTATCGCCGTCCCACAAATCCGCGCTTCTTAATCAGCTTCAGAATAACAAGCAGAGCATGCTCTCTCCTATTAAGACAAAT CTAATGTCTTCTCCAAAGAATGTGGAGCAACATTCTCTGCTGCAACAAGGCTCGTCACCCCGAGCCATGGAGCCTATCTCCCCAATGAACTCGCGG ATGAAACAACAGCTGCATTCACGTAGCCTTAGCTCCCGTGATTTTGGATCCAGCATGCCCCGTGATTTAATGCCGACTGATTCTGGCTCGCCACTAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001A16	AT5G23660.1	MTN3 (ARABIDOPSIS HOMOLOG OF MEDICAGO TRUNCATULA MTN3)	GGTGCCATCAGCTTTTGATTTAAGATAAATACTTGCAAAGCTAAAATATTTCTTAATTACTTCGAAGAATTCTTCTTCTCCCTTTCTAAACAAAAGCCTA AACCCAAACAAAAAAAACGAAAACCAAGTTATAATCAGAGAAGATCGACATTCATGGCTATCTTCAACACTCAAAACACATGGGCCTTTGCCTTCGGC TTGCTCGGAAACCTCATTTCCTTTGCTGTTTTCCTCTCTCCCGTGCCAACGTTCTATAGGATCTGGAAGAAGAAGACCACAGAAGGATTTCAATCACT TCCCTACGTGGTGGCGCTCTTCAGCGCAATGCTGTGGCTCTACTACGCTACGCAGAAGAAAGACGTCTTCCTTCTCGTCACCATCAACTCCTTTGGT TGCTTCATCGAAACCATCTACATCGCCATTTTTGTTGCCTTTGCTCCCAAGAAAGCTCGAGTATGTTGTATCGTTATACCAACATATACACGTAGTATT TAATAATATTAATTTACGTGGTTATTTTTCAATGAGATATCAAGTATTGGCATTTGGGTGCAGATGTTCACGGTGAAGCTCTTGTTGTTGATGAACTTT GGAGGATTCTGTTTGATTCTCCTCCTCTGCCAATTCTTGGCAAAAGGAACCACACGTGCGAAGATCATCGGAGGAATTTGTGTCGGATTCTCTGTCT GCGTTTTCGCTGCGCCGCTTAGCATTATCAGAACGGTGATAAAGACAAAAAGTGTGGAGTACATGCCGTTTAGCTTATCCGTGTCACTTACCCTCAG TGCGGTCGTCTGGCTCCTTTATGGTCTTGCTCTTAAGGATATCTATGTTGCTTTCCCGAACGTGATTGGGTTTGTTCTCGGTGCACTTCAAATGATAC TTTACGTGGTTTTCAAATACTGCAAAACGCCGTCGGATTTGATGGAGAAAGAACTCGAGGCCGCTAAATTGCCAGAGGTGAGCATCGATATGCTGAA GCTAGGCACTTTGGCGTCTCCTGAACCAGCAGCAATCACAGTCGTTAGATCGGTAAACACGTGTGTCTGTAACGATCGGAAGGCTGAAATTGAAAA TGGTCAGGGAGTTAAAAACGGCACGCACTCCACTGCAGCTTGCTAAAAGAAAATAATCTATTTGACGAACATTTGCGTTGTTGACTTTTGTATTCTAT CTTCATATCGCTACGAATCATCATCGACGTCTAGAACTTACGCCGCTCGTATTTTCATATTTTATCAAGTCTCGCGAACTCGACGATTATTTCTCTCGCC
GCT-001A17	AT1G47128.1	cysteine proteinase (RD21A) / thiol protease	GGTCGTTCAAAATCCTCTTCTTTTTCTCTTCTTCTTCTTCTCCAAAAAATTTTAAAACAGTGAAGAAGAAATGAAGTTCTTTAACCCAACTATGGCGATC CTCTTCCTAACGATGATCGCCGTTTCATCGGCGATGGACATGTCAATCATCTCCTACGACGAGAGCCACCACACCGTCTCCGGCGGCCGGAGCGA CGCCGAGGTTAAGAGACTCTACGAGACGTGGCTAGTGAAACACGGCAAGGTTCAGAACTCTCTTGTTGAGAAAGATCGGCGGTTCGAGATCTTTAA AGATAATCTCCGTTTCATCGACGATCACAACGCGAAGAATCTTAGTTACAGATTAGGTCTTACGAAGTTTGCGGATCTCACTAACGATGAGTATAGAT CCATATACCTTGGAGCTAAGATGCAGAAGAACAGAGAGAGAAGGGCCAGCACACGCTATGAGGCGCGTGTCGGTGACGCGCTGCCGGAGAGCGT TGACTGGAGGAAGGAAGGTGCCGTGGTTGAGGTCAAAGATCAGGGAAGCTGTGGTAGTTGTTGGGCGTTTTCAACCATCGGAGCAGTGGAAGGCA TAAACAAGATTGTAACCGGAGACTTAATATCCTTGTCTGAACAAGAATTGGTCGATTGTGACACCTCATACAATGAAGGTTGTAACGGAGGTCTCATG GACTATGCATTTGAGTTTATCATCAACAATGGTGGAATTGATTCAGAGGAAGATTATCCTTACAAGGGAGTTGATGGACGTTGTGACCAGAACAGAA AAAACGCTAAAGTTGTCACAATCGATTCATACGAGGATGCACCCACTTACAGCGAAGAATCCTTGAAGAAAGCACTTTCTAACCAACCCATTAGCGT CGCGATTGAGGGTGGTGGTCGTGCGTTCCAGCTCTATGATTCGGTACGTATGTTTGACCATGTTCTCATAGTTCTTGGATTTTTTGTTTGCGTTCTTG AATGATAGCCTGGATTGTTTGTTTGCGTTTGCGTTTACATATACCATCTATATATTAAATTCTTTTGTTAATTGTAACGCTAAATACAAACAGAACAGAG AAACTCTGTTTGGCGTTTGCGGTTACATTTTACAAAAGATTTCTACGAATTAACGTAAAAATGTTATTATGTTCCGAATATGGAAAGTTGTATTCACAA GTTAACGCACAAATTGGCGTATGAGACAATTGCATCTCATATTTGGTTGATTATAAAGTAGGTTTTACTACTTCGGTCTCAAATGTTCATATTGTTTTTA CTCAACTTCGTTTTCTCATGTGTTGATGTGCGTGTTCTTTTCCTTTCTAAAGGGTATATTCGATGGAGTATGTGGAACACAACTAGACCATGGAGTTG TGGCGGTCGGATACGGAACTGAGAACGGCAAGGACTATTGGATCGTAAGAAACTCATGGGGAACAAGCTGGGGAGAGAGTGGATACATAAGGATG GAGCGTAACATTAAGGATTCATCGGGAAAATGTGGAATTGCAATCGAACCTTCGTACCCGATCAAGAATGGCCAAAACCCGCCAAACCCAGGACCT TCACCACCATCTCCCATCAAGCCACCAACCCAATGTGACAGTTACTACACTTGTCCTGAGAGCAACACTTGTTGTTGTCTCTTTGAGTATGGAAAGTA TTGCTTTGCTTGGGGATGTTGCCCACTAGAAGCAGCCACGTGCTGTGATGACAACTATAGCTGTTGCCCGCACGAGTACCCGGTTTGTGACCTTGA TCAAGGAACTTGTTTAATGAGCAAGAACAGTCCGTTTAGTGTTAAGGCCTTAAAGCGCAAACCGGCAACGCCATTCTGGTCAAAGAGCAGGAAGAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001A18	AT1G18360.1	hydrolase, alpha/beta fold family protein	GGAATTTTTTTCCTGATCTCTCGAATTAAAGTTTGTTTTTTTCTTTTCACTTTCCAAATTGCTTCACTCACTGTCTTGTCGATTCTGCTTACCATTTTCCT GAAACTTCTTCTTCTTCTAAGCTCTGTTTTTCTTTTCTTTTTTTCTGTTACATGATCAGAGAAAAACCTAAATTTGGGATTTTCTTCTCCACTCAAAAGTC TCGCATTCCACCCCTTAATTTCAGAGAGGCGATAAAAATCGCCTTTGGATTTTCTTTGTTTATGGTCTGGTCAAGTGGAGGAACGATTGTTATAGCTA GTGGAAACTCAATCCCGAGGTTACCCCTCAAAAAACCTTTCGGATTTTATGTAAATGGGATTCGAAATCATCTTCCGATTAGTGTCACAGCTATTAGA AGACGATCATCAATGGCGGTGGGCGCGATGCCGATGAGATCAAAATCATCACCGAGGAGGAGGAACATCGTCTGCGGCGTTTCCCCATCGCCGAC GACGGTGGTTGATGAAGAAGTGGCCGTTAGACGGGGTTTAGCAATGAGGCGGGTTTTGGAGGATGACGGTGGCGATGGAATCTACGTCAGAGATT TCTCTCTCTTCCCGACAAAGAGAGGAGACACGTTGTTCACTCAGTCATGGACACCTGTTGGCTCCGTTAAGAACAGGGGCTTTGTTGTTCTGCTACA TGGTCTGAACGAACACAGTGGCAGGTATAGTGATTTTGCAAAGCAGCTAAATGTTAATGGATTCAAGGTCTATGGACTAGACTGGATCGGTAAAAGC ACTTTACCAGTTCGAAGTTATGCTCGTGTTAAGCATTTAACAGTGAAGAAATTCTCTTAATTTCGTTACTCATTTTAAAGATTTCTCTTGGTTGAACAG GTCATGGTGGAAGCGATGGACTTCATGCTTATGTTCCTTCTCTTAATTATGCTGTTGCTGATTTGGTATAGTCTCTTTTTAAGTTCCCAAAACTTCGTC AATCGCTTGAACCCGTACAATTACCTATGAAATTTAAAGTATTTGCAGAAATCGTTTCTTGAGAAGGTAATAGCAGAAAACCCGGGATTGCCCTGTTT CTGCATTGGCCACTCAACAGGAGGAGCCATCATCTTAAAGGCTATGCTAGATCCAAAGATCGAAGCTCGAGTTTCAGGGATTGTGTTAACTTCACCT GCAGTTGGAGTCCAACCATCTCATCCTATTTTTGGCGTAATTGCACCGGTCCTTGCGTTCCTCATTCCGAGGTATCAGTTAAGTGCTGCAAAGAAGA AAATAATGCCGGTTTCTCGTGACCCGGAAGCTGTCGTGGCTAAATACTCTGACCCGTTAGTCTACACCGGGTTTATCCGAGCAAGAACCGGTAACG AGATCCTTAGACTTGCTGCTCATCTGCTGCAGAATCTGAAAAGAATCAAGGTCCCGTTTCTCGTGCTGCACGGCACAGCCGATACAGTTACTGATCC
GCT-001A19	AT3G23600.1	dienelactone hydrolase family protein	GATGATTGAGTTTGTGTTTCTCCTGTCTCTCTGAACAAACAAATGTCGGGACCTCAGTGCTGCGAAAACCCGCCGGCTCTTAACCCGGTTTCCGGGT CGGGTCATGTCGAGAAGCTGGGTGGACTCGATGCCTACGTCTCCGGTTCTCTCGATTCCAAGTTGTGCATCCTCCTCATTTCTGATATTTTTGGGTA CGAAGCTCCAAACTTGAGGGCGCTTGCGGATAAGGTTGCAGCTTCTGGATTCTATGTTGTGGTTCCTGATTACTTCTATGGAGATCCTTATAATCCC TCTAACCAGGAGAGACAAGTTCCTGTCTGGATCAAAGACCATGGCCCTGATAAAGGCTTTCAAGACACAAAGCCAGTACTTGAAGCCATAAAGAACA AAGGCATAACCGCCATTGGAGCTGCAGGGATGTGTTGGGGTGCAAAAGTGGTGGTGGAATTGTCTAAGCAAGAGCTTATTCAAGCAGCTGTTTTGC TTCATCCTTCTTTTGTCTCTGTTGATGATATCAAGGGTGGGAAGGTTCCAATTGCTATATTAGGAGCTGAGTTTGATAATTTGTCTCCACCATCACTCT TGAAGCAGTTTGAGGAGATTCTTGCTTCCAAATCCGAGGTGAATAGTTGTGTGAAGATATACCCGAAAGTCGCGCACGGATGGACAGTTAGGTACA ACACTGATGATCCAGAGGCGGTTAAAGCTGCAGAAGAAGCTCACAAGGAGATGCTTGATTGGTTTGTGACTTATGTCAAATGATTGATCCATGCTCT CTCTTTAAGTGATCATGTTAGCTATTTGTTTCATAAAATGAAAATAAGGAGAAACAAAAGTATAAACAGTTGGTTTCTGTCTCTACTCTCTACTGTCTAT
GCT-001A20	AT4G18710.1	BIN2 (BRASSINOSTEROID-INSENSITIVE 2); kinase	GGTTCTCTCAATCTCTCTCTCTCTCTCTCTCTCTCTCTCTTTTCTTTTCATTCTCTTCTGTGCGTCTCTAACGCCATGGCTGACGATAAGGAGATGCCA GCTGCTGTAGTTGATGGACATGATCAAGTCACTGGTCACATAATCTCCACCACAATCGGAGGAAAAAATGGAGAACCAAAACAGACTATTAGTTACA TGGCGGAGCGAGTTGTCGGTACAGGCTCGTTCGGAATAGTATTCCAGGCAAAGTGTTTGGAGACTGGAGAAACTGTGGCGATTAAGAAGGTTTTGC AAGACAGGAGATACAAGAACCGAGAACTTCAGTTAATGCGTGTGATGGATCATCCGAATGTGGTTTGTTTGAAGCATTGCTTCTTTTCAACCACAAG CAAAGACGAGCTTTTCCTCAATTTGGTTATGGAGTATGTCCCTGAGAGCTTGTATCGAGTTCTGAAACATTATAGCAGTGCAAACCAAAGAATGCCG CTTGTCTATGTTAAACTCTATATGTACCAGATCTTCCGCGGACTTGCCTACATTCACAATGTTGCTGGAGTTTGTCACAGAGATCTAAAGCCTCAAAA TCTTCTGGTTGATCCTCTTACTCATCAAGTCAAGATCTGTGACTTTGGCAGTGCGAAACAGCTCGTTAGAGGTGAAGCTAACATTTCTTACATATGTT CACGATTCTACCGTGCACCTGAACTCATATTTGGTGCCACGGAGTACACAACTTCTATTGATATCTGGTCTGCTGGTTGTGTTCTTGCTGAGCTTCTT CTTGGTCAGCCCTTATTTCCTGGAGAAAATGCTGTGGATCAGCTCGTTGAGATTATCAAAGTTCTTGGTACACCAACTCGAGAAGAAATCCGTTGTAT GAATCCACATTACACAGATTTTAGGTTTCCACAGATAAAGGCACATCCTTGGCACAAGATCTTCCACAAAAGGATGCCTCCAGAAGCGATTGATTTTG CCTCGAGGCTTCTTCAATACTCACCAAGTCTTAGATGCACAGCGCTCGAAGCTTGTGCACATCCGTTCTTTGATGAACTCAGAGAACCAAATGCACG TTTACCAAATGGACGGCCTTTCCCGCCTCTCTTCAACTTCAAACAAGAGGTAGCTGCAGCATCACCAGAGCTGGTCAACAAGTTGATTCCAGACCAT ATCAAGAGACAGTTGGGTCTCAGTTTCTTGAATCAATCCGGAACATAAAGGATCAAAAAGACAAGAACTTTATATATATAATGTACCATTACTCGAGC CAGAAGGTAGTTGAAGACAATTTGGAGGACACAATTCGAAGTTTACCCTCCTCAAACTCGTTCCAGAAGTGTTCTATTCAGACAAGTTTGATGGTCAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001A21	AT2G20570.1	GPRI1 (GOLDEN2-LIKE 1); transcription factor	GACGATTGATCGATGTTAGCTCTCTCTCCAGCGACGAACTCGAACTCGAACTCGAACTCGACGAGAGAAGCTTGCGATGGAGAGTCATCAGAGTTC CTTGCTACGTCTTCGTGTGGATTCACGATCGATCCGGAGGAGGACTTTCCGGATTTCGCTGACCACGGTGATCTCCTCGACATCATCGACTTCGAC GATCTGTTCGGCGTCGCCGGAGATGTGCTTCCTGACTTGGAGATCGACCCTGAGATCTTAGCCGGAGATTTCACCGATCACACGAACGCTTCATCG ACGATTACTACGACGTCGTCGTCGGAGAAGACTGATAGTCTAGGGGAGACTTATAACATTAAGGGTGTTTCGGGGAAAGGTGAAGAAGTCGTCAGC AAGAGAGACGATGACGAGACTGCAGCTGTGGCGGAGACGGTGAACTACGACGGTGACAATGCCCGGAAAAGGAAATATTCCTCTTCCAGGAACAA TCGGATGATCACTACTAACAACGATGGGAAGCGAAAAGTAAAGGTAACTTTATTTTATTCTTTAATCTTTCTTATGATTGATTAATATATACCCTAGCTC TATACTCGATTAAATGGACCGATATATATATATATATATATGAATGGATTCATATTCCTTTTAAAAAATTCATTATATATTCACTGTATTTTCATAAGAAT CGTATGCCAAAATTTTATCATTTCAGTCATGTTTCGAAAGATATTGTTAAGACGTCACGTGCATCTCTATAAAGTTATGCTATTATTTCATTCTAGTGGA AGTTTCATATTGATTCCGATTAGTAATGACACAATTATAAACAAAGTTTTTTAACCAAAATTTTGTTCAAATGTAAAACATAGATGCATACATAGTTTTG AACAATAATAATTAATCAAGAATGGTTATTTTTCGTGTGTGCTTTGAAAGATATAATTAAGAAGAGATATAATAGTAATTAATGAGGAATTGAGATGAAT ATATATATATATTGTTGGGATGGATGTGTGTGTGAACACAAGGTGGATTGGACAGCAGAGCTACACAGGAGATTCGTGGAGGCAGTGGAACAGTTG GGAGTGGAGAAAGCTGTGCCTTCTCGAATTCTCGAGCTTATGGGAGTCCACTGTCTCACTCGTCACAACGTCGCTAGTCATCTCCAAAAATATAGGT CTCATCGGAAACATTTGCTAGCTCGTGAGGCCGAAGCGGCTAATTGGACACGCAAACGCCACATCTACGGCGGCTTAGACACTACCGGAGGAGCT GGTAATATTATTAATGGTCGGAATAAAAATGGTTGGCTCGCACCGGCACCCACTCTCGGTTTTCCACCTCCACCGCACGTGGCTGTCACGCCGCCA CCTGTCCACAACCTTCATTTTAGACCGTTGCACGTGTGGGGACATCCCACGGTTGACCACTCCGTCATGCCACACGTTTGGCCCAAACACTTACCTC CACCGTCTACTGCCATGGCTACTCCTCCTCCGTTTTGGGTCTCGGATTCTCCCTATTGGCCTAGGATTCATAGCGGGACGGCTCCGTATTTGCCGA CTGTTGCTACGAGGTTTAGAGCACCGCCGGTTGCCGGGATTCCACAGGCTCTGCATCCGCATCACACAATGTACAAACCAGATCAGCATGGCTTCA GTAGTGCTCGTGCTCCGGTTGACTTACATCCGTCAAAAGAGAGTGTCGATGCAGCCATAGGAGATGTATTGACGAGGCCATGGCTGCCACTTCCGC TGGGATTGAAGCCACCGGCTGTTGACGGCGTTATGACGGAGCTTCACCGTCACGGTGTCTCTGAGGTTCCTCCAACCACTTCTTGTGCCTGAAACG
GCT-001A22	AT4G18810.1	transcriptional repressor	GATGGAGCTTTCTTCTTCTCTCAAGCTTTCATCGCCGTTATCTCCTTCCATCATCAACCTTCAGCTTTTGCAGGGCACTTCATCAAGTAATATAGTAAA CTTCTCTAACTACACTTCACTTCCTAAACCGTTTCTTCAACATGATGATAGAAGCCGACGTCTTCGACACCAACAAGCTTCACATTCACACTCTGTCA ATCTAAGATCATATAGAAAACGTGTAACTGCAAAATCGGAATCACAAGGTTGGGACTTTGGTAGATTCGTCAAAACATTGTACTTCTTCAATGGACCA CCGTCTCCTCTAAAGTTTGTTTCATCAGTGTTTGAGAAACTAACTAACGGATCAACGGAGGAACCGGTTAATGAAATGGAAACTTCAGGGATCATACT TGTGGCTGGAGCTACTGGTGGTGTAGGAAGAAGGGTAGTTGATATCTTGAGGAAGAGAGGGTTGCCTGTTAAAGCATTGGTTAGAAATGAAGAGAA GGCTCGTAAGATGTTAGGACCTGACATTGATTTGATTTTTGCAGACATTACGAAGGAGAATACACTGGTTCCTGAAAAGTTCAAAGGAGTGAGGAAA GTGATCAATGCCGTTTCTGTTATTGTCGGTCCAAAGGAAGGAGATACACCTGAGAGACAAAAATACAATCAGGGAGTCAGATTCTTCGAGCCAGAGA TAAAAGGCGACTCTCCCGAGTTAGTGGAATATATTGGAATGAAGAACTTAATCAACGCTGTAAAAGATGGTGTTGGACTTGAGAACGGGAAGCTTCT TTTCGGTGTTGGAGATAACACGTTTAAAGATCTACCTTGGGGGGCCTTGGATGATGTTGTAATGGGAGGTGTCAGCGAAAGCAACTTCCTAGTCGAT CTAACAGGTGGTGAAAACGGTGGACCTACAGGGATTTTCAAAGGAATTGTTTCAACGACAAACAATGGCGGGTTTACTAGTGTACGAACGAAGGTAA CGGAACTTTCCCGAGGCCGAGAATCTCTCTGCATATGACGGTCTAGAGCTAAGACTCAAAGGAGATGGACTCCGTTACAAGCTTATCGTCCGGACA AGCCAAGATTGGGATACTGTTGGTTACACTGCTAGTTTCGACACTTCACCAGGCCAATGGCAATCTGTACGCTTACCTTTCTCGTCTTTAAGACCTGT ATTTCGTGCACGGACAAAGTCAGATGCACCACCTTTTAATCCGGCAAGTATCATTTCACTACAGCTTATGTTTAGCAAGTTTGAATATGACGGTAAGC TTAACCCGACTTTCAAAGAAGGACCATTCGAGCTTCCTCTATCGAGCATTCGAGCTTATATCCAAGATCCCGTTACTCCAAGGTTTGTTCATGTTGGC TCTGCGGGAGTAACCCGACCAGAGAGACCCGGTTTGGATCTAAGTAAACAACCTCCGGCTGTGAGATTAAACAAGGAGCTTGATTTCATTCTCACTT ACAAGTTGAAGGGAGAGGATCTGATACGCAGCAGCGGGATTCCGTTTGCGATTGTTCGGCCATGTGCTTTAACAGAAGAGCCTGCCGGAGCTGAG CTCATTTTCGATCAAGGAGACAACATTACGGGTAAGGTATCGAGAGACGAAGTAGCTCGTATATGCATTGCTGCTTTAGAAAGCCCGTTAGCTCTAA ACAAGACATTCGAGGTTAAAAGTACGGTTCCGTTTAGCGAACCTTTCACGGTAGATCCTGAGAATCCTCCACCGGAGAAAGACTACAATGAGTATTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001A23	AT1G78920.1	AVP2 (ARABIDOPSIS VACUOLAR H+-PYROPHOSPHATASE 2)	GCTCTGAAAAGTCTTCGGATTAACGGAGACAAAAGACAGAGAGGAGAGCGCTTCTTCGGCTAGGACAAGCTTCGCTAATGGCGGTTTCCTTCTGAT CACTCCCCGGAGCCAAAATCTGATTATGGTGGAAACTTAATTTGTGACAACTCTTGCTCGTTACTGACTGCGAAAGTTTGAAGAAGCTGGAATCAAG ATATAGCTAGACTTAGAGGGTTCGTACTAAATTGTGCTCGTTTTATGAGGTGGTGTTAACATTTGGAAGAAAATTTGTATTATATCAAAATTCAACGTC CAAGTTCTGGGGCGGATTTGCCCCATAGCACTGATTTCACGCCTCTACCCATAGTCCGGAGGGCAAATTCAGCTCAAAACATGATGATGGATGAAG ATATTGAGCAGGCCAGTTTGATGTCTTTCAATGACAGGCCGCGTGCTTTTCCCAACATGCGTAGCAAAACCTACAGTCCACTGATTTTCCGGATTCTT AGGAAATTGAATGTTCGTGTTCTTTCGATACTTCTACTACTCTGCTTTGGAGCTATCTTTTACATGGGAGCAAGTACTTCTCCGATCATCGTGTTCGTC TTCGCAGTATGCATCTTCAGCTTCCTCTTGTCAGTGTATCTAACCAAGTGGGTTTTAGCGAAAGATGAAGGGCCTCCAGAGATGGTTCAGATATCAG ATGCTATACGTGATGGAGCTGAAGGGTTTTTCAGAACGCAGTACAGCACTATATCCAAGATGGCCATCTTGCTAGCTTTTGTGATTCTTTGCATATAT CTTTTCCGTAACTTAACTCCCCAGCAAGAGGCTGCTGGTTTGGGAAGGGCGATGTCTGCCTATATTACTGTTGCTGCATTTCTTTTGGGGGCGCTAT GCTCAGGTATTGCTGGATATGTTGGAATGTGGGTGTCAGTTCGTGCTAATGTGCGGGTCTCCAGTGCTGCTAGACGTTCTGCAAGAGAAGCATTGC AGATAGCCGTTCGTGCTGGTGGGTTTTCAGCCCTGGTTGTTGTTGGTATGGCTGTGATTGGTATCGCCATTCTTTACTCTACATTTTATGTTTGGTTG GGAGTGGATTCACCAGGCGCAATGAATGTTACTGACCTGCCTCTTCTTCTCGTTGGATATGGTTTTGGTGCTTCGTTTGTTGCCTTATTTGCTCAGTT GGGTGGTGGAATTTATACCAAGGGAGCTGATGTTGGGGCAGATCTCGTTGGAAAAGTTGAGCAGGGTATTCCCGAGGATGATCCTCGAAATCCTGC TGTTATCGCTGATTTGGTTGGAGACAATGTGGGGGACTGTGCTGCTAGAGGTGCTGATTTATTTGAAAGTATAGCAGCAGAAATTATCAGTGCAATG ATACTAGGTGGAACAATGGCTAAGAAGTGCAAAATTGAAGATCCATCAGGATTTATCCTATTTCCTCTGGTTGTTCATTCTTTTGACTTGGTAATATCA TCAATTGGTATATTATCAATCAAGGGAACGCGGGTAATGACTCCAACTTATTGATAGTGTTTTATGTTCAGATAATGCCCGATGACTTTGTCATGCAG CTCCACCGATTTTGAGAACGACAGCGACTTCCGTCCCAGCCGTGCCAGGTGCTGCCTCAGATTCAGGTTATGCCGCTCAATTCGCTGCGTATATCG CTTGCTGATTACGTGCAGCTTTCCCTTCAGGCGGGATTCATACAGCGGCCAGCCATCCGTCATCCATATCACCACGTCAAAGGGTGACAGCAGGCT CATAAGACGCCCCAGCGTCGCCATAGTGCGTTCACCGAATACGTGCGCAACAACCGTCTTCCGGAGACTGTCATACGCGTAAAACAGCCAGCGCT GGCGCGATTTAGCCCCGACATAGCCCCACTGTTCGTCCATTTCCGCGCAGACGATGACGTCACTGCCCGGCTGTATGCGCGAGGTTACCGACTGC GGCCTGAGTTTTTTAAGTGACGTAAAATCGTGTTGAGGCCAACGCCCATAATGCGGGCTGTTGCCCGGCATCCAACGCCATTCATGGCCATATCAA TGATTTTCTGGTGCGTACCGGGTTGAGAAGCGGTGTAAGTGAACTGCAGTTGCCATGTTTTACGGCAGTGAGAGCAGAGATAGCGCTGATGTCCGG
GCT-001A24	AT1G27050.1	ATHB54 (ARABIDOPSIS THALIANA HOMEOBOX PROTEIN 54); nucleic acid binding / transcription factor	GACGGACTCTCAACGAGTTCGAGTATGAGCCGAAAGAGAGACAAACCCTACACTTACCGTCATACACCGGCGCGAATTTCGAAACGCCGGCGAGC TTGGGAGCCTCCGTCATCGAAACTCGATGATAACATCGACAAACCGACCAAAAAACCTCCGCCGCCACCGGCGTTGGTCGTTATCGGACTTCCCGA CTACTGTTCAGTACTGGAGCTGAAATCCCGATTCGAGATCTACGGCTCAATCTCACGAATCAGAATCGACAAGGACGGATTTGGCTCCGTTTCGTAC CGCAACGCCGAGTCAGCAGAGGCCGCCATTGCCGGTAGTCTCGAGCCTTCTTTTGGTATCTCGATCGATTCCAAAAAGTTGCAGGTGGTTTGGGCA ACGGATCCATTGGTGAAGTGGAGGGAAGGTGTGAGGGAGGCAAAGGATAAAACGTCGCCGTCTTCTTCTTCCTCGAAGCTTCTCCGACCTGAGAT GCCATTAAGGAAACATGGAAGAAGCAATAGGCTAGCGTCGGCTATCGTCGACCCGAGAAGCAAAGCTAATATCGGCGGAGAAGGAAGTCTATCTCC GGCGACGAGAAGGGGATTTAAACAGAGAGACATTGTAGCCTACGATGATATCCTTTAACGGAATCAAATGGATCAACTTTTTGTTTTCTTCATTTCTT TTACACTTTTGGCAATTCTTTCCTTGAAAAATGTGTATGTTATGTGGCTTTAGCATTTAGTTTTCTTTCTTCTTCTGAATCTCATAGGTAAAGTTTGGTT

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GCT-001B01	AT1G62180.1	APR2 (5'ADENYLYLPHOSPHOSULFATE REDUCTASE 2)	GCCCAGTTAAAGAAGACGAAGAAGAAGAATCAAAGAGCTAAAACCAAAGATCTCTTCTCAAAGAGAGATCATTTTCTTATTCCTCTTTCAACATTTTC GAATCTAGGAGAAGGGCTTTCTTTTTCTTCAAGAGATATGGCTTTAGCTGTTACTTCTTCCTCAGCCGCGATCTCCGGATCGAGTTTCTCACGCTCAG GAGCTTCTTCTGATCCTAAAGCTCTACAAATCTGTTCGCTTAGGTTATCAGATCGAACCCATGTCGCTACTCTGTCTCAGAGACGTTACTCTGTGAAA TCCCTAAACGCTGAGTCACATTCACGCAGCGAATCTCTGATTCGTCAAGCTTCGACTCTAATCGCTCCTGAAGTTGAAGAGAAAGAAGGAGACGTTG AGGAGGATTTCGAGCAACTCGCGAAAAAGCTCGAAGATGCTTCTCCACTTGAAATCATGGACAAAGCTCTCGAGAAATTCGGAAGCGACATCGCAA TTGCTTTCAGTGGTGCTGAAGATGTTGCATTGATCGAATACGCTCGTTTAACTGGAAGGCCATTTAGGGTTTTCAGCTTAGACACAGGGAGATTAAA CCCAGAAACTTACAGACTCTTCGACGCAGTGGAGAAGCAGTACGGGATTCGAATCGAGTACATGTTCCCTGATGCAGTCGAGGTTCAAGCACTAGT GAGGAACAAGGGTCTCTTCTCTTTCTACGAGGATGGTCATCAAGAGTGTTGCCGTGTGAGGAAAGTAAGACCTTTGCGTCGTGCTCTCAAGGGTCT CAAAGCATGGATCACAGGACAGAGGAAAGATCAATCTCCGGGAACGAGATCAGAGATCCCAATCGTTCAGGTCGATCCTGTGTTTGAAGGATTAGA TGGTGATGTTGGAAGTCTTGTGAAGTGGAACCCTTTGGCTAATGTTGAAGGAGGAGATGTGTGGAGCTTCTTGAGAACAATGGATGTCCCGGTGAA TGCACTGCACGCGCAAGGGTATGTCTCTATTGGGTGTGAGCCTTGCACAAGGCCGGTGCTTCCGGGTCAGCACGAGAGAGAAGGAAGGTGGTGG TGGGAAGATGCTAAAGCCAAAGAATGTGGGCTGCACAAAGGGAACATCAAGGAGGAAAATGGAGCCACGGATTTAACACCTGCGGTTGTGCAAGA TATATTCGAAAGCAACAGTGTGGTTTCATTGAGCAGAGGAGGGATTGAGAATCTATTGAAGCTAGATAACCGTAAAGAGCCGTGGTTAGTTGTGCTT TACGCTCCTTGGTGCCCGTTTTGTCAGGCTATGGAAGCTTCGTATCTCGAATTGGCTGAGAAGTTGGCTGTGAAAGGAGTTAAGGTGGCTAAGTTTC GTGCGGATGGTGACCAGAAGGAGTTTGCTAAGCAAGAGCTTCAATTAGGGAGCTTCCCAACGATACTTCTGTTTCCAAAAAGCGCTTCACGGGCAA
GCT-001B02	AT4G30845.1	similar to hypothetical protein MtrDRAFT_AC126784g14v2 [Medicago truncatula] (GB:ABE94685.1)	GCAATCTAATCTTTGAATTTCTGGGAAAGTGAAATGCTGACCTTACAAGTACAAAACAATAGCTTTACCTCTCCTAACGGCATACTCCGAAGTTTTGG TAATGTCTTCAGGAAAAGTGGCGCCGGATTAGTCACTGTAGTCTCCAAAAAGAGAGACTTTCCGGAGAAATCAAACGGAAAACGACCGGTCCTGCA GATCAAAGTCCCGAACACAATCCTTGCTCGATCAGCGATCGCTGTTCTGGGTTTGGGATTCATCGATGCTGGGTATAGTGGTGATTGGTCAAGAATA GGTTCGATCTCCAAAGAAACAGAGGAACTGTTGAAGATTGCTGCATTTCTTGTTGTTCCTCTCAGTATCTTTCTTGCCCTTTCATTTTCCGATAATTCA ACTGATTAGAGAAGTTCCTTGACTCCTTCAAGATATACAGAGCAAGTATAATAATAAGGCTCTGTTTAATACTTCAGAGTCAACTAGATTAGATCTTCA
GCT-001B03	AT3G50660.1	DWF4 (DWARF 4)	GAGTAGAGGTCCGATTCCCAATTTCTCAGAAAAGAAAAAAGGCAAAACACAGAGCGAGAGAAGAGAGAGAGAGATAAAGAGAGAGAGAAACTCCAT GTTCGAAACAGAGCATACTCTCTTGCCTCTTCTTCTTCTCCCATCGCTTTTGTCTCTTCTCCTCTTCTTGATCCTCTTGAAGAGAAGAAGTCGGCACA GATTCAATCTCCCTCCGGGAAAATCCGGTTGGCCATTTCTCGGCGAAACCATCGGTTATCTTAAACCTTACTCTGCCACAACTCTCGGTGATTTCAT GCAACAGCATATCTCCAAGTATGGGAAGATATACAGATCGAATTTGTTTGGAGAACCAACGATTGTATCAGCTGATGCAGGACTCAACAGATTCATAT TACAGAACGAAGGGAGGCTCTTCGAATGTAGTTATCCTCGAAGTATCGGTGGGATTCTTGGGAAATGGTCGATGCTTGTTCTTGTTGGGGACATGC ATAGAGACATGAGAAGTATCTCGCTTAACTTTCTAAGTCATGCTCGTCTCAGAACCATTCTTCTCAAAGACGTTGAGAGACATACTTTGTTCGTTCTT GATTCTTGGCAACAACACTCTGTTTTCTCTGCTCAAGATGAGGCCAAAAAGTTTACGTTCAATCTAATGGCGAAGCATATAATGAGTATGGATCCTGG AGAAGAAGAAACAGAGCAGTTGAAGAAAGAGTATGTCACTTTCATGAAAGGTGTTGTCTCTGCTCCTCTCAATCTCCCAGGAACTGCTTATCGTAAA GCTCTTCAGTCACGAGCGACGATATTGAAGTTTATTGAGAGGAAAATGGAAGAGAGAAAATCAGAGATTAATGAGGAAGAAGACGAAGAAGAGGAT AACGAAGAGACTAGTCAGAGTGATCATCATGAGAGGAAACATAGAACAGACGATGATCTTTTGGGATGGGTTTTAAAACATTCGAATCTATCGACGG AGCAAATTCTCGATCTCATTCTTAGTTTATTATTCGCCGGACACGAAACTTCTTCTGTCGCCATTGCTCTCGCTATCTTCTTCTTACAAGCTTGTCCTA AAGCCGTTCAAGAGCTTAGGAAAGAGCATCTTGAGATCGCGAGTGCGAAGAAAGACCTTGGAGAGTCAGAATTGAATTGGGATGATTACAAGAAAA TGGACTTTACTCAATGCGTTATAAATGAGACTCTTCGACTGGGAAATGTAGTAAGGTTTTTGCATCGCAAAGCACTTAAAGACGTTCGGTACAAAGGA TACGATATCCCGAGTGGGTGGAAAGTGTTACCAGTGATCTCAGCCGTACATTTGGATAATTCTCGTTACGACGAACCTAATCTCTTTAATCCTTGGAG ATGGCAACAGCAAAACAACGGAGCGTGCGGGTCGTCTTCGTCAGGAAGTGGAAGCTTCTCGACGTGGGGGAACAACTTCATGCCGTTTGGAGGAG GGCCAAGGCTATGTGCTGGTTCGGAGTTAGCGAAGCTAGAAATGGCAGTGTTTATTCATCATCTTGTACTTAATTTCAATTGGGAATTAGCAGAAGAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001B04	AT3G03090.1	sugar transporter family protein	GGGATCCTGATGGTTTAGTTAAAGTCTTTAAAACACAAAACTCTATAATACAATCAGATTTATCAAAGTTGGGAAGAAAGAGAGGAAATAAGAAAACC GTATCTTTTCTACTTCTCTTCCTCTCTCGCTCTAACTAGAAGATGGGATATTTCTCCAACAAGATCTCCGAACTCAAGGCAGGAGATCTACTCATACC GTTCTTATTTGTACATCCATCACGGTTCCATCTCTTTCTCTAGGAATCTATGTAGGCGATGGAAAAGTCTTTCATTTCACTCGCAGAGGTGGTTTAGA AATTGGAGCCGGAACTTTTTTAGACATAAACATCGAATTTTCAGCTCCGAACCGGAACCCATGTCTTAATTGTGGAGATCAATCGAATCTCGAAGGTG TAATCTCTTCTTGCCTTAAGGGCACAGAGAGAAGCAACACAACTTTCTTCAATTAATGGCTCAAATCAATGGAATTTCCTCCTCCGCCGTAGAGATAC AAACGCCTCCATAACTTCACCTTACCTTATCTCCGATGGGGCCAGCAGAGATTCTTCAGTTAGCTATATGGATGAGTCTCTATGGTTGATTGTATGGA CGAGATTAGAAGAACACCTCTGACGCCGTAAGATGAAATGAGAGCTGGAATGAAAAAACATTGGGATTGATGAGCATGTCCCTTACAATGCCCCAGT GATTCAGTTTCTTTGTGGATGGGTGGTGATCGTGATGTCGCCTATGCTAAGTGGAATTTCATGGTACAACTTGTCTTCAGTGGAGGTTGGTATCATTA CTAGTGGCTCACTTTACGGTGCCTTGATTGGATCCATTGTGGAAAGGAAGTTATGTTACTTCTCTACATACTCCACACAAATGTGAACATGTGGATAT CGCATCTTCTTGTCAACTATCTTCGGTTTTTCAGTTTATCATTTCAATAGTTTCAAAGGACATAATGTCCACACAAATGTGAATATATGGATACCCCAT
GCT-001B05	AT5G48150.2	PAT1 (PHYTOCHROME A SIGNAL TRANSDUCTION 1); transcription factor	GAGGGTTTTTCATCTCAGAAAAGTCAGGTGGGTACTTCCAAAATTGGATTTTTTTTCTTCACTCGAACAATTCTGTTCGATCTCTAATTCCTCGGTTTT TTTTTTTTTTTTTTAAACTTTATCATGATCCCCTCGAACACATCAGATCGTAAATCCTCTCTCTCTCTCTCTCTCCTTCTTGATCCTGTCGGAAAATTCT TTTATCTGGAGTGTATATTGCTCAATTAACCCAGTCACATAGACCCAAAAAGTTTTGCAGATCATTTAAGGTGTGAATCATCACAAGAAATGTACAAGC ATCCTAGACAAGAGATTGAGGCTTACTATTTGCCTCCTTTTGAGCCTAACTCTGTTGAGAAGCTTATGTACTTACCGTTTCAAAACTCTCCTAAACGG TATCGCACGCGCGAGCCATCTCCCGATTCTCCTGCTTACAATGCTCTTTCATCCGCTACGGTTTTTGTACAACATAACAACAACTCTGCATATGATGA TACCTCTGGCTCTTGTGTGACGGACGATTTGAATGATGAGTTCAAACACAAGATAAAGGAGCTCGAGACAGTGATGATGGGACCAGACTCCTTGGA CCTATTCGTTGATGGCACGGACTCCTTTGATTCCACATCGTGTCATAACAGCTGGAAATCAACTCTAGAGGCACTCTCGAGACGTGATCTAAGAGCT GATCTTGTCTCATGTGCGAGAGCTATGTCTGAAAACGATCTAATGATGGCACATTCAATGATGGAGAAGCTACGCCTAATGGTCTCGGTTTCTGGTG AGCCTATTCAGAGGTTAGGAGCTTACTTACTTGAAGGCCTCGTGGCTCAACTAGCTTCATCAGGTAGTTCCATATATAAAGCACTTAACAAGTGCCCT GCACCTCCAAGCAACGACCTTCTCTCCTACATGCACATTCTCTATGAGGTCTGTCCTTACTTCAAGTTCGGTTACATGTCAGCAAACGGTGCCATTG CTGAAGCCATGAAGGAAGAAAACAGAGTTCACATCGTCGATTTCCAAATCGGTCAAGGGAGTCAATGGATCACTCTTATCCAGGCTTTTGCAGCTAG GCCCGGTGGGCCTCCTCGGATACGTATAACTGGTATTGACGATATGACTTCAGCGTATGCTCGTGGAGGTGGTTTAAGCATTGTAGGAAACAGACT CGCCAAGCTTGCTAAACAGTTCAATGTTCCGTTTGAGTTCAACTCGGTGTCAGTGTCAGTGTCCGAGGTTAAACCTAAAGATCTCGGAGTTCGAGCA GGTGAAGCTTTAGCTGTTAACTTTGCCTTTGTGCTTCATCATATGCCTGACGAAAGCGTTAGCACCGAGAATCACCGGGACCGGTTACTGCGAATGG TGAAGAGCTTGTGTCCTAAAGTAGTGACTCTAGTGGAGCAAGAATCAAACACAAACACGGCAGCTTTCTTACCGAGGTTCATGGAGACAATGAATTA CTATGCTGCGATGTTCGAGTCTATTGATGTGACTCTCCCAAGGAATCACAAACAGAGGATTAATGTGGAGCAGCATTGTCTAGCAAGAGATGTTGTG AACATTATTGCGTGTGAAGGAGCTGATCGGGTGGAGAGGCACGAGCTTCTAGGGAAATGGAGGTCACGGTTTGAGATGGCAGGTTTCACACCTTAC
GCT-001B06	AT2G10940.1	protease inhibitor/seed storage/lipid transfer protein (LTP) family protein	GGCGTACACTTCTCAACATGGACTCATCCAAACTCTCATTGCTCTCTCTCTGTCTCCTCATTTGCATTATCTGTTCTCCCCAACACTCACTCTCATGC GGTTCCTGCAACCACCAGAAGGGCGGATTACCCTCAATTAAACCCCCTGTCACCATTCCCAAGCTTCCTGTTCCTCCGGTTACTGTTCCTAAGGTAC CCGTTCCTCCAGTAACTGTCCCTAATCTACCCGTTCCTCCTGTAACTGTTCCAAAGCTACCTATTCCTCCGGTGACCGTACCTAAACTTCCAGTTACC GTACCTAAACTCCCAGTTCCTCCGGTGACAGTCCCTAAGCTACCCATTCCGCCAGTGGCCATTCCAAAGGTACCCGTTCCTCCAGTTACTGTCCCAA AGGTACCTGTTCCTCCTGTGACTGTCCCTGAGCTTCCACTTCCTCCAGTGGGCGGGCTACCCACATTGCCACTACCACCATTACCAGGGACTATCC CACCAGCCACAGGAGGGAAGGATTGTCCTCCAACCCCGGGTAGCGAGATGCCCCCATCAGGCAGTGGGAAGGCCACATGTCCAATAGACACGCTT AAGTTGGGGGCGTGTGTGGACTTGTTGGGAGGTTTAGTAAAGATAGGACTTGGAGACCCTGCAGTTAACAAATGCTGTCCGTTACTTAAAGGCCTC GTTGAAGTTGAAGCAGCCGCCTGTCTCTGCACTACACTCAAGCTTAAAGCTCTTAACCTTAAGCTTTATGTCCCTGTTGCTCTTCAGCTTCTTCTTAC CTGCGGTAAAAATCCACCTCCGGGGTACACTTGTTCCATCTGATAAATTCTCTCCAGCTAAAGGATAGTTTGGAGAAAAAAGTGGGAAGAGAATGGC GGAGCTCCAATCTTTCCTTTCTTCCATTATCAATCATATCAAATCCTTTCCCGTTAATTCTTTCGCCTATCTCCCCCTCCTGCTTGTATTATTTAATGTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001B07	AT4G27410.2	RD26 (RESPONSIVE TO DESSICATION 26); transcription factor	GGACCAACATTCACATATAATTTTCTGGCTTTTTTAGAGTTGTGAAAACATTTTGTTATTTTTGTTTGCTGGAAGAATCCAAAGTCAGAGGAAAATGGG TGTTAGAGAGAAGGATCCGTTAGCCCAATTGAGTTTGCCTCCGGGTTTTAGATTTTACCCGACAGATGAAGAGCTTCTTGTTCAGTATCTCTGTCGG AAAGTTGCAGGCTATCATTTCTCGCTCCAGGTCATCGGAGATATCGATCTCTACAAGTTCGATCCTTGGGATTTGCCAAGTAAGGCTTTGTTTGGGG AAAAAGAATGGTATTTTTTTAGCCCGAGAGATCGGAAATATCCGAACGGGTCAAGACCCAACAGAGTAGCCGGGTCGGGTTACTGGAAGGCGACG GGTACAGACAAGATCATTACGGCGGATGGTCACCGTGTCGGAATTAAAAAAGCTCTGGTTTTCTACGCCGGAAAAGCTCCAAAAGGCACGAAAACC AACTGGATAATGCACGAGTATCGCTTAATCGAGCATTCTCGTAGCCATGGAAGCTCCAAGTTGGATGATTGGGTATTGTGCCGAATTTACAAGAAAA CGTCAGGAGCTCAGAGACAAGCTGCTCCGGTTCAACCATGCGCTGAAGAGCAAAGCATGAACGGTTCGTCGTCGTCTTCTTCGTCACAGCTCGAC GACGTTCTCGATTCGTTCCCGGAGATGAACGATCGGTCTTTTAATCTCCCTCGGATCAATTCGCTGAGGACGCTTCTCAACGGGAATTTCGATTGGG CAAGCTTGGCAAGTCTTCATTCCATCCCGGAATTAGCTCCGACCAACGGGAATTACGGAGGTTACGACGCGTTCCGAGCGGCGGAGGGGGAGGC GGAGAGCGGGTTGAGGAACTCGCAGGTGGTGGATCAGCAGCAGAACTCGAGCGGGAGCGGGTTGACTCAGAGTTTCGGGTACAGCTCGAGCGG GTTGAATCGCGGGTTCGGTATTTCGGGTCAAACATTCGGGTTTAGTCAATGAGGGAGATCGCGTAATTTAATTACTTTCTATTTTAAGTAATTGGGTG ACTCAAGATGGGTGGAAAAAGTTGAAAAGATTTTTGAGACTTGAGAGGGTAGAGTGGCAGTTGATGTAAATAGTAGGGAACTATATGGGCCTTTACC
GCT-001B08	AT5G03740.1	HD2C (HISTONE DEACETYLASE 2C); nucleic acid binding / zinc ion binding	GATTTTCACGCCCTAAAAAGCTCTCGAGAGACGAATCGCTCTCATCTTCTTCTAGAACGTTCTTTTTCTACGCATCGTCGCCTTCAGGTCGCTACCAC TCGTGTCAATGGAGTTCTGGGGTGTTGAAGTTAAAAGTGGCTCGTCACTTTCGGTGGATCCTGGAAGTGACATTGTGCACATCTCACTGGCTGCTCT GGGCGAGAAGAAGAACAATGGAAACGAGCCAGTCCGGCTTTACCTGAAATGTGGAGATCAAGAGCTAATCATTGGGACGCTATCACATGAGAAGAT TCCTCAGCTGAGCACGGAGATTGTGTTGGAAAAGCGTTTTGAGCTGTCTCATAGTTGGAAGGATGGGAGTGTTTTCTTCTCTGGCTACACTGTTGAC GCATCTGATCCTGAGGCTGATGATATGACCGACGATGTGCTTGCGGCTGCTACAGAGCCAGCTGTTGCGAAATCAGGTGCAAAACAGGTGAATTTT CAGCTGCCTAATGAAGATGTCAAGGCTAACGAAGATGAAGAAGATAGTGATGAAGAATCTGAAGATGATTCAGATGATGATGCTTCTTCTGAAGACA ATGGAGATGAAGAGGAAAAGAAGGTTAGTGCTGAAGTTGACTCATCAGACGATGATGACGATGACTCATCAGACGATGATGAAGATGACTCATCAG ACCATGACACATCAGAGAAGGCTGAAGAATCCAAGAAGAGGTCTGCAGAAGCCAACACCTCAAAGACTCCTTCGAGCAAGAAGGCTAAATTCGTGA CTCCACAGAAAACAGAGACGAAGAAACCGCACGTCCACATTGCAACTCCGCATCCATCAAAACAGGCAGGGAAGAACTCTGGAAGCAATGGAGAGT CGTCGAAGCAGCAGCAGACACCGAAATCTGCAGGTGCGTTTGGGTGCAAGTCGTGCAACAGAACTTTTACCTCGGAGATGGGATTGCAGTCTCACA CAAAGGCCAAACACAGTGCTGCTGCTTGAAATCAGATGAAGAAAGAAGAAAGAAGAGACTCTCCGTTATCCTCTTTAGACTTTTGATGTCTTTTGGTT TTGGAAACTATAATTTGCGAGTGAACCAGTTTAGTTGTCTCTCTTTTTTTCCAGGCGTTTAATCCTTGTTTTTCTTAATCTCCATGGGTAGATGAAACTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001B09	AT5G59430.4	ATTRP1 (TELOMERE REPEAT BINDING PROTEIN 1)	GAAGAGTTTTTGTTTTTGGGCGTTTCGGAGAGAGAGAGAGAAAAGAGATTGATTTTGCTTGTGGTGAGAGAAGATCGCATCGTGTGGGTAGCGTTTC AAACAAGTAAAAAAAAAAGTTTCTGTCACTTTCTCGGGAAAACGCATGTGTTAAGAAGGAAAATTTGTGAGAAGAGGTTTTGGTGTGAGCCATTCTTT TTTGCGTTTGTTTTTTTTCTTTCCGATCTCGCAATTACCGGTTTATTCGCCGGGAAATTTACCGTAATTTATTTCTTTTGAGGGGATAATCGTCTAGAA ACTGAAGATTGGGGGTTATAAAGCTTGCGAGTTACTTTACAGGAGCCATTGAAACAAAAGCTTATTTCGTGTGGCAATCACATTATCGTGTTATGCAT TCTGAGAAATGGTGTCGCACAAGTGTGTAGAAGAATTTGAATACAAAGGCTACCAGTTACCTCCCAATGCAAGAGCACCAAGATCAGCGCGGAAGA GGCGCAGCTTCGAGAAGAAGATAAGTGAAGATGACCAAATGTGTGCCATTGATTTATTGGCCACCGTAGCTCAAAACATGCTGTTTGAGAACGAAG GTTCTCTCATGTCTATCGACAAACCGGTTAATGGGATCGAAGATGATCGTGTCGTTACACGAACCAGTGTAAAGGAGGAAATCTCGATGGAAGAAAA ACCCTTAAACCCAGTAACTTTGCCCGTGGACAATCCTTATCATGGATCAATGAGCACTTTCGGATTCAGCTCTGTGATAAATGGCAAAGTAGAGAAT GAGGCAGAGGGTTTTAGCAACTCTGGTGGTAGTGATTCTTGTCAAGTCGAGAACTTTGGTGAGGATTTAAAACCGGGTATAGATGGCGATGCAGTA GTTCTGGACGCGAGACCTAATGTCGTAGTTAGTTTAGGTAGTAGTAGTAGAACCAAAGTGCCTTCAATGGGGACTTGTGCTTCCCGTGGCGCTCAG GATGATGTAAATTTGTTTAGTAGAGATGATGACGAAAACTTTTCTGGGTATATTTGCCCTCGTGTGACCAAAAAGTCACCTAGGTCTGTGCCGCGTAT TGGGGACAGAAGAATCAGGAAGATATTGGCTTCTAGACACTGGAAAGGAGGTTCAAGACATTCAGATGCGAAACCATGGAGAAATTATTACTTGCAC CATCAGAGGAGCTATCCTATCAAGAGAAAGAGACACTTTGACCACATTTCTGATTCAATCTCTGAAGATTATCGTATGCGCAGTAAGATGCAGAGAG GCAGCAGAACAGTTTCTTCGATGAAAGGTCAAGGTGCGTCCTTTGTGTCAAGCGGCTCTCATGTGAGATTGCGGATCAAGTCGTTCAGGGTACCTG AGCTTTTCGTAGAAATTCCAGAAACTGCTACTGTTGGCTCCTTGAAGAGAATGGTGATGGAAGCAGTGAACAGTTTATTGAGTGATGGACACCGAGT TGGTCTGATGGTTCAAGGAAAGAAAGTCCGAGATGATAGCAAAACCCTTCATCAGACTGGGATCTCTCAGGAGAACACCCACTTGAACTGTCTTGAT TTCAGCCTTGAACCAAGCTCAGACACGCCTCAACTGTTAACTAGTAACCCGTTGGGACATATCTGCGAGGAACTGCCTATGTGCCATACTTCTAGCA TGGACAAAGTGTTTAAATCTGACCATGACGCAGCACTGTTCCCAGCTGAGTCGTTTGGCAAGAAAACTGCGACAGATGATTCTAAAGTTCTGGTTCC TCTCGCGCTCAGTGAACTTTCTCCTCGACCGCCTTGTCATAAATCTAAAAGGAGTGAGCAGCGGCAGCAGCAGGCTGCACAACGCAGAATTCGTCG ACCTTTCTCAGTTGCTGAAGTAGAAGCACTTGTTCAAGCAGTTGAGAAACTCGGTACTGGAAGGTGGCGAGATGTTAAGCTTCGTGCTTTCGAAGAT GCAGATCACCGCACTTACGTTGATCTCAAGGACAAATGGAAAACGCTGGTCCACACGGCTAAGATATCTCCACAACAGAGGAGAGGAGAGCCAGTG GGTCAGCAAGTTGTAAAGCGGCTGTTGAAGCGTGATGGCTAGTGCTGAGAGGAGTTGTGGCTAGAAGCGGATGAAGATGAAGCATTTGCTTGCGC
GCT-001B10	AT5G24470.1	APRR5 (PSEUDO-RESPONSE REGULATOR 5); transcription regulator	GGTTTTCTAACTGTTTGTTTCTTCTTCTTCTTCTCCTTTTCTCTTTCCGGAGTTTCAAATCGAATCTGGTTTTAATAAGCAGAGTGCTGTGAGATGCAA GAAGTGAGCGACGAAGTTGTTGAGGTGACGGTGGTGGAGAAAGCAGCTGTGGCTGGCGGAGGAAAGTCAGCAGCGCGGCGGAGGATGCGGAGG AAAGACGCCGCCGCAGATGGCGGCGGCGATGGTTTGGTGAAGTGGGAGAGGTTTCTCCCTAAAATCGCGTTAAGAGTTTTGCTTGTCGAAGCTGA CGATTCTACCAGACAGATAATCTCTGCTCTCCTCAGGAAATGCAGTTACAGAGTTGCTGCTGTACCTGATGGCTTGAAGGCTTGGGAGATGCTTAAA GGGAAGCCAGAAAGCGTTGACCTTATATTAACAGAGGTTGATCTTCCTTCAATTTCTGGATACGCTCTTCTAACTCTTATCATGGAGCATGATCTCTG CAAGAACATTCCTGTCATAATGATGTCGACACAGGACTCAGTGAATACTGTGTATAAGTGCATGTTGAAAGGTGCGGCTGATTATCTTGTGAAGCCG TTAAGGAGGAATGAGCTGAGAAATCTCTGGCAACATGTCTGGAGAAGACAAACTGTATGTTCCATGCTATCTTTTATAACCTTCTTGTGTCCAGAGCA ATCTACTACTTAACCATCCTTATTTAAGTTCTGGGAAATTTCGTTGTCTATTAAAAGATAATTGAGTTCTCAGATTTCTGTTTTTTTTCTTGATCTTCCTG GCAGTCTCTTGGTAGCTTTCCACTGGATGAGTTTGTCGGACAGCAGAAACCAGAGGGAGCCTCTGCAAACAATTCGACCAGTAACCACGGGAATGC ATTTGAGAGCGATCAACATCCTGTAATTGGGAATGGTGGTGATGCTCAGAGCTCATGCTCAAGACCAGAGATGGAAGGTGAGAGCGCAGACGTGG AGGATAATCAGAGAGACTCGTTACAAATGGAGAGCTCAAAGTCTCTATTCAACGAGCCACGGTTTATAGGGAAGGACATTCAAAACTCATCTAAAGA AGCCATTGACTTCATGGGAGCATCACTTAGAAGAAATGGACAACGTAACAAAGAAGAAAGTAACTCCAAATACGAATCTCGGATAGAGCTTGATCTC TCTCTGAGAAGACCCAACGCTTCTGAGAACCAGTCTTCTGGAGAACGTCCCTCTCTTCATCCTTCTAGTGCCTCAGCTTTCACACGGCCGTTGCAGA CACAATGTTCGTTCTCTCCGGTTTCTGAACAAAGAAAGAATGTTGCGGGAGCAAGTCAAGGCGATAACATTGTGCTAATGAACCAATACAATTCATCT GAACCGCCTCCAAGTGCTCCAAGAAGAAACGAAGCAGGCTTTTACACGAGAGCTGACTCACCAGGTCCACCGTTTAGCACTCAGATGAATTCTTGG CCTGGACAGAGTTCTTACCCTAGGCCAATTCCCATCAAGGGTATACAGTTCAGGGGTCCAACTAACACAGCTTATGCATCTGCGGTGGCTCCTGCTT CACTCTCTCCAAGCCCTACTTCCGTTAGCCCGCATGAGTACAGTTCTATGTTTCACCCGTTCAACAGTAAACCCGAGGGCTTGCAAGAGCGTGATG GTTACATGGATGTAGAGGAGAGAAGACACGTTTCTTCTGCAACGGAACAGAGTGGAATAGGCAATCACTGCAGTAGCAACTACACTGATCATCAGC AGCTACTGCTGGAGAAGATGAACGAAGAAGGATATTCATCATCGGTGGGGAAAATTCAGCAATCTCTGCAACGGGAAGCCGCTTTGACCAAATTTC GAATGAAGCGCAAGGACCGGTGTTTTGAGAAAAAGGTCCGTTATGAGAGCCGGAAGAAATTGGCAGAGCAACGGCCACGAATCAAAGGGCAATTC GTTCGTCAAGTCGAATCGACCGAGACGTCAAGACAAGGTCGCAGCTGAATCGAAGAAATTGATTCTAATATCAATAGACTTCAATTTTGTATCAACTA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001B11	AT4G15900.1	PRL1 (PLEIOTROPIC REGULATORY LOCUS 1); nucleotide binding	GATCCGTTTGCAGTTTCAGTGACTCTCTCTCCCTCTCCGTAAACCCTAAACCAAGGACGATGCCGGCTCCGACGACGGAGCTCGAACCCATTGAGC CACAATCGCTGAAAAAGCTCAGTCTCAAATCCCTCAAACGAGCTCTTGATCTTTTCTCCCCCGTCCATGGCCAATTCGCTCCTCCTGATGCCGAAGC CAAGAAGATTCGCCTCAGCCATAAGATGAAAGTTGCATTTGGAGGCGTTGAGCCGGTGAGTCAACCTCCACGTCAACCTGACCGCAACAGCGAGCA GGCAGGAACCTCAAATGCTCTTGCTCTCCCAGGTCCTGAAGGTTCCAAGAGTATTCAAAAGGGTGTGACTGACAAGGCTCTTGTTGTTGGTCCAACT TTACAGCCAAAAGGCTTGAATGGTATTGGTGCCTCAGGCAAAAGCACCACCATTATTCCTGCAAATGGATCCTCGTATGAAAGAAACTTTTCAACTTC TGCATTAATGGAGAGAATACCGAGTAGATGGCCTCGCCCAGAGTGGCATGCACCATGGAAGAATTACAGAGTCATTCAGGGGCACTTGGGTTGGGT CAGATCTGTAGCGTTTGACCCGAGTAATGAATGGTTTTGTACTGGTTCAGCTGATCGTACCATCAAGATATGGGATGTAGCAACTGGAGTTCTGAAG CTAACACTTACTGGACATATCGAGCAAGTACGAGGTCTTGCTGTAAGCAATCGACATACATATATGTTCTCTGCTGGTGATGATAAACAAGTCAAATG CTGGGACCTTGAGCAGAATAAGGTTATCCGGTCTTATCATGGTCACTTGAGTGGAGTCTATTGCTTAGCTCTTCACCCAACTTTGGACGTTTTACTAA CCGGAGGGCGAGACTCTGTCTGCAGGGTATGGGATATTCGCACCAAGATGCAAATTTTTGCACTCTCAGGACATGACAACACCGTTTGTTCTGTTTT CACTCGTCCAACAGATCCACAAGTTGTCACCGGATCTCATGACACGACCATTAAATTTTGGGACCTCCGATATGGTAAAACGATGACGACTCTTACA CATCATAAGAAGTCTGTCCGAGCAATGACTCTCCATCCTAAAGAGAATGCCTTTGCTTCCGCATCAGCTGACAACACCAAGAAATTTAGCCTACCAA AGGGAGAATTTTGCCACAACATGCTTTCGCAGCAGAAAACCATAATTAACGCAATGGCTGTGAACGAGGATGGTGTAATGGTCACTGGAGGTGATA ATGGAAGTATATGGTTCTGGGACTGGAAGAGTGGTCACAGTTTCCAACAGTCAGAAACTATTGTACAGCCTGGTTCACTGGAGAGTGAAGCGGGTA TATATGCAGCATGTTATGATCACACAGGTTCAAGATTGGTAACATGTGAAGCCGATAAGACGATAAAGATGTGGAAAGAAGATGAGAATGCAACTCC AGAAACTCATCCTGTCAACTTCAAACCACCCAAGGAGATTAGGCGATTCTAACAACCTCTCTATATTTGTATCTGAAACAGTCCATGGCGGGAGGTC
GCT-001B12	AT1G21400.1	2-oxoisovalerate dehydrogenase, putative / 3-methyl-2-oxobutanoate dehydrogenase, putative / branched-chain alpha-keto acid dehydrogenase E1 alpha subunit, putative	GACACTCTTCACCCATTTTCTTCTCCTTGTCCTTTTTTTATTTGTCTTTGCATACATGGCGATCTGGTTTGCTAGATCCAGAAACATCGTTTCTAGCCT GAGACAGAATCTTGGTTCGTCGAAAATTCTCTTCAAACGCGATTACTCTCATCGTCCCGTTTTTAAAAATTCTCAGTTATCCTCTACGGTGTTTTTGGG TCCCGTCAAGAGCCTCCGTCACGAGTCTACGGCAGTGGAGAAACAGCCTGATTTGGTTCAACTCAGTGATGAGGAAGATGCCCAGCTGGAATTGGA TTTTCCGGGAGGCAAAGTCGGTTACACATCCGAGATGAAATTCATACCGGAATCTTCTTCTCGGAGAATCCCGTGTTATCGGGTTCTTGACGAAGAC GGAAGAATCATCCCCGATAGCGATTTCATTCCGGTGAGCGAGAAACTCGCCGTGAGAATGTACGAGCAAATGGCGACGCTTCAGGTGATGGACCA CATCTTCTACGAAGCTCAACGTCAAGGAAGAATCTCTTTCTATCTAACTTCCGTCGGAGAAGAAGCCATTAACATCGCTTCCGCCGCCGCTCTCAGC TCTGACGACGTCGTTTTGCCTCAGTACCGAGAGCCTGGAGTTCTTCTATGGCGTGGCTTCACGTTGGAGGAGTTTGCGAACCAGTGCTTTGGGAAC AAAGCTGATTATGGCAAAGGCAGACAAATGCCGATCCATTACGGCTCCAATAGACACAACTACTTCACCGTCTCCTCTCCAATCGCCACGCAGCTTC CTCAAGCTGCTGGAGTTGGCTATTCTCTCAAAATGGAGAAGAAGAACGCTTGTGCAGTAACATTCATTGGAGATGGTGGCACAAGCGAGGGAGATT TTCACGCCGGACTGAATTTCGCGGCGGTGATGGAAGCTCCGGTAGTATTTATCTGTCGAAACAACGGTTGGGCCATAAGTACTCATATCTCAGAACA ATTCAGAAGTGATGGAATTGTTGTGAAAGGTCAAGCTTACGGTATTCGAAGCATCCGTGTGGACGGTAACGATGCTCTCGCAGTTTATAGCGCGGTA CGCTCAGCAAGAGAAATGGCTGTAACAGAACAAAGACCAGTTCTCATCGAGGCGATGACATATAGAGTAGGACATCATTCTACATCAGATGATTCGA CTAAATACAGGGCGGCCGATGAAATCCAGTACTGGAAAATGTCGAGAAATCCTGTGAACAGATTCAGGAAATGGGTTGAGGATAATGGATGGTGGA GTGAGGAAGATGAATCTAAGCTAAGATCTAACACAAGAAAACAGCTTCTACAAGCGATTCAGGCGGCGGAGAAGTGGGAGAAACAACCACTGATAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001B13	AT2G19900.1	ATNADP-ME1 (NADP-MALIC ENZYME 1); malate dehydrogenase (oxaloacetate-decarboxylating) (NADP+)/ malic enzyme/ oxidoreductase, acting on NADH or NADPH, NAD or NADP as acceptor	GACAACCTTCTTCTTTCCATGACTGTACAATAGAGAAAGTTTGTTTCAGATTTCTTGCCTTGTAATACTTTCTTCAGATTTGTGGTCCTTCTGGATTCG AAATTTCTACTTCTTTTTGCTTTTGTTTTTTGGATTGTGGTCATTGATCCTTTCAAGATGAAGAGTGTGACCAACTCGGATTTGAAATCCTCTGTCAAT GGTGGCGTTGTTGATGTGTATGGAGAAGATTCAGCCACCACTGAGCACAACATAACTCCATGGTCTCTCTCTGTTTCTAGTGGTTATTCATTGCTGA GAGATCCTCGCTACAACAAAGGACTTGCTTTCACTGAGAAAGAGAGAGATACGCACTACTTGCGCGGTCTTCTCCCTCCAGTTGTTCTTGATCAGGA GCTTCAGGAGAAGAGGTTGATGAACAATATCCGACAGTATCAGTTTCCATTACAAAAGTATATGGCCTTAACAGAGCTTCAGGAAAGAAACGAGAGG CTCTTTTACAAGCTGTTGATAGAAAACGTGGAGGAGCTTCTTCCTATTGTTTATACTCCAACTGTTGGTGAAGCTTGTCAGAAATATGGAAGTATTTTC AGGCGACCTCAGGGTTTATTCATCAGTTTAAAAGAGAAGGGAAAAATTCTAGATGTGTTGAAGAATTGGCCTGAAAGGAATATACAGGTCATTGTTGT TACAGACGGAGAAAGGATTTTGGGATTAGGAGATCTTGGATGTCAGGGGATGGGTATTCCGGTTGGTAAATTGGCTTTATATTCAGCACTTGGAGGT GTTCGTCCTTCGATGTGTTTACCTGTCACCATTGATGTGGGAACAAACAATGAGAAATTGTTGAATGATGAGTTCTACATAGGACTCAAACAGAAGCG AGCAACGGGACAGGAGTATAGCGAACTCTTGCATGAATTCATGAATGCTGTAAAACAAAACTATGGCGAAAATGTTCTTATACAGTTTGAAGATTTTG CAAATCATAATGCATTTGAGTTGCTTTCCAAATACCGCCACACTCATCTTGTCTTCAACGATGATATACAGGGGACAGCAGCAGTTGTTCTAGCGGG ATTAGTTTCCGCACAGAAGTTAACGAATAGTCCACTTGCAGATCACACCTTCCTCTTTCTTGGTGCTGGTGAAGCTGGTACTGGAATAGCAGAACTTA TAGCTCTCTATCTATCCAAACAGATGAATGCTTCGGTAGAGGAAAGCCGCAAGAAAATCTGGCTTGTTGATTCCAAGGGACTGATTGTTAGCTCACG TAAAGATTCACTTCAAGACTTCAAGAAACCATGGGCTCATGAACATGAACCAGTCAAAGACCTCTTAGGTGCTATCAAGGCCATAAAGCCGACTGTT CTGATTGGATCTGCTGGAGTTGGACGGTCATTTACAAAGGAAGTAATTGAAGTCATGTCTTCCATTAATGAGAGACCTGTGATAATGGCTCTCTCTAA CCCAACAACACAATCAGAATGTACAGCTGAAGAAGCTTATACGTGGAGTAAGGGTCGTGCGATTTTTGCAAGTGGAAGTCCTTTTGATCCAGTTGAG TATGAAGGAAGTGTGTTTGTGTCTACACAGGCGAACAATGCGTACATATTCCCTGGTTTTGGACTTGGTTTGGTAATCTCAGGAGCAGTACGAGTAC ATGACGATATGCTTCTAGCCGCGGCTGAGGCATTAGCTGGACAAGTAAGCAAAGAGAACTATGAGAAAGGAATGATATATCCTTCCTTCTCTTCCAT CCGGAAAATATCAGCTCATATCGCAGCCAATGTAGCAACTAAGGCATATGAACTAGGGGTGGCAGGGAGGCTTCCACGGCCTAAAGATATTGTCAA
GCT-001B14	AT1G25280.1	AtTLP10 (TUBBY LIKE PROTEIN 10); phosphoric diester hydrolase/ transcription factor	GACTGGAAAAAAATAAAGCAGAGACGAAAAAAGCAGAAGACGACTTTATCTTTTTCTGGTTTTTGTTGTTCTTTGACTTTATGGGCTCTTTTGTTTTAG ATTTAGGCTCCTACGGATCTGCTTAAATCCTTGTGATCCTGTTTCTTATTTTTTCTGTTTACCCGTAATTTCCGGAGGATTCAAGTTCTGGAGCAGACC CAGATTCTGTTCTAGCTTTACTGAGTTTCTGGATTTGGTCGGAGAAGCTGAGGTTAGGTGGATTTGTCTTTCAAGATTGATGTGATTTAAGCTTCTGG GTTTCTAATTCTGCCTCTGCTTGTCTGAAAGTCAGTGGAATCTCTCATCTCAGTGTGAAGCTCTCTGTTTTGGGCATTTCTGGTTATAAAGAAAGGGT TGGTCTTGTTGAAAAACATCCTTTGAAGAAGAAATAGAAATGTCGTTTAGGAGCATTGTTCAAGATGTGAAAGATGGGTTTGGGAGCTTGTCGAGGA GGAGTTTCGACTTCAGGCTCTCGAGTCTCCACAAAGGGAAATCTCAGGGATCTTCGTTTCGTGAGTATTCGTCTTCCCGTGATCTTTTGTCACCTGT GATAGTTCAGACAAGCAGATGGGCTAATCTTCCTCCGGAGCTACTCTTCGATGTGATTAAAAGATTAGAGGAGAGCGAGAGTAATTGGCCTGCAAG AAAACATGTCGTGGCTTGTGCTTCTGTTTGTCGGTCTTGGAGAGCTATGTGCCAAGAAATCGTCGTATGTCCTGAAATCTGTGGGAAGCTCACTTTT CCAGTTTCCCTCAAACAGCCAGGGCCTCGTGATGCAATGATTCAATGTTTCATTAAAAGGGATAAATCAAAGCTAACATTTCACCTTTTTCTTTGTTTA AGTCCCGCTCTACTCGTAGAGAATGGGAAATTTCTTCTTTCGGCTAAAAGAACTCGTAGAACTACTCGAACCGAGTACATTATCTCCATGGATGCTG ATAACATCTCAAGATCAAGCAACGCTTACCTCGGAAAGCTCAGATCAAACTTTCTTGGGACAAAGTTCTTGGTATACGACACACAACCACCACCAAA CACATCTTCGAGCGCACTCATCACCGATAGAACAAGCCGAAGCAGATTTCACTCAAGAAGAGTCTCTCCTAAAGTCCCATCAGGCAGCTACAACATT GCTCAGATCACATACGAGCTCAACGTGTTGGGCACACGCGGGCCACGGAGAATGCACTGCATCATGAACTCCATCCCAACTTCATCTCTCGAACCG GGCGGTTCAGTCCCTAACCAACCGGATAAACTCCTCCCTCCTCCACCACGGTCTTTCGACGACTCGTTCCGCAGCAACATCTCGTTCTCCAAATCAT CGCTCGACTACCGCTCCGTAGATTTCAGCAGCTCAAGATTCTCCGAGATCGGAGTTTCTTGCGAGGATGACCAAGAAGAGACGAGTTTCAGACCGT TGGTGCTAAAGAACAAGCAGCCTAGGTGGCACGAGCAGTTGCAATGCTGGTGTTTGAATTTCCGAGGGCGTGTCACGGTTGCGTCGGTTAAGAATT TCCAGCTTGTGGCGGCGAGGCAGCCGCCGACGCAGCAAGGGACAGGCGGCGGAGCAGCGGCTGCTGCTGCACCGGCGCCTCATCCGGAGCAAG ACAAAGTGATTCTACAGTTTGGTAAAGTGGGGAAAGATATGTTCACGATGGATTATAGGTATCCATTGTCGGCGTTTCAGGCGTTTGCTATTTGCTTA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001B15	AT3G15310.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT5G32621.1); similar to hypothetical protein 24.t00017 [Brassica oleracea] (GB:ABD64939.1); contains InterPro domain Protein of unknown function DUF635; (InterPro:IPR006912); contains InterPro domain Bacterial adhesion; (InterPro:IPR008966)	GATGTGTCTTCTCTTCTTATTTTCCATACTTCAACCTCAATCTTTTGTTGCAAATCTCTCCTTCGATTTCAATACAACCTCCATCTATATCTTCTCTTCTT CTTTTCCCTTATACTAAACGATCATGGCTTCCTCATCAAACAACTTTTTTGAGTATTCTCTTGATGATAGTATTGATGAAACAATTGAGAATATGTTTGA TACCGCTATTGACAATGCTTTGGCGTATCAAGCATCAGCAAAGGCAAAGAAGAAACGGGCTTACATTGAAAGACAACGTGAAATAGGCCATCAACAG TTGTGGAACGACTACTTTCACGAAGATGCAATATATCCGCCACATATGTTCAGACGCCGTTTTAGGATGAACAAGCCGCTTTTCATGCATATCGTCGA TCGACTTTCCCATGAAGTTTCTTTAAACAAAAAAGAGATGCTACTGGAAGGTTCGGTCTATCTGCATTACAAAAATGTACGGCGATAATTTGTATTTTG GCATATGGTTGTGCTTCTGATGCAGTTGATGAATATCTACGCCTCGGTGAAACAACTGCACTTAGGTGCTTGGAAAATTTTGTTCAAGGCATCATCAA TGTATTCAGGGAAGAATACCTAAGAAGATCCACCCCAGAAGATCTGCAACGATTACTTGATGATGGAGAGAGGCGCGGATTTCCTGGGATGATAGG AAGCATTGATTGTATCCATTGGGAGTGGAAGAATTGCCCTACCGCATGGAAAGGGCAATATACACGTGGTTCAGGAAAACCGACAATTGTGTTAGAG
GCT-001B16	AT4G11600.1	ATGPX6 (GLUTATHIONE PEROXIDASE 6); glutathione peroxidase	GGGCAAATGTTGAGATCCTCATTTCGGCTTCTCTATATAAGAACCAATCATCTGGTTCGAGTTTCATCATCATCATCATCATTATCGCTTTCTCTGTTT CCATCTAAGTTCGATTCTGCGAAACCTCTTTTCAACTCTCATCGGATTCGTCCTCTTCCTTTATCGACAACGGGAGCTAAACTTTCTAGGTCTGAACA TTCGATGGCTGCTACTTCCGAGCCTAAATCCGTCTATGATTTCACCGTCAAGGATGCGAAGGGAAATGATGTTGATTTAAGCACTTACAAGGGGAAA GTTCTCTTGATCGTGAACGTTGCTTCTCAGTGTGGCTTGACTAATTCGAACTACACTGAGCTTGCGCAGCTGTATCAGAAGTACAAAGATCATGGGT TTGAGATCCTTGCATTCCCGTGTAACCAGTTTGGTAACCAAGAACCTGGCTCTAATGAAGAGATTGTTCAGTTTGCTTGTACCCGTTTCAAGGCTGA GTACCCAATATTCGACAAGGTTGATGTGAACGGTGACAAGGCTGCCCCAATCTACAAGTTTCTAAAATCAAGCAAAGGCGGGCTTTTTGGAGATGGC ATCAAGTGGAACTTCGCTAAGTTCTTGGTTGACAAAGATGGAAAGGTCGTTGACCGTTACGCGCCAACTACATCTCCTCTCAGCATCGAGAAGGACC TGAAGAAAATGTTGGGAGTTACTGCTTAAGCAAAGGAAATATCAGTCAAATAAAAGTTTGTAGTATTGTATTGCCAATACTGTAATAAGCTCTGTCTGA
GCT-001B17	AT2G26080.1	glycine dehydrogenase (decarboxylating), putative / glycine decarboxylase, putative / glycine cleavage system P-protein, putative	GGCGTCTTCTCCCTCAGATTCCTTCTCCATCTTCGCATTTTCTTCGATATGGAGCGTGCAAGGAGACTTGCTTACAGAGGAATCGTGAAACGTCTCG TTAACGAGACGAAACGACACCGTAACGTCGAATCCTCCTCCTCTCATATTGTTCCTTCAAGGTATGTCTCCTCCGTATCGACCTTTCTCCACCGTCGT GAATCGACGGCTTATCCCGGCGGTTTCGGGAGGCATCAGTTGCAGCAGACGAGGTCAATCTCCGTCGATGCGTTGAAGCCAAGCGACACATTCCC GCGCCGCCACAACTCCGCCACACCAGAGGAACAAACTCAGATGGCGAATTACTGCGGATTCGATAGCCTCAACACGCTCATTGATTCGACCGTGCC GAAATCGATTCGGTTAGATTCGATGAAATTTTCGAAATTCGACGGAGGATTAACAGAGAGTCAGATGATTGAGCACATGAGCGATTTAGCAACGAAG AACAAGGTATTCAAATCGTTTATCGGTATGGGTTACTACAACACTCATGTTCCTCCTGTGATTTTGCGTAATATAATGGAGAATCCTGCTTGGTACACT CAATACACTCCTTATCAAGCTGAGATCTCTCAAGGAAGGCTCGAATCTCTGCTCAATTTCCAAACGGTAATCACTGATCTCACTGGACTTCCCATGTC GAACGCGTCGCTGCTCGACGAAGGTACTGCAGCTGCGGAGGCAATGGCGATGTGTAACAACATTCAGAAGGGGAAGAAGAAGACGTTTGTGATTG CAAGTAATTGTCATCCTCAGACGATTGATGTCTGCAAGACTAGAGCTGATGGGTTTGATTTGATAATCGTCACGGCTGATCTGAAAGATGTCGACTAT AGCTCAGGGGATGTTTGTGGGGTGCTTGTTCAGTACCCAGGGACTGAAGGTGAAGTGTTGGACTATGGTGAGTTGAAGAATGCTCATGCCAATGGT GTTAAGGTTGTGATGGCTACGGATTTGTTGGCCTTGACAATGTTGAAACCGCCCGGGGAATTTGGAGCTGATATTGTCGTTGGCTCGGCTCAAAGA TTCGGTGTACCGATGGGTTACGGTGGTCCACACGCCGCGTTTTTGGCTACTTCACAAGAGTATAAGAGGATGATGCCTGGGCGAATCATTGGTGTT AGTGTTGATTCTTCGGGGAAGCAAGCTTTGCGTATGGCTATGCAGACTCGGGAACAGCATATTCGTAGGGACAAAGCTACTAGCAACATCTGTACT GCTCAGGCGTTGCTTGCAAACATGACTGCGATGTATGCTGTCTACCATGGACCAGAAGGCTTGAAATCAATGGCCCAACGGGTTCATGGTCTTGCT GGTGTATTTGCCTTAGGATTGAAGAAACTTGGAACTGCAGAAGTACAAGATCTTCCCTTCTTTGACACTGTGAAAATCAAGTGTTCAGATGCAACTGC AATTGTTGATGCAGCATCTAAAAAAGAGATAAATCTGCGTCTTGTGGACTCCAACACTATTACTGCTGCTTTTGATGAAACAACCACCTTGGATGATG TCGATAAACTTTTCGAAGTCTTTGCTTCCGTCAAGCCCGTTCAATTCACGGCTGAGTCTCTTGCACCGGAAGTTCACAATTCTATTCCTTCTAGCCTA ACAAGAGAGAGCCCTTATCTTACTCATCCAATCTTCAACATGTATCACACGGAGCATGAGTTGCTTAGGTACATCCACAAGCTACAATCGAAAGATCT ATCATTGTGCCACAGCATGATTCCACTTGGATCTTGTACAATGAAATTGAACGCTACAACTGAAATGATGCCAGTCACATGGCCAAGTTTCACCAACA TGCACCCTTTTGCCCCTGTTGAACAAGCTCAAGGTTACCAGGAAATGTTTACGAATTTGGGTGAGCTCTTGTGCACGATCACTGGCTTTGACTCTTTT TCATTGCAACCTAATGCTGGTGCTGCTGGCGAGTATGCCGGGCTTATGGTTATCCGTGCATATCACATGTCAAGAGGGGATCATCACCGAAACGTG TGCATCATACCTGTTTCTGCACACGGGACAAACCCTGCTAGTGCTGCCATGTGTGGAATGAAAATTGTTGCCGTTGGAACTGATGCCAAGGGAAAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001B18	AT3G20820.1	leucine-rich repeat family protein	GACCATCATCAAGTCCCATTTCCCAACACAGTCACAAAAGAGGAATCTTACAACAATGAAACTCAACGTCGTCATTTTACTCCTTCTCCTTCTAATCTC AACCGCCACGTGTTGTCCGCCGTCGGACCGCCGTGCACTGCTAGCTTTCCGGTCAGCTCTCCACGAGCCATACCTCGGCATTTTCAACTCATGGAC CGGCCAAGACTGCTGCCACAACTGGTACGGCGTCAGCTGCGACTCGGTCACTCACCGAGTCGCCGACATCAACCTTCGCGGCGAGTCAGAGGAC CCGATCTTCGAGCGAGCTCACCGGACCGGTTTCATGACCGGACGAATCTCTCCGGCGATCTGCAACCTCCCTCGTCTCTCCGCCATCACAATCGCC GGTTGGAAAGGAATCTCCGGCGAGATTCCAAAATGCATCACACGCCTACCTTTCCTCCGTACACTCGACCTTATCGGAAACCAAATCTCTGGCGGG ATCCCTAACGACATCGGCCGGTTACACCGGTTAGCTGTTTTAAACGTCGCGGATAACCGAATCTCCGGTCCAATCCCGAAATCGTTAACCAACCTCT CAAGCTTAATGCACTTGGATCTCAGAAACAACCAAATCTCCGGCGTAATCCCGCCGGATTTCGGCCGGTTAACCATGCTCAGCCGTGCATTGCTGA GCGGTAACCGAATCACGGGTCGGATACCGGAATCGCTAACCCGAATCTACCGGTTAGCTGACGTCGATCTCTCCGGTAACCAATTATACGGCACAA TCCCACCGTCTCTTGGCCGTATGGCGGTTCTCGCGACGCTTAACCTCGACGGGAACAAAATCTCCGGCGAGATACCTCAGACTCTGATGACTTCGT CGGTGATGAACCTGAATCTAAGCCGGAACTTGTTGCAAGGGAAGATACCGGAAGGGTTTGGGCCAAGGTCCTACTTCACTGTTCTTGATTTGTCGT ATAACAATCTCAAGGGACCAATCCCGAGATCGATCTCCGGTGCGTCGTTTATCGGTCATTTGGATCTTAGCCATAACCATCTTTGCGGGAGGATTCC GGTGGGGTCTCCGTTCGATCATCTTGAAGCGGCGTCGTTTATGTACAACGATTGTCTTTGCGGCAAACCTTTAAGAGCTTGTTTAAAAAATTGATTTT TATCTAATTTTTCTTTTACTACACGTTCTTATTATATTTATCATTATCCAATTTCAAAAAAAAAAACATAAATCTCCCCTACCTTAATACCTTTTCTCCTC
GCT-001B19	AT3G57240.1	BG3 (BETA-1,3-GLUCANASE 3); hydrolase, hydrolyzing O-glycosyl compounds	GAAGCATAAAAAAGCATAACATCATCTTTAATTGTTACTTCATGAAGATGTCTAATGAATCGAGTTTCTTAGCCTCACTACCACTGTTACTGCTTCTTC TCAGCTTCCTAATGGCTTCCTTCTTCGACACGGCAGCTGGACAAATTGGAGTATGCTACGGGAGAAATGGAAACAACCTGCCACGTGCGTCAGACG TGGTATCACTTTTCCGGCAGAGGAACATCCGGAGGATGAGAATTTACGACCCAAACCAAGAGACTCTCGCCGCTCTTCGTGGCTCCAACATCGAGC TTATCCTCGATGTTCCCAACACAGATCTCCAGACTGTCGCCTCCAGCCAAGCAGGAGCCGACAAATGGGTCCAAGACAACGTCAGAAACTATGCAA ACGGTGTCAGATTCCGCTACATTTCTGTCGGGAACGAGGTTCAACCATCAGACACACGCGCTAGGTATGTCCTCCCTGCGATGCAGAACATCGAGA GAGCAGTGTCAGGTCTAGGGATCAAAGTCTCCACAGCGATAGACACCAAAGGCATTACAGGTTTCCCGCCTTCGAACGGTGCGTTCACACCGGAAT TTAGGAACTTTATCGCGCCGGTGATAGCTTTCTTGGCAAGCAAGCAATCTCCTCTGCTCGTGAATATATACCCTTATTTCAGTCACATTAACAACATG AGAGACATCCATTTAGACTACGCTCTGCTTACACCGTCTACTGTTGTCAACGACGGGCAATTCTCGTACCGAAACCTCTTCCACGCACAACTAGACA CTGTTTACGCAGCATTGGAGAAAACGGGAGGCGGATTGGTGGAGATCGTTGTGTCGGAGAGCGGTTGGCCGACCGCCGGAGGACCCGCGACGAG TGTGGATAATGCGAGAACTTATGTGAACAACTTGATACAAACTGTGAAGAGTGGTTCTCCGAGGAGGCCAAGGAAGGCTATAGAGACTTATATATTC GCTATGTTCGATGAGAATCAAAAGGGTCCTGATGAGTCTGAGAAGTTCTTCGGACTTTTTCTTCCGAATCAGCAGCCTAAGTACGGAGTCAATTTCG ACTAATATCATTGAAGACAGTTCAGATAGTGATATGAGATACGTGTATGGAATTTTTAAAGGCTTTTATTGTAAAGGTTTTCAAAGAGTGGGAGCTTGT
GCT-001B20	AT2G02760.1	ATUBC2 (UBIQUITING-CONJUGATING ENZYME 2); ubiquitin-protein ligase	GGAGAATTCGAGAATCGATCGGAGTCGTTTCTCTTAACACCGGTCGTTATCATCGTCGTTTGATTTCCGATCTTCCCTCGCCGCAAGGAGATATGCT CGCTTGACGACGACCTCCATCTTTACCTTTTTTGCTCAACAAGGAAGAGAAGGATGTCGACTCCAGCGAGGAAGAGACTGATGAGGGATTTCAAGA GGTTGCAGCAAGACCCACCTGCAGGAATTAGCGGTGCTCCACAAGACAACAACATCATGTTGTGGAATGCTGTGATATTCGGGCCTGATGATACCC CATGGGATGGAGGTACTTTCAAACTATCACTGCAGTTTTCAGAAGATTATCCAAATAAACCACCAACAGTTCGGTTTGTTTCACGGATGTTCCATCCA AACATTTATGCTGATGGGAGTATATGCTTGGACATTCTCCAAAACCAGTGGAGTCCAATATATGATGTCGCTGCTATACTTACCTCCATTCAGTCATT GCTCTGTGATCCTAATCCAAATTCTCCTGCGAATTCGGAAGCTGCACGAATGTTCAGCGAAAGCAAGCGCGAGTACAACAGAAGAGTCCGTGAGGT TGTTGAACAAAGCTGGACTGCAGACTAGTAATAATATTTGTTGTAGCATTTGTCTTCAAAAACATTAAAACCTCCTCTCTTGTGTTTAATCACCTACAC TTCTCTCTCTCTCTCTTTCCTGTCTTTGTGTGTTTTATAAACTCTGTGATTTGTTGCTTTTAATGTTTCGATGTATTTCCATATATTATCTTAACCACATT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001B21	AT3G26580.1	binding	GAGTTCTACTTCTTCCTCTCAGTTTACAATTCTGTGCTCCGATGGCGGCGGTTATCGGAAACGTGGCGTTGTTGCTCGACGTTAATTCTCATCGTGC GGTGGTTACTGATCGGAGAATTCGTTTGACGGTGGCTGATATCGTTCTTAATTTACAGAGTCAGAAGAGAGATTCGCACAGTCATGCCTACTACGCG GCTCTCTCCTCCAATAAGCCTCTGGAATCTGACGGAGATGCTCGGATTCGCCGGTTTTTGACTCGCGGAAAGGCGAATTCCAGGGCTAACGCTGTC GATTTCGACGACGCGGGATCCAGCGACGAGGAAAGCGGCGGCGACGGTGGTGGTGGTGGTGACGGAATGGAGACGGATGAGGAGGAGAAAGCT TACGATTTGGAGAAGGAGAGGAAGAGGAGAGCAAAGGAATTGCAGGATATGATGGAGCTTGAGAGGAAAGCGGAGGAGTTGCAGTATAAGGTTGA GGAAGAAGGGGAAGATTCCGAGGAGAAGAAGAGGATGAGGGTGAAAAGAGAGCTCGAAAAGGTAGCTCAGGAGCAAGCAGAGAGAAGAGCAACT GCGGAATTGATGTTTGAATTGGGTCAAAAGGCTTATGGTAAAGGAATGTATGGACGAGCAATAGAGTTTCTTGAAGGAGCTCTTACCATTATCCCAA GGCCAACACTCTTTGGTGGTGAGATTCAAATTTGGTTAGCTATGGCATATGAGGCCAATAATCGCCACGCTGATTGCATTGATCTTTATCAGCAACTA GAGAAGAGACACCCGAGTCCTGGTATTCGTCGTCAAGCCTCTGAACTTAGGTATATCTTGCAAGCACCTAAGCTCAAGATCTCTCAAGAGGAAATGG TTACTATACCCATGATCGGTTCAAGTTACGACAGCTATGCAGTGACGTGGAGTGACAAGGATAGGGATAAGGAGCGGCGAATGAATGAATCGACTA CGAATCAGCTTGGCACGAGTCAAGACTTTCTAGGAAAGCTCTTGGTTTGGCGACCACCCGTGGGGATGGAGAAGAACCAAGCCTTTTGGCTTGCTT TGACATTGTGGTTCGGTTTAGTTGGAGCAGCACTTTTCCTACAAAGATAAGTGAAAGAAAGGGAAAAATGCTTTCATTTCCTTTCAATTTATGGTTTG
GCT-001B22	AT1G15820.1	LHCB6 (LIGHT HARVESTING COMPLEX PSII); chlorophyll binding	GCGAAAACAGAGAGGACAAAACACTCATTCCCACAACTTGAGAGAAAGAAAAAAAAACAGAGGAGACATATTAAAGATCTCATGGCGATGGCGGTC TCCGGAGCAGTGCTCAGTGGGCTTGGTTCTTCGTTCCTCGCCGGAGGCAAGAGGAGTGCCGCCGCATTGGGAAGCGGCGTAGGCGCTGGAGCTG CGAGAGCTGGCCGGAAAACACTGATCGTCGCTGCTGCAGCTGCTCAGCCAAAGAAATCGTGGATTCCCGCCGTTAAAGGTGGCGGCAACTTACTC GACCCTGAATGGCTCGATGGCTCGCTGCCTGGAGATTTCGGGTTCGACCCGTTGGGTTTGGGAAAAGACCCGGCTTTTCTGAAATGGTACAGAGA GGCAGAGCTAATCCACGGCCGATGGGCGATGGCAGCAGTTCTTGGGATCTTCGTCGGCCAGGCCTGGAGCGGCGTGCCGTGGTTCGAAGCCGGG GCTGATCCACGAGCGATCGCTCCCTTCTCGTTCGGGTCGCTTCTCGGGACCCAGTTGCTTCTCATGGGTTGGGTAGAGAGCAAGCGGTGGGTCGA TTTCTTCAACCCGGATTCTCAATCTGTTGAGTGGGCCACGCCGTGGTCGAGGACAGCCGAGAATTTCGCCAACTATACTGGCGATCAAGGATATCC CGGTGGAAGATTCTTCGATCCGTTGGGTCTCGCCGGGAAGACACGCGATGGTGTTTACGAGCCGGACAGAGAGAAGCTGGAGCGGCTGAAACTG GCGGAGATTAAGCACTCGAGGCTCGCAATGGTTGCCATGTTGATCTTTTACTTCGAGGCCGGGCAGGGGAAAACGCCTCTCGGCGCACTTGGTTT GTGAGAAACGATGTTTTTTTGAGTCTGTAGATATATTTCTCCTCCCCCAAAAACTCTTCAAAATGTGACATTTTCGGAAATGATCATCATATCATTGCT
GCT-001B23	AT2G23810.1	TET8 (TETRASPANIN8)	GACACACAAATTCGTTTCTGGGTTCCTAAAGTTTCAATCTTTCTCTCCAAAATCTGACTCTTTCAAAATCGTTTGATCTCGTCGTCTTTAGGGTTCTCA AATCCGACTTGAAACCATGGTTCGTTGCAGCAACAACCTCGTGGGTATACTCAATTTCGTCGTCTTCCTCCTCTCGATTCCGATCTTAGCTGGAGGA ATCTGGCTCAGCCAAAAAGGCTCAACGGAGTGTGAGCGTTTTCTCGATAAACCCGTGATTGCTCTCGGAGTTTTCCTCATGGTTGTAGCCATAGCTG GTTTGATCGGTTCGTGTTGCAGAGTCACATGGCTTCTTTGGACTTACCTCCTTGTCATGTTCCTCTTGATTCTCCTCGTTTTCTGCATAACAATCTTCG CCTTTGTTGTGACTAACAAAGGCGCAGGAGAAAAAGTATCTGGAAGAGGTTATAAAGAGTATAGACTTGGAGATTACTCTAATTGGTTGCAGAAACG TGTGAACAATGATAAGAACTGGAACAGGATTAGGAGTTGTCTTGTTGAGAGCAAAGTTTGTTCTAAGCTTGAAGCTAAGCTTGTTGATGTACCTGTCA ATAGTTTCTACAACGAGCACCTTACTGCTCTTCAGTCTGGTTGCTGCAAACCCTCAGAACAATGTGGATTCATTTACAATAGCGCCACAAACTGGAAC AAGACGACAGGAACACACTCTAATCCAGACTGCCAAACCTGGGACAACGCAAAAGACAAGCTCTGCTTCGATTGCCAATCTTGCAAAGCCGGTCTC CTCGATAACGTCAAGAGCGCGTGGAAGAAAGTTGCAGTCGTCAACATCATCTTCCTCGTCTTCCTCATCATTGTCTACTCTGTTGGTTGCTGTGCTTT GAGGAACAACAGGAGAGAAGGCAATTATAGCCGTACCTACGGATATAAGCCTTGAAGAAGCTTTTACTGGTTTTAGGACAGAGAGAGATTCGTTCGT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001B24	AT3G14650.1	CYP72A11 (cytochrome P450, family 72, subfamily A, polypeptide 11); oxygen binding	GATAGGAAAGAAAAAATGGAAATATCAGCTGCATCGGTAACAGTTTCAGTAGCTATAGCTGTTGTGTCCTGGTGGGTATGGAGAACTCTGAATTGGG TTTGGTTTAAACCTAAGACGCTTGAGAGTTACCTGAGGAGACAGGGTCTAGTCGGAACTCCTTACACGCCTCTTGCCGGCGATTCCAAGAGGACTTT TAACATGTCAATGGAGGCAAGGTCCAAACCCATCAATCTTACGGATGATATCATCCCACGTGTCTTGCCTTTCTCCTTGCACATGCTCAAGACGTAC GGAAGGACTTTCTTTACATGGCGTGGACATATACCAGTTATCACCATAATGGATCCTGAGCAAATCAAGGAAGTCTTCAACAAAATTTATGATTTCCA GAAGCCACATACATTCCCTTTGGGCAGATTGATAGCCACTGGACTCTTTAGTTATGACGGTGATAAATGGGCAAATCACCGAAGAATCATCAACCCG GCTTTCCACCTTGAGAAGATCAAGAATATGGTACCTGCGTTCCACCAGACCTGCAGCGAGGTTATTGGCGAATGGGACAAGTTAGTGTCGGATAAA GGCTCGTCCTGTGAGGTGGACGTTTGGCCTTGGCTTATGAGTATGACTGCAGATGTGATCTCTCGTACTGCTTTTGGCAGCAGCTACAAAGAAGGG CAGAGGATATTTGAGCTCCAAGCGGAACTAGCACAGCTCATTACATTATCTGTTCAGACAGCGTTCATCCCTGGATACAGATTTCTCCCAACGAAAC GTAATAGAAGGATAAAAGCAGCAGCCAGAGAAATCCAAATTATACTGAGTGGTATTATTAACAAAAGGTTAAGGGCGAGAGAAGCTGGGGAAGCAC CAAGCAACGATTTACTGGGTATACTTCTTGAATCGAATTTGGGGCAAGCCAAAGGAAATGGAATGAGCACTGAGGATGTGATGGAGGAGTGCAAGT TGTTCTATTTCGCCGGGCAGGAGACAACTTCAGTACTTCTGGTCTGGACAATGGTTCTGTTAAGCCAACACCAAGACTGGCAGGCTCGTGCCCGAG AAGAAGTGAAGCAAGTTTTCGGTGATAAAGAACCTGATACAGAAGGCCTTAACCAGCTCAAAGTTATGACGATGATATTCTATGAGGTCCTTAGGCT ATATCCTCCAGTAAACCAGCTGACCCGAGCCATTCACAAAGAGATGAAGCTAGGCGACCTGACACTACCAGGCGGCGTTCAGATCAGTCTACCTAT TCTGCTCGTCCAGCGCGACACGGAGCTATGGGGCAAAGATGCAGCGGAATTCAAGCCCGAGAGGTTTCAAGAAGGGATCTCAAAGGCAACAAAGA GCCAAGTCTCTTTCTTTCCCTTTGGATGGGGACCGAGGATATGCATAGGCCAGAATTTTGCTCTGTTGGAGGCAAAGATGGCAATGGCATTGATCCT
GCT-001C01	AT4G02280.1	SUS3; UDP-glycosyltransferase/ sucrose synthase/ transferase, transferring glycosyl groups	GACATGCTTCCTCCTTTACTGCTTTACACAAACACGTCACTTTTAGCAAAAACAGTAGCAAGAAACATAGAAGATCAAACACGTCTTCTTCTCTCTCTC TCTCCTTTCTCGCCTAAATTCCAGAATCATTCTGTCTTTTTTTAATCATTTTATCAATGAATCATTGAATTTTCCTGTTTAGTAGCGTTTATTGGTGATTT GATCATTCAAAGTCGGAAGCTTTTTTTGGATTTGGCGGTTTTTGGATCATCTGAATATCCATGTCAACCCCTAAGCTCACTAGGATTCCAAGTACGAG GGATCGCGTGCAAGATACACTCTCTGCAAATCGCAACGAACTTGTCTCTCTTCTCTCCAGGTATGTGGATCAGGGAAAAGGGATTCTTCAGCCACAT AACTTAATCGACGAACTCGAATCTATAATCGGAGACGATACAACGAAGAAATGTCTCGCTGATGGTCCTTTTGGCGATATCCTCAAATCCGCTATGG AAGCCATAGTTATTCCACCTTTTGTTGCCTTAGCCGTCAGACCAAGACCTGGTGTTTGGGAATACGTTCGTGTTAATGTCTATGAGCTAAGTGTTGAA CAGTTAACTGTCTCTGAGTATCTTCGTTTCAAAGAAGAACTCGTTGATGGACCTAGTAGTGACCCATTTCGTCTTGAGCTCGATTTCGAGCCCTTCAA TGCAAACGTGCCACGTCCTTCACGTTCGTCTTCGATTGGTAATGGAGTTCAGTTTCTGAATCGTCACTTATCTTCTGTGATGTTCCGTAACAAAGATT GCTTGGAGCCTCTACTTGATTTCCTTAGAGTTCATAGGTACAAAGGTCATACATTGATGTTGAATGATCGGATTCAAAGCATATCTCGGCTTCAAAGT CAACTTAATAAAGCAGAAGATTATATCTCTAAGCTTCCACAAGAAACTCCCTTCTCAGAATTCGAATATTCGCTTCAAGGAATGGGTTTTGAGAAAGG ATGGGGAGATACCGCAAGGAGAGTTCTCGAAATGATGTATCTTCTCTCTGATATTCTTCAAGCTCCTGATCCTTCTTCCTTGGAGAAGTTTCTCGGGA TCGTACCAATGGTTTTCAATGTTGTGATCTTATCTCCACATGGATATTTCGGGCAAGCAAATGTCTTAGGCTTACCTGACACTGGTGGACAAGTTGTT TACATTCTAGACCAAGTTCGAGCCCTTGAGACCGAAATGCTAATGAGAATAAAGAGACAAGGATTAGATATAACACCTAGGATTCTCATCGTAACAAG ATTGATACCGGATGCGAAAGGAACTACGTGCAACCAACGGTTAGAGAGAGTCAGTGGAACTGAGCATACTCACATTCTCCGGGTTCCTTTTAGGTCT GATAAAGGAATCCTTCGCAAGTGGATTTCAAGATTCGACGTTTGGCCTTATCTAGAGAACTATGCTCAGGATGCAGCGAGCGAGATTATTGGTGAAT TACAAGGTGTACCTGATTTTATCATCGGTAACTACAGCGACGGAAACCTTGTTGCGTCGTTAATGGCACATAAAATGGGTGTTACGCAGTGTACGAT TGCACATGCCCTGGAGAAAACAAAGTATCCAGATTCAGACATTTACTGGAAAGACTTCGACGAAAAGTATCATTTCTCTTGTCAATTCACAGCTGATC TTATCGCAATGAACAACGCAGATTTCATCATCACAAGTACTTACCAAGAAATCGCAGGAACGAAGAACACGGTCGGTCAATATGAAAGCCACGGAGC TTTTACGCTCCCTGGACTATACAGAGTAGTTCATGGCGTCGATGTGTTTGATCCAAAGTTCAACATAGTCTCACCTGGCGCAGACATGACCATTTATT TCCCATTCTCAGATGAAACTAAGAGACTTACAGCTTTACATGGTTCCATTGAAGATATGCTCTATAGCACTGACCAAACTGATGAGCATGTGGGTACG TTGAGCGATAAGTCGAAGCCAATACTCTTCTCTATGGCGAGGCTAGACAAAGTGAAGAACATATCGGGTTTAGTTGAGATGTACGCTAAGAACACAA AGTTGAGGGAGCTGGTGAATCTGGTTTTGATAGCTGGTAACATTGATGTGAACAAGTCAAAAGACAGAGAAGAAATCTCAGAGATTGAGAAGATGCA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001C02	AT1G76680.1	OPR1 (12-oxophytodienoate reductase 1); 12-oxophytodienoate reductase	GCACATTTCACGGAGACCTTCAAAGTGTTTTCGAGAGAAACAATCACAGAGAAAAAAAATCCAGTTTTTAAGCCACCATCGATCGGAATTTATGGAAA TGGAAAACGCAGAAGCAAAACAGAGCATCCCTCTCCTCACGCCCTATAAGATGGGAAGATTCAATCTTTCCCACAGGGTTGTTCTGGCACCATTGAC GAGGCAGAGATCGTACGGAAACGTTCCCCAGCCTCACGCTGTCTTATATTACTCTCAGAGAGCCACGCCAGGAGGTTTTCTCATCGCTGAAGCCAC CGGAGTTTCAGATACAGCTCAAGGGTATCAAGATACTCCTGGGATATGGACTAAAGAGCATGTGGAGGCATGGAAGCCAATAGTGGATGCTGTTCA TGCCAAAGGAGGCATCTTCTTCTGTCAAATCTGGCATGTTGGCCGTGTTTCTAATCGAGGTTTTCAGCCAAATGGGCAAGCTCCGATCTCTTGTACG GACAAGCCATTGACGCCTCAAATCCGCGCTAATGGCATCGACGAAGCCCTCTTTACCCCTCCAAGAAGGCTAAGCATCGAAGAAATCCCCAGCATT GTCAACGACTTTAGGCTTGCAGCAAGAAACGCTATGGAAGCTGGCTTCGATGGAGTCGAGATTCATGGCGCTAACGGCTATCTGATAGACCAGTTC ATGAAGGACACGGTGAACGATAGAACCGACGAGTATGGTGGATCATTGCAAAACCGTTGCAAATTCGCTCTAGAAATAGTCGAAGCAGTGGCCAAC GAGATAGGACCAGATCGTGTTGGAATCAGGCTCTCTCCGTTCGCAGACTACATGGAATCTGGAGACACTAACCCACAAGCATTAGCGGTTCACATG GCGGAATCTCTGAACAAATATGGAATCCTCTACTGTCATGTGATCGAACCTAGAATGAAAACAGTGGGAGAAATAACAGAGTGTCCTCACACGCTAA TGCCGATGAGGAAAGCCTTTCAGGGGACTTTCATCTCTGCAGGAGGCTTCACGAGGGAAGATGGGAATGAAGCCGTGGCTAAGGGACGGACCGAT TTGGTGGCTTATGGTCGGTTGTTTCTGGCTAATCCTGATCTTCCTAAGAGGTTCCAAGTGGATGCTCCGCTGAATAAATACGATAGGGCAACATTTTA CACTTGTCATCGTCTGCTCGCTTACACGCATTACGCTTTTCTTCAAGAAAGACGTTAATACTTCAAGATCGCTAAACTCTCTCGCTTTCGATCTCTAAT
GCT-001C03	AT4G33680.1	AGD2 (ABERRANT GROWTH AND DEATH 2); transaminase	GCTTAGTCACTTTCTGCCATTTTTCTGTGAAATCCATTGTGCCAAGCGGGAAAATGTCGTCGACCCATCAATTAACTTCTTCGTTGATCTCTTCTTCCT CATCCACTTTCTTAGCCCCTTCAAATTTTAATCGCAGAGCTCGAAATGGTTGCTTACCCATGGCAAAACGGGTCAATACTTGCAAATGCGTTGCAACC CCGCAAGAGAAGATCGAATATAAGACGAATGTGTCACGTAATTCAAACATGTCCAAACTTCAGGCTGGATACCTATTCCCGGAGATCGCAAGGAGAA GGTCTGCACACTTGCTGAAATATCCAGATGCACAAATTATAAGTCTTGGAATAGGCGACACAACTGAACCAATTCCAGAAGTGATCACTTCTGCAATT GCAGAGAAAGCTCATGAATTATCCACAATAGAGGGATATAGTGGTTATGGTCCTGAACAAGGTGCAAAGCCTCTGAGAGCTGCTATTGCGAAAACAT TCTACAGCGGCCTTGGCATAGGGGATGATGACATTTTTGTTTCTGATGGTGCTAAATGTGATATCTCACGTCTTCAGGTTATGTTTGGTTCCAAAGTC ACAATTGCTGTCCAGGATCCTTCATACCCGGCATATGTCGACTCCAGTGTTATTATGGGTCAGACCGGGCAATTCAACACTGATGTGCAAAAGTATG GAAACATTGAGTACATGAAATGCACTCCTGAGAATGGCTTCTTTCCAGACTTATCCACCGTTGGCAGGACTGATATAATTTTCTTCTGTTCACCAAAT AACCCTACTGGTGCTGCTGCCACGAGAGAGCAACTAAAGCAGTTAGTTGAATTTGCAAAGAAGAACGGATCAATAATAGTGTATGATTCCGCATATG CAATGTACATGTCTGATGATAACCCACGCTCCATTTTCGAAATCCCTGGAGCAGAGGAGGTCGCTATGGAGACAGCTTCATTCAGTAAATATGCTGG TTTCACTGGAGTTCGACTTGGTTGGACTGTCATCCCGAAACAGCTTCTCTATTCAGATGGCTTCCCTGTTGCAAAAGACTTCAATCGGATTATCTGCA CTTGCTTCAATGGTGCCTCTAATCTCTCTCAAGCTGGTGCTCTTGCTTGCCTTACGCCAGAAGGACTTGAGGCAATGCACAAGGTGATTGGGTTCTA CAAAGAAAACACAAACATAATCATCGACACATTCACTTCTCTCGGGTATGATGTATATGGAGGGAAGAATGCGCCGTATGTTTGGGTTCACTTCCCG AACCAAAGCTCATGGGATGTGTTTGCTGAGATTCTGGAGAAGACTCATGTGGTTACAACTCCAGGGAGTGGGTTTGGACCAGGAGGTGAAGGGTTT
GCT-001C04	AT1G08380.1	PSAO (photosystem I subunit O)	GGGGAGAAAGAAGCAAAGGAGAAAAATGGCAGCAACATTTACAACCCCATCGACGGTGATAGGCCTCGGAGGATCATCTGTTTCTCCCAGACCCTT CTCTTCATCTTTCTTAAAACCAACATTAAGAGCAAAGAACCCTCTGAGACTCGCCGGGGCATCGGGGGGAAGATTCACATGCTTTGAGAGGAACTG GTTGAGGAGAGATCTGAACGTGGTGGGATTTGGGTTGATCGGATGGCTAGCTCCGTCGAGCATTCCGGCGATAAACGGGAAGAGTCTGACGGGTT TATTCTTCGACAGCATTGGAACTGAGCTCGCTCATTTCCCAACTCCTCCAGCTCTCACTTCACAGTTCTGGTTGTGGTTGGTTACGTGGCACTTGGG CCTCTTCCTCTGCCTCACCTTCGGACAAATCGGATTTAAGGGCAGGACTGAGGATTACTTCCAAAAATAATTCATGCCTCTACTATATCATTTGTACT ATATCTCACTCTGTCTTTGTCTCTCTCCTTTGCAGCGTTCTCTGTGTAGTACCATTACTCAAAACAAAGCTTTCTAATTTCTTTGGTATTTGATGTTTCG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001C05	AT1G23820.1	SPDS1 (SPERMIDINE SYNTHASE 1)	GAAGCCTACAAAAACCCTAATCCCTCTCTCTCGTTTCTCCTTCTCTCGGAGTGTCGTGTGTTCGCTCCCGAAGCTAATCACCAGAGCAACCATGGAT GCCAAAGATGCCTCCGCTTCCGATTTGAAGAGACCGAGAGAAGAAGATGAATTCGCCGCCGCCGCTTCCATGGAGACTGATAACTCAGCTCCGTCT GCTAACGGAGATCAGACAAAGGAGCCTGCTTGTTTCTCTTCCGTGATTCCTGGGTGGTTCTCCGAGATGAGTCCTATGTGGCCAGGAGAAGCACAC TCTTTGAAGGTTGAGAAAGTTTTGTTTCAAGGGAAATCAGATTACCAGGATGTGATTGTTTTCCAGTCTGCTACATATGGAAAAGTTTTGGTTTTGGAT GGAGTAATCCAACTTACTGAGAGAGACGAATGCGCCTATCAAGAAATGATCACTCATCTTCCTTTGTGCTCTATCCCTAACCCAAAGAAGTTTTTCCA TAGGTCTTGGTCATTGGAGGAGGAGATGGAGGTGTCCTGCGGGAAGTTGCACGCCACGCTTCTGTTGAGCAGATTGACATGTGTGAAATTGATAAA ATGGTGGTCGACGTGTCTAAGCAGTTCTTCCCTAACGTAGCAATTGGATACGAGGATCCTCGCGTGAACCTCGTCATTGGCGATGGTGTTGCTTTCT TGAAGAATGCTGCTGAAGGATCATATGATGCAGTTATCGTTGACTCATCAGACCCAATTGGTCCTGCAAAGGAGCTGTTTGAGAAACCCTTCTTCCA ATCTGTGGCTAGAGCTCTTCGTCCTGGTGGAGTTGTGTGTACTCAAGCTGAAAGCTTGTGGCTTCACATGGACATCATCGAAGACATTGTTTCCAAT TGCCGTGAGATCTTCAAGGGTTCTGTGAACTATGCATGGACCAGCGTCCCAACATACCCAAGTGGGGTTATCGGATTCATGCTCTGTTCAACTGAAG GACCTGACGTTGACTTCAAACACCCAGTGAACCCAATTGATGAGAGCTCCAGCAAATCAAATGGACCCTTGAAGTTTTACAATGCCGAGATTCATTC AGCCGCGTTCTGCTTGCCTTCCTTCGCCAAGAAGGTGATCGAGTCAAAAGCCAATTGAAAAAGGGAATGAAACAATTTGGAGGATCGTTTCAGTTAT GAAAATAAAAGCTTTTTAGAATTTTACAATCTCTTCTTTCTTTCAAGCATCTTTCTCTCAGACTCGAATAAGTCGAAGCGACGATCTCTTCTTTTACC
GCT-001C06	AT4G33300.2	ADR1-L1 (ADR1-LIKE 1); ATP binding / protein binding	GACTGACTTCGTCTACAATGGCCGTCACCGATTTTTTCGCCGGTGAAATTGCTACTGAGCTCCTGAAACAGCTCGTTCTGATTTCTGCTAAAGCATG GAAATACAAAAGCATCGCCGATAAACTCGTCGCCTTGATCGAGGATATTCTGCCGACGATCAAGGAGATCCAGTACAGCGGCGTTGAGCTTCCTCC TCACCGTCAAACTCAAATCGGTATGCTCTCGAATACACTAGAGAAAGGCAAGAAACTCACGGAGAAAGTCTTAAGCTCCCGTCGCTGGAATTTGTAT CGACAGCTCACCCTGGCGCGGAAAATGGAGAAGCTAGAGAAGGCCATCTCTGATTTCCTCAAGAATCAGATTTTGGCCCACATCCTCGCAGACGTT CATCTTCTCCGGATCAATTCCGATGTGCGTTTCGACCGTGTTGACAGGAGCCTGGAGAAGATGACTGAGCACTTGGGTTCCATGAAAATCGGTGGA GGAGGGATGATAATGGATGCGATGAAGTTAGCCGAGGCTACGATGGAGCTTGAGACGAACAACGATTCGGAGAAATTTGGGGTTGGATTGGAGAT GGGCAGGAAGAAGGTGAAGAAGATGCTCTTCAACGCTGAGGAAAGGCTTATAGGGATCAGTGGAATGGGCGGTGTCGGCAAAACCACTCTTGCCA GAGAGCTTGAACGGGACGACGAAGTCCGATGTCACTTCGAGAATCGAATTTTGTTTCTGACTGTATCACAATCTCCGATTCTTGAGGAGCTGAGAGC ACATATATGGGGTTTTTTGACTGGTTATGAAGGAAATCCTGTTCCAAACTGGAATTTACAGTATGAGGGCGGGTTTAAAACACAGAAGCTGGTGATTC TTGATGATGTTTGGACAAGAGAGGCGTTGGACCGCTTGACGTGTAACATTCCTGGCTGCACAACTCTTGTGGTCTCACGGTCCAAACTCACAGAGC CTAAAGCCACTTATGATGTGGAAGTACTAAGGGAAGATGAAGCAGTCTCTCTCTTCTGTCTCTGTGCATTTGGTCAGAAATCAGTCCCTTCTGGTTTC AGCAAAAGCCTGGTTGAGCAGGTTGCTAAAGAGTGTAAAGGTCTACCTTTGGCTCTCAAAGTTACGGGCGCCTCACTAAAAGACCGACCTGAAAAA TATTGGGAGGGCGCTTTGCAGAGGTTATCGAGAGGTGAACCTGCTGATGAAACTCACGAGACTAGATTACTTCATCAAATGGAAGCTAGTCTAGAAA ATCTCGACCCAACAACCAAAGAGTGTTTCTTGGATCTTGGCGCATTCCCTGAAGACAGGAAGATTCCCGTTGATGTTCTCATCAACATGTGGATTGA GATACATGATCTTGAGGAGGCAAATGCTTTTGCCACTCTTGTTGATTTGTCACACAAGAATCTACTTACTCTTGGGAAAGATCCACGGCTTGGCTCTT CATATGCAAGCTACTATGATGTATTTGTGACACAGCATGATGTTTTGCGAGACTTAGCACTTCATTTATGCAATAAAGGGAAAGTAAACAGAAGAGAT CGATTGCTGATGCCGAAAAGAGAGTTAGTGCTTCCAAGAGAGTGGGGAAGGAACAGTGATGAGCCATACAGTGCTCAGATAGTCTCTATTCATACC GGGGAGATGGATGAAATGGATTGGTCTGACTTTGACATGGAGTTCCCGAAGGCAGAGATACTAATACTTAATTTCTCTTCGGACAAGTATGTTTTAC CTCCTTTCATCACCAAGATGAGCAAGCTTAGGGTCCTAGTGATTATCAACAACGGCATGTCCCCTGCGGTTCTCGATGACTTTTCAATTTTTGCCAAT TTGTCGAAACTAAGAAGTCTCTGGCTCGAGAGAGTTCATGTCCCTGAACTCGCCAACACAACAGTTCCCTTGAAAAACCTCCACAAGATGTCTCTGA TTCTGTGCAAGATCAATAACAGTTTTGATCAGACCGGAGCTGACCTCGCCAATATCTTCCCAAAAATTGGGCGATCTGACGATAGATCATTGTGATG ATCTCGTGGCACTACCTTCAAGCATTTGCGGAATGACATCTCTTAACTCCTTAAGCATAACAAATTGTCCACGCCTCGGTGCATTGCCTAAGAAACTC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001C07	AT2G41900.1	zinc finger (CCCH-type) family protein	GATATTTCCTCCTCTTTCTTCTCACTTGTTCCTTAACACTCCTTTTCTAGATCTACTAGATACTGATTTATTAAACCATCGAAAAGTCTCCGGCAAGATG GATTTGTTGGCGTTCTATTATTAAACTTGTATAAATCGAGAAAATAAGAATCCGATTCCACAGATGGAAGTATGTGCTGTGGATCAGACCGATTAAAC AAGATCGTGTCATCAACATCTTCGTGGCCAGCTTCTTTCGAAGATACCAATCTTTTAACCAACACAGACATGAATCACTTGAGAGTCGAAACAGAGGA TACCTTCGCGAGCTTGCTTGAGCTTGCAGCAAACAACGATGTGGAAGGTGTAAGGCTGTCCATTGAGAGAGACCCTTCTTGCGTAGACGAAGCTGG TCTCTGGTACGGTCGTCAAAAAGGGTCAAAAGCTATGGTCAACGATCAGAGGACTCCATTGATGGTTGCTGCGACTTACGGAAGCATCGACGTGAT CAAGCTTATTGTCTCTCTAACCGACGCTAACGTGAACCGGGCCTGCGGGAACGATCTGACCACCGCGCTACACTGCGCTGCCTCTGGAGGAGCTG TGAATGCTATCCAAGTGGTTAAGCTGCTACTCGCAGCTGGAGCTGACCTAAACCTGTTGGATGCTGAAGGTCAACGAGCTGGAGATGTTATCGTTG TTCCTCCTAAGCTTGAAGGTGTGAAGCTGATGCTTCAGGAGCTTCTTTCCGCTGATGGATCATCAACTGCAGAACGGAACTTGCGGGTTGTGACGA ATCTTCCTAATAGAAACAGCACTTCTCCGTCTCATTCTCCTACCGGAGAGAACGGTGAGTATCCGCTTGGTTCGCCGCTTGGTTCTCCGTTTAAGCT GAAATCGACTGAGTTCAAGAAAGAGTATCCTGTTGATCCGTCTTTACCGGATATCAAGAACAGTATCTACGCGACTGATGAGTTCAGAATGTATTCCT TCAAGGTTCGTCCTTGTTCACGTGCCTACTCTCATGATTGGACAGAGTGTCCTTTTGTTCACCCTGGTGAGAACGCGAGGAGAAGAGACCCGAGGA AGTTCCACTACAGTTGTGTTCCATGCCCTGATTTTAGGAAAGGTGCTTGTAGACGAGGAGATATGTGCGAGTACGCGCACGGTGTGTTCGAATGCT GGCTTCATCCAGCTCAGTATCGGACACGTCTCTGCAAAGATGGAACAGGTTGTGCTCGACGTGTTTGTTTCTTTGCGCACACACCTGAGGAGCTTC GACCTTTGTACGCATCTACCGGTTCAGCTGTTCCTTCGCCTCGTTCAAATGCTGATTATGCAGCGGCTTTGAGTCTTCTTCCTGGTTCTCCATCAGCT GTCTCTGTTATGTCTCCTCTCTCACCATCTGCAGCGGCGAACGGGATGTCTCACTCGAACATGGCTTGGCCGCAACCGAATGTCCCGGCTTTGCAC TTACCAGGAAGCAATCTACAGTCAAGCAGGCTAAGATCTTCTCTCAATGCAAGAGACATCCCGCAAGACGAGTTTAGTATGTTAGCGGATTACGAGC AGCAGCAACTTCTCAACGAGTTTTCCAATTCGTTGAGCCGTTCTGGTCGGATGAAATCGATGCCTCCTTCGAATCTTGAAGATCTTTTCTCAGCGGA AGGTTCTTCGTCTCCTCGGTTTACTGATTCCGCTTTAGCTTCTGCGGTTTTCTCGCCTACGCACAAATCCGCTGTCTTCAACCAGTTTCAGCAACAGC AACAGCAGCAACAGCAACAGCAGAGCATGTTGTCTCCAATCAACACGAGTTTCTCTTCACCAAAGAGCGTCGATCACTCATTGTTTTCTGGAGGAGG AAGAATGTCTCCTCGGAATGTGGTTGAGCCAATATCACCTATGAGTTCTCGGGTTTCCATGTTGGCTCAGTGCGTGAAGCAGCAGCAACAGCAACA ACAGCAGCAGCAGCAACAACAACAACATCAGTTCCGTAGCCTTAGCTCAAGGGAGCTTAGAACAAACTCGAGCCCAATTGTTGGTTCACCGGTTAA CAACAACTCGTGGTCATCAAAATGGGGATCTTCAAATGGTAAACCGGATTGGGGAATGAGCTCAGAGGCACTTGGTAAGTTGAGATCTTCATCATCA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001C08	AT3G06810.1	acyl-CoA dehydrogenase-related	TCGAGCAGAGAGACAACTAGAACATGGGGAGCAGGACGGGCGATCTGGTGACACGTGTCCAATCAGCTCATCGCTTCGATCACGATGCCTTGTTT CGTTTCGCCGCCGACAACGTCTCCGGTTTTCCGACCAACCCATCCCAGTTCACTGTCTCACAGTTCGGACATGGGCAGTCGAATCCCACGTTTCTG ATCGAGGTTGGCTCAGGGAGTTCCTTGAAACGATACGTTTTGAGGAAGAAGCCTCCTGGGAAGCTCCTGGAATCTGCTCATGCTGTTGATAGGGAG TTTCAGGTGCTTAAGGCTCTGGGTGAGCATACACAAGTTCCTGTTCCTAAAGTCTTCTGCTTATGCACTGACCCTACCGTGATTGGGACTGCTTTTTA CATTATGGAGTTTATGCAAGGAAGAATTTTTATAGACCCCAAGTTGCCGAATGTAGCACCCGGAAGAAGGAGTGCGATCTATCGTGCAACAGCCAAA GCCTTAGCTTCTCTTCATTCTGCCGATGTGGATGCTATTGGTCTTGAGAAATATGGCCGGCGCGCCAATTACTGCAAAAGACAGATAGACAGATGGT TCAAACAATATTTGGCTTCAACAAGTGAAGGCAAACCCGAAAGGAATCCAAAGATGTTTGAGCTTGTTGATTGGTTACGCAAAAGCATACCCGCGGA AGATTCAACAGGAGCAACATCAGGCCTTGTCCACGGTGACTTCCGCATTGACAATCTCGTGTTTCATCCTTCTGAGGATCGAGTCATTGGAATAATT GATTGGGAATTGTCCACGCTTGGGAACCAAATGTGTGATGTCGCATACAGCTGTATGCATTACATTGTGAATGTTCAGCTCGATCAGGAGCACGTGA GTGAAGGTCTCGAAACTACTGGACTTCCGGAAGGAATGCTTTCGATGCCAGAATTTCTCTTAGAATACTGTTCTGCATCGGGAAAACCATGGCCTGC TGCAAACTGGAAGTTCTACGTAGCCTTCTCTATGTTTCGAGCTGCTTCAATCTACACGGGAGTGTACAACAGATGGTTAATGGGGAATGCTTCTGCT GGTGAACGAGCCCGGAATACAGGGGCTCAAGCCAATGAGCTTGTAGAGTCTGCCTTGAGTTATATTGCGCGCCAAAATGTTCTCCCTCAGCACCCT CCATCTGTTAAAAGGAACATGAGCCCATCCTATGAAAGCCTTGTGGATGGAAGCGGGAGATTGGTTCCCAACAGAAAGGTATTGGAGTTAAGGCAG AAGTTGATCAGATTTATGGAAACTCACATCTACCCGATGGAAAAAGAGTTTTCCAAACTTGCTCAATCAGATTTGCGATGGACTGTTCACCCCGAGGA AGAAAGGTTAAAGGAGTTGGCAAAGAGAGAAGGCCTATGGAACTTATTTGTTCCTGTAGATAGTGCTGCTAGAGCTAAAAGAGAACTGGCAGCTTTC GAGAATAAACATGATTTCTCGACCAGGTCTTTTGACCAATTGTTTGGTGAGGGCCTCACGAACCTGGAGTATGGTTACCTTTGTGAGATCATGGGTC GTTCCGTTTGGGCTCCACAGGTGTTTAACTGTGGTGCACCTGATACTGGAAACATGGAGGTGATACTGCGGTATGGAAACAAAGAACAAATTTCTGA ATGGCTTATTCCGTTGCTTGAGGGAAAAATTCGTTCTGGATTCGCTATGACTGAGCCACAAGTTGCATCTTCTGATGCAACCAATATTGAGTGCTCTA TTAGAAGACAAGGTGATTCATACGTCATTAATGGCACAAAATGGTGGACAAGTGGGGCCATGGATCCCAGGTGCAGAGTACTTATTCTCATGGGAAA AACTGATTTCAACGCCCCAAAACATAAGCAACAGTCTATGATATTAGTGGACATGCAGACTCCAGGTATACATGTGAAGAGGCCTCTCACAGTGTTT GGTTTTGATGACGCGCCTCATGGACATGCTGAAATATCTTTTGAAAATGTGATTGTCCCGGCGAAGAATATTCTCCTAGGAGAAGGCCGAGGATTCG AGATTGCTCAGGGTAGATTAGGCCCTGGAAGATTGCACCATTGCATGAGACTGATAGGTGCAGCAGAGCGTGGAATGGAGCTAATGGCTCAAAGA
GCT-001C09	AT3G44310.3	NIT1 (NITRILASE 1)	GATGTCACCAACATAAGAAAGAAGGCTTTGAGGTTTGAGATATGTCTGGTAGTGAAGATATGTCAACTCTCAAAAACACTTCTCCGGTTTCTCTGGTT AACGGCAATTCCTCATCCTCCATCATTCGAGCTTCCATCGTCCAAGCCTCCACTGTCTATAACGATACTCCCAAAACTATAGAAAAGGCAGCGAAGT TAACTGCGGAGGCGGCAAGCAACGGATCTAAGCTGGTGGTGTTCCCGGAGGCTTTTATCGGTGGCTATCCTCGTGGGTTTAGGTTTGGTTTAGCG GTTGGTGTTCATAACGATGAAGGTCGTGATGAGTTCCGAAAGTATCATGCTTCTGCCATTCATGTTCCTGGCCCTGAAGTAGAAAAATTGGCGGAGG TGGCTAGGAAAAACAATGTGTATTTGGTAATGGGGGCTATAGAGAAGGATGGTTATACACTCTACTGCACAGCCCTGTTCTTTAGTTCCGAAGGCCG GTTCTTGGGTAAGCACCGTAAACTCATGCCAACATCTCTCGAACGTTGCATCTGGGGTTATGGGGATGGATCAACTATCCCTCTTTACGACACTCCT GTTGGCAAACTTGGTGCTGCTATTTGCTGGGAAAATAGGATGCCTCTCTACAGAACTGCCTTGTACGCAAAAGGAGTTGAGATTTATTGTGCACCTA CGGCTGATGGTTCAAAGGAATGGCAATCGTCGATGCTTCACATTGCCCTCGAGGGTGGATGTTTCGTCTTGTCGGCTTGCCAGTTTTGTCAGCGTA AAGATTTCCCTGATCATCCTGATTACCTGTTTACCGACGCTGACGACTACAAAGGAGATGATGCTATTGTCTCTCAAGGCGGTAGTGTCATTATTTCA CCATTGGGAAAGGTTCTTGCTGGACCCAACTTTGAATCAGAGGGTCTCGTCACAGCTGATCTTGATCTTGGTGATATCGCAAGAGCCAAGTTATACT TCGATGTTGTCGGACATTACTCAAAGCCAGATGTTTTTAACTTGACCGTAAATGAGCACCCGAAGAAACCGGTTACATTCGTGTCCAAGGCGGTGAA AGCGGAGGATGTCTCAGAGTTTCAGGAAAAATAATCGAGATTTGAAAGTCGTCTACTTATCTTCTCCATAACTTCTGGTGTTAATGTCAGTCACATGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001C10	AT1G07920.1	elongation factor 1-alpha / EF-1-alpha	GCCTAGCCTTTCTTTCTTCTCTTTTGCCGCAATCCTTCTCTCCCTATTCAGTATCGGTTAGCTGAGATTTACTTGACAAGCAGCCATGGGTAAAGAGA AGTTTCACATCAACATCGTGGTCATTGGCCATGTCGACTCCGGAAAGTCAACCACCACTGGTCACTTGATCTACAAGCTCGGTGGTATTGACAAGCG TGTGATTGAGAGGTTCGAGAAGGAAGCTGCTGAGATGAACAAGAGGTCATTCAAGTACGCGTGGGTGCTGGACAAACTTAAGGCCGAGCGTGAGC GTGGTATCACCATTGACATTGCTCTCTGGAAATTCGAGACCACCAAGTACTACTGCACAGTCATTGACGCACCTGGACATCGTGATTTCATCAAGAA CATGATTACTGGTACCTCCCAGGCTGATTGTGCCGTCTTGATCATTGACTCCACCACTGGTGGTTTCGAGGCTGGTATCTCCAAGGATGGTCAGAC CCGTGAGCACGCTCTTCTTGCTTTCACACTCGGTGTCAAGCAGATGATTTGCTGCTGTAACAAGATGGATGCCACTACCCCCAAATACTCCAAGGGC AGGTACGAGGAAATTGTCAAGGAGGTGTCCTCCTACCTGAAGAAGGTTGGGTACAACCCTGACAAAATCCCATTCGTCCCCATCTCTGGGTTCGAG GGAGACAACATGATTGAGAGGTCCACCAACCTTGACTGGTACAAGGGACCAACCCTTCTTGAGGCTCTTGACCAGATCAACGAGCCCAAGAGGCCT TCAGACAAGCCCCTCCGTCTCCCACTCCAGGATGTGTACAAGATTGGTGGTATTGGAACGGTGCCTGTTGGTCGTGTTGAGACCGGTATGCTCAAG CCCGGTATGGTTGTGACCTTTGCTCCCTCTGGTCTGACCACTGAGGTCAAGTCTGTTGAGATGCACCACGAGTCCCTTTTGGAGGCTCTGCCAGGT GACAACGTTGGGTTCAATGTGAAGAATGTTGCTGTGAAGGATTTGAAGCGTGGTTACGTTGCCTCCAACTCAAAGGACGACCCTGCCAAGGGAGCA GCCAACTTCACCTCCCAGGTCATCATCATGAACCACCCTGGTCAGATTGGTAACGGTTACGCCCCGGTGCTCGACTGTCACACCTCTCACATTGCT GTCAAGTTCTCTGAGATCTTGACCAAGATTGACAGGCGTTCTGGTAAGGAGCTCGAGAAGGAGCCCAAGTTCTTGAAGAATGGTGACGCCGGTATG GTGAAGATGACTCCGACCAAGCCCATGGTGGTGGAGACCTTCTCTGAGTACCCACCTCTTGGACGTTTTGCTGTGAGGGACATGAGGCAGACTGTT GCAGTCGGTGTCATCAAGAGCGTTGACAAGAAGGACCCAACCGGTGCCAAGGTGACCAAGGCTGCCGTCAAGAAGGGTGCCAAGTGAACTGCTTC
GCT-001C11	AT1G60690.1	aldo/keto reductase family protein	GGAGAAACAGAGAAAGAAAGAGGTGTGAGCTAAATCAATGGCGGACTCTTGCGGATTGAAGAGGATGAAGCTGGGAAGCCAAGGCCTTGAAGTAT CGGCGCAAGGTCTTGGTTGCATGAGCCTCTCCGCCTTCTACGGTGTTCCGAAGCCGGAAACTGAAGCCATCGCTCTTCTCCACCACGCCATTGACT CCGGCATTACTTTCCTTGACACCTCCGACATGTACGGCCCTCACACAAACGAGTTGCTCGTCGGAAAGGCTCTCAAGAACGGGATGAGGGAGAAAG TGGAACTTGCGTCCAAATTCGGAATCATTTATACAGACGTGAAGTTGGAGATAAAAGGAGATCCTGCGTATGTGAGAGCATCTTGTGAAGCTAGTTT AAAGCGTCTAGATGTGGAATGCATTGATCTTTATTACCAGCATCGGATTGATACTTGTGTCCCTATCGAAATCACTATGGGAGAACTCAAGAAGCTAG TTGAAGAGGGTAAAATAAAGTACATTGGTTTGTCTGAAGCCTCTGCTTCAACTATCAGAAGAGCGCATGCTGTTCACCCAATAACTGCTGTGCAGCT AGAGTGGTCCTTGTGGGCGAGAGACGTGGAAGACGATATCGTCCCGACCTGCAGGGAACTTGGGATCGGGATTGTTGCCTACAGTCCTCTAGGAA AAGGTTTCTTCGCATCTGGACCCAAGCTTGTTGAGAATCTTAACAATAATGACTTCAGAAAGAGACTACCAAGGTTCCAACAAGAAAACTTAGACCAC AACAAGATTCTTTACGAGAAGGTTTGTGCAATGTCTGAGAAGAAAGGATGCACTCCCGCACAGCTAGCACTCGCATGGGTTCACCACCAGGGAGAT GATGTTTGCCCCATCCCAGGAACCACCAGGATCGAAAACTTTAACCAGAACATTGGAGCTTTATCAGTGAAACTCACTCCAGAAGAGATGGCTGAGC TGGAGGCCATTAGCCAACCAGAGTCTGTGAAAGGAGAAAGATACATGGCCATGGTGCCCACCTACAAGAACTCCGACACTCCACCGTTGTCTTCAT GGAAAACCGCTTAAAATCAGACTGAGAGTTTCTCTGGTTTTGGTTGCATGACATTGATTGTAACGTATGTCTTTGAGATTTTGATTCATTCCCACGGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001C12	AT3G08550.1	KOB1 (KOBITO)	GGGATGATTCGATAAAATAGGGTTCAATTTATAGATTAGATCTCAGAATCAAGACACCTTCCTCCTTCTAATCAATTTTCTTTTTTTTTCAAATTCGCCG AGCTCGCCATGAAATCGATGCACCACCACAGAGCTCCACTAATTTCTGCTTCTTCATCATCTTCCTCTTCTTCCCCAAGCCACTCTTTTATCTCTAGG CTTCTTCTTCTCCTGACTTTACTTCCGGTTTCCCTTGCCTGTCTCGCCTTTATCCTCCAATGGCGAGGCGGTGGGCTTGCCGATCCTGCCTCTGCTT CTGTTGGTTCCTCTACGTCGGTTCCTGGCGGCTCCGATCTCAACCACGAGGTGTTTCCCGGCATGGAGACTGTTTCATCCGTCTCCCCAAAAGCTC ACCAATCCTCCTCCGACTGCTCAAATCTAGCTCAAAGCTCTTCCCCTTCATTCCCTTACTATGGTGATTGGAAATTCGGTGTTGATACTAGTTTAAAG CCCAAGATATGTATCACGACTAGCACATCAGCCGGATTGGACCAGATTCTACCGTGGATGTTCTACCATAAGGTCCTAGGCGTCTCTACATTTTTCC TTTTCGTAGAAGGAAAAGCTGCTACGCCGAGCATTTCAAAAGTGCTGGAGTCTATACCTGGGGTTAAGGTAATATACAGGACAAAAGAGCTGGAGG AGAAGCAGGCAAAGAGCCGGATTTGGAATGAGACGTGGCTATCTTCTTTCTTTTATAAGCCCTGCAATTATGAGTTGTTTGTCAAACAATCTCTCAAC ATGGAAATGGCGATTGTCATGGCAAGGGATTCGGGAATGGATTGGATACTTCATCTTGATACAGATGAGTTAATATACCCAGCAGGTGCTCGCGAGT ACTCGTTGAGACGGTTGCTTCTTGATGTTCCTCCAAATGTAGATATGGTTATATTTCCAAATTATGAAAGCAGCGTAGAACGAGATGATGTCAAAGAT CCTTTTACAGAGGTGTCAATGTTCAAGAAGAATTACGATCATCTTCCAAAAGATACATATTTTGGAATGTACAAAGAAGCAACACGAAACAATCCAAAT TACTTCTTGACTTATGGTAATGGCAAATCAGTTGCGCGGATTCAAGATCACCTCCGACCAAATGGAGCACACCGATGGCATAATTACATGAAAACTC CCAATGAGATCAAACTGGAGGAGGCCGCTGTCTTACACTACACATATGCGAAATTTTCAGACTTAACATCTAGACGTGATCGATGTGGCTGCAAGCC TACAAAAGAAGACGTGAAAAGATGCTTTATGTTGGATTTTGATAGATCTGCATTTATAATTGCGTCAACCGCAACTGAAGAAGAAATGTTAAGCTGGT ACCGTGAACACGTTGTGTGGGGAGACAAAGAGGTGAAGATGAAACTCCTTAGGAAGGGTATTCTGACACGCATTTATTCGCCAATGGTTGTTATACA AGCATTGAAAGAGTCTGGTGTTTTCAGCTCGGTTGTCTCATCAGCTTCAACAAATCTTTCAAAGAAAAAGTTCCTAGCATCAATGCACAAAAGCAACT CATCCAGATCTACAGCATCTGGATCCCTTCCATCAAAGGAAAAGGAGTCTCAGGGCATCTCTGCAAGGCATCTTCTTGGGACTGAATCAGCCATCCC TCCTTTATCGCCTCCTGGGATGGAACACGCTAGACTTGTCACAGATGATTAACAGGTTTTAAGCATCGAGCTGATGCCTTCGCTTCCTCCTCCTTACT
GCT-001C13	AT2G24200.1	cytosol aminopeptidase	GGCTTTCTCTTCATCTCCTTTCTCATTTTCCTCGTCTTCCTCAATCACACGTCTCTAGTGTTGATCGAGTCCCAAAGCCATGCCTCACACTCTTGGCC TCACTCAACCCAACTCCACCGAGCTTCCTAAGATCTCGTTCGCTGCGAAGGAGATCGATGTAACGGAGTGGAAAGGAGACACACTCGTTGTTGGTG TGACGGAGAAAGACTTGGCGAAAGACGATCACTCAAAGTTCGAGAATCCGATCTTGAACAAGCTCGATGCTCACTTGAGTGGACTTTTAGCTTTAGT CTCTTCCGAGGAAGATTTCACCGGAAAACCCGGTCAATCAACTGTTCTTAGGCTTCCCGGTTTAGGATCAAAACGGATCGGTTTGATCGGTCTTGGA AAATCCGCTTCTTCTTCACCTGTTGCTTATCAGAGCCTCGGTGAAGCTGTAGCCACAGTGTCAAAAGCTTCTCAATCTAGCAGCGTTGCTATTGTGCT TGCCTCCCCTGAAATTGAATCCAAGCTTGCTTCTGCATCAGCTATAGCTTCAGGCGTAGTGCTCGGTTTGTTTGAAGATGGGAGGTATAAGTCTGAA TCAAAGAAACCATCTTTGAAATCTGTTGATATCATTGGATTTGGAACTGGACCTGAATTAGAAAAGAAGCTCAAGTATGCTGAAGATGTTTCTTACGG CGTTATTTTTGGGAGAGAACTCACTAATTCTCCTGCCAATGTGCTTACTCCTGCTGTACTAGCTGAGGAAGCAGCAAAAGTGGCTTCTACCTACAGT GATGTCTTCACTGCAAACATCTTGAACGAGGAGCAATGCAAAGAGTTGAAGATGGGCTCTTATCTAGCTGTTGCTGCTGCATCGGCTAATCCTCCTT ACTTCATCCACCTTGTCTATAAACCCCCGAGTGGCTCTGTTAAGACCAAACTTGCTCTTGTTGGAAAAGGATTGACCTTTGACAGTGGTGGCTACAA CATCAAGACTGGACCTGGCTGCTCGATCGAGCTCATGAAATTCGATATGGGCGGTTCAGCTGCTGTTCTTGGCGCTGCGAAAGCTATTGGTGAGAT TAAGCCTCCTGGTGTTGAGGTTCATTTCATCGTTGCAGCCTGTGAGAATATGATTAGTGGAACCGGAATGAGACCTGGAGATGTCATCACAGCCTCA AACGGAAAGACCATTGAGGTCAACAACACAGATGCTGAAGGTCGTCTAACACTTGCTGATGCTCTAGTGTATGCTTGTAACCAGGGCGTCGACAAG ATTGTTGACCTCGCTACGTTGACCGGGGCCTGCGTTATTGCTCTTGGAACATCGATGGCTGGGATCTACACACCTAACGACGAGCTTGCAAAGGAA GTGATTGCTGCGTCAGAGAAGAGTGGAGAGAAGCTATGGAGGATGCCATTAGAAGAGAGTTATTGGGAGATGATGAAGTCTGGAGTGGCTGATATG GTCAACACAGGCGGGCGTGCAGGAGGCTCCATCACCGCAGCTCTCTTCTTGAAACAGTTTGTGAGCGAGAAGGTGCAATGGATGCATATAGACAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001C14	AT3G14920.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT5G05480.1); similar to Peptide-N4-(N-acetyl-beta-glucosaminyl)aspara (GB:P81898)	GGGGTATACCAGACAGAGACCAAAAGTTTCAATCGTCCGATCATGGCTTCCTCTCTTCCTCCACTCATCTTCTTCACCGTCTTCTTCGTCCTCCAGTC TCTCTCGGCCGTCGCCGATCACCACGTCACCAGATCGCGTTTCAAACCTCCTCATTTCTCTCCTCTCTTCTTCTCTTCTTCTTCCCAAAACGTCACAT CACCACCTACTCGCTACTTCGAGGTCAGAAAGCCTCCCGTTCCCGATTTCCCGACAGCTCAACGACCGTGCTCGCATCGAGTTCTCCACCATGACT TCGGCTACACCTATGCTAAACCACCGGTTCTCGCCAACTACACCGTCCCTTCTCACTGCCCGTCTCGAGAATTCTCCAAAATCGTCCTCGAATTCAA ATCCACTTGCCAGGGAAGACAATTCGACCGGATCTTCGGCGTTTGGCTTGATGGAGTCGAGATTCTCCGGAGCTGCACCGCCGAGCCTAGAGCAA ACGGAATCGTTTGGTCTGTCGAGAAAGATGTGACAAGGTATCACTCTATGCTCGTCAAGAACGAGACTCAGATCCTCGCTGTTTATCTCGGTAATCT TGTAGATAAAACATACACTGGCGTTTACCATGTCGATGTGATCTTCCATTACTATCCAATCGAAAGAAATCCGCGAGATTCTTCTTCTGTATTATCATC TGGTTACAGCTCTCCTCAAGCCGATATGATCCTCCCGGTTTCGCGAAACCTTCCGCTAAACGATGGTTTGTGGTTTGAAATCGTGAACTCGAATGAT TCCAAGTACAAGGAGTTCGAAATCCCTAGGAATGTGTATAGAGCTGTTCTTGAGGTTTATGTTTCTTTCCATGAGAATGATGAGTTTTGGTATGGAAA TCTTCCTAATGACTTTGTTAAGGCCAAGAATCTCAGTGCTGCTGGTAATGGACCTTTCAGAGAAGTTGTGGTTAGCCTCGACGAGAAAACTGCCGGT GCGGTTTGGCCTTTCCCTGTTGTTTTCACCGGAGGAATCAATCCTTTGCTATGGAGACCAATCACAGCTATTGGCTCTTTTGATTTGCCAAGTTATGA CATCGAGATCACGCCTTTCTTGGGAAGCTTGTTAGATGGGAAGAGTCATAAGCTGGGGTTTAGCGTGACCAATGCGTTGAATGTTTGGTATATTGAT GCGAATTTGCATCTTTGGTTGGATCAGGAGAAGGAGATAGTCGAAGGGAAGGTGTTGGAGATCAGTAAAAGCTCTCTGGATATTAGCTCTGTCTCG GACTTCAAGGGCGTGAATGGAAACTTTACTACGAAAGCAAAGAGGTCGATAACTTCGACCGGGCTGGTCAAATCCTCTCATGGAGACATCATAACTA AGGCCAATCAAGAATTCAGCTATGTAAATACGATGGTGTTAGGTAAAGATGGAAACTTGCAGATCATAGATCAGCTGATCCAAGCCGATGACCGTAT TAACGCCAAGAAGGGCTCGAGAGAAATCCACGCAGCAAAATCCATCAAGAGCTTCCCTTTTTACCTCTACTCAGACTCGTTGAAGCAACAGGATGAC ACATCTCTGGAGATTGCAAATGTGACGATGGGATTCAACGAGGAGAAATCAGAGAGCAACAACGGGTTGAGGAGAAAGAGCAAGCTGGAGAACAA GCAAGAAGGGCAAGGAGTTATGGTGGTGAAGAATAACTTAGTGGTCGATGGATATGGAGGCACTCAACAAGTGTATAACTATGTTGGAAGTGACCA ATGTTACTTCAGGAACATCAGTAGCTTCAACTACACCATTCTATATGACAAGCTTGAAACTGTTTGCAAGAAGAATACACTGAAGCTGCCACCACGGC TCGAGCATCTAATCAGACAACCCTTTTTGGCTTGATATATGACCAGAGACATAGACATCGCTTTTGCTGTGAGTGACAGTGGAGAAAGAAACATCAC
GCT-001C15	AT3G17090.1	protein phosphatase 2C family protein / PP2C family protein	GGATTACAGAAAATTGCCACAAAAAAATCAGTACGAGTATGCTCCTCTTTTTCATATACGTTATCTGTGTCAAGTGTGAATCATTCCCGGTTCTGCTA GATTGTGCTTTGCTCCATTTTCTGTGGTTTGCCATATTTTTGCTATTGAAAGCGTTTGCTTGAGGGTACTTGGCTCTAGCATTGATGATGGAGTGTCC TGAGTTTTTACCAGGCTTTAGCCATCTCTAGGAGCGCAATGTACATTTTATGAAAGGAGGTTGAGCCTCTCTTATGTTGGGATTGCTCAGGCTTTATG ATTATGCAGAAATATCAGCGGAAACACAAGGAGTTGTGACAAGAGAGACGATACAAAGAGCCTTTCATGCGACAGAAGAAGGATTCGCTTCTATTGT GTCAGAGCTGTGGAGTACGATGCCCAATTTGGCTACTGTTGGCACTTGCTGTTTAGTCGGAGTGATATATCAGAACACTCTTTTCGTGGCAAGCCTC GGAGATTCACGGGTTGTTCTCGGAAAAAAAGGCAACTGTGGCGGACTCTCTGCTATCCAGTTGTCGAGCGAACACAACGCCAACAACGAGGATATT CGTTGGGAACTCAAGGACTTGCATCCTGATGACCCGCAGATCGTTGTGTTCAGGCATGGAGTTTGGAGAGTTAAGGGCATCATTCAGGTTTCGAGA TCTATAGGAGATATGTACATGAAACGGCCAGAGTTTAACAGGGAGCCAATCAATCAAAAGTTCAGACTTGCAGAGCCAATGAAGAGACCGTTGATGT CTGCAACCCCGACGATACTATCTCATCCTCTGCACCCTAATGATTCGTTCCTCATATTTGCATCCGATGGTCTTTGGGAACATCTGAGCAACGAAAAA GCAGTTGAGATTGTTCATAATCATCCCCGCGCTGGAAGCGCAAAGAGACTGATAAAAGCGGCTCTTCACGAGGCAGCGAGGAAAAGAGAGATGAG ATATTCAGATCTAAGGAAGATTGACAAAAAAGTGAGGCGCCATTTTCATGATGACATCACAGTAATAGTTGTGTTCTTGAACCATGACCTCATCTCCA GAGGCCACACCAACTCAACTCAAGACTCACCACTCTCTATCCGGAGTGCTCTTGAACACTGAAAACATAAAAAAAGAATTACAAAACATTTTAAAAAT GTTTCTTCCTTCTCTTACTTGGTTATATGACTTTTGCCTAGAAGGTAATAAGAAACTGGGCAAGTTCTGAAAAAAAAAAGTGAAAACGACATCTTACGT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001C16	AT2G01570.1	RGA1 (REPRESSOR OF GA1-3 1); transcription factor	GAGTAGCAGTGAAAAACAAAGCAATCCCCACCCAATGGTCGATTGCTTAAGATTCTTCACCTAGTCACATGTTCCTCTTCTCTTCTTCACCCTCAAAA GAACTCACAAAAAGCAAACCCTAGATCCGAGATCGGAGACAAAATCAGACCCAATCAGAGAAGAAATGAAGAGAGATCTTCATCAATATCAAGGTCG TAATACTCGATTGTCCAGCCACGGGACTGCAATCGCCGGTTCTTCTTCTTCCTCCTCGTCTTTGCCGGCGGCGGCTTGTGCTAATAAAGACAAGATG ATGATGGTAAAGGAAGAAGAAGACGGTGGAAACATGGATGAGCTTCTCGCTGTTCTAGGTTACAAAGTCAGGTCATCGGAGATGGCGGAGGTTGCT TTGAAACTCGAGCAGTTGGAGACGATGATGGGTAATGTTCAGGAAGATGGTTTGTCTCATCTCGCGACGGATACTGTTCACTACAATCCATCGGAGC TTTACTCGTGGCTCGATAATATGCTCTCGGAGCTTAATCCATCGGCGGTTCCGGCGTCTGGCTCTAATGGTTTGAATCCGATTCTGCCTTCGCCGGA GATTGATAACTCGTTTTTCACCGGAGCTGGAGATTCTTCGGCCATTGGTGGTTTCTCGGCTTCCGATTATGACTTGAAAGCCATTCCTGGAAACGCG ATTTACCGGAGATCTAATCAATTCGCGATCGATTCTTCGTCTTCCTCGAATAATAATCAGAACAACAAGCGGTTGAAATCATGCTCGAGCCCCGATTC GATGGTTACGTCTACATCAACGGCGGCGCAGATTGGTGGAGTTATCGGAACGACGGCGACGACAACCACCACATCGACGGCGACTGAGTCAACTC GGGCGGTAATCCTGGTCGACTCGCAAGAAAACGGTGTTCGTCTAGTCCACGCGCTTATGGCCTGTGCAGAAGCCATCCAGAGCAACAATTTGACTT TAGCGGAAGCTCTCGTGAAGCAAATCGGGCTCTTGGCTGTGTCTCAAGCAGGAGCCATGAGAAAAGTGGCTACTTATTTCGCCGAAGCTCTCGCAC GGCGAATCTACCGTCTCTCTCCGCCGCAGAATCAAATTGACCACTCTCTCTCCGATACTCTCCAGATGCACTTTTACGAGACTTGCCCTTACCTCAA ATTCGCTCATTTCACGGCCAATCAAGCCATCCTCGAAGCTTTCGAAGGCAAGAAGAGAGTCCACGTCATCGATTTCTCGATGAACCAAGGTCTTCAG TGGCCGGCGCTTATGCAAGCCCTTGCCCTCCGTGAAGGAGGTCCTCCGGTGTTCCGGTTAACTGGAATTGGTCCTCCGGCGGCAGATAACTCCGA TCATCTCCACGAAGTTGGTTGTAAATTAGCTCAGCTTGCGGAAGCGATTCACGTCGAATTTGAATACCGTGGCTTCGTCGCCAACAGCTTGGCCGAT CTCGACGCTTCGATGCTCGAGCTCAGACCTAGCGAAATCGAATCCGTGGCGGTTAACTCCGTTTTCGAGCTCCACAAGCTTCTAGGCCGTCCCGGC GGGATCGAAAAAGTCCTCGGCGTTGTGAAACAGATTAAACCGGTGATTTTCACGGTGGTCGAGCAAGAATCGAACCATAACGGACCGGTTTTCGTA GACCGGTTTACTGAATCGCTACATTACTATTCGACTCTGTTTGATTCCCTAGAAGGAGTTCCGAGTAGCCAAGACAAAGTCATGTCGGAAGTTTACTT GGGGAAACAAATTTGCAATCTCGTGGCTTGCGAAGGTCCAGACCGAGTCGAGCGACACGAAATGCTGAGTCAATGGGCAAACCGGTTCGGTTCGT CCGGTTTTGCGCCGGCGCATCTCGGGTCTAACGCGTTTAAGCAAGCGAGTATGCTTTTGGCTCTGTTTAACGGCGGAGAAGGTTATCGTGTGGAGG AGAATAATGGATGTTTGATGTTGGGTTGGCACACTCGGCCGCTCATAACTACCTCCGCTTGGAAGCTCTCGACGGCGCACTGAGTTGACTAATGTC TGGAAGCGGCAGCGTCATGCTATGCTCAATTTCAGTCGCTTATTTGAGTTTCAATCAGTCGCAGCGCTGATCAGATATCTTCGCAGCAGCAAAAGC
GCT-001C17	AT3G47470.1	LHCA4 (Photosystem I light harvesting complex gene 4); chlorophyll binding	GGATCTCTTGATTCAAACATTTCTCTTCTGTTTTCTCGGGTCGGATCAGGTGTAGGGAACATGGCGACTGTCACTACTCAAGCCTCGGCCTCGATCT TCCGACCATGTACCTCGAAGCCAAGGTTCCTTACCGGTTCTTCCGGTAGATTGAACCGCGAGTTGTCGTTTAAATCGATCGGCTCATCCTCAAAAAC GGCGTCGTTCAAGGTTGAAGCTAAGAAAGGAGAATGGTTGCCCGGTTTGGCATCCCCTGGTTATCTCAACGGCAGTCTTGCTGGTGACAATGGGTT TGACCCCTTGGGACTAGCAGAGGATCCAGAGAACTTGAAATGGTTCGTCCAAGCAGAGCTTGTCAACGGACGGTGGGCTATGCTCGGCGTCGCAG GGATGCTTTTGCCGGAAGTTTTCACCAAGATCGGAATCATTAACGTTCCGGAGTGGTACGACGCTGGAAAAGAGCAGTACTTTGCATCATCGTCGA CATTGTTCGTGATCGAATTTATCTTGTTCCATTACGTTGAGATCAGACGGTGGCAAGACATCAAGAACCCAGGAAGTGTGAACCAAGACCCAATCTT CAAGCAATACAGCTTGCCTCCAAATGAAGTTGGTTATCCAGGAGGAATCTTTAACCCTCTTAACTTTGCTCCCACGGTCGAGGCCAAGGAGAAAGAG CTCGCAAACGGGAGGTTGGCAATGTTGGCATTCTTAGGGTTTGTGATTCAACACAATGTTACTGGAAAGGGACCATTTGAGAATCTGTTGCAGCACT TGTCTGACCCATGGCACAACACTATTGTCCAAACCCTTAGCTGAAGATTTTAAGACAGACTTTTATGAAACTCGTATCTCTATCTATCTTCTGCTACTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001C18	AT5G53450.3	ORG1 (OBP3-RESPONSIVE GENE 1); kinase	GGTAAAATTTCGAACTAAATCCGATTTTTTGAATGTGAAGTTGCGTGTCGTCTCCAGATCGAAATCTCTCTCTCTCTCTCTCTGTCCCTCTCTAGGTTT TTGGTTGGATGGCACTATGTGGTGTTTGTTCGACTCCAAATCTGCGGAGCTTGGAATTGTTGCAGCAATCTGCTAAGAACACGAGCATTGGTCTGAA ACGGAACCGTAGTCTATGGCAGCCCACGGGTTCGGTTCGTGGTGCAAAGCCTGTGAGATTTCGATGTTCGTCTTCCTTGAAATCTTCATCGTCTAAT GTGGAGATGGACGAGGATGTTCAGAACAGTCCCTCGGTATCAGCGGATGATGAATCAGCACATGTGTTGCAGTTCAAGTGGAATGATTTCAAGATT CTTGATCGTGTTAGCATTGGTCATGGAGGCCGGGCCGATGAGCTTGTGTTTGAAGCTATAGTTCAGGTTCCAGATAGCCCTTTGTTTAACCAAGGAG TTGTCCTCCGGAAATTGAATACCACTCACGCTCAAAGGAGGGGAAGAAGGGCCATAGAAGTATTGAAAAAGCTAGTTCGTCGTAGACTTCTCTATCA CTCTTACTCAATGCAAGTTCACGGTTATATCTCCAATAACTTGGGTGATGATCCGTACTCGTTTACCCTGGTACATGGGTGCCATGGAAGTTTCTCGA TTAGGCATTGGCTTCAACAATCTGATTGGCTGCCAACATTGGAAGCTACTCTTGCACTAGATGAAGAATCCTTTAGAAGGGTGGGGGATGATACAAC TGGAGGGCCTGCAGTTTCAAGGCAGTTAAGATTAATCCGTATATTAATGAGGGATCTTTTAATCGGAGTCAATTACTTGCACAGCCATGGTATTGCTC ACACAGAACTGAGATTGGAAAATGTGCATATCAGCCCTGTGGATAGACATATCAAAGTAGGCATTCTCGGAAATGCTGCTGACTTTGGCGAGGATG GTCCAAGTACTAGCAGCGCTTACAGTACCATGGACAGACGACAGATGATGATAGCTTTTGACATGAGATGTGTTGGATTCATGATGGCAAAAATGGT ACTTCAAGAACTGATGGATCCATTAATCTTTGCGAAGTTGAAGTCTTTCCTGGCAAAGGGGAATGATCCGTCTTCGCTACGTGAATTCTTTGTAACTA CGCTCAATACAAACTCTGAATCTGGAAATACTGGAGTGCAAATACTTGATAGAAACTGGGGAGCAGGTTGGCACCTATTATCTTCATTGATTGCTACC AGACCTTCCAAAAGAATAAGTTGCTTGGATGCTCTTAAACATCCTTTTCTATGTGGACCAAGATGGCGAGTTGCCCCATCAATGGATATCATCAGATG GGGTCTTGGATCAACCGCAGTAAGGATTTCAGAAGAATACATTTACCGCATGCCTCAGCGCCAAAGACTTGCTCACTTCATCGAACTAATGGAGATG CTGAACCCATGTCCACAACCAAATTGTTGGTTGGAGCTTTTACCCGGAAAATGGCGTCTGTTATACTCAACCGGAAAACACATAGGTCTAACTCTTC GTCAGCCTTCTACACGTGCCTTAATAGGCAATGTTCACTTAACAGTAACCCGAGCTTCAGATGCCAACAATGCTTCACTATCCTTTACCTCTGATATA GGCTTCACCGCCATAACCAGCAAAGACTGGCCACACAACAAAACCGGAGCCACGGGTAAGTTACAAACGCTCTCTCAGTTCAGACTAGTAGCCGGA AAAAGACTTTACCTCAAAGAAGAGAAAAAGAACATTGGTAAGTTCTCAATGGGAGAACCAGATGCTGAAGAAGGTCTAGTCGAGAAACTAGAAACCA AGAAATGGAAAAAAGTCGTGCCTTTCAAGAAGTTCCCGTCGAGTCTTCCTGTAGCGAAACTCGTCTCTGGAGAGATCGAAGTGACGATGAATATGAC
GCT-001C19	AT1G14660.1	ATNHX8 (Arabidopsis thaliana Na+/H+ exchanger 8); sodium:hydrogen antiporter	GAGAAGAAGAAGAAGGAGATGACAAGTATAATCGACGCGGCGGTGCCGTACAGGTCACCGGAGAAAGCAATTTCTTCATCTTCGTATCCAGCCGAT AGTGCTTCGGGTCCTGTGGACGCTGTTATCTTTGCCGGGATTTCGCTGGTTCTGGGCACAGCCTGCAGACAATTGTTTAATGGCACCAGAGTACCG TACACCGTCGTCCTCCTCGTCATCGGCATTGTTCTCGGGTCTCTAGAATATGGAACAAATCATAACCTCGGGAAGATGGGCCATGGAATTCGTATCT GGAATGATATTAACTCTGACCTACTTTTGGCCGTTTTTCTCCCTGCTCTTCTTTTCGAGAGCTCATTCTCCATGGATGTGCACCAGATTAAGAGATGC CTTGGACAAATGGTTCTGCTTGCTGGCCCTGGAGTCTTAATTTCCACATTTTGTATTGGATCTTTTTTGAAGCTCTCTTTTCCATATAACTGGGACTGG AAAACATCATTGTTGCTTGGAGGACTTTTAGGTGCTACCGACCCTGTGGCTGTTGTTGCTCTGCTAAAAGAGCTTGGTGCTAGTAAGAAGCTGACCA CTATAATTGACGGGGAATCCCTGATGAATGACGGGGTATCAGTTGTGGTCTTTCAGTTATTCTTCAGGATGGTGATGGGGAATAACTCTGATTGGGG TTCCATAATAAAATTTCTTGTTCAAAACTCGTTTGGAGCTGTAGGCATTGGTATAGCTTTTGGCATTGCATCAGTTCTTTGGCTTAGATTCGTGTTCAA TGACATTGTTGTTCAGATCACTGTAACGCTTTCAGTGAGCTATTTCGCATATTACACTGCTCAAGAATGGGCTGGGGTTTCTGGCATTTTGACTGTGA TGACTTTGGGGATCATTTAAGGGTGACAATCACCAGAGTTTGCATCACTTCTGGGAAATGGTCGCTTATATTGCAAACACATTAGTTTTTATACTCAG TGGTGTTATTATCGCTGAAGGCGTTCTTAGCAGTCAGAAATATTCTTACGAAGGTGCCCCTTCACGTTTGATGTCCGGAATTTTGGTTTTTGTTCTGT TTTAGACTATATAAACAGAAGTTTCCCCTACAGTTTGGTATAATTTATCTCTAATTGTCATAATTATTTTGACTTTGGAGAAGATGACGTGATTAGCATT TAGTTCCTGATATTATTCCCCCAGTAGCTTTGTTTTTTACATATATATTAGGTCTAAGGAACATTCATGACTCATTAGTTACTTCTCAGGAAACTCGTG GGGCTTTCTTTTCCTCTTATACTTGTATGTCCAACTTTCCCGTTGTGTTGTGGTCGGAGTTTTGTACCCATTGCTACGTCGTTTTGGCTATGGCTTGA ATTGGAAAGAATCCATCATACTCACGTGGTCTGGATTAAGGGGTGCTGTGTCCCTATCACTCGCTCTATCTGTAAAACAATCAAGTGGCAATTCGTAT CTCAGTTCGGAGACAGGAACAAGATTTCTATTCTTCACTGGTGGGATTGTTTTCCTAACTTTGGTCGTTAATGGATCCACTACCCAATTACTCTTGCA CCTTCTTCACATGGACACTTTAACAGCCACCAAGAAACGAATATTGGAGCATACAAAGTGTGAAATGATGAAAACCGCGTTAAATGCTTTTGAAAATC TAGGAGATGATGAGGAGCTTGGATCTGCTGATTGGCAAACAGTTATAAGACATATTTCTTGTTTGAGAGATTTAGAAGTTAATCCTCGCAATGGGTGT GAAGCAGGAAATCTGGACCCTACGAATATAATGGACATACGTATACGCTTCTTAAATGGTGTCCAGGCAGCTTACTGGGAGTTGCTTGATGATGGGA GAATAACACACAGTACTTCCAATGTTTTGATGCAATCAGTAGATGAGGCACTCGACCTTGTTTATACAGAGTCTTTATGCGATTGGAGAGGTTTAAAA ACGTGTGTTCGTTTCCCAAATTACTACTACAAGTTTCTGAAATCAAGAATCATTCCCCGCAAGTTGGTCACTTATTTAATCGTTGAAAGACTGGAATCT GCTTGTTACATTTCCTCTGCATTTCTCCGTGCCCATAGGACTGCGCGACAACAAATGCATGACTTTCTAGGTAACAGTGACATTGCTTCTACTGTAAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001C20	AT5G57800.1	WAX2; catalytic	GAATGTCGCATTAACACAACAAGGCTTTTGTAACTTCTGGGGTTTTAATTCTTTCAACGAACTAAAATCTCAGCTAAAAATCTCCATCCCTTTTCGTGA GATCAAAAAGATAACCCCAACGTATAATCTCTCTCTTTTCTTTTTGACTTCCACAAAAAGAGCAACATATTTTTCTCAGGATTGCTTGAAAACTGGAAA AATCTTTAAGGTTATAGATAGACCAATAAGAGGGAGATAGAGATCCCGAATTTCGAGGAGGTAACGAATAAGGATTTGAGAGAAGAACAAGAATGGT TGCTTCTCTATCAGCTTGGCCTTGGGGAAACTTTGGCAATCTAAAGTATCTTCTGTACGCTCCGTTAGCTGCACAAGTAGTGTACTCGTGGTCTTATG AGAAAGATTACTCGAGAGCTCTTTGGTGTCTTCATATACTCATCATCTGTGGAATCAAAGGAGTCGTTCATGTCTTATGGAGCGTTTTCCACAACATG CTCTGGTCGAGTCGGACTCTAAGGATTAACCCCAAAGGTGTCGACTTTAAGCAGATTGATCACGAATGGCACTGGGACAATTACATACTCCTGCAAG CAATAATAGCGAGCATGATCTGTTACATGTCTACTCCCATCATGACGATGAACAGTATTCCTCTGTGGAACACGAAAGGATTCATCGCATTAATTGTG CTACATGTGACCTTCTCAGAGCCTTTATACTACTTTCTTCATAGATCCTTCCATCGTCACAACTACTTCTTCACGCATTACCACTCCTTCCACCACTCA TCTCCTGTTCCACATCCCATGACTTCTGGAAATGCAACGTTATTGGAGAATCTTCTCCTCTGTGTCGTAGCTGGAGTTCCTTTGATTGGACCTTGCTT GTTAGGGGTTGGATCAATAAGCTTGATCTACGGATACGCTATCATGTTTGATTTCTTGAGATGTTTAGGACATTGCAACGTTGAGATATTCTCTCACA AGCTATTTGAGATTCTTCCGATCCTACGTTATCTCATCTACACTCCAACGTACCATAGCTTACACCATCAGGAAATGGGGACCAACTTTTGTCTGTTT ATGCCTCTCTTTGATGTATTGGGCAACACACTTAACCCAAACTCGTGGGAACTCCAGAAGAAGATTCGTTTGGCTGCAGGGGAACGGAAGAGAGTG CCGGAGTTCGTGTTCTTGGCTCATGGGGTAGATGTGATGTCGGCGATGCACGCGCCATTCGTGTTCAGATCGTTTGCGTCGATGCCATACACGACG AGGCTCTTCTTGCTGCCGATGTGGCCATTCACGTTCATGGTGATGTTGGGCATGTGGGTTTGGTCAAAGGCCTTTCTTTACAGCTTCTATACACTCA GGGACAATCTTTGCCAGACTTGGGCCGTTCCCAGATTCGGATTCCAATACTTCTTACCGTTTGCTACAAAAGGCATTAATAAGCAGATCGAGAATGC GATTCTTGTGGCTGATAAGATTGGAGTTAAAGTTATAAGCTTGGCTGCTTTGAACAAGAATGAAGCTCTAAATGGTGGTGGAACGTTGTTTGTCAACA AGCATCCTGACCTTAGAGTTCGTGTGGTCCATGGGAACACTTTAACCGCAGCAGTGATTCTCAATGAAATACCAAAAGATGTGAAAGAGGTTTTCTT GACAGGAGCCACTTCTAAGCTGGGAAGAGCAATTGCTCTTCACCTCTGTCGCCGGGGAGTGAGAGTTCTCATGTTGACCTTGTCAGTGGAAAGGTT CCAAAAGATTCAGAGAGAGGCTCCTGCTGAGTTCCAGAACTATCTTGTGCAAGTGACCAAGTACAACGCTGCCCAACACTGCAAGACTTGGATCGT TGGGAAATGGTTAACGCCAAGGGAGCAGAGCTGGGCTCCTGCAGGGACGCATTTCCACCAGTTTGTGGTGCCACCGATCCTCAACTTTAGAAGGA ACTGCACTTACGGGGATCTTGCAGCGATGAGGCTCCCTAAAGATGTTCAAGGACTCGGACACTGCGAGTACACGATGGACAGAGGGGTAGTGCAT
GCT-001C21	AT2G44270.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT1G76170.1); similar to MGC107918 protein [Xenopus tropicalis] (GB:NP_001015743.1); similar to Os02g0762300 [Oryza sativa (japonica cultivar-group)] (GB:NP_001048203.1); contains InterPro domain PP-loop ATPase, YdaO-related; (InterPro:IPR012089); contains InterPro domain Protein of unknown function UPF0021; (InterPro:IPR000541); contains InterPro domain PP-loop;	GGGAGAATCACTCACCGGTAAGATGGAGGCAGGTGAAGCGAAAAGCAAGAAAGCAGGAGGGCCTCGTCTCTGCTGCATCTGTAACCAGAGACGAC CCGTCCTCAAGCGACCTAAAACCCTTCAACAGATATGCAGAGAGTGCTTTTATGAGGTTTTCGAGGAGGAGATTCACCAAGTCATTGTCGTGAACCG GTTATTCAAGTCCGGTGAGCGTGTTGCTATTGGTGCCTCTGGTGGAAAAGATTCGACGGTGCTGGCATATGTATTATCAGAGCTAAACAGACGTCAT AGTTACGGGCTAGACCTTTTTCTTTTGTCCATTGATGAAGGGATAACTGGTTATCGTGATGATTCTCTTGAGACCGTTAAAAGGAACGAACTCCAATA TGGATTGCCTCTTCAGATTCTTTCTTACAAAGATCTGTATGGATGGACAATGGACGAGATTGTGAAGATGATTGGTCTGAAGAACAATTGCACCTTTT GTGGTGTATTCCGTCGACAGGCACTTGATCGAGGAGCTGCATTATTGAAAGTGGATAAGCTTGTCACTGGACATAACGCAGATGATATAGCGGAAA CAGTTCTCTTAAACATTCTGCGAGGGGATATTGCTAGATTGAGTCGGTGCACATCAATCACTACAGGAGAAGATGGTCCGATTCCAAGATGTAAACC TTTCAAATATACATATGAGAAGGAGATTGTCATATATCCTTTGCTATTAAATCCTTTGTTTTGCTTTCTGAATCTGCTTTTAACTTGTCAACATAAGAAA TTGTGAGATCTTAACATAGCTACACGTATGCTTATTTCAAGAAGCTGGATTACTTCTCCACCGAATGCATATACTCTCCTAATGCTTATCGTGGGTTC GCACGTGAGTTCATCAAAGACTTGGAGAGACTAAGGCCAAGGGCTATTCTGGATATCATCAAATCCGGTGAAGACTTCAGAATTGCGACAACCACAA AAATGCCTGAGCAAGGGACATGTGAGCGATGCGGGTATATTTCTAGCCAGAAATGGTGCAAAGCTTGTGTTTTGTTGGAAGGATTGAACCGTGGTTT GCCTAAGATGGGCATTGGAAGAGCTCGAGGAGGCATAAATGGTGATCATACGAGGGAAACAAAGGCTGGATCTAAATCTATTGAGACCAAACAATG
GCT-001C22	AT3G58710.2	WRKY69 (WRKY DNA-binding protein 69); transcription factor	GATCTCAAAAGGATGTCCGGCGAGGAAGCAGGTGGAGAGAAGCCGTGTGGACCCCTCAAAGCTCATGATAACGTACGCCTGCGACCACAACCACC CTTTTCCCTCCTCCTCCGGTAACAACAAATCCCACCACCACCGTACCAGCACCGTCGTCCTCAAAACCGCCAAGAAAGAGGAGAATCACGAAGAAG AAGACGAGGAGGAGGAAGTTACCGTCGCCGCCGAGGAGCCAGTGGGATTAGATCTAAGCCACGTGGACTCTCCGTTGCTATTAGGTGGCTGTTAC AGCGAAATCGCCGGCGAGTTCGGGTGGTTCTACGACGCGTCCATCTCATCATCATCTGGTTCTGGAAATTTCCTCGACGTAACCTTGGAGAGAGGT TTTTCAGTAGGCGAAGAAGAAGATGAATCACTGTTCAGCGATCTCGGCGATTTGCCTGATTGCGCCTCCGTGTTCCGCCGTGGAACGGTGGCTACG GAGGAGCAACATCGGAGATGCGATTTTGGCGCCATTCCCTTCTGTGATAGTTCTAGATGAGTGTGTTTTTGTGTGTGTGTAGCCAAAAACCTCAAGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001C23	AT1G21450.1	SCL1 (SCARECROW-LIKE 1); transcription factor	GGGGCATCTCCAGAATTCAAGACCCTTTTCCTCTTAATCTCTCCTGTTTCAGTTGAATGGTGGAACAAGCTGTGGTTAGAGAACACATCAAAGCGAG AGTCATGTCATTGGTGAGATCGGCAGAGCCATCCGCCGCAGCGTATAGGAATCCGAAACTTTACTCGCTGAATGAGAATGGTTACAACAGTGGTGT TACTTCTGTCGAAATCTTTGATCCAGACAGGTCCAAGAACCCTTGCCTGACTGATGATTCTTACCCAAGCCAAAGTTATGAGAAGTACTTTCTCTATT CGCCAACCGATGAGCTTGTGCAACATCCTGTCGGCTCGGGTGCCTCCGTTAGCTCGTTTGGCTCTCTGGACTCGTATCCTTACCAGTCAAGACCGG TTCTTGGATGTTCCATGGAATTTCAGTTGCCGTTTGATTCAACCTCTACTTCATCTACGAGGCTGTGTGGAGGTTACCAAGGGGAGATTCAAACTCC GAGCATGGCTGTGGTGGGGGAGTTTGATGATGAGCGAATGAGATCAAAGATTCAAGAGCTTGAAAGAGCGCTTCTCGGTGATGAAGATGATAAGAT GGTTGGAATAGACAACCTGATGGAGATTGACAACGACTGGTCTTACCATAACGAGAGCAAACAGCATCATGACTCGCCCAAAGAATCATCATCTGCA GATTCAAACTCTCACGTAAGCAGCAAAGAAGTGGTTTCACAAACTACTCCAAAGCAAATCCTGATATCCTGTGCACGTGCACTATCCGAAGGCAAAT CAGAAGAAGCTTTGTCAATGGTGAATGAGCTGAGGCAGGTTGTTTCAATCCAAGGAGATCCTTCTCAGAGAATCGCAGCTTACATGGTTGAAGGTCT AGCTGCAAGAATGGCTGCTTCAGGGAAATTCCTCTACAGAGCATTGAAATGCAAAGAGCCTCCTTCAGACGAGAGGCTAGCAGCTATGCAAGTCCT CTTTGAGGTATGCCCTTGTTTCAAGTTTGGTTTTTTAGCAGCTAACGGTGCGATCATCGAAGCAATCAGAGGTGAAGAGGAAGTTCACATAGTCGAT TTCGATATCAACCAAGGGAACCAATACATGACACTGATACAAACTGTTGCTGAGCTACCTGGTAAACGTCCTCGCCTGAGGTTAACCGGAATTGATG ACCCTGAATCAGTCCAACGCTCGATTGGAGGATTGAGAATCATCGGTTTAAGACTGGAACAATTTGCAGAGGATCATGGAGTATCCTTCAAATTCAA AGCAGTGCCTTCAAAGACTTCCATTGTCTCTCCATCGACACTCGGTTGCAGAGCAGGAGAAACCTTGATTGTTAACTTTGCGTTCCAGCTTCACCAC ATGCCAGACGAGAGCGTCACAACAGTAAACCAGCGGGACGAGCTACTCCACATGGTGAAAAGCTTGAACCCGAAGCTTGTCACAGTCGTTGAACAA GATGTGAACACGAACACTTCTCCGTTCTTCTCAAGATTCATAGAGTCTTACGAGTACTACTCAGCGGTTTTCGAGTCTCTAGACATGACACTTCCGAG GGAAAGCCAAGAGAGGATGAATGTAGAAAGACAGTGCCTTGCTAGAGACATTGTCAACATTGTTGCCTGCGAAGGAGAAGAACGTATAGAGAGATA TGAGGTCGCTGGGAAATGGAGAGCGAGGATGATGATGGCGGGATTCAGTCCAAGACCAATGAGTTCGAGAGTGTCAAGCAATATACAGAACCTCAT
GCT-001C24	AT5G05170.1	CESA3 (CELLULASE SYNTHASE 3); cellulose synthase/ transferase, transferring glycosyl groups	GGGGTGACGAGCAGAGACAAATAGCAGCTTGCATCTTGTAAGCCATCTAAAGATTCGAATAGTCCTTACTTACATTCCATACATATATCTCTCTTTGA GAGAAGAATCGCAGATTCAGAGAGATCTGAAGAGTCACATCCCGACTCCATCTCCAGATCTCATGATTTGAAGTATCCCGACGTTTCGGTGTTGGAA GAAAGTAAGTGACGATGGAATCCGAAGGAGAAACCGCGGGGAAGCCGATGAAGAACGTCGGTGGGCAGATTTGCCAGATCTGTAGTGACGACGTT GGGAAGACTGTTAATGGAGATCCTTTTGTGGCGTGTGATTTTTGTTCATTCCCGGTTTGTAGGCCTTGCTATGAATATGAGAGGAAGGATGGGAACC AATCTTGTCCTCAGTGCAAAACAACATACAAGAGGCACAAAGGTAGTCCTGCTATTCCCGGTGATAAAGACGAGGACGGCTTAGCTGATGAATCTAC CGTTGAGTTCAACTACCCGCAGAAAGAAAAAATTTCAGAGCGGATGCTTGGGTGGCATCTTACACGTGGGAAAGGAGAGGAAATGGGGCAACCCG AGTATGACAAAGAGGTCTCTCACAATCATCTTCCTCGTCTCACGAGTAGACAAGATACTTCAGGGGAGTTTTCTGCTGCCTCACCTGAACGCCTCTC TGTATCTTCTACTATAGCTGGTGGAAAGCGCCTTCCCTATTCATCAGATGTCAATCAATCACCAAATAGAAGAATTGTGGATCCTGTTGGACTAGGGA ATGTAGCTTGGAAGGAGAGAGTTGATGGCTGGAAAATGAAGCAGGAAAAGAATACTGGTCCTGTGAGCACGCAGGCTGCGTCTGAAAGAGGTGGA GGAGATATTGATGCCAGCACAGATATCCTCGCTGATGAGGCTTTGCTGAATGATGAAGCGAGGCAGCCTTTGTCAAGGAAAGTTTCGATTCCTTCAT CAAGGATCAATCCTTACAGAATGGTTATTATGTTGCGGCTTGTCATCCTTTGTCTCTTCTTGCATTACCGTATTACAAATCCAGTGCCAAATGCCTTTG CTCTGTGGCTGGTCTCAGTGATATGTGAGATCTGGTTTGCCATATCCTGGATTTTGGATCAGTTTCCCAAGTGGTTTCCTGTGAACCGTGAAACCTA CCTCGACAGGCTTGCTTTAAGATATGATCGTGAAGGTGAGCCGTCGCAGTTAGCCGCTGTGGACATTTTCGTGAGTACTGTTGATCCCTTGAAGGA GCCACCTCTTGTGACAGCCAACACAGTGCTCTCTATTCTGTCTGTTGACTACCCGGTTGACAAGGTGTCCTGTTATGTTTCTGACGATGGTGCTGCT ATGTTATCATTTGAAGCACTTGCAGAAACATCAGAGTTTGCTCGTAAATGGGTGCCATTCTGCAAGAAATATAGCATTGAGCCTCGTGCACCAGAAT GGTACTTTGCTGCGAAAATAGATTACTTGAAGGATAAAGTTCAGACATCATTTGTCAAAGATCGTAGAGCTATGAAGAGGGAATATGAGGAATTTAAG ATCCGAATCAATGCACTTGTTTCCAAAGCCCTAAAATGTCCTGAAGAAGGGTGGGTTATGCAAGATGGTACACCATGGCCTGGAAACAATACAAGGG ACCATCCAGGAATGATCCAGGTTTTCTTGGGGCAAAATGGTGGACTTGATGCAGAGGGCAATGAGCTTCCGCGTTTGGTGTATGTTTCTCGAGAAA AGCGACCAGGATTCCAGCACCACAAAAAGGCTGGTGCTATGAATGCACTTGTTAGAGTCTCAGCAGTCCTTACCAATGGACCTTTCATCTTGAATCT TGATTGTGATCATTACATAAATAACAGCAAGGCCTTAAGAGAAGCAATGTGCTTCCTGATGGACCCGAATCTCGGGAAGCAAGTTTGTTACGTTCAG TTCCCACAAAGATTTGATGGTATCGATAAGAACGATAGATATGCTAATCGTAATACCGTTTTCTTTGATATTAACTTGAGAGGTTTGGATGGGATTCAA GGACCTGTATATGTGGGAACTGGGTGTGTTTTCAACAGAACAGCGTTATATGGTTATGAACCTCCAATAAAAGTAAAACACAAGAAGCCAAGTGTTTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001D01	AT1G05850.1	POM1 (POM-POM1); chitinase	GGTTTTTCTCGGCAACGAAGCAACAAAAAAAGCAGTTTTTTTGTCCCGTTGAAGCTCAGGTCATTTTCTCGATCTCTTTGGATCTAGCTGCTCGACAT TGCAGCTGATACTTGCTCCATAGTTGTAAGCTATGGTGACGATCCGGAGTGGTTCAATAGTTATTCTGTTTCTGCTGGCTGTATCATGCCTGGCTTTA GTTGCAAATGGGAAGACAAAACGATCAAAGTTAAGAAAGTGAAGGGAAAGAAGATGTGCACGCAGGGATGGGAATGCAGCTGGTGGTCAGAATACT GCTGTAACCAGACAATATCAGATTACTTTCAGGTTTATCAGTTTGAGCAACTCTTTGCCAAAAGAAACACTCCTGTTGCGCATGCTGTTGGTTTCTGG GACTACCAGTCCTTCATTACCGCCGCTGCACTCTATGAGCCTCTTGGCTTTGGTACCACTGGTGGAAAGCTCATGGGACAGAAAGAAATTGCTGCTT TCCTCGGTCATGTCGCCAGCAAAACGTCCTGTGGCTACGGAGTTGCAACAGGAGGGCCTTTAGCTTGGGGTCTGTGCTATAACAGGGAAATGAGC CCAAGCCAATCTTACTGTGACGATTCCTGGAAATTCAAGTACCCTTGCAGCCCTGGAGCTGAATACTACGGACGCGGTGCCTTACCCATTTACTGGA ACTTCAACTACGGCGCAGCTGGAGAAGCCCTGAAAGCTGATCTCTTGAACCACCCCGAGTACATCGAGCAGAACGCGACACTTGCCTTCCAAGCC GCAGTGTGGAGATGGATGACACCAATCAAGAAAAATCAGCCCTCAGCTCACGACATATTTGTTGGAAACTGGAAACCTACAAAGAACGACACTTTGT CCAAACGTGGTCCGACTTTTGGAAGCACCATGAATGTGCTGTACGGAGAGCTCACATGTGGTCAAGGTGACATTGATCCAATGAACAACATAGTCTC ACACTACTTGTATTTCCTCGACCTCTTGGGTATTGGAAGAGAAGACGCAGGACCAAACGAGGAGCTCAGTTGCGCCGAGCAGAAAGCATTCAACCC TTCAACTGCACCTTCCTCTTCCTCTTCTTGAGTCTCTGTATCGCTCATGTTTTCAAGTCCCTTGCTTCAGTCGAGAAGTGTTACGTAATAAGTGAAATT GCTTGTGCTAAAAAAAAAAAAAGAAAGCTGTCTTTTTTTGTGTTGCGCTTGTGCGCTGTAGAACTTATGCAAAGAAAATTTTATTATTTTTGTGTATGTA
GCT-001D02	AT1G17100.1	SOUL heme-binding family protein	GAGCTCTGTACCCAGAAAACCATCATGGCAGTGGCAGCAGCCGGTTTAAGTTTCTTTAAACTCTCTTTCCTCCTCAGCCTCCTCTCCGGCGGTTCAA ACATACCAGATCCGATATCTCGGCCCGGTCTTGTCGGGAAGTTCCCGCCTTCGTGTAACCGAATCGAGTGCCCAAGCTACGAAGTAATTCACGCCG GAAATGGATACGAGATTCGCCGGTACGAGAAAACCGTCTGGATTTCCACTGAACCGATTCAAGACATCTCTCTCGTCGATGCTACAAGAACCGCTTT CTTCCAGTTGTTCGCTTACATTCAGGGGAAGAATGAGTATCACCAGAAGATAGAGATGACTGCTCCGGTGATTAGTCAAGTCTCACCAAGCGACGGT CCTTTCTGTGAATCTTCCTTCACTGTTTCCTTCTACGTCCCCAAAAAGAACCAGCCCGATCCAGCTCCGGCGAAGAATCTCCACATCCAGAAATGGA ACTCTACTTACGTGGCGGTGAGACAATTCAGTGGCTTCGTCTCCGATTCTACCGTCGGGGAAGAAGCGGCGGCGCTCTCGGCGAGTCTCAAAGGC ACAGCTTGGGCTAATGCGATAAAGAAAAGTAAAGAAGACGGCGGTGTTGGGTCGGATTCAGCTTACACGGTGGCTCAGTATAACTCACCGTTCGAG TTCTCGGGTCGGGTCAATGAGATTTGGTTACCGTTTTCAAATCGACATTTAAGCTGTGTTTTAGTGAACCCTTTTCTTTATATATATATGAATAAGATA
GCT-001D03	AT4G31720.2	TAFII15 (SALT TOLERANCE DURING GERMINATION 1); transcription factor	GATTGGACTAGTCGGAGATTTAGGTTTCAAGGGGGACTCAGTGGTCGACTCTCCGATCCCTTCTTCTCCCGGCCAAAATCCGATCAAAACTTCTCTT CCCTTAACATTGATTGCCTCCTCCCAGCTCAATTCTGTGCTCTTTTTCACGTTTTACAGCTTCGTTTAGTACTCTGTTGGTGAGAGAGATGAATCATG GTCAACAATCTGGCGAGGCAAAGCATGAAGATGATGCTGCCCTTACTGAGTTCCTTGCTTCTTTAATGGAATATACTCCTACGATTCCTGATGATTTA GTGGAGCATTACTTGGCTAAGAGCGGGTTTCAATGCCCCGACGTACGATTAATTAGGCTGGTTTCTGTGGCTACCCAAAAGTTTGTTGCAGATGTTG CCAGCGACGCCCTTCAGCACTGCAAGGCGAGGCCAGCACCGGTTATGAAAGACAAAAAACAGCAAAAGGAGAAGCGTTTGGTTTTGACGATGGAA GACCTTTCAAAAGCTTTGCGTGAGTATGGTGTGAACGTGAAGCATCCAGAATATTTTGCTGATAGCCCTTCCACCGGAATGGATCCTGCGACTAGGG ACGAATAGAAACAAGGAAGTCTTCATCATCTTTGCCTACTAAGGAAGATAGTTTGTGTGTGATCCCTCATCTCCTGTTGTGTTTCAGTTAAAACAAAA CACACTTCTCTTCTCATCAGTTACTTGTATATTCGTTCTGTTGTTTGCTTCTTGAGTTGTTGTTGGGTTTCCTACGACAGTCTTATCTTTCATTCTTGTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001D04	AT1G63360.1	disease resistance protein (CC-NBS-LRR class), putative	GAATATTTCACAAAAAGCCTATCTTCAATTATTCTCTGCATCCTCTCTGGTGTGCTCTGATCAGTGAATTTCAAATTTCAGATCTCTCTCTCATTCTGTA AAATGGGAATCTCTTTCTCGATACCTTGTGATCCGTGTGTAAATAAAATCTCCGACTGGCTAGACGAGAAAGTAGCCTGTATACACAATCTCAAGAAG AATCTCAAGGCTCTGGAGACAAACATGGAAGACCTCAAGGCTAAGTGGGATCATTTGTCAAGTAGGGTCACAAGAGAAGAGGATAGAGGTCTACAA AGGCTTGCCGAAATCCAGGTATGGTTTACTAGAACTGAGACTGTAGGAAAAGAAGTTAACGAGCTTCTTAGTGCTAGAGATGATGAACTTCAAAGTC TGTGTCTTTGTGGGTTTTGCTCTAAGAGTTTAATATCAAGCTATCGTTTTGGGAAAAGGGTTGTCATGACGTTACGAGAGGTTGAGAAACTCAAAAGT GGTGGAGTTTTCGAAGTTGTTGCTGAGCAGGCTCAAACACCTGAGGTGCAGGAAAGACAACTTCAACCGACAATTGTTGGTCAAGAAATAATGCTC GATGAGGCTTGGGAACATCTCAGGAAAGATGGTGTTGGTATTATGGGTCTGTATGGTATGGGCGGAGTAGGAAAAACAACGCTTCTGGAACAAATC AACAATAAGTTCAGTGAAGAAAGGTGTGGATTTGACTTTGTGATTTGGGTTGTGGTGTCTAAAGAGTTACATGTAGAGAAGATTCAAGATGAAGTCG CTCGAAAAGTTGATCTTGGTGGAGGGGAGTGGAAAGAGAAGGAGAAGACACAAAAGGCCGATGTTTTATTCACTTTCTTAAAGAAAAAGAAATTTGT GTTGTTTTTAGACGACATATGGGAGAAGGTGGAATTGAAAGAGATCGGAATCCCGTTTCCAACAGCACAAAACGGATGCAAACTGGCATTTACCACT CGTTCCCAGGATGTGTGCGCACACATGGGGGTCAAGGACCCAATGGAAGTCCAATGCTTGGAGGAAAATAAAGCATTTGATTTGTTCCAAAAGAAG GTTGGACCAATAACACTAGGAAGTGATCCGGATATCCCTGATCTTGCAAGAAAAGTTGCTAAAAAATGTTGTGGGCTACCATTGGCGCTCAATGTTG TAGGGGAGACCATGTCATGCAAGAGAACGGTACAGGAATGGCGCCACGCTATAGATGTTTTGACTTCATACGCTGTAGAGTTTTCTGGCATGGAAG ATAAGATCCTTCCGCTTTTGAAGTATAGCTACGATAATCTTAAGGGGGAGCAGGTCAAATCGTGTTTGCTATATTGCGCATTATTTCCAGAAGATGGT AATATTCGAAAGGAAACATTGATAGACTACTGGAGCCAAGGGATTATTGATGGAAGTGAATGTGTTGAAAAGGCTGAGAACGAGGGTTATGGTATAA TCAATAGTCTTGTTCGTGCATCATTATTGATGGAGGTTCGGTGCTGATGAATCCCCTAATGATTTTGGTAAAAATCATTAAGTTAAGGTGGATACACAT CTTGTCATATGATCAAATGGTTTCGCGAAAAATCAATAATCAGACAACAAGATGTGCGAACTCGATATTTTACACGACTCTCTTTACCAATTCTGCCCC GAATTACACTTAAAACGACTCAACAGCTTAACGTTGGCTTGCCACGCATTACTTGACTGTAAAACTCTCACTCTTACCGAACTTGGCCGTAACCTGCC AACCAAAGCGAGAACAAAACATAACATCAAACGAATCGACCGATTGTTAGGTAATCGTCACCTCCACAAAGAGCGACTCGCTGTATACCGTTGGCAT GCTAGCTTTATCTGTTCGGGCAATACGATGCCCATTGTACTTGTTGACTGGTCTGATATTCGTGAGCAAAAACGACTTATGGTATTGCGAGCTTCAGT CGCACTACACGGTCGTTCTGTTACTCTTTATGAGAAAGCGTTCCCGCTTTCAGAGCAATGTTCAAAGAAAGCTCATGACCAATTTCTAGCCGACCTT GCGAGCATTCTACCGAGTAACACCACACCGCTCATTGTCAGTGATGCTGGCTTTAAAGTGCCATGGTATAAATCCGTTGAGAAGCTGGGTTGGTACT
GCT-001D05	AT2G31570.1	ATGPX2 (GLUTATHIONE PEROXIDASE 2); glutathione peroxidase	GATTATATTTTCTTTCTTCTAAAATAAAAACTCAGAGAGAGAGAGAGAAAGAGACTATTTGGTCAACAAAAAAAAAAGAGAGAGAGACGAACGACACT GCAAATGGCGGATGAATCTCCAAAGTCTATCTATGACTTCACCGTCAAGGATATCGGAGGTAACGACGTGAGTTTGAGTCAATTCAAAGGCAAAACT CTTCTGATTGTTAATGTTGCCTCCAAATGTGGTCTGACGGATGCGAACTACAAGGAACTGAATGTTCTGTACGATAAATACAAGGAGCAAGGTTTGG AGATATTAGCATTCCCGTGCAACCAATTCTTGGGACAAGAACCAGGAAACAATGAAGAGATTCAACAGACTGTCTGCACCAAGTTCAAAGCTGAGTT CCCAATCTTTGACAAGGTAGATGTGAACGGGAAGAACACGGCGCCGTTATACAAATACTTGAAAGCAGAGAAAGGAGGTTTGCTCATTGACGCCAT CAAATGGAACTTCACAAAGTTCTTGGTTTCTCCTGACGGCAAAGTCTTCCAGAGATATTCTCCTCGAACCTCTCCTCTTCAGTTCGAGAATGACATCC AAACTCTGTTGGGACAGGCTTCTTCTTCTTGATCATCATTACATGTTTCAAGAATGGGATTCGCATATTTCGATTTTCGTTTACTCCATGTGATGTTAA GAATCAAAAACATTGCATTCTCTCATTTCTTCTCTGAATCTGTGTTTGGTGTTTTGAATAAATGTTGTCTTTCTCATTGTTGAGATGCCGTTTCATGGAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001D06	AT1G59870.1	PDR8/PEN3 (PLEIOTROPIC DRUG RESISTANCE8); ATPase, coupled to transmembrane movement of substances	GGCATCCTTCCCCACTTTCTCTCTCTCTCCCTCTCTGTTTCTCCGACCACCTCTCTGTTTCTCCGACCAATTTTGAGTTAAAAAGACAAGATCAAATTG ACTTTCTGGCAAGAAAAAAGAGAGAATGGATTACAACCCAAATCTTCCGTTAAGCAGCGGAGGTGGGAGTATGCGGCGAAGCATAAGCCGGAGCGT GAGCAGAGCCAGCAGAAACCTCGAAGACATCTTCTCCGCCGGCGGTTCGAGACGCACGCAGTCGGTCAACGACGACGAAGAGGCTCTCAAATGG GCTGCCATCGAGAAACTGCCCACCTACAGCCGCCTCCGCACCACCCTCATGACCGCCGTTGTGGAGGACGACGTCTACGGCAATCAGCTCCTCAG CAAGGAGGTCGACGTCACCAAGCTCGACGGCGAGGACCGCCAGAAGTTCATCGACATGGTCTTCAAGGTCGCCGAGCAAGACAACGAGCGGATC TTGACCAAGCTCAGGAACAGGATCGACAGGGTCGGTATCAAGCTCCCAACGGTCGAGGTCAGGTACGAGCACTTGACCATCAAAGCCGACTGCTA CACCGGAAACAGATCTCTCCCAACGCTTCTCAACGTCGTCAGGAACATGGCAGAGTCTGCTCTGGGAATGGTCGGCCTTGAGTTTGCCAAGAAAGC TCAGCTCACCATCCTCAAAGACATCTCTGGCAGCGTCAAGCCCTCCAGGATGACCCTCTTGTTGGGTCCCCCTTCTTCCGGTAAGACCACTCTTCTC CTGGCTCTCGCCGGCAAACTCGACAAAGCCCTCCAGGTCTCTGGTGATATCACCTACAACGGTTACCGCCTCGACGAGTTTGTTCCCCGGAAAACC TCTGCCTACATTAGCCAGAACGATCTCCACGTCGGCATCATGACCGTTAAGGAGACTCTTGATTTCTCCGCCAGGTGCCAAGGCGTTGGTACCCGT TACGATCTGTTGAACGAGCTCGCAAGGAGAGAAAAAGACGCTGGGATATTCCCTGAAGCCGATGTTGATCTCTTCATGAAAGCCTCCGCTGCTCAA GGTGTTAAGAGCAGTCTCATCACTGATTACACTCTCAAAATTCTTGGGCTTGACATATGCAAGGACACCGTAGTTGGAGACGACATGATGAGAGGTA TCTCCGGAGGACAGAAGAAACGTGTCACCACCGGTGAGATGATTGTGGGGCCTACTAAAACGCTGTTCATGGACGAGATATCCACAGGTCTGGACA GCTCCACCACTTTCCAAATCGTCAAGTGCCTTCAGCAGATCGTTCACCTCACAGACGCCACCGTGCTCATGTCTCTCCTCCAGCCTGCTCCTGAGA CCTTTGACTTATTCGATGATATCATCTTGCTGTCCGAGGGTCAGATCGTGTACCAAGGCCCCAGAGACCACATTCTCGACTTCTTTGAGAGTTTTGG CTTCAAGTGTCCCGAGAGAAAAGGAACCGCTGATTTTTTGCAAGAGGTCACCTCCAAAAAAGATCAGGAACAATACTGGGTGGACCGGAACAGACC TTACCGCTACATTCCAGTTTCAGAGTTTGCCAGCAGATTCAAGGGCTTCAACGTCGGAAAGCAGCTTTCCAACGAGCTCTCAGTACCGTACGAAAAG TCTCGCGGCCACAAAGCAGCTCTTGTGTTCGACAAGTACTCAGTCTCTAAGAGGGAGCTTCTCAAGAGCTGCTGGGACAAAGAGTGGCTGCTCATG CAGCGGAACGCCTTTTTCTACGTCTTCAAGACCGTGCAGATCATCATCATCGCAGCAATCACGTCTACCCTCTTCCTCAGAACCGAAATGAACACGA ATAACGAGGCTGATGCCAACCTCTACATCGGAGCATTGCTGTTTGGAATGATCATCAACATGTTTAATGGGTTTGCGGAGATGGCTATGATGGTCTC GAGACTTCCGGTGTTCTACAAACAGAGGGACCTCCTGTTTTATCCGTCCTGGACGTTCACCCTTCCCACCTTCTTGCTCGGGATTCCAACCTCGATC TTCGAATCCACAGCATGGATGGTGGTGACTTATTATTCCATCGGTTTTGCACCTGACGCAGGCCGCTTCTTCAAGCAGTTTCTCTTGGTGTTTTTGAT
GCT-001D07	AT1G19600.1	pfkB-type carbohydrate kinase family protein	GGGCAAGGCCTTAGAGAGATAGTGCGCAACACAGACACACACTGAGACATAGAGAGATACATAGAGCGATCTCAGAAAATGGTAGCTGAGGCCTT GCCCAAGAGCCCCGAAGCTCCACTCGTACTTGGACTCCAGCCAGCAGCTCTTATCGATAACGTCGCTCCCGTCGATTGGTCCTTACTCGATCAAAT TCCCGGAGATCGTGGTGGCTCCGTTCCCGTGCAAAAGGATGAGTTAGAGCGCATACTGAAAGAGGTTAATACACATGTCAGTGCGACTCCATTTAA GAAGATGGCTGGAGGAAGTGTGACCAATACAGTTCGAGGCTTGAGTGTTGGGTTCGGTGTAGCCACAGGGTTAATCGGGGCTTATGGAGACGACG AACAAGGCCAGTTATTTGTGAGCAATATGGGTTTCAGTGGTGTGAGTATCTCAAGGTTGAGGAAGAAGAAAGGCTCCACTGCTCAGTGTGTTTGCTT GGTTGATGACTCTGGTAATCGAACAATGCGACCATGTCTGTCGAGTGCTGTGAAGATTCAGGCAGATGAATTAAACAAAGAAGATTTCACAGGCTCT AAGTGGTTGGTCCTAAGATATGCAGTTCTTAATTTAGAAGTAATTCAAGCAGCCATTCGAATTGCCAAGCAAGAAGGTCTTTCTGTTTCGTTGGATTT AGCTAGTTTTGAGATGGTCCGGAATTATAGATCAGAGCTTCGACAGCTTCTGGAATCTGGTAACATAGATCTTTGCTTTGCTAACGAGGATGAAGCA GCAGAGCTGCTAAGGGGTGGGCAAGAAGCAGGCCCGGAGGCTGCTCTTGAGTTCCTAAGCAGACATTGCAGATGGGCTGTGGTAACTTTAGGGTC TAACGGGTGCATTGCAAAACATGATAAGGAGGTAGTACAAGTACCGGCCATAGGAGAGACATTAGCAACTGATGCCACGGGAGCTGGTGACCTATT CGCAAGTGGGTTTCTGTATGGACTAATTAAGGGATTGTCTTTAGAAGAATGTTGCAAAGTGGGATCATGCAGTGGCGGATCGGTCATCCGTGCTCTC GGAGGAGAAGTAACCCCAGAAAACTGGCAATGGATGCACAAACAGTTGCAGTTGAAAGACTTACCTGTTCCTGACATTCGCAACTGATGATCACCA GCAGATTATCAGTTGGCTTCATATTTCAAGCGATTGCATTTAAAGGCCCGTTTCGTATTTGAACTGCTCTTGAGCTTTATGTTGTTCACGGAGAATCTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001D08	AT5G01530.1	chlorophyll A-B binding protein CP29 (LHCB4)	GAAAGAAACACAAGTTCCTTCCATCTCCTGAAATCACAAAAAATCTAACAAAACACACACCGCCCGAGATGGCCGCAACTTCAACCGCTGCCGCTGC TTCTTCCATCATGGGTACTCGGGTGGCTCCCGGTATCCATTCCGGTTCTGGTCGGTTTACAGCCCGGTTTGGGTTCGGAAAGAAAGCTCCCAAAAA GACCGCGCCCAAGAAGGTGACTTCGGACCGGCCTCTCTGGTTCCCAGGCGCCAAATCTCCTGACTGGCTCGACGGTTCGTTGGTTGGAGATTACG GGTTTGATCCGTTTGGTTTAGGTAAACCGGCCGAGTATCTCCAATTCGATATAGATTCACTAGACCAGAACCTGGCTAAGAACTTAGCCGGAGACGT GATCGGGACCCGCACGGAAGAGGCGGCCCCCAAATCGACGCCGTTTCAGCCGTACAGTGAGGTGTTCGGAATCCAGAGATTCAGGGAATGCGAG CTTATTCACGGACGGTGGGCGATGCTCGCTACTCTCGGCGCTCTATCCGTCGAATGGCTCACCGGCGTCACTTGGCAAGACGCCGGAAAGGTGGA GCTTGTAGACGGATCGTCCTACTTGGGGCAGCCATTACCGTTCTCGATCTCGACATTGATATGGATCGAGGTGTTAGTGATCGGCTACATCGAGTTC CAACGCAACGCCGAGCTTGACTCGGAAAAGCGTTTGTACCCAGGAGGCAAATTCTTCGACCCGCTGGGTTTGGCGTCTGACCCAGAGAAGACGGC TCAACTTCAACTGGCGGAGATCAAGCACGCACGTCTTGCCATGGTCGCGTTCTTGGGCTTCGCGGTTCAAGCGGCTGCTACTGGTAAAGGTCCACT CAACAATTGGGCTACTCACCTCAGTGATCCACTCCACACCACCATCATCGATACCTTCTCCTCCTCCTCTTGAAAGCAATTCTCCTTTATCATCTGTT CGTAAATGTAATTTGTCGTGCTATGGAAATCAAAATTTGGCCAACTCTCTGTATAAACAGAGCTATGAAACTGAATCATGTTTGGAGTTTTTGGGCTTT TCTTCGTTTGGTCCATAACACTATATTGCTCTATTTCCTCATGGTGAGCTCCTCTTCCTTATAAAATTCTTCGTTTTCGTTTAAAAGCATTAATAACAAG
GCT-001D09	AT4G32040.1	KNAT5 (KNOTTED1-LIKE HOMEOBOX GENE 5); transcription factor	GGAGAAAGATATACAAAAAATTATTTGCAGTTGACAACAAAAAAAAAAAGGAATACGGGTTCAATAAGATTCATGGTTAATAAGAAACACTTGGTCTT GAGGAATAACTAGGGGAAAGAGAAAGTCTCCGACCACCAAAGCGGACGAAAACAATGTCGTTTAACAGCTCCCACCTCCTTCCTCCGCAAGAAGAC CTTCCTCTCCGACACTTCTCCGATCAATCACAGCATCCGCCGCAGCGTCACTTTTCCGAAACACCGTCGCTTCTCACCGCAAGTTTCCTCAACCTCC CTTCCACCGCAGCCACGACGGCGGAATCCAATTTTGCGCCTCCGCTTCGCAACGGAGACAGCTCAGCTGCTGATACAACAAGACGGTGGCTCTAC TTCCAAACGGAGATCCAAAACACCGGAGAAGGCCGTCCAGAAGTCACCGACGGAGTCAACGCCGATGGTGAAACGATACACGGCGTTGTCGGTGG TGATGGAGGTGAAGATTGGAGGAGCGCTAGCTACAAAGCTGCGATTTTGAGACATCCGATGTACGAGCAGCTTCTGGCGGCTCACGTGGCTTGCC TTAGGGTTGCGACTCCCGTTGACCAGATTCCGAGGATCGATGCGCAGCTCAGTCAGTTGCACACCGTCGCCGCAAAGTACTCCACTCTTGGTGTGG TTGAGGACAACAAGGAACTTGATCATTTCATGTCACATTACGTTGTGCTGTTATGTTCATTTAAAGAACAACTCCAACACCACGTTTGTGTCCATGCA ATGGAAGCAATTACGGCTTGTTGGGAAATCGAGCAATCACTGCAATCCATAACGGGAGTTTCGCCAAGTGAAAATAATGGCAAGACGATGTCGGAT GATGAAGATGGTAATCAAGTAGAGAGCGAGGTGAACATGTTTGATGGAAGTTTGGACGGCTCAGATTGCTTGATGGGATTCGGTCCTCTTGTTCCAA CCGAGCGCGAGAGATCCTTGATGGAACGTGTGAAGAAGGAACTTAAGCATGAGCTTAAACAGGGTTTCAAAGAGAAGATTGAGGACATAAGAGAAG AGATAATGAGGAAGAGAAGGGCGGGAAAGTTGCCAGGAGATACAACTTCTGTACTCAAAGAGTGGTGGAGAACTCACTCCAAATGGCCATACCCAA CTGAAGAAGATAAGGCAAAACTGGTTCAAGAAACCGGTTTGCAGTTGAAACAGATCAACAATTGGTTCATCAACCAGAGGAAAAGAAACTGGAACAA CAACTCTTCCACATCATCTACACTCTCCAAGAGCAAACGCAAACGGACTGGGAAGTAGTAGGTGACATTCCTGTTGAACAGAGGAAGATGCTTTGCC ACGTGAATTCAAGGGAACCGAATGGAAGACACGCTTTCTCCTCCGGTTATATGATCGTAAAGATTGCAATATGTATAGGTGTAACCGGTTTGCCTAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001D10	AT3G13000.1	transcription factor	GGGGAAAAAGCCAATATCAACCTCCATAATTTGTTAAATGTCTTGTGCTTAGTAGGCAACAACATTGGTCTTTTCCTCTAAATGTTATCTTATCTTCCC ATTAATTGTGTGATTCTGATTTGTGCAGGGATTCTGTAATTTAATTCTTTCGTACTTGAGAGAAGAAGCTAAAGTACATTTGTTGGAGAAGTTCATCAT TTGCTTTTATGGTAATAACTGCCAAACTACACAGCCTTAGGATGTATGACTCTCAAGTTTTGAAATCTAAATCCAATCCATTTCTTGAATGGTCGCGTT CCGGAAAAAAATTTTGGGGTACAGAAACCAAGTCAGAGTGCCAAGAGTCTACAAGTGGTGAATCTTTTCTGTATAGATTTCAACTTGAAGAAGAGGT AAAAAGATTGCAACTGCAACTCCAAGAAGAAATAGAGTTGCATACCTTTTTGGAGAGTGTCACTGAGAAAGATCCTTGGGAGCTATCTTCTTCTTGTA GTGTTCCACATCCTGCTCAAGAACTTCTTTCCAATATAGTCACGCTAGAGACTGCAGTCACAAAGCTCGAGCAGGAAATGATGTCACTGAATTTCCA ACTTAGCCAAGAACGAAACGAGAGGAGACTCGCTGAATACCATTTGACACATTTGGCCTCTCCACCAAATTCTTCCTCTTCCTTGAGATATTTGGATC ATTCGGATTCTGAATTACATCAATCAGCAGAAGACAGTCCATGTCAAGACCAAACAGTTCAAAACCAAGAATCTTCATCTGAATCATCTCAGGCAGAA TCTACCGCTGAGAAAACATTGGACCCAAGTAATCAATTTCTCGAGAAGAGGCTAATGAGAAAGGCTAATGCGAGGAAGCTACCTCGAGGAATGCCA CCTAAGTTCCTGTGGGATCACCCTAATCTATTGTCTGAAGAAATGGTGAGATGTATGAAGAATATCTTCATGTCTCTTGCTGATCCGACAGTATCTTC AAAAGCATCGTCAAACGAGAGCCAACACTCACCAGTATCACCCCGCGGGCATCTATCAAGCTCATCGTCCTGGTGGCCTTCAACAGAACGGTCAAT GATCTCGTCATGGGTGCAGAGCCCCCAAATAGATATCCAACATAACACCGATGTCTTGGCCACAGGAAATGTTTTTGATCCTTATAGAGTTCGTGGG AAGTTAAGCTGGGCGGAGATTGGGAAGTACAGTGTTGCATCCGAGGTTTCTTGGATGTCTGTTGGGAAGAAACAGCTGGAATATGCTTCCGGGGCA CTGAGGAGGTTCAGGACACTGGTGGAGCAACTGGCTAGAGTAAACCCAATTCATTTGAGCTGCAACGAGAAGCTAGCTTTTTGGATTAACCTTTATA ACGCGTTGATCATGCATGCGTATTTGGCTTATGGTGTCCCAAGAAGCGACTTGAAGCTCTTCTCGTTGATGCAAAAGGCTGCCTATACGGTAGGAG GGCATTCATACACTGCGGCGACAATGGAATATGTGATATTGAAGATGAAACCGCCTATGCACAGGCCACAAATTGCTCTGCTTCTTGCCATCCACAA GCTGAAAATATCAGAAGAACAACGCAAGGCAAGCATTGGTACACACGAACCTCTTCTCGCCTTTGCCCTTAGCTGTGGAATGTACTCTTCCCCTGCG GTGAGGGTCTACACAGCAAAAGGAGTGAAGGAAGAGCTACTAGAAGCTCAAAGGGACTTCATACAAGCATCTGTAGGGCTGAGCAGCAAAGGGAA GCTCTTGGTACCCAAAATGCTACATTGTTACGCCAAGAGTTTTGTGGAGGATTCGAACTTGGGGGTCTGGATATCGAAGTACCTTCCTCCACATCAA GCAGCGTTTGTGGAACAATGCATCTCTCAGAGAAGACAAAGCCTTCTCGCCTCACGTAACTGCGGAATACTCCCCTTCGATTCTCGTTTCAGATATC
GCT-001D11	AT2G31730.1	ethylene-responsive protein, putative	GATGTAGTCTGTACACAAAGGACTCTCTCTCTTTCTCTCTCTCTCTCTGCCTCTGTCAAATTACGTCGCCGTTTTTCATCCAAACGCAAACCTCTGGT TTCAGCGTCACCGTAGGAGCTCTCGACCTTTCATATTAAAGTCGTGGACTTTCTTTCTTCAAGACCTGAAAAGATAGAAATAATAGTATATAATTACCA TAGAAATCAAAATCCTCGTCGTTTCTGGGTTTCATCGTGTTGTCTTTGGGTTAGAGACCAAAAAGATGACATAAAAACCCCATTTTGGAAACTTAGAC AAAGAACAATTTCAAGAGATTGTGAAGTTCTTGTTGGGTTAGTGTGCTGTTTTCTGGGATGATGATGGAGAATAAGCGCAGTGTCTGTTCTCTTGAAG AAAACAGCATGAAACGACACAAGTCTGATATCTCTTTCTCTTCCAAGGTCTTATCATGATACTCTCGATCTTCAAAATCAGAATTCCTTTTGTGTGCGC ATGAAGCTCCTTGACATTCTTGGACCAGCATGCTAATGATGTTGGAACTTTGTTGTTCTCTCGTTAAACAGGAGAGGAAGGACAAGGTTGGAGAACG TATTTCAGCTCTTCAACAGCTAGTTTCCCCTTACGGAAAGACAGACACTGCATCAGTTCTTCTAGAGGCGATGCAATACATTCAGTTTCTTCAAGAAC AAGTCAAGGTCTACTCATCAAGTTTCCTAACATTGTTTCCGAATCCAAACATGTTTCATTCTTACGTCTCTTCGAATCAACAATGACCTTGCTTAGTTG TCTGTACAGGTTCTAAGCGCTCCATATCTGCAAACAACGCCCATTACCACGCAGGAGGAGCTAGAGGAGAACAGCCTTAGAAGCAGAGGGTTATGT CTTGTCCCAATGGAGTATACATTAGGTGTTGCTCAAACCAATGGTGCTGATATCTGGGCTCATGTGAAGACTCCAACAACTCCTGCTTTCAATCTCAA ATCTAATTCGCCATTTCGATGATTGAGCTAAAAGAAAGATAGCCAAAACGTTAGTTCTTTGTAACATATATTGATGGAGAGAGAGACCCATGAAGTTG
GCT-001D12	AT4G21560.3	vacuolar protein sorting-associated protein 28 family protein / VPS28 family protein	GAGCGTTTCTGATCATAACAACTTCAACACGCAGCCGACTCTTCTTCTTCCTCTTCCTCTTGGTGGGACCAATCCATACTTCTCGAAATCTGAGA ACAGAGATAAGCATTTAATGGTGGCTCTCTGCTCGAGCGATTCTGATTCTCTCTGAGAACTCCTTTCTCTCTTCCACCCATACCCTCTTTTTTTTGTCA ACGCCTCTCAGAGTTCGTTGCCCCCGCGTGAAGCTTTCGTCATCAAAATCATAAAGATCCCTCTGCTTACACGCAATCTCCATATCCTCTCCTCTAAT CCGTAGAGAGTTGTTCCACAATCAAATCCCCCAACTTGCTTCCTTGAGGTAGCTTTTTTGCTTTTACCGTCTTTGCGCGTGTCCCATTCTCTTCTCCA TAGTTCCCTAACACTGAAAAGCTCATCAAGTTCAGCTCTTAAAGTTTCTAAAAAGATGGAGGTCAAGTTATGGAACGATAAGCGCGAGAGAGAAATG TATGAGAATTTCGCTGAGCTATACGCTATCATCAAAGCTACTGAGAAGCTCGAGAAGGCTTATATCCGTGATCTCATCTCTCCATCCGAGTACGAGA CCGAGTGTCAGAAACTCATTGTCCACTTCAAGACACTCTCCGCAACGCTCAGAGACATGGTCCCAAGCATTGAGAGGTTCGCAGAGACATACAAGA TGGATTGCTCGGCTGCTGTTTATCGGCTTGTGACTTCTGGTGTTCCGGCTACTGTTGAGCATCGAGCTGCAGCAATGGCTTCTACTTCAAGCTCTGC TTCTGTTGTTGCTGAGTGTGTTCAGAACTTTATCACTTCCATGGATTCACTGAAGCTCAACATGGTCGCTGTTGACCAGGTGTATCCGTTGCTGTCTG ATCTCTCTGCTTCTCTTAACAAACTGAGCATTTTGCCACCGGATTTTGAAGGGAAGATGAAGATGAAAGAGTGGCTTTTGAGGTTGTCTAAGATGGG AGCTTCAGATGAGCTCACTGAGCAGCAGGCTCGGCAACTTCACTTTGACCTTGAGTCTTCCTACAATTCCTTCATGGCTGCTTTGCCTAATGCTGGT AACTAACCGATGTGATGTGTGTTTCGGTTTCTTTTGCTTAGAGTACTTGGCTTTATGTAGTTGTAATGATGGCTTTAGGATAATGATTTTGGTTCAAGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001D13	AT4G23250.1	EMB1290 (EMBRYO DEFECTIVE 1290); kinase	TGTGTAATGATGATGATCAGAAATCAGAAAAGTACCTTGATGAGATTTGCTTTCTAATTCACCGGAAGAACTTCCGACGCCTCCGCCGCCGCCGCCT TGGGACTCAACGGAGCCCTGCAGTGAATCTAAACCAGCACTATGTTGCCGCAAAATTCCGCCGTTGTTAGCCGTCGCCGACCACCGTGGCAGCCC CGACGACGGTCTACCTCGCCGCCTAGATGCGGTGGCGGCTTCTCCCGGAGTATTTTTACTAGTCTCGGTTGATTTGTTGCTGTTTCCGCCGCCGCC GCCGCCGCCGATACGAAGCTTCTCGCTTCTTCTTCTCTTAGCCGCCATTCTCCGAAGAGTCTGCATCTCTTTCCTCTTCCGCCACTCTTCTTCCGAC TCCGCCGGCAACGACGTCGTTCTCATCAAACCCGTATGCCGCGTCGCCGCCGCCGCCGCCGCCGGTGTCTCCGGCTTAAAAGGCTTCATCTCCGG CTGATGAAGTTTCTCCCGGAAAAGAGGCATCGTCACCACGACGGAGGAAGATCTAACGAGCTTGTTGCTTTTGTCAACTCCGAATCTCCCGCCAAG AGATAACCCCAGATTCAACTCGATACCGTCTTCCTCTGTTTCTTCTTCTTCATAATCATCATCACCTTCCTGTGAATTAGAAGAGATAAATCTCTGAAG CAAATCTCTTGGGAACATACAACTATTGCTTCTCGCCATTTCTCTACTTCTCTCGTTTGCTTCCTCCATCAACAAGAAAACTGCAAGCTTATGTAACAG
GCT-001D14	AT1G68570.1	proton-dependent oligopeptide transport (POT) family protein	GGCTTACAACAAACAAAACACCTAAACATAATTAAATTAACTATTACAAGTAAACACTCAAGAACATGGAGGAGCAGAGCAAGAACAAGAACAAGATC AGCGAAGAAGAAAAACAACTTCATGGGAATCGAAGTCGACCAAAGGGAGGACTAATTACCATGCCCTTCATCTTCGCGAACGAGATATGTGAGAAAT TGGCGGTGGTTGGGTTTCACGCAAACATGATAAGCTATTTAACAACACAGCTTCACCTTCCTTTAACCAAAGCAGCCAACACTCTCACTAACTTCGC CGGAACTTCAAGTCTCACTCCTCTCCTCGGTGCCTTTGTCGCCGACTCCTTCGCCGGCCGCTTCTGGACCATCACTTTTGCTTCCATCATCTACCAA ATCGGGATGACACTGCTAACGATATCGGCAATAATACCGACGCTAAGGCCACCACCATGTAAAGGAGAAGAGGTTTGTGTAGAAGCAGACACAGCA CAGTTGAGTATTTTGTACATAGCTCTTCTTCTTGGAGCTCTCGGGTCGGGTGGGATCCGACCCTGTGTTGTTGCTTTTGGTGCGGATCGGTTCGACG AGTCGGATCCTAAGCAAACCACCAAAACCTGGAACTACTTCAACTGGTACTACTTTTGTATGGGAGCAGCAGTTTTAGTGGCGGTGACGGTTCTTGT GTACATCCAAGATAACGTTGGGTGGGGTCTAGGTTTGGGCATACCGACAGTGGCTATGTTCTTATCCGTTATTGCTTTTGTCGGCGGTTTCCGGCTT TACCGTCACTTGGTTCCGGCGGGTAGTCCATTTACCCGCCTGATCCAAGTGTCAGTCGCAGCATTCCGCAAAAGGAATCTGCGGATGGTTTCTGAC CCAAGTCTTCTCTATTTCAACGATGAGATTGATGATCCTATCTCCTTAGGTGGTAAACTCACCCACACCAAACACATGAGTTTCTTGGACAAAGCAGC GATTGTGACGGAGCAAGACAATTTGAAACCGGGTCAAATCCCTAACCCATGGAGGCTAAGCACAATCCACCGGGTCGAAGAGCTCAAATCGGTGAT CCGAATGGGTCCAATCGGAGCCTCCGGGATCCTCCTAATCACAGCCTATGCTCAACAAGGAACCTTCTCTCTACAACAAGCCAAAACCATGAACCG TCACTTAACCAAATCATTCCAAATCCCAGCCGGTTCAATGTCCGTCTTCACCACCGTCGCGATGCTCACCACAATCGTCTTCTACGACCGCATCTTC GTCAAAATCGCCCGGAGATTCACCGGTCTCGAAAGAGGCATCACGTTCCTCCACCGCATGGGGATCGGCTTCGTCATCTCGATAATCGCGACGCTC GTCGCCGGATTCGTCGAGATCAAACGCAAACGCGTCGCGATCGAGCACGGGCTTTTGGATAAGCCTCACACGGTGGTTCCGATCTCGTTCCTGTG GCTGATTCCTCAGTACAGCCTCCACGGAATCGCCGAGGCGTTCATGTCGATCGGACATTTGGAGTTTTTCTACGATCAAGCGCCGGAGAGTATGAG GAGTACAGCGACGGCGCTTTTCTGGATGGCGATTTCGATCGGGAACTATGTGAGCACTTTGCTTGTGACTTTGGTTCATAAATTCAGTGCTAAACCG GATGGGAGCAATTGGTTACCGGATAACAATTTGAACCGGGGAAGGCTCGAGTATTTTTACTGGTTAATCACTCTGTTACAAGTTGTTAACCTCGTGTA
GCT-001D15	AT3G25940.1	transcription factor S-II (TFIIS) domain-containing protein	GGGGTTCTTCTATCTCCGCCTCCGCCTCCGCCTCGTCGCCGCCGCCGCCTCCGTCTCTTACTAACCGTTCTCTAATGGAGAAATCTCGGGAAAGTG GTTTCTTGTTCTGTAACTTGTGTGGGACAATGCTCATCTTGAAATCAGCTACGTCTGCAGAATGTCCACTATGCCAAACAACACGAAATGCAAAAGAA ATCATTGGCAAGGATATAGCTTACACAGTTTCTGCTGAGGATATCAGAAGAGAACTAGGAATATCTCTGTTTGGTGAAAAAACGCAGGAAGACGCTG AGCTACCAAAGATCAAAAAAGCGTGCGAGAAATGCCAGCACCCTGAGCTTGTATACACAACCAGACAGACAAGATCAGCGGATGAAGGACAGACAA CATATTATACTTGCCCCAATTGTGGCCACAGATTCACAGAAGGTTGAGATTACTAGTATCATCTCCAGTATGCTTCTTGTGACTCCATTCTCAGAGAA TGCCAGTTTTGTTTCTTACAATCGATATTAGAAAGTCAATATTCAATGTCATCATAGAAACCTTTTTGTATTGTTTCTTACATTAATGTTACAAACTAGAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001D16	AT5G62700.1	TUB3 (Tubulin beta-3); structural molecule	GACTCTAGAAAACCCTAGATCTCTCTCTCCTCCTCCGGATTTGGTTTTCGATTCCAGATCCGCGAAAATCCTTAATCATCGTCTCTTTCATCACTTC ATCCACCGAAAATGAGAGAGATCCTTCACATCCAGGGTGGCCAGTGCGGTAACCAGATCGGTGCCAAGTTCTGGGAAGTCGTCTGCGCCGAGCAC GGCATAGATCCGACCGGTCGTTACATCGGAGACTCAGATCTGCAACTCGAGCGCATCAACGTCTACTACAATGAAGCTAGCTGCGGTAGATTCGTC CCTCGTGCTGTACTCATGGATTTGGAGCCTGGAACCATGGACAGTCTCAGATCTGGACCGTACGGTCAGACTTTCCGTCCTGATAACTTCGTCTTCG GTCAGTCTGGTGCGGGTAACAACTGGGCCAAGGGGCATTACACTGAAGGAGCTGAGCTAATCGATTCCGTCCTCGATGTTGTTCGTAAGGAAGCC GAGAACTGTGATTGTCTTCAAGGGTTTCAGGTTTGCCATTCCTTGGGAGGAGGAACTGGATCTGGTATGGGAACACTCTTGATTTCAAAGATCCGTG AAGAGTACCCAGATCGAATGATGCTTACCTTCTCTGTGTTCCCTTCGCCAAAGGTCTCTGACACTGTCGTTGAGCCTTACAACGCTACTTTGTCTGT GCATCAGCTTGTTGAGAATGCAGATGAGTGCATGGTTCTTGACAACGAGGCCTTGTACGACATTTGCTTCAGGACTCTGAAACTCACCACCCCAAGC TTTGGTGACCTGAACCATTTGATATCTGCCACAATGTCTGGTGTCACATGCTGTCTGCGATTCCCTGGTCAGCTAAACTCTGACCTTCGTAAGCTTG CTGTCAATCTTATCCCATTCCCTCGTCTCCACTTCTTCATGGTGGGATTTGCTCCTCTCACCTCAAGAGGATCTCAGCAGTACCGATCCCTCACAGTC CCTGAACTCACCCAGCAAATGTGGGACTCCAAGAACATGATGTGTGCTGCTGACCCAAGACACGGCCGCTACCTCACAGCCTCTGCCATGTTCCGT GGCAAGATGAGCACCAAGGAAGTCGACGAGCAGATGCTGAACGTGCAGAACAAGAACTCTTCTTACTTTGTCGAGTGGATCCCAAACAATGTGAAG TCAACAGTCTGTGATATCCCACCTACTGGTCTGAAGATGGCTTCCACCTTCATCGGCAACTCAACATCTATCCAAGAGATGTTTAGGCGTGTTAGCG AGCAGTTCACAGCTATGTTCAGGAGGAAGGCTTTCTTGCATTGGTACACAGGTGAGGGCATGGACGAGATGGAATTCACAGAGGCAGAGAGCAAC ATGAACGATCTTGTTTCCGAGTACCAGCAATACCAAGACGCAACCGCAGATGAAGAAGGCGAGTACGAGGATGAGGAAGAAGGAGAATACCAACA
GCT-001D17	AT2G47710.1	universal stress protein (USP) family protein	GCTGCCACTTTGGAATCTTCTAGGCTTCTTTCTTTGGTTCTTTCTTTCTAGCACAAAAAGATACACAAAGAGCTCGTTGAGATATTTTACGCGACAGAT CGGCGCCGACGAGCAGTTGAGAGATTTGATGGATACCGGAGAGGAGAAACCGGTGATGGTCGTCGGGGGTGGACGAAAGCGAGCAGAGCAACTAC GCTTTGGAGTGGACGCTGGATCGTTTCTTCGCTCCTTACGCTCCCAATTTTCCTTTCAAGCTCTTCATCGTCCACGCCAAACCTAACGCCGTCTCCG CCGTTGGTCTCGCTGGTCCCGGAACTGCGGAGGTTGTACCTTATGTTGATGCAGATTTGAAGCATACCGCTGCTAGGGTTGTCGAGAAATCCAAAG CAATTTGCCAGTCCAAATCCGTTCATGGCGTGATGATCGAAGTTTTTGAAGGCGATGCTAGAAATATCCTATGTGAAGTTGTAGATAAACACCATGCC TCTCTTCTTGTTCTCGGAAGCCATGGATATGGAGCTATCAAGAGGGCGGTTCTTGGGAGCGTGAGCGACTACTGTGCTCATCATGCTCACTGCTCG GTGATGATCGTGAAGAAGCCTAAGACCAAGGCCTGAAACCAAACCTTTCTCAGTCATAAAGCAAAGTCTCAATTTCGGTGATGTGAAATAATTTTAGC
GCT-001D18	AT2G40860.1	protein kinase family protein / protein phosphatase 2C (PP2C) family protein	GGTCGTCACCACTCGATCGCTCCTCTTTGCTTCGTTCTTCCGGCTTGGATAAATGGTGATGGAAATTGTGGAGCCAAACACCTGCATTAGAGGATGT TGCACCAGTGAATCGATTCCTCTTCATCTCTCTCCTTCTTCGTTCACTCTTCGCTCCCCAATCGCTAGAGGATCAGAGAGTGTGGTTTACGAAGCGA TTCTCGACGGTCGGAGAGTAGCGGCGAAGAAGCCAGTCTTGTCTACTTCCGATGACCTCGACAAGTTCCACAGGCATTTGCAGCTCTTATGCAATC TCGATCATCCGGGTTTGGCTAAGCTACTGGCAGCACACGCAAAGCCTCCAAATTACATGTTTTTCTTTGAGCTGTACGAGTCTGGGACCTTAGCTGA GAAGTTACACGTCGAGGAGTGGTCTCCGAGTATCGATCAAGTGTTGATGATCACGCTTCAGTTGGCAAAGGCATTGCAAAATCTTCACAACAATGGA ATTGTTCATAGGGATGTGAAACCAGCTAATGTTCTTCTTGACGAGAAGCTCTCCCCATATCTTGCTGACTTTGGGTTAGCAGAATACAAGAAGGACTT GCGAGAAGTTAATCTGCACAACTGGAGATCGTCTGGAAAGCCAACTGGTGGTTTCTACAAAAAAAAATATGGTCGGAACACTTATTTACATGGCTCCT GAGATACTAAGGAAAGAGATGTTCACTGAGAAATCAGATATTTATAGCTTTGGGATCTTGATCAATGAGCTTTTAACTGGAGTCGTTCCATATACTGA TCTTCGTGCAGAAGCTCAGGCTCACACTGTTTTAGAGATGAATTACACAGAGCAGCAACTTACAGCTGCCATTGTTTCTTCTGGTCTGCGACCCGCT CTTGCTGAAACTGGATTTCACGTTCCAAAGAGTTTGCTATCTCTGATACAAAAGTGTTGGGGAGCTGATCCTTCTAAGCGGCCTTCTTTGGACAATGT GGTTTTGGAACTAGAATCACTTTGGGAACAAGAGAGAGAAAAACAGCAAGGTCAGACAAATTCTATTTCCAGGAGTGATAAAGATGGGGAGGCCATT AAAATTACAGGAGAATACAGGGACGACATAAATTGGTCCAGTCAAGGGCAGTGTTTATCAAAGAAGTTGTTTCTTTCTACTGTTCCTGGTCTGAAAAT GTGGTCGAGTTCAACAGATGACTCTTCAAGATATGTCACTAGAGTTTCTTGTGGGTCTTTTGCAACATGTGGAAGAAGAGAATCTATGGAAGATACA CACTTCCTCATGCCCCACATGTGTAATGAGGAAAACATCCACTTATTTGCTATCTTCGATGGCCATAGAGGTGCTGCGGCTGCTGAATTTTCTGCTC AAGTTTTGCCAGGATTAATTCAAAGCTTATCTTCCACAAGCACTGGCGAGGCACTGTCACAAGCATTTATTAGGACAGATTTAGCTTTCAGACATGAA CTTGATTCCCACCGTCAATCAAAAAGGGTGAGTCAGAAAGACTTGCATCCTGGTTGTACTGCTATAGCCTCTCTCCTAGTGGACAATAAGCTTTTCGT TGCGAATGTTGGTGACTCCAGGGCAATTTTATGCCGTGCCGGCCACTCTTTTGCTCTAAGTAAGGCACATCTTGCAACCTGTATTGAGGAAAGGAAT CGTGTGATTAGAGAAGGTGGGCGTATTGAATGGCTGGTTGACACATGGAGAGTTTCTCCTGCTGGTCTTCAGGTTACCCGATCGATAGGAGATGAT GACCTGAAGCCAGCTGTAACCGCAGAACCAGAGATTAGTGAGACCATTCTATCAGCTGACGATGAGTTCCTGGTAATGGCGAGCGACGGGCTCTG GGATGTGGTGAACGACGAGGAAGTTATTGGTATAATCAGGGATACTGTAAAAGAACCTTCAATGTGTTCCAAGAGATTAGCAACCGAGGCTGCAGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001D19	AT5G58330.1	malate dehydrogenase (NADP), chloroplast, putative	GGCCGTGAGCTGAGCCTTATCCACAGATTCCCCAATCCTCTTTCTTTCTCCCTGGCTTGGCGCGCTCTCTCTCTGTCTCTCCATAGTTCCATTTTCTG AGTTCTCACTTTCACATTCTGTGTCTGTGCGATAATGGCCATGGCAGAGCTTTCAACCCCCAAAACGACGTCACCTTTTCTCCAATCTTCGTCAAGGC TTCGCCTTTCGTCTAAATTGCATCTTTCAAACCACTTTCGCCATCTTCTTCTTCCACCACTCCCCACAACTCCCAACTCCAAAATCTCTTGCTCAGTTT CTCAGAATAGCCAAGCCCCTGTTGCTGCTCAAGAAAATGGGTTGGTGAAGACGAAGAAAGAGTGTTATGGAGTGTTCTGCCTCACATATGATCTCAA AGCTGAGGAAGAGACAAAATCATGGAAAAAATTAATCAATATTGCAGTTTCAGGAGCTGCAGGCATGATTTCTAATCACCTTCTCTTCAAACTTGCTT CAGGTGAAGTCTTTGGACCAGACCAGCCCATTGCTTTGAAACTGCTAGGATCAGAGAGATCAATCCAAGCTCTTGAAGGTGTTGCAATGGAACTGG AGGATTCCTTGTTCCCGTTGCTGAGAGAAGTTGATATAGGAACAGATCCGTATGAAGTGTTCCAAGAAGTGGAGTGGGCTCTTCTGATTGGTGCAAA ACCTCGAGGCCCTGGAATGGAACGTGCTGCCTTGTTGGACATCAATGGCCAGATATTTGCTGATCAGGGCAAAGCTCTTAACGCAGTTGCTTCTCC TAACGTCAAGGTCCTTGTAGTGGGAAATCCTTGCAACACCAACGCCTTGATTTGTCTTAAAAATGCTCCCAACATTCCTGCAAAGAATTTCCATGCCC TCACGAGGTTGGACGAGAATCGGGCCAAATGCCAGCTTGCTCTTAAAGCTGGCGTCTTCTACGACAAAGTGTCTAATATGACCATATGGGGAAATC ACTCCACGACTCAGGTGCCAGACTTCTTAAATGCCAGAATTAATGGCGTGCCGGTGAAGGAGGTTATTACAGATCACAAATGGTTAGAAGAGGGATT CACTGAGAGTGTGCAGAAGAGAGGTGGCTTATTAATTCAGAAATGGGGTCGATCTTCTGCTGCTTCTACGGCTGTTTCCATTGTTGATGCTATCAAG TCTCTTGTAACTCCTACTCCTGAGGGTGATTGGTTTTCGACTGGGGTGTACACAAATGGAAATCCTTATGGTATTGCAGAGGATCTCGTCTTCAGCAT GCCATGCCGGTCAAAGGGAGATGGTGATTATGAACTTGTTAAGGATGTAGAAATTGATGACTACCTTCGCAAACGAATCGCCAAGTCGGAAGCGGA ACTGTTGGCTGAGAAGAAATGTGTTGCACACCTCACTGGAGAGGGCATCGCCTTCTGTGATCTTGGTCCGGTAGATACTATGCTTCCTGGTGAAGTT
GCT-001D20	AT2G45680.1	TCP family transcription factor, putative	GGTGTAACGCCGTTAAAACGATTCTTTTCCAGAGTATCCGCTTCTCTGTTCCGCTTTTACATCTCTCGTCGTCGTCATCTCCACCGTCCGTTATAGTT TAATGACGACGATTAAGAAGCAAGAAATTGGAGGCAAAGATGAACGCCTAAGATCCGTTGATCAAAGCATCATCAACGGCATCAGAAACGTGGAAA CTTCTAAACCTTTAAAGGCAAATCCCACGGCGAGCCTCGAGCCCAAGGCGGAACCGTCGTTAGAGGCGGCGACTCCGTCGATTTCAATGTCTTTAG CTCCACCATCGACGATGGGACCGCCATTGAAGAGAGCGTCAACTAAAGACCGTCACACCAAAGTTGAAGGAAGAGGGAGGAGAATACGGATGCCT GCCACGTGTGCGGCTAGGATTTTTCAGTTGACTCGGGAGCTAGGACACAAATCCGACGGCGAGACGATTCGGTGGTTATTGGAGAACGCCGAGCC GGCGATTATCGCGGCAACGGGTACGGGAACGGTTCCAGCCATCGCTATGTCGGTAAACGGAACCCTAAAAATCCCAACCACCACGAACACTGATTC CGATTTGGGGGAGAATCCGGCGAAGAAGAGACGCAAACGACCTTCTAACAGTGAGTATATAGACATAAACGACGCAGTTTCGGTTTGTTCCGGTTT AGCTCCAATTTCCACGGCAACAATCCAGCCTCTGCAAGCTCCGGCATCCACCGTGGCTCAACAAACTCTGCCGCAAGGGATGATCCCGATGTGGG CGATTCCTTCGAACGCAGTGATTCCGGCGGTAGGAGCTTTCTTCTTCGTTCCACAGGTCGCTGGTCCGTCGAATCAGCCGCAGATGCTTGCTTTTC CAGCTGCCGCTTCGCCGTCGTCTTATGTCGCCACCGTTCAACAGGCTTCCTCGATGGCTAGACCCCCACCTGTTCATGTTGTTCCCAGCAACGGAG TGATAACCGGTTCGAAGCCATCGAATACGACGTCGATTATGGCTCCGAGCTCGAGCTCCGACATAAGAATCGGAGGTTCGTCGTCAACGACGCATA TGCTTAGAGACTTCTCGCTAGAGATTTACGATAAACAAGAGCTTCACCAGTTCATGACCACCACGACACGGTCATCGAACCACTGAACGGCGTGCG TATCACCGGAGGAGGAAACGGTCACGTGGGCACGTGAGGAAGGGAGTAAAGACGCGCACGTGTTAAGTGGGCCTAGTTTTTAGGCAGATGTGGG GTCCATTTCGCTGGTGGGTCAACACGCACCCAAAAAAAACGAAAAAACAAAGAAAAGCAGAGAGAGGCTCTGGCGAGTGGGAGAAAGAGGGAGGG
GCT-001D21	AT4G39770.1	trehalose-6-phosphate phosphatase, putative	GGTCTCTCTCAAGCGCACACACTTTCTCACTCTTCTCACTCTGTTTTCACAAACTCAAATCTCTTTTTCCTCTTTCGGCTCAAATTTACAAACATAAAAT GGTAAGATTCATTGAAGAAATCACAAAAACGGTGGAAAAAGAAACAGGAAACAAATCAAACACGGATGTAGCAACGGCGAAGAAAAAAGTTCTTCAA GATCTTATTATCAACGATGGAGGAGGATTAATCAATTCTTGGGTTGATTCCATGAGAGCATGTTCTCCTACTCATCTCAAATCTTTGATGAAACAAAG CTCTTGGCTCACAGAACATCCATCAGCATTAGATATGTTTGAAGAGATTCTTCATGTTTCTGAAGGAAAACAAATCGTTATGTTCTTGGATTATGATGG CACTTTATCTCCCATTGTTGATGATCCAGATCGAGCTTTCATGTCTAAGAAGATGAGAAGAACCGTAAGGAAACTAGCAAATTGTTTTCCCACAGCCA TAGTTAGTGGGAGATGCAGAGAAAAGGTTTATAATTTTGTGAAACTGACTGAGTTGTATTATGCTGGAAGTCATGGAATGGACATCAAGGGACCAGA GCAAGGAGGGTCCAAGTATAAGGAAGATCAATCCCTTCTCTGCCAACCAGCTACAGAGTTCCTCCCCATGGTCGACGAGGTTTATCAGAAATTAATT GAGAAAACAAGATTAACTCCCGGAGCCAAAGTAGAGAACAATAAATTTTGTGTATCTGTTCACTTCCGACGCGTCGATGAAAAAGTACTATAATTTTT TATTTTGATATTCCATTACTAGTGTAATGAAATAAAAGTAACTAACCAGGTAGTTTATTTATTTATTTATATATTGACAGAACTGGAGTGATTTGGCTGA TCAAGTTCGATCAGTAATGAAGGACTACCCTAAGCTCCGTCTTACCCAAGGAAGAAAAGTTTTGGAAGTTCGTCCAATCATTAAATGGGATAAAGGC AAAGCACTCGAGTTTTTATTAGAGTCACTTGGATACGCTAACTGTACTGACGTTTTTCCCCTTTATATCGGAGATGATCGCACAGACGAAGATGCATT TAAGATATTGAGGGAGAGAAGACAAGGTCTTGGCATTCTTGTATCCAAATTTCCAAAGGAGACTAACGCGTCTTATTCTCTACAAGAGCCTGATGAG GTTATGGATTTCTTGCAACGTTTAGTGGAATGGAAACAATTGAGATCTGGAGCATGATGAGAGCCTATAAGTACAGAAGAATCTCTTTTTTTTTTTTAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001D22	AT1G10470.1	ARR4 (RESPONSE REGULATOR 4); transcription regulator/ two-component response regulator	GACGAGAAGAGAAACAGGTGTGAGCTCTTCCTTCTTCTCTCTTGTGCTATTTTAAACCTTTCCTCCCCTCTCAGTTACTACTAATTCGTCCATGGCCA GAGACGGTGGCGTTTCTTGTCTACGGAGGTCGGAGATGATGAAAGTCGGAATGGAATCCGCGCCGTTGGATTTAGATGAAGTTCATGTCCTGGCC GTCGATGACAGCCTCGTCGATCGTATTGTCATCGAGAGATTGCTTCGTATTACCTCCTGCAAAGGTTCGTTTTTTTAATTTTTTCTTTAAAACAATTTT CTCGCCGGAAAGTTCCTAAAACAGAAATATATCTCCGGCGGTTCTGTTTCAGTCACGGCGGTAGATAGTGGATGGCGTGCGCTGGAGTTTCTAGGG CTAGACAACGAGAAAGCCTCTGCCGAATTTGATGTAAGTCATGGAATGACTCTGCAATCATTTGTTTCTGTGAAAAATCCAGACTTTGATTTTAGCAT TTATTTTTCTCGAATCACAGAGATTGAAAGTTGATCTGATCATCACCGATTACTGTATGCCTGGAATGACCGGTTACGAACTCCTCAAGAAGATCAAG GTCTGAACTTTTCCCGCCATTTCAGATGTGTTGCTGTTTTTTCAGCTCTGTCTGAACAATGTGGAATTTTTCGTTAAATTTGAAACAACAGGAATCGTC GAGTTTCCGAGAAGTTCCGGTTGTAATTATGTCATCAGAGAACGTATTGACCAGAATCGACAGGTGATTTTCGCAGATTTTGTTTTTTTTTTTTTTTGA GAAAAATTTGGATTTGATAAATTGAAACTGATTCGCAGGTGCCTTGAGGAAGGTGCGGAGGATTTTTTACTGAAACCGGTGAAACTCGCCGACGTGA AACGCCTGAGAAACTACTTGACCAAAGACGTTAAACTTTCTAACGGAAACAAACGGAAGCTTCCAGAAGATTCCGATTCCGTCCACGCTTCGCTTCC TCCTCCGCCGCCGTCGTTGACTCTCTCGCCTGATTCGTCTGACTCTTCACCGCCGTTATCTCCGGTGGAGATGTTTTCCTCCCCACTTTCATCACCA ATAGACGATGAAGATGACGATGTGTTGACATCGTCGCCGGAGTCTTCGCCGTCGCCGGCTGAATCGCCGATTCGACGGCAGGAGATGAGGAGTCC
GCT-001D23	AT3G01500.2	CA1 (CARBONIC ANHYDRASE 1); carbonate dehydratase/ zinc ion binding	GCTAATATTTTCACTTTAAGTAGCTTCCATAAGTCTATATATTACTATAAAAATACATACCACTCTCTCACTAATAAACTTCTCTTCACCAGCAAATGTC GACCGCTCCTCTCTCCGGCTTCTTCCTCACCTCTCTTTCTCCTTCTCAATCTTCTCTCCAAAAGCTCTCTCTTCGTTCTTCTCCCACCGTCGCTTGCC TCCCTTCTTCTTCTTCCTCCTCCTCCTCCTCCCGTTCCGTTCCAACCCTTATCCGTAACGAGCCCGTTTTTGCTGCTCCTGCTCCTATCATTACCCCT TACTGGAGCGAAGAGATGGGAAGCGAAGCATACCAAGAGGCCATTGAAGCTCTCAAGAAGCTTCTCATCGAGAAGGAAGAGCTAAAGACGGTTGC GGCGGCTAAGGTGGAGCAGATCACGGCGGAGCTTCAGACAGGTACTTCTTCCGACAAGAAAGCTTTCGACCCCGTTGAAAACATTAAGCAAGGCTT CATCACTTTCAAGAAGGAGAAATACGAAACCAACCCTGCTTTGTACGGTGAGCTCGCCAAGGGTCAAAGTCCTAAGTACATGGTGTTCGCTTGTTCG GACTCACGTGTGTGTCCATCGCACGTCCTCAACTTCCAGCCAGGAGAGGCCTTTGTGGTCCGTAACATTGCCAACATGGTTCCTCCTTTTGACAAG GTCAAATACGGTGGAGTTGGAGCAGCCATTGAATACGCTGTCTTGCACCTTAAGGTGGAGAACATTGTGGTGATAGGACACAGTGCATGTGGTGGG ATCAAGGGACTTATGTCTTTCCCCTTAGATGGAAACAACTCCACTGATTTCATAGAGGATTGGGTGAAAATCTGTTTACCAGCCAAGTCAAAGGTTAT ATCAGAACTTGGAGATTCAGCCTTTGAAGACCAATGTGGTCGATGTGAAAGGGAGGCAGTGAATGTTTCACTAGCAAACCTATTAACATATCCATTT GTGAGAGAAGGACTTGTGAAGGGAACACTTGCTTTGAAGGGAGGCTACTATGACTTTATTAAGGGTGCTTTTGAGCTTTGGGGACTTGAATTTGGCC TCTCCGAAACTAGCTCTGTTAAAGATGTGGCTACCATACTACATTGGAAGCTGTAGGAACTTCTTTGAAGCCTTTTTCCGATTTCACCTTTTCCTTTCA
GCT-001D24	AT5G22300.1	NIT4 (NITRILASE 4)	GGGAATCACCCGTTTCCTCCTCTCCCTTGCTACATCAGCTTCCACAGTTCCACAGAGTTTCGAGTCCGATGTCCAGTCAGCAAGAAATGTCTCTCGT CACGGCGAATCCTCCGGTCAACGTCGATCAAATCTTCGCCGAGGTTGACATGACCGGCGGCGACTCCTCTCCAATCGTCCGAGCTACCGTCGTCC AGGCCTCTACCGTCTTCTACGATACTCCCGCCACGCTAGATAAGGCGGAGAGGTTGCTCGCCGAGGCGGCGGAACTCGGGTCCCAGCTCGTGGT GTTCCCGGAGGCTTTTATCGGCGGATATCCTCGTGGCTCTAGCTTCGAGCTGTCGATTGGTGCTCGAACGGCCAAAGGAAGGGACGATTTTCGCAA GTACCTTGCATCTGCCATTGATGTTCCTGGCCCTGAAGTGGAAAGATTGGCGGAAATGGCGAAGAAGTACAAAGTGTTCTTGGTTATGGGTGTGATT GAGAAGGAAGGCTATACGCTATACTGCACCGTCCTGTTCTTTGATTCACAAGGTCAGTTCTTGGGTAAGCACCGGAAACTCATGCCTACAGCTCTTG AACGCTGCATCTGGGGATTCGGAGATGGATCAACGATCCCTGTTTTCGATACTCCCATTGGGAAAATCGGCGCTGCTATTTGTTGGGAAAATAGGAT GCCTTCTTTGAGAACCGCAATGTATGCCAAAGGGATTGAGATATATTGTGCACCTACTGCTGATGCTAGAGAAACTTGGCAATCATCGATGACTCAC ATAGCTCTTGAAGGTGGATGTTTTGTTTTGTCGGCTAACCAATTCTGTCGTCGGAAAGATTATCCTCCTCCACCGGATTACCTGTTTTCCGGTTCGGA AGAGAGCCTCACACCGGATTCTGTTGTCTGCGCCGGTGGCAGCTCTATCATTTCACCTTTGGGAGTTGTTCTTGCTGGACCAAACTATGAAGGAGA GGCTCTTATCTCAGCTGATCTAGATCTTGGGGATATAGCACGAGCCAAGTTTGACTTCGACGTGGTCGGTCACTACTCGAGGCCTGAAGTTTTTAGC TTGAACATAAGGGAGCATCCAAGAAAAGCGGTCAGCTTCACTTCGAAGGTAACCAAAGATGAGACCGTTAAAAACTGAACATTACTACCCAAACTTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001E01	AT1G22070.1	TGA3 (TGA1a-related gene 3); DNA binding / calmodulin binding / transcription factor	GAAAGCAAAGAGAAAAAAAAAAAACTTTATATAATAAAAGTAAAGAAAAACAAAATATCTCTGCTTTTTTCATCTCTTTCAATGATGTGTACGCTTCACC TCTAAGTTTTGACCAAAGTTTCATCATTTATCTTCTCTCGAGAACGGAATATACACAGAATGCGTTTCAACTTGAGATTCACTGCTCATTTCTCGGCTT CGTGATGAATTTCTAATGGAGATGATGAGCTCTTCTTCTTCTACACAAGTCGTATTATTTAGAGACATGGGGATGTATGAACCATTCCAACAGTTATCT GGTTGGGAAAATGCTTTCAGCACTATTACTAGTAATCAGAACAACAACGAGAGCTCTTCCACAGTTCTTGAAGTGGATGCTAGAGCTGAAGCAGATA ATAACAATAAGGCAAATTATACTTCTTTGTACAACTCTGTTGAGGCAGAACCTCCTAGTAATAATGATCAGGACGATGACCAAATCAATGATAAGATG AAACGGCGATTGGCTCAGAACAGAGAGGCTGCTCGCAAAAGCCGGTTAAGAAAGAAGGCCCATGTCCAGCAGTTAGAAGAAAGTCGGTTAAAGTTA TCACAGCTCGAGCAGGAACTTGTCAGAGCTAGGCAACAGGGATTATGCGTACGCAATTCATCAGATACTAGTTATCTAGGACCAGCTGGAACCATG AACACAGGGATTGCTGCATTTGAGATGGAATACACACACTGGCTAGAAGAGCAAAACAGGAGAGTTAGTGAGATTCGAACAGCGATCCAAGCTCAT ATCAGCGACATTGAGCTCAGAATGCTGGTTGATATTTGCTTGAACCACTACGCAAATCTCTTCCGCATGAAAGCTGATGCTGCAAAGGCTGATGTGT TCTTCTTGATATCTGGAATGTGGCGAACTTCAACTGAACGCTTCTTCCAGTGGATTGGAGGTTTCCGCCCATCCGAGCTGTTAAATGTTGTGATGCC ATACGTTGAGCCCTTAACCGATCAGCAAATCTTGGAAGTGCGAAACCTCCAACAGTCGTCTCAGCAAGCAGAGGAAGCTCTCTCTCAGGGCTTGGA TAAACTCCAGCAGGGTTTGGTCGAAAGCATAGCAGGTGAAATAAGAGTTGTTGAGTCTGTGAATCACGGGGCTCATATGGCATCAGCCATGGAGAA TCTTCAAGCATTGGAGGGTTTTGTGAACCAGGCGGATCATCTGAGACATCAGACGCTGCAGCAAATGAGTAAGATCTTGACGACAAGACAGGCTGC TCGAGGCTTGCTCGCTTTAGGAGAGTACTTCCACAGGCTTCGTGCTCTTAGTTCTCTATGGGCAGCTCGTCCACGAGAACACACTTAACAAGTTTAG GAGGCAAAACAAAGAGAACAGAAGCACAAGGAAGAGTCAACTTCGAATGATGTCAGCTAGGGACTTGTTAATCTGCGAGATAAAAGTATTTGGAGAT
GCT-001E02	AT3G18490.1	aspartyl protease family protein	GGCTAAACTCATATCACCTTCGCCGGAAAAAATGGCTTTCCCGCGATTTCTCTCTCTCCTTTCCGTCGTCACTCTCTCTATTTGCCTTACCACGACTG ATGCTTCCTCTCGCTCTCTATCCACCTCACACAAAACGACAGTGCTCGACGTCGTTTCTTCCCTCCAGCAAACACAACACATCCTCTCAGTCGACCC AACTCGTTCCTCACTTACCGCCCGAATACCCGAGTTCAAACCCGAATCCGACCCGGTTTTCCTCAATTCCTCTTCTCCACTCTCTCTAGAGCTTCACT CCCGAGACACTCTCGTCGCGTCACAGCACAAAGACTACAAGAGCCTAGTACTGAGCCGACTCGAACGCGACTCATCCCGAGTCGCCGGAATCGCC GCCAAAATCCGATTCGCCGTCGAGGGTATCGACAGATCCGATCTCAAACCCGTTGACATCGACGAGACCCGATTCCAACCCGAGGATCTAACGACA CCTGTTGTCTCCGGGACGAGCCAAGGAAGCGGCGAGTATTTCTCACGAATCGGAGTCGGAACTCCGGCGAAGGAGATGTACGTGGTGCTCGACAC CGGAAGCGACGTGAACTGGATCCAGTGCTTACCTTGCTCCGAGTGTTACCAACAATCCGACCCGATTTTCGACCCGACTTCTTCCTCCACTTTCAAA TCTCTCACTTGCTCTGATCCAAAGTGCGCGTCTCTCGACGTCTCCGCTTGCCGCTCAAACAAATGTCTCTACCAAGTTAGTTACGGAGACGGATCTT TCACCGTCGGTAACTACGCCACCGATACGGTGACGTTTGGTGAATCAGGGAAAGTAAACGACGTCGCTTTGGGTTGTGGTCACGATAACGAAGGTT TATTCACCGGAGCAGCCGGTTTACTCGGTTTAGGAGGCGGAGCTTTGTCGATGACGAATCAAATCAAAGCAAAGTCGTTTTCTTACTGCCTCGTTGA CCGTGACTCGGCTAAATCGTCGAGTCTTGATTTCAACTCGGTCCAAATCGGCGCCGGAGACGCGACGGCTCCGCTTCTCCGTAACAGCAAGATGG ACACTTTCTACTACGTCGGGCTTAGTGGATTCAGCGTCGGTGGTCAACAGGTCTCGATCCCGTCGTCTTTGTTCGAAGTTGACGCTTCCGGTGCCG GAGGAGTGATCTTGGACTGTGGAACCGCCGTGACTCGTCTTCAGACTCAGGCTTATAACTCGCTGCGCGACGCGTTCGTTAAACTCACCACCGATT TCAAGAAAGGAACGTCGCCGATCTCTCTATTCGACACGTGTTACGATTTCTCGTCTCTCTCCACCGTGAAAGTCCCGACGGTGACGTTTCATTTCAC CGGAGGAAAGTCGTTGAATTTGCCGGCGAAGAATTATCTGATCCCGATCGATGATGCCGGAACGTTCTGCTTCGCGTTTGCTCCGACGTCGTCGTC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001E03	AT1G37130.1	NIA2 (NITRATE REDUCTASE 2)	GGTCCTCAGATCTCATCTCACTCACAGGAGAAGAGATAGAGAGAGACACAGGAAAAGTCTCAGTTTCTATATTATTTACGATATACCCCTAATATGGC GGCTTCTGTAGATAATCGCCAGTACGCACGACTCGAACCAGGTTTAAACGGCGTCGTTCGCTCATTCAAACCACCGGCTCCTCCGTCCCGGTCCGA TTCCCCAACCTCAACCCAGAACCAAACCGTGTTGTTTAAACCGGCTATGATACAAGAAGACGACGAAGACGTGTCAAGCGATGACGAGAACGAATC CGGTTACTACAAAGAGATGATACGCAAATCCAACAGCGAGCTTGAGCCGTCGATTCACGATCCGAGAGACGAATACACGGCTGACAGCTGGATCGA GCGAAACCCTTCCATGGTCCGTCTAACAGGGAAACATCCCTTCAACTCCGAAGCTCCGCTCAACCATTTAATGCACCACGGGTTCATCACACCCGT CCCGTTGCACTACGTCCGTAACCATGGTCATGTTCCTAAGGCCCAATGGTCTGAATGGACCGTTGAGGTTACCGGATTTGTTAAACGCCCCATGAAA TTCACCATGGACCAGCTCGTTTCCGAGTTCACCTTCCGTGAGTTTGCCGCGACGTTGGTTTGCGCGGGGAACCGCCGAAAGGAGCAGAACATGGT GAAGAAGTCTAAAGGCTTCAACTGGGGCTCTGCCGGAGTTTCCACCTCTGTGTGGCGTGGAGTTCCTCTTTGCGACGTACTACGTCACTGTGGAAT CTTTAGCCGGAAAGGCGGTGCGCTCAATGTCTGCTTCGAAGGGTCGGAGGATCTTCCTGGTGGTGCTGGAAGCGGTGGTTCCAAATACGGAACGA GCATCAAGAAAGAGTACGCCATGGATCCGTCAAGAGATATCATTTTGGCTTATATGCAAAACGGAGAGTATCTGACACCAGACCACGGGTTTCCGGT TCGAATCATAATCCCCGGTTTCATCGGTGGTCGGATGGTTAAATGGTTGAAGCGAATCATCGTCACCACTAAAGAATCCGACAATTTCTACCATTTCA AAGATAACAGAGTTCTTCCTTCGGACGTAGATGCCGAACTCGCCGACGAAGAAGGTTGGTGGTATAAACCGGAGTACATAATCAACGAGCTTAACAT AAACTCCGTGATTACGACGCCATGTCACGAGGAGATTCTTCCCATCAATGCTTTCACAACTCAGAGACCTTACACTTTAAAGGGCTACGCATATTCC GGAGGAGGAAAGAAAGTGACACGTGTCGAGGTGACAATGGATGGTGGAGAGACATGGAACGTGTGTACGCTTGACCATCAAGAGAAACCAAACAA GTATGGTAAATTTTGGTGCTGGTGTTTCTGGTCACTTGAAGTTGAGGTTTTGGACTTGCTTGGTGCCAAAGAGATCGCTGTTCGCGCTTGGGATGAG ACTCTCAACACTCAGCCTGAAAAAATGATCTGGAATCTTATGGGGATGATGAATAACTGTTGGTTCAGAGTGAAGACTAATGTGTGCAAGCCACATA AAGGAGAGATTGGGATCGTGTTCGAGCATCCAACTCTTCCAGGCAACGAATCGGGTGGATGGATGGCTAAGGAACGTCACTTGGAGAAATCCGCT GACGCGCCTTCAACGCTCAAGAAATCTGTCTCGACACCATTCATGAACACAACTGCTAAGATGTACTCAATGTCGGAAGTCAAGAAGCATAATTCTG CTGATTCTTGTTGGATCATCGTTCATGGTCACATCTATGACTGTACCAAGTTCCTTAAGGACCATCCGGGTGGTTCAGATTCGATCTTGATCAATGCT GGGATGGACTGTACGGAGGAGTTTGAGGCGATTCACTCTGATAAAGCCAAGAAGATGCTTGAGGATTATCGTATCGGAGAGCTAATTTCAACCGGC TATTCCTCAGACTCTTCTTCGCCAAACACTTCGGTTCACGGTGGCTCAGCCGTATTCTCGCTCTTGGCTCCGATTGGAGAGTCAACTCCTGTTAGAA ACATCGCTTTGGTTAACCCACGGGCTAAAGTCCCAGTTCAACTTGTCGAAAAGACATCAATTTCTCACGATGTTCGTAAATTCCGCTTTGCTTTACCG
GCT-001E04	AT4G29080.1	PAP2 (PHYTOCHROME-ASSOCIATED PROTEIN 2); transcription factor	GGAAACATCCATCATCTCCCCAAAAAAATCACAATTGATCTCAGCTCATGTTTTTTGTTTTTGTTTTCCCCACTCTCGCAGAAAGTGTTTTACTGTTTTT CTACTCACTAAACTGCTTCAAAAGTTTCTCCACATTATTATCAGAAAAATGCCTGAATCTGTAGCAGCAGAGCATGATTACATAGTTTTGTCAGAGTTT CCAACCATGGAAGCAACATCAATGTCTGACAAAACCAAAACCAGAGACAACAACAACAACAACGATGACGAAGACGGTCTGAATTTCTTCAAGGCCA CCGAGTTGAGACTCGGTTTACCCGGTTCCGGGTCACCGGAGCGAGTCGACCCAAGATTCTTGTCTCTCAAGAGCTCATGTCCTGTGTCAGGGGCC AAAAGGGTATTTTCCGACGCCATTAATGGGTCTAACAAATGGGTCTTCTCTCCTGGATCAATTACTGATGTCGGGTCGGTTACGGGTCCCGGTAGCT CAGCCGTGAAAGACGCTAAACCGGCCGTTTCAGTGAAGGAGAAGAAGAGCTCTGCAGTAGCTCCAGCTTCAAAGGCACAAGTGGTGGGTTGGCCA CCAATTAGATCATTCAGGAAGAACACAATGGCTTCTTCTCAATCTCAGAAACAAGGTGGTGATAATAATAATAACTCAGAGACTGAAGCAGAAGCTAA GTCTGGACCAGAGCCTTGCTTGTATGTCAAAGTGAGCATGGAAGGTGCCCCTTACTTGAGGAAAATCGATCTCAAGACTTACAAGAGCTACGTCGA ACTCTCTTCTGCTCTTGAAAAGATGTTCAGTTGCTTCACTATTGGTCAGTTTGGCTCTCATAAAGGGTGTGGCCGAGATGGGTTAAACGAGAGTCGC TTGACCGATCTCTTGCGTGGTTCTGAGTATGTTGTCACCTATGAAGATAAAGATAGTGACTGGATGCTGGTTGGTGATGTCCCTTGGGAAATGTTTAT ATGCTCCTGCAAGAAGCTGAGAATCATGAAGAGCTCTGAGGCTATTGGCCTAGCTCCAAGGGTGATGGAGAAGTGCAGAAGCCGGAACTAGTAAAA TGCCCTTACGTGTGATAGTATATGATTTGGAAAAAGAGATGTTTTTAAGAAATGTAATAGCCATTTTGTTTTCAAGTATTTTGGTGTGTTGGTGTGCTA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001E05	AT3G15850.1	FAD5 (FATTY ACID DESATURASE 5); oxidoreductase	GACACTATACCATATATATCAATTAATATATATATGTATGTAATTGTAGGGTTTAAGTTTCTTCTCCTCTTCTTCCTCTTCTTCTTCTTCTCTCAGCTATC ACATCGGTAATGGCATCTCTTTTGACTTCTCCTATAACAAAGCCCAAGCCCGTTTTCCTGTCTCCACGAACTCTTAACACATCACCGTCGTTGAATTT CACCAGAATTTCATTCAATCCATTCAACCACAGCCAAAAGCTAGCTTCTTTCAGGCCTCCGAGCCTAGTCGCCGCATTCTCTGAAAAGGGTCCGAAG AGAGATGTCACCGCAGCTGCAGCGACGGAGGCGGCGGCGGAGGGAGATTACAGGAGGATAATGCTCTCCGATGTTATGGTGAAGAAGAAAGATAA GGTGCTTTGGTGGGAAAGGAAATGGAAGCCGATGGATTTTGGAGCTGTCGCTGTGGTTTTGTCAATGCATTTGCTTAGCCTCTTGGCTCCGTTTCAA TTCAATTGGAGAGCTGTTTCTGTTGCTTTTGGGCTCTACATCGTCACAGGTCTTCTGGGTATTACTCTGTCTTTCCATAGAAACCTCTCTCACAAAAG TTTCAAGCTTCCCAAATGGCTTGAGTACTTGTTCGCTTATTGTGGAGCTCAAGCTCTTCAGGGGAACCCAATTGATTGGGTGAGTACGCATAGGTAC CATCATCAGTTCTGTGATTCAGACAGAGACCCTCATAGCCCACTTGAAGGGTTTTGGTTCAGTCACATGAATTGGATGTTTGATACCAATACAATCAC CCAAAGGGTTGGAGAGCCCAATAATGTTGGGGATTTGGAGAAACAGTCATTCTATCGATTCCTTCGAAGTACCTACATTTGGCATCCGGTGGCTCTA GCAGTTGCTCTATACGCAATTGGTGGCTTTCCCTTCATCGTTTGGGGAATGGGTGTAAGAATAGTATGGGTATATCATATAACTTGGCTAGTGAACTC AGCTTGTCATGTTTGGGGAAAACAAGCATGGAACACCGGCGATTTGTCTAAGAACAACTGGTGGGTAGCAGCTCTTGCATTTGGGGAAGGATGGCA CAACAATCACCATGCTTTTGAGTTCTCAGCTCGGCACGGTTTAGAATGGTGGCAACTCGATATGACTTGGTACGTCGTTAGATTTCTCCAAGCCGTC GGTTTAGCAACCGATGTGAAACTGCCTTCAGAAGCTCAGAAACAGAGAATGGCATTGACCAGCGACTGATCGTAAAACTATGTGGCAATGTCCAGA ATGAAATGTATTTGGAGGTATGATGAAAGTGAAAAAAGGGTTTTGTGGTTGTTTTTTTTGTGTGTTTAGATAAAGGTATATATGTGTGGAAGAAT
GCT-001E06	AT4G36920.1	AP2 (APETALA 2); transcription factor	GGGAGGCAAACTCAGAAAATTGAAAATTTTTCTTCTCTCTCTCTCTAGCTCTTACTCTCTCTTTTATTTTTGTTTCTCTACCAACCAAAGTTCTCTTATT TAGCTTCTAACCTTGAGGAGGATCAAACCAGAGGATTGAAGTTTGAACTTCAAAAGATCAACCCAAAAAACAAAAAAGATTGAAAAAAAAAATGTGGG ATCTAAACGACTCACCACACCAGACACTCAGAGAAGAAGAATCGGAAGAGATTTGTTATTCTTCACCGGGTAAACGGGTCGGATCTTTCTCGAATTC AAGCTCTTCTGCTGTAGTCATCGAAGATGGATCCGATGATGACGAACCAAACCGGGTCAGACCCAATAACCCACTTATAACACATCAGTTCTTCCCG GATATGGAATCTAGCGGCGTAGGAGACGGTGGTGGTGGTGGCCCCGGGTCGGGATTTCCTCGTGCTCACTGGTTTGGTGTTAAGTTTTGTCAGTC GGATCTAACAACCGGATCATCGGCGGGTAAAGCCGCCACTGTCGCCGCCGTGGTTGAACCAGCGCAGCCGTTAAAAAAGAGCCGGCGTGGACCA AGGTCGAGGAGTTCTCAATATAGAGGCGTTACGTTTTACCGGCGAACCGGAAGATGGGAATCTCATATTTGGGACTGTGGGAAACAGGTTTACTTA GGTGGATTTGACACTGCTCATGCAGCTGCTCGAGCATATGATAGAGCTGCAATTAAATTCCGTGGAGTTGAAGCGGATATCAATTTTAACATCGAAG ATTATGATGATGATTTGAAGCAGATGACGAATCTAACGAAGGAAGAGTTCGTGCACGTACTTAGGCGACAAAGCACAGGCTTCCCTCGAGGAAGTT CAAAGTATAGAGGTGTCACTCTGCATAAGTGTGGTCGTTGGGAAGCTCGAATGGGTCAATTTTTAGGCAAAAAGTATGTTTATTTGCGTTTGTTCGAC ACCGAGGTTGAAGCTGCTAGGGCTTACGATAAAGCTGCCATCAAATGTAATGGCAAAGACGCAGTGACGAACTTTGACCCGAGTATCTACGACGAC GAACTCAATGCCGACTCATCAGGGAATCCTACTCAACAAGACCATAACCTCGATTTGAGTTTGGGAAACTGGGCTAATTCGAAGCAAAAGGGTCAAG ATATGCGGCTCAAGATAAACCAACAACAAGAGTCTCTCCACTCCAATGAGATTCTCGGATTAGGTCAAACCGGAATGCAAAACCATATTCCCAATTCA AATCACCAATTTCCGGGCAGCAGCAACATTGGCGGCGGAGCAGGAAACGGTGGAGGATTCTCGCTGTTTCCAGTGACTGAGAACCACCGGTTTGA TGGTCGGACCACTACGAACCAAGTGTTGGCAAATGCTGCAGCATCATCAGGATTCTCTCCTCATCATCACAATCAGATTTTTAGTTCTACTTCCACTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001E07	AT4G13040.2	AP2 domain-containing transcription factor family protein	GGTCTTAAAGAAGGTGTCGCTATTGTTTCCTCTTCCGCTCAAATTTTCCTTTCTTTTCTGAAGATATTCTCCGGTTTTCTTCCCCTGAACCTGTCTCTG TTTTTTTTCCCCTCAAGCTTTGATTTTGATGCAATGGGTTTGTTTCTGATGAGTTTCTATACAATGAGTCTGTTTAGTTTTCTGCTTTTTACATGTAGGT GGTTGATTTTGTTTCTGCAGAGGCTAATCCTGAATTTTGGCTTCTTTTGTTTGTTCTCTTCTGAGATTGGTTTCTTCTTGAGGCTATTTTATTTTCGCCG CGTTGTTTTCCTGTTTGTGAATCCATGAAAAAGGTGGTGGTGGTAGGTTTGGTTTCTCATTGAAAGGTTGACTTGATTTGGATAAAAAGTCTTCGGCC TTTATAAAGTTACTTCCTTATTCATTGATTAGTCGAAATGTCCATTTTCATCCACAATTTAAAACCTCATCAATCACAGATTAAAATCGATATATATGTTC ACTTACTTGATGGGTTTGATGATAGTTCTCTTGACTTTTGGATATTTTTGTTAACTTTTGCCGTTTGTGGTCTCAAAGTTGGTAATTTTTGTGGAATTTT ACTTAGCTCGTCTTAATACTTTCTAGTAATCACTTGTTTTACAGCTTCTATGCTTCTAAAATTTGTTTTTTGTGTTAAGGATGTAAGCATTTCTCTACGG AACTATGTTTCTGTTTCTTGAACTGGTCAGTGTTTTGCTTTAAGTTACGCTCCTTCGACATATGTACATTTGTCTGGTTTCTGTGTTTGTGATTTAGCG TTATAGTTGAAAGCATTCATCTATGGAACTATGTTTCTGTGAGCTTGATCAGTGCTTTGATGTGGTTTATAGGAGAGAAGTAAAACATTTCAAAAGCCA ATTATGGTGAGCTTAAGAAGGCGCAGGTTATTGGGACTTTGTTGTGGACCGAATGGTTATGTGACACCCCTTCCTTTTCTAACTGCTGAGGAGATGA TCACTGGGATTCCAAAGCCTAATCCCGAGCTATCAGAAATGGTTAAACACGAGGAGAAGACGCTTATTGAAGAAGGATCAGGCTCCCTGAGCGAAA GAACTCGGTCAAAATCTATGCATTTCAAGTCTGATTTCTCAGATATCTCACCGGATGATTCTGGTTCCATCTCACCAAAATGGGAGCAAAACACATGT TCTGCAGACCAGCCGCTGAAACGCAGAAAGCGGCATAGAAGAAAGGAAGTACAAAACCAAGAACCATGTTTGATGAGAGGAGTCTACTACAAGAAC ATGAAATGGCAAGCCGCCATTAAAGTCGAGAAACGACAGATCCACTTGGGCACATTCTCTTCACAAGAAGAAGCTGCTCGTTTATACGACAGAGCTG CCTTCATGTGTGGAAGGGAACCAAACTTTGAGCTCTCGGAAGAGGATAAACATGAACTCAAACGACAAAGCTGGGAAGAGTTCTTGGCTTGCACAC GCCGAACAATTACTAATAAAAAGCCTAAGAGAAGGATAGATGAGTTATTGAACTGAGGATAATGAGATCAGTGTGAGTTGTGGAACGCTGGCTATAT
GCT-001E08	AT1G19700.1	BEL10 (BEL1-LIKE HOMEODOMAIN 10); DNA binding / transcription factor	GAGGGCTTTTAAAGTTTCATTTCTCCCTCAGGATCTCATTTTCCGACCAAATTAATTGAACTAGACCTTACTGTAATCAAACTCCTACAAGTCACCTTA CAAAAAAAGCTGTTGATAAACGAAAAGCCACCATGGCGGTTTATTACCCAAGTAATGTCAACTGTTACCAGCAAGAACCAATCTATCTCAACCATCAA CAACAACAACAACAGCAACAACAAGCTTCTTCTTCCTCGGCCGCCGCATCTTTCGTCGGAGATAATGCTCGAAACGAGATGGTCTTTATCCCACCCA CCACTGGAGACGTCGTAACGAATCTTCAAAATCTCAACGGAGAAGTTGCTGGAAACGGTGCCGTTTCGAGCAGCGATCTAAGCTTTCACGACGGTC AAGGACTGTCTCTAAGCCTCGGGACTCAAATCTCTGTTCCTTCGTTTCACTATCATCAATACCAATTGGGTTTCACCCAAAACCCTTCAATCTCAGTC AAGGAAACGACTCCGTTTAACGTGGATGAGATCGGTGTGAAAAGCAAAGAGATGTTGTTGTTGGGTCAATCTGATCCTTCCTCTGGTTATGGTGGCG GTAATGGCGGGATTGGGTTCTACAACCATTATCGGTATAACGAAGCAGCAGGAGGAGGGTTTATGAGCAGCGTTTTGCGTTCTCAGTATCTTAAACC GGCTCAAAATCTGCTCGATGAAGTGGTTAGTGTCAAGAAAGAACTAAACCAGATGAGGAAGAAGAAGAAAGGTGAAGACTTTAACAATGGTTCCAAG GAGACAGAAGGAGGAGGAGGAGGAGGAGGCAGTGCCGAGTTATCGAGTGATTCGAACGCGAAATCAATAGAATTATCTATAACTGAACGTCAAGAA CTTCAGAACAAGAAGAACAAGCTTTTGACAATGGTTGATGAGGTAGATAAAAGGTATAACCAATATTACCACCAAATGGAAGCATTAGCTTCATCATT TGAGATAGTAGCAGGACTTGGATCGGCTAAGCCTTACACATCAGTCGCTCTCAACAGAATCTCTTGCCATTTCCGCTCCCTTCGTGACACTATAAAG GAACAAATTCAGATCATCAGAGAAAAACTTGGAGAGAAAGGAGGAGAGTCGTTGGATGAGCAACAAGGAGAGAGAATACCAAGACTGAGGTATTTA GATCAACGGTTGAGACAGCAAAGAGCTTTGCATCAACAGCTTGGAATGGTTCGACCCGCTTGGAGACCACAAAGAGGTCTCCCTGAAAACTCTGTC TCTGCTCTTCGCGCTTGGCTCTTCGAACATTTCCTTCATCCATACCCGAAAGAATCTGAGAAAGTCATGCTTGCGAAACAGACAGGACTGTCGAAAA ACCAGGTTGCTAATTGGTTCATAAACGCGAGAGTTCGTCTATGGAAACCGATGATCGAAGAGATGTACAAAGAAGAGTTTGGTGGTGAGTCTGAGTT ACTAATCTCCAAGTCTTCTCAAGAACCCAACAGCACAAACCAAGAAGACTCCTCTTCGCAGCAGCAGCAGCAGGAGAGCAACAACAACAATAACAAT CTCACTTATTCATCCGCAGACACGACAAACATTGGATTCTCATCAGAAGCTAAACCAGACCGTGTTTCAGGCAATGATGGTGAGCCACCACAACAAC AACAACAGATGAACCGTTCAGCGGATTACGATACTCTGATGAACTATCACGGGTTTGGTCTGGATGATTACCGTTACATTGGCGGAAACAACCAGCA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001E09	AT3G19820.2	DWF1 (DIMINUTO 1); catalytic	GACTTTAGATCTCTCAAACTTGATAATTTCTCTACAGGCCACAAGTGAACCTTGTGGGTTTTGAGTCTTAACCATCTCTGCCTTCGAATTTCAAGCAAA ATTTTCAGAATTTGCTCAACATTTTTCTTTTTTTGGTGAGGAGAGGAATCTCGAAAGTGTCGGCGAAAATGTCGGATCTTCAGGCACCACTTGTAAGG CCGAAGAGAAAGAAGACATGGGTTGATTACTTTGTCAAGTTCCGATGGATCATTGTCATCTTCGTCGTCCTTCCAATCTCAGCCACACTCTACTTCCT CATCTACCTCGGGGACATGTGGTCCGAGTCCAAATCCTACGAGAAACGCCGAAAGGAACACGACCAGAATGTCATGAAAGTCATCAAAAGGCTCAA GGAGAGAGACGCAGCCAAAGACGGGCTGGTCTGCACTGCGCGTAAGCCCTGGATCGCCGTGGGAATGAGAAACGTTGACTACAAGAGAGCAAGA CATTTCGAGGTTGACTTGGGAGAGTTCCGTAACATCCTTGAGATCAACAAGGAGAAGATGATTGCTAGAGTTGAGCCTCTTGTCAACATGGGACAAA TCTCCCGTGCCACCGTCCCAATGAACCTGTCTCTCGCTGTTGTCGCTGAGCTCGACGATCTCACCGTTGGTGGACTCATCAATGGATATGGTATTGA AGGAAGCTCTCATCTCTACGGTTTGTTTGCTGACACCGTTGAGGCTTACGAGATCGTTCTAGCAGGCGGTGAGCTTGTCCGTGCCACAAAGGATAA TGAGTATTCTGATCTCTTCTATGCAATCCCTTGGTCGCAAGGAACGCTTGGACTCCTCGTTGCTGCTGAGATCAGACTTATACCGGTTAAGGAGTAC ATGAGACTCACTTACATACCAGTCAAGGGTGATCTTCAGACTTTGGCTCAAGGTTACATTGATTCTTTCGCTCCCAAAGACGGAGACAAGTCAAAGA TCCCGGATTTCGTGGAAGGCATGGTTTACAATCCTACTGAAGGTGTGATGATGGTTGGGACATACGCATCTAAAGAAGAGGCCAAGAAGAAAGGGA ACAAGATCAACAATGTGGGATGGTGGTTCAAGCCTTGGTTCTACCAACACGCGCAGACCGCACTGAAGAAGGGACAGTTTGTTGAGTACATACCGA CTCGGGAATACTACCATAGGCACACAAGGTGCTTGTACTGGGAAGGGAAGCTTATCCTTCCTTTTGGTGATCAGTTCTGGTTTAGGTTCCTCTTTGG TTGGTTGATGCCTCCTAAGGTCTCTCTTCTTAAGGCTACTCAAGGTGAAGCTATTAGGAACTATTACCATGACATGCATGTTATTCAGGACATGCTTG TTCCCCTTTACAAGGTTGGCGATGCCCTTGAATGGGTCCACCGTGAAATGGAGGTGTATCCAATATGGCTTTGCCCACACAAACTTTTCAGGAGCCC AATCAAGCAACAGATTTACCCCGAACCAGGCTTCGAGTATGAAAACAGACAAGGAGACACAGAAGATGCACAGATGTACACTGATGTTGGAGTCTA CTACGCGCCTGGTCCTGTCCTAAGAGGCGAAGAGTTTGATGGATCAGAGGCCGTGCGTAAGATGGAGAAATGGCTGATCGAGAACCATGGATTCC AGCCTCAGTACGCTGTGTCTGAGCTCGATGAGAAGAGCTTCTGGAGAATGTTTGATGGTGATTTGTATGAGCATTGCCGCAAGAAGTACAGAGCTG TTGGAACGTTCATGAGTGTGTACTACAAGTCGAAGAAAGGAAGAAAGACTGAGAAAGAAGTTAGAGAAGCCGAGCAAGCTCATCTCGAAACAGCTT
GCT-001E10	AT4G38660.1	thaumatin, putative	GAAAGAAGCTTTACAGTTTTTCTAATCTCTCTCTCTCTCTTCTTCTTCAAAACACCAATTTCTTCACTTTTCATTAGGTCGGAGTGAGAGTAAGAATTTT TTTTTTAAAAACTGTAATGGATCTTTTCTCTCGTCGCAGCTCTTCTACTCTCACACTGGGCTTCATAGTTATTCTCTTAGCCTCCACAGGTTCGTATGG CTCAAAGTTCACATTCGCAAATCGGTGTGGCTTCACCGTATGGCCTGGAATTCTGGCGAATGCGGGCTCACCTACTCTGTCCACCACCGGATTCGA GCTCCCTAAGGACTCCTCACGCTCTCTCCAAGCCCCAACCGGTTGGTCCGGTCGATTCTGGGCTCGAACCGGTTGCAGCTTCGGCGGTTCTGGCT CCGGTACTTGCACAACCGGAGATTGCGGCTCCAACCAAGTCGAATGCGGTGGACTCGGCGCCGCTCCTCCTGTTACCCTCGCGGAGTTCACTCTA GGCACAGGCGGCGACGATTTCTACGACGTGAGCCTCGTCGACGGCTACAACATTCCGATGATCGTTGAAGTCACCGGCGGATCTGGACAGTGTGC TTCTACGGGTTGTACATCCGATCTCAACCTTCAGTGCCCTGCTGAGTTGCGTTTCGGCGACGGGGACGCGTGTAAAAGCGCGTGCGAAGCGTTTC GGAGTCCTGAGTACTGTTGCAGCGGCGCGTACGCTACACCTTCCACTTGTAGGCCTTCGGTTTACTCTGAGATGTTCAAAGCTGCGTGTCCTCGCT CCTACAGCTACGCTTACGATGATGCCACCAGCACCTTCACTTGCTCCGGCGGAGATTATACGGTGACGTTTTGCCCCTCCTCCCCAAGCCAGAAAT CGACAAGCTACTCCACACCAGTTTCCGACTCGTCGGCGACCTCTCAAGGTTCAGATCCGGTGCCCGGTTCAGATGCGGGTTACTCGGGTCAGGGT CAACAACAGGGTCAGGGTCAACAACAGGGTCAGGGTCAACAACAGGGTCAGGGTTTTGATGGGTCGGAGCTAGGTTCGGGAGAGACGATGTTACA AGATGGATCGTGGATGGCGGGTTTGGCCATGGGAGACTCGAGCCGAGTAGCCAGCACTTCACTACTAGCAATGCTACTCGCTGCATTTACCTCTGC GTTTCTGTTTATTTTCTCGTAGCATCATCTTTGTATTTGGTAGTTCGTTTTGTTAGCAGTTTTGCCTTTGTTTAATTTCTAATTCTAGATTGTCTTGTTGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001E11	AT3G30390.2	amino acid transporter family protein	GAGTCACATAATTTCCATCGTCAGCGAGACAGAAACGTGAGGCTATAATTTCCTTCACATCTACAATTTCATTTCTCCTCAAAATTCTCCTTCCTCTTT TGGAGAAATTTTTCCTCTCTAATCTCCTCACTGTTTGCGAAATTCGCTAATTCTTCTTTCAATATCTGATTCTACCGCCAGATTTTCTTCTGGGTTCAAC CATTTTCGATCGAAATCACCTGGGCTTCTGTCAATTTTGGGGTTTTTGATTCCTACTTGTCTAATCAGTTGAATCGAAGTTTGTCTCTGCTCAGTATCG AGAAATTATCGTCAAATCCTCTCTAAGCTTGCGATTATCAATAGGAAGATGACGATTGAAGATGTTACTCCGATCCCAAAGAGGAGCGGTTCCTCCT CCGACGATGTTGCTGCTCCGTTGTTGCCGAAATCGCATGGAGACGAAGTCGCTTACGACGAGTTCAACGGAGCTTCGTTTAGTGGCGCGGTTTTCA ATCTCGCCACAACCATAATCGGTGCTGGAATCATGGCTTTGCCTGCAACGATGAAGATCCTAGGACTTACCTGGAAAGATTTTGCTTCAAGTCGCTG TTCTGGTCAACAACATCGGCGTTTTGATTGTCTACATGATTATCATTGGTGATGTGTTGGCTGGGAAGACAGAAGATGGAACCCACCATTATGGTGT TCTTGAAGGATGGTTCGGTCACCATTGGTGGAACGGAAGAGCTGCTATTCTTCTCATTACAACTCTTGGTGTGTTTGCTCCATTAGCCTGCTTCAAG CGAATTGATTCTTTGAAATTTACATCTGCCCTATCCGTGGCTCTGGCGGTTGTGTTCCTCATCATCACAGCGGGAATTTCTATCATGAAATTGATCAG TGGTGGTGTGGCCATGCCAAGATTGCTACCAGATGTTACCGACTTAACATCCTTCTGGAATCTCTTCACAGTTGTACCCGTTCTTGTCACGGCATTC ATTTGCCATTACAATGTTCACAGCATTCAGAACGAGCTTGACGACCCCTCTCAGATAAAACCTGTTGTCCGATCAGCTCTTATGCTCTGCTCATCTGT TTACATAATGACAAGCATTTTCGGGTTCCTCTTGTTTGGCGACGACACTCTTGATGATGTTCTTGCAAACTTTGACACCGATCTTGGAATCCCTTTTG GCTCTGTCCTAAATGATGCGGTTCGAGTGAGCTATGCGCTTCATCTTATGCTCGTGTTCCCGATTGTTTTCTACCCGTTGCGGATTAACATTGACGG GCTCTTGTTCCCTTCCGCTCGGCCATTAACTACCTCAAATGTAAGGTTTGGTTGCCTCACTGCTGGTCTCATCTCTGTAATCTTCTTGGGTGCAAACT TCATCCCAAGCATCTGGGATGCTTTCCAATTCACTGGAGCAACTGCTGCTGTTTGTCTCGGCTTCATATTCCCGGCTTCTATTATACTAAAGGATCGT CATAGCAAAGCAACGGGCAGGGACACGACCTTGGCGGTTTTCATGATTGTTCTTGCGGTATTGTCTAATGCAATCGCCATTTACAGCGATGCTTATG CCTTGTTCAAGAAGAACGCACCTCGTGAGTGATTGATTGTGGATGAGTAAATGTGAAGTTTTGTGTGTTCTGGATGAAGGAAACAAAAGCGTTTGTTT
GCT-001E12	AT3G52880.1	ATMDAR1 (MONODEHYDROASCORBATE REDUCTASE 1); monodehydroascorbate reductase (NADH)	GAAGATAACAACTTCTGACGATCGGATAAAATGGCGGAGAAGAGCTTCAAGTACATCATCCTCGGCGGCGGCGTCTCAGCCGGATACGCAGCTAA GGAGTTTGCCAGTCAAGGTGTTAAACCAGGTGAATTGGCAGTTATCTCCAAAGAGGCGGTGGCTCCATACGAACGTCCTGCACTTAGCAAGGGGTA TTTGTTTCCTGAAGGGGCTGCTAGACTTCCAGGTTTCCATTGCTGTGTTGGTAGCGGTGGAGAAAAACTGCTCCCTGAATCGTACAAACAGAAAGGA ATTGAGTTGATACTTAGCACAGAAATTGTAAAAGCAGATCTTTCTGCCAAGAGTCTTGTCAGTGCAGCCGGGGATGTCTTCAAGTATCAGACTCTCAT AATCGCAACTGGTTCTACTGTTCTCAGATTGACTGATTTTGGTGTAAAAGGCGCAGACTCTAAGAATATCCTCTATCTGAGGGAGATTGATGATGCC GACAATTTGGTTGAAGCAATTAAAGCAAAGAAAGGCGGAAAGGCTGTGGTCGTTGGTGGAGGCTACATTGGTCTTGAGCTTAGTGCAGCTTTGAGG ATCAACAATTTTGATGTCACTATGGTTTTCCCTGAACCTTGGTGCATGCCTAGGCTTTTCACCGCCGATATTGCTGCTTTCTATGAGACTTATTACACA AACAAGGGAGTGAAGATCATTAAAGGAACAGTGGCATCTGGTTTCACCGCTCATTCCAATGGAGAGGTGAAGGAAGTACAACTCAAGGATGGAAGG TCATTAGAAGCCGACATTGTGATAGTTGGTGTTGGTGCAAAACCATTGACATCCTTATTCAAGGGACAGGTTGAAGAAGACAAAGGTGGAATTAAGA CCGACGCATTCTTCAAAACAAGTGTTCCTGATGTTTACGCTGTTGGTGACGTTGCCACTTTCCCCATGAAAATGTACGGAGACGTGAGAAGGGTCGA GCATGTTGACCATTCTCGCAAATCCGCAGAGCAAGCTGTTAAGGCGATAAAAGCGGCTGAGGGAGGCGGATCAGTGGAGGAATACGACTATCTCC CATTCTTCTACTCGCGGTCCTTTGACCTCTCGTGGCAGTTCTACGGAGACAACGTAGGAGACTCTGTCTTATTTGGAGACAGCAACCCATCAAACCC AAAACCATGTTTTGGAGCATACTGGATTCAAGGTGGTAAAGTGGTTGGAGCATTCATGGAAGGAGGTAGTGGTGATGAGAACAAAGCCTTGGCTAA AGTCGCCAAAACTCGACCTGTTGCAGAGAGTTTGGACGAGCTGACCAAACAAGGCATTTCCTTCGCTGCTAAGATCTAAGAGAGAGATTGTGAGAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001E13	AT5G35220.1	EGY1 (ETHYLENE-DEPENDENT GRAVITROPISM-DEFICIENT AND YELLOW-GREEN 1); sterol regulatory element-binding protein site 2 protease	GGCTCACACATTTCCCTTATCTTTTCTCCATCTCCACTCGATGGGGACTCTCACGAGCGTCGCTTTCGCAGCTGCGGTTAACATCAGATTCCGATCG TTTCATTGCAATCTCCGGGAGAGTATTAAAACACCAATGCCCAAGGTTACGACATCATCGAGAGACAGACACTATTTCTCTTGCACAAAGGATTATCA TACATTTAGGGCTGTAAATTGTTTAGGCAATGATCAAACCGGTAACAGAGATGGAAATGACGGAGATGCCAATTCGTCGGTTGCTAGAGATTCAGCT TTAAAAACGGCATCTCTTGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGCAGACAAGAGAAGTAACAGTAGTAGT AGTAACGAGTTCGGTTCCGACAAGACTCCTTTTGTTTCTTCAAGGCGGTCCACTGAATCACCTATTGATCCGATATACAGCAGCTTCCAAATAGACTC TTTTAAGCTGATGGAGCTTCTTGGACCTGAGAGAGTCGATCCTGCAGATGTCAAGTTAATAAAGGACAACATTTTCGGATATTCGACATTCTGGGTG ACTAAAGAAGAGCCGTTTGGGGACCTCGGCGAGGGTATCCTCTTTCTTGGGAACTTGAGAGGTAAGAGGGAGGATGTTTTTGCAAAACTTCAAAGA AAACTAACCGAGCTGGCTGGCGATAAATATAATTTGTTCATGATTGAGGAGCCTAATTCGGAAGGACCAGATCCGCGTGGCGGCGCCCGTGTTAGC TTTGGTTTGCTTCGTAAGGAGGTCTCGGAGCCAGGACCAACCACACTCTGGCAGTATGTGATTGCTTTAATATTGTTTCTTCTGACTATTGGTTCCTC TGTGGAGCTAGGAATTGCTTCTCAGATTAACCGTTTACCTCCTGAGGTGGTAAAGTATTTCACCGATCCAAATGCTGTTGAACCACCTGATATGGAG CTTCTGTATCCGTTTGTAGACTCTGCATTGCCTTTGGCGTATGGTGTCTTGGGAATTCTTTTGTTTCATGAATTAGGGCACTTTCTTGCTGCAGTTCC AAAGAAAGTAAAGCTTAGCATTCCTTACTTCATTCCAAACATTACACTCGGTAGCTTTGGTGCAATCACACAGTTTAAGTCAATTCTTCCCGACCGGA GTACCAAAGTTGACATTTCTCTTGCTGGTCCATTCGCTGGAGCTGCACTCTCTGTTTCCATGTTTGCTGTTGGTCTGTTCCTATCTACTAGTCCGGAT GCAGCTAGCGATCTGGTGCAGGTCCCAAGCATGTTATTCCAAGGTTCATTACTTCTTGGACTCATCAGCAGAGCAACTCTGGGATACGCAGCTATG CATGCTGCAACAGTTTCAATCCACCCGCTTGTTATTGCTGGATGGTGTGGTTTAACAACAACGGCTTTTAATATGCTTCCTATTGGATGTTTGGATGG AGGAAGAGCTGTACAGGGCGCATTTGGGAAAAATGCACTTGTTACATTTGGATTGTCAACCTATGTAATGCTTGGACTTAGAGTGCTTGGCGGCCCC TTGGCACTTCCTTGGGGACTCTATGTACTTATCTGCCAGAGAACACCTGAGAAACCGTGTCTGAACGATGTCACCGAGGTTGGAACATGGAGAAAG GCACTTGTCGCGACTGCAATTATACTGGTGGTTTTGACACTCCTGCCTGTATGGGATGAACTCGCAGAAGAGGTAGGCATAGGGCTTGTAAACACA
GCT-001E14	AT1G54030.1	GDSL-motif lipase, putative	GACAGTCCTTCAATGGCGAATCCCAAATCTCACCTCTTCTCTCTCTCCTTCTTACTTCTTCTTCTTCTTCACTTCTCCACCGTCTCCTACGCTCAGACT CTCTTCATCTTCGGAGATGGTCTTTACGACGCCGGCAACAAACAGTTCGTCTCTTCGAATCGTGTCGACGCTAGCTTTCCTCCGTATGGAATTACAC TAGGAGAGGCTACTGGACGGTGGTCCGATGGCCGTATTGTTCCCGACTATCTCGCTAGTTTCATGGGTATTCCTCAAATCCCTCCGATTCTCCGAG CCACGGCGGATTTCTCTCACGGAGCTAACTTCGCCATCGCCGACGCAACCGTTCTCGGCTCTCCTCCGGAATCGATGACTCTGTCACAGCAAGTGA AGAAGTTCTCGGAAAACAAGAACAAATGGACAGTTCAAGCACGTTCTGAAGCTATCTATTTGTTCTACATCGGCTCTGATGATTACTTGAACTATGCC AAGAACCATCCTAATCCTTCCGAAGATCAGAAACAAGCTTTTGTGGATCAAGTCATCTCTGCCATAGAAACAGAACTAAAGGTGATTTACGGGTCTG GAGGTAGGAAATTCGCGTTCCAGAACTTGGCACCATTAGGTTGCTTACCAGCAGTGAAACAAGCAAACGGAAATGTTCAAGAATGCGTGAAACTGC CTTCGGAAATGGCGTCTTTGCATAACAAGAAGCTGTTGCAGCTCTTGGTCGAACTCTCACGAAAACTCAGTGGTTTCCAATACTCGTTTTACGACTTC TTCAGCTCGATCCAAAACAGAGTTATCAAGTCCAAGACTTACACATTCGAGACTGGACTCGCTGCTTGTTGTGGAACTGGCTCTGTCAATGGAAGCG ATTGCTCGACCAACAATGTTTGCGCTAAGCCTGAAGATTATCTCTTCTTCGACGGTAAGCATTTGACGCAAGAAGGAAACCTTCAAGTTGGGCATTT GATATGGGGATCAGATCCGGAAGTGATTGGACCGAACAATCTCAGGGAGCTTCTTGTTCTTCCTCTGGACGTTACAGTCATCTTAGCTGATATACAG GAAGCTATGGCTGCCGTGAGACCGAGGCAGATCAAAATTGAGAGTCTGTATGATATCAAGATGGAATCGGAGATGCAGAATCAATGGCTTTATCAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001E15	AT3G28730.1	ATHMG (HIGH MOBILITY GROUP, STRUCTURE-SPECIFIC RECOGNITION PROTEIN 1); transcription factor	TATTGTGTGAAAAAGAAAGGACACTCTCTCTTTCTCCTCTCGCTCGTCTCTCATCGGAGCTATGACGGACGGCCATAACTTCAATAATATCTCTCTCA GCGGTCGCGGCGGAACGAATCCTGGCCTCCTTAAAATAAACTCTGGAGGCATTCAATGGAAGAAGCAAGGTGGTGGGAAGGCTGTGGAAGTCGAT AGATCTGATATTGTTGGTCTCAGTTGGATGAAAGTTCCAAGGACAAATCAGTTGGGAGTAAACACCAAAGATGGGATATACTATAAGTTCATTGGTTT TCGGGATCAGGATGTTACAAGTCTGACTAGCTTTTTCCAAAGTACTTTTGGAAAAACACCCGTAGAGAAACAACTATCTGTCAGTGGTCGCAATTTTG GAGAGGTGCATTTCAATGGGAATTCACTAACCTTTTCGGTTGGTGCAAAGCAAGCTTTTGAAGTATCCCTAGCTGATGTTTCACAGACTCAGCTTCAA GGGAAAACTGACGTCTTATTGGAATTTCATGTTGATGATACTGCTGGCGCCAATGAGAAAGATTCGCTGATGGAGATAAGTTTTCATGTTCCTAACTC CAACACCCAGTTTGTTGGTGATGAAAATCGTACATCTGCTCAGGTTCTCTGTGACGAAATTAAGGTAGTGGCTGACGTTGGTGCTGGATTTGAAGAG GCAGTCGCCACATTTGACGGTATTGCAATCCTCACACCCAGGGGTCGGTATAATGTGGAGCTTCACCTTTCTTTTTTACGATTGAATGGACAAGCTA ATGACTTCAAAATCCAATACAGTAGTGTTGTCCGCTTGTTTTTGCTTCCAAAGTCAAACCAGCCACATACGTTTGTTGTCATCTCTCTAGACCCACCA ATCCGGAAAGGTCAGACAATGTACCCCCATATTGTGATGCAGTTTGAGACCGACTCCGTTGTTGAAAGTGAACTGTCAATAAGTGATGATCTTATGA ATACAAAGTTCAAGGACAAGTTGGAGCGATCATATAAGGGTCTTATTCATGAAGTGTTTACCACGGTGTTGCGTTGGCTATCTGGTGCAAAGATCAC TAAACCAGGGAAGTTCCGCAGTGCCCAGGATGGATTTGCTGTGAAATCATCTCTTAAGGCAGAAGATGGTGTTCTTTATCCACTTGAGAAGGGCTTT TTCTTTTTACCTAAACCTCCAACGCTTATACTTCATGATGAGATTGAGTATGTGGAGTTTGAAAGGCATGCTGCTGGTGGCGCTAACATGCATTACTT CGACCTTCTCATAAGACTAAAATCTGATCATGAACATCTGTTCCGGAACATTCAGAGGAATGAGTATCACAATCTCTATTCCTTCATAAGCGGCAAGG GTTTGAAGATTATGAACCTTGGAGGTGCGGGTACCACAGATGGTGTTGCTGCAGTTCTTCGGGATAATGATGATGATGATGCTGTTGACCCTCATCT TGAGCGTATCAGAAACCAAGCTGCTGATGAGAGTGACGAGGAGGACGAGGACTTTGTTATGGGGGAGGATGACGACGGTGGTTCACCAACTGATG AATCTGGCGAGGATGACTCTGATGGTAGTGACGGTGGCGGAGGAGAGAAAGAGAAATCGATCAAGAAGGAACCCAAGAGAGAGGCTTCGTCGTCG TCGAAAGGATTGCCACCAAAGAAGAAAGCATTAGTCACAGAAGAAGGTAGTAGTAAGAAGAGGAAGCAGAAAAAGAAGAAGGATCCCAATGCACCA AAGAGGGCAATGTCTGGTTTCATGTTCTTCTCCCAAATGGAAAGAGATAACATAAAGAAGACTCACCCAGGAATAGCATTTGGAGAGGTGGGGAAG
GCT-001E16	AT1G24430.1	transferase family protein	GAAAACAAAAATGGAGCTTGAGATCACGGTGACTTCTCAGGAACTCATCAAGCCTTCTTCTCTTAGCATTAATCATCTTCCTTACCACTATCTCTCTTT CCTTGATCAAATTGCTCCTTCCTTTTTCATGCCTTTCCTTTTCTTTTACCACAACAAGCGGAATCTCTCAGACAGAGAACGAGCTGATCACATCAAGA GTTCTTTGTCTAAAATATTGAATCTCTTTTACCCCTTGGCAGGACGAATCAAGAACTCGGGTAACGTTGTTCTGTGCAACGATGTGGGTGTGTCTTTC GTTGAAGCCAAAGCCGGTTGCAACATGTCACAGATTCTAGAAAACCCTAATCCCTATGAACTCGACATGTTCCTCCCTTTCAAGTTTGACGAAGTGG GTGACGTGCCTCTCAAGATTCAGCTCACTTTCTTTGAATGCGGCGGCTTAGCTCTCGGTATAGGCCTCTGCCATAAACTCTGCGATGCCATGTCCG GTCTCATTTTCATCAGAAGTTGGGCAGCTTTTGCTCGCGGACACACTGATGAAATCGTCACTCCTTCTTTTGATATGGCCAAGATGTTTCCTCCACGC GGCACGGAAGAGTTAAACATGGCTACAAGTATCACGAACGAGAACATGGTCACCAGACGCTTCGTGTTCTCGAAATCCTCTGTTGAATCTTTAAGAG CCAGATTCAGTGGAAACAAGAAGTTTCGCGCCACACGTGTTGAGGCCCTATCTGCATTCCTATGGAGCCGTTTCGTGGCTACAATAAACCGAGATG
GCT-001E17	AT1G44575.1	NPQ4 (NONPHOTOCHEMICAL QUENCHING)	GAGACGCAGCAAAGCAGCACAACACACAAAATGGCTCAAACCATGATGCTTACTTCCGGCGTCTCTGCTAACCAATTCTTGAGGAACAAGAACCCTT TGGCTCAGCCCAAAGTTCACCATCTCTTCCTCTCCGGAAACTCTCCGGTTGTTATACCATCTCGAAGACAATCACTCGTTCCTCTCGCTCTCTTCAAA CCCAAAACCAAAGCTGCTCCCAAAAAGGTTGAGAAGGTGAAGCCAAAGGTTGAGGATGGTATCTTCGGAACTTCGGGTGGGATAGGTTTCACAAAA GCTAACGAACTCTTTGTGGGTCGTGTCGCTATGATCGGTTTCGCTGCATCTTTGCTGGGTGAGGCGGTGACAGGGAAAGGTATATTAGCACAGCTG AATTTGGAAACAGGGATACCGATTTATGAAGCAGAGCCATTGCTTCTCTTCTTCATATTGTTCACTCTGTTGGGTGCTATTGGAGCTCTTGGAGACAG AGGAAAATTCGTCGACGATCCTCCAACTCCAACCGGGCTCGAGAAAGCCGTCATTGCTCCCGGCAAAAACGTCCGTTCTGCCCTTGGTCTCAAAGA ACAAGGTCCTTTGTTTGGGTTCACCAAGGCAAACGAATTATTCGTTGGAAGATTGGCACAGTTGGGAATAGCATTTTCATTGATAGGAGAGATTATAA CCGGAAAAGGAGCATTGGCTCAACTCAACATTGAGACCGGTATACCAATTCAAGATATCGAACCACTTGTCCTCTTAAACGTTGCTTTCTTCTTCTTT GCTGCTATTAATCCTGGTAATGGAAAATTCATCACTGACGATGGTGAAGATATGTAAACTCTTTATGTACCTAAAGTAAGTAGAGTGGGAGACTATCT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001E18	AT4G01550.1	ANAC069 (Arabidopsis NAC domain containing protein 69); transcription factor	GCCCGCCAGTCTACACTACTACTTGTATTTTAAAAAAAAAATAAACAGAGAGAGAGGAAAGAAAAACTCTGATCTAGGGTTTGAGTGAAGGGTTTTTTTTTTCTTGTCTCTGTGTTTTTGGAACTGTGTTTAGTGTAAAAATGGAGAAAAATCTGGTGGGTTATAGATTTTGTCCAACGGGAGAGGAACTGATAAACCATTACCTGAAGAACAAAATTCTGGGTAAGTCATGGCTCGTCGACGATGCGATTAGCGAGATCAACATCTGTAGTTACGAACCAATTTGTTTGCCTTCTTTATCGAAGATCGAATCGGAGGATCCTGTATGGTACTTCTTCTCCCCGAAAGAGTACACTTCCGCGAAGAAGAATGCGACGAAGAGGACTACACGTTTTGGGTTTTGGAAATCTACTGGTAAAGATCGGAAAATCAAGGATAAGAGAGGAGAGATCATCGGGAACAAGAAGACGCTTGTCTACCATGAAGGTAGGTCTCCAAATGGAGTTGGGACTCGTTGGGTTATACACGAGTATGAAATCACTTGCTTGCCTCTTCAACAGAGGAAGTACGTTATCTGCAAAGTAATGTATAATGGTGAAGAAGGAGGAGACATTTTCTTTGGTAATAACACGAATGAGACAACAAGCTACTCTCTGGTCTCTGATCCGAAAGCTGTCGGATCGATTAACACAGTGCCTGAGGTTATGCAGGCAGGTCAAGAAGATGTTTTGTATGTGAATGATTTATCAATCTCGATGAACGAACAAGAGCATCTTGGATTTAATCCAGACACGTTTTTCAGCGACTACAACCCTACCTTGCAGCCACAAGCTCCTGATTACGATGATCAGTATATTACTAGATTGCTGGATTTTAACGGAGGCGATTTCGAAGGTGTGATTTCCGATCAAGAATTGATAATGATGACGAACAACAACGATCACAGGCCAAGAAAACCTTTGTCAGGGATCATTGTTGATTATAGCAGTGAGAGCGATGCTGAATCGATATCTGCAACGAGTTACCAAGGAACAACAAGTCCAGGTGATAGCGTTGGTAGTTCGAATAAACACTTCCCAAGTTGCTCAAGCTCAGACTCTTGCAAAGATCTACAAACTTGTGTAGATCCTTCAATCAGTAAGAAGATCAAGAAATCTCAAGTCACCGTACCATTAAAACAAGAGGTGAAAGAAGGTAAGTCTAAAGCCGTCGATGCAAGCATAGACAAGAAGACAGAGAAGAAGTGCTGGTTTATTGTAGAGGAAGCAATGCAGAGAAAAGGCAAGAAGACTCCACGGTTTATCTATCTAGTGAACATGATCCTAGGCTTCATCCTCTTGGTGGCTCTCATTGGCACATCATGTCGGTTTTTTACTAACCGTCAAAACCTGAACCCGGTGATGAAGTTTTGATCGCAAAGGAAAGGCAAAAGCAGATCGATCGAAGCACTCGTTTTT
GCT-001E19	AT1G80300.1	chloroplast ADP, ATP carrier protein 1 / ADP, ATP translocase 1 / adenine nucleotide translocase 1 (AATP1)	GACAGGTGCAAAAATCCATCCTTTCCCGATATATATATATATATATATATAGTTTACCACATTTGTTAATATCTCATTGGCAAAAACTATATTCTTTCTTCGCACTACCCAGTCACCTTTCATCATCTCTCTATCTCATATCCTCCTCCTCCATTTCTCTCCGGTATTTCTGTGTACTTGCTGGAGAGAAAGAGATAGAGAGATGGAAGCTGCGGTACAAACCAGAGGAATTCTTTCCTTACCCGCCAAACCCATCGGAGCAAGAAGCTTTCTTCAGCCATCCCACGGCTTAAAGCAGAGACTTTTCGCCGCCAAGCCGAGAAATCTACCTGGGCTGTCTCTATCCTTTAAAGGGCACAAGAAATTTCAAGCCTTTGAGCCGATCCTACACGGGATTTCTATTTCGCACAAGGAGAGAAGCACCGAGTTCATATGCAAAGCGGAGGCAGCGGCCGCCGGCGACGGAGCTGTGTTCGACGAAGGCGACTCGGCAGCAGTTGTTGCGTCGCCCAAGATTTTCGGTGTGGAGGTTACAACCTTGAAAAAGATTATCCCTTTGGGTTTGATGTTCTTTTGCATTCTTTTCAATTACACAATCCTAAGGGACACAAAGGACGTCTTGGTGGTGACGGCGAAAGGAAGTTCTGCTGAGATTATACCTTTCTTGAAGACATGGGTCAATCTTCCCATGGCCATTGGGTTCATGCTCCTCTACACCAAACTCTCCAATGTTCTCTCCAAAAAGGCTCTATTTTACACCGTTATCGTCCCATTCATCGTCTACTTTGGGGCCTTCGGTTTCGTGATGTATCCTCTCAGCAACTATATTCACCCGGAAGCTCTCGCAGATAAGCTCCTTGCAACCCTCGGCCCAAGATTCATGGGTCCTCTTGCAATCTTGCGGATTTGGAGCTTCTGTTTGTTTTATGTCATGGCTGAGCTCTGGGGTAGTGTGGTGATTTCAGTTCTCTTCTGGGGATTTGCTAATCAGATCACAACCGTTGATGAAGCCAAGAAGTTCTATCCTTTGTTTGGACTTGGAGCCAATGTTGCGCTGATTTTCTCAGGAAGAACCGTGAAATACTTCTCTAACTTGAGAAAGAATCTTGGTCCTGGAGTTGACGGTTGGGCAGTTTCATTGAAAGCCATGATGAGCATAGTGGTGGGAATGGGACTTGCCATCTGTTTCCTCTATTGGTGGGTCAATAGATACGTTCCTCTTCCTACCCGTAGCCAGAAGAAGAAGAGCAAACCGAAGATGGGAACAATGGAGAGCTTGAAATTCTTGGTGTCATCACCATACATTAGGGATCTTGCTACTTTAGTGGTCGCATATGGTATAAGTATCAACCTTGTAGAAGTCACATGGAAATCAAAGCTTAAAGCTCAGTTCCCTAGTCCGAACGAGTACTCGGCATTTATGGGAGACTTCTCAACCTGCACGGGTATTGCAACATTCACAATGATGCTTCTCAGTCAATACGTATTCGATAAGTATGGATGGGGAGTAGCTGCAAAGATCACCCCAACTGTTCTGCTATTGACCGGTGTTGCGTTCTTCTCTCTGATATTGTTTGGCGGCCCATTCGCACCACTTGTTGCCAAGCTTGGTATGACGCCGCTACTCGCAGCTGTCTATGTCGGCGCCCTCCAGAATATCTTCAGCAAGAGCGCCAAGTACAGCTTGTTCGATCCTTGCAAGGAAATGGCCTATATTCCCTTGGATGAGGACACCAAGGTTAAAGGCAAAGCTGCAATTGATGTGGTTTGCAACCCGCTGGGGAAATCAGGCGGAGCTCTGATACAGCAGTTCATGATCTTATCCTTTGGATCACTTGCGAATTCGACGCCGTATTTAGGGATTATCTTGTTGGTCATTGTCACTGCGTGGTTAGCTGCAGCTAAGTCGCTGGAGGGACAGTTCAACGCCTTGCGGTCTGAAGAAGAGCTCGAGAAGGAATTGGAGAGAGCTACAGCTGTCAAGATTCCTGTTGTGTCTCAAGACGAAGGCGGCAACGGTTCCATTGGAGAATCTTCTA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001E20	AT3G54960.1	ATPDIL1-3 (PDI-LIKE 1-3); thiol-disulfide exchange intermediate	GGTGATCTGAACATCAATGGCTTCTTCCACAAGCATCTCCCTCCTTCTCTTCGTCTCTTTCCTTCTCCTCGTTAACTCGCGCGCAGATAATGCGCCAA TTGGTTCAGATCTCGACGAGGAACTGGCTTTCCTCGCCGCGGAGGAGTCCAAGGAACGAAGCCACGATGAACACGATCAGTACCGGGACTTCGAG AATTACGAGGATCTCGAGCAGGGAGGAGAGTTCCATCACGGCGAGCACGGAGCCGGCGGGTACGAGGAGGAGCCGTTACCAATCGTCGACGAGA AAGACGTGGCGGTCCTGACCAAGGACAATTTCACTGAGTTCGTCCGGAACAATAGCTTCGCTATGGTGGAGTTCTACGCTCCGTGGTGCGGCGCTT GCCAGGCTCTGACGCCGGAGTACGCCGCGGCGGCGACCGAGTTAAAGGGCGTTGCGGCGCTCGCGAAGATCGACGCGACGGAGGAAGGGGATT TGGCTCAGAAGTACGAGATTCAGGGATTCCCCACCGTTTTCTTGTTTATTGACGGAGAAATGCGCAAGACCTACGAAGGAGAAAGGACCAAGGATG GAATTGTGACTTGGCTGAAGAAGAAGGCCAGTCCGAGCATCCACAACATTACTACAAAAGAGGAGGCTGAACGTGTTTTATCTGCTGAACCTAAAGT TGTTCTTGGTTTTCTCAACTCCTTAGTGGGGTCGGAGAGTGAGGAACTTGCAGCTGCATCCAGATTGGAAGATGATCTCAGCTTTTACCAAACTGCA AGCCCTGATATTGCAAAGCTATTTGAAATAGAAGCCGAAGTCAAGCGTCCTACTTTAGTTTTGCTGAAAAAGGAGGAAGAGAAACTCGCCCGTTTTG ATGGCAATTTCACTAAGGCGGCTATAACAGAGTTTGTGTCAGCCAACAAAGTTCCGTTGGTCATCAACTTCACTAGAGAAGAAGCATCACTGATTTTT GAGAACTCAGTGAAAAACCAACTCATTCTTTTCGCTAAGGCAAATGAATCAGAGAAGCACCTTCCCACTCTGAGGGAGGTGGCAAAGTCCTTCAAGG GAAAGTTTGTATTTGTTTATGTGCAAATGGATAATGAGGATTATGGGGAAGCAGTTTCTGGATTCTTTGGTGTTACCGGCACTGCCCCCAAGGTTCTT GTATACACTGGAAATGAAGATATGAGGAAGTTTATTCTGGACGGTGAATTGACCGTAAAGAACATTAAGACACTTGCGGAAGATTTCCTAGCAGACA AACTGAAGCCGTTCTACAAGTCAGATCCAGTACCTGAAAACAATGACGGTGATGTTAAGATCATTGTGGGAAACAATTTTGATGAGATTGTTCTTGAC GAGTCAAAGGATGTTCTTCTCGAGATATATGCTCCTTGGTGTGGCTACTGCCAATCGTTTGAACCGATTTACAACAAGCTTGGAAAGTATCTGAAGG GAATCGACTCGCTAGTTGTAGCCAAGATGGATGGTACCACCAATGAGCATCCTAGAGCAAAGGCTGATGGGTTCCCAACAATCCTGTTCTTCCCTG GTGGAAACAAGAGCTTCGATCCGATCACTGTGGATGTTGACCGTACAGTAGTGGAACTGTACAAATTCCTAAAGAAGCACGCATCAATCCCATTTAA
GCT-001E21	AT2G18280.2	AtTLP2 (TUBBY LIKE PROTEIN 2); phosphoric diester hydrolase/ transcription factor	GGTAATAAGAGAGAGGTTCGTTGGTGGACCACTCCTTTTGCCTCGTTGAGATCGGCGGCGGAGTTACACGACGGCGATTCAGTCGGTGAAATCATG CAAAGGTAGTCACCGGCGATACCCGTCTTTCTTCCCGGAGACGACGAGCGTCGGAAGAATCCGAAAGGAATCAGCTATGGTTATATCTGTTTCTTC GTTTACTCTCTCCGATCTTGTCTCTCGGATCCGGTGAAGAAGAAGCTCCCCCGCCGATCGAATCTTGTAGCTCGTCTTTGGTCCAGAGATTTTCAGT TTTTGTCGTTTGATCCGTCGATTTCATCGAGTTTTGGTATGCTGGAAAAGAGATGTCTTTGAAAAGCATCCTTCGTGATCTGAAGGAAGTAAGGGATG GACTTGGAGGGATCTCGAAGCGAAGCTGGTCAAAGTCGTCTCACATTGCTCCTGATCAAACGACTCCACCACCGGAAAACATCCCTCAGAGCCCGT GGGCTTCTTTGCCGCCTGAGTTGCTTCATGACATAATCCGGAGAGTTGAAGAGAGTGAGACCGCTTGGCCAGCTCGAGCAGCCGTTGTCTCTTGTG CTTCTGTCTGTAAATCATGGAGAGGAATCACAATGGAGATTGTGAGAGTCCCTGAGCACTGTGGGAAGCTCACTTTTCCAATCTCATTGAAACAGCC AGGGCCGCGAGACTCTCCTATTCAATGCTTTATCAAGAGGAACAGAGCAACAGGGACATATCTTCTCTACTATGGCTTGATGCCTTCTGAGACGGAG AACGATAAACTGTTGTTAGCAGCAAGAAGGGTTAGAAGAGCGACGTGCACGGATTTTATAATCTCACTGTCTGTGAAAAACTTCTCTCGGAGAAGCA GCACTTACGTTGGCAAACTAAGGTCTGGTTTTCTGGGAACCAATTTCACAATATATGACAACCAGACAGCATCATCCACAGCACAAGCGCAACCTAA CCGAAGACTTCACTCCAAGCAAGCATCCCCTAAGTTACCTGCTACAAGTTATACCGCAGGAAACATAACCTACGAGCTCAATGTTCTTCGCACAAGA GGACCTAGAAGAATGCATTGCGTTATGGAATCTATACTCCTCTCTTCTGTTCTTGCTGCACCATTAGTAGTTAAAGGCAGTAAAGAGGAAGTCTCACC TTCGCCAAAAGGAGAAGCCAGCTCAACAGACAGGGAAATCACTGATGTTTCTCCAAGCTTGATGGACCAGCCGCTGGTTCTGAAAAACAAATCTCC AAGATGGCACGAGCAATTGCAGTGCTGGTGCCTTAACTTCAAGGGGAGAGTAACCGTTGCTTCGGTTAAGAATTTCCAGCTTGTGGCAGACATTGA CCCTTCTCTAAATGCGCCGCCTGAAGAACATGACAGAGTCATCTTACAGTTTGGAAAAATCGGCAAGGATATTTTCACCATGGATTATCGCTATCCTC
GCT-001E22	AT3G56400.1	WRKY70 (WRKY DNA-binding protein 70); transcription factor	GATATAACCAACACCAAAGAGAAGAAAAAAAAAACCAACCCACCAAAAAGACTCCCTCAAATTCCCCAAAATGGAAATTGCTAGTGATAAAATAGCAA TAAAGGTAAAAGATCAACTCGTTCAAGGCCATGAGTTCACCATTCAGCTTCAGCAACTCTTCTCTCAACCAGGGTCGGATCTGGGTCCAGCCAAGGA TCTCGTGGCTAAAATCTTGGGAACTTTCAATGACACAATCTCTGCTTTTGATTCCTTCGAACCCATCTCCTCCTCCTCTCTTGTCACCGCCGTCGAAG GATCTCAAAATGCTTCCTGCGACAACGACGTCAAGCTTGAGGATTCCGGCGATAGCCGGAAAAGATTGGGACCCGTTAAGGGTAAAAGAGGATGCT ACAAGAGAAAGAAGCGATCGGAGACGTGGACTGTAGAGTCGACCAACCTTGAGGACGCATACTCTTGGAGGAAATATGGACAAAAGGAGATTCTTA ATGCCAAATTCCCAAGAAGTTACTTTAGGTGCACACACAAGTACACTCAAGCGTGCAAGGCAACAAAGCAAGTTCAGAAGCTAGAGTTCGAACCCAG GATGTTCAGCATCACATACATTGGAAACCACACGTGTAACACCAAAGAAGTAACACCCAAGATCAAGTCTTGTATTCATCATGATGAGATCATCATGG ATTCTGAAGAGCTCAAGAGTCCTCGTTTGACTACCTCGATAAAGGAAGAGGAAGAGAAGAATCATGGTTCGTCCACGGAGAGTGACTTGCAATTGG TGTGGCAAGAAATGTTGTTGTTTGAAGAGGAACATCATCATCATCATCATCATCATGAGGGTACTTATGGTTGTGTTGAAACTAGTGCATCTATCAAT GGTTTGGATTCCACGGATCTTTGGAGTTGGCAGCGATGATTTCCTGGTTCAGCGACAATGAGGAGCTCGCTTTCTTCGAACCATGTTCCAATTTAGC TTAATTTTACATTCCTATATAGAATTATTGGAACATCTATATTTTGTCATCATCTTCTCTAGAGAATTAATCATCAGGCCTCGAATGGAACATATAATTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001E23	AT5G66770.1	scarecrow transcription factor family protein	GGTAGATCCCGCCGTTTCACTCTCTCTCTCTCTTCGTCATCGTCTTCTTCGTCTTACAGTGACGCGAATTCGCAGGTGGCAGTCGTGTTAGACCGCC TTTAAACGCCGGATAGATCTAGCCGTAGAATGGCTTACATGTGCACTGATAGTGGCAATCTAATGGCGATAGCACAACAAGTCATCAAACAGAAGCA GCAACAAGAGCAGCAACAGCAGCAGCATCAAGATCATCAGCTTTTCGGGATTAACCCTTTGTCTCTTAATCCCTGGCCCAATACGACCCACCAGTCC CTCGGTTTTGTGCTTCCCGGCTCAGCTTTTCCTGACCCGTTTCAGGTTTCTGGCGGCGGAGATCCCGGCGACTCGGGGTTTCCGTTTCCCACCTTA GACCATCACCATCCGACCTCCGCCGCCGGTGGTGGTGGTGGGTTTAGGTTGTCTGATTTCGACGGTGGAACTGGCGGTGAGTTTGAATCCGACGA GTGGATGGAGTCTCTGATTGGCGGTGGAGACCCGGTGGCGGCTGACGGTCCTGATTGTGGCACATGGCAGAATAATCCCGATTTCGTAATCTACG GTCCTGATCCTTTTGCGGCGGCTTACCCGAGTCGACTCAGTGTCCCGTGTTCTCAACCGTCAGATCTCAACCAAGTCATCGCTACGTCGAGTCCAC TTCCTCGTCCGCCGGTTTCTTCCACCTTGTGGGCTCCGTCTTCTCCATTATCGATTCCCCCGCCTCCGTCTTCATCTCCGCCTCATCAGACACTCAA AGGTCCAGAGACTAACGACTCCGAAGACGGTGGCTCGCCGGGCTTTGACCAAGAACCGCCTCTACTGAGAGCTATCTACGACTGTGCACGGATCT TAGAATCTGAGTCGGACGTCGCTGCCGAGGCGCTTGTTCGGATCCGAGACTCTGTATCGGAGCTAGGTGATCCGACGGAGAGACTGGGTTTTTAC TTCACGGAAGCTCTCTGCGACAGACTGTCTCCTGATTCCGTGCCCAAGGAATCGCCGTCTGTTGAGGAAATGATCCTCTCTTACAAAACCCTAAACG ACGCTTGCCCCTACTCCAAATTCGCTCATTTGACGGCGAATCAGGCGATCCTGGAAGCTACGGAGAATTCCAATAAGATTCACATCGTCGATTTTGG AATCGTTCAAGGCCTTCAATGGCCTGCCCTTCTTCAAGCACTCGCAACACGTTCTTCTGGTAAACCCATCCAAGTCCGGGTCTCCGGTATACCGGCT CCTTCTCTCGGTGAATCCCCGGAACCGTCACTAATCGCCACCGGAAACCGCCTCCGTGATTTCGCTAAGGTTCTGGATCTGAATTTCGATTTCATCC CAATTCTCACTCCAATCCACTCACTGAACGGGTCAACTTTCCGGGTCGACCCGGATGAGGTACTGGCCGTGAATTTCATGCTTCAGCTCTACAAACT ACTCGACGAGACGCCGACGATCGTTGACACCGCACTACGGCTCGCCAGATCGTTAAACCCGATAGTCGTGACTCTCGGAGAGTACGAGGTGAGTC TAAACCGGGTGGCTTTCGCTAACCGGATGAGAAACGCGCTCAAATTCTACTCTGCGGTTTTCGAATCCCTCGAACCGAATTTGGGGAGAGATTCGG AGGAGAGAGTGAGAGTGGAACGAGTACTGTTCGGTCGGAGGATCTCGGGTTTGATTGGACCGGAGAAAACCGGAAATCAGAGGGAACGGATGGA GGAGAAGGAACAATGGCGGGTGTTAATGGAGAGTGCTGGTTTTGAATCGGTGAAGCTGAGCAATTACGCAGTGAGCCAAGCGAAGATACTGTTGT
GCT-001E24	AT4G13250.1	short-chain dehydrogenase/reductase (SDR) family protein	GATCTAAATCTTTTGTGTTGCCCACCAAAAAAAAAGCATCTTTCGTTTTTTTCTTCTCTTGTATGATATTTTTGCATGAGATTTGGCTATGACTACTTTG ACGAAGCTTCAAGTATACCCACGATGTTTGGAGCACCGTCTCGGATTCATGGATCATCAACGGGTCGGGTCAAGATTGAGTTGCAGAGAACGTAGC AGTAGGGTTTGTGTACATCGGTGTGAGAGTGATTTAGGGGAGAAAAAGGTTGAGAAGCGGAGAAAGCGTGAGAAATTGAAGGGAAAAGAGGGAAA TGGGTTGTGGAATTCTCTGAAATCTGGTGTTTTAGGTGTTAGTAAGTTAGGGTTCATATCTAAAGATGAGTATAATCAGAAAGTTGAGAAATTGGAGA TGGTTTTCTCTTCGATTGCTGTTCAAATTGCGAGATACATTGTGACGATGGCGAGCACTGGAGCTATTCTCCTGATTGGGTTTCAATTGTCAGGTGG AGATAGCTCGATGAACTCACTGGTTTGGTATAGCTGGCTTGGTGGAGTTATCATTGGAACCATGACTGGTGCTAACATGGTTTTGGAAGATCATTAC CGAGCCGGTCCTCGTAATGTTGTTATAACCGGAAGCACGAGGGGACTAGGAAAAGCTCTTGCTAGAGAATTTCTTCTCTCTGGAGATAGAGTGATC ATTACATCTCGCAGTTCTGAATCCGTTGCTATGACTGTCAAAGAGCTTGAGCAAAACCTCAAAGAGATTATGAATAATGCTAGTGAGTCGGCTAGAAA GAAATTGGGTGATGCAAAGGTGGTTGGTATTGCCTGTGATGTTTGCAAACCCGAGGACGTCGAGAAGTTATCGAATTTTGCTGTAAAAGAGCTTGGT TCGATCAACATATGGATAAACAATGCTGGTACTAACAAAGGGTTTAGACCGCTGCTCGACTTCACTGAAGAAGATATTACGCAGATTGTCTCCACCA ATTTGATTGGATCGATTTTATGTACACGAGGGGCGATGGATGTGATGAGTAGACAGAACAACGGTGGGCACATCTTTAACATGGATGGTGCTGGCT CTGGAGGTTCTAGCACTCCTCTTACGGCCGTATATGGGTCAACAAAATGTGGACTTAGGCAATTTCATGGGTCTGTTGTGAAAGAAAGCCAAAAAAC AAATGTTGGCCTGCACACTGCATCACCGGGAATGGTTCTTACCGAACTTCTTCTCAGTGGTTCGAGTATAAAAAACAAGCAGATGTTCAACATAATCT GTGAGCTTCCCGAGACAGTCGCTAGAACGCTAGTACCAAGAATGCGAGTCGTGAAAGGTTCAGGAAAATCCGTCAATTACCTGACTCCTCCAAGAA TATTGCTAGCCATCGTCACTTCCTGGCTTAGGAGAGGCCGGTGGTTCGATGATCAAGGACGGGCGTTATATGCAGCGGAAGCAGACAGGCTAAGG AACTGGGCAGAGAACAGGACGAGGTTGTCGCTAACGGACGCGATGGAGATGTACACAGAGAATACTTGGGTCTCTGTTTTCTCTCTCTCTGTTGTTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001F01	AT4G05160.1	4-coumarate--CoA ligase, putative / 4-coumaroyl-CoA synthase, putative	GACATTATCCTCTTTCCTGTTTCGATCGGAAAATGGAGAAATCCGGCTATGGCAGAGACGGTATTTACCGATCACTTCGTCCGACTCTCGTTCTTCC CAAAGATCCCAACACATCGTTGGTCTCTTTCCTCTTCCGCAACACCTCTTCTTACCCGTCGAAGCCTGCGCTCGTCGACTCCGATTCCGGCGATACC TTATCCTTCTCTCAGCTCAAATCCGCCGTCTCTAGACTCGCCCATGGATTTCTCCGTCTAGGGATTCGACAAAACGACGTCGTATTGATCTTCGCAC CCAATTCTTACCAGTTCCCTCTCTGTTTCCTCGCCGTTTCAGCCATCGGCGGCGTTTTCACCACCGCGAATCCTCTTTACACTACGAGTGAGATTTC GAAGCAGATCAAGGATTCTAATCCGAAGATTATCATCTCTGTTGAGCAATTGTTCGACAAAATCAAGGGTTTTGATCTCCCCATCGTGCTACTTGGAT CCGGCGAATCCGTGCAGGTCCCTGGATCGAATTCGAAAATTCTCAGTTTCAACAACGTGATGGAGCTATCTGAGCCAGTTTCAGATCTCCCGACTGT TCAAATCAAGCAATCGGACACGGCTGCACTGTTGTATTCATCAGGAACCACGGGAATAAGCAAAGGCGTGGAATTGACTCATGGTAATTTCATCGCA GCTTCTCTAATGGTGACGATGGATCAAGATCTAATGGGAGAGTATCATGCTGTGTTCTTGTGTTTTCTTCCTATGTTCCATGTATTCGGGCTTACCGT GATTACTTATTCCCAGCTCCAGAGAGGGAATGCTGTCATCTCCATGGCGAAATTCGAGCTCGAGACGCTTCTTAAGAACATCGAGAAGTATAGAGTC ACTCAGCTCTGGGTTGTTCCTCCTGTGTTCCTTGCTCTTTCCAAGCAGAGTATTGTGAAAAAGTATGATCTTTCTTCACTCAAGTACATTGGATCAGG AGCTGCACCTCTTGGGAAAGATTTGATGGAGGAGTGTGGAAGAAACATCTCCAATGTTGTGCTTATGCAGGGCTATGGAATGACTGAAACGTGTGG GATTGTCTCTGTGGAGGACCCGAGACTCGGGAAACGGAACTCTGGCTCAGCTGGAATGCTTGCTCCAGGTGTTGAAGCTCAGATAGTAAGTGTAGA ATCTGGAAAATCTCAGCCTCCGAATCAACTCGGTGAAATCTGGGTACGAGGGCCTAACATGATGAAAGGTTATCTCAATAACCCTCAGGCTACTAAA GAAACAATCGATAGAAAAGGTTGGGTACATACAGGAGATCTTGGTTACTTCAACGAAGATGGGAACCTTTTCGTTGTTGATCGAATCAAAGAACTTAT CAAATACAAAGGCTTCCAGGTTGCTCCAGCTGAACTAGAAGGTCTTCTTGTATCGCACCCTGAAATACTAGACGCTGTGGTGATCCCGTTACCTGAT GAAGAAGCTGGTGAAGTTCCAATTGCATTTGTTGTCCGATCACCAAATAGCTCAATAACAGAGGAAGATATTCAAGCGTTCATAGCCAAACAGGTTG
GCT-001F02	AT5G23060.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT3G59780.1); similar to Rhodanese-like [Medicago truncatula] (GB:ABE85110.1); contains InterPro domain Rhodanese-like; (InterPro:IPR001763)	GGAAGAACAGTTTGCAGACAACATAGAGGAGAATCACCATAGCTTCTTTGTCTTTTTTACTCTTGTCACATCAATTTGTGAAAGGGTGGCAGAGAAAC CATGGCTATGGCGGAGATGGCAATGAAGTCCTCAGTAACTGCAAAACTCACTATTCTTTCTTCTTCTTCTTCTTCTTCGTCTTGTAAAAAGAGAGAGA GACAAATCTCTGTCGCACTTCCAACATCAACCTCAATCTCTCTGTTATCTCTCTTCGCATCTCCTCCTCATGAAGCCAAAGCTGCTGTTTCCATTGCC AAGGACCAAATCGTCTCCTCTCTCACTGAAGTGGAGAAAACAATCAACCAGGTTCAAGAAACTGGTTCGAGTGTTTTCGACGCAACGCAGCGTGTTT TTCAAGTGGTAGGAGATGCTCTTAAACCAGCCTTGGACACTGCTTTGCCCATCGCAAAGCAAGCCGGTGAAGAGGCTTTAAAGCTTGCTTCTCCTG CTTTCTCAGAGGCTTCAAAGAAAGCTCAAGAAGCAATGCAAAGCTCTGGTATTGATGCAGAGCCTGTCTATAATGCTGCAAAGACAGTAACAGATGT GGCACAACAGACAACAAAGGCGATTGAAGATGCTAAGCCGATTGCTTCATCGACCATGGAGACGATTTCTTCGGCTGATCCTAGTGTCATTGTTGTT GCTGCTGGAGCGGCGTTTATTGCTTACCTTCTCCTTCCTCCTGTTTGGTCTGCCATATCTTTCAACTTTCGTGGTTACAAAGGTGATCTCTCGCCGG CTCAAACGCTTGATCTTCTCTGTGCCAAGAACTACTTAATGGTGGATATAAGATCAGAGAAAGACAAGGAAAAAGCTGGGATTCCTCGTCTCCCTTC AAATGCTAAGAACCGTATGATCGCCATTCCATTAGAAGAACTACCGAACAAAGTAAAAGGAATCGTCAGGAACTCAAAAAGAGTTGAAGCAGAAATT GCAGCATTAAAGATTTCTTACCTCAAAAAAATCAACAAAGGCTCAAATATCATCATCATGGACTCGTACTCGGATTCAGCTAAAATAGTGGCGAAAAC GTTAAAGATACTCGGGTTTAAGAATTGCTGGATTGTGACGGATGGATTCTCCGGTGGCAGAGGATGGTTGCAGAGCCGGTTAGGCACTGATTCTTA
GCT-001F03	AT4G18040.1	EIF4E (EUKARYOTIC TRANSLATION INITATION FACTOR 4E); RNA binding / translation initiation factor	GGAGAGAGAGAAGCAGTTTTTTTTTTAAGAAGACGGAAGAGGAACAATGGCGGTAGAAGATACTCTCAAGCCTGTTGTTACGGAAGAAGCGAAC CCTAATTCTACAGAGAAACCGATTGATCGATACCACGAGGAAGGGGACGATGCTGAGGAAGGAGAGATAGTCGGCGGAGAAGGAGACGGAGACGT GGACGAATCGGGCAAATCCGCCGTTCCTGAATCGCATCAGTTGGAGCATTCGTGGACTTTCTGGTTCGATAACCCTTCTGTTAAATCGAAGCAGAC CACTTGGGGAAGTTCCTTGCGATCCGTCTTCACTTTCTCCACCGTCGAGGAATTCTGGAGTTTGTACAATAACATGCGGCATCCGAGCAAGCTAGCT GGAGGAGCTGACTTCTACTGTTTCAAACACAATATCGAACCTAAGTGGGAGGATCCTATTTGTGCAAATGGAGGCAAATGGACTATGACCTTCCCTA AGGAGAAGTCTGATAAGTGCTGGCTTTACACCTTGCTTGCGTTGATTGGAGAGCAGTTTGATCATGGAGATGAAATCTGTGGAGCTGTTGTTAACAT TAGAGGAAAGCAAGAAAGGATATCAATTTGGACCAAAAACGCTTCCAACGAAGCTGCTCAGGTGAGCATTGGAAAACAATGGAAGGAGTTTCTTGAT TACAACAACAGCATCGGTTTCATCATCCATGAGGATGCAATGAAGCTGGACAGAAACGCAAAGAGCGCTTACACCGCTTGAAACAGTCCCGGCTCT AACTTATGGCGAGTGGGGCGACCCCTCCTGGGTCTAGCACCGAGTTTTTTTTTCGTTTTATGTATCAAAATTTGATAATAGAAAAGCCCATGACCTAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001F04	AT3G02750.3	protein phosphatase type 2C	GGTTTTGTAGTTGGTGGTTGCGTTTCTTTCTCGTAAAATTTCATCTTCTCTTTTTTTTTTTTTTTTTCTTGTTTCTCTCTACGCGCCAACAGAATCCTAC GCCTCTTCTTCTTCGTCTTCTCCGTTTTTGTTTGTTTTATTTCCGGGGTTGAAACTGATTCTGAGATCCTCCTACCTTTTGATTGATCTGTCTCCTGAC GAAGAAGAAACGAGAGAGAGAGGCTTTTGATGATTCTCGTGTTTCTAGTCTCTTTCTCAATCACTGTTTGATGGATTCGGATGTATAAATAAACAACC ACATCTCTCTCTCTTTTTTTTTTCTGCGTGTGTGGTGCCAATAGAAAAAATCTACGTAGATCTGTTCCTTTTTCTCGTAAAACTTTTGGGGTTAAATAAC TGTACAAATATTAAAAGAGAGAAAAGAGTTTTTTTTTTCTTCTTCTTCTTTGAAGACTCAACAAAGGGTCAGACTCAGACCCAGAAGTCTTACCTTACC TTTTCTTTGGTCAGCTTTGAAAGGCTTGATTTTTTTTTTTTTTTCCTTTCGTTCATTCAATTTTGGTGATTTGGGTTTAAGAATCACTGCTGTGTGTTGTC AGTTGAGAAATTATTTTGACCAGTAGAGTTGTTGCAGAAAGTAGCTGAAACTAAGAAAAGAGGTTTGTTCTTCTTACAGTTGAATCATCATTTGCTCTT TGTGGTGATCATTGGGATCTAAAAAGGGGTTGTTCTTCCAGAGACCTTTCATCATTGCTCTTTGTGGTGATAATTGGGATCTAAAGCTTCAATCTTTC TCGCTGGAGAACCGTGGGTGTGATTGTACCATTGTTGGTCTGGAGTGCCTTCTTAATATAATCAGGGCCCTGAGAATGGGGTCCTGTTTATCTGCAG AGAGCAGGAGCCCTATACCAGGCTCTCCTTGCTCCCCTGCGTTTGGTGTGAGGAAGAGGAAGAACTCGAAGAAGAGACCTGGTTCCAGGAACTCG TCCTTTGATTACAGGAGAGAAGAGCCGTTGCATCGGGTTCCGGGTCGGATGTTCTTGAATGGATCAAGTGATGTTGCTTGTATCTTCACTCAACAAG GCAAGAAAGGACCTAATCAAGATGCCATGGTTGTTTGGGAGAATTTTGGTTCGAGGACAGATACAATCTTCTGTGGAGTGTTTGATGGGCATGGTCC ATATGGTCATATGGTTGCAAAGAGAGTCAGAGACAACCTTCCTCTCAAATTAAGTGCTTATTGGGAAGCGAAAGTGTCAGTTGAAGGTGATCTAAAG GCGATCACCACCGTTAATAATGCTAGCAGCATCAACAACTCTGAAGATGCTGCGGCTTCTTTTGTATCCGCTGAAGAAGAACCTAGGCTACCCGTTG ACATGGAAGAGGAGAACACGGAAGAGTCCCATTCTGAATTGTTTCAAACTCTGAAAGAGGCGTTTCTTAAGGCTTTCAAAGTGATGGATAGAGAACT TAAATTCCACGGAAGTGTTGACTGTTTTTGCAGTGGGACAACGGCTGTGACTTTGATCAAGCAGGGTCAATATCTTGTCGTTGGAAATGTCGGAGAC TCAAGAGCTGTGTTGGGCACAAGAGACAGTAAAAATGCTCTTGTTGCTGTTCAACTAACTGTGGATCTCAAGCCAAATCTCCCAGGTTGAATGATTG TTCCTTATGATGGTGCATGTGGATGCATGATGGATCTCATTAATTTGTAATTTTTGCCCTCAACTGAATTTGCAGCCGAGGCAGAGAGAATAAAAAAG TGTCGTGGACGGGTATTTGCTCTTAGAGATGAACCTGAAGTTTGTAGAGTTTGGCTGCCAAACTGTGACTCGCCTGGACTTGCAATGGCACGTGCTT TTGGAGACTTTTGCCTTAAAGATTTTGGTCTAATCTCTGTGCCTGATGTGTCTTTTCGTCGATTAACCGAAAAAGATGAGTTTATAGTGTTGGCTACAG ATGGGATTTGGGATGTTCTCTCAAATGAAGATGTAGTGGCGATTGTAGCTTCAGCACCATCTCGTTCCTCTGCATCGAGAGCTTTAGTCGAGTCTGC GGTTAGAGCTTGGAGATACAAATACCCGACCTCCAAAGTCGATGACTGTGCTGCAGTTTGCTTGTATCTAGACTCCAACAACACAAACGCCATATCT
GCT-001F05	AT5G48300.1	ADG1 (ADP GLUCOSE PYROPHOSPHORYLASE SMALL SUBUNIT 1); glucose-1-phosphate adenylyltransferase	GGCGATTTGATCGTAAGCGAAATCAATCCGCAGAAACTCAGATAGATAGAGAGAGAGAGAGACTATAATGGCGTCTATGGCTGCAATCGGAGCTCT AAAGGTACCTGCTGCTTCGTGTTCCGATTCCACCCGGATAGTCACGGAGGCGGTTCCGGCGAGGACTCTTTCTTTCTCGTCTTCTGTAGGTTTATCC GACGAGAAGCTTTCTCTCAGAGCCACCGTGTCTCGTCGTCGCGAATCCGTTGCTCGTGGCCGAGTGAGGAATCCGATGATCGTGTCTCCTAAGGC GGTCTCCGATTCTCAGAATTCGCAGACTTGTCTCGATCCTGATGCGAGCAGGAGTGTGTTGGGGATCATCTTAGGAGGTGGTGCTGGGACTCGTCT CTATCCTCTTACCAAAAAGCGAGCGAAACCAGCTGTTCCTCTTGGTGCAAACTATAGGCTCATTGATATTCCTGTGAGCAACTGTCTCAACAGCAAC ATAAACAAAATCTATGTCCTTACACAGTTCAATTCCGCGTCTCTAAATCGCCATCTTTCACGAGCTTATGCGACTAACATGGGAGGTTACAAGAATGA AGGTTTTGTTGAAGTCCTTGCCGCTCAACAAAGTCCGGAAAACCCCAACTGGTTCCAGGGGACAGCTGACGCGGTGAGGCAATACTTGTGGTTGTT CGAGGAGCACAATGTTCTTGAGTATCTGATTCTTGCTGGGGATCATTTGTATCGAATGGACTATGAGAAGTTCATTCAAGCACACAGGGAGACTGAT GCTGATATCACAGTAGCTGCACTACCAATGGACGAGGAACGAGCCACTGCTTTTGGGCTGATGAAGATTGATGAGGAAGGACGCATAGTTGAGTTT GCTGAAAAGCCAAAGGGGGAGCAACTAAAGGCCATGAAGGTTGATACAACAATTCTAGGTCTTGATGATAAGAGAGCCAAGGAAATGCCTTATATTG CTAGTATGGGTATTTATGTTGTTAGCAAAGATGTAATGCTAGAATTACTGCGGAACACGTTTCCTGGAGCTAATGACTTTGGAAGCGAAGTCATTCCT GGTGCCACTTCCCTTGGACTGAGGGTGCAAGCTTACCTATATGATGGCTACTGGGAAGACATCGGTACTATTGAAGCATTCTATAACGCAAATCTTG GAATAACCAAAAAACCAGTTCCTGATTTTAGTTTCTATGATCGCTCCGCTCCGATCTACACGCAGCCACGTTATTTACCACCGTCTAAGATGCTTGAT GCTGATGTCACGGACAGTGTCATCGGAGAGGGATGCGTTATCAAGAACTGCAAAATTCATCACTCCGTGGTTGGACTCCGTTCCTGCATATCAGAA GGTGCTATTATCGAAGATTCGTTATTAATGGGAGCTGACTATTACGAGACTGCTTCGGAAAAGAGCCTCCTAACGGCGAAAGGGAGTGTACCCATA GGTATTGGGAAAAGCTCGCACATCAAAAGAGCCATCATCGACAAAAACGCACGTATCGGTGACAATGTCAAGATCATAAACAGCGACAATGTGCAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001F06	AT1G71695.1	peroxidase 12 (PER12) (P12) (PRXR6)	GATGAACAACAAGAAGCACAGAAAGAGAAAAAGCTTTGTAATTGAAAGACCAACAAGATCAGAAAAAATGGCTAAGGCTTATTCAGCACGTGTCCTC ACGTTTCTGATATTGATCTCGTTAATGGTGGTGGCACTGAATCTTCTGTCAACGGTAGAAGCACAGAATAAGAAAAAGCCGAGGAGAGGCGATGTTC CTCTAGTGAAAGGTCTCTCATGGAACTTTTACCAGAAAGCATGTCCCAAAGTCGAAAAAATCATCAGAAAGGAGCTCAAGAAAGTCTTCAAGAGGGA TATTGGTTTAGCCGCAGCCATCCTCCGTATACATTTCCATGACTGCTTCGTTCAGGGATGTGAAGCATCAGTGCTGCTAGCTGGATCAGCGAGTGGA CCAGGAGAACAATCATCGATCCCGAATCTGACACTACGTCAAGCCGCCTTTGTCGTCATCAATAACCTCCGTGCTATCGTCCACAAGCGTTGCGGT CAAGTCGTCTCTTGCTCTGACATCCTCGCTCTAGCCGCTCGTGACTCCGTCGTCCTTTCAGGAGGGCCAGACTATGCTGTGCCACTTGGCCGACGA GACTCACTAGCGTTCGCAAGCCAGGACACGACGTTAGCTAACTTACCGCCACCATTCGCTAACGCGAGCCAGCTCATCACCGACTTTGAAAGTAGA AACCTCAACATCACCGACTTAGTTGCGCTTTCCGGTGGTCACACCATCGGAATTGCGCATTGTCCGTCTTTTACGGACCGGCTCTACCCGAACCAA GACCCAACCATGAACAAGTTCTTCGCCAACAGCCTCAAACGCACGTGCCCCACAGCGAACTCAAGCAACACGCAAGTGAACGACATAAGGAGCCCT GACGTGTTCGACAACAAGTACTATGTTGATCTCATGAACCGACAAGGGCTTTTCACGTCCGACCAGGACCTGTTCGTGGACAAGAGGACACGTGGT ATTGTGGAGAGCTTTGCGATCGATGAGGATCTGTTTTTTGATCATTTCACGGTGGCGATGATCAAGATGGGTCAGATGAGTGTCTTGACGGGGTCAC AAGGAGAGATTCGCTCAAACTGCTCAGCAAGAAACGTTGATAGTTTCATGTCTGTTTTGGAAGCAGGAATAGTCGAGGAAGCTCTTTCCATGATCTA
GCT-001F07	AT1G20693.1	HMGB2 (HIGH MOBILITY GROUP B 2); transcription factor	GACTTGAATCTCTCCACAAGGCGTACAAATCACAAACACGTACAATTCCTTTTGTTCTCCTCTTCGCTCTCTCTCTCTTCAAACTCTACGTTCTTCGTC AAGAATCAATTATGAAAGGAGGTAAATCAAAGACTGAAACCAGGAGCTCCAAGCTCTCTGTGACCAAGAAGCCGGCTAAAGGAGCAGGCCGTAGCA AAGCGGCTGCGAAGGATCCAAACAAACCAAAGAGGCCAGCCAGTGCCTTCTTCGTTTTCATGGAAGATTTCCGTGAGACTTTCAAGAAGGAACACC CCAAGAACAAATCTGTTGCTGCTGTTGGAAAAGCTGCTGGAGACAAGTGGAAATCCTTGTCAGACGCTGAGAAGGCTCCTTATGTTGCTAAGGCTG AGAAGCGCAAGGTTGATTACGAGAAGAACATGAAAGCATACAACAAGAAACTGGAGGAAGGTCCAAAGGAAGATGAGGAATCTGACAAGTCAGTGT CAGAGGTCAATGATGAGGATGATGCTGAGGATGGTAGTGATGAGGAGGAGGACGATGACTAAGAAGTTCAAGTTTGGTAGCATTAGTATAGATGGC TGCAAGATCTCTCTGGTTTTTATCTTTTCTTAAAATGTTAATGAGGCTGATTATAATGGGTCTTTGTTTTTATAATCTTTTCTTTTCGTTTTGGTATTTCC
GCT-001F09	AT5G03280.1	EIN2 (ETHYLENE INSENSITIVE 2); transporter	GGGACGGAACTGAGCTCTTTCTCTCTTTCCTTTTCTCTCTCTCTATCTCTATCTCTCGTTTAGCTTGATAAGAGTTTTCACTTGAAGATCCGTTTCTTG GACTTTCACTGGGTAATCAGGTCAACTTGCGATCCTGGCGATTTCACAGGTTTGAAGCTGCTTCGAATGGTTTGTAGATATCCGTTTTGGTTAAGCAT ATGGGAGTCTGTGTTCTGTTCTTGGTTGCTCTATTAGGGCTTCCTCCATTTGGACCGACTTAATTAGTTGATGCTGTAAGAGAAATCGGTTTAGGTCC CCTTTAAGCAGCACTAAGGTCTGGTTCGTAACTTAACTTAAGAAACTCCACTGGTTACTAGAGGAACCTTTAGTTATTAGGTAAAGACTGTACAGAGA GCAGAGTGGCTTTATTATCCTGGGTGCTGTTTTGACAGAAGAATCGGCTGATTCGCATATGAGATTTTAGATCAAATCTGTGAATGTTTCTCGGCTGA GTCTTTCAGTGAACCTCAACTCCTCCTCTGAGTTATTATATTTTCAGATAGATTTAGGATGGAAGCTGAAATTGTGAATGTGAGACCTCAGCTAGGGT TCATCCAACGAGTGGTTCCTGCTCTACTGCCAGTTCTTTTGGTTTCTGTCGGATATATTGATCCCGGAAAATGGGTTGCAAATATCGAAGGAGGTGC CCGTTTTGGGCATGACTTGGTGGCTATTACTCTGCTCTTTAATTTTGCCGCCATCTTGTGCCAGTATGTTGCAGCTCGAATAAGCGTTGCAACTGGTA GAAACTTGGCTCAGATCTGCAATGAAGAATATGACAAGTGGACGTGCATGTTCTTGGGCGTTCAGGCGGAATTCTCAGCAATTCTGCTCGACCTTAC GATGGTTGTGGGTGTTGCACATGCACTTAACCTTCTCTTTGGGGTGGACTTATCCACTGGAGTGTTTTTGGCCGCCATCGATGCATTTTTATTTCCTG TTTTCGCCTCTTTCCTTGAAAATGGAATGGCAAACACAGTATCCATTTGCTCGGCAGGCCTGGTTTTGTTTATCTATGTTTCCGGTGTCTTACTGAGT CAGTCTGAGATTCCATTCTCTATGAACGGAGTGTTAACTCGGTTAAATGGAGAGAGCGCATTTGCACTGATGGGTCTTCTTGGAGCAAGCATCGTCC CTCACAATTTTTATATCCATTCTTATTTTGCTGGGGAAAGTACAGCATCTTCGTCAGATGTTGACAAGAGCAGCTTGTGTCAAGACCATTTGTTCGCC ATCTTTTGTGTCTTCAGCGGACTTTCACTTGTAAATTATGTACTGATGAATGCAGCAGCAAATGTGTTCCACAGTACTGGCCTTGTGGTACTGACTTT TCAGGACGCCATGTCACTAATGGAGCAGGTATTTAGGAGTCCGCTCATTCCGTTGGTCTTTTTGTTGCTCTTGTTCTTCTCTAGTCAAGTTACGGCAC TAGCTTGGGCTTTCGGTGGAGAGGTCGTCCTGCATGAATTCCTGAAGATAGAAATACCCGGTTGGCTTCATCGTGCCACAATCAGAATTCTTGCAGT TGCTCCTGCCCTGTATTGTGTGTGGACATCTGGTGCAGACGGGATATACCAGTTACTTATATTCACCCAGGTCCTGGTGGCGATGATGCTTCCTTCC TCTGTAATACCGCTGTTCCGCATTGCCTCATCGAGACAAATCATGGGTGTCCATAAAATTTCTCAGGTTGGCGAGTTCCTTGCACTTACAACGTTTTT GGGGTTTCTGGGTTTGAATGTTGTTTTCGTTGTGGAAATGGTATTTGGGAATAGTGACTGGGCTGGTGGTTTGAGATGGAATACCGTGATGGGCAC CTCGGTTCAGTACACCACTCTGCTTGTATCGTCTTGTGCATCGTTAGGCCTGATGCTCTGGCTTGCAGCTACGCCGCTGAAATCTGCCAGTAACAGA GTAGAAGCTCAAATTTGGAACATGGATGTCCAAAATGCTTTATCTTATCCATCTGTTCAAGAAGAGGAAACTGGAAGAATTGAAACGAGGCGTGATG AGAAAGAATCGATAGTGCGGCTGGAAAGCAGGGTAAAAGATCAGCTAGATACTACGACTGTTACTAGCTCGGTCTATGATTTGCCAGAGAACATTCT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001F10	AT4G02380.1	SAG21 (SENESCENCE-ASSOCIATED GENE 21)	GACATCCCTCAAGCCAATTTCGAAAAGTTTGAGAGAGAGAGAACACAGACGACACCAAGTTTCTTTCAATCTCGTTGCCGCAGATATTAACATTTGCA ATTCTCGGATAAATCTCTCCTTCTGCGGCGGCGAAAAAAAGAAGAAAGAAAAACTCCCAACGAACAAAAAAAAAAAGTTTGAACCTTTTCATTGTCTGT TCTATCCCTCTCTCTCTCTCTTCAAGAAACCAAAAATGGCTCGTTCTCTCTCTAACGTTAAGCTCGTATCTGCTTTCGTCTCTCGAGAACTCTCCAATG CAATCTTCCGACGCGGGTTCGCGGCCACGGCGGCGCAATCGAGCGGTGGAAGAAGTGGAGCCGTTGCTTCGGCTGTGATGAAGAAGAAGGGAGC GGAAGAATCGAACCAGAAGATTTCTTGGGTTCCAGATCCCAAAACCGGTTATTACAGACCGGAAACCGGTTCCAATGAGATTGACCCAGCGGAGCT ACGAGCAGCTCTTTTGAACAACAAGCAGTGATTAAATTAATTGATTAAAAAAAGGGGCAGCTCTTTTTGATTAATTATTTATTGTCTTAATAAGAGGAG ATTAGGGGAATTAAGGGGTAATGATCTGCTGCGGTGAACCCCATTATCATCTGCTAATTGCGATTCTGTAATAAATAAATAGAGAAACGTTTGGTTCC
GCT-001F11	AT3G04720.1	PR4 (PATHOGENESIS-RELATED 4)	GAGTAACTTAGACCACAAAGAAGACAAAAACTGATAGACCATGAAGAAGAGCAGACTAAGCATAGCCATCATACTATTATCATACACGGTGGCTACG GTGGCCGGACAACAATGCGGCAGCCAAGCCGGTGGTCAGACTTGTCCCGGCAACATCTGCTGCAGCCAGTACGGTTACTGCGGCACCACGGCGG ACTACTGTTCACCGGACAACAACTGCCAGAGCAATTGCTGGGGAAGCGGGCCTAGCGGCCCAGGGGAGAGCGCGTCGAACGTACGCGCCACCTA CCATTTCTATAACCCGGAGCAGAATAACTGGGATCTGAGAGCCGTGAGTGCTTATTGCTCCACGTGGGATGCTGATAAGCCTTACGCGTGGCGGAG CAAGTATGGCTGGACCGCCTTCTGTGGACCGGCTGGTCCTCGTGGTCAAGCTTCTTGCGGCAAGTGCTTAAGGGTGAGGAACACAAGGACGAATG CAGTGGTAACGGTGAGAATAGTGGACCAATGCAGCAATGGAGGATTGGATTTGGATGTTGCAATGTTTAATAGATTGGATACCGATGGTGTTGGCTA TCAACAAGGCCATCTCATTGTTGACTACCAATTTGTTGACTGTGGCAATGATCTCATTCATCAGCCTGCCGATTCCAAAAACATCCTTGTTTCAGCAA
GCT-001F12	AT2G40100.1	LHCB4.3 (LIGHT HARVESTING COMPLEX PSII); chlorophyll binding	GGGAAAGAATCACACCGACACAAAAACAATTCATATGGCCACCACCACTGCAGCAGCAGCCTCGGGTATCTTTGGGATCCGGATTCAAGATCCGAG ACCCGGAACCGGTAGAGTCCAAGCCCGGTTCGGGTTCAGTTTCGGAAAAAAGAAACCCGCCCCACCGCCGAAGAAATCGAGGCAGGTCCAAGAC GACGGAGACCGACTAGTTTGGTTCCCCGGCGCAAAACCACCGGAATGGCTAGACGGATCGATGATCGGAGACCGTGGATTCGATCCGTTCGGTTT AGGTAAACCGGCGGAGTATCTTCAGTACGATTTCGACGGGCTCGATCAGAACCTTGCCAAGAACGTGGCCGGTGAAGTCATCGGGATCATCCAGG ACTCGTCGGAGATTAACCCGACGCCGTTTCAGCCGTACACTGAAGTCTTTGGGATCCAACGGTTCAGAGAATGCGAGTTGATCCATGGAAGGTGGG CCATGCTTGGCACGCTTGGCGCCATCGCCGTCGAAGCTCTCACCGGGATCGCCTGGCAAGACGCCGGAAAGGTGGAATTGGTGGAAGGTTCGTC GTATTTGGGACAGCCATTGCCTTTTTCGTTGACGACGTTGATATGGATTGAGGTGTTAGTGGTCGGGTACATCGAGTTCCAGCGTAACGCTGAGCT GGATCCTGAGAAACGAATTTACCCGGGTGGGTATTTTGACCCGCTTGGACTCGGGTCTGACCCAGAGAAGTTGGATACTTTGAAGCTGGCAGAGAT TAAACACTCTCGTCTCGCTATGGTCGCATTTCTCATCTTTGGTCTTCAGGCAGCCTTTACCGGTAAAGGCCCTATCAGCTTCATCGCCACTTTTAACA ATTAATGAGCCTTTCTATCTTTAAATTATAGTATTTTCTTAAATAATGAAAGCTTTATAATGCATGTTATGGTAAAGACTAAAGAGGTTGAGATGTACTC
GCT-001F13	AT2G23120.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT2G23110.1); similar to PvLEA-18 [Phaseolus vulgaris] (GB:AAC49859.1); similar to hypothetical protein MtrDRAFT_AC144765g23v1 [Medicago truncatula] (GB:ABE87033.1); similar to LEA-18	GGCAAGAAACCAACAACATTCTATTAGCACTAAAAAGAAAAAGAAAACAAAAGAGAAAATGGAGGCTGAGAAAAACCCACCGACGACAACAACGAC GACGGAGAAGAAACCGGAGCAAGTAGCTAAAAACGACGTCGATTTGCCTACAAACAGTCCTTACGTGGACGAATCTGGTACCTTGGAAGATTACAA GATGAAAGCTTATGGAGCTAAAGGCCACCAAGAAGTTAAAGCTGGTCTTGGTGGTGGAGCCACCGATGCTCCTACTCCATCAAGCGACGCACCTGC CGCCACGAAAGCTCCATAAAAAACAAATATCTGTAATAATGGGAAATTTTTTACGTCGGTAAAAAACCCCCAAAATTGTAGCTTGTCCAAATAACTGAT TCAGCGTCGTTTTATGGCTTATGTGTTTTAATTAAAATGTATTTGCGTGTGGTATTGCGAAAAATAATTTGCGAGTTACATGAGATAAAAAAAAAAAAA AA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001F14	AT5G02840.2	myb family transcription factor	GATCTCTCTATCTCTCTATCTCTCTATCTCTCTCTCTGTTGTGCTATCTCTCTGAACGATCGCTATCTTCAAAATACACTGATGACCTCGTCGCCGTCA AACAATCCGGTGGTCGCTGAAGATAAACCGACGGAAACGTCCACAGTTCTTACAGAGACTACAACGACGGTGGCTTCTTCATCGATGGAAGCTGCA GAAGCTCCGGAGAAGAAGGTGAGGAAAGCTTACACGATCACCAAGTCCAGAGAGAGTTGGACAGAAGGAGAGCACGATAAGTTTCTGGAAGCTCT TCAATTGTTTGATCGTGACTGGAAAAAAATTGAAGATTTTGTTGGTTCAAAGACAGTAATTCAGATCAGGAGCCATGCTCAGAAATACTTTTTAAAGGT CCAGAAAAACGGGACTTTAGCACACGTACCACCCCCTAGGCCTAAGCGCAAAGCTGCTCATCCTTATCCTCAAAAGGCATCCAAGAATGCTCAAAT GTCGCTTCACGTTTCCATGGCTTTTCCTACTCAAATGAATAATGTGCCAGGATATGCATCATGGGATGATGACACCTCTGCATTGCTAAACATAGCCG TTAGCGGGGTGATTCTACCAGAAGATGAAGTTGGTACTCTTTGTGGAGGAGAAGTTGCTATTGAATCGAATGGCACAACAAGTGCGAGTAGTCCTTC AGCATCTGGTATAGGAAGCTCAAGCAGGACACAATCAGATTGCAAGGATTTAAGACCGGCGAATCAAGCTCCCTCAATGCACGGTCTTCCTGATTTT GCTGAAGTTTATAACTTCATTGGGAGTGTCTTTGATCCTGACAGCAAAGGCCGCATGAAAAAGCTCAAGGAAATGGATCCTATAAATTTCGAAACTGT TCTGCTATTGATGAGAAACCTCACAGTGAACTTGTCAAACCCTGACTTCGAACCTGCTTCTGAATACTTTGATGCTGCAGAGGAAGGTCCTGAACAC TTGAGCTCGTAGCTGTTAGTGCGGGATCCCTGGTCAAGAACCAAACAAGTGATATATCTTCTCAGGAGGACTACTTGCTCACAACAACTGTCTATCA GTTATCAAATGCTGTTAACGGTTGTTGTCTGAGGAGAACATAACTGAACAAGAGGGGAATATGGCAGTTTCGGTCAGAACCAGTTCGGTGAATGGTT
GCT-001F15	AT3G16920.1	chitinase	GAATAGAAGAATAATAAGCCGAAATATATTGATCAACCATGGTTTCAAAACCACTACTCTTCTTGCTGCTTCTTGCGTTGGCATTGGTCGTGTTTCAG ACCAAGTCTCTAGCAAACGCTGAAGATTCCGAGCCTTCAAGCTCAGCGAAAAAGCCTCTGGTGAAGATCGTGAAGGGGTAAAAGCTATGCGACAAA GGATGGGAATGTAAAGGATGGTCCGAGTATTGTTGTAACCATACAATCTCCGATTTTTTCGAGACTTACCAATTCGAGAATCTATTCTCTAAACGTAA CAGTCCTGTGGCTCACGCCGTCGGTTTTTGGGATTACCGATCCTTCATAACCGCCGCCGCAGAGTATCAGCCTCTTGGGTTCGGTACCGCCGGAG AAAAACTTCAAGGAATGAAGGAAGTCGCTGCGTTTCTCGGCCACGTTGGAAGCAAAACTTCATGCGGGTACGGGGTTGCAACGGGCGGACCATTA GCTTGGGGACTGTGTTACAACAAAGAGATGAGTCCTGATCAGCTTTATTGCGATGATTACTATAAATTAACATATCCTTGTACTCCTGGTGTCTCGTA CCACGGTCGAGGAGCTTTACCGGTTTACTGGAATTACAATTACGGTCAAACCGGGGAGGCTTTGAAAGCGGATCTACTGAGTCATCCAGAGTATCT AGAGAACAACGCGACGTTGGCGTTTCAAGCAGCGATTTGGCGGTGGATGACGCCGCCGAAGAAACATATACCGTCGGCGCATGATGTATTCATCG GAAAATGGAAGCCGACGAAGAACGACACGGCGGCGAAACGATCTCCGGGGTTTGGAGCCACCATTAACGTGCTTTACGGCGATCAGATGTGCAAC AGTGGATTCGATAACGATGAGATGAATAACATTGTTTCTCACTACTTGTATTATTTAGATCTGATGGGAGTTGGAAGAGAAGAGGCTGGTCCTCATGA GACTCTATCTTGCGCCGATCAAGAGCCTTTCTCTTCTTCTTCCTCCTCCTCTGCTCCTCCAAGCTCTGGCTCCTCGTCTTGAATGAGGTTTTTCTTGA
GCT-001F16	AT1G05560.1	UGT1 (UDP-glucosyl transferase 75B1); UDP-glycosyltransferase/ transferase, transferring glycosyl groups	GCGCACAAATCCACATGGAGAGACGACACACAGATTCTCGTATCTGACTCTACAGTCACTTCGAAGTGGATCAAAACAAATACAAATGGCGCCACTG CATTTTCTACTTGTAACTTTTCCGGCACAAGGTCACGTGAACCCATCTCTCCGTTTCGCTCGTCGGCTCATAAAAACCACCGGCGCACGTGTCACTT TTGCCACGTGTCTCTCCGTCTTCCACCGCTCTATGATTTCTACCCAAAGCGACCTCAACAATCTCTCTTTCCTTACTTTCTCCGACGGCTTCGACGAC GGAGGCGTTTCCACCGCCGAAGACCGTGAAAATCGGTCTGTGAATCTCAAGATCAACGGCGATAAAACCCTATCGGATTTCATCGAAGCTAATCGG GATGGTGACTCTCCAGTGACTTGCTTGGTCTACACGATTCTTCTCAATTGGGCTCCAAAAGTGGCGCGTAGGTTTCAACTTCCCTCTGCTCTTCTCT GGATCCAACCGGCTTTGGTTTTCGACATCTATTACGACCACTTCAACGGCAAAAACTCCGGTTTCGAGCTCCGGAATCTTCCGTCTCTGGCAAACCG TGATCTTCCTTCTTTCCTCACGCCTACGGATACGAACATGTACAAAAACGTAAACGCAGCGTTTCAAGAGCTAATGGAGTTTCTTAAAGAAGAATCTA ATCCGAAAATCCTCGTCAACACATTTGATTCGTTGGAACCAGAGGCTTTAACGGCTATCCCGAATATCGGAATGGTGGCAGTTGGTCCTTTACTTCC TCCAGATATTTTCACAGGAAGCGAATCAGTTAAAGAGCTAAGTAGTTATAAACTTTGGCTAGACTCGAAAACAGAGTCCTCTGTTATTTACGTTTCTTT TGGGACAATGGTTGAGCTGTCCAAGAAACAGATAGAGGAACTAGCGAGAGCACTCATAGAATGGAAGAGACCGTTTTTGTGGGTTATAACTGATAAA TCCAACAGAGAAGCGAAAACAGAAGGAGAGGACGAGACAGAGATTGAGAAGATAGCTGAGTTCAGACACGAGCTCGAAGACGTTGGGATGATTGT GTCTTGGTGTTCACAGGTGGAGGTTTTAAGACACCGAGCCGTAGGTTGTTTCGTGACTCACTGTGGGTGGAACTCGACGCTGGAGAGTTTGGTTCT TGGCGTTCCGGTGGTGGCGTTTCCGATGTGGTCGGATCAACCGACGAACGCGAAGCTACTGGAGGATTCATGGAAGACAGGTGTGAGGGTGAGA GAGAACGAGGAAGGTTTGGTGGAGAGAGGAGAGATAAGGAGGTGTTTGGAAGCAGTGATGGGGGAGAAAGCTGAGGAGCTGAGGGAAAACGCTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001F17	AT5G20250.3	DIN10 (DARK INDUCIBLE 10); hydrolase, hydrolyzing O-glycosyl compounds	GAACATATCGATTCTCCTCTTCTGCTCTGCCATTGAAATCGAAACCTCAAGCTCGCATTCTCGCATCAGAGCTTCGTATTCACCCTTCTGCGTCTTCT GGCATTGTTCATCTTCTCGAGGATTTCAATTCTATTCTTATAAGAGAAGCGAGGCAGCCTCGCCGTTCAAGAGGAGGTACAGAGAAAAGGAAGAAGA AGAAGAAGAGATGACGATTAAACCGGCGGTTCGAATCTCCCACGGCAATCTAATCATCAAAAACCGTACGGTTCTAACCGGTTTACCAGACAATGTC ATCGCAACATCAGCATCGGAGGCCGGGCCGGTCGAAGGAGTCTTCGTCGGAGCTGAATTCGACAAAGAATCGAGTAACCACATCGTACCGATCGG TACACTCCACGATTCCCGGTTCATGGCTTGTTTCAGGTTCAAGCTCTGGTGGATGGCCCAAAGAATGGGCCAACAGGGCCGGGATATTCCCTTAGA AACGCAATTCCTATTGGTCGAGTCAAACGATGGGTCCCACCTCGAGCCTGACGGCGTAGACGGCGTCGAGAGCAACCGGAAACTTTACACCGTTTT CTTGCCGTTAATCGAGGGATCTTTCCGTTCGTGTCTCCAAGGAAACGTTAACGACGAGGTGGAGCTCTGTTTAGAAAGCGGCGACGCCGATACTAA ACGGTCGTCGTTTACTCACTCTCTGTATATCCACGCCGGCACAGATCCGTTCAAAACGATAACGGAAGCTATCCACACCGTTAAGTTGCATCTGAAG AGTTTCCGTCAACGTCACGAGAAGAAGCTTCCAGGGATCGTTGACTACTTTGGGTGGTGCACTTGGGACGCGTTTTACCAAGAGGTTACTCAAGAA GGCGTCGAAGCTGGGCTTCAATCTCTCACCGCCGGCGATACGCCGCCGAAATTCGTCATCATCGACGACGGTTGGCAATCCGTTGAGACTGATCTT GACCCGATCGGGAACGAAGACGACAAATCGGTTTCCCGGTTAACCGGGATCAAGGAAAATGCAAAGTTCCAGGACAAGGATGATCCAAAATCAGG GATTAAGAACATTGTCGATATCGCCAAGGAGAAATACGGTCTAGAATACGTGTACGTGTGGCACGCAATTACGGGTTATTGGGGCGGGGTTCGACC CGGGGAGGAATTCGGATCTTCGATGAAGTATCCGATGGTGTCAAAGGGTGTGGCGGAGAATGAGCCGACGTGGAAGACGGATGTTATGGCGGTTC AAGGTTTGGGTTTGGTTAACCCAAAGAATGTGTATAGATTCTACAACGAGCTTCATAGTTACTTGGCTGCTGCTGGTGTGGACGGTGTGAAAGTGGA TGTGCAGTGTATATTGGAGACTTTGGGTGGTGGGTTAGGTGGTCGGGTCGAGTTAACGCGTCAGTATCATCAAGCTCTTGATTCCTCTGTTGCGAA GAACTTCCCAGACAATGGCTGCATCGCTTGTATGAGCCACAATACTGATGCTCTCTACTGCTCGAAGCAAGCAGCTGTGATTAGAGCATCAGATGAT TTCTATCCGCGAGATCCGGTGTCTCATACCATCCACATTGCCTCGGTTGCATACAACAGTGTGTTCTTGGGTGAGTTTATGCAGCCTGACTGGGACA TGTTCCATTCCGTGCACCCTGCAGCAGAGTACCATGCCTCTGCTAGGGCCATTAGTGGTGGACCAATCTATGTTAGTGATGCTCCTGGAAAGCACA ACTTTGATCTTCTAAAGAAGCTTGTGTTGCCTGATGGGTCGATCCTTCGTGCCCGTTTACCTGGTAGACCAACCCGTGATTGTTTGTTCGCTGATCCT GCCCGCGATGGTGTCAGCTTGCTAAAGATATGGAACATGAACAAATACACTGGAGTCCTTGGCGTGTATAATTGCCAAGGAGCAGCTTGGAGTAGC ACGGAAAGGAAAAACGTCTTCCACCAGACAAAAACTGATTGCCTCACTGGCTCCATTCGTGGCCGTGATGTGCATTTGATATCCGAGGCCTCTACTG ATCCATCAACCTGGAATGGAGACTGTGCTGTTTACTCCCAGAGCAGAGGCGAACTCACTGTTATGCCATACAATGCGTCTCTCACAATCTCATTGAA
GCT-001F18	AT5G45890.1	SAG12 (SENESCENCE-ASSOCIATED GENE 12); cysteine-type peptidase	GAGTCAAATTAGTATCAAAATCTTTCTACTTTTCTAAATAATGGCTTCTAAACAAATCCAAATCTTTCTCATAGTCTCTCTCATTTCATCATTCTGTTTAT CAATCACTCTTTCTCGTCCTCTCGACGACAATGAACTCATCATGCAAAAGAGGCACGACGAGTGGATGGCTAAACACGGACGTGTTTACGCAGATAT GAAAGAGAAAAACAATCGCTACGTCGTGTTCAAACGCAACGTGGAACGCATTGAACGCTTAAACAACGTTCCTGCGGGAAGAACGTTTAAACTAGC GGTGAATCAGTTTGCTGATCTAACCAACGACGAATTCCGTTCTATGTACACTGGTTACAAAGGAGGCTCGGTGTTGTCTAGCCAAAGTGGAACAAAA ACGTCGTCGTTTAGGTACCAAAACGTTTCTTCCGGTGCCTTGCCGGTTTCTGTTGATTGGAGAAAGAAAGGAGCTGTGACTCCTATCAAGAATCAAG GCACTTGCGGATGTTGTTGGGCGTTTTCAGCGGTTGCGGCTATTGAAGGAGCAACAAAGATAAAGAAAGGAAAGCTTATCTCCTTGTCCGAACAAC AGCTTGTTGACTGCGACACAAACGATTTTGGCTGCAGCGGTGGCTTAATGGATACTGCGTTTGAGCACATAATGGCGACTGGCGGTTTAACCACTG AGTCAAATTATCCTTACAAAGGCAAAGACGCTACTTGCAAGATCAAGAACACTAAACCGACAGCAACTTCTATCACAGGTTATGAGGATGTCCCGGT TAACGACGAGAAAGCCCTAATGAAGGCAGTGGCACACCAACCTGTTAGCATTGGAATTGAAGGAGGTGGTTTTGATTTTCAATTCTATGGCTCCGGT GTGTTCACCGGAGAGTGCACGACGTATCTTGATCATGCGGTGACTGCGGTTGGATACGGCCAATCTAGCAACGGATCAAAGTATTGGATCATCAAG AATTCTTGGGGGACAAAATGGGGAGAAAGTGGTTACATGAGGATTAAAAAAGATGTGAAGGATAAAAAAGGACTATGTGGTCTTGCCATGAAAGCTT CTTACCCAACTATATGAAAAAGGGTTTATTACCCGGTTCAGCATTTAAATGTGTATATGTATGTGTGGGTTCTATGTCTAAAAGTGATGATTGAATAGT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001F19	AT4G29100.1	ethylene-responsive family protein	GATAAAGAGATCAAGAGAGAGAGAGAGAGAAAGTGTGTGTGTGTGTAGAGAGAAGGTGATGAATAGAGGTGTGCTGGAGAGTTCGCCGGTTCAAC AGCTGATGACGGCCGGAAACCCTAATTGGTGGAACGTAAGCGGCGGCATGAGGCCTCCACCACCGTTAATAGGTCATCAGCAGGGGCCGTTGCC GCCACAAATGACTCCTAACAACAATTATCTCCGACCACGAATGATGCCGACTCTCTTGCCACACTTCTTGCCATCTCCGGCAACTTCTTCTTCGTCTT CTTCTTCACCGTCTGTGCCTAATAACCCTAATCTCTCTTCTTGGCTTGAAAGCAATGATCTCCCTCCTGAGTCGTGGAGCCTTAGCCAACTTCTTTTG GGTGGATTGATGATGGGCGAGGAAGAGAGATTGGAGATGATGAATCATCATAATCATCATGATGAACAACACCACCACCATAGTTTCCAAGGGAAAA TGAGGTTGGAGAATTGGGAAGAACAAGTGCTAAGTCCCCAACAAATTTCCATGGGGGTTGTTGAGATCAAACAAGAGAATAACGTTAACAACAACAA TGGCTATCTAATATCTTCTCCAAACTCACCTCCTAATAAATCTTGTGTCACAACTACAACAACAACAAGCCTTAATAGCAACGACGAGAATAACAACAA TATGCTGGACTTCTCGAGCAATCACAATGGTCTTAATTTGTCTGAGGGTAGACACACTCCTCCGGATCGAACCTCTGAGTGTAACAGCTTAGAGATT GGTGGGTCTACTAATAAGAAGCCAAGGCTTCAACCTTCTCCTTCGTCACAATCAACCCTCAAGGTGAGAAAGGAGAAACTAGGAGGCCGGATCGCA GCACTTCATCAGCTAGTCTCTCCATTTGGCAAGACTGACACAGCCTCTGTCCTGTCGGAAGCTATTGGATACATTAGATTCCTTCAGAGTCAAATTGA GGCCCTGAGTCATCCATACTTCGGTACGAATGCTTCCGGGAATATGAGACACCAACAACATTTTCAAGGAGACGGGAGTTGCATATTTCCTGAGGA CCCTGGTCAACTCGTAAATGATCAGTGCATGAAGAGAAGAGGAGCCTCGTCTTCGTCTACGGACAATCAAAATGCAAATGAAGAACCTAAGAAAGAT CTGAGAAGTCGAGGTTTATGTCTTGTTCCAGTTTCCTGCACACTCCAAGTCGGCAGCGACAACGGCGCCGACTATTGGGCTCCGGCACTCGGCTCC GCCGGTTTTCATTGAGCCAATGAAATTACGCCATGTGTTATTCCAACATTAGGGAGAATGATATAACATCACGAGCAGTCAGTCTACTGAGAAAACA
GCT-001F20	AT2G30490.1	ATC4H (CINNAMATE-4-HYDROXYLASE)	GAGCAGCTTCTTCTGCTTTTTCATTCGCCGACGATTTCTCTCACCGGGAAAATAAATAAAAATTATCGATCACCGTGATAATTACGAAAATCGAGAGA GTGAAGTGCAAATGGACCTTCTCTTGTTGGAGAAGTCTCTAATCGCCGTCTTCGTGGCGGTGATTCTCGCCACCGTGATTTCTAAGCTCCGAGGCA AAAAATTGAAGCTACCTCCTGGTCCTATGCCGATTCCGGTGTTCGGAAACTGGCTCCAGGTCGGAGATGACCTAAACCACCGTAATCTCGTCGATTA CGCTAAGAAATTCGGAGACCTCTTCCTTCTCCGTATGGGTCAACGTAACCTAGTGGTCGTCTCTTCGCCGAATCTCACCAAGGAAGTGCTCCACACA CAGGGAGTGGAGTTTGGATCTCGTACCAGGAACGTCGTCTTCGACATATTCACCGGAAAAGGACAGGATATGGTGTTCACGGTGTACGGCGAGCA CTGGAGGAAGATGCGGCGGATTATGACGGTTCCGTTCTTCACCAACAAGGTGGTTCAGCAGAATCGGGAAGGATGGGAGTTCGAGGCGGCGAGC GTCGTTGAGGATGTGAAGAAGAATCCAGATTCGGCGACGAAAGGGATTGTGTTGAGGAAGCGTTTGCAGCTGATGATGTACAACAATATGTTCCGT ATCATGTTCGATAGAAGGTTCGAGAGCGAGGATGATCCTCTTTTCCTCAGGCTTAAGGCCTTGAACGGAGAGAGAAGCCGATTGGCTCAGAGCTTT GAGTATAACTATGGCGATTTCATTCCTATCCTTAGGCCGTTCCTTAGAGGCTACTTGAAGATCTGTCAAGATGTGAAAGATCGGAGACTAGCGCTCT TCAAAAAGTACTTTGTTGACGAGAGGAAGCAAATTGCGAGTGCTAAGCCTACAGGCAGCGAAGGATTGAAATGCGCCATTGATCATATCCTTGAAGC TCAACAGAAAGGAGAAATCAACGAGGACAACGTTCTTTACATCGTCGAGAACATCAACGTTGCAGCTATTGAGACAACATTGTGGTCAATCGAGTGG GGAATTGCTGAACTAGTGAACCATCCTGAGATTCAGAGCAAGCTAAGGAACGAAATCGATACGGTTCTTGGACCTGGTGTTCAAGTCACAGAGCCT GAGCTTCACAAGCTTCCATACCTCCAAGCCGTGATCAAGGAGACGCTTCGTCTAAGAATGGCTATTCCTCTCCTCGTGCCTCACATGAACCTTAACG ATGCTAAGCTCGCTGGCTACGATATCCCAGCTGAAAGCAAAATCCTAGTCAATGCCTGGTGGCTAGCGAACAACCCCGAAAGCTGGAAGAAACCTG AAGAGTTTAGACCCGAGAGGTTTTTCGAAGAAGAGGCGCATGTGGAAGCGAATGGTAATGACTTCAGGTATGTGCCGTTTGGTGTTGGACGTAGAA GCTGTCCCGGGATTATATTGGCGTTGCCCATTTTGGGAATCACCATTGGTAGGCTGGTACAGAACTTCGAGCTTCTTCCTCCTCCTGGACAGTCTAA
GCT-001F21	AT3G57270.1	BG1 (BETA-1,3-GLUCANASE 1); hydrolase, hydrolyzing O-glycosyl compounds	GATTGACTTCCTAATTCATCAGTTGCTAGCTCAAATATATCCCAGGGTACCAGCCATGGATCTCCGTTTCTTGGCGTCGTTAACCATTCTTCTCGGTC TGTTCTTCGTCAATTCACATACCGCAGCTGGACAACAAGTTGGCGTTTGCTACGGAAGATACGGTGACAATCTCCCGTCGCCGGCAGAAACCATTG AGCTCTTCAAACAGAAAAACATCCGGCGAGTTAGGCTTTACAGTCCGGACCACGACGTTCTTGCCGCCTTACGTGGCTCCGACATCGAAGTCATGT TGGGCCTCCCTAACCAGGACCTTCAACGCATAGCCTCTAGCCAATCTGAAGCTGACACGTGGGTCCAAAACAACGTCAACAACTACGTGGATGACG TCAAGTTCCGTTACGTATCTGTTGGGAACGAAGTGAAGATCTTTGACTCTTACTCACAATTTCTAGTCCCTGCCATGGAAAATATTGACCGGGCGGTA TTAGGATCCGGACTCGGCGGTCGTATTAAGGTATCAACAGCGATAGACATGGGAGTGCTCGGAGAGTCTTACCCACCTTCAAAAGGTTCGTTTAAA GGAGAAGTAATGGTGCTCATGGAACCAATCATACGTTTCTTGGTAAACAAGAAATCTCCTTTACACTTAAACCTCTACACTTACTTCAGCTACGCGGG CAATCCAGACCAAATCCGACTCGATTACGCTCTCTTCACGGCTTCTCCAGGAACCGTCTCAGACCCTCCAAGATCTTACCAGAACCTATTCGATGCG ATGCTCGATGCGGTGCATTCGGCTCTAGAGAGATCTGGTGGTGAATCGTTGGATGTTGTCGTGTCGGAGACTGGATGGCCAACGGAAGGAGGAAC CGAGACTAATCTGGAGAATGCGAGGATTTATAGCAATAATTTGATTAATCATGTGAAGAATGGGACACCGAAGAGACCAGGGAAAGAAATCGAGACT TATTTATTTGCGATGTATGATGAGAATAAGAAGCCTACTCCTCCTGATGTTGAGAAGTTTTGGGGATTATTTCATCCGAACAAGCAGCCTAAGTACGA GGTTAACTTTGGTTGAGCCAAACCAATATGTCATCGAGGGAATGCTATAATTTCTATTTTGATAATATAATATATAAATGTAAGGAATAAAGTTGGAGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001F22	AT2G39730.2	RCA (RUBISCO ACTIVASE)	GATCTCTCACTGCTTCTTCTTCTTCAACTAATCAAAATCTCTCCTCAGCTTCTTGTGTGACGCACACTCGTCGCAGTCGTGAGAAATGGCCGCCGCA GTTTCCACCGTTGGTGCCATCAACAGAGCTCCGTTGAGCTTAAACGGGTCAGGAGCAGGAGCTGCTTCAGTCCCAGCGACAACCTTCTTGGGAAAG AAAGTTGTAACGACGTCGAGATTCGCACAGAGCAACAAGAAGAGCAGCGGATCATTCAAGGTGGTTGCTGTGAAAGAAGACAAACAAACCGATGGA GACAGATGGAAGGGACTTGCCTACGACATGTCTGATGATCAACAAGACATCACCAGAGGCAAAGGTTTGGTTGACTCTGTCTTCCAAGCTCCTATG GGAACCGGAACTCACCATGCTGTCCTCAGCTCCTACGAATACATCAGCCAAGGTCTTAGGCAGTACAACTTGGACAACATGATGGATGGGTTTTACA TTGCTCCTGCTTTCATGGACAAGCTTGTTGTTCACATCACCAAGAACTTCTTGACTTTGCCTAACATCAAGGTTCCACTTATTTTGGGTATCTGGGGA GGCAAAGGTCAAGGTAAATCCTTCCAATGTGAGCTTGTCATGGCCAAGATGGGTATCAACCCAATCATGATGAGTGCTGGAGAGCTTGAGAGTGGA AACGCAGGAGAACCAGCAAAGCTGATCCGTCAAAGGTACCGTGAAGCAGCAGACATGATCAAGAAAGGAAAGATGTGTTGTCTCTTCATCAACGAT CTTGACGCTGGTGCTGGTCGTATGGGAGGCACTACTCAGTACACAGTGAACAACCAGATGGTCAACGCAACGCTCATGAACATTGCTGATAACCCG ACCAACGTCCAGCTTCCAGGGATGTACAACAAGGAAGACAACGCACGTGTCCCAATCATCGTCACCGGTAACGATTTCTCCACTCTCTACGCTCCT CTCATCCGTGACGGACGTATGGAGAAATTCTACTGGGCACCGACCCGTGAAGACCGTATTGGTGTCTGCAAGGGTATCTTCAGGACCGACAAGATC AATGATGAAGACATTGTCACGCTTGTTGATCAGTTCCCTGGCCAATCCATCGATTTCTTCGGTGCATTGAGGGCGAGAGTGTACGATGATGAAGTGA GGAAGTTCGTTGAGGGACTTGGAGTTGAGAAGATCGGAAAGAGGCTGGTGAACTCGAGGGAAGGACCTCCAGTGTTCGAGCAACCGGAGATGACT CTTGAGAAGCTTATGGAGTATGGAAACATGCTTGTGATGGAACAAGAGAACGTCAAGAGAGTCCAACTTGCTGACCAATACCTTAACGAGGCTGCG TTGGGAGACGCAAACGCGGACGCTATCGACCGCGGAACTTTCTACGGTTAGAACCCGAGGGAAAAGTGCACAGCAAGTGAATCTGCCAGTTCCTG AAGGGTGTACTGATCCTTCGGCCAAAAACTTTGATCCAACGGCTAGAAGTGACGATGGCTCTTGTGTCTACAACTTTTGAGCATTTTCCTACCTATTA
GCT-001F23	AT5G44190.1	GLK2 (GOLDEN2-LIKE 2); DNA binding / transcription factor	GACTGTGTGTCATTCTTGTTTTCTCTAAATTTTCGAATCTTGATTTTTTTTTTCCATTTTCACCATTCGATGTTAACTGTGTCTCCCCTCGTCGTAAACAA CACCACCTCAAAGGACGATCACATGGCGGCTGATTTTGCAGATTTTACGACGGAAGACTTGCCGGACTTCAAGACGGTCGGAGATTTCTCCGACGA CGGTAGTCTCGATTTTCTTGAAGGGATCGATTACTACGACGACCTTTTCATTGGATTCGATGGAGACGATGTTTTGCCGGATTTGGAGATTCTCGGG GAACATTCCGGCGGCAGCGGAAGAGATGAAGAACAAGAAATGGAGGGAAACACTTCGACGGCGTCGGAGACATCGGAGAGAGACGGTGGGGAGT TTAAGCCTCAAGGTGGTGCTGGTGGTGATACGGACAAAACGGTGCGTAGAGGCAAACGTAAAGGGAAGAAAAATAAAGATTGTTTATCAGCTAATAA CGAGATTAAGAAGAAAACCAAGGTGGACTGGACGCCGGATTTACACCGGAAATTCGTACAAGCGGTGGAGCAATTAGGGGTAGACAAGGCTGTGC CATCTCGGATTTTGGAAATTATGAATGTTAAATCTCTCACTCGTCACAATGTCGCTAGCCATCTCCAGAAATATAGGTCACACCGGAAGCATTTACTA GCGCGTGAAGCAGAAGCTGCCAGCTGGAATCTCCGACGACATGCCACCGTGGCAGTTGCCGGAGGAGGAGGAGGGAAGAAGCCGTGGATGGCT CCTGCTTTAGGCTATCCACCGCACGTGACACCATTGCATCACGGCCACTTCAGGCCTTTGCACGTGTGGGGTCATCCTACGTGGCCTAAACACAAG CCTAACATTCCACCGACTACTCATCGGACGTTTCCGATTCCGGCCGTTGCGGCGGTGGCTCCGTCGTCTTGGCCAGCTCATCCACCATATTGGCAC CAACAGCCACTCTATCCACAGGGATATGGTATGGCATCATCATCGAATCATTCGATGTATAATATTAAATCAGAAACAAGCATTGGTGTTCCTACAAG ACCATTAGGCCCTACTAATCCTCCTCTCGACATTCATCCCTCTAACGAGAGCATAGACGCCGCTATTGGAGACGTGATAACAAAGCCGTGGCTACC
GCT-001F24	AT1G78600.1	zinc finger (B-box type) family protein	GTCCTTCAGACAAAGGGAGGGGAAAACGTAAAGGTTGCTTAAACCATAAATCTCAGGCTTGTGGAGACAAAACTGACTCCACTTCTCTTTCTTAAATT TTTTTTATCAACAATCAAGTCTCCGACAGAAATCAAGAAGCGAAAAAAATTAAATCTTTCAAAAACAAAGAGAGGATAGGTTTGGTTTCTGGATGAATT TGGAGATAACGAAAGGTCAGAGAGGATGAAGATTCAGTGCAACGTTTGCGAGGCGGCGGAAGCGACGGTTTTATGTTGCGCCGATGAGGCTGCGT TGTGTTGGGCTTGCGATGAGAAAGTTCACGCCGCTAATAAACTCGCCGGAAAACACCAGAGAGTCCCTCTCTCTGTCTCTTCCTCTTCCATTCCCAA ATGCGACATTTGCCAGGAAGCTTCTGGATTCTTCTTCTGTCTGCAAGATAGAGCGTTACTATGTAGGAAATGTGATGTTGCAATCCATACCGTAAATC CACATGTTTCAGCTCACCAGCGATTTCTTCTGACTGGAATCAGAGTCGGTCTTGAATCTACAGACGCTGGTCCGTCTACAAAGTCATCACCATCCAA TGATGATAAAGCCATGGAGACGAAACCATTTGCTCTACCTTCATCTGAGCCTCAAAAGATGGACTTCAATCATCATCATCATCATGAGGTGGTTTTAC CAGAAACTAAAGTAAGTGATCACATTTCGACAAAGCTTCCTTTCGCAAGCAGCGGATCAGCGACTGGAAGCATTCCTCAGTGGCAGCTAGAGGAGA TTTTTGGATTAACGGACTTTGATCAGAGTTATGAATACATGGAGAATAACGGATCATCTAAGGCGGATACTAGTAGACGAGGAGATTCAGACAGTTCT TCGATGATGAGATCTGGAGAAGACGATGGAGAAGATAACAATAACTGCTTGGGAGGTGAGACATCATGGGCGGTTCCACAGATTCATTCTCCACCA ACAGCTTCTGGTCTCAACTGGCCCAAACATCACCATCACTCAGTGTTTGTTCCGGACATATCTTCTTCAACTCCTTATACCGGTTCATCCCCTAACCA CTACCAGAGGGTTGGGAAACGGCGGCGAAGGTTCTAACAACTATCTTTTGCCCGGTTTAGGAAAACCATCGGCCGGTCTGATAGTAGATGTGAGAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001G01	AT4G38130.1	HD1 (HISTONE DEACETYLASE 19, HISTONE DEACETYLASE19); histone deacetylase	GGACTGTCTGCGCTGCGCCTTTTTGAAATCTGAAACAAAAAGCAAAGCTCTCTTCTCCTTCTTCTCCTCCGAGGAGGAAGAAAAGCAATCCAGAGAA AATTAGCAGCTTCGCCTCCGACCATTACCTCGACTGCGACTTTGATTTACAATACAATACCTTATCCTACAAAAAGAGGGAATGGATACTGGCGGCA ATTCGCTGGCGTCCGGACCTGACGGCGTGAAGAGGAAAGTTTGCTATTTCTATGACCCAGAAGTTGGGAATTACTACTACGGCCAAGGTCACCCCA TGAAGCCCCACCGCATTCGCATGACCCATGCCCTACTTGCTCATTACGGTCTCCTCCAGCATATGCAGGTTCTTAAGCCCTTCCCTGCCCGCGACC GTGATCTCTGCCGCTTCCACGCCGACGACTACGTCTCCTTTCTCCGCAGCATTACCCCTGAAACCCAGCAAGATCAGATTCGCCAACTCAAGCGCT TCAATGTTGGTGAAGATTGTCCCGTCTTTGACGGCCTTTATTCTTTTTGCCAGACCTATGCCGGGGGCTCTGTTGGTGGCTCTGTCAAGCTTAACCA TGGCCTCTGCGATATTGCCATCAATTGGGCTGGTGGTCTCCATCATGCTAAGAAGTGCGAGGCCTCTGGCTTCTGCTACGTCAATGACATCGTCCT AGCTATCCTAGAGCTCCTTAAGCAGCATGAGCGTGTTCTATATGTAGATATCGATATTCACCACGGGGATGGAGTGGAGGAGGCGTTTTATTCTACT GACAGGGTCATGACTGTCTCATTCCATAAATTTGGGGATTACTTTCCCGGTACAGGTCATATACAGGATATTGGTTATGGAAATGGAAAGTACTATTC TCTTAATGTACCACTGGATGATGGAATCGATGATGAGAGCTATCATCTGTTATTCAAGCCGATCATGGGCAAAGTGATGGAAGTTTTCCGACCAGGT GCCGTGGTATTGCAATGCGGTGCTGATTCATTGTCTGGCGATAGGCTGGGTTGCTTTAATCTTTCGATCAAAGGTCATGCTGAGTGTGTCAAATTTA TGAGATCGTTCAATGTTCCCCTACTGCTCTTGGGTGGTGGTGGTTACACTATCCGCAATGTTGCCCGTTGCTGGTGCTACGAGACTGGAGTTGCAC TTGGAGTTGAAGTTGATGACAAGATGCCAGAGCATGAATATTATGAGTACTTCGGTCCAGACTATACACTTCACGTTGCTCCAAGTAACATGGAAAAT AAGAATTCTCGCCAGATGCTTGAAGTGATTCGTAATGACCTTCTCCACAATCTATCTAAGCTTCAGCATGCTCCAAGTGTGCCATTTCAGGAAAGGC CACCAGAAACAGAGGCTCCCGAGGTAGATGAAGACCAAGAAGATGGAGATAAAAGATGGGATCCGGATTCTGATATGGATGTAGATGATGACCGTA AACCTATACCAAACAGAGTGAAAAGAGAAGCTGTTGAACCTGATGCAAAGGACAAGGATGGACTGAAAGGAGTAATGGAGCGTGGCAAAGGTTTTG AGGCGGGTATGGATGAGAGTGGAAGCACAAAGGTTACAGGAGTAAACACAGTTGGAATGGAGGAAGCAAGTGTGAAAATGGAGGAGGAAGGAACA AGCAAGGCTGGGGTGGATCAGGTGTTTCCTAAAACATAAAGATTTGGAGCTTCTCATTTCTTGTTGACTTCCTGTTTTTAAGTTATTGTTAGTTGGCAT CTGGACATTATGTTTTTTTTTTTTTTCTTGAGGGTTGAGCACGTACGATATGTATTTATTCCTTGCAATGGCATGAATGATCACGAGATTTGCTGGG
GCT-001G02	AT1G76670.1	transporter-related	GAAGAGCATCAATGGTGGAAGCTTGCTTGTGATATAGCCAGCGACGACGAGTGAAGCAGTGCACAATAAGTAGGAAACTTCGAGAGAGAGAGAGA GACGTGTTTGTTTATTTGTGTGTTTGCGCTTTTTGGCTTTCTTCGCCGCTTCCACGAAGAAGCCGAACGGCGTGAATCGACTTTTCTCCAGATCTCAT CTTCTTCTTTCTTCTTCCTCCCTGTTTGATTCTCCAATCTGCAGGCGAATCGAGATTCAGATCTCGTCTTCGCTTGCATCCAATCGAGATCTGATAGT GTCGGTGTCCAATCTCGCAATTTCAATTGTGTTAACGTCGAATCCAATTTAGTCGGAAAATGGAGAAAACGGAGAGCGAGAAGAAACAGTCGCCTGT CTCCGACGTCGGCGCATGGGCTATGAACGTAATCAGCTCCGTCGGAATCATCATGGCTAATAAACAGCTCATGTCTTCCTCTGGCTTCGGGTTTAG CTTTGCGACAACTCTGACGGGATTCCACTTCGCGCTCACTGCGCTTGTTGGTATGGTTTCAAACGCCACGGGACTATCGGCATCAAAGCATATTCCT CTCTGGGAGCTTCTATGGTTCTCAATTGTCGCTAACGTCTCCATTGCTGCCATGAACTTCAGTCTTATGCTCAACTCTGTTGGCTTCTATCAGATCTC GAAACTGAGTATGATTCCTGTGGTATGCGTGTTGGAATGGATTCTTCATAGCAAGCATTACTCTAAAGAAGTGAAGGCTTCTGTTATGGTTGTGGTTG TTGGTGTTGGAATTTGTACGGTGACTGATGTCAAGGTTAATGCCAAAGGTTTCATTTGTGCATGCACTGCCGTCTTCTCCACTTCTCTGCAGCAGATT TCAATAGGCTCTTTGCAGAAGAAATACTCGGTGGGATCTTTTGAATTGCTGAGCAAAACAGCACCAATCCAAGCAATTTCACTCCTCATCTTTGGCCC CTTTGTTGACTATTTCTTGAGTGGCAGATTCATCACTACTTACAAGATGACTTACGGTGCCATCTTCTGCATTCTTCTCTCGTGCGCATTGGCCGTTTT CTGCAACATAAGCCAATATCTCTGCATAGGAAGATTCTCTGCAACATCGTTCCAAGTTCTAGGCCACATGAAAACAGTCTGCGTGCTTACGCTAGGA TGGCTTCTCTTTGATTCGGAGATGACATTCAAGAACATCGCCGGGATGGTCTTAGCTGTTGTCGGAATGGTGATATATAGCTGGGCGGTTGATCTAG AGAAACAGAGAAACTCAAAGTCAACGCCTCACGGGAAAAATAGTATGACCGAAGATAAGATTAAGCTACTCAAGGAAGGAATAGAGCATATGGATTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001G03	AT5G65990.1	amino acid transporter family protein	GATCTGGGATTGCTAGTTCCTTACTTGTTGGGGGACACCTGCTTCGTCTTCTTCTCCTTCTTCTTCGGGATCAGTTTTTTTTTGTTTGGGCATGGGGT ACCATCAGGAATCTGGATCGTCCACCCAATCTCTGCCTCGGGAAGATACTCCTCTATTGGGTCCTCGAACACTGTCATCGCAGCCAAAGACCTTCG CGAATGTCTTCATCGCCATCGTCGGAGCCGGCGTGCTGGGGCTCCCCTACACCTTCAAGAAGACCGGATGGCTTTTAGGGCTCCTCACGCTTTTCT TCGTTGCCTCCCTCACTTTCTTCTGTATGATGCTCCTCGTCCACACTCGCCGCAAACTCGAGTCCCAATCCGGCTTCTCCAGCATCACTTCCTTCGG AGATCTTGGGGAATCAGTCAGCGGACCCGCCGGCCGTCTCGTCGTCGATGTTATGCTTGTCCTCTCACAGTCAGGCTTCTGCGTCAGTTACCTCAT CTTCGTCGCCACCACAATGGCTAATCTCCTCAGCCGCGGCACAGATCATATCCTAGGGCTCGATCCTGCCTCCATTTACATTTGGGGATGTTTCCCC TTTCAGCTTGGTCTCAACTCCATCCCTACACTCACTCATCTCGCTCCTTTGAGTATATTCGCCGACATCGTCGACGTGGCGGCTACGTTGGTGGTTA TGGTGCAGGATGTTTTCATCTTCCTCAAAAAAAGACCTCCCTTGAGAGTCTTTGGAGGCTTCTCTGTTTTCTTCTACGGACTGGGAGTCGCTGTGTA CGCTTTCGAAGGGATCGGAATGGTGCTGCCGCTTGAACTCGAGGCCAAATACAAAGACAAGTTCGGTAGAGCCCTGGGGCTAGCCATGGGCTTAA TCTCCATCATGTACGGAGCATTCGGGCTCTTAGGGTACATGGCTTACGGTGACGAGACTAGAGACATCATCACCACAAACCTTGGGACAGGAGTGG TGAGCACTCTGGTGCAGCTCGGCTTAGCAATCAACCTCTTTTTCACATTTCCCCTCATGATGCATCCTGTCTATGAGGTCATAGAGCGCCGTCTCTG CAACTCCTCTTACTCCGTCTGGGTGCGCTGGGCCACTGTGCTGGTGGTCACCCTCGTGGCCCTCCTCGTCCCTAATTTCGCAGACTTCTTGTCTCT GGTCGGGAGCAGCGTCTGCGTGGTGCTGGGTTTCGTATTGCCTTCGCTTTTTCATTTGCAGGCTTTCAAAAACGAATTGAGCATTGCAAGAGTGGT CGTTGACGTTCTTGTTTTCCTCATCGGTCTTACTATAGCAGTGACCGGGACTTGGACGGCCGTACACGAGATCCTTACATCCAAGGCTTGATGAATG
GCT-001G04	AT1G20840.1	TMT1 (TONOPLAST MONOSACCHARIDE TRANSPORTER1); carbohydrate transporter/ nucleoside transporter/ sugar porter	GGTAAATCGCTCTCCACCAAAGATTTTTAGCCGTCAGAGGAACTGATGTAAATGCAATTTTTTTTTCTTTTTTTTTCTACTTTCCCGAGAAAATAAGTTA TCCCGGCGGTGAGAATTTTCTCGGCAGATTCTCGAGCATATTTCTCTCTTGGGAACTTGCTCCAAATCTCCTTAAAATAAAAAGACCAAAACATCTTT TGCAGCAATAATGTGTTTTCGACTTCATTTGTAGCAATAATTTTTAAAAAACCGTTTCTTGTCCTTATTGTAGATTCCATCACCGGAGCCTGTTTGTAAT AAAATTTATATCTCTAAACTTGGCAAAGATCAAGCGAGTCCAAATCAATCATCCCTATTTCAACGCCTCCTTTTCTTTCTTGATTTATAAATCGGAGAC GGAAAGGCAAATAATAAAAGAGCTCCATTTCTCGTAATTGCCGGAGAATTGTACTTTGAGAAGAAAAAGAAAAGGGTTGGTTGAACAATGAAGGGAG CGACTCTCGTTGCTCTCGCCGCCACAATCGGTAATTTCTTGCAAGGATGGGACAATGCCACCATTGCTGGAGCTATGGTTTATATCAACAAAGACAT GAATCTGCCAACCTCTGTTCAAGGTCTCGTGGTAGCCATGTCACTGATCGGTGCCACGGTCATCACCACTTGCTCAGGACCGATCTCTGATTGGCT CGGGAGACGCCCGATGCTGATTTTATCATCGATAATGTATTTCCTCAGCGGTTTGATAATGCTGTGGTCACCAAATGTCTATGTTCTGTGCTTAGCTA GGCTTCTTGATGGGTTTGGTGCTGGACTCGCTGTCACGCTTGTCCCTGTTTACATCTCTGAGACCGCTCCTCCTGAGATCAGAGGACAGCTCAACA CTCTTCCTCAGTTTCTTGGTTCCGGTGGAATGTTTTTGTCTTACTGTATGGTTTTCGCTATGTCACTGAGCGATGCGCCTAGCTGGAGAGGGATGCT CGGTGTCCTCTCTATCCCTTCTCTCGTTTATTTGTTTTTCACGGTGTTTTATTTGCCTGAGTCTCCTCGTTGGCTGGTTAGTAAAGGAAGAATGGACG AGGCTAAGCGCGTTCTTCAACAGTTATGTGGCAGAGAAGATGTTACAGATGAGATGGCTTTGCTTGTTGAAGGTCTAGAAATCGGAGGAGAGAAAA CATTAGAGGATCTCTTCGTAGCTTTGGAGGATCATGAAGCAGAAGGTACGCTTGAAACCGTTGATGAGGACGGACAAATGCGGCTTTACGGTACAC ACGAGAACCAATCTTACATTGCTCGACCTGTCCCTGAACAACAGAGTTCACTAGCCCTACGCTCTCGCCACGGAAGCTTAGCAAACCAAAGTAGCAT GATCCTCAAAGACCCGCTTGTGGATCTCTTCGGCAGTCTCCACGGGGAAATGCATGAACCAGCAGCAAACACGAGGAGTGGAGTTTTCCCTCATTT CGGAAGCATGTTCAGCACTAATGGTGATGCCCCACCACATGGTAAACCAGCTCATTGGGAAAAAGACGTTGAGAGCAACTACAACAAAGACCATGA TGACTACGCTACTGATGATGGTGCAGCAGATGATGACTCGGATAACGATCTTCACAGCCCGTTGATGTCTCGCCAGACCACGAGCATGGACAAGGA CATGATCCCGAATCCTACAAGAGGAAGCGCGCTTAGCATGAGACGGCACAGCACGCTTATGCAAGGCAACGGCGAGAGCAGCATGGGGATTGGTG GTGGTTGGCATATGGGATATAGATATGACAACGGTGAATACAAAAGGTATTACCTTAGAGAAGACGGTACAGAATCTCGACGTGGCTCGATCATTTC TCTTCCTGGTGGTCCTGATGGAGGAGGCAGCTACATTCACGCTTCTGCCCTTGTGAGCAAATCCGTTCTTGGTCCTAAATCGATCCATGGATCCGC CATGATTCCCTCGGAGAAAACCGCTCCGGCTGGACCACTCTGGTCTGCCCTTCTTGAACCTGGTGTCAAGCGTGCGTTGGTTGTTGGTGTAGGAAT ACAGATACTACAGCAGTTTTCGGGTATCAATGGAGTTCTCTACTACACTCCTCAGATTCTTGAACGTGCTGGCGTAGACATTCTTCTTTCAAGCTTCG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001G05	AT4G09010.1	APX4 (ASCORBATE PEROXIDASE 4); peroxidase	GGTACACATTCTCGCTCTCTCTCTCACATCAGAACCCAGAAATGAGAGGAGTTTCTTTCCTCTCCACTGTTCCTTCCTTCACCAACACAAACAATCTT CAACATCTCACACTCTCTTCTTCTCATCGCTCTGGTCTCATCATTCGATGTTGCAAGATCGATCCCCAAGTTTCCGGCGAATGTTTAGCTTTCCACCG CCGGGATGTTTTAAAACTCGCCGGCACCGCCATTGGAATGGAGTTAATAGGTAAGGGCTTCATTAACCATGTGGGTGATGCAAAAGCTGCTGATTT GAATCAGCGTAGACAAAGATCCGACTTTCAATCAAAGATCAAGCTTATGCTTTCGAAAGCGGTTAAGGCTAAACCGGAGCTTGTACCTTCCATACTTA CTCTAGCTCTTAATGATGCCATGACTTATGACAAGGCTACAAAATCCGGGGGAGCCAATGGATCCATACGGTTCAGCTCTGAGATAAGCAGAGCAG AGAACGCAGGGCTTTCTGATGGGTTGGCTCTCATAGAAGAAGCAAAGAAGGAGATTGACTCTTTCTCTAAGGGTGGACCTATTTCATATGCAGATCT CATTCAATTAGCAGGACAAGCAGCGGTCAAGTCTACTTTTTTAGCATCGGCAATACGCAAATGCGGTGGAAATGAAGAGAAAGGGAACTTACTCTAC ACTGCATATGGTTCAAGTGGTCAGTGGGCTTTGTTTGATAGGCAATTCGGAAGGAGTGATGCAACAGAGGCAGATCCAGAAGGGAGAATTCCACTT TGGAGAAAAGCAACTGTGCAAGAGATGAAAGATAAGTTCATTGCCATCGGATTAGGTCCTCGTCAGCTAGCTGTAATGTCTGCATTCTTGGGTCCTG ATCAAGCCGCAACAGAACAGCTCTTAGCTAGCGACCCACAAGTCGCTCCATGGGTTCAGAAGTATCAACGAAGCCGTGAAACTGTATCTCAGACAG ATTACGAGGTTGATTTGATAACTGCTTTGACAAAGCTGAGTGGTCTAGGACAGCAAATCAACTATGAGGCATACACATATCCTGTCGAGCGGATCAA
GCT-001G06	AT5G12860.1	DIT1 (DICARBOXYLATE TRANSPORTER 1); oxoglutarate:malate antiporter	GACGTCCTTTGCTCTCGCCGACGCTACAACAATGGCGTCTCTCGCTCTCTCCGGCTCCTGCTCTCTCGCTTTTCCCCTCAAATCTCGATCTCTCCTT CTCCCTCGTCCTCCTTCCTCTCTCAATTTGCTGAAACCTCTCCGATCTGCCGATTCTCGCATCTCCTTACTCAAATCTCCACTTCCCGTCGCTCTCAC CCGGAGGTCAACTCTCGTTAAAGCCTCTTCCGCCGCAGCTGCCTCATCTTCCTCCTCTCCGGCTCCCGTCCTCCCAGCTCCGGCGCCATGGCAAG GAGCCGCGATTAAGCCGCTTCTCGCGTCGATCGCCACCGGTTTGATTCTATGGTTCGTACCGGTTCCCGAGGGAGTCACCCGCAACGCGTGGCAG CTACTCGCGATCTTCCTCGCCACGATCGTCGGGATTATCACGCAGCCGCTTCCGCTCGGCGCGGTGGCTCTATTGGGACTGGGAGCTTCCGTTCT CACCAAAACCCTAACGTTCGCAGCCGCCTTCTCCGCTTTCGGAGATCCGATCCCGTGGCTCATCGCTCTCGCTTTCTTCTTCGCTCGTGGTTTCATC AAAACCGGTCTCGGTAACCGAGTGGCCTACCAGTTCGTTAGGCTCTTCGGGAGCTCATCTCTCGGGCTCGGTTACAGTCTCGTCTTCAGTGAGGCT CTTTTGGCTCCTGCGATTCCTTCCGTGTCAGCTCGTGCCGGTGGAATCTTCCTCCCTTTGGTGAAATCTCTCTGCGTCGCTTGTGGTAGCAACGTTG GGGATGGAACCGAGCACCGTCTTGGCTCGTGGCTGATGCTTACCTGTTTCCAGACTTCCGTGATCTCTTCCTCTATGTTCTTGACGGCTATGGCAG CGAATCCCTTGAGCGCTAATCTGGCGTTCAACACGATCAAGCAGACTATTGGATGGACTGATTGGGCTAAAGCTGCGATTGTGCCAGGACTTGTGT CATTGATTGTTGTTCCGTTTCTTCTGTATATCATCTATCCTCCTACGGTGAAAAGTAGTCCTGATGCCCCGAAGCTGGCTCAGGAGAAGCTAGATAAG ATGGGACCTATGTCCAAGAACGAGTTGATTATGGCTGCCACTTTGTTCCTCACGGTTGGTCTCTGGATTTTCGGAGCTAAGTTGGGTGTGGATGCTG TTACTGCAGCCATTCTTGGATTATCAGTCCTCCTTGTGACAGGTGTTGTGACATGGAAGGAGTGCTTAGCTGAGTCAGTCGCATGGGACACGCTCA CATGGTTCGCTGCTCTCATTGCAATGGCTGGTTATCTTAACAAATACGGTCTCATTGAGTGGTTCAGCCAGACTGTAGTCAAGTTTGTGGGAGGATT GGGTTTGTCATGGCAACTATCTTTTGGAATCCTCGTCCTCTTGTATTTCTACACTCACTACTTCTTTGCCAGTGGAGCGGCTCACATCGGGGCTATGT TCACTGCCTTTTTATCGGTCTCAACCGCTCTAGGCACTCCACCTTACTTTGCAGCCTTGGTTCTTGCATTCCTTTCGAACCTGATGGGAGGATTAACC
GCT-001G07	AT3G16190.1	isochorismatase hydrolase family protein	GGTGCTGGAAAAGAACCATGGCCGAGAGATGGACGAACACGGCTCTACTCGTGATCGATATGCAGAATGATTTCATAGAGGAAGGTTCGGTGATGC AAGTGAAAGGCGGAAAATCTATAGTTCCTAATGTTATTAAAGTCGTCGAACTCGCGAGGCAGCGTGGCATTCTCGTAATTTGGGTCGTTCGAGAACA CGATCCGAGAGGAAGAGATGTGGAACTATTCAGGCGTCACCTCTACAGCTCTGAGAAAGTTGGACCGACTGTTAAAGGAACAGTAGGTGCAGAGTT GGTAGATGGACTGATCATCAGAGAAGAAGAAGACTATAAGATAGTGAAAACACGTTTCAGCGCATTCTTTGGTACTAATCTTCATTCCTTCTTGCAAA CTTCCGGGGTTACCAAGTTAGTGATTGCTGGTGTTCAAACGCCAAATTGTATCCGGCAAACGGTGTTTGATGCAGTGGAGCTGGATTATCCATATGT GACTGTCATCGCAGATGCCACAGCCGCTGCAACACCAGAGATCCATACCGCGAATATTCTGGACATGAAGAATATCGGCGTCAAGACTCCTACATT ACACGAGTGGTCCGAAGAATTTGCTTGAGTATTCGCATGACAAACTTCATCCTTAAACCCTTGTTGTATCTTCTTCCACCTCTTGTTTTTTGTTTGTTT
GCT-001G08	AT1G60950.1	FED A (FERREDOXIN 2); electron carrier/ iron ion binding	GAACACAGAGAGAAGAAACCCAAAAATCTCTCAAATCATCTAAAAATCTAAAACACAGAAAAAATGGCTTCCACAGCTCTCTCAAGCGCCATCGTCG GAACATCCTTCATCCGCCGTCAAACAGCTCCGATCAGCCTCCGTTCCCTCCCATCAGGCAACACTCAATCCCTCTTCGGTCTCAAATCAGCCACCTC ACGCGGCGGACGCGTCACAGCCATGGCTACATACAAGGTCAAATTTATCACACCGGAAGGAGAGCAAGAGGTTGAGTGCGACGACGACGTTTACG TCCTCGACGCGGCGGAGGAAGCCGGAATCGATCTTCCTTACTCTTGCCGTGCTGGTTCTTGCTCGAGCTGTGCCGGTAAAGTTGTGACTGGATCTG TTGACCAGTCTGACCAGAGTTTCCTCGATGACGACCAGATTGGTGAAGGATTTGTTCTCACTTGTGCTGCTTATCCTACTTCTGATGTTACCATTGAG ACCCACAAAGAAGAAGACATTGTTTGAAAAGCGCAAAGCTTTTTTGATGGTTTCATAAAAATCATGTCTTTTTTAAAAAAGTTTTACATTTTGGGGTTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001G09	AT1G09020.1	SNF4 (Sucrose NonFermenting 4)	GGCCCTCAGATTCTTCACCTTGAAAGACCAATAACATTATTTCCAGATCCAAACAATGCCATCTTCACTCTCTCAAATTAGGGTTTTCTCCAACTTTTC AAATCCCTAATTCTTGGGCTTGCATCAATCTCATTGGATTTCCTCTGGACTCTTTGCGATCATCGAGGTCTGTATTCCTCTTCCGCCTGCCGAATTAA GATCAGAAGCAGCGAATTCCTCGGAGCTTTCCTCGATTTTTCAGCTAGGTTTCCAGTGGTGTATCATCTCATCAGTTGACCTTTGCTTTTATAGCCAG ATCGTTCGTGGTTGAGTTAGGGCTCTTTACAGGTTTTCGTGTTGATGAATTTCCGCCTCGGTTCGGGAGTTCAGTAATTTCTCCTCTCGTTGTAGATC GTGATTTGGGCTTTTAGGTTTTCGTTTACTGGTGGCTGGGATTTACCGTATCCTTATCGAATTCGGACTCTCTGCATGTGTAAGCCTTAAAGTCGGAA GTTTTCCCCAGTTTCGTTCTTCAAAGAGTTTCTTCTGCTGTAGAGTCAAGATATTTACGCGCACTGAGAAGTTTTTAGGAACTACGTTCTGTGGATTG TTGTAGCCTGTAACTATATAAACACTGGGAGGGGATGTTTGGTTCTACATTGGATAGCAGCCGTGGAAACAGCGCTGCCTCAGGGCAGCTTCTTACT CCGACCCGCTTCGTGTGGCCTTATGGAGGTAGAAGGGTCTTCCTAAGCGGATCTTTCACCAGGTGGACAGAACATGTGCCAATGTCACCACTTGAG GGCTGCCCTACTGTTTTTCAAGTCATTTGCAACTTGACGCCTGGTTATCATCAGTATAAGTTTTTTGTTGATGGCGAATGGCGGCATGATGAGCACCA ACCATTTGTAAGCGGAAATGGTGGAGTAATGAATACAATATTTATAACTGGACAAGATATGGTTCCTACTGGTTTTATCCCAGAGACACTTGGCCGAG AGAATATGGATGTGGATGGTGTCTTCCCGCGAATGACTGATTCACCTCAGGAGTCTATCCCTAGGATGTCAAGTGTTGATTTGGAGGTGTCTCGTCA TCGTATATCTGTTTTATTGTCTACTCGTACTGCATATGAGCTGCTCCCAGAGTCGGGCAAGGTTATTGCATTGGATGTTAATTTACCAGTGAAGCAAG CATTCCATATACTCTATGAACAGGGGATCCCTTTGGCTCCTCTTTGGGACTTTGGTAAAGGCCAATTTGTTGGAGTTCTTGGTCCACTGGACTTCATT CTAATACTGAGAGAGCTTGGAACACATGGATCAAACTTGACCGAGGAAGAACTTGAGACGCACACAATAGCGGCCTGGAAAGAGGGGAAGGCTCA TATTAGCAGACAATTCGATGGGAGTGGGAGACCGTATCCTAGGCCACTTGTTCAGGTTGGGCCCTATGACAATCTGAAAGACGTTGCCCTGAAAATT TTGCAAAACAAGGTGGCAGCCGTTCCAGTTATATATTCTTCTTTGCAGGATGGTTCATATCCGCAGTTACTGCATCTTGCTTCACTATCAGGCATATT AAAATGTATATGCAGATACTTTAGACATTCGTCTAGCTCTTTGCCAATCCTTCAGCAGCCCATTTGTTCCATTCCCCTGGGTACTTGGGTCCCTAGAA TCGGAGAATCAAGTAGCAAACCTCTCGCTACACTGAGACCACACGCCTCTTTGGGTTCTGCGCTCTCATTATTAGTTCAAGCTGAGGTTAGTTCAAT TCCCGTAGTTGATGACAATGACTCGCTTATTGACATATACTCCCGAAGTGACATAACTGCTCTGGCTAAAGATAAGGCATATGCACAGATTCATCTTG ATGACATGACGGTTCACCAGGCGCTGCAATTGGGGCAAGATGCGAGTCCGCCTTATGGAATCTTCAACGGGCAGAGATGTCACATGTGCTTGCGG TCAGACTCTCTTCTCAAACTCATCGACGCCTTGCCGAATCCAGCTCTAAGCAGCCTGCTCATACTCGAAGCAGCGAGCAAACCTCTTCAAGCTAT
GCT-001G10	AT5G19140.1	auxin/aluminum-responsive protein, putative	GGTGTTCGATATATCTCTAACAGAGAAGTAACTCAAAGATCACAATTATCTAAGAAATTAGATATTTGTTTTTTGTTTTTTTTTTTGTTTGGGAGTCATAT TGAGGAATTACTTGTTATTAGCGGAGGAGAGAGAAAATGTTGGGAATTTTCAGCGGAGCTGTAGTATCGCCGCCGGAAGAGCTGGTGGCTGCCGG AAGCCGAACTCCGTCGCCGAAAACAACCGGAGAGGCTCTAGTGAAACGGTTCGTCGGAAAAAATCCATCCGCCGTGTGTATACAAGTCGGAGACG ATGTGCAGCTTGCGTATAGCCACCACAAAGAGAATCCTCTCCGGCCGAGGTCATTTGGGGCTAAGGATGAGATATTCTGCTTGTTCCAAGGCTCGC TTGACAATCTAGGAAGCTTGAAGCAGCAATACGGGCTTGCAAAGAATGCGAACGAGGTTCTCTTGGTCATTGAGGCTTATAAGACTCTCCGTGACAG AGCTCCTTACCCGGCCAACCACGTCGTGGCTCACCTGAGTGGCGATTTCGCCTTTGTGGTCTTCGATAAATCAACCTCCACTCTGTTTGTAGCCTCT GACCAAGCTGGTAAGGTTCCATTGTATTGGGGAATAACAGCAGATGGATGTGTGGCATTTGCTGATGATGTTGAGTTGCTGAAAGGTGCTTGTGGC AAGTCTCTTGCATCTTTCCCTCAAGGCTGTTATTACTCGACGGCGTTAGGTGGGCTTAGGAGCTTTGAGAACCCTAAGAACAAGATCACTGCCATTC CTGCTAAAGAGGAAGAAATTTGGGGAGCCACCTTCAAGGTGGAAGGAGCAGCAGTTCTTGCAGATTGAGAATCAAGAAGTAATGATGTAGGCGAAA TCAAGAAGGTGTTCTATGAGTTCTATAAGCTATCAGTGGTTGGTGATGATATGTGTAGTGTTGTATCTCTCTGTTGTCTTTTACATCTTTGTACAGCCG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001G11	AT2G26900.1	bile acid:sodium symporter family protein	GGTTCATTTTTGTGAAGCCTCTCTCTGTGGTGATCCTAAAACCCTTTCGCTAAAATCACATGGCCTCCATTTCTAGAATTCTGCCTACTGATGGTAGA TTAAGTCAATGCAACAGTGGTATCGGCGCTTCCTGGGTTCCTGCTACGAGGAGAGCTCAATCTCACTTAGTTTCTCCCAAGTTGTTATCGGTTAGCA AAGCTGGAATAAGTTTGAGGATTCAGAACAGTAAACCATTACGCTCTGTCTTTGCTCTTGAATCAGCTGCCTCCAGGAGCAGCCGAGTTGCTTGTAA GGCTGCTGCAGATTTGTCGGGTGATGTACCTGAAACTCCTAAGGAGCTTGGCCAGTACGAGAAAATTATTGAACTTTTAACGACCCTTTTCCCACTT TGGGTTATTTTGGGAACACTTGTTGGCATCTTCAAGCCATCTTTGGTTACATGGTTGGAAACAGACCTCTTCACTCTAGGTCTGGGATTTCTCATGCT TTCCATGGGATTAACTCTTACGTTTGAGGATTTCAGAAGATGTTTACGTAATCCATGGACGGTGGGTGTTGGTTTTCTTGCGCAATATTTAATCAAAC CAATTCTAGGTTTTCTCATCGCAATGACTCTTAAGCTTTCGGCACCTCTTGCGACTGGTCTTATCCTCGTCTCATGCTGCCCTGGAGGACAGGCCTC GAACGTTGCAACCTACATTTCCAAGGGGAATGTAGCTCTCTCTGTACTCATGACAACGTGTTCAACCATTGGGGCTATTATAATGACTCCTCTTCTCA CTAAGCTTCTTGCTGGCCAGCTTGTTCCCGTTGATGCTGCTGGACTTGCTGTTAGCACTTTTCAAGTAGTGTTGATGCCTACTATAGTTGGAGTTCTG GCCAATGAGTTCTTTCCTAAATTTACGTCGAAGATTATAACAGTGACACCTCTAATCGGAGTCATTCTGACCACTCTTCTTTGTGCCAGTCCTATTGG ACAAGTTTCAACGGTTTTGAGAACACAAGGAGCTCAACTTATACTCCCGGTGGCACTACTTCATGCCGCAGCATTTGCTATTGGCTATTGGATATCAA AGTTTTCTTTCGGCGAGTCCACTTCTCGCACCATTTCCATAGAATGTGGAATGCAAAGTTCAGCGCTTGGGTTCTTGCTTGCCCAAAAGCATTTCACA AACCCTCTTGTCGCTGTTCCTTCTGCGGTCAGTGTTGTCTGTATGGCGCTTGGTGGGAGCGGCCTAGCCGTGTTTTGGAGAAACCAACCTATTCCG
GCT-001G12	AT2G30860.1	ATGSTF9 (Arabidopsis thaliana Glutathione S-transferase (class phi) 9); glutathione transferase	GGCCATCAAGCTAACTGTGACTGTGTGAGTAAGATAGAGAGAGAGAAAGAAAAACAGAGAAGAAAGAAAAAAAATGGTGCTAAAGGTGTACGGACC TCACTTTGCTTCACCGAAGCGAGCTCTGGTAACACTGGTCGAGAAGGGCGTTGCCTTCGAGACCATCCCCGTCGATCTCATGAAAGGAGAGCACAA GCAGCCTGCTTACCTCGCGTTACAGCCTTTCGGTACCGTTCCTGCTGTTGTCGACGGAGACTACAAAATCTTCGAGTCTCGTGCGGTGATGAGGTA CGTAGCTGAGAAGTACAGGTCACAAGGACCTGACCTTTTGGGGAAAACCGTGGAAGACAGAGGCCAAGTAGAGCAATGGCTCGACGTGGAGGCAA CCACTTACCACCCACCGCTACTTAACCTAACACTGCACGTAATGTTCGCGTCGGTCATGGGATTCCCGGCTGATCAGAAGCTGATCAAGGAGAGCG AAGAGAAACTCGCGGCTGTTCTTGATGTGTACGAGGCACATCTATCAAAGAGCAAGTACTTGGCTGGTGATTTTGTGAGCCTTGCTGATTTGGCTCA CCTTCCCTTCACTGATTACTTGGTTGGTCCCATAGGGAAGGCTTACATGATCAAAGATAGGAAGCATGTGAGTGCATGGTGGGACGATATTAGCAGC CGTCCTGCGTGGAAGGAGGTTCTTGAGAAGTATTCACTCCCGGCTTAAAGATGATGTTTGTGTTCTTGTTGTTGTTTGTGTTTTTGGGTCTCTAAGTG ATGCTGTGTTTTTTATTTGAGGTTTTTAATAAAAGTGGAACTGTATGCCTTCTCTTATCAATGTTACCTCTCTGTTCTGTTTCCTTTTGTAACTCCAACT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001G13	AT2G26140.1	FTSH4 (FtsH protease 4); ATP-dependent peptidase/ ATPase/ metallopeptidase	GCTATAAGTCTTAATAAAAAATTTGACAAGAAGTGTTTTGTTTCGGATACAGATCGAGAGAAAAGAAAGAAGCTTCGTGTTCGATTTCCGAACATTTCA CTCACACCAATTTTGTAAGAGGCCAGCGAAGGAGATTGATTGATGGCTTGGAGGCGCATCATCACCAAGGTTTCGAGTCATGAACGAGAATTGAGC AGTTTAAGAAGCTTACTTGTGAGAGCTTACACTTCTCTTCCTAGAGTAGGAGTTGTTGGAGCTGCAGGTGGTGGTGGACGCTCTTTGCCGCAATCGA GGTTTCAATCAAGCTATGTAGGTAGCTTTGCTCGGAGAGTGCGTGACAGAGAAGAATTTAATGAGGTTGCACAACTGAGAGAACTTGTTCGCAGAAA TGACCCTGAAGCAGTTATCAGAATATTTGAAAGCAGCCCATCTATGCATTCGAATCCCTCCGCATTGACGGAGTACATTAAGGCATTGGTCAAAGTT GATAGGCTAGATAACAGTGAGCTGGTGCGAACATTGCAAAGAGGTATTGTTGGTGCTTCACAGGAGCAAGACAGTTTTGGAGGTCTAGCAGCATTT AAAAACTTGGGAAAACCAACAAAAGATGGTGCCCTTGGAACTGCTGGTGCACCGATTCATACGATATCCACTGAAAGAAGTAGCTTTAAAGAACAGC TATGGAGTACATTCCGGACTATTGCTGTTGGGTTTTTACTTATATCTGGTGTTGGAGCACTTATCGAGGATAGAGGAATTGGCAAAGGACTTGGTTTG CATGAAGAAGTGCAACCTAGTATGGACTCGAGCACCAAATTCACTGACGTAAAGGGTGTTGATGAAGCAAAAGCTGAGCTAGAGGAAATTGTGCATT ATCTTCGCGACCCCAAGAGGTTCACTCGTTTGGGAGGAAAGCTTCCTAAGGGTGTGTTGCTTGTTGGTCCACCTGGGACAGGGAAGACTATGCTTG CAAGGGCTATTGCCGGAGAAGCTGGTGTGCCTTTCTTCTCCTGCAGTGGTAGTGAATTCGAAGAGATGTTTGTTGGGGTTGGAGCCAGAAGAGTGA GAGATCTTTTTGCTGCTGCAAAGAAGTGTTCCCCTTGTATTATTTTTATCGATGAAATTGATGCTATTGGAGGAAGTCGTAACCCCAAGGACCAGCAA TACATGAAGATGACGTTGAACCAGTTGCTTGTTGAGTTGGATGGGTTTAAACAGAATGAAGGAATTATTGTGGTTGCGGCAACAAATTTCCCTGAGT CATTGGATAAGGCCCTGGTTAGACCTGGTAGGTTTGATCGCCATATTGTTGTACCTAACCCAGACGTGGAAGGTCGACGCCAGATTTTGGAGTCTC ACATGTCAAAGGTGCTTAAAGCTGAAGATGTCGATTTAATGATCATTGCTAGAGGAACGCCTGGATTTTCTGGGGCTGATTTGGCGAATCTGGTCAA CGTTGCTGCTTTAAAAGCTGCAATGGACGGCTCAAAAGATGTGACAATGTCTGATCTCGAGTTTGCGAAAGACAGAATCATGATGGGAAGCGAGAG AAAATCTGCAGTTATATCCGACGAGTCAAGAAAACTGACTGCTTTCCATGAAGGTGGTCATGCCCTTGTTGCCATCCACACAGAAGGTGCTCTTCCT GTCCACAAAGCAACCATTGTACCTCGTGGTATGGCTCTTGGCATGGTTTCTCAGCTACCGGATAAAGATGAGACGAGCATATCCAGGAAACAGATG CTTGCTCGGCTTGATGTTTGTATGGGAGGCCGAGTAGCTGAAGAGTTGATCTTTGGGGAAAGTGAGGTAACTTCAGGTGCTTCTTCTGATCTTGAGC AGGCAACTAAACTTGCTCGAGCAATGGTTACGAAATTCGGTATGAGCAAAGAGGTGGGTCTTGTGGCTCATAACTATGACGACAATGGGAAAAGCA TGAGCACCGAGACGAGGCTTCTCATTGAGAGTGAAGTGAAACTTCTTTTGGAAAAGGCTTATAACAACGCGAAAAACATCCTCACGGTTTACAACAA AGAGCTTCATGCCCTTGCGAACGCTTTGCTTCAGGAAGAAACTCTGTCCGGTAAACAGATTAAAGAATTGCTTGCCGATCTCAACTCTCCGCAGATA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001G14	AT2G38020.1	VCL1 (VACUOLELESS 1)	GGCTTTCCGATCTCTTTCTCTCAAAGCTCCGTCGTCTCCATCGATGAGCTCCTCTCCTCTTCGATTTTCCTCTAAGAACAATCGTCGATTTCGTTTCTA AAATTTGAAATAAGATGGCGAACGTGTCTGTTGCTGCGGAATGGCAACTTCTCTATAATCGATATTACAGGAAGCCTGAGATACCAAATGAGATGGA AACATGTAGATTTGAGTCGCAACAAGGTGGCTTGTGCCTCATTTGGTGGGCCAATTGCAGTCATTCGAGATGACTCGAAGATTGTCCAACTCTATGC TGAATCTGCTCTAAGAAAGCTCCGCATTTTCAACTCAGCAGGTATACTTCTCTCTGAGACGGTCTGGAAACACCCTGGAGGACGCCTCATTGGAATG TCCTGGTCTGATGATCAGACACTAATCTGCATCGTCCAAGACGGCACTATTTATCGTTACAACATCCACGCTGAGCTCATCGAGCCCAATATGACAA TGGGAAAGGAGTGCTTTGAGCAGAATGTGGTGGAGTGTGTCTTCTGGGGAAATGGTGTTGTCTGCTTGACAGAAGGAGGGCAGTTATTCTGCATTT CCGATTTCAAGACAATGAAGCCTTATAAGTTGGCTGATGTGCCGGGGTTAACAGAAGACGATCTGCTTCAGCCAACTTGCTTGGCTGTGAGGGAAC CTCAGTACACAATGTCTGGGAATGTTGAGGTGTTGGCAGCAGTTGGCGATGACATTTTTGTTGTGGATGAGGACGAGGCACAAACTATTAGGTTTGA TGAGCCTAGTGTTGAAGACTCTGAGATGCAGAATGATGATTATGGGAATTTGATTGGACCTGTGCAGAAGATGATTGTATCACCTAACGGGAAATTT CTGGCACTCTTCACTCATGATGGCCGGATTGTTGTTGTTGGCATGGAAACAAAACATATTGCTATTGACTACAGTTGCGAGTCAGCCCTTCCTCCGC AGCAAATGGCTTGGTGTGGAATGGATAGTGTGCTGCTCTATTGGGATGAGGATTTGATGATGGTGGGTCCTTTAGGAGAACCAGTTCACTATTTCTA TGATGAACCTGTAATTCTCATCCCAGAATGCGACGGAGTGAGGATATTATCTAACACGAGCCTTGAATTTCTGCAAAGAGTACCTGATTCTACCGAG TCAATCTTTAAGATTGGAAGCACATCACCTGCAGCTTTGCTGTATGATGCTTTGGATCATTTTGACAGGCGAAGTGCTAAGGCAGATGAAAATTTGAG ACTAATTCGTTCATCGCTGTCTGAGGCTGTTGAATCCTGTATTGATGCTGCTGGCCATGAATTTGATGTAACTCGTCAGAGAGCCTTGTTACGAGCG GCTAGTTATGGACAAGCGTTCAGCTGCAATTTCCAGCGTGACCGTGTCCAAGAGACTTGTAGAACCTTACGGGTTTTAAACGCCGTTCGTGATCCTA ATATTGGCATACCTCTGAGCATTCAGCAGTACAAGTTACTGACAGCAATGGTTTTGATTAGTCGCCTAATTAATGCTCATTCCCACCTTCTTGCTCTC CGGATATCTGAGTACTTAGGAATGAATAAAGAAGTGGTGATAATGCACTGGGCGTGTGCAAAGATAACTGCTTCACAATCAACTCCAGATGCTCATC TTCTTGAAATTTTACTTGATAAGCTCCAACTATGCAAAGGAATATCTTATGCTGCAGTGGCCACTCATGCTGATAACTGTGGCCGTCGAAAGTTAGCT GCAATGCTAGTTGAACATGAACCACGCTCCACGAAACAGGTTCCTCTTTTACTAAGTATTGGGGAGGAAGACACCGCTTTAGTGAAAGCAACTGAGA GTGGTGACACAGACCTGGTTTATCTCGTTATATTTCATATATGGCAAAAGAGGCCTCCTTTGGAATTCTTTGCGATGATCCAAGGCAGAGTTTTGGCT CGTGATTTATTTGTAGCTTATGCACGGTGTCATAAACATGAATTCCTGAAGGATTTCTTCTTATCTACGGGTCAGATTCATGAAGTAGCTTTCCTTTTA TGGAAAGAATCATGGGATATGGGCAAAAACCCAATGGCTAGCAAAGGATCTCCGCTGCACGGTCCGCGGATAAAACTAATAGAGAAAGCCAGTAAC
GCT-001G15	AT1G59640.2	ZCW32 (BIGPETAL, BIGPETALUB); DNA binding / transcription factor	GGTAACGCAATCCACAGGCCAAGGAGTTTGCATACTCACCAAGGCACTTCATCATCTCTCTCTCTTGCTCTCTCTCTCTCCGATTTGAATCGCCGGA AACTGAGTCAACTCGGTGGAGGTTACTGTTTTTGTTTGCAGAAGTGTAATCACACTATGATTTGATGGATCCAAGTGGGATGATGAACGAAGGAGGA CCGTTTAACCTGGCGGAGATCTGGCAGTTTCCGTTCAACGGAGTTTCAACCGCCGGCGATTCCTCGGCGAGGGGTAACCAGTTCGCTGATTCGAAT CTGAACACAACCACCGCCGTCGGCGATGCGGCGCGTATCAGCCACGCGCTCTCGCAGGCGGTGATCGAAGGTATCTCCGGGGCGTGGAAGCGGC GAGACGAGTCGGCGAAGGTCGTCTCCACCACCAGTAACTACAATGGCGCGAGTGAAGGTGACAAGAAAAGACAGAAGATAGATGAAGAGTGTGAT GAGAAAACAGAAGCAGGATTTTCTTCGGAGACGAAAATGGATCAAAAGAAGCAGCAAATTGATCCAACAAAAGATTATATTCATGTTCGAGCAAGAA GAGGTCAAGCTACTGATAGTCACAGTCTAGCTGAAAGAGCGAGAAGAGAAAAGATAAGTGAGAGGATGAAAATCTTACAAGATCTTGTGCCGGGAT GTAACAAGGTTATTGGAAAAGCACTTGTTCTAGATGAGATTATTAACTATATACAATCATTGCAACGTCAAGTTGAGGTAAAAACCTCTGTTTCTCTCT TCTCTATTGTATGTTTACTCTACGTGCATGTGTGTTTCGTACGACTATACTTGTGATTTTTCAGTTTCTATCGATGAAACTCGAAGCTGTGAACTCACG AATGAACCCTGGCATCGAGGTTTTTCCACCGAAAGAGTTTCGTCAGCAAGGGTTTGAGAATCAAGAGATGCAGTTTGGGTCGCAGTCTACAAGAGA ATTCAGTAGAGGAGCATCACCAGAGTGGTTGCATATGCAGATAGGATCAAGTGGATTTGAAAGAACATCCTCATAAAGAACAACAAACACTTCATCTT CTTAATCCAACCAAAGAGAAGCATATATACATACATATAAATGTCTTGCTTCATCATAGGTAATAAATATATGGATGTGAATATACACGTCTTAGTTATA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001G16	AT3G16920.1	chitinase	GAATAGAAGAATAATAAGCCGAAATATATTGATCAACCATGGTTTCAAAACCACTACTCTTCTTGCTGCTTCTTGCGTTGGCATTGGTCGTGTTTCAG ACCAAGTCTCTAGCAAACGCTGAAGATTCCGAGCCTTCAAGCTCAGCGAAAAAGCCTCTGGTGAAGATCGTGAAGGGGTAAAAGCTATGCGACAAA GGATGGGAATGTAAAGGATGGTCCGAGTATTGTTGTAACCATACAATCTCCGATTTTTTCGAGACTTACCAATTCGAGAATCTATTCTCTAAACGTAA CAGTCCTGTGGCTCACGCCGTCGGTTTTTGGGATTACCGATCCTTCATAACCGCCGCCGCAGAGTATCAGCCTCTTGGGTTCGGTACCGCCGGAG AAAAACTTCAAGGAATGAAGGAAGTCGCTGCGTTTCTCGGCCACGTTGGAAGCAAAACTTCATGCGGGTACGGGGTTGCAACGGGCGGACCATTA GCTTGGGGACTGTGTTACAACAAAGAGATGAGTCCTGATCAGCTTTATTGCGATGATTACTATAAATTAACATATCCTTGTACTCCTGGTGTCTCGTA CCACGGTCGAGGAGCTTTACCGGTTTACTGGAATTACAATTACGGTCAAACCGGGGAGGCTTTGAAAGCGGATCTACTGAGTCATCCAGAGTATCT AGAGAACAACGCGACGTTGGCGTTTCAAGCAGCGATTTGGCGGTGGATGACGCCGCCGAAGAAACATATACCGTCGGCGCATGATGTATTCATCG GAAAATGGAAGCCGACGAAGAACGACACGGCGGCGAAACGATCTCCGGGGTTTGGAGCCACCATTAACGTGCTTTACGGCGATCAGATGTGCAAC AGTGGATTCGATAACGATGAGATGAATAACATTGTTTCTCACTACTTGTATTATTTAGATCTGATGGGAGTTGGAAGAGAAGAGGCTGGTCCTCATGA GACTCTATCTTGCGCCGATCAAGAGCCTTTCTCTTCTTCTTCCTCCTCCTCTGCTCCTCCAAGCTCTGGCTCCTCGTCTTGAATGAGGTTTTTCTTGA AATAAATGTCGGTCTAATTTGGCTTTCGAGGGAAAAAACTGTGAGTTCTATGTATGTATGTGTTTTGTGTTTTGCAAGGACTTGATGTTCAATATTTTG
GCT-001G17	AT4G23190.1	CRK11 (CYSTEINE-RICH RLK11); kinase	GGCTATAATCGAAAAAAAAGAACAATGAAGCAGAGGCGTCTGTTTTCAATCCTCTGTTTTGTCCTCATAAGCTTTGGTGTTTCTTCAGTTTCAGCACA AACATGTATGGACAATGGGAATTTCAGGCCCAACGGTCCTTACGACACAAATCGCCGTCTCATCCTCTCTTCTCTTCCTTCCAACGTCACGGCTCAA GACGGCCTCTTCTACAACGGTTCCATCGGACAAGAACCGAACCGTGTCTACGCTGTAGGGATGTGCATCCCAGGATCAGATCCAGATGACTGTTCT GAATGTATCAAGACAGCATCTGATGGTTTGATACAGACTTGTCCTAACCAAACAAACGCGTTTACATGGCCAGGTGAGCCCACGCTTTGCCATGTCC GCTATTCCAACACTTCTTTCTCAGGAACTGCAGATTTGGACCCGCGTGTACTTCTCACCAACATTGGAGATCTAAACTCAAATCTAACAGAGTTCAGG ACAGTATGGGAAAGATTAGTGGGTCGCATGATTACTGCAGCTTCCGAAGCAAGAAACACTTCATCGTCTAGTAATAACCATTACGCAGCTGATACAG AAGCCTTGACATCTATCCGGACTATATACGCTTTGATGCAATGCACGCCGGATCTTTCTACTTCTGATTGTGACAACTGTCTGCGACAGAGCGCAAT TGACTATCAGTCATGCTGTGGTGAAAAGCAAGGAGGTGTTGTTATGCGGCCAAGCTGCTTCTTCCGTTGGGATTTGTATACATACTCTAAGGCTTTT GATAATCTTCCGGTGGCTTCTTCTCCAACTCCTGTGGCTGTGCCACAACCACAACCTGCAGGTGACCAGGCTAACACGACTGATAATGAAGAAGATA GCAAAGGAATCTCAGATGGAATTGTCGCGGCGATTGTGGTGGCGACTATCGTTACCATCTTGATACTGCTTATTCTATGTTTTTTTCTATTCCGGAGG AGAAAACCATATCAGAGAACTGAAAATGAATCTGATAGTGATATATCAACTGAACATTCATCACAATACGACTTTAAGACAATTGAAGCTGCAACAAA CAAGTTTTCAATGAGTAATAAGCTAGGTGAAGGTGGATTTGGCGAGGTTTACAAGGGTAAGCTTTCTAATGGAACTGAAGTAGCTGTAAAGAGACTC GAAAAAGTCAGGACAAGGCGCAAGAGAGTTCAGGAACGAGGCTGTTCTTGTGTCAAAACTTCAACATAGGAATCTGGTTAGACTTCTTGGATTCTGT TTGGAAAGAGAGGAGAAGATTCTGATCTATGAGTTTGTTCCCAACAAAAGCCTTGACTATTTCCTATTCGACCCTGAAAAGCAAGCCCAGGTGGACT GGACTCGGCGATACAATATCATTGGAGGGATTGCTCGAGGAATTCTTTATCTTCATCAAGATTCACAGCTCACAATCATACACCGTGACCTCAAAGC AAGCAACATTCTCTTAGATGCTAATATGAACCCAAAAATTTCAGATTTTGGATTGTCAACGATCTTTGGAATGGAGCAAACTCGAGGCAACACCAGCA GAATTGCTGGAACCTACGCTTACATGTCTCCTGAGTATGCAATGCATGGTCAATTCTCCATGAAATCTGATGTTTACAGCTTTGGAGTCTTAGTTCTT GAGATTATAAGCGGCAAGAAAAACAGTGGCGTCTACCAGATGGATGAAACTAGTACTGCTGGAAACTTGGTTACTTATGCTTGGAGGCTTTGGAGG AACGAGTCACCATTAGAGCTTGTGGATCCGGCCATTGGAAGGAATTATCAGAGTAATGAAGTCACTAAATGCATCCACATCGCGCTCTTATGTGTTC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001G18	AT3G56860.2	UBA2A; AU-specific RNA binding / RNA binding	GAGTGGGAATCTGCTTCTTTTAGGAGAAACCAAAGAGAACTTTTGAAACCCTAAACTCCATAGACTATCTTCCCGTCGACATTAAAGCCGCCGATTTC CGCCATGACGAAGAAGAGAAAGCTCGAAACACAATCCAGCGAGGCGTCTGAACCTTCGCAGAAGCAGAAGCAGACGGAGGAGCAGCAGCTTGAAA TTAAAAGTCAGGTTAATAATCAAGCTGGCGGCGAGGAAGAAGTTGAATACGAGGAAGTAGAGGAGGAGCATGAGGAGGAAGTCGAAGATGATGAC GATGATGACGATGAGGATGAAGACGATGTCGGAGGTGAGAATCAGACGGCGGGCAATCGTACAGAGGCGGCGACGTCTGGATCTGGGAATCAGG GGGTTGCAGATACCGATGATGACGAGCCGATTAAGGATTTGTTGGAACCATTTTCCAAGGAGCAGCTTCTGAATCTTCTTAAAGAAGCGGCGGGGA AGCATCTTGATGTAGCGAATCGAATCCGGGAAGTAGCCGATGAGGATCCTGTTCATCGGAAGATATTCGTGCACGGGCTTGGATGGGACACGAAAA CAGAGACTCTTATTGAAGCTTTTAAGCAGTACGGAGAGATCGAAGACTGCAAGGCCGTTTTTGATAAGGTCTCAGGGAAATCTAAAGGATATGGGTT TATTCTGTACAAGTCTAGGTCAGGTGCTCGCAACGCACTTAAGCAGCCTCAGAAGAAGATCGGTAGCCGAATGACGGCGTGTCAGTTGGCTTCAAA AGGTCCTGTCTTTGGCGGAAACCCTGTCGCTGCAGCTGCCTCGGTGGTCCCTGCTCAGCATTCGAACTCGGAGCACACACAGAAGAAGATCTATGT CAGTAATGTAGGAGCAGAGCTCGATCCTCAGAAACTGCTGGCGTTTTTCTCAAGGTTCGGAGAGATTGAAGAAGGTCCTTTGGGTCTTGATAAGTTT ACTGGGAGACCTAAAGGTTTCTGCCTCTTTGTCTATAAGTCGCCTGAAAGCGCCAAGAGGGCTCTAGAGGAGCCACACAAGACCTTCGAGGGCCAT ATCTTGCATTGCCAGAAAGCAATCGATGGTCCTAAACCGGGCAAGCCGCAACAATACAACACTCACAACCACAACAATCCTCGTTTCCAGAGGAATG ATAACAACGGTTACGGTGCCCCTGGAGGTCATGGGCATCTCATGGCTGGTAACCAAGCCGGGATGGGTGCTCCAGCGCAGGCGCTAAACCCAGCT ATTGGACAGGCCTTGACAGCTTTGCTGGCATCGCAGGGAGCTGGTCTGGCTTTTAACCCAGCAATTGGTCAGGCTTTGTTGGGTTCCCTTGGGACA GCTACAGGCGTAAACCCGGGGGCTGGAGCTGGAATGCCATCTGGTTATGCTACTCAAGCTATGGCACCAGGGACGATCCCTGGGTATGGTACACA ACCTGGTTTGCAAGGTGGCTATCAGACTCCGCAACCTGGTCAGGGTGGTTCAGGCAGAGGGCAACATGGTGTCAACCAATACTCTCCGTACATGG GCCACTAGATGTATTATGATGTATCCACTCAGATATCCGAAATCAGTGTTTTAATATTGGCCTGGTGATTCTTCTGAAGTTTAAAAGGAGCTGATGCA AATGAAGTCTTTATGAAATGTTACTCTTTGGTCGCTCATAAGGCCAGACTCATAAAACCTTTTAAGGAGTTTTAGTTTTCGTCTACTTTGTTTTTTTTTT
GCT-001G19	AT4G37000.1	ACD2 (ACCELERATED CELL DEATH 2)	GATAATTAGCCACATAAAAAGATGGCGATGATATTTTGCAACACTCTCTTCTCTTCTTCTCCGTCTCTCTCGCCGTTAACTTCGACTCGAACAACACC GTCGCGATTCTCAAAGAGACTCAGAGTTCGAGCTCAATCCCAGTCGATGGAGGATCACGACGATCTTCTCCGGCGAAAATTCATGGAGTTTCCGTA TGTGTCGGCCACGCGCAGGCAGCTAATGGTTGATCTCATGTCGACGGTGGAGGATCGCCTCCATTCGAAACTCCTCCCCTGCAGCCTCCCGCCGG ATGTACGGAACTTCAAGAACCCTAACGGTTCCGCCGAAGCATCTCTTCATATCAGATCCGGCGAGAAATCCTCTCCGATTGATTTTGTTATAGGAAG TTGGATACATTGCAAGATCCCAAGTGGTGTATCTCTCAACATAACAAGCATATCTGCATTCCTAAACTCCTCAACGAAAGCTCCAAACTTTGTGGTCG AACTCATACAGAGTAGTCCCACGTCGCTTGTTCTCATTCTCGACCTCCCACATCGGAAAGACCTTGTTCTTAACCCGGACTATCTCAAGGAATATTAC CAAGACACCGCTCTTGATTCTCATCGTCAATCTCTCCTTAAGCTTCCTGAAATCACACCTTATGTTTCGCCTTCTCTCTTTGTCCGCTCTGCTTTCTCT CCTACAGCTTCGATGCTCAAAATCGATGTGGAGGAAGAGGAAAAGTTGGAGGAGATATTAAGAGATCATGTGAGTCCAGCTGCTAAGGAAGTTCTT GGGATTTGGTTGGAGCATTGCGTCAGGGAAGAAGAACAAGAAGGGAAGAGAGTGATGGGAGAAGAAGAGAAATTGGAGTTGGAGAGAAGGGATAA AAGCTTCAGAAAGAAGAGCATAGAAGAAGATTTGGATTCACAGTTTCCGAGAATGTTTGGAGAAGAAGTTTCGTCCCGTGTCGTACACGCCATCAAA GAAGCTTTCGGTGTTCTGTAGATCATGTCATTATAGATTAGCTAATCTTCATTGTACTATATATAGATAATCTAGATATCCATTATGTGTCGAGAAATGT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001G20	AT2G39810.1	HOS1 (High expression of osmotically responsive genes 1)	GATCACTCGCGGACACTTAGTTTTTCACCAACCCGAGCTCTCTGTTTGCCTCAATTTTTTGTTTTTGTTTCTCTACCGGAGACGATGGATACGGAAGA AATCAATGGTTTTGCCTCCGCCACGAGACCGATATCTCTTCCTATGCAGCCTAATTACAGTAGCAAGCCTGTTCAGGAGGCGTTGAAGCATTTGGCA TCTATCAACCTCAGAGAATTGTGTAATGAGGCAAAGGTTGAGCTCTGTCGTGCAACCAGAGACTTCACGAGCTGTGGAAGCATTGTGAAATATGTGT TGAACCCATGTGGACATGCCTCCTTGTGCACAGAGTGTTGTCAGAGGTGTGATGTTTGTCCAATCTGTAGAAGTCCACTTCCAAAAACTGGAGATAA ACTCCGGCTGCGTCTCTACTACGAGTGTGTTAATGCTGGTCTAATCTCTCCAACACATGAAGAGGTGTCACATGATTCTAACCAAGATGAACATCAAT TGGCAGCCGATGTTCATCGCCTTTATTCTCTGTTCGATGTTGCCATGAACAACAATTTGATATCTGTGGTTTGCCATTATATCACCAATGTGTGTATG GATGAGACAGCTGTATCTAGTGATCCGGTCATTGCTTTCTTGCTGGACGAAGTTGTTGTCAAAGATTGGGTCAAGCATACATTCCGGAGCATCTTAT CTGAGCTTCAGCAAATCTATAGTCTTGAAACGAAAGAGATGGAAGCGTGGTTAGATAAACTCCTAAAGTGTTCGAAACAGGTGGCTGGCATATGTAG CGTGCTCAAAGTTATGGAATCAGCTTTTAAGGGTTCTGTTTCACCTCAGCTTCAAGACGTGCAGAAGCTTAGGGAGAACATTGGAAAATCGAAGCAG CATCTGGACATAATGATCTGGTGCATAAGGCACGGATTTCTGGAAGATGTGCGGTCTCGATATTCTGATTTCTCGTCGTGGAAAGCTGTTGTACGTG AAAGGAAGTCAAATGCAATTAAGCGTGCATGGCCTGATGCCGTAGACCAATCTTCAGATTGCAATGGACAGGGTGCTTCCCTCTTTATCGAGGATGC TTTAGAAAATCTTGAGATAGAGCCAGAGTATAGTCAGGGTATAGGGGCAGACCTAGAAGTTGGATGTTTGAAGAACAATGAGAGATCATTTCTTAGG TCCAAAATAGAAGGAACTTCAGGCTCTTATCCATTTGAGAATCTCAGAACTGCTGCTGACTTGCTCTTTTTACATGGCAGTTCAGATTTGGTTGTTGC GAAGCAGGCAATTTTTCTTTACTACCTGTTTGATCGACATTGGACTACCCCTGAAAAATATTGGAAGCACATTATAGATGATTTTGCTGCTACCTTTGG CATAACCAGGCATTCATTGCTAGAGTCTTCTGTGTTTTATCTTCTCGATGATCACTCAGAGGAGGCACTCCAGGAAGCTTGTAGGACTCTTCCTGAAA TATGTGGTCCAGAAACCTATCCCAAGGTTGCACAAGTCCTGTTAGAAAGGGAAAACCCTGAAACAGCTCTGATGGTCTTGCGTTGGTCTGGTCGTG ATGGCGTATCAGAATTGGTTTCAATTGGTGAAGCTGTCACAGCTGTTCGTGTGAGAGTGGAATGTGGTCTTCTGAGTGAAGCATTCACATACCAAAG GGCACTCTGCTTGAAAGTAAAGGAAAATGAATTGAAAATTGGAGCTTTGAAACACGTGTCAGATGATCTAGACAGCTGGAGTTGGATGGAGTGGATG GAGATACTTGTCAATGAATTCTGCTGTCTATCTATTAGGAGAAACTTGGTTGATCGAATCATTGAGTTACCGTGGAACCCAGATGAAGAGAAATATCT GCACAGATGCCTATTAGATTCTGCAATTGATAACCCTTCATCAGCTGTGGGTAGTCTTTTGGTTGTCTTTTATCTTCAGCGCTACCGTTACATCCAGG CATACCAAGTTGATCTTAAGCTCCAGAAAATTGAAGAGGCTTTCGTATCAGAGAATCGAATTGGGGAAGAAGCAATGTCCAGAATGCGATCACAGAG TCATTGGAGAAAAGAGTTAGTTGATAAAGCCATAGAAATACTTCCAGTAATTCAGCAGCAGCAAGTTAGATCTGGACAATATTCTGAGATGGAAGATA
GCT-001G21	AT5G25900.1	GA3 (GA REQUIRING 3); oxygen binding	GGAGATGAGATAGGAAAATGGAACAGCAGGAGGAGGATCATAGAACAGATACATGTCTCATTGAAATCGGAAATTGGCAAAATCCAAAAACACCAAA TATAAACTTCCAAACCAAAAACGCCAATCAGAGACAAAACTCCAAACTTTCCATTCTCTTGACTTCAAAATGAATTCACCACTTCATCATTTTCTTCTCT TTCACATAAACACACCAATCACACTCCTTCCATGGCATCCATGATTTCGCTTCTCCTTGGCTTTGTTGTCTCCTCCTTCCTCTTCATCTTCTTCTTGAA GAAACTGCTCTTCTTCTTCTCCAGACACAAGATGTCGGAAGTTTCTAGGCTCCCCTCTGTCCCAGTGCCAGGATTTCCGTTAATTGGGAACTTGCTG CAACTAAAAGAGAAGAAACCACACAAGACGTTCACTAAATGGTCAGAGCTTTATGGTCCAATCTACTCTATTAAGATGGGTTCTTCCTCCCTTATTGT CCTCAATTCAATCGAAACCGCCAAAGAGGCCATGGTAAGTCGGTTTTCATCCATCTCAACAAGAAAGCTATCGAATGCGTTGACAGTCCTCACTTGC AACAAATCTATGGTTGCTACAAGTGATTATGATGATTTCCACAAATTCGTGAAACGGTGTCTCTTGAATGGCCTTTTAGGTGCAAATGCACAGGAACG AAAAAGACACTACAGAGATGCCCTCATTGAGAATGTGACTTCCAAGTTGCATGCCCACACGAGGAACCATCCGCAAGAACCTGTAAACTTCAGGGC TATATTCGAGCATGAGCTTTTCGGAGTAGCCTTGAAGCAAGCCTTTGGGAAAGATGTAGAATCCATTTACGTCAAGGAACTCGGTGTGACTTTGTCA AGAGACGAGATCTTCAAGGTTTTAGTACATGACATGATGGAGGGTGCAATAGATGTTGATTGGAGAGACTTCTTCCCTTACTTGAAATGGATTCCGA ACAACAGTTTTGAAGCAAGAATCCAGCAAAAGCATAAACGTAGACTCGCGGTGATGAATGCTCTGATTCAAGATCGACTGAATCAGAATGATTCAGA ATCGGACGATGATTGCTATCTCAACTTCTTGATGTCGGAAGCAAAAACACTAACCATGGAGCAAATCGCAATCTTGGTTTGGGAGACGATTATCGAG ACAGCTGACACTACTCTGGTCACAACCGAATGGGCGATGTATGAACTCGCAAAGCATCAAAGTGTCCAAGATCGTCTGTTTAAAGAAATCCAAAGCG TCTGCGGAGGAGAAAAGATCAAAGAAGAACAGTTGCCTCGGCTTCCTTATGTCAATGGAGTCTTTCATGAAACGCTTAGGAAATACAGTCCGGCTCC TCTTGTTCCCATTCGCTATGCTCACGAAGATACTCAAATCGGAGGCTATCATATCCCTGCAGGAAGCGAGATAGCGATAAACATCTATGGATGCAAC ATGGATAAGAAGCGTTGGGAGAGGCCAGAGGAGTGGTGGCCGGAGCGTTTCCTGGAGGACAGATACGAATCGTCGGATCTTCACAAGACAATGGC GTTTGGAGCGGGAAAGAGGGTTTGTGCTGGTGCACTTCAAGCATCTCTAATGGCAGGCATCGCCATTGGGAGATTAGTACAAGAATTTGAATGGAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001G22	AT4G11070.2	WRKY41 (WRKY DNA-binding protein 41); transcription factor	GAAACACATTCTTCACTCTTCATCCTCTTCATCAATTACAAAGCCATATTCCAAAAGAACACTCTTCATCCTCTTCATCTAATCATAACCTCCCCAAAA CATTCTCATCATCATAAATACCAAAAATCTCACCTTTTCACCCTTTCAGTATCAAATTGTGAAGCGACCGACCAAACCAAGCGAAAAAAGGCCTAACC AGATTTGAAATTTACGATGGAAATGTTAAATCAGAAACAGAAGAATTTGCTAACCGAGCTGTTTCATGGACTAAAGGCGGCAAAGCAGCTTCAAGCT CAGCTCGGAGCAGTTCCTTCGGCGCCACCTTCGTTGTCGTCTTCTTCTTCTTCATGTCTCACAACGGAGATGAAGGAGACTCTCTTACATGAGATTG TTTCTTCCTACGAGAAAGCTATTTTGATGGTTAATGGATCCATACAAGACAATCCAACGACGGAGCCGGTGGAGCTTGCGGCAAATTTAGTAGCTAC TTCCGGTAAAGTACTAGAATCTCCGACGTCTTTTTCCGGAAGTCCGAGAAGCCAAGAGTTTCTTGATGGGGAATCGAAAGATTACTACTTAAGTTATA AAAAGAGGAAGATGTTGCCAAAGTGGACAGAGCAAGTTAGAATTAGCCCAGAGAGAGGCTTAGAAGGACCTCATGATGATGTCTTTAGTTGGAGAA AATATGGCCGAAAAGACATTTTGGGCGCTAAATATCCAAGGAGTTATTACAGATGCACATTTCGCAACACACAGAATTGTTGGGCGACCAAACAAGT CCAAAGATCGGACGGTGATCCGACGATCTTCGAAGTGACGTACAAAGGAACACACACTTGCTCACAGAGGATCCCGCCTCCGGAGAAGCGAGAAA ATAAGCCCAACCCCACAGTCAAAAATTACCATAATGATCTTCTCGACAATCTCAGAACCAATCTTACTGTCCGTACCAACGGGATCGAAGGCGACGG CTTCTCATTCCCCGTTACGCCGCCGTTTTACTCTTACGACTCCATCAACGGAGATCCCGGCAACGGCGGTGGAACGTTTTCCCACGTGGGAAATTC TGGACCGTCGGATTTTACGGGATTGATCTCCACAAATACCTCCACAGGAAGCTCTCCCGTTTTCGATGTGGATTTTCAGTTCGATCCAACGGCCGAG ATTAACACATGTTTCCACACGTTTTTCCACGATTCGATTTAAGTAAGTTGGTGATTTGAAGCTCGATTCTTAGTGAGTATCAAGTTTGATTTAACTAAA GAATAACTCCGGCAACCGATATCAAAAGAAAGTGAAGATTTTGATTCTTTCTCACAGAAGGATGAGAGAAGAAAACAACCCTCATGTTTCAAATCCTA
GCT-001G23	AT4G30270.1	MERI5B (MERISTEM-5); hydrolase, acting on glycosyl bonds	GCACATTCCTCACCAAATCCCAAAACACACACGTACGCACAGACACACGTACACACAAATGTCTCCTTTCAAAACATTTTTCTTCACGGCTCTTCTCG CGGCGGCGTTTTCAGCCTCCGCAGCTGATTTCAACAGCGACGTCAACGTAGCTTGGGGAAACGGCCGTGGTAAGATACTCAACAACGGCCAGCTT CTTACTCTCTCCTTAGACAAATCCTCTGGCTCTGGTTTTCAATCCAAAACAGAGTATTTGTTCGGAAAGATCGATATGCAGATCAAGCTCGTTCCCGG TAACTCAGCAGGAACTGTCACAACTTTCTACCTGAAATCGGAAGGATCGACTTGGGATGAGATTGATTTTGAGTTCTTGGGTAATATGAGTGGAGAT CCTTATACTTTACACACTAATGTTTACACTCAAGGTAAAGGTGACAAAGAGCAACAATTCCATCTCTGGTTCGACCCATCCGCGAATTTCCACACTTA TTCCATCCTCTGGAACCCTCAAAGAATCATATTCACCGTCGATAATACACCAATCAGAGAGTTTAAGAACTCAGAGTCGATCGGTGTTTTGTTTCCAA AGAACAAGCCGATGAGGATGTACGCGAGCTTATGGAACGCAGACGATTGGGCAACTAGAGGCGGTCTGGTTAAAACAGATTGGTCCAAAGCACCA TTCACGGCTTCTTACAGGAACATTAAGGTCGACGCGTGTGTTAATTCCAAGGGAAGATCCTCTTGTAGCTCGAAACCAAACGCTAGTTGGTACACTC AAGAAATGGACTCGACGAGCCAAGCTAGACTCAGATGGGTTCAGAAGAATTACATGATCTACAATTACTGTACGGACACTAAGAGGTTTCCACAGGG AATCCCTCGGGAATGTACCACAAGGTCATAGAATGTTTAATTGATTATACTACTTTATTTCTTTATCTATCATCCTCTGTTTTTATGTGAATGCTCTCTG
GCT-001G24	AT5G54270.1	LHCB3 (LIGHT-HARVESTING CHLOROPHYLL BINDING PROTEIN 3)	GGCCAAGTAGCAAAAGAAGAACAAGAACACAGAAAAAAAAACGCTCAATCCGAGAGAGAGCAATGGCTTCAACATTCACGAGCTCAAGCAGTGTTCT GACCCCAACACCATTTCTTGGCCAGACTAAAGGCTCAAGCTTTAACCCTCTTCGTGATGTTGTCTCTCTCGGATCTCCCAAATACACTATGGGAAAT GATCTTTGGTACGGACCAGACAGAGTGAAGTACTTAGGACCCTTCTCCGTCCAAACTCCGTCTTACCTCACCGGAGAGTTTCCCGGCGACTATGGT TGGGACACCGCCGGTTTATCCGCAGACCCTGAAGCCTTTGCCAAAAACAGGGCTCTTGAGGTGATCCATGGGAGATGGGCAATGTTGGGAGCTTTT GGTTGCATAACCCCTGAAGTTCTTCAGAAATGGGTCCGTGTGGAGTTCAAAGAACCGGTCTGGTTCAAAGCCGGTTCACAAATCTTCTCCGAAGGC GGCTTGGACTACTTAGGCAACCCAAACCTAGTCCACGCCCAAAGCATTTTGGCCGTCCTTGGCTTCCAGGTCATCCTTATGGGATTAGTTGAAGGTT TCCGCATCAACGGTCTTGATGGTGTTGGCGAAGGCAATGACTTGTACCCGGGAGGTCAATATTTTGACCCGCTCGGTCTAGCGGATGATCCGGTTA CTTTTGCTGAGCTCAAGGTGAAAGAGATCAAGAATGGAAGGTTGGCTATGTTCTCAATGTTTGGCTTCTTTGTTCAAGCCATTGTTACCGGAAAAGGT CCTTTGGAGAACCTCCTTGACCATATCGATGACCCTGTTGCTAACAATGCTTGGGCTTTTGCAACAAAGTTTGTACCTGGAGCTTGATTTTTATGTCT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001H01	AT1G25490.1	RCN1 (ROOTS CURL IN NPA); protein phosphatase type 2A regulator	GGGAATATATTTCTCGCTCGCAATTCCTCTTCTCTCCTCCTCTCGCTCCTCGGAATCTGAAGCATTTCTCTCGTTAGGCGCTTGGATCGTGACTTGAT CGAACTTCGCATAAAGTGGGAATAGGATGGCCATGGTAGATGAACCGCTTTATCCCATTGCCGTGCTCATAGATGAGCTTAAGAATGATGATATACA GCTTCGTTTGAACTCGATCCGCCGGTTATCTACAATAGCGCGTGCCCTTGGAGAGGAGCGCACAAGGAAGGAGTTGATCCCCTTTCTGAGCGAGAA CAGTGACGATGACGATGAGGTTCTCCTTGCAATGGCTGGGGAATTGGGAGTTTTTATTCCGTATGTCGGAGGAATTGAGCATGCACATGTTCTTCTC TCTCCTCTGGAGTCTCTCTGCACTGTTGAAGAGACCTGCGTGAGAGAAAAAGCTGTGGACTCGCTTTGCAAGATTGGATCTCAAATGAGAGAAAGT GACCTTGTCGACTCCTTTGTCCCTCTTGTGAAGAGGCTGGCAGCTGGTGAATGGTTTGCAGCCAGAGTTTCCGCATGCGGTTTATTTCCTGTTGCAT ACCAGGGATGTACTGATGTGCTGAAGACAGAGTTACGGTCTATTTATAGCCAGCTGTGCCAAGATGATATGCCAATGGTGAGAAGAGCTGCTGCAT CTAACCTGGGGAAATTTGCTACCACTGTGGAGTCAAGCTATTTGAACTCTGAGATTATGACTATGTTCGATGATCTTACTAAAGATGACCAAGATTCT GTTAGACTGTTGGCCGTCGAAGGCTGTGCAGCTCTTGGAAAGTTGTTGGAACCTCAGGATTGTGTTGCACGCATTTTACCTGTTATTGTCAATTTCT CTCAGGATAAATCTTGGAGGGTGCGATACATGGTTGCTAATCAGCTATATGAACTTTGTGAGGCAGTGGGTCCTGATTGCACTAGGACGGATTTGGT TCCAGCATATGTGAGATTGCTACGGGACAATGAGGCTGAAGTGAGAATAGCAGCAGCTGGAAAAGTGACCAAGTTCTGTCGGCTTTTGAATCCAGA GCTTGCGATTCAGCACATCCTTCCTTGTGTGAAGGAATTATCATCCGATTCTTCTCAACATGTCCGCTCTGCTCTAGCTTCAGTAATAATGGGGATGG CTCCTATCCTTGGGAAGGACTCAACCATTGAGCATCTGCTACCAATATTTCTTTCCCTTTTGAAAGATGAATTTCCTGATGTACGCCTCAACATCATAA GCAAGCTAGACCAAGTCAACCAGGTTATTGGAATTGATCTACTATCACAATCATTGTTGCCGGCGATTGTAGAGCTTGCTGAGGATCGGCACTGGAG AGTCAGGCTTGCTATAATTGAGTATGTTCCTCTGTTGGCCAGCCAGTTAGGTATAGGGTTTTTCGATGACAAACTCGGAGCCCTTTGCATGCAATGG TTGCAAGACAAGGTCTACTCTATCCGTGAAGCTGCAGCAAACAACCTAAAGCGCCTCGCAGAGGAGTTTGGTCCTGAATGGGCTATGCAGCACCTA GTTCCCCAGGTATTGGACATGGTTAACAATCCGCACTACCTACATAGGATGATGGTTCTGCGTGCAATATCTCTTATGGCTCCTGTAATGGGATCGG AAATTACATGCTCTAAGTTTCTTCCTGTGGTGGTTGAAGCATCAAAAGACAGAGTTCCAAACATCAAGTTCAATGTTGCCAAACTTCTGCAGTCCCTC
GCT-001H02	AT2G27030.1	CAM2 (CALMODULIN-2); calcium ion binding	GATCGCATTACACACCAACGTTGATTTCTCTCCTTCTCTATCTCTCAAATTCCTTCGCCAAAAATGGCCGATCAGCTCACCGATGATCAGATCTCCGA GTTTAAAGAAGCTTTCAGCCTATTCGACAAGGACGGAGATGGTTGCATCACGACAAAAGAGCTAGGTACAGTGATGAGGTCACTAGGTCAGAATCC AACAGAAGCAGAGCTTCAAGATATGATTAACGAAGTTGATGCTGATGGGAACGGGACAATAGATTTTCCTGAGTTTCTGAATCTGATGGCTCGGAAG ATGAAGGACACAGATTCTGAGGAAGAACTCAAAGAAGCTTTCAGGGTTTTCGATAAGGACCAGAACGGTTTCATTTCAGCTGCGGAATTAAGACATG TGATGACCAATTTGGGGGAGAAACTGACAGATGAAGAAGTTGATGAGATGATCAAAGAAGCTGATGTTGATGGAGATGGTCAGATCAATTATGAAGA GTTTGTCAAAGTGATGATGGCAAAGTGAGGAACAATTCTCAATCTCTCCCTTTTTTTTTTCATTGTATTGAAGAATTCTCTGATTTTTTTTTTTGTTTATT
GCT-001H03	AT1G51660.1	ATMKK4 (MITOGEN-ACTIVATED PROTEIN KINASE KINASE 4); MAP kinase kinase/ kinase	GGGCGTGAAACCGTAGAAGCAATCGAGCTTAGAAACGTCGATATTCTCAGCGCGATGAAGCCGATTCAATCGCCTCCAGGAGTTTCCGTTCCGGTT AAAAGCCGTCCTCGCCGCCGGCCAGACCTTACCTTGCCGCTTCCTCAACGCGATGTTTCCCTCGCTGTACCTCTTCCTCTCCCACCGACTTCCGGT GGCTCCGCTCCTTCTTCCGCCGGATCCGCACCTTCCTCCGGCGGTTCGGCGTCTTCAACTTCGTCGAACAACACCTCGGAATCGAAGAGCTATTCG GATTTAGTTCGCGGGAGCCGGATCGGGAGCGGAGCTGGTGGGACGGTTTACAAAGTGGTTCACCGACCGACGTCACGCTTATACGCTCTCAAGGT GATCTACGGGAACCACGAGGAGACTGTGAGGCGTCAGATCTGTAGAGAGATCGAGATTCTGCGAGATGTGAACCACCCAAACGTGGTGAAATGTC ACGAGATGTTCGATCAAAACGGTGAGATCCAGGTTCTGCTTGAGTTCATGGACAAAGGGTCTTTAGAAGGTGCTCATGTGTGGAAGGAGCACCAAT TAGCTGATCTCTCTCGCCAGATTCTAAGCGGCTTGGCTTACCTCCACGGCCGTCACATCGTCCACCGAGACATCAAGCCCTCGAATCTCCTCATAAA CTCGGCTAAAAACGTGAAAATCGCTGACTTTGGAGTGAGTCGGATCTTGGCGCAGACCATGGATCCTTGCAATTCGTCTGTAGGAACCATCGCTTA CATGAGCCCTGAGCGGATTAACACCGATTTGAACCAAGGACAGTACGATGGTTACGCCGGAGATATCTGGAGCTTAGGTGTGAGCATTTTGGAGTT TTTCTTGGGGAGGTTTCCTTTCCCTGTGAGCAGGCAAGGTGATTGGGCAAGCCTCATGTGCGCCATTTGTATGTCGCAGCCTCCGGAAGCTCCTCC GACGGCATCTCCGGAGTTTCGCCATTTCATTTCTTGTTGCTTGCAGAGAGAACCGGCGAGGAGGCAAACGGCGATGCAGCTTTTGCAGCATCCTTT CATACGTAGAGCAAGTCAGAGCCAAAACAGGTCTCCGCAGAATCTACATCAACTCTTGCCTCCTCCTCGCCCTCTGTCTTCGTCTTCTTCACCAACC ACGTAGCGTTTTCTCATCCCTCTATCTTGGATTTTTTTCGAATTCTTGGTTACTGTTCTTGAATGTTGTCCAATTTTGCGCAAGCTTTTTCGTAACTTAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001H05	AT3G55730.1	MYB109 (myb domain protein 109); DNA binding / transcription factor	GATGAAAGCAGACCCAAAATCAATTTTTCTTCTTTTTTTTTTTTTCAAAATTTAATTCATTTCTGGCAAAAAGAAAATAATGGAAGGAGAAGAAACTCATC GATCATCGGAGCCGTTACCTTTACTATCCGCCGATTCCGATGAAGGAATCAGCGCTGCGATTGAGGCGGAGCTAGCAGAGTTAGCTGCCGGAGAC TCAAGCGGCGGCGGAGGAATTAAGAGCAAAGTGAAGGGACCTTGGTCTACGGAGGAAGACGCCGTGCTCACGAAGCTTGTGAGCAAGTTAGGTCC AAGGAATTGGAGTTTGATCGCTCGTGGAATCCCTGGCCGCTCTGGAAAATCTTGTCGATTGCGTTGGTGTAATCAGCTTGACCCTTGTCTCAAACGA AAACCTTTCTCTGATGAGGAAGATCGTATGATAATATCTGCACACGCCATTCACGGAAACAAATGGGCCGTGATTGCGAAAATGTTGCCCGGAAGAA CAGATAACGCGATCAAGAACCATTGGAACTCGACGCTTAGACGCAAATACGCAGATCTATGGAAGAATAGTCAGTGGATGGCCAACCAAGTTACTA CTGCTTACGTCAAGAACGAGAACGTCGAGGGAATATCAAATCCATCCTTCAAACAACAATCGCCTCAAGGAGATACCATCTCACCACCAGAGCCTCC ACAGGCTAATGATGTTACAATGGATGATGCAGCTAATGATGTTACGATGGATGATGCAGCCAATGAACCTCAAGAAAAAGCTCCAACAGAGAGTAAC GCTCCGATAGAAAGTAACGTGTCTCGCCCAGTGGCTCGTGTTGGAGCGTTCAGTGTGTATAACCCTACCAGCCAGAGAAATGGATACAGGGATCAC AATGTAGTTCCATGTGAGGGACCATTGATTCAAGCGGCTAAACCTGATTCATTGGCTGGTAGATTTCTACAATCTCTTTGCGATGAACCTCACATCCC TTCGAAATGTGGTCATGGTTGCTCTACTTATCCAGCTGGAACCAAGTTTTCCCCTAACTCGGTTTTGGGACCGGAGTTTGTGGATTACGAAGAGCCT CGTGCGGTTTTCAACCAAGAACTGATATCTATAGCAACCGATTTGAACAACATTGCGTGGATAAAGAGTGGCCTTGACAACACCATTGTCAGAGAAG CAGAACAGAGTTTGAAGATGGATAATTTCAACAGTTTCGATGATCCTCGAATCAAGTTTACTGGAATGATGCCTAGACAGGAGTTCTTCTGTGCAAGA AGGTGAAAAAGTGTGAGAAGAAGGGGTTTAGATTGATGTTGGGGTTTTGATTGTTTGGGGTTTGAGGGAGATAGATGATGATGTTGATGTGGAGAAG
GCT-001H06	AT5G24930.1	zinc finger (B-box type) family protein	ACGGGTCAACAATACTTGTTCTCGGATCCGGATCCGTATCTGGATCTGGACTACGGGACTGTTGATCCGAAGCTGGAATTGCAGGAGCAGAACAGC TCCGGCACCGATGGTGTGGTTCCGGTGGAGAGTCGCACGGTTCGAGGCCCGACGGTGAACGAGAACTGCTACGAGTTGGATTTCACCGGAGGAT CCAAAGGCTTTACTTACGGTTACAACTGTATCAGTCACAGCGTATCATCATCGTCGTTGGAAGTGGGAGTGGTGCCAGATGGAGGCTCCGTGGCCG ACGTTTCATACCCTTACGGTGGTGCTGCAACCAGTGGAACCGATACGGGAAGCCAGCGAGCTGTTCCGTTGACGTCAGCAGAGAGAGAGGCGAGG GTAATGAGGTACAGAGAGAAGAGGAAGAACAGGAAGTTCGAGAAGACGATAAGGTACGCTTCAAGGAAAGCATATGCAGAAATGAGACCGAGAATC AAGGGACGGTTTGCGAAGCGGACAGATACTGGTGAGAGCAACGACGTGGTTGGTCATGGCGGTATCTTTAGCGGCTTCGGACTTGTACCTACGTTT TAGAGATTGAAATAAAATGAAGGGACTTGTTTGGTGTTTATTTTAGTAATAAGGTTTTAACGAACCTTTTTTTTTCTTTTTTGCATTTTAAGAGTTGTTTG TTTTTTTTTTTTTTGTTGATGAGTTTTTTACCTGTTAATGGGCGGGAGAGAGGAAGGACAAGAAAGTGGGTGGTGTTTATGTGTAACTTATTTTGTATAT
GCT-001H07	AT1G34000.1	OHP2 (ONE-HELIX PROTEIN 2)	GACTACAGAACAGCTTCGAACATCAAAACAATTCTTCAACTAAAGAAACCCATTAAACGAATGATGTCAGTGGCTTCGCCGATTCAATGTATCAGGAT TCTTAATCCATCTTCTTCTTCTTCTTCATCTTGTTCCTCAACAACTTCGTCGTCTTTCAGATTCTCAGCGACTAAGCCATGTGTATTCGTTATCAGA TGTTCTCAGACCGAAGGTCCCTTGAGAAGACCCTCGGCTCCTCCTACTCTCCGGGAGCCTTCGCCATCGCAGAAACCTGTTCCTCCTACGCCGTCT TCTTCTCCTCCGCCACCTCCTCCGCAGATATCGGTGGCTGTTGATGGTAAGAGTGCAATTACGGTGGAGTTTCAGAGACAGAAGGCTAAAGAGCTT CAGGATTACTTTAAGCAGAAGAAGCTTGAAGCAGCTGGTCAAGGCCCCTTTTTTGGTTTCCAACCTAAAAATGAGATCTCTAATGGAAGGTGGGCTA TGTTTGGTTTCGCGGTTGGGATGCTGACCGAGTATGCAACAGGCTCAGACCTTGTCGACCAAGTTAAGATTCTTCTCTCCAATTTCGGCATTATAGA CTTGGAATAATAAGAGTGTTGTGTTATATAGATACCCCCTTTCTCTCTTGTCGCCGATTTCTATGTTCAATCTTCATCTTGTTTTGTATTCTTCTTCTTC
GCT-001H08	AT3G16770.1	ATEBP/RAP2.3 (RELATED TO AP2 3); DNA binding / protein binding / transcription factor/ transcriptional activator	GATTGAACCCTAGCATCAGAGAACAGAAAAACAAACTGAGAAAATGTGTGGCGGTGCTATAATTTCCGATTTTACCCCTTTCGTCACCAAGGCCAAG GGTAGGAAGCTCACGGCGGAGGAACTCTGGTCAGAGCTCGATGCTTCCGCCGGCGATGACTTCTGGGGTTTCGATCCCACCTCCAAGCTTCGATC CACCAAACAAGCGAGTGTGAAAGAGGAGGCGGCGGCGGAGAAGGAGCCGACGACGACGGAGAAACGTAGGAAGAGGAAGAACGTTTACAGAGG GATACGCAAGCGGCCGTGGGGAAAATGGGCGGCGGAGATTCGAGATCCGCGAAAAGGAGTCAGAGTTTGGCTTGGGACGTTCAACACGGCGGAG GAAGCCGCTATGGCTTATGACGCTGCGGCGAAGCGGATCCGCGGCGATAAAGCCAAGCTCAACTTCCCAGATCTTCTTCATCATCCTCCCCCGCC GTCACCTCCACGATCGATTGATCAGCCTCCGGCGAAGAAGCTCTGCGTTTCCTCCCAGAGCGAGTTAACTCAGCCGATTTACCCGGTTGATTGCAT TGGATTTGGGAATGGGGACGAGTTTCAGGAACCGAGTTACGCGTTTGATTACGATCTGAAACAGCAGATATCGAGCTTGGAGTCGTTCCTTGAGCT TGACGGTAACACGGTAGAGCAACCGAGTCAACTCGACGAGTCCATCTCCGAGGTGGTGGATATGTGGATGCTTGATGATGTCATCGATCGCCTCGT ATGAATAAATCAAGTAATAATAATTTGAAAAATCAAATCAAATAAAGTCTGTAATATAATGTATGTGTAACCGCCGTTAGTTTTTAAGATGTCATTGGTA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001H09	AT3G53260.1	PAL2 (phenylalanine ammonia-lyase 2); phenylalanine ammonia-lyase	GAGGAACACACACAAAATTTACAAATCCCTTCACCAACAATTCATAATCTCTCCCTTTCTCCTTTCACTAACAATTCTAAAGAGATCTGATCCTTTATTT ATCTAACACAAAAAAACTCGAAACCAATGGATCAGATCAACGGATTAGTTCACCAAAACGGCAAAATCGACGCGATGTTATGCGGCGGAGTAGAGAA GACGAAAACGGCAGTTACGACGGTGGCGGATCCGTTGAATTGGGGTGCTGCGGCGGAGCAGATGAAAGGGAGTCATTTGGATGAGGTGAAGAGG ATGGTTGAGGAGTATCGGAGACCTGTAGTGAATCTCGGCGGTGAGACGCTTACGATCGGACAAGTTGCGGCGATCTCCACCGTCGGCGGCGGAGT TAAGGTTGAGCTGGCGGAGGCTTCGAGAGCCGGCGTTAAAGCTAGCAGCGATTGGGTTATGGAGAGTATGGGCAAAGGTACTGACAGTTACGGTG TCACTACCGGTTTTGGAGCTACGTCTCACCGGAGAACCAAAAACGGCACCGCATTGCAAACCGAACTCATTAGATTTCTGAACGCCGGAATATTCG GGAACACGAAGGAGACATGTCACACGCTGCCGGAATCCGCCACGAGAGCCGCCATGCTCGTTCGAGTCAACACTCTCCTCCAAGGATTCTCCGGG ATCCGATTCGAAATCCTCGAAGCGATCACCAGTTTCCTAAACCACAACATCTCTCCTTCTCTTCCCCTCCGTGGAACCATAACCGCCTCCGGCGATC TCGTTCCTCTCTCCTACATCGCTGGTCTCCTCACCGGCCGTCCCAATTCCAAGGCCACCGGTCCCGACGGTAAACCCCTAACCGCCGCGGAAGCC TTCGAGAAAGCCGGAATCAGTTCCGGATTCTTCGATCTCCAGCCCAAGGAAGGGTTAGCGCTCGTCAACGGCACGGCGGTTGGATCTGGAATGGC TTCGATGGTGCTATTCGAAGCGAATGTTCAATCGGTTTTGGCGGAGGTTTTATCTGCGATTTTCGCGGAGGTGATGAGCGGGAAGCCTGAGTTCAC CGATCATCTGACTCACAGATTGAAGCATCACCCAGGGCAAATCGAAGCGGCGGCGATAATGGAGCATATCCTCGACGGAAGCTCTTACATGAAACT AGCGCAAAAGCTCCACGAGATGGATCCATTGCAGAAGCCGAAACAGGATCGTTACGCTCTCCGTACTTCTCCTCAATGGCTCGGCCCTCAGATCGA AGTTATCCGTCAAGCGACGAAATCGATCGAGCGTGAAATCAACTCCGTAAACGATAATCCGTTGATCGATGTTTCCCGGAACAAGGCGATTCACGGT GGTAACTTCCAGGGGACTCCAATCGGAGTTTCTATGGACAACACGCGTCTTGCGATCGCAGCGATTGGGAAGCTCATGTTCGCTCAATTCTCAGAG CTTGTTAACGATTTCTACAACAATGGTCTTCCTTCGAATCTAACAGCTTCAAACAACCCAAGCTTGGATTATGGATTTAAAGGAGCTGAGATCGCCAT GGCTTCTTATTGCTCAGAGCTTCAATACTTGGCGAATCCAGTCACAAGCCATGTTCAATCAGCTGAACAACACAACCAAGACGTGAACTCTCTCGGA CTCATCTCGTCTCGCAAAACCTCCGAAGCTGTTGACATTCTCAAGCTAATGTCGACGACGTTCCTCGTAGCTATATGCCAGGCGGTTGATCTTAGAC ATCTCGAGGAGAATCTGAGACAAACGGTGAAGAACACAGTTTCTCAAGTGGCGAAGAAAGTCTTAACCACTGGAGTCAACGGCGAGCTACATCCAT CACGCTTCTGCGAGAAAGACTTGCTTAAAGTCGTTGATCGTGAACAAGTGTTCACTTACGTCGACGACCCTTGTAGCGCCACGTACCCACTGATGCA GAAACTTAGACAAGTCATCGTCGACCACGCTCTCTGCAACGGTGAGACCGAGAAGAATGTAGCGACTTCAATCTTTCAAAAGATCGGAGCTTTCGA GGAGGAGCTCAAGGCGACGCTTCCAAAGGAAGTGGAGGCGACTAGAGCGGCTTTCGGTAACGGAACCGCAGCGATTCCGAACAGGATTAAAGAAT
GCT-001H10	AT5G09850.1	transcription elongation factor-related	GACCTCTCTCTCACCTCTCTCTCACCTCTCTTTAACCTCTCTCTAGGCTCTAGCTATTCATCTCCCCAACCACAACAAACCAACTTGCTTTGCTTTGCT CTGTCCAGGGCAAGAGCATCCTGATTAAAGCAAGTCCCTTTTTTTTTTTTTTTTACTTGTAATTTGTTTTGTCTGAAGAATATTTTTACGGGGAAAAAAAA CTTGCAGAAGAATGAAGGGAAAGCAATAACCCCCAAAACAAATTCTAAAGCCTCAAATTTGGAATATTCCCTTTCATCTTCCTTTTTTTCTTTCTTCTG CCATTACCTTATTGATCTATGTGACCTCTGTTTCTGTTTTTTTTTTCTTTTCTCTCTTCCTCGTAACAGTACAGCGTCATCAAAACTCGAAAGGGTCTTC CTTTTATCGGATTTAATCCGATTCTTATTATTTTTATCTTTAAACGATTGAATCTAATCCTTGCTGAGTTCTTTTTCGATTTTCAATCCTCCGATGAATCG AATTCATCAAACGATTGTTGTTTTAGATCTGGTGATGTAATACCAAATCGGCTGCTCTGTTTTTGATTATTTAAAGAAACTAAATTTGGGAGAGTGGGT GAGAAATTTTGTTGCGGCGGGAATGGATTTGGACGATTTCCGGTCGATTATGGACAACGCAGGTGTCGATGTTTGGACATTTATAGATACAGCGATC CTTGTCGCGTCGCTTGATTACGGCCAAGAGCTGAAGCGGCGGAGAGATAACATCGTGGAGCGTCTCTACGCGACTTCGATGGCGAACAAGTGTAG AAACTGCGATTTCGGCAGCGGAGGAATCGTTACGGAGGCGGCGGTTGCTAGGGTTAACGGGAGGATTCATGAGGAGACGGAGGAGGAAGAAGGA GAAGCAGCTGAAGAAGAAGTTAGAGAGAAATCTGTTAATGGTGACGACGATGACGATTTCGATCCGTTTGCTGGTTTGTTTGATGATGAGCAGAAGA GTATTCTTGAAATCAAGGAGAGACTTGAAGATCCTGATCTGTCCGAAGAAGCTTTGGTTGAGTTGCTTCAGAATCTGGAAGATATGGACATAACATTC CAAGCTCTTCAGGAAACTGATATTGGGAGGCATGTGAATCGAGTTCGGAAGCATCCATCGAACAATGTTCGGAGATTAGCTAAACAGCTTGTCAAAA AATGGAAAGAAACAGTGGACGAATGGGTCAAATTTAACCAGCCTGGTGATCTCGAGCCTCCAAGTTTGATAGCCGATGAGGACTCACCGCAGCAGA AAGCTCTCCATAATGGTAATCGCCAACAGGTTCCTGACTTCGGGTATTCACCTGTTCCTCAGAATGGGTATTCTGGTTCAAGCAAGAACAGTAACTAT GCCGAGCCAGAGAGGAAACCAAGACCTATTGCTCCCCCAACTAGGAGAGAATCTCCTTCTCCAGCTAAACCATCTCGTCCTTCTCCTTCTCAACAAA CCATACAGAGGGATAAAGAGCATAAAGAAGTTGATTTCGACTCAGCCCGGAAAAGACTACAACAAAACTACAGACAAGCCGAGAATGCTAAAAAGCA AAGGACTATACAGGTGATGGACATTCATGAGATCCCTAAACCTAAGAAAGGTGGATTTTTTCCAAGAAAAGGCGGTAGTTCTCAAGGCGGTAGACAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001H11	AT3G63260.1	ATMRK1 (Arabidopsis thaliana MLK/Raf-related protein kinase 1); kinase/ protein threonine/tyrosine kinase	GATCTTCACCACATAATTCGGAAAGAAAAACCCTAGCTTTGTCCGCATCTCATTGATTTTGCAACACCTTAAAAATCTGGGTTTTGTTTTTGGTGATCA TTCGATTTCGTAGTTGAACAACAGAGGAAAAGCCAGGCCGGAGAGAAAATCAAATGGCTTCTGGCGGCGGCGGAGAGGCGGAGAGATCGGTGGAA ATCGGATCGGAGTCGAAACGGGAAAGCAAATTAGGCGGAGTAGGGAGCAGGAGCGCGGGGCAAGGACAATACGTGAGGGCGGATACGCTGGATT TCAGTAAATGGGATTTGCATATGGGTCAAAGCTCAAGTGTCGCCATGTCCTCCGGCTCCACTAAAGCTCCGGCTCCGGCGCCGCCGATGCAGGAAT GGGAGATTGACCTCTCAAAGCTCGACATGAAGCACGTCCTCGCCCACGGTACTTATGGCACTGTATACCGCGGTGTCTACGCCGGCCAACAAGTC GCAGTGAAAGTGTTAGATTGGGGAGAAGATGGTTACGCCACAGCAGCTGAAACTACGTCTCTGCGTGCTTCCTTCGAGCAAGAGGTCGCCGTCTG GCAGAAGCTCGATCATCCAAACGTTACAAAGTTTATAGGAGCATCCATGGGAACCTCTGATCTGAAGATCCCTCCTGCTGGTGATTCAGGCGGGCG TGGCAACGGTGCACATCCTGCGAGGGCTTGTTGTGTTGTGGTTGAATATGTTGCAGGAGGCACCCTCAAGAAGTTCCTCATCAGGAAGTATCGGAG CAAACTACCCATCAAGGATGTCATTCAACTCGCGTTAGATCTCGCAAGAGGGCTGAGTTACCTTCACTCCAAGGCGATTGTACATCGGGACGTGAA GACAGAGAACATGTTGTTAGAAACTAATAAGACGCTGAAGATTGCTGATTTCGGAGTAGCTAGGGTCGAAGCTCAGAACCCTCAAGACATGACGGG TGAAACTGGAACTCTTGGATACATGGCACCAGAGGTTCTTGAAGGAAAAGCTTACAACCGGAAATGCGATGTCTATAGCTTTGGTGTATGCCTCTGG GAAATATACTGCTGCGACATGCCCTACGCTGACTGTAGTTTTGCTGAGATCTCTCACGCCGTTGTTCATAAGAATCTGAGACCGGAGATTCCGAAAT GCTGCCCACAATCGGTGGCAAACATCATGAAGAGATGCTGGGACCCGAATCCTGACAGGCGTCCGGAGATGGAGGAGGTTGTGAAGCTACTTGAA GCGGTGGACACAAGCAAAGGCGGTGGAATGATAGCTCCAGACCAGTTTCAGGGCTGCCTCTGTTTCTGCAGACCTCGTGGCCCCTGATCTCTCAC
GCT-001H12	AT5G27930.2	protein phosphatase 2C, putative / PP2C, putative	GGTTAGCTAATTCTTCTCCGTTGGGTGCTACGTCAGCTTTCCCGAGCTTACGTCATCTCTCCGGCGTCTCTGAGCTCTTTCAAGGTCTCTCTTTCTAT CTACATCTCTCTTTACACATCGAAGAAGAATCTGATTGGTCTGTAACAAATGGAGAATGTTTAAACAAAAAATGAAGATCCAAATGTAAAAATAAAGAA GATTCAGGATCATCTTCAGCTTGACGAAAAGATTACTTAAAAAGAATGGGACATTTTTCGTCGATGTTCAATGGATTAGCTCGATCCTTCTCGATCAA GAAAGTGAAGAACAACAATGGAAACAGCGACGCTAAGGAAGCTGCTGATGAGATGGCGAAAGAGGCGAAGAAGAAGGAGCTGATTCTGAAATCAT GTGGTTACGTATATGCAGAAGGATCTAATAACTCGGCCTCTGTTTTCTCCAAACGCGGCGAAAAAGGCGTTAACCAGGACTGCGCAATCGTTTGGG AGGGATTTGGGTGCCAAGAAGACATGATATTCTGCGGAATATTCGATGGACATGGTCCATGGGGTCACTATGTAGCCAAACATGTAAGAAACTCAAT GCCTTCGTCGCTTCTGTGCAACTGGCAAAAGACTCTTGCTCAAGCCACATTACTAGATCCTGAGCTAGACCTCGAAGGCTCTGATAAAGGACTCGA GAGATTCGACATATGGAAACATTCGTATCTCAAGACATGTGCGTCGGTTGATCAAGAGCTTGAACATCACCGCAAGATCGATTCTTACAACAGTGGG ACAACCGCTCTAACCATTATCAGACAGGGTGAAATTATTTATGTATCAAATGTAGGCGATTCACGAGCGGTACTAGCCACGGTTTCAGATGAAGGAA GCTTGGTTGCTGTTCAGCTCACCCTCGATTTCAAACCAAATCTGCCTCAGGAGAAGGAGAGGATAATCGGATGCAAAGGGCGGGTTTTCTGCCTGA AAGATGAGCCGGGAGTCCACCGTGTGTGGCAACCGGACGCAGAAACACCGGGGCTTGCAATGTCGAGGGCGTTCGGAGACTATTGTATCAAAGAG TATGGATTGGTCTCAGTCCCTGAAGTCACTCAAAGGCATATCTCTGCTAAAGACCACTTCATCATCTTGGCTAGTGATGGGATATGGGATGTGATCT CTAACCAAGAGGCTATAGAGGTCGTCTCTTTGACGGCTGAGCGGCCTAAGGCAGCTAAACGATTAGTGGAGCAAGCGGTTCGTGCTTGGAAAAAGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001H13	AT5G48380.1	leucine-rich repeat family protein / protein kinase family protein	GGGGTTTGGGTCATTGCGTTCTCATCGGATTTTCTTTGCCCCATTCTTCACGAAGTTTGAATCTTTCCAAAGTCTTGAGTCAACGACACACCAGACAG ACGACTCCACTCTCTCCTTTTTCTTTTAATTTATATTTTGTAATCAAAGAGTCTCCTCTCATCATTCACGCTTTTCTTACTTCTTTCATAAAGACTGAGC AAACAACAGATGCGAATTTCTTCTTCTTCGTCTTCTTTATTCTGCTCAACACACATGAACAGGAGCCGCACGACGAAGACCAAAGCTCCCGTTTTGTA CTTCTGAGTTTCCTTGGGCTTTTGATGCTTATCGGAGGGAACCCTAGATTTTTGTTCTGTTAGATTTTAGGAGCGATTTTACCAATTTGTGGATTTTGG GGGATATGGTGATGAGTAGGTTAGTTTTCGCAATTTTTCTGGGGAATTGTCTCTGGTTGCTTCTCCTGTCTAGCTCGATCGATGCAAATGAGGCCAA CGTAAATTGCTTGAGGTCCATACTTAGCCAAGTTAAGGATCCGAATGGTTATTTATCGAGTTGGGTATTTAGAAACCAGACTGTTGGTTTTATCTGCA AGTTCATTGGTGTGACTTGCTGGCATGACGATGAGAATAGGGTTTTGAGCATCAATCTCTCTGGTTATGGTCTCACTGGAGAGTTTCCTCTTGGGAT TAAGCAATGTTCTGATTTGACAGGTCTTGATCTTTCTAGAAACAACTTCTCTGGAACTTTACCAACCAACATTTCCTCCTTGATTCCACTTGTTACCAC TCTGGACCTCTCCGGCAATAGATTCTCTGGTGAAATCCCTCCACTGATCTCAAACATTACCTTTTTGAACACTCTTATGCTTCAGCAAAACCAGTTCA CTGGTCCTCTTCCTCCGCAGCTAGTGCTACTCGGACGGCTCACTAAGCTCTCTGTGGCTGACAATCGTCTCAGTGGTCCTATCCCAACTTTCAACGA AACCACCTTGAAAATTGGACCACAAGACTTTGCTAATAACCTGGATTTGTGTGGTAAGCCTCTGGAAAAATGCAAGGCTCCTTCTAGCCCTCGTACT AAGATTATTGTTATAGCGGGAGTTGCTGGATTGACTGTGGCCGCGTTAGTCGTTGGGATTGTTTTGTTCTTCTACTTCCGTAGAATGGCTGTTCTTCG GAAGAAGATGAGAAACGATCCTGAAGAAAACAGATGGGCAAAGATCTTGAAAGGACAGAAAGGCGTTAAGGTTTTCATGTTTAAGAAATCGGTTTCG AAGATGAAACTAAGCGATCTTATGAAGGCAACAGAGGATTTCAAGAAAGACAATATCATTGGAAAAGGAAGAACAGGAACTATGTACAAAGGAGTGC TTGAAGACGGAACTCCACTTATGATAAAGAGGTTGCAGGATTCTCAACGGTCTGAAAAAGAGCTTGATTCAGAGATGAAGACTTTGGGATCTGTAAA ACACAGAAACTTGGTCCCTCTCTTAGGCTATTGTATTGCGAGTAAGGAGAGGCTTCTGATATACGAGTACATGCCAAAAGGTTACCTTTATGATCAGT TACATCCCGCAGATGAAGAAACCTCCAAGCCCATGGATTGGCCTTCGAGGCTGAAAATCGCGATAGGTGCAGCAAAAGGATTGGCATGGCTTCATC ACAGCTGCAACCCGAGGATCATCCATCGCAACATAAGCTCGAAATGCATATTGTTGACTGCAGATTTCGAGCCCAAGATCTCGGATTTCGGTCTAGC TAGGCTGATGAACCCAATTGATACACATTTGAGCACATTCGTCAATGGGGAATTTGGGGATTTCGGTTATGTTGCTCCCGAGTATTCAAGAACCATG GTGGCAACTCCAAAAGGAGACGTCTACAGCTTCGGGGTTGTGCTTCTAGAGCTAGTAACAGGGCAAAAAGCAACGAGTGTGACAAGAGAATCTGAA GAAGGCGAGGAAGAAGAAGAAAGCTTCAAGGGTAACCTTGTGGAATGGATTACAAAGCTATCGAGTGAATCAAAGCTGCAAGAAGCGATTGACAGG TCCTTACTTGGGAAGGGAGTGGATGATGAGATCTTCAAAGTTCTGAAAGTAGCATGCAACTGCGTTCTACCGGAAGTAGCAAAGCAGCGGCCTACC
GCT-001H14	AT5G63980.1	SAL1 (FIERY1); 3'(2'),5'-bisphosphate nucleotidase/ inositol or phosphatidylinositol phosphatase	GAAAACATTTGCATCAATTTCGAGATCCAGAGATTCATCGAACCGTATCGTTTCTGTATTCGGAAGGAAGTCTTCTCTTTCATTTGTTACTCTCAGAGT AGTTTCATCGATGGCTTACGAGAAAGAGCTTGATGCTGCTAAGAAAGCTGCTTCACTCGCAGCTCGTCTCTGTCAGAAAGTTCAAAAGGCGTTGTTG CAGTCAGATGTTCAATCAAAATCTGATAAGAGTCCAGTGACCGTTGCTGATTATGGTTCACAAGCAGTCGTTAGTTTAGTCTTAGAAAGGGAACTCAA CTCTGAACCCTTTTCATTGGTGGCCGAAGAGGACTCAGCCGATCTACGCAAGGATGGTTCTCAGGATATTCTTGAGCGAATCACGAAACTTGTCAAC GACACTTTGGCTACTGAGGATATGCTCAAAGCCATTGACTCTAGCACATCATTTGCTGCTCCTACTTTATCCACAGATGATCTGCTCAGAGCCATTGA CTGCGGCACATCTGAAGGTGGTCCAACTGGTCGACATTGGGTCTTGGATCCTATTGATGGCACTAAAGGATTTTTGAGGGGAGATCAGTACGCAGT AGCACTAGGATTGCTTGAGGAAGGGAAAGTAGTTTTAGGTGTGCTTGCTTGTCCAAACTTGCCATTAGCTTCCATAGCAGGAAACAACAACAACAAG TCTTCTTCCTCCGACGAAATCGGATGCCTTTTCTTTGCTACAATCGGTTCAGGGACATACATGCAGCCCTTGGACTCGAAATCTGATCCCGTCAAAG TACAAGTCTCTAGTGTTGAGAATCCTGAAGAAGCATCGTTCTTCGAGTCATTTGAAGGAGCTCACTCTCTTCACGATTTATCCAGCTCCATTGCCAAC AAACTCGGTGTGAAAGCCCCACCTGTGCGGATCGATAGCCAAGCAAAGTATGGAGCTTTGTCGAGAGGAGATGGAGCTATATACTTAAGGTTCCCT CATAAAGGATACCGTGAAAAGATTTGGGACCATGTCGCTGGTGCTATAGTTGTCACAGAGGCTGGTGGAATTGTGACGGATGCAGCGGGAAAGCCA CTGGACTTCTCGAAAGGGAAGTATCTTGATTTGGACACAGGCATTATCGTTACTAATGAGAAGCTTATGCCTCTGCTTTTGAAAGCAGTTCGTGAATC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001H15	AT1G17550.1	HAB2 (Homology to ABI2); protein phosphatase type 2C	GAGAAAGATAAAGATAAAGGGTTCCACTTTTTAGGGTTTTCTTTTTGTGTGATTCATGTCGCTGATTGATTGAATTCCTCTCTCTTGTACTATCCTTGC TCTTCAATTTCACCTGATCCTCTGTTTTTGTTTTGGATAAAGTTTTGAGCTTTTTGTGTCGTCTCTTGTGATCCCTAAGGCTGAAATTTGGGGGTTTCT GATTGAGATTTGGGTGGGATATTCAGTGTCTGGTCTTTCTGCTTCGGTGAGATCAAGAGTTATGGAGGATCTTAGGAGTGATCAAAATCCCACGAAA TACAGAGGATCCATCGCATAGATCCATCAGATCTGTACACCGAAGGTACGCACTTCTCCTTGATTCACAACTCTTTGGCTAAGTTAGTGTGAAAAGAA CGGTGTTTGGGTCGCTGTGGAGAGCTGACTTGGATGTGTATCACTTTAGAAGACGAAGATGATGAAGATTATTGAATCGGTTTGCTCCATTAGTAGC CGTTAAGGTGTGGAAGCAGCATAGGAGCTCATGGAAGAGATTTCACCAGCAGTTGCACTGACTTTGGGTATAGCCAACACGATGTGTGACTCTGGA ATCTCATCGACTTTAGATATTACCGAGCTGGAGAATGTTACTGACGCAGTTGACATGTTGTGTGATCAGAAGAACCAAAGATACAGAAATGGAGAGG TTGAATATATGATGGAAGATATTTTAGAAGAACCAGAAGAGAAAACTTTATCTGAAGCGACAAGCTTGTCGTCTGCTAATGAGTTTGGTGTACCTATC CAAGAATCAGAAGAAGATGAGGTATTAGTATCTGATGCGACTATTATAAGCGAGGGTTTAATAGTTGTGGACGCTAGGTCTGAGATAAGTTTGCCAG ATACAATTGGAATAGATAATGAGCGAGTTCTTGCTACGGCGATTATCCTAAACGAGACAACTATAGATCAGGTTCCCACAGCTGAAGTCCTTATCAC GAGTCTGAATCACGATGTGAGTATGGAGGCGACAGCTTCAGAGGTAGTCATTAGGTTGCCTGCAGAAAATCATAATGTAGCAAGAGGGAGCAGGAG TGTCTATGAGCTGGATTGTATACCTCTTTGGGGCACTGTTTCAATTTGCGGTGAAAGATCCGAAATGGAGGATGCTGTTACAGCTTTACCTCATTTTC TGAAAATACCCATTAAAATGCTTATGGGGGATCATGAAGGGATGAGTCCAAGTCTCACACACCTCACTAGTCACTTCTTCGGTGTATACGATGGCCA CGGAGGCGCTCAGGTTGTTATGTAATATGTGATGGCTTTGGTGGAAATGGGATTATTGCAGGTTGCTGACTATTGTCATGATAGAATCCATTTTGCTT TGGCTGAAGAAATCGAACGGATTAAAGAAGAGTTGTGCGAGAGGAACACTGGCGAGGGTAGGCAGGTCCAGTGGGAGAAAGTCTTTGTGGATTGT TACCTGAAGGTCAATGATGAAGTTAAAGGGAAAATCAGCAGACCTGTTGTTGGTTCTTCTGATATGATGGTTCTTGAGGCTGTTTCCCCTGAAACCG TAGGATCAACTGCTGTGGTTGCTTTGGTTTGCTCATCACATATAATAGTCTCAAACTGTGGTGATTCAAGAGCGGTTTTACTCCGTGGCAAAGCATCA ATGCCTTTATCAGTTGATCACAAACCAGATAGAGAGGATGAGTATGCAAGAATAGAGAGAGCTGGAGGAAAAGTTATACAATGGCAAGGCGCTCGT GTTTCTGGCGTTCTCGCCATGTCCAGGTCCATCGGTGACGAATACTTGGAGCCATATGTGATACCAGATCCCGAAGTGACATTTATGCCACGAGCG AGAGAAGACGAGTGTCTTATATTGGCCAGCGATGGACTTTGGGATGTGATAAGTAACCAAGATGCTTGCGAGCTTGCAAGGAAACGGATCTTATGG TGGCACAAGAGGAATGGAGCATTGCCTTTAGCTGAGAGAGGTGTAGGGGAAGACCAAGCTTGCCAAGCCGCGGCTGACTTTCTGTCCAAACTCGC TCTTCAAAAGGGAAGCAAAGACAACATATCCATCATAGTGGTCGACTTGAAAGCTCAAAGAAAGCCCAGGATCAGATCTTGAAACAGTGTACACTCG
GCT-001H16	AT4G19200.1	proline-rich family protein	GGATTCGTTCTGAAACAATCTCTCGTATCGGTTTTTAAAATTTTGCTGAATAATTGAGTAAGAAAACAATGGGAGGTGGTAAAGACAAGCATCATGAT GAGCAAGAGAAAGGGTTTCATGGTTTTGGACATCATTACCCACCCGCTCCTGGAGGGTACCCGCCCGCTGGTTACCCTCCGCAACAGGGTTACCC GCCACAACAGGGTTACCCACCCGCAGGATATCCAGGTGCACCCGGTGGTTATCCTCCTGCTCCTGGCCATGCCGGTTATCCACCTGCAGGCTATC CTGCTCCTCACCACTCAGGACATTCTGGTGGTGGAATCGGTGGCTTGATAGCTGGTGCAGCTGGTGCTGCCGCAGCAGCATATGGATCTCACCAC GTTGGTCATGCCTCTCACAACCCTTACGGGCATGCAGGACACGCAGGATATGGCCACGTTGGTCATGGCTCTCATGGCTTTGGGCATGGTGGTCAT GGTAAGTTCAAGCACGGAAAGCATGGAGGCAAATTCAAGCACGGAGGCAAGTTTAAGCATGGAAAGCATGGGAAACATGGGAAACACGGTATGTTT GGAGGAGGAGGCAAATTCAAGAAGTGGAAGTAATCTTCAAAATCCCACACCTTTGATTCTCTCCGCCAGTTGTCTCATTACCTGACCGATGTTTCTA ATAATCCTCCCCCACCTAAACATAAACATTGCATTTTAACTATATCGGTTTAGAGATCGCTGGTTCGAGGAAATAAAATGGAGAGTGCTTGTATAAAA ACCTTATGGTATCTGAGGAAGAGGTTTCTTCAATTTCTCGATAGCTTATCTATAATTTGGTTTTGTAATGACAATTTGTGTTTGTTTCGGTTCTTTTTTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001H17	AT2G26990.1	FUS12 (FUSCA 12); binding	GGTCTTCCAGAAAACCCTCTTTTATTTTCGTTTTTTTTTCTTTGCTTGCCCTAAGTTTCTGCTCATCGATTTTTACTCTGCTTCGACTTCGACTTTAGTC CGTCACAAGCTTAATCGGTGTTGTGTTCTTGTTCTGATCATCATGGCCTCAGATGCTGATATGGAGGATTATGGGTTCGAGTATTCCGATGAGGAAC AGGAGGAACAAGACGTTGACATTGAGAATCAGTATTATAACTCCAAAGGTATGGTTGAGACTGAACCTGAAGGTGCACTTTCTGGGTTTGCTGAGGT TGTTAAGATGGAACCAGACAAGGCTGAGTGGGGTTTCAAAGCTCTGAAGCAGACGGTGAAGATTTACTATCGTCTAGGTAAATACAAAAAGATGATG GATGCGTATAGGGAGATGCTTACGTACATCAAGTCAGCAGTGACCCGGAACTACAGCGAGAAATGTATAAATAACATTATGGATTTCGTTTCTGGAT CTGCTAGCCAGAACACTGGCCTTCTGCAAGAGTTTTATCAGACCACTTTGAAAGCTCTTGAAGAGGCTAAGAATGAGAGACTCTGGTTCAAGACGAA CCTAAAACTCTGCAACATCTGGTTTGACATAGGCGAATACAGACGAATGAGCAAGATCCTGAAGGAGCTCCATAAATCTTGTCAAAAGGAAGATGGA ACGGATGATCAGAAGAAAGGAAGTCAGCTGCTTGAGGTTTATGCAATTGAAATTCAGATCTACACGGAAACAAAGGACAACAAAAAGCTTAAGCAAC TATACCAGAAAGCACTTGCCATCAAATCTGCTATACCTCATCCTAGGATCATGGGTATAATCCGCGAGTGTGGTGGAAAAATGCACATGGCAGAACG TCAGTGGGCAGAAGCAGCCACAGACTTCTTTGAGGCTTTTAAAAATTATGATGAAGCTGGCAACCAAAGGCGTATTCAGTGCCTAAAGTACCTTGTT CTTGCGAATATGCTGATGGAATCAGAGGTGAATCCATTTGACGGGCAAGAGGCAAAACCGTACAAAAACGACCCTGAGATCTTGGCAATGACAAAT CTGATAGCAGCATATCAACGAAACGAAATCATCGAGTTTGAGAGGATACTGAAGAGCAACCGAAGGACGATAATGGATGATCCATTCATCAGAAACT ACATGGAAGATCTGCTGAAGAAGGTGAGAACACAAGTGTTGCTAAAGCTGATAAAGCCATACACAAAGATCGGGATTCCATTCATATCGAAGGAACT GAACGTGCCAGAGAAGGAAGTGACGGAGTTGCTTGTGTCTCTGATACTCGATAATCGAATCGATGGGCACATTGATGAAATGAACCGTTACTTGCT
GCT-001H18	AT2G43000.1	ANAC042 (Arabidopsis NAC domain containing protein 42); transcription factor	GAAGACTTGATTGGTGATATAAAGAGGTCGATGTAGTGAAGATGAGTGGTGACGGTAGGGAGCATGAAGAAGAAGAAGATGAAACAACGCTTCCTG GATTCAGATTTCATCCAACGGACGAAGAACTTTTAGGATATTACCTTCGAAGAAAAGTAGAGAACAAACCCATCAGACTCGAGCTTATCAAACAGATC GATATCTATAAGTTCGATCCTTGGGATCTTCCTAGAGTGAGCAACGTCAAGGAAAAGGAGTGGTACTTCTTCTGCATGAGAGGCAGAAAATACAGGA ATAGCGTTAGACCGAACCGGGTCACCGGTTCAGGTTTCTGGAAAGCCACCGGTATTGATAAACCGATTTACTCCAATCTGGTCTGCGTTGGTCTCAA GAAATCTTTGGTTTACTACCTTGGTTCAGCCGGTAAAGGCACCAAAACCGATTGGATGATGCATGAATTCCGCCTCCCTGCCACCACAAAATCTGAC TCGCCAGCTGAACAAGCAGAGGTATGGACACTATGCAGAATCTTCAAACGAGTCACACAGCATCGAAACCCGACCAGCGTACAACCGAACCGTAAA CCGGTTATCACCTTAACTGATTCGTGTTCTAAGACAAGCAGCTTAGATTCTGATCATACCAGCCACCACCGCGTCGTAGATTCCTTGCCCCACAAGC TACAAGAGCCGACACTTCAGCCACAGACGCAGACCGCTTATTGGAACCAACATACGGTTGGTTTCAATCAACCGACATATACTTGTTATGATACTAA CTTCCTGAGTTTCTGCAACATCAACGGTGGAGATTTCATCGGAGACGCAGCAAGTTGGGATGAACTTAGATCTGTTATAGATGGCAACACTCAACAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001H19	AT5G17880.1	CSA1 (CONSTITUTIVE SHADE-AVOIDANCE1); ATP binding / protein binding / transmembrane receptor	GGAAGCCAGAGAAAGCGTAAGTTAGAAAAATTGACATGGCAAGCTCTTCCTCCTCCTCGTCCAGGTTGAAAGCAGAGGATGACACACCAAACGAAC AAGTGTTCATTAACTTCCGCGGAGTTGAACTTCGCTACAACTTCGTCAGCCATCTGGACAAGAGCTTAAAAAGGAATGCGATCAATGCCTTCATAGA CACAGATGAAGAGATGGGCCAAAATTTGGATGTTCTGCTCACAAGAATCGAAGGGTCGAGGATCGCGCTAGCGATATTCTCCCCGAGGTACACCGA GTCAGATTGGTGTTTGAAGGAGCTAGCCAAGATGAAGGAAAGAATGGAGCAGAGGAAACTCGTGGTGATTCCAATCTTCTACAAGGTGGAGCCTGC CACTGTTAAAGAACTCAAGGGAGAGTTCGGCGATAAGTTCAGGGAGCTGGCCAGGTTTATTGACAAGAAGACCAAGAAAAAATGGAAGGAGGCTTT GAAATCTGTTCCTCTCTTAACGGGATTCGTGTTGAACGACAAAAGCGATGAAGACGAAATCATCGTGAAAGTCGTCAAGGCGGTTAAAAAAGTGTTA TATAGAATTTCACAGGCTTCACCACCTCATCCTAATCCACCAGAATGTATTAATGGAATGTCTCTCCAGAGACACCACAAGAGTCATGAAAGCTCTTG GGGAATCAAGCACCGACTCAAGCAGCTAGAAGAAAAGTTAATCTTTGGATTCGAGGAGACAACTCGTATCATTGGTGTTGTTGGGATGCCTGGCATA GGCAAAACCACTCTCGCTAGGAATCTATACGAGAAGCTGAACAACGGATTCTTGAGCCACGTGTTAGTCCCAGATATCCATGAGTTTTCAAAGGAAT ACGGATTGAATTATCTGACCAAAATACTCTTGGAAGATTTATTGACTGACAAAGCTCCCAACACTGAGACCGTCCATGAAGCTTACAAAGATCAACTA CTCAAAACCAAAGTCTTTGTTGTTCTAGACAGTGTTAGTAGCAAGGAACAAATCAATGCTCTTCTCGGAAAACGAGACTGGATTAAACGGGGAAGCA AGATTGTCATTGCAACAAGCGATAAGTCGTTGATACAAAGTTTGGTCGATGATATTTACGAGGTCCCTAGGTTAAGCGACAGAGACGCCTTAAACCA CTTTATCCATTATGCGTTTGATGATCAAGAAGGAGATCATGCTCTCGGGATAGGAAAGTTCTTGAAGCTCTCGAAAGATTTCGTGCATTATACAAAAG GAAATCCACTAGCTCTCAAGATATTGGGCGCAGAGCTTTTGGGGAAAGACGAGACTCACTGGGACTTAAAGCTAGCTGCATTGACTCAGCACCATA AAAGCCCTCCAGGACAGACCACAAGCAAGATGCTTCACAATGTTTGGAAAGGGAGCTACGATGGATTGAGTCAACAACAAAAAGATACGCTTCTTGA CATAGCGTGCTTCAAGTCGCTAGATGAGAATTATGTAAGGAGTTTACTCGATCCAGATGGCCTTAATAAGAATGAAATAGAAGATTTAGTGAACAAGT TCATGATTAATATTTATGCCGGGAAAGTAGAGATGCATGATACATTGTATATGCTCTCCAAGGACCTTGGTCGAGAAGCTACTGCTACAGATGGAAA GGGACGGCATAGGTTGTGGCACCACCACACAATTACTGATGTGCTAGGAAAAAACAAGGGAGCTTCTCATGTCAGATCTATTTGTCTTGACTTGTCC GATATAACAAGAAAAATGAGTTTCCACAGCCATTCTTTTGCCAAGATGAACGATCTAAGATATCTCAAAATCTACAGCTCTCATTGTCCTCAAGAATGT GATAGTGACATTAAATTAAACTTCCCTGAAGGACTCCAAATACCATTGAATGAGGTGCGATGTCTCCACTGGTTGAAATTTCCATTGAAAGAAGTTCC ACAAGATTTCAATCCAAAGAATTTGGTTGACCTTAAGCTTCCTTACAGCAACATTGAACGAGTTTGGGAGGGTAACAAGGATGCATCAAAACTAAAAT GGGTCAGTTTGAACCACTCAAAGAAGCTGAGCACTTTGTCAGGGTTAGGAAAAGCTCAAAATATTCAAGAGTTAAACCTAGAAAGCTGCACGGCGTT
GCT-001H20	AT3G11020.1	DREB2B (DRE-binding protein 2B); DNA binding / transcription factor/ transcriptional activator	GGAGAGATATTTAATATAAGAAGAAAAAAAAAAGAAAGGAGACGCAACAAACTCCAAAGAAAATATAGAAATCAATCGTTAAACGCGAAGAGCAGGAA CAACTGCGAGGGGCAAGCGATTGTTGCCCATTGAAGTAGAGATTCGACACGAATTTTGGAGTTATCAATCCCAATAGATTCTTTGATTGCGACTAAG AAGAATATGGCGGTTTATGAGCAAACCGGAATAGATACATCGAAGAAGAGGAAGCCGAGGGCTCGAGCAGACGGTACAACGGTGGCTGATAGGCT AAAGAAGTGGAGAGAGTACAACGAGACTGTTGATGCTTCCTCCATAGAAGAAGGAGAGAAACCAAGACGGAAGGTTCCTGCGAAAGGGTCAAAGAA AGGTTGTATGAAAGGTAAAGGAGGACCAGACAATTCTCACTGTAGTTTCAGAGGAGTTAGACAAAGGGTTTGGGGTAAATGGGTTGCAGAGATCCG GGAACCGAATAGAGGAAGCAGGCTTTGGCTTGGCACTTTTCCTACCGCGGAAGAAGCTGCATCTGCTTATGATGAAGCGGCTAAGGCTATGTACGG TACATTGGCTCGTCTTAACTTCCCTGAATGTGTTGGCTCTGAGTTTACCAGTACGTCGAGCCACTCTGAGGTGTGTACGGTCGAGGATAAGGCGGTT CTTGGTGGTGAGGTTTGTGTGAAGCAAGAGGATGCTGATTGTGAATCTAAACCATTTAGTCAAACACTAGATGTTAAGGAAGAGTCTAGTGAAACCA GTAGGCTTGCGGATGAACATAGAGATGCGAATAGGATGCTGAATTACGATTGGCTGAATGAGTTTGAGCAGCAGTATTTGAAGGAGAAAGAGAAAC CAAAGGAGGAAGACAAAGAAGTGATACAGCAGCTGGAGAAGCAGGAGACGGATTTGCTTAGTGTTGCAGATTATGGTTGGCTTAATGATATGGAAA AGGAGCAGGGTTTTTGGAATTCGCATGAATTTTTTGATGTTGATGAACTCCTTGGCGATATGAATGAAGGTATGTTACCTGATCCTAGTCCTAACCAA GACCAAAACCGGATATATGATTCGTATCCGCTTCAGCTCGAGCCACACGATGGTCACGAGTTCTTCGACTTGAGTTCTCTGGATCTTTGAGACTTTT GAGGCGATGAACAACAGAGTTTTTGGATTTGATCATAGGACATGAGGGTCACGAGTTCTTCGACTTTGAGTTCTCTGGATCTTTGAGAGTTCTGAGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001H21	AT4G18250.1	receptor serine/threonine kinase, putative	GAAGCTAACTAATGGCGGAGGGGTTGCTAGTGATTTTCATCCTTGCTTCACACTTGTTCGTATCCGGAGTCTTATCGGGGAGTATCCTCACCATAGA GAACAAATGCGACCAAACAATTTGGCCAGTGATCTTCTCATGGCAATCAAATCTCTCCACCTCAGGCTTCGCTCTCAGAGCAGGAGAGGCTCGTGC CCTTCAGGCACCGTCTTCTTGGTACGATCTTATCTTGGCTAGGACGCTCTGCTCAACCGACACGACAGGAAACTTCTCTTGCGCCACCGGAGATTG CCAATCCGGCAACGTGAAATGTCTCTGGTCATACGGTTGGTCCGCAGTGACTTATGTCTATTTTAGGATCGGTGACGGAGGAGTCAACAGCTACAC CATCAGTGTCGAGTACGGTTACAACCTCCCTTTAACTGTGATCCCCTCACATAGTAGCGAGCAGTGCCGTGTGAAGGTTTATAGGGACTTAAAGCAA ACTAAAAAATAAAGCATTTTTCATTTTAAAAAAGGTTTTTTAACAAAAAAATATAATATAATTTTAAAATCATATAAAATATTCAAAAATAAAATTTTAATC TAAAAAAACTAATTAAGACATAATCTTTCTTCCTTCTTTTTCAATAAATTTTTCACCAAACTCTCATAATCGAGGTCATTAACTAGTTTTCTTTCTATAGA TATGATAGATAGGCCATTCAATCTTTCTTGTGACATAGTTGATCGCAACTAAGACTTTATCAACTTCAACTTTGAAAAACTTCTTTCAGCCAAGGCAAC TGAAACTGGAATCGTCAGCAATATCTGATAAACAATCTATGAATTTTTTTTTTCTCTTGGGCTTTAGGGTTTTGGTCTTATTTTAGGATGTTATAAAGCC GATAATCTAAACAAATCTTAATCAATTTCCTAATACTATTGAGAGAATGTAATCTTAATCTATTTCCTATATCTATTCCTTTTTTTCTCTCTTATAAACAAA AATAAGAAAACATCTTATGTAAAAAAAAAATTTCATGCCAACCATAAACCACTTAATCACCTCTTAAGAAAATGGGGGCACTGAAAAATTAACATATTT TGGGGGCTTGAGGCGAAAGCTTTTTTTACTATATGGTAAGCACAGCTCTGGTAGCGAGACATGTTTCGCCGCAGGTTGTATGGTTGACTTGAACAAG ACATGTCCGAATGATCTTGATCTGTTCACCGGTGGGAAACAGATCGGCTGCATTAGCTCGTGCTTGAAATACGGTACGCGGGAGATTTGCTGCTCA CATGACTTCAAGTCAAAGCAAAAATGCAAGCCGACCATGTACACGAGGAACTTCGAGCGTGATTGCCCACTCGCATATAGCTACTTATTCAACGATA ATAACAGTACCTTGACGTGCCCGGACTCAACTGACTTCGTTGTCACGTTTTGCCCCTCTTCTGTTCCCAATATCACCAGCGAGGAACACAACAAAAA
GCT-001H23	AT2G43430.1	GLX2-1 (GLYOXALASE 2-1); hydroxyacylglutathione hydrolase	GAGGCAAAATTCTAGCTTCCTACGCGCAAAATCTCAAGAGGCTTTGAAGGTAATCAATAATCTCTCTCGTTTCTTTCTGAGGAATCTATCGGAGAGAG GTAGAGAAAGGGGGGAGAAGGGGGCGAGAGAGATAGAGGATGCCAATGATCTCCAAAGCTTCATCTACCACCAATTCATCGATTCCTTCTTGTTCT AGGATTGGAGGTCAGCTTTGTGTGTGGCCGGGTTTGAGACAACTTTGCCTCAGAAAAAGCTTAATATACGGAGTAATGTGGTTATTATCCATGCCAC TGAAAACATTGCGTGGGGCTAGAAAAACCCTCAAAATCACCCACTTTTGTAGCATCTCCAACATGCCATCTTCATTAAAAATCGAACTGGTGCCATGC AGTAGGGAGAACTATGCTTATCTTTTGCACGACGAAGACACCGGCACGGTTGGAGTCGTTGATCCTTCTGAGGCTGCACCTGTTATTGATGCATTGA GCAGGAAAAATTGGAATTTAACTTACATATTGAATACTCATCATCATGAGGATCACATAGGGGGGAATGCTGAACTGAAAGAAAGGTATGGCGCAAA GGTGATTGGATCAGCTGTGGATAAGGATCGGATTCCTGGAATTGACATACTTCTGAAGGATAGTGATGAGTGGATGTTTGCTGGCCATGAAGTTCG GGTAATTGACACTCCTGGCCACACACAAGGCCATATTAGCTTCTATTTTCCCGGGTCAGCCGCAATATTCACAGGAGACCTGATATATAGCTTATCTT GTGGTACCCTCTCAGAAGGTACCCCCGAGCAGATGCTTTCATCACTCCAAAAGATCGTGGCTTTACCAGATGATACAAATATATACTGCGGTCGCGA GAACACAGCAAGCAATCTCAAGTTTGCACTATCCGTAGAACCAAAGAATGAAACTCTTCGGTCTTATGCAACCCAAGTCGCTCATCTTCGCAGCCAG GGACTCCCATCGATTCCAACGACTGTTAAGGTTGAGAAAGCTTGTAACCCGTTCCTCAGAACATCGAGCAAAGATATCCGCAGATCTTTAAGCATTC CAGACTCAGCAAACGAAGCCGAAGCACTGCATCGTATACACAGAGCCAGAGATCGTTTCTAAAAACTTGGGTGTCTTTCTTATTGTATAGTTGGAAA
GCT-001H24	AT1G26790.1	Dof-type zinc finger domain-containing protein	TAAGAATAAAACACAACATCAAAATCTAGTATTTTCTCCTTCACTTTCTTCTTTCTTCTGTCCGCGGGTACTTCCAAAGATTGTCATGTCTGAACTTAG AGATACACCGGTAAAATTGTTTGGGTGGACAATTACATCTTCTTCGTCCTCTGTTCTTCCCGATTCTTTCGATCACGGCAAGGAGAATTCTTCCTCGT CCTCTTCTTCTTCTTCTCCGTCGCTTCGACTACACATGATGAACAACCAATCTGAAACTAGTAACACCGAACAAGACTATTCAAGTGTTCAGATAACA TCTGATCTTAACAAGGAAGCAAAAGAAACATCCGAGAACAGCGATGACCAACACAGCGAAATCACAACAAGTACTACATCGGAAGAGAAAACAATTG ACTTGAAGAAACCAGACAAGATCCTTCCATGTCCGAGATGCAACAGCAAAGACACCAAATTCTGCTACTACAACAACTACAACGTTAATCAGCCGCG TCACTTTTGCAGAAACTGCCAGAGGTATTGGACTTCCGGTGGATCCATGAGGATCGTTCCTGTTGGCTCAGGCCGCCGCAAGAACAAAGGATGGGT TTCTACAGAACAGTACATGAACATCATCTCCGAGAATGCTAGTAATGACTATACTAACAATTACAATAGCTCCTCAACGAAGATTCTCAGCTTCGAGT CTTCAGAACCTTTTGTTACTGAGAACTCTAACCATCAATCAAGCCATGCGAAGGTAACCGCCGATTCTGTTTCTAAAGATTTCAACAACTTCCAAGGA TTTCTTCCTCCGCAAGTAACATCCCCTGTTTCGCCTCCTTGGCCTTACCAATATTCTCCTAACCCTAGCTTCTACCAAATCCCCGTCTACTGGGGCTG CGCGGTACCATTCTGTTCTACTCTAGAGACTTCCACATGTCTAGGGAAAAGGACAAGGGACGAAACGTCATTCGAAACAGTTAGAGAGAGCAAAGA TGCTTCTATAAGAGCAAGATTGGATTCACAGTCTCAAAGCATCAATAATGAAGCAAGTGTAGCTACGAAGAATCATGTCTGGTGTCCAGTACCGATG AAACGAGAGAAGACAGAACAATTCAGATTTTTCATTGATGGATCTGATCAAACAAAGAGCGTCAACAAGAAATTCGTCCCTCAAACGTATCTTAACCT CGAAGCAAAGCGTCGACGCATCGCAAGATCTATCAACTTTAGCGACAGCATCTAATCTTATAGATATACTCATATAGAATACTTCTACGTCTCTTTAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001I01	AT1G33110.2	transporter	GCTCCGCCCCTATCTCCTCTATTCATTTCCTCTGGTCCATCAGATACAACAGAGATCCTACGATGGCCAGAGGAGGAGGAGAGCTCACGGCGGCTC TGTTGAAAAAGACGGCGGAGAAGGGCGTAGAAGAGGATGAGTTGGGGTTGAAAGAGAAGGTTTGGATTGAATCAAAGAAGCTATGGGTTGTGGCG GCGCCGGCGATCTTCACGAGATTCTCGACGTTTGGAGTTTCAATGATAAGTCAAGGTTTCATCGGTCATCTTGGCCCTATAGAGTTGGCCGCTTACT CCATCACCTTCACCGTTCTCCTGCGTTTCAGTAATGGTATCTTGGTAAGTTCTCTTCTACATCATTGGGTGTACTCAACATTTTTTTTGTTGAGTGTTC GTTTGTTGTTAATGTTATTTTGTAAGACTTTTTTTTTGGTTTTATTTTTGTAAGACTTTATTATTACTAATCTAATAAGGTTGATATGTACGACTTAATATA
GCT-001I02	AT4G17050.1	transcription factor	GGAACCTGACTCATTCCACTAATCCTCAGCGAAAATGCGCTCACTTCACTTATTCATCTTCATCATTATCAGTCTTGTTAAAGCTTCGGAAAGCGACG ATGGGTTTTGTTCAGCGCCTTCGATCGCTGAATCGGACGAGGTGTCGAAACTCATTTACGGGAAAGTCACGAATCCAACACTCTCTCCGTCGCACC TCCAAGATTTGCCGGGATTCACACGAAGTGTATACAAACGAGATCATGCGTTAATAACACCGGAAAGTCATGTATACAGCCCTTTACCTGACTGGAC AAACACATTAGGGGCGTATTTGATCACACCGGCAATGGGTTCCCATTTTGTCATGTACTTTGCGAAAATGAAAGAAATGTCAAGTTCAGGTTTACCAC CACAAGACATAGAGCGCCTTGTATTCGTGATCGAGGGTGCTGTGACACTCACTAACACATCCAGTTCTTCAAAAAAATTGACGGTTGATTCATACGC GTACCTTCCTCCAAACTTTTATCATTCCTTGGACTGTGTTGAGTCTGCAACACTTGTTGTCTTCGAGCGGAGATATGCTCATCTAGGAAGTCTCACAA CAGAGCTTATAGTTGGCTCCACAGACAAGCAACCACTACTTGAGACTCCTGGTGAGGTTTTTGAGCTGCGGAAACTTCTTCCGGTCTCCCTTGCTTA TGACTTCAACATCCATATAATGGATTTTCAGCCTGGAGAGTTTCTCAATGTTAAGGAAGTTCATTATAACCAACATGGTTTGTTGCTTCTGGAGGGCC AAGGCATTTATCGCTTGGGCGATAACTGGTATCCAGTTCAGGCTGGTGATGTCATATGGATGGCTCCTTTTGTTCCTCAATGGTATGCTGCACTCGG AAAGACTAGGTCTCGGTATTTGTTGTACAAAGATGTGAATCGGAATCCGTTGTGAGCAAAGATCTATATGGCTTGGTGGGAAGTTTGATGGAGTCAA AGAAGAGTTCTTTGTAAAAGAAGATTCCTTGCACCAAAAGCCAGAATCATGTTGTTTAGCTTTCTGTCTTGAAAACATCAAGTCCACTATAAGACGTG
GCT-001I03	AT2G38120.1	AUX1 (AUXIN RESISTANT 1); amino acid permease/ transporter	GGATAGTATTTAGCTTCATTCCTTCTTTTGCTCAGATCAAAGAAAGTCCCCTTCTTTCCAAAACACACACTCTCTCTCTCTCTCTCTTTCTTATCTCTCT CTTCTCATCTCTGCCATTTTCTGGGGGTTCTCTTCTTCCTCTTCTTCTTCTTCTTATGCTCTGTTTCTTTAAGTCAGAGAAAGACAGAGAGTACAATTTT TTTTTCTAAAGTGAAAAGAAGAACAAGTGAGAACTAAAGGACCAAATCAGTTTTGGTCTTTGTTTGTTTCTGATTCGTCCTCACCTTCTTCTTCTCTTC TCCTAAAAGAGAAAACATCTAAAGGCAAAAGATTATAAAAAAAATGTCGGCGGGAGTGAAGCAAGGAGAAGAGGCGATAGTGCCGAGCGGAAATGA CCACGAAGGAGATCAGATCAACGGAAACCACACCGGAAAAATCGACGAACACGACGGCGCCGGAAGTTCTAAACTAAGCAATTTTCTCTGGCACGG TGGCTCCGTCTGGGACGCCTGGTTCAGCTGCGCATCTAACCAAGTGGCGCAAGTGCTTTTGACGTTACCGTACTCGTTCAGTCAATTAGGGATGTT ATCAGGAATAGTGCTTCAGATCTTCTATGGATTACTCGGAAGCTGGACTGCTTATCTCATCAGTGTTCTCTACGTCGAGTATCGAGCTCGTAAGGAG AAAGAAGGCAAAAGCTTCAAAAACCACGTTATTCAGTGGTTCGAAGTGCTCGATGGGTTACTTGGCCCATACTGGAAAGCAGCAGGACTCGCATTTA ATTGCACTTTCCTATTGTTTGGATCTGTAATCCAACTCATTGCTTGTGCCAGTAACATTTATTACATAAACGATCACTTGGACAAGAGAACATGGACTT ACATATTCGGCGCGTGTTGTGCAACCACCGTGTTTATACCGTCGTTTCATAATTACCGAATTTGGTCTTTCCTCGGCTTGGGTATGACCACTTACACC GCCTGGTACATGGCCATCGCCGCCATTATCCACGGCCAGACGGAAGGTGTGAAACACTCAGGTCCGACAAAACTAGTGCTTTATTTTACCGGAGCT ACCAATATCTTGTATACCTTTGGTGGTCACGCGGTTACTGTTGAGATAATGCATGCAATGTGGAAACCACAGAAGTTTAAGTACATTTACTTGATGGC TACGTTATACGTATTCACACTAACGATTCCGTCAGCTTCCGCCGTTTACTGGGCCTTCGGAGACGCACTTCTCGATCACTCCAACGCTTTCTCTCTC CTCCCCAAGAACGCGTGGCGTGACGCCGCCGTTATCCTCATGCTCATCCACCAGTTTATAACGTTCGGATTCGCGTGTACACCGCTTTACTTTGTGT GGGAGAAAGTGATAGGGATGCATGACACGAAGAGCATTTGCTTAAGGGCTTTAGCTCGATTGCCTGTGGTTATACCGATTTGGTTCTTAGCTATTAT TTTCCCGTTTTTCGGTCCCATCAATTCCGCCGTTGGTGCTCTTCTCGTTAGCTTCACCGTCTATATCATCCCTTCTCTCGCCCACATGCTCACTTACC GATCTGCCTCCGCTCGTCAGAATGCGGCAGAGAAGCCACCGTTCTTTATGCCGAGCTGGACGGCGATGTACGTGTTGAACGCTTTCGTGGTGATTT GGGTTCTAATAGTCGGATTTGGGTTTGGTGGATGGGCAAGTGTAACCAACTTTGTTCGTCAAGTCGACACTTTTGGTCTCTTTGCCAAGTGTTACCA ATGTAAACCAGCGGTTCCAGCAGCCGCCGCGCATGCCCCGGTTTCCGGTTTACACCACCGTCTTTGAGAGACCTAGCCAGAGTCTAATGCTTTTGT
GCT-001I04	AT4G14110.1	COP9 (CONSTITUTIVE PHOTOMORPHOGENIC 9)	GGAACTAGCCATGGATCTCTCTACTGTTACGGAAGCTTTGGCCGCCAAATCCTATGATAGAATCGCCGATATATGCGATAATCTTATGCTTCAGGTT GCTTCCGAAGGAATCTCTTTCCATGATGACTGGCCTTACGCAATCCATCTTCTGGGTTACTTTTACGTTGACGATTGTGATAGCGCCCGTTTCCTCTG GAAAACAATACCTACAGCTATCAAGGAGAGCAAGCCTGAAGTTGTCGCTGCTTGGAGGATTGGGCAGAAGCTGTGGACGCGTGACTATGCAGGTG TATACGAAGCTATTCGGGGTTATGATTGGAGTCAAGAAGCCAAAGATATGGTTGCTGCATTCTCAGATCTTTACACCAAAAGGATGTTTCAGCTTTTG TTGTCTGCCTACTCCACAATTACCATCTCTGATGTGGCCCTTTTCCTAGGGATGACGGAGAATGATGCCACAACTTATGTTGTAGAGAATGGATGGA TAGTGGATGCAACTTCTCAAATGGTGACCGTTAAGAAGCAAGCTGTTAAAAGAGAGCAAAAGGTGGATTCATCGAAGCTTCAACGTTTGACAGAGTA TGTGTTCCACCTTGAGCACTAAAGTAAGAGACCAATCTCTCTCATTAAAGGGTTTCAGATAGTGAAAAAAACTAAAACACCAAACAAACTTCTGTTTC GAGGAGAGTCGTTTAGTTTTTGGTTATTTTTGTCTTGTTACCCCTAAGGTTTTGATTACTGATGGGTACTAATGCACTACATGATATTAGGATTTGTTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001I05	AT1G71030.1	ATMYBL2 (Arabidopsis myb-like 2); DNA binding / transcription factor	GGAAACAACCTCACAAATAATCAAGTAACAATCTCTTTTGAAGAAGTTATGAATAAAATCCGCCTCCGCGCTCTTTCTCCGCCTTCTGGTAACTTTTCT CCAACGTCGATATATACGTTTTTTTGTTTAAAAGTAATAGTCTTGTGTTTTGCTTTTCACATGACCAATTAGTCACAGTTAAAGATCGATGTAGAACTTA TAGATAACATATATGCACATGTGCACGTGTGAGTTTGCAACGAAATATCCGTTTTAATTTGTGAAATTAACTGAATCAAGAATTGCTAATCAATGTTTT TAGGATTGAAACGCCGTGCCAAGCAATGTAGAGTAAGAGGGAGAAACAACGCAAAGCTGGAACTTGAACAAAGCAACTTCTCTAAAGACGAAGACG ATCTCATCCTCAAGCTTCATGCACTTCTTGGCAATAGGTTTTCATTCTTTTTCTTCTTTTTCTTAATTATTATTATATATATATGCTATGTGTGAATGTTC GTTATGGTACGTTTTCAGATGGTCACTGATAGCGGGAAGATTGCCTGGACGAACCGACAACGAAATAAGGATCCGTTGGGAAACTTACTTAAAGAG GAAACTCGAGAAAATGGGAATCGACCCAACCAATCATCGTCTTTACCATCACACCAACTACATTTCCAGGCGATACCTTAATTCTTTGCATAAGGAAC ATGAACCCAATACTACTAGTGACCAATCTTCTTCGGTATCCGAATCATGTGATGGTATGACGACAATATTACCCGTTTCAAGTACCAATTCCTCTGAG TATAGTACTAGTGCCGGACATAGCCGTTTGCCTGACCTCAACATCGGTCCCATCCCAATGAAGACCACGACTTCTTTGCCAGTTTGTTGCCTTCAAG ACTCTAGCGAACCCTCTAACTATGGCTCTACAAGTCAAGAAACGCTTCTTCTTTTCAGGTGAGAAAATGGTGCATTAATTGTGAGATTGCAGAAGACT CTTTGTCAACTACTTGCTCAACCCCAAATTGCTCGGACGCTTCGGCGAAATCGGATGTGTGGTGGTGCTGCATCAGAAAACAAAAATGGTGTATTTG
GCT-001I06	AT1G61520.1	LHCA3 (Photosystem I light harvesting complex gene 3); chlorophyll binding	GATTCGTTGTTCTCTAACATTTCCCCTGCAAAACCATTACTGAACCATCATCTTCATCATCTCTTGGTGACACAGAAGAGAAAGAGTTAAGGAACAGA GCAAAATAATGGCAGCACAAGCACTTGTGTCTTCTTCACTTACCTCCTCTGTTCAGACCGCTAGACAGATCTTCGGCACAAAACCAGCTGTGTCCAC TTCACGGAGGAAGAGTTCCTTTGTCGTTAAGGCTACTTCAACTCCACCTGTCAAGCAAGGAGCAAACAGACCATTGTGGTTTGCATCCTCTCAGAGT CTCACTTACTTGGATGGCAGCTTACCTGGAGACTATGGATTTGACCCGCTTGGTCTTTCAGACCCAGAAGGTACTGGAGGGTTCATCGAGCCGAGA TGGCTAGCATACGGAGAGATCATCAACGGACGTTTCGCCATGTTGGGTGCAGCTGGAGCTATTGCTCCTGAGATTCTAGGCAAAGCCGGTCTGATT CCAGCAGAGACTGCTCTTCCCTGGTTCCAAACCGGTGTGATTCCACCTGCAGGGACATACAGTTACTGGGCAGACAACTACACACTCTTTGTTCTC GAGATGGCTCTGATGGGATTCGCTGAGCACCGGAGGTTGCAAGACTGGTACAACCCTGGATCTATGGGCAAACAGTACTTCTTGGGTTTAGAGAAA GGCTTTTCCGGTTCAGGTGAACCGGCTTACCCTGGTGGACCTTTCTTTAACCCTCTTGGGTTTGGTAAAAACGAGAAGTCCATGAAGGAGTTGAAAC TCAAGGAGATCAAGAACGGTAGATTGGCCATGTTGGCCATCTTAGGCTACTTTGTGCAGGGGCTAGTAACCGGTGTTGGACCGTACCAGAACCTTC TTGATCATTTGGCGGATCCAGTCAACAACAATGTCTTGACCAGCCTCAAGTTCCACTGAGATGATGATGATCATATCATCTCATGTGTTTTTATGTTG
GCT-001I07	AT5G56960.1	basic helix-loop-helix (bHLH) family protein	GTTAACAAACTAAAGAACGAACGAAAAATTTTCCCTCCCTCCCTCCATCTTTTCTCTCTCTCTCTCTCGGTGGTTATCACAGAACCTAAGCAATGAAA GTCCATTCATCTTTTCTTCTTCTTCATCATCTTCAGTTCTCATAATCTGTTATTCTGTTGCGAGAAAGTGACACGTGTGATCATCCTACATGGACGCAA TCTTCTTAACGGATGATCCGAGTACCCGGAAACAGTTAATCGGGTCGCTAGCTCAATCTTTCGGATGCGCTTACGTTTGTCTCTGGTCCTATTATTTC CCTCGACCTTCTAACTACGTGATATCATTGGATGGATATTACAATGAAGCATCTCAAGAGCCTTCTACTTCTCTTGGAAGTTTAGCTAGAAGCTTATTC CATGAGTATCGCCAATCCGTTATCCCTCTCCAAAATGGATATGTACCAAGCATGGCGTTCATGAATAATCTCCCATACTTGGAGATTCGACAAGACG ATATTCAAAGACTTGCTTACAACGACGCACAACGTCTATTTTACCAGGAAGCCAGGATTCAGACGGTGATATTCATGGGTTGCCGGAGCGGAGAGAT CGAACTCGGATTGACATATGACGCTGCAAATATGAAAATAGAAGCAAGTCTTCGAGAATGGTTCCCTGAAGATTTCAATAGAAAGACTTCTCCGGTC AACTCCGACAATCTCCGGCCACCACCGCATCCACCGTCTTCCTCTTCTTCGTCTCTTAGATCACTAGACAGTCCCCAAAACGTCTCAGAATATTCTTC ACTCTTATTCCCACACGTCCCCAAACCTTCAACGACTGACGCCGTTAACGTTCCGTTACATCCGCTGTTAGCTCCGGTCACCACAACAACAATGAGC AATATGATCCGTCAACAACAACATGAGCCTTTGTTCCTTAACCGTGATCAACGTGAGGAGGAAGCAATGACGCAAGCCATCTTAGCGGTTTTAACGG CGTCGTCAAGTCCTCCTTCTACTTCTTCCTCGCCGCAGCGAAAAGGAAACGCCACCGCTTTTAAGAGATATTACCGCGTGTTTAGCGGTAGATCGCC ACCGCCGAATGTACGGAAGCAAAGTATTATGAAAAGAGCGATTTCGTTTTACAATACGCTTAACATTTACCGGAGAGAGCGTTTTGCAAGTAAAAAC GCTACTACGGGCGGTGGTGATGGAAGCGGCAGCGTTCGCGGGCCAAACGCAACGCAGTTGCATCATATGATATCGGAGAGGAAACGGAGAGAGA AGCTTAATGAGAGCTTTCAAGCATTGAGATCTCTCCTTCCTCCGGGAACTAAGATAAAGCATCGGTTCTCACCGTTGCAAGGGAGCAACTAACTTCT TTGCAAGACGAGATTCCGAGACTATTAGAAAGGATTGGGGAGCTAGAGGCGAAACAAGCCGGAGAAAGAGAGATGGAATATGATTTAGGACCCGAT GAGAGGTTTAACGTTCGTTTAAGACAAATACCCGAATCAACATCTAGCGAGAGAATTTTTGATCTACGAGTTGTTCACAGAGAAGACAACATTATGGC TGATGATTTGTTGATAAGGATTCTCGAATTCTTGAAGCAAATTAACAATGTGAGTTTAGTATCAATCGAAGCACGAACTCGAGCTAGAGAAGATGAAG CTACTTCGGTTGTTCTCGTGAGCTTAAGGCTCAAGATTGAGGGTGAATGGGACGAATCAGCCTTCCAAGAAGCAGTCAGAAGAGTTGTTGCTGACTT GGCTCACTGACAACAAGTTTGATTATTTCCTAACCATATATTATTCATTCTTATAATTTTACTTTCTATTCCTCCTTTATGGACAGTCTATTTTATTACCC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001I08	AT5G57660.1	zinc finger (B-box type) family protein	GAGTTTCCAAAAACTTAAGAGAGATTTGTGAATTTTAAATTAAGAAAGAAAAAAAAACAGTAGAGAGAGAAGTTAATGGGATTCGGCTTAAAGAGCAT CAAATCAATCTCCGGCGGGTGGGGCGCGGCGGCGCGTTCCTGTGACGCTTGTAAATCAGTAGCCGCCACCGTGTTCTGCCGAGTTGACTCAGCTT TCTTATGCATCACTTGTGACACAAGGATCCACTCGTTCACGCGCCACGAGCGCGTGTGGGTCTGCGAAGTCTGCGAACAAGCTCCCGCCGCCGTC ACCTGCAAAGCCGACGCCCCGCGTTATGCGTCACCTGCGACTCCGATATCCACTCGGCTAATCCACTAGCTAGCCGCCATGAACGTGTCCCCGTC GAGTCTTTCTTCGACTCCGCCGAAACCGCCGTCGCGAAAATCTCAGCTTCGACGTTTGGGGTTCTCGGGTCAGGGACCACCGTCGATTTAAGCGCC GTTCCGGTGATGGGTCACTCCGAAGATCTCGGCTTGTGCCCGTGGCTGCTCCCTAACGACTTTAACGAACCGGCTAAAGTCGAGATCGGAACCGA AATGAAATCTTCCGACTTTATGTTTTCCGATTTCGATCGGCTCATCGATTTCGAGTACCCAAACTCCTTCAACCATCAGCCGCCGCATAACAGCGCC GGAGCAGACAGCCTCGTTCCGGTTCAGACCAAAACAGAGCCTCTCCCATTAACTAACAACGGTCATTGTTTCGACATAGATTTCTGCAGATCAAAGC TCTCTGCTTTCACCTACCCATCCCAATCAATCAGCCACAGTGTTTCGACTTCGTCTCTCGAATACGGTGTGGTTCCTGACGGGAACACATCCGTCTC GGAAATCTCGATTCCGTTTAAACGGAGCACGATCACTGGTTCGACGGCGACAACCGGAGATCAAGCGAGCTCCATGGATAGGGAGGCTAGGGTTC TGAGGTACAGAGAGAAGCGAAAGAACAGGAGATTCGAGAAGACGATCCGTTACGCTTCAAGGAAAGCTTATGCAGAGTCACGGCCAAGGATCAAA GGCCGATTCGCGAAACGAACAGAGACCGAAAACGACGACGTTTTCCTTAGCCACGTGTACGCATCAGCCGCTCAGTACGGTGTCGTACCGACGTT CTCATTTCCAATCTACCGTCCAACTTTTAAAAACAATCACCTCCCCACTTCACCCTTCATTTACTCTTCCTCTATAATAATTATACTCACTCTTACCC
GCT-001I09	AT1G56070.1	LOS1 (Low expression of osmotically responsive genes 1); translation elongation factor/ translation factor, nucleic acid binding	GGTCGCTACTTTTCTCTCTCGCTCAATCTTTCCTTTCATTCTCCTCTAAGAGATTTTGTAGGTGACAGTCAAAAGTTAGCCAAAATGGTGAAGTTCACA GCCGATGAGCTTCGTAGGATTATGGACTATAAGCACAACATCCGTAATATGTCTGTTATTGCCCATGTCGACCATGGGAAATCTACCCTCACTGACT CCCTGGTCGCTGCCGCTGGTATTATTGCCCAAGAAGTTGCTGGTGATGTTCGTATGACTGATACCCGTGCTGATGAGGCAGAACGTGGTATTACAA TCAAGTCCACCGGTATTTCTCTCTACTACGAGATGTCCGATGCTTCCTTGAAGAGTTTCACTGGAGCGAGAGATGGAAACGAATACCTCATCAATCT TATCGACTCCCCTGGGCACGTTGACTTTTCGTCCGAGGTCACTGCCGCTCTCCGTATTACAGATGGTGCTCTTGTCGTGGTCGACTGCATTGAGGG TGTCTGTGTGCAGACTGAGACCGTGCTCCGTCAAGCTCTTGGTGAAAGGATTAGGCCTGTCTTGACTGTTAACAAGATGGACAGGTGTTTCCTTGAA CTCCAGGTTGATGGTGAGGAGGCTTACCAGACTTTCCAGAGGGTCATTGAGAATGCTAATGTCATCATGGCAACCTATGAGGATCCTCTCCTCGGT GATGTTCAGGTCTACCCAGAAAAGGGAACCGTGGCTTTCTCTGCTGGTCTCCACGGATGGGCTTTCACTCTGACCAACTTTGCTAAGATGTACGCTT CAAAGTTTGGTGTTGACGAATCTAAAATGATGGAGAGGCTCTGGGGTGAGAATTTCTTTGACCCTGCCACCAGGAAGTGGACCGGCAAAAACACTG GTTCCCCGACCTGCAAGCGTGGGTTTGTCCAGTTCTGTTACGAACCCATCAAGCAAATCATTGCCACTTGCATGAACGACCAGAAGGACAAGTTGT GGCCTATGTTGCAGAAGCTTGGTGTCCAGATGAAGAATGATGAGAAGGAGCTCATGGGTAAACCTTTGATGAAGCGTGTCATGCAGACATGGCTTC CTGCAAGTACCGCACTACTTGAGATGATGATCTTTCACCTGCCATCTCCCCACACTGCTCAGAGGTACCGTGTTGAGAACTTGTACGAAGGTCCCCT CGATGATCAGTATGCCACGGCCATCAGAAACTGTGATCCAAATGGTCCCCTCATGCTTTACGTTTCTAAGATGATTCCCGCCTCAGACAAGGGTAGA TTCTTTGCCTTTGGACGTGTCTTTGCTGGTAAGGTGTCTACTGGTATGAAGGTCAGGATCATGGGACCCAACTTTGTCCCTGGTGAGAAGAAAGATT TGTATGTCAAGAGTGTCCAGAGAACCGTCATTTGGATGGGTAAGAGGCAGGAGACTGTTGAAGACGTTCCCTGTGGTAACACCGTTGCCATGGTTG GGCTGGATCAGTTCATCACCAAGAATGCTACCCTGACGAATGAGAAAGAAGTTGATGCCCACCCTATTCGTGCAATGAAGTTTTCCGTCTCCCCCGT TGTCCGTGTTGCTGTTCAGTGCAAGGTTGCATCCGACCTTCCCAAGCTTGTGGAAGGACTCAAGAGGCTGGCCAAGTCTGATCCTATGGTTGTGTG CACAATGGAAGAGTCAGGTGAGCACATTGTTGCTGGTGCTGGAGAACTCCATCTTGAGATTTGTCTCAAGGATCTTCAGGATGATTTCATGGGTGGA GCTGAGATCATCAAGTCAGACCCTGTTGTGTCGTTCCGTGAGACTGTCCTCGAGAGATCTGTCCGCACTGTGATGAGCAAATCCCCTAACAAGCAC AACCGTCTTTACATGGAGGCCAGGCCGATGGAGGAAGGTCTAGCAGAGGCAATTGATGACGGCCGTATCGGCCCAAGAGACGACCCCAAGATCCG ATCAAAGATCTTGGCAGAGGAGTTTGGATGGGACAAGGATCTTGCAAAGAAGATCTGGGCGTTTGGACCTGAAACCACGGGGCCTAACATGGTGGT TGACATGTGTAAGGGAGTTCAGTACCTTAATGAAATCAAGGATTCAGTTGTTGCTGGGTTCCAGTGGGCGTCCAAGGAAGGTCCTTTGGCAGAAGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001I10	AT1G69040.1	ACR4 (ACT REPEAT 4); amino acid binding	GGGGGGAGTTTTTTTTTTTCATACGATTTTGGGCAAGAGGCGTTTGTTGACATGATTATAAAATCAGGGATTTTGTTCTTCTTCTTCTTCTGGGTTTCT CTGTTAGCTTTTAGAAGCTATTTAGGATTTGATGTCGGTGGGATCTCTGTTTTTATGTACATGACCTGTAATTTGCTATGGTAGTTGTGCTTCTTCTCT CTCCTTGTTCACTCTTCCACAAGAAAACAGAGAGAAAAGTTATAATTTTTTTCATGGGTTTTATCAGATAGAAAACTTCTTTGGTCTGCGGTTTAGAAA GTTTTGGATTTTGGATTTTGTTAAAGTTACACACAAGGAATAATCTCTCACAGTTTTTGGGATTTTGGTTACAGATGTTAGCATGAGTTTTTCACAAGA TGTGGATGATGAGTACGAGAAACTCATTAGGAGAATGAATCCACCGAGGGTTGTGATTGATAATGACTCTTGCAAGAACGCAACTGTGATAAGGGTG GATAGTGCAAATGAATATGGGATTCTTCTTGAAGTTGTGCAAATCCTCACTGATCTTAACCTTACTATAACCAAGGCTTACATATCCTCTGATGGTGG TTGGTTCATGGATGTATTTAATGTCACTGACCAAGATGGAAACAAAGTCACAGACGAAGTTGTTCTAGACTATATCCAAAAATCTCTTGGGCCTGAAG CTTGTTTCTCCTCTTCCATGAGAACTGTTGGTGTCATACCATCAACAGACAGCACGGTTATCGAGTTAACAGGATGTGACAGACCAGGTTTGCTGTC TGAGCTGACAGCTGTCCTAACCCACCTCAAGTGCAGTGTCCTTAACGCCGAGGTTTGGACACACAACACCAGAGCAGCTGCTGTGATGCAGGTGAC AGATGACTCAACCGGGTGTGCCATTTCTGATCCAGAGAGGTTGTCTCGGATCAAAAACCTTCTCCGAAATGTGCTCAAGGGAAGCAACACACCTAG GGAAGCCAAAACCGTTGTGTCTCAAGGAGAGGTTCACACGGATCGGAGGCTTCATCAGATGATGTTTGAAGATAGAGATTATGAACACCGTGTGGT GGACGATGATTCCTCCATACAAGATGAAAGGCAAAGACCAGATGTTTGTGTTGATAATTGGCTCGATAAAGATTACTCCGTGGTCACTGTTAGATGT AAAGACAGACCAAAGCTTCTGTTCGACACAGTCTGCACTTTGACTGATATGCAGTATGTTGTGTTCCACGGAAGCGTTGATACTGATGGAACAGAGG CGTATCAGGAGTATTATGTGAGACATATAGATGGATCTCCTGTAAAATCAGAGGCAGAGAAGCAAAGAGTCATACAATGTCTCGAAGCAGCTATCAA AAGAAGAGTATCTGAGGGATTGAAGCTGGAGCTGTGCACAACGGATAGAGTTGGATTGTTATCTAACGTGACTCGCATATTCCGTGAAAACAGCTTA ACGGTCACAAGAGCTGAAGTGAAAACCAAAGGAGGCAAAGCTCTGAACACATTCTATGTCAGCGATGCTTCTGGTTACTCAATTGATGCAAAGACCT TAGATTCCATAAGACAAACCATAGGCCAAACTATCCTCAAAGTTAAGAACAACCCTGAAGAACAACAACAAAGACAGAAATCTCCTTCCCAAGAATCA CCGACCAGGTTTCTCTTTGGGGGTCTCTTCAAGTCGAAATCTTTCGTCAACTTTGGCCTTGTTAGGTCCTACTCTTGAAGAACATCTTTCACTTAGCT
GCT-001I11	AT3G44880.1	ACD1 (ACCELERATED CELL DEATH 1, PHEOPHORBIDE A OXYGENASE)	GGTCCTTCTTCTCGCAGATTTCGGAAACTTCAGTAAGATTAGATATCGTCAAAATCCAGAGAAGCAAGTCGGAAAAGGAAAATGTCAGTGGTTTTAGT CTCTTCTGCTTCAGCGACACTAACGAAATCCAAATCCATAAAGATTCCCTTTTTATCTCCCACCACCAACTCCACGAAATTCCCCTTCAGGGTCTCGA TTTATCCTCAAAGACCGAAACTTCTCGACAACCCTCTTCGCGTGGCGGCGCCGCCTTCTACGCCTACTTCAGATCCGGCGGAGGAGAGGCGGTTC GAAGAAGATATCGGCGGAGAGAAGGAAGAGGAAGGGTCTGAGTTTAAGTGGAGAGATCACTGGTACCCGGTTTCTCTGGTTGAAGATTTGGATCC GAATGTACCGACCCGGTTCCAGCTTCTGGGTCGAGACCTCGTCCTCTGGTTTGATCGGAATGATCAGAAATGGGCCGCCTTTGATGACCTCTGCCC TCATCGGCTCGCTCCTCTATCTGAAGGAAGATTGGATGAGAATGGACACTTGCAATGTTCGTATCATGGATGGTCCTTCTCAGGGTGTGGATCTTGC ACTAGGATTCCACAGGCTTCTACTTCAGGACCTGAAGCTCGCGCGGTTAAATCCCCTAGAGCTTGCGCTATTAAGTTCCCAACAATGGTGTCTCAAG GTCTTCTCTTTGTGTGGCCTGATGAAAATGGCTGGGACAGAGCCAATTCAATTGACCCTCCTAGGTTACCGGATGATTTTGACAAACCAGAATTTTCA ACAGTGACAATTCAAAGAGATCTTTTCTATGGATATGATACTCTCATGGAAAACGTATCTGATCCTTCACATATCGATTTTGCTCATCATAAGGTTACA GGAAGAAGAGACAGAGCAAAACCATTGCCGTTTAAGGTGGAGTCAAGTGGGCCTTGGGGTTTCCAAGGTGCAAATGACGACAATCCAAGGATCACT GCGAAATTCGTTGCTCCTTGCTATTCTCTGAACAAAATTGAGATAGATGCAAAGTTACCTATCTTTGGTAATCAAAAATGGGTTATTTGGATTTGCTCA TTCAATATACCAATGGCTCCGGGAAAGACCCGTTCCATCGTTTGCAGCGCTCGTAACTTCTTCCAGTTCTCTGTACCAGGACCCGCTTGGTGGCAG GTTGTACCGAGATGGTATGAACACTGGACCTCAAACTTAGTCTATGACGGTGACATGATCGTACTTCAGGGACAAGAGAAAGTGTTCCTCTCTAAAT CAATGGATTCACCGGATTATGATGTGAACAAAGAGTACACAAAGCTCACATTCACTCCAACACAAGCAGACCGGTTCGTTCTTGCGTTCAGGAACTG GCTCAGACGGCATGGGAAGAGTCAGCCTGATTGGTTTGGCTCCACTGCAGCTAACCAACCTCTTCCTTCCACTGTCTTAACCAAGCGCGAGATGCT GGATAGATTTGAGCAGCATACACAAGTGTGTTCCTCATGCAAAGGAGCATACAAAGGTTTCCAAACCCTCAAGAAGTTTCTTGTTGGCACGACGGTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001I12	AT2G38470.1	WRKY33 (WRKY DNA-binding protein 33); transcription factor	GGATTGCAAGAAACCCATCGCATCAACCTTTTTTTCTTCTTCTTCGCCCCCTTCTCCAAGCTCTCCTAACACTTTCTATAAATATCTGAAATCAGTCTT TCATAAGAAAGGTAAAAAACTTCCATTTTTATGTATGGCTGCTTCTTCTCTTCTTACTATGGACAATAGCAGAACCAGACGAAACATGAGTGGTTCTG CTAATTGGTCACAACAAACCGGAAGAACATCAACGTCATCTCTAGAGGACCTTGAGATCCCAAAGTTCAGATCTTTTGCTCCTTCTTCCATCTCAATC TCTCCTTCTCTTGTCTCTCCTTCCACTTGTTTCAGTCCCTCTGTTTTCCTCGATTCCCCTGCTTTTGTCGCCTCCTCTGCTAACGTTCTTGCTTCTCCA ACCACAGGAGCTCTTATCACAAACGGAAGTAACCAGAAAGATATAAATGAAGAAGAGAAGAAGAACAAAAACAACATTAACTTCTTCGATTTCTCATT CCAGACACAGTCATCAGGAGTTTCTGCTCCTACAACAACAACAACAAACACTTCTATCCATTCACAGGAACAACAGAGGAAGAACCAGTCAGATCAA TGGAGCCAAACGGAGACTCGTCCAAACAATCAAGCTGCATCTTACAATGGAAGGGAGCAAAGGAAAGGAGAAGATGGTTACAACTGGAGAAAGTAC GGACAGAAACAGGTGAAAGGGAGCGAGAATCCTCGGAGTTACTATAAGTGTACTTTCCCAAGCTGTCCAACGAAGAAGAAAGTGGAGCGATCTTTG GAAGGTCAGATAACAGAGATTGTGTATAAGGGAAGCCATAACCATCCTAAGCCTCAGTCCACCAGAAGATCATCTTCTTCTTCCACATTTCATTCAGC TGTGTTTAATGCCGGCCTTGATCATCATGGTTCTTCTGATCAACCCAATTCCAATAATAGCTTCCATCACTCTGATTCCTTTGCAATCCAACAAGAGG ATAATACTACTTCTGGTTCTATTGGAGACGATGAGTTTGAGCGAGGCTCATCGGTTATCAGCAGAGAAGAAGAAGATTGTGGCAGTGAACCTGAAGC AAAGAGATGGAAAGGAGAACATGAAACAAACGGTGGGAATGGTAATGGAAGTAAGACAGTGAGAGAGCCAAGAATTGTCGTGCAGACAACAAGTGA CATCGACATTCTTGATGATGGTTACAGATGGAGAAAATACGGCCAAAAGGTCGTCAAGGGAAACCCAAATCCAAGAAGCTACTACAAGTGCACAACC ATCGGTTGCCCCGTGAGAAAACATGTTGAGAGAGCATCACACGATCTGAGAGCGGTAATAACAACCTACGAAGGGAAACATAACCACGACGTACCT GCAGCTCGTGGTAGCGGTTACGCCACAAACAGACCGTCACAGGATTCTTCTTCAGCCCCAATTAGACCAGCTGCTATTGCTGGTCACTCCAATTACA CTACTTCTTCTCAAGCACCATATACGCTTCAGATGCTGCAGAACAACACTAATTCCGGGAGTTTTGGTTACGCTATGAACAATAATAACAACAACCTT CAAACGCAACAAAACTTTGGTGGTGGTGGTGGGTTCTCTAGAGCAAAGGAAGAACCAAACGAGGAGTCCTCGTTTTTTGATTCGTTTTTGTCGTGAA
GCT-001I13	AT5G57630.1	CIPK21 (CBL-INTERACTING PROTEIN KINASE 21); kinase	GAAAGATCATTTGACATCTTCTTCTTCTTCTTCTTCTTTTTCCCTCTTTTTCTCTTTCTCTGTCTCAGTGATGGGTTTGTTTGGGACGAAGAAGATT GGTAAATATGAGATAGGAAGGACAATCGGAGAAGGGAATTTCGCAAAAGTGAAACTTGGTTACGACACGACCAATGGTACCTACGTAGCTGTCAAA ATCATAGACAAGGCTCTGGTTATCCAAAAGGGTCTAGAGTCTCAAGTCCAGAGAGAGATACGGACGATGAAGCTTCTTAACCATCCCAACATCGTAC AGATACACGAGGTGATTGGGACCAAGACAAAGATCTGTATTGTGATGGAATACGTTGCAGGTGGTCAGCTTTCAGACAAACTTGGAAGACATAAGAT GAAAGAATCAGATGCCAGAAAGCTTTTCCAGCAATTGATTGATGCTGTTGATTATTGTCATAACAGAGGAGTTTATCACAGAGATCTTAAGCCACAAA ACTTGCTATTAGATTCAAAGGGCAATCTCAAAGTTTCTGACTTTGGACTAAGTGCAGTGCCTAAGTCAGGTGATATGCTCTCAACAGCTTGTGGGTCT CCATGTTATATAGCACCAGAGCTGATTATGAACAAAGGGTACTCAGGAGCAGCAGTGGATGTATGGTCTTGTGGAGTAATTTTATTTGAGTTGCTTG CTGGTTATCCACCTTTCGATGATCATACGCTTGCGGTTTTGTATAAGAAGATACTCAGAGCAGATTACACTTTCCCACAGGGATTCAGTAGAGAGCAA AAGAAGCTGATCTTTAACATTCTTGACCCAAATCCTCAGAGGCGAATGACATTAGCTGAGATAATCATCCAAGATTCTTGGTTTAAGATAGGTTATGT ACCTGCTTATCAGCAAGTGTCAGACTCAATCAAGGAAAATGTTGCGGAAATAAATGCAGCAACCGCGTCTTCAAATTTCATAAATGCTTTTCAGATAA TAGCAATGTCTAGTGATCTAGATTTGTCAGGTCTCTTCGAAGAACATGATGATAAGAGATATAAAACAATGATTGGGTCCAAAAACACAGCACAAGAA ACAATCAAGAAGATTGAAGCTGCAGCAACTGGTGTTAGTTTATCAGTTGAAAGAATAAAGCACTTCAAGGTTAAGATTCAGCCGAAAGAGATAAGAC CAAGATCTTCCTATGACTTATTATCGGCAGAGGTGATTGAGGTGACTCCAACCAATTGTGTAATAGAAATATCAAAATCCGCAGGCGAGTTAAGACTA TACATGGAGTTTTGCCAGAGTTTATCCAGCTTGCTTACCGCGGAAGTAAGCTAGGTGCAAAAGATTCTCAAGTAAAATGATGTGACAGATGATGAAC AGAGGAAGCAAATAAAGCATATTTTGCAGATTTTTGAAGTTCCATGCACTGAAAGAAGACAATGAAGAGAAGGGATCCTAAAAATAATTAATGTCTTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001I14	AT4G35450.1	AKR2 (ANKYRIN REPEAT-CONTAINING PROTEIN 2); protein binding	GGTTTTCTCGTCTTGCTTGTGCGTTTGCCACCACAACGTTGTCTTCTCGGGGTTTAAGTTATATCTAATGGCTTCCAATCCAGAGAAAAATCCGCCTC CTTCAGACGAGAAAACCGAATCGACGGAGGCGACTAAGAGTGCTAAACCGGAATCAGCCTCTGGGAGTTCACCTCCATCAGCTAATCCTGGCATGA ATTTCAATGCTTTCGATTTCTCAAATATGGCTGGTATCCTCAACGATCCAAGCATTAGGGAACTGGCTGAGCAGATAGCTAAAGATCCTGCATTTAAC CAATTGGCTGAGCAGCTTCAGAGATCTATTCCAAACGCAGCTCAGGGAGGAGGTTTCCCTACCATTGATCCACAACAGTATGTCAGCACAATGCAAC AGGTTATGCATAACCCCGAATTTCAGACAATGGCGGAGCGTCTTGGTAACGCCTTAGTGCAGGATCCACAAATGTCTCCCTTTTTGGATGCTTTCTC GAATCCTGAAACAGCAGAGCACTTTACTGAGCGTATGGCTCGGATGAAAGAAGACCCAGAGTTGAAACCTATACTAGATGAGATAGATGCTGGTGG CCCTTCTGCCATGATGAAGTACTGGAATGATAAAGATGTGCTGAAAAAGCTTGGTGAAGCAATGGGTATGCCTGTTGTTGGCTTGCCAGAGCAGACT GCTTCAGCTGAACCCGAGGCAGCGGAAGAAGGAGAAGAAGAAGAGTCTATTGTTCATCAAACCGCCAGCCTTGGTGATGTTGAGGGTTTGAAAAAT GCTTTGGCATCTGGTGGTAACAAAGATGAAGAAGATTCTGAGGGAAGGACAGCATTACATTTTGCTTGTGGATACGGCGAGTTGAAATGTGCTCAAG TTCTTATCGATGCTGGAGCAAGTGTTAACGCGGTTGACAAAAACAAGAACACACCTCTGCATTACGCTGCTGGTTACGGGAGGAAAGAGTGTGTAA GCCTTCTCCTAGAGAATGGTGCTGCAGTGACTCTTCAAAACCTAGACGAGAAGACACCCATTGATGTGGCCAAGCTCAACAACCAGCTCGAGGTGG TGAAGCTGCTTGAGAAGGATGCCTTCCTTTGAGCTTGGGTGAAGTGAAGCTCTAAGCTCATATTTGTCTTTTAGGGATTTCTCTGTTGTGTGTCCTGA
GCT-001I15	AT3G27690.1	LHCB2:4 (Photosystem II light harvesting complex gene 2.3); chlorophyll binding	GATAACACCAACATCACATCATCTCAGATTCAAAGAATGGCCACGTCAGCAATCCAACACTCTTCATTCGCCGGCCAAACGGCCCTCAAGCCCTCCA ACGATCTCCTCCGCAAAGTTGGAGCTTCCAACGGCGGTGGCCGCGTCGTCATGCGCCGTACCGTCAAGTCTACTCCTCAGAGCATTTGGTACGGA CCAGACCGTCCCAAGTACTTAGGACCATTCTCAGAAAACACACCGTCGTACCTAACCGGAGAATACCCCGGAGACTACGGTTGGGACACCGCCGG TCTATCCGCCGACCCAGAAACGTTTGCAAAGAACCGTGAGCTCGAAGTGATCCACAGTAGATGGGCAATGCTAGGCGCTTTAGGCTGCACCTTCCC AGAGATTCTCTCCAAAAACGGAGTCAAGTTCGGTGAAGCCGTGTGGTTCAAGGCAGGATCTCAGATCTTCTCCGAAGGAGGACTTGATTACCTCGG AAACCCTAACTTGATCCACGCGCAAAGCATCTTAGCCATATGGGCTTCTCAAGTTGTGTTGATGGGCTTAATTGAAGGGTACAGAATCGGAGGTGG GCCTCTTGGTGAAGGGCTTGACCCACTTTACCCCGGTGGAGCGTTTGACCCATTGAACTTAGCGGAGGATCCAGAGGCGTTTTCGGAATTGAAAGT GAAGGAGCTCAAGAACGGTCGTCTTGCAATGTTCTCTATGTTTGGATTCTTTGTTCAAGCCATTGTTACTGGTAAAGGTCCGATCGAGAATCTCTTCG ATCATCTTGCGGACCCTGTGGCTAACAATGCCTGGTCTTACGCCACCAACTTCGTCCCTGGAAAATAGAATTTGATTTGAAAAATTTATGTATATCTT
GCT-001I16	AT2G36530.1	LOS2 (Low expression of osmotically responsive genes 1); phosphopyruvate hydratase	GGTGTGAATCAAAGCTTCGACGAGCGTTCTTCAGCAAAACTCTTCATCTCTCTCTATCTCTCTCTCTAAGATCTAATCGACTATGGCCACTATCACAC ATGTGAAAGCTAGACAGATCTTCGACAGCCGTGGAAACCCCACCGTCGAGGTCGATGTCCACACATCCACCGGCGTGCAGGTCAGAGCTGCCGTT CCTAGTGGAGCCTCCACTGGAATCTATGAGGCCCTTGAGCTCAGGGATGGAGGATCTGACTACCTTGGAAAAGGTGTCTCAAAGGCTGTTGGAAAT GTAAACTCAATCATTGGCCCAGCATTGATTGGCAAGGACCCTACCCAGCAGACTGCTATTGACAACTTCATGGTTCACGAACTTGATGGTACCCAAA ATGAGTGGGGCTGGTGCAAGCAAAAGCTTGGAGCCAATGCTATTCTTGCTGTCTCTCTTGCTGTTTGCAAAGCTGGCGCTGTTGTCAGTGGAATTC CTCTCTACAAGCACATTGCGAATCTTGCTGGTAACCCCAAGTTGGTGCTACCAGTTCCTGCCTTCAATGTCATCAACGGTGGATCACATGCAGGAAA CAAGCTTGCAATGCAGGAGTTCATGATTCTCCCTGTTGGAGCTTCATCTTTCAAGGAAGCCATGAAAATGGGTGTGGAAGTTTACCACAACTTGAAG TCTGTGATTAAGAAGAAGTACGGTCAGGATGCAACAAACGTTGGTGATGAAGGTGGCTTCGCACCAAATATTCAGGAGAACAAGGAAGGTCTTGAA TTGCTCAAGACTGCCATCGAGAAGGCGGGATACACTGGCAAGGTTGTCATTGGAATGGATGTCGCTGCATCTGAGTTCTACTCGTCAGACAAGACC TACGACTTGAACTTCAAAGAAGAGAACAACAATGGTTCTGAGAAGATTTCTGGAGAAGCTCTCAAGGACCTCTACAAATCATTTGTTGCTGAGTACCC AATTGTATCCATTGAAGACCCATTTGACCAAGACGACTGGGAGCACTATGCTAAAATGACCGGCGAGTGTGGCGAGAAAGTTCAGATTGTCGGTGA TGATCTGTTAGTCACCAACCCCAAGAGGGTTGCCAAGGCGATCAGTGAAAAGTCTTGCAATGCTCTTCTTTTGAAGGTTAACCAAATCGGATCTGTA ACTGAGAGTATTGAGGCGGTTAAGATGTCAAAGAGAGCTGGTTGGGGAGTGATGGCTAGCCACCGTAGTGGAGAAACCGAGGACACCTTCATTGC CGATTTATCTGTCGGTTTGTCAACCGGTCAAATCAAGACCGGAGCTCCTTGCAGATCAGAGCGTCTTGCCAAATACAACCAGCTATTGCGAATTGAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001I17	AT1G79020.1	transcription factor-related	GGGCCTTCTGGGTTAATCACGGAAGAGTTTTCCTTTTTCGTCACCGCCGCAATTTTGCCCGGCAGAGGAAGAAGAAAAACCCCTAGTAACTGGGAT TGTACGACGATGAGGGAGAGGTTTGGAAATTTCGAGTATTGAATGTGAATTTTTTTTTCTCGTCCCATCCAGATTCAAAACAAAAACGCTAACCCTAA AATCTGGGTTTGATTTCCTTACTGTTTTGTTTGAAACCTATTTAATTTCGTTGTCTTTGTTCCGTTTTCTTGTGTAAACGCTTTTCAAGTCATAGGACTC TTTGAGATTTTTGAATATTACAGATTTTGCTTCTTCCTGTCCTATTGGAGCAACAGATATATATACCATATACAGATACTTCTCCCTCTCTCTTTCTTTC TCTCTCTCTCTCTCTATATATATATATATATAAACTTGTAAGTAGAATTGTGGGAAAGAAGGTGAAATGAGTAGGCTCTCTTTCCGGCCACGGCCATT GGACATTCACAAGAAGCTTCCAATCTTAAAATCGTTTAAAGACTTTGAAGATGACGAGACACAAACTTCCACCACTAGAAATTCTCAGTTGCTGCGTA TAGCTTCTGTAGAGGTTGACAATGAGGTGCATCCAGTACCAAGCAAGAAACTGGCTTCAGAAATACCAACACCTCAATTTGTTGTTGTGGATACATAT GAAAGGGATTATTCCCCAACTTTTGGTCAACCTGCTTCTTATCTACGTGCCAGAGGAGCTCGGTCTGAGCTTGGAGAATTTGTGGAGTATGATCTTG ACAATGAGGATGATGATTGGCTTTATGAGTTTGATAAGGATGATAACAAGGATCTTTCACCTGAAATGCTTGAGAGCATTATTTTTAAGCTAGAGGTG TTGGATCACAAGACACGGGAAAGAGCAGGAGTTATTACACCAACCCTTGGTTCTCCAATTCCTGTGCTTTTGCAGCTTGATGCTGCTGTTGAGGCGC TGCAATCATTGTCCATTAATTATGGTGTCTTCCAGGCTATCTTCAACTACTGGAAAGACAAGCGCAAAAGATGGCAGAAGCCTATATTGCGGCGTTTA CAGCCTCCTCCACCGGTCAATGACACCAATCCCTACAATGTGTTTAGGCCGAGGGAGAAAGCTCATAGACTCCACACAAGAAGGATGCAGAGGAGA GAAAACAATGTGCAGTCATTTGAAAAGCTTCGACAGGTTAGACGCAATCTTGACCAAGCAAAGACCATTCTGGAGGCCCTTATTAAGAGAGAAGAAA AGAAGAGGGATGTTATGGATGGCGAAGTTAGCCTTCAGAGAATCCAACTCCAATACAGGCATGAAACAGAGCTCTTGGAAGATAGCTTGGCTCTGC CTGGATTTCCACCAGCTACAACATATTACAAATTTGGGTCAAGCGACGATGAGTTCATGGACTCAGATGACCACACTAGCACCCGTGTACGCACAAG GCCTTCTTCTCTTATCCCTAACCCTCGTTTCACCAACTCAACATCTCAACCCGGAGGCATCAAACAAGAAGTTAGAAGACGACACTTGCATCACGGA TGGCTTCACAGACTGGATCCTAATGAACCAGTCATGCTGTTCACAAAACCGTTGGTTCCCGATAAACTGGCAGCTGCTGGCATCGTTTCCTCCGGCA
GCT-001I18	AT1G69010.1	BIM2 (BES1-INTERACTING MYC-LIKE PROTEIN 2); DNA binding / transcription factor	GGGAAAAGCTTGAATTATAAACAATAACTGTTGAAGTTGAACACTTGTTTTGCATAATTCTCCGGCGAAGATGAGAACCGGAAAGGGAAATCTAGAG GAGGAAGATTATGGAGAAGAAGACTTTGGCTCGAAACGGGAAGGTCCTTCTTCCAACAATAGTAATACCGCCGCGAGCAGAGATTCAAAGGAAAAT GATAAGGCAAGTGCGATACGTTCTAAACATTCGGTCACTGAGCAGCGGAGAAGAAGCAAAATCAATGAAAGATTTCAGATATTGAGAGAGCTAATTC CCAACAGTGAACAGAAAAGAGATACCGCTTCGTTCCTTTTAGAGGTGATAGACTATGTCCAGTATTTACAAGAGAAGGTGCAAAAGTATGAAGGATC ATATCCAGGATGGAGTCAAGAACCAACAAAGTTGACACCATGGAGGAATAATCACTGGCGAGTTCAGAGTTTAGCCAACCATCCAGTAGCTGTAAGT AATGGATCTGGTCCAGTGATACCATTTCCTGGAAAGTTTGATGAAAACACAGTGGTCTCCACACCTGCAATTATTGCAGAAATGCAAAATCCGGTTG AATCTGACAAAGGAAGAGCTATGGTTTGCAAACCAATAGACATTCAACCTGAGTTAGACGACAAGGGATTACCGCCTGTACAACCAATACCTCCATT GGTACATGGTGAACAAGCTAATAATGAATGCCCTGCAACTAATGATGGGCTAGGCCAAAGTAATGACATGGTCATTGAAGGTGGAACCATTAGCATT TCTACTGTCTACTCGCATGAGTTATTGAGCTCATTAACACAAGCACTCCAGAACGCAGGCATTGATCTGTCGCATGCTAAACTTTCTGTGCAGATCGA TCTTGGAAAGCGAGCGAATCAAGGACTAACTCGTGACAATCCATCGAATAAGAATCCATCATCATCTGATATTGAAGGCGCCACACAAATAAGGGAT CCAAACGTTGAGGAAGAATCTGAACATTCTCAAAAGCGGATGAAAACGCTGTGACAGTTCTTCTCTCTTTAGGCTCCACTGCTCTGGAATATATAAAT GTATTGACAGAATTCTTCTTTTGTGTACATTTGTTCGGCTTCTAGAGGCTTCCTATAGTCGTTAAGATAAATTTATGGTTAGTTGAATCTACGTACTCG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001I19	AT5G55130.1	CNX5 (SIRTINOL RESISTANT 1); Mo-molybdopterin cofactor sulfurase	GACAGAAGCACAAATCCAACCGTCAATATATAAAAAAAGTCAACGTATCGTCGTTGACTGACATCGGTCTCTTTGCTGCTCTGCTCTAGGGTTCTACT ATCGGTCTCTGACATTGCCGGGATGGAGGCGAGCAGTGAAATCATCCGTGAATTGGAAGAGTTAAAGCTCAAGAAGGCGGAGATCGAGCACCGTA TATCGTCTCTCAAAGCCAAGCTCCAGGAGACGGCGGCGGCGGCCGAACGATGCGACGCCGTATCTAACGGTTACTCTTATCCAATGGCGGCGGCG GCGATTGAACACGGGCTTGGACACGGCCTGTCTCCTGATCAGATTTACCGCTACAGTCGCCAGTTGTTACTCCCTTCGTTTGGTGTTGAAGGGCAG GCAAGTCTCTTAAAGTCTTCGGTATTAGTCATCGGAGCTGGAGGGCTAGGCTCACCTGCATTATTGTATCTCGCAGCTTGTGGTGTTGGACGATTGG GTATTATCGATCATGATGTTGTAGAACTCAACAATATGCACAGGCAGATAATACACACTGAAGCATTTATTGGTCACCCCAAAGTGAAATCTGCTGCT GCTGCTTGTCGCTCAATAAACTCGACAATCAAGATTGATGAATATTTGGAAGCTCTCCGGACGTCAAATGCTTTGGAAATCCTCAGCCAATATGATAT CATAGTAGATGCAACGGACAATCCTCCAAGCCGTTACATGATCAGCGATTGTTGTGTCCTTTTAGGAAAGCCTTTGGTATCAGGTGCTGCGCTTGGA ATGGAGGGGCAGCTTACGGTCTATAATCACAAAGGAGGCCCGTGTTATCGATGTCTATTTCCAACTCCTCCACCGACAACAGCTTGCCAAAGATGTT CTGATAGTGGAGTTCTTGGAGTAGTTCCGGGTGTTATTGGTTGTCTACAAGCGCTAGAGACGGTTAAACTCGCAAGCATGGTGGGAGAACCACTCA CTGAACGGATGCTTCTTTTTGACGCTTTATCAGCAAGGATCCGGATTGTCAAGATCAGAGGCAAATCGTCTCTCTGCACAGTCTGTGGAGACAATTC ATCTTTCAATAAGCAGCAGTTCAAGGATTTTGACTATGAGGACTTCACCCAATTTCCTTTATCTGCGGGCCCGTTGAACCTACTTCCCACAGAATCAA GAATCAGCAGCAAGGAGTTCAAAGAAATCCTACAAAAGAAGGAACCACATGTTCTTCTCGATGTTCGACCTTGTCATCACTACAAGATTGTTTCTCTC CCGGATTCACTCAACATCCCTCTAGCAAACTTGGAGGCTAGGTTAAACGAGCTTTCTTCAGCTCTGAAAGAAAAGGAAGATGGCCATGTCAACACCG GTTCTTGCACAAATCCGAGCCTCTACGTTGTTTGCAGGCGCGGGAATGATTCACAGAGAGCTGTTCAGTATCTTCGTGAATCGGGTTTCGATTCAGC
GCT-001I20	AT3G02020.1	aspartate kinase, lysine-sensitive, putative	GGAATCTGAATTATCAAAGCAATTTCATAATAGTGAAGTCGAATGATCGTTCGATTGGCTGGTTAATTAGACAGACACACATTTAACAAAACTCTTTGG GTGGCTGGCTCACGCGGGACCGAGTTCACTCCGGAGCCGTGCGATCGTCTTAGCTTGGATCTTGACCGTCTATTTCGGGAAGAGTGTGTGTTGTG GGAGGCGACCCAAGAATCTGACCAAAACCAAAATACGCGTATTTGTCGCTTTGCTTCGTCTGTTAACTGGGATCATTGCAGGTTTCCGAAGCATACT CCATAATTTGTCGAAATCATAACACTCATTCTCCGAGCTCTGAGCAAGCTATATATACAGTTGTCTTCTTCAGATCTTATTTGAGTGATGGCGACTTCA ATGCACTTGTGCGGAGTTAGAACGTCGGGACTTGCCTTAAACTCAAAAAGGATTGAGTTTGGCTCAAAGGGGCTGAATTTTTCAGCACTCGTCTTCA CTAGAAACATAAATCACCCTCGTAGAAACACAAGAGCTCTAAGAGTTACTTGTGAAGCTGGAAGGGTGGAATTGCTTGAGAGAAAAGACTCGGAAAC TTTCAAACTAAACAGAAGTGAGAAAAAGTTAACGTGTGTAATGAAATTCGGTGGCTCATCCGTGGCATCAGCAGAAAGGATGAAACAAGTTGCCAAC CTCATACTCAGTTTCCCGGATGAGAAGCCTGTTGTTGTGCTATCAGCAATGGCAAAGACCACCAATAAGCTTTTGATGGCAGGGGAGAAGGCTGTT CGCTGTGGCGTCACCAACGTAGACACTATTGAAGAGTTGAGCATAATTAAGGAACTCCATATCAGGACTGCTCATGAGCTTGGAGTGGGAACAGCA GTTATTGCAGAACATCTAGAAGGGCTGGAACAGCTTCTGAAAGGCATTGCAATGATGAAAGAATTAACTCTACGCACAAGAGACTACCTGGTTTCAT TTGGAGAGTGCATGTCCACAAGGCTATTTGCTGCCTACCTGAACAAAATTGGCCACAAAGCACGCCAGTATGACGCATTTGAGATGGGGATTATCAC CACAGATGACTTCACTAATGCTGATATTCTTGAGGCAACATACCCAGCAGTTTCAAAAAGGTTACTTGGTGACTGGAGCAAAGAAAATGCAGTCCCA GTTGTCACAGGCTTTCTTGGAAAGGGATGGAGATCTTGTGCTGTTACTACGTTGGGTAGAGGAGGAAGCGATTTGACTGCAACAACAATTGGGAAA GCTTTAGGTTTGCGGGAGATCCAGGTTTGGAAAGATGTGGATGGAGTTTTGACTTGTGATCCAAACATATACTGCGGAGCTCAACCTGTTCCACACT TGACATTTGATGAGGCAGCTGAGCTTGCTTACTTTGGTGCCCAGGTGTTGCATCCACTTTCCATGCGGCCAGCGAGAGAAGGGAACATTCCTGTAA GGGTTAAGAACTCTTACAATCCCACTGCTCCAGGAACTGTCATCACTAGGTCAAGAGACATGAGCAAGGCTGTACTGACCAGCATCGTTCTGAAAC GCAATGTTACAATGTTGGACATCACTAGCACCCGTATGCTCGGCCAATACGGTTTTCTTGCCAAGGTGTTCTCAACATTTGAAAAGCTGGGCATATC TGTGGATGTTGTTGCAACCAGCGAAGTTAGCATTTCCTTGACATTGGATCCTTCAAAGTTCTGTAGCAAAGAGTTGATTCAACAGGAGCTTGATCAC GTGGTAGAGGAACTTGAGAAGATTGCTATTGTAAATCTGCTTCAACAAAGATCAATTATCTCTCTCATCGGAAATGTTCAGAGATCATCCTTCATATTA GAGAAGGGCTTCCGAGTTCTTCGAACCAATGGAATTAATGTCCAAATGATCTCCCAGGGTGCATCTAAGGTAAACATCTCGCTGATAGTGAATGATG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001I21	AT1G11950.1	transcription factor jumonji (jmjC) domain-containing protein	GAGGTTTTATACCATTTTTTCTTTGAATGGAAAAAAAAAGTCCATAGTATCTTTTTCTTCCATGCTTCACTGAATCAGGCTAATTTTGGCGTTTCGTCG AATCATGACAGCTCAAATTTGTAGCGGAACTTAGTGTTTTCTTCGTTCGTTAGGAAGAAAGATTCATATTTGTGCTGGTATTTCTTCTCTTAATCAGAA AGGCAGGTGAAATATGAGAAAAAGGGAGGCTGTAGTTGCTGCTAATGGAGTAAATCTGAAGCATAATGGTCTAATGGAGAGTAAACCGGAACAAGA TTCTTGGCGGCAGGAGAAGAAGAAACCGGTTGAGCCAACAAGTTTGAGCAGCGGTTCAGAAATAGAAGAGGAGAACAGTGTGGGATCTCCGAAAC GAGTGTCTAATAGAAAACGTAAACGGTCTATAGCTGATGAAGCTAAAGTGGGTAAAACCAAATCTTCAAGAAAGAAGAAAGCTGCAGAGAAAAGAAA CGGTGATGATGAAAAGAAGTGTGAAGAGAAATTGAAGCAGAGAAGCTCTGTTAAAAGAAGAGGTAAAGAAGAAGAGAAGCTGGAGCAAAGCATTTA CGTTCTTGAAAACGAGACAGATGTTGTTTACGGCTCATGTTCACACTCTGACTCAGATTTGTCAGACTCTAATCCGAAAAACGGAAACTTTAATGATT GCAGAAGCATGACAAGGAGTTTAAGGGCAGATTTGGGAGACCTTGCAATTTGCCATCAATGCTCTAAAGGGGAAAGAAGATATCTTTTCATTTGCAC CTTCTGTGAAGAGAGAATGTATTGTTTTCCTTGTATAAAGAAATGGTATCCCCATTTGTCACAGGATGATATTGTGGAAAAATGCCCTTTTTGCCGCG GAAATTGCAACTGTTGCATATGTTTGCAGTCAAGTGGATTAATCGAGACATCGAAGAGGAAACTCAGTAATTTCGAAAGATTTCATCATCTCCGCTAC TTGATTGGATCGATGCTTCCTTTCCTGAAAAAGTTATGCAATGCTCAAGATCAAGAAATCAAAACCGAGGCAGAGATCCAAGGATTAATGGCCTCTCA AGTTGATATATCCGAGACTCTATGCTCAACTGAAGAGCGTGTCTTTTGTAACCATTGTGCAACCTCAATTGTTGACTTGCATCGAAGCTGTCCAAAGT GTTCTTATGAACTTTGTTTGAACTGTTGCCAAGAGATCCGTGGAGGACGGTTTTCAGAACGCCAGGAGTCGAAATCCGAATTTGTCAATAGAGGCAA CCGATATATGCATGGCGAAGATGCAGAAATGAGCTCTTCTTCTTCTTTTGTTCCCGAGGATGAAGCTGATAATCCATCCATTAAGTGGACTGCTAATG AAAATGGAAGCATAACGTGTGCGCCAAAAGAGCTAGGAGGTTGCGGTGACTGTGTTTTGGAGCTTAGACGAATCCTACCGTTTACTTGGATGTCAG ATTTGGAACAAAAGGCAGAGAAATTCTTAGCAGCATCTTGTAGTATCAATCCAACAATGTCGTCAAGCTGCAGATGTTCTTCTGATTCGCAGATGAGT ATGATGAGGAAAGCAGCTTCGAGGAGGAACGGATCCAGTGACAATTACCTCTACTGTCCTGATTCTTTTGATGTCCTGAAGCAAGATGAGCTTCTGC ATTTTCAAGAACATTGGTCCAAAGGCGAACCAGTGATTGTTCGAAACGCTCTTAACAACACACCAGGTTTAAGCTGGGAGCCAATGGTCATGTGGCG AGCTTTGTGCGAAAACGTTGATCCAGAAACTAGCTCCAAGATGTCTGACGTCAAGGCAATCGATTGTTTAGCTAATTGTGAGGTAAAGATCAAAGCT CGAGACTTTTTTGAAGGATACAGCAAAGGAAGAACATACCGTAACTTGTGGCCCGAGATGCTGAAGCTGAAAGACTGGCCTCCTTCAGACAAGTTT GAAAACCTTTTGCCTCGACACTGCGATGAGTTCATCTCAGCATTACCTTTCCAAGAATACAGCGATCCTAGATCCGGAATTCTCAACATTGCTTCAAA ACTTCCAGAAGGACATCTTAAACCGGATCTTGGTCCAAAAACTTACATTGCATACGGGAACTCAGATGAGCTCGGGAGAGGCGATTCAGTCACTAAG
GCT-001I22	AT2G38290.1	ATAMT2 (AMMONIUM TRANSPORTER 2); ammonium transporter	GATGCTCCTATAACCCATTTGACTATAAACATTTAGAATCAAGAAAAACCTCCAAAAAGAAGGGAGAAGAGATGGGCACGGCCGGACCTTACGATCC GCACTTGCCGGCGGTTCCTGATTGGCTCAACACAGGAGACAACGCGTGGCAGCTCACGGCGGCGACTCTGGTTGGTCTACAGAGCATGCCAGGT CTGGTAATCCTCTACGCCTCCATCGTCAAGAAGAAATGGGCCGTGAACTCCGCTTTTATGGCTCTTTACGCCTTCGCCGCCGTTCTTCTCTGTTGGG TCCTCCTCTGTTACAAAATGGCCTTCGGCGATGAGCTTTTGCCTTTCTGGGGCAAAGGTGGTCCCGCCTTCAATCAAGGATACCTCAAGAGCCGAG CAAAGATCCCAGAAACCGTCCATTTTGTGAACGGGAAGATAGAGAAAGAAGCGACGATGCCGTATTTTCCGATGGCGACGTTGGTGTATTTTCAGTT CACATTCGCGGCGATAACGACGATACTTGTGGCGGGATCGGTGTTGGGGAGGATGAATATAAAAGCGTGGATGGCGTTTGTGCCATTGTGGCTAAT TTTCAGCTACACAGTCGGAGCTTATAGTCTATGGGGCGGAGGGTTTCTTTATCACTGGGGAGTCATTGATTACTCCGGTGGTTATGTTATTCATCTCT CCTCTGGTGTCGCCGGTTTCGTCGCCGCTTACTGGGTAGGACCCAGGCCACAGGCTGACAGAGAGAGATTCCCACCGAACAATGTTCTGTTAATG CTCGCCGGAGCTGGACTCCTATGGATGGGATGGTCAGGTTTTAACGGCGGAGCTCCTTACGCCGCCAACTTAACCTCCTCAATCGCGGTGCTCAA CACCAACCTCTCCGCCGCCACCAGCCTCCTCGTGTGGACCACACTTGATGTCATCTTCTTTGGCAAACCTTCTGTCATCGGAGCCATTCAAGGCAT GGTCACTGGTCTCGCCGGCGTCACTCCCGGAGCAGGGTTGGTCCAAACATGGGCAGCTATAATAATTGGAATATTCTCAGGATCAGTTCCATGGGC CTCTATGATGATCCTTCACAAGAAATCCACTCTTCTCCAACAGGTGGATGATACATTAGCGGTATTCTACACGCACGCAGTAGCCGGAATATTAGGT GGAATAATGACAGGTTTGTTTGCACATCCTGATCTCTGCAAGTTGTATCTTCCTGTCCCAAACAGCAATGGAGCTTTCTACCGCGGAAATGGCGGCA AACAGCTTCTGAAACAGTTGGCCGGAGCTGCTTTCATTGCTGTCTGGAATTTGGTGTCGACGACTCTCATACTCCTTGCTATTAAGATGTTTATACCG TTGAGAATGCCAGAGGAAGAGCTTGGGATTGGAGACGACGCGGCTCATGGAGAAGAAGCTTATGCTCTTTGGGGAGATGGAGAGAAGTTCGAGGC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001I23	AT5G61820.1	similar to hypothetical protein [Trifolium pratense] (GB:BAE71234.1); contains InterPro domain Stress up-regulated Nod 19; (InterPro:IPR011692)	GAGGCACTCTCCATAGCAATACAGACTTTTTTTTTTTCTCCGATCACCGATGAGAGTGTCAAGTTTAACAAACCTTTAAAGAAGCGGGAAAATCATCA GTTTGCTGGGAATCTCCTTTATCCGGACAGAATGGCTCGTTATGGCGGGAGATCGCTGAAATCTTCCTTAGTTCTTCTTCTGGTCGCATTGAGCACA TCACGTAGCCACGGCTTTCTTGGAACCGAGAAAAAGATAAAGTCTGAAGTTTTCTTATCACCAAAACTGGTGATGAATCCAGGAAACGCTGCAAATC CTTTCCTATTCGACATCGACTTCCCGAGAGGGCATTACGGCCTCAAAGGTTTCGATGCTGAAATGGTTGACGAAGAAGGCAATCCCGTACCTCTACA CGAGTTATATCTTCACCACTGGGTTATTCAACCTTACTATGTTCGTAAAGGTTTTGAGCTTTCACAGCGAGACATGCCTAGAAATCACGGATTTGCGA GGCAAGATCCCGGAAGGAATCTTGGTTCGAAATCCGATTTTATTCTTGTCAACAATGGAGGGCTGTGCAGGAATAATGTAAGACATTACTTTGGTTTA GGATCAGAAACCCGCAAAACCTCGACGTATCTTCCTGATCCTTACGCGATTGAAATCGATAATCCTGAGGAAAGGCCTGATGGATATGAATTCAAAT GGCTTCTAAACCTTCACGCGATAGACACAAGAGGCGTTGTAGATAAATCAGGATGCACCGAGTGCCGTTGTGATCTGTATAATGTAACCATTGATGA GTATGGTCGAGCTATAAGACCCGACTACAATGGAGGTTTATACTGCTGCTACGATAAGACGCAATGTCGGGTGAGAAATGGATTTGACAATGGGGA GAAAACAAGAAGTGTGTATCTGAAATATACCGTGAAATGGGTTGATTGGGATAGCACGGTTTTGCCCGCTACGATTTATATCCTCGATGTTACAGATT CTTGGGAACGATCACAAGGATCAACAGGAGATAGCCAGGAACATTATTGCCATATTGAATACGAGGTGAAACCGTGCAAAACCAATGGCGATGGAT GCGTGGATGTCAAGAAAAAGAGCTTAATGATGCCATTTAACGGGTATATTGTTTACGGCGTAGCTCACCAGCACGCGGGTGGTATCGGTGGTGCTC TATACCGAGAGGACGGTGAGAGAATTTGCTCTTCGATGCCAAAGTATGGCAATGGAGACGAACCTGGAAACGAAGCTGGTTACATTGTTGGAATGT CGTCTTGTTACCCTGAACCTGCAGTGAAAGTGACTAAGGGAGAGACATTGACCTTGGAGTTTAATTACAGTACCACCAATGGTCATACCGGAGTTAT GGGACTCTTTTACATCCTCGTTGCTCAGCAGCTACCTGAACCGGAGAGCTCCTTGCCTGCACTCTTTCAGGCACATGCGAAAAGCATGAGCGTTTTA GCCTTCCTTGCGGTGATGGTGGTGGTGGCGGTTATTGTTCTAATAGCCGCCGTGGTATACCGGAGACAGAATCGGGAAGATGGTTACCAATCACTT
GCT-001I24	AT2G21330.1	fructose-bisphosphate aldolase, putative	GAGTGGTGTTCAGAGCGTTATAAGCGTTTCATTTAAAATAGCTCGAAGAAGAAGAAGAAGAAGATAGCAACAATGGCGTCAAGCTCTGCCACTCTGC TCAAAGCCTCGCCTGTGAAATCCGATTGGGTTAAGGGACAGAGCCACCTCCTCCGTCAACCTTCCTCCGTCGCAGCTATCCGGAGCCACGTGGCA CCTTCCGCTCTCACCGTTCGTGCCGCCTCTGCTTACGCCGATGAGCTCGTCAAGACAGCTAAAACAATCGCGTCTCCGGGACGCGGAATTTTGGCG ATGGACGAGTCAAACGCGACTTGCGGGAAACGTTTGGCGTCGATTGGGCTAGAGAACACGGAGGCTAACCGTCAGGCTTACCGAACTCTGCTAGT GTCGGCTCCAGGACTGGGACAGTACATCTCCGGAGCAATCCTGTTCGAGGAAACTCTCTACCAGTCCACCGTCGACGGCAAGAAAATGGTCGATG TCCTCGTCGAGCAGAACATCGTCCCTGGCATCAAAGTCGACAAGGGTTTGGTGCCACTTGTTGGGTCAAACGACGAGTCATGGTGCCAAGGACTC GACGGTTTAGCCTCTCGTACCGCTGCTTACTACCAACAAGGTGCTCGTTTCGCCAAATGGCGTACTGTTGTGAGCATTCCAAATGGACCCTCTGCTT TGGCTGTTAAAGAAGCGGCTTGGGGACTTGCCCGCTACGCCGCTATTTCTCAGGACAGCGGTCTGGTACCGATTGTGGAGCCGGAGATTCTACTG GACGGAGAACACGGCATTGACAGGACATACGAGGTTGCAGAGAAGGTCTGGGCTGAGGTCTTCTTCTACCTTGCTCAGAACAACGTCATGTTCGAA GGTATCCTCCTGAAGCCGAGCATGGTTACTCCTGGTGCTGAGGCCAAAGACAGAGCTACTCCCGAGCAAGTTGCTTCCTACACTCTTAAGCTCCTT CGCAACAGAATCCCTCCTGCTGTTCCCGGAATCATGTTCCTGTCTGGTGGACAGTCCGAGTTGGAGGCCACTTTGAACCTGAACGCAATGAACCAG GGAACGAACCCATGGCACGTGTCCTTCTCCTACGCACGAGCCTTGCAAAACACCTGCTTGAAGACATGGGGAGGCAGAGAAGAGAACGTCAAGGC AGCTCAGGACACTCTCTTGACCAGAGCCAAGGCCAATTCGCTGGCTCAGCTCGGGAAATACACAGAAGAAGGTGAGTCCGAGGATGCTAAGGAGG
GCT-001J01	AT1G33240.1	AT-GTL1 (Arabidopsis thaliana GT2-like 1); transcription factor	CTCTCTTCATCAACCTCATGGTTCGGCTTCAAGTGAGGAAGAAGAGCGGATAGAGGAAAGTCTACAAGGAACAGAAAAGCCAGAAGACATTGTGAT GAGAGAGCTGATGCAACAACAACAGCAACAACAAGAATCAATGATAGGTGAGTATGAAAAGATTGAAGAGTCTCACAATTATAATAACATGGAGGAA GATGAAGAGGAGCTTGATGAAGAAGAATTAGACGAGGATGAGAAGTCCGCCGCTTATGAGATTGCGTTTCAGAGCCCTGCAAACAGAGGAGGCAAT GGCCACACAGAGCCACCATTCTTGACAATGGTTCAGTAAATCAAGAATCACTGTTTTCAAAATCGTCACCGTCCCAAGAAAATGTACTTATGTGTGCA TAGTTTCTAAACAACACACAGACACACACATTTCTGACACCAAAAAACTGAAAATCAAGGTCTCATCAATCTTGATATTTTCAGTGAAATACAATTCTT TTTTTTTCTTCCATTTTTCACATTCTTTCCCTTTGTTCCTTTCTTTCTCACAGTCTCTTGTTTGTTTCTCTGTTCATTGTTTTCTTCTTCAACACCATTGTT CATCACACATTCACATGAACAAAAACTCTTAGCTAAAAGGTCTTTTAGATTGTTTGGAGTTGTAATTCATCAACAAAGTCTCATACTTTTTTTCTTTTCT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001J02	AT2G21410.1	(VACUOLAR PROTON ATPASE A2); ATPase	CTGGAGTTTCTCCCAAAGAGATTCTAGATAAAGAAATTGATATTGATTTGGATGATGTAGAGGTAAAGCTTGGAGAGCTGGAAGCTGAACTTGTCGA AATCAATGCTAATAGTGACAAGTTGCAGCGGTCTTACAATGAACTTGTGGAGTACAAGCTCGTTCTTGAGAAGGCTGGTGAATTTTTTGCTTCAGCC CATAGAAGTGCTACCACTCAGCAGAGTGAGATAGAATCACAACAAGCGGGTGAAGACGCCCTGGAGGCTCCTTTGTTGCAAGAAGAGAAGTCTATT GATCCAACAAAGCAAGTAAAGCTTGGATTCCTCACCGGGCTAGTGCCTCGCGAAAAGTCTATGGTGTTCGAGAGGATCCTCTTTCGTGCAACTAGG GGCAACATCTTCATACGACAGTCTGTCATTGAGGAGTCTGTTGTTGATCCCAACTCTGGGGAGAAGGCTGAGAAAAATGTATTTGTTGTCTTCTATTC TGGGGAAAGAGCAAAAAGCAAAATTCTTAAGATATGTGAAGCTTTTGGGGCCAATCGCTATCCTTTCAGCGAAGAACTTGGCAGACAAGCTCAAATG ATGACTGAGGTTACGGGTCGGTTAGCAGAGCTTAAAACTACCATAGGTGCTGGGTTGGATCAACGCAAGATTCTTTTGGAGACCATTGGAGATAGG TTTGAGCAATGGAACCTCAAGGTTCGCAAAGAAAAAGCCATCTATCACACATTGAACATGCTTAGTCTTGATGTGACTAAGAAGTGCCTTGTCGGTG AAGGCTGGAGTCCTGTCTTTGCAGCGACGGAAATTCAAGATGCGTTGCAGCGTGCTGCGGTTGACTCCAATTCTCAAGTTGGATCAATTTTCCAGGT CCTGAGGACCAAAGAGATGCCTCCAACTTTTTTCCGCACAAACAAATTTACTACTGCGTTCCAGGAAATTGTTGATGCATACGGTGTAGCCAAATATC AGGAAGCCAATCCTAGTGTCTTCACAATTGTTACCTTCCCCTTCCTGTTTGCTGTTATGTTTGGTGACTGGGGTCATGGAATCTGTCTGCTGCTCGCA ACTATGTATTTAATCTTGAGAGAAAAGAAACTTTCCAGCCAGAAACTCGGGGATATTATGGAAATGGCTTTTGGTGGACGTTACGTTATATTTATGAT GTCACTCTTCTCAATATACACTGGTTTAATCTACAACGAATTCTTCTCTATACCATATCCATTGTTTGCTAGCTCAGCATATGAGTGCCGTGATGCCTC TTGCAGTGAGGCTACTACAATTGGTCTGATCAAAACCCGAGACACTTATCCATTTGGCGTGGATCCTGTGTGGCATGGTACCCGCAGTGAGCTACC GTTTCTGAACTCGCTTAAGATGAAAATGTCAATTCTTCTTGGTGTTGCTCAAATGAACCTTGGAATCATAATGAGCTTCTTTAATGCGAAATTCTTCAA AAGTGCTGTAAACGTATGGTTCCAGTTCGTTCCCCAGATGATATTCTTGAACTGCTTGTTTGGCTATCTCTCAGTCCTCATCATCATAAAGTGGTGCA CTGGTTCTCAAGCGGATTTATATCACGTAATGATCTACATGTTCCTGAGCCCTATGGATGACTTAGGAGAGAATCAGCTTTTCCCTAACCAGAAAATA GTACAGCTCACTTTCCTCTTTCTGGCACTGGTTTCTGTTCCGTGGATGTTGTTGCCAAAACCGTTCATCTTGAAGAAACAACATGAAGCTAGACATCA AGGTCAGTCATACGCACAGCTTGACGAGACAGATGAGAGTCTTCAAGTAGAAACAAATGGGGGATCTCATGGACACGAAGAGTTTGAATTCAGCGA GATCTTCGTGCACCAGCTCATTCACACCATTGAGTTTGTGCTGGGAGCTGTTTCCAACACTGCTTCGTATCTTCGTCTATGGGCCCTCAGTCTTGCC CACTCGGAGTTGTCGTCAGTCTTCTACGAGAAGGTTCTTCTTATGGCTTGGGGTTTCAACAATATCTTCATCCTGATCGTTGGGATACTTGTCTTCAT
GCT-001J03	AT5G65670.1	IAA9 (indoleacetic acid-induced protein 9); transcription factor	AGGATGATAATTAAAGCTTTTCTGCTTTAATGGAAGGACCTTGACACCTTTCTCTCTCTCTCTCTGCTAGTCCTCTTCTAATTATTCTCTTCTCTGCGA ATATCTGACCGTAATCGATCGTCTTCTTCGGCGTGAGCTCCGTTTTCATCAGCGATTTGTTTTCCTTTTTTTATTTAGGTAAGCTGCTTTGCAGTGTGG AGAAACCAAAAGAATCTAAATGTGTCCAGAAGAGGAGCTACAGAGCAATGTCTCTGTGGCAAGTTCTTCACCTACTAGCAATTGCATCTCGAGGAAC ACAGCAGGAGGAGGACTTAAGGAGCATAACTACTTGGGTCTGTCTGATTGTTCTTCTGTTGGGAGTTCAACTCTCTCGGGCCTCGCAGAAGATGAC AAAGCCACTATCAGTCTCAAAGCCACAGAACTGACTCTTGGCCTTCCCGGACCACAATCTCCTGCTAGAGACACAGATCTCAACTTACTGAGCCCAG CAAAGCTGGATGAGAAGACCTTCTTTCCTCTGCTTCCTTCGAAAGATGAGATATGCTCCTCCTCTCAAAAGAACATCGCCTTAGGAAACAAAAGAGG CTTCTCTGACGCAATGGATCAGTTCTCTGAAGCCAAGAGTTCAGTGTATACTGAGAAAAACTGGATGTTTCCTGAAGTGGCAGCTACCCAATCTGTA ACAAAGAAGGAAGTGCCACAAAACATACCTAAAGGACAGTCGATCACTACAAACAATAGCTCTAGTCCACCTGCAGCCAAGGCACAGATTGTCGGTT GGCCTCCGGTGAGATCTTACAGGAAAAACACATTGGCCACAACCTGTAAGAACAGTGATGAGGTTGATGGGAAGCCAGGCTCTGGGGCGCTCTTT GTGAAGGTTAGTATGGATGGTGCTCCTTATCTGAGGAAGGTTGACTTGAGGAGCTACACTAACTACGGGGAGCTTTCTTCAGCCTTGGAGAAAATGT TCACCACATTCACTCTTGGTCAATGTGGAACTAATGGAGCTACAGGGAAGGATATGCTCAGTGAGACCAAGCTCAAGGATCTTTTGAATGGAAAAGA CTATGTGCTCACTTATGAGGATAAAGATGGGGACTGGATGCTTGTTGGAGATGTTCCATGGGAGATGTTTATTGATGTCTGCAAGAAGCTGAAGATA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001J04	AT2G29650.1	inorganic phosphate transporter, putative	GAGAAGGAGTGGAGAGAAAGAAAAAAAACAAAAATCTATCTCGCCATGAACGCGAGAGCTCTGCTTTGCTCTCCGAATCTCCACTCTCTCTACACTT CAAATCGTCCGCCAGAAACCTCTTCTCGCAACCGCCGGATTCTAAAATCGGATCCGAAGTCGTTACGGGTATGGATCTACCCGCGGAATCGGTCCG CCGTGTTCCGGGTTTTGGTTCGGAGCTCCGACAAAGGAGAGATTGGGAATTCGAATGCGGAGGTATACGTTGATAAAGAGATAGTGACTAGAAACG GCGTAGCTTCCGATTCGCTTAGCTCGCTCCCATGGTGGAAGGAGTTTCCGAAGCGTTGGGTGATAGTGCTTCTCTGTTTCTCAGCTTTTCTTCTCTG CAATATGGACAGAGTGAATATGAGCATAGCAATACTTCCGATGTCGGCTGAGTATGGTTGGAATCCGGCAACAGTTGGTTTGATTCAGTCTTCCTTC TTCTGGGGTTACCTTCTCACTCAGATAGCTGGTGGGATATGGGCAGACACGGTAGGTGGCAAAATGGTTCTTGGCTTTGGCGTAATCTGGTGGTCA ATCGCCACAATTCTTACGCCTATAGCAGCTAAACTTGGTCTCCCGTTCTTGCTCGTTGTTCGTGCTTTCATGGGAGTTGGAGAGGGTGTTGCAATGC CTGCTATGAACAATTTACTGTCCAAGTGGGTGCCAGTGCAAGAAAGAAGCAGGTCTCTCGCGCTTGTTTACAGCGGAATGTACATTGGATCCGTCAT TGGTTTAGCCTTTTCGCCTTTCTTGATTCATCAATTTGGATGGCCTTCTGTGTTTTACTGTTTTGGGTCTCTTGGAACTGTATGGTTGACTCTGTGGCT GACTAAGGCTGAGAGTTCACCGGTTGAAGATCTGACGTTGCTCCCTCAAGAAAGAAAGCTAATTGCAGACAACTGTGCCAGCAAAGAGCCAGTGAA GTCGATCCCGTGGAGGCTGATATTGTCGAAACCGCCGGTTTGGGCTCTCATTTGTTGCCACTTCTGTCACAACTGGGGAACATTCATTCTCTTAACC TGGATGCCAACTTATTACCATCAAGTGCTGAAGTTCAATCTAATGGAATCAGGGCTTCTCTCAGTATTCCCATGGTTGACAATGGCGATATCTGCAAA TGCTGGAGGATGGATCGCTGATACACTCGTCAGCCGAGGTTTCTCTGTAACGAATGTCCGCAAGATAATGCAAACAATTGGGTTTCTTGGACCAGC GTTCTTCCTAACACAGCTGAAACACATAGATTCTCCTACAATGGCCGTTTTGTGCATGGCTTGTAGCCAGGGGCTTGATGCGTTCTCGCAGTCTGGT CTATATTCTAATCATCAAGACATTGCTCCAAGATACTCTGGCGTGTTACTTGGTCTGTCTAACACTGCTGGAGTACTTGCCGGAGTTCTTGGCACAGC CGCGACTGGTCACATCCTACAACACGGTTCATGGGACGACGTTTTCACGATTTCGGTCGGTCTTTACCTAGTCGGGACCGTCGTTTGGAACTTATTT TCAACAGGAGAGAAGATTATTGATTGATCCACACCGAGAATTGATTTCATTTATCAGTCAATAGTTCAGCTCCAAGACATCTCCAGGTGCAAGTGACT
GCT-001J05	AT4G39090.1	RD19 (RESPONSIVE TO DEHYDRATION 19); cysteine-type peptidase	GAATCGAAATCCATGGATCCTCTTAAGCTTTCTTTCTCCGTTTTCGTTCTGCTTATCTTATTCGTCTCCGTTTCTTCGGGGATTGTCGCTGAGACGTC GTCCTCGGACGGCGATGATCTCGTGATCCGGCAGGTGGTTGATGGAGCCGAGCCCAAGGTTTTGTCGTCGGAGGATCACTTTTCTCTGTTCAAGA GGAAGTTCGGCAAGGTTTACGCCTCGAGCGAGGAGCATGATTACAGGTTGTCGGTTTTCAAGGCGAATCTCAGGCGAGCGAGGCGTCACCAGAAG CTGGATCCGTCGGCTCGTCATGGTGTTACGCAGTTCTCAGATCTGACTCGTTCTGAGTTCCGGAAGAAGCATCTTGGTGTCAGAGGCGGGTTTAAG CTTCCCAAGGACGCCAACAAGGCTCCGATTCTCCCCACCGAAAATCTTCCCGAGGATTTCGACTGGAGAGATCGTGGCGCTGTTACTCCCGTCAAG AATCAGGGATCTTGCGGCTCTTGCTGGAGTTTCAGTGCCACCGGAGCTCTCGAAGGTGCTAACTTCCTCGCTACCGGCAAACTCGTCAGCCTTAGC GAACAACAGCTCGTCGACTGTGATCACGAGTGTGATCCAGAAGAGGCAGGTTCATGCGACTCTGGTTGCAATGGTGGGCTAATGAACAGCGCATTT GAATACACCCTCAAAACAGGAGGGCTCATGCGAGAGGAAGACTACCCTTACACCGGAAAGGATGGCCCGACCTGCAAGTTAGACAAGTCCAAGAT CGTTGCCTCTGTCTCCAACTTCAGTGTTATCTCCATTGATGAAGACCAGATTGCTGCAAACCTTGTCAAAAACGGACCACTTGCAGTAGCCATCAAC GCGGCCTATATGCAGACTTACATTGGAGGAGTCTCGTGCCCTTACATATGCGCCAGGAGGCTCAACCACGGTGTCTTATTGGTGGGTTATGGCTCG GCCGGTTATGCTCCGGCTAGGTTCAAGGAGAAGCCTTACTGGATCATCAAGAACTCATGGGGAGAGTCTTGGGGTGAGAATGGTTTCTACAAAATC TGCAAAGGCCGTAACATTTGTGGCGTTGATAGTCTCGTCTCCACCGTTTCAGCCACCGTCTCTACCACCGCCCATTGATTAACCCTCGTTTATAATTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001J06	AT3G63520.1	CCD1 (CAROTENOID CLEAVAGE DIOXYGENASE 1)	GAGGCTTCTTAATTCTGCTCATCAATCCAATTTTTTTCATGGCGGAAAAGCTCGGTGATGGCATAGTCTCCCTCAATCCTAAACCCTCCAAGGGTTTC TCCTCTAAGCTTCTCGATCTTCTGGAGAGAGTTGTTGTCAAGCTCATGCACGATGCTTCTCTCCCTCTCCACTACCTCTCCGGAAACTTCGCTCCCC TCAAGGATGAGACTCCTCCCGTCAAAGATCTCCCCGTCGTCCATGGATTTCTTCCCGAATGCTTGAATGGTGAATTTGTGAGGGTTGGTCCAAATCC CAAGTTTGATCCCGTCGCTGGATATCACTGGTTTGATGGAGATGGTATGATACATGGGGTTCGCATCAAAGATGGGAAAGCAACTTATGTTTCTCGA TATGTTAAGACATCACGTCTCAAGCAGGAAGAGTTTTTCGGAGCTGCCAAATTCATGAAGATTGGGGACCTTAAGGGGTTTTTCGGATTGCTTATGG TCAATATGCAACAGCTTAGAACTAAACTCAAAGTATTGGACGACTCTTATGGATATGGAACTGCTAATACAGCGCTCGTATATCACCATGGAAAACTT CTAGCATTACAGGAGGCAGATAAGCCGTATGTCGTCAAAGTTTTGGAAGATGGGGACCTGCAAACTCTTGGCATGATAGATTATGACAAGAGATTGA CCCACTCCTTCACTGCACACCCAAAAGTTGACCCGGCTACGGGTGAAATGTTTACATTTGGCTATTCGCATACGCCTCCTTATCTCACATACAGGGT GATCTCGGAAGATGGCATTATGCTTGACCCAGTCCCAATCACTATATCAGAGCCAATCATGATGCACGATTTTGCTATTACTGAGAGTTATGCAATCT TCATGGATCTTCCTATGCACTTCAGGCCAAAGGTATGTAGGTTTAAAGGTTACCCAATACTTTTTTTGCTTCACATACACTTTTGTTGAAATGGTTAAG AAAAGATGATTATAAAAAGCAAATAAGGATGCTTGTTTTATATCTCCTTTGAAAATCATAGAATCTGCCTCCCCTATACACTTATGTATCTTTGAAATTG ATTCCAAGGAAATGGTGAAAGAGAAGAAAATGATATACTCGTTTGATCCCACAAAGAAGGCTCGTTTTGGTGTTCTTCCACGCTATGCCAAGGATGA ACTCATGATTAGATGGTTTGAGCTTCCCAACTGCTTTATATTCCACAACGCCAATGCTTGGGAAGAAGAGGATGAAGTCGTCCTCATCACTTGTCGC CTTGAGAATCCAGATCTTGACATGGTCAGCGGGAATGTGAAAGAAAAACTTGAAAATTTTAGCAACGAACTGTACGAAATGAGATTTAACATGAAAAC GGGCTCAGCTTCTCAGAGAAAACTATCGGCATCTGCAGTTGATTTCCCCAGAATCAACGAGCGCTACACTGGAAAGAAACAGAGATATGTGTATGG AACAATTTTGGACAGTATCGCAAAGGTTACAGGAATTATCAAGTTTGATCTGCATGCGGAGGCTGAGACAGGCAAGAAAATGCTGGAAGTAGGAGG TAATATCAAAGGAATCTATGAGCTGGGACAAGGGAGATATGGTTCAGAGGCTATATATGTCCCGCGTGAGGCAGCGGAAGAAGATGATGGCTACTT GATATTCTTTGTTCATGATGAAAACACAGGGAAATCATGTGTGAATGTGATCGACGCAAAAACAATGTCGGCTGAGCCAGTGGCAGTGGTGGAGCT
GCT-001J07	AT3G16370.1	GDSL-motif lipase/hydrolase family protein	GACCAAACCAAGAAAATGGATCATCACACGACGTCGTTTTTGCTTCTCCTCTTGGTCTCTACCTTCTCCATTCTCCAAATTTCGTTTGCCCAAGACGT TCCAACGACTCTTGTTCCTGCAATTATGACATTCGGAGACTCTGTAGTCGATGTCGGAAACAACAACTATCTTCCGACCCTTTTCAGAGCTGATTACC CTCCTTATGGCCGTGATTTTGCTAACCACAAACCCACCGGTCGTTTCTGCAACGGCAAATTAGCCACTGATATTACCGCTGAGACTTTAGGCTTCAC TAAGTACCCACCAGCTTATCTAAGTCCAGAAGCTTCAGGCAAGAATCTTCTCATTGGTGCTAATTTCGCTTCTGCAGCTTCAGGTTACGATGACAAAG CCGCTCTTCTCAATCATGCGATCCCTTTGTATCAGCAAGTTGAGTACTTCAAGGAATACAAGAGCAAGCTCATAAAAGTTGCAGGAAGCAAAAAATCT GATTCGATCATAAAGGGAGCAATCTATCTCTTAAGCGCAGGAAGCAGTGACTTCGTTCAAAATTATTATGTGAATCCTTTCCTTTACAAAGCCTACAC TCCTGATCAGTACGGATCTATGCTTATCGATAACTTCTCTACATTTATTAAGCAAGTGTATGCGGTTGGAGCAAGGAAGATCGGTGTGACTTCTCTTC CTCCAATGGGATGTCTTCCAGCTGCAAGAACCCTTTTCGGTTTCCATGAAAAAGGCTGTGTTTCAAGACTCAACACAGATGCTCAACAATTCAACAA GAAGCTTAACGCAGCTGCTTCAAAGCTTCAGAAGCAATACTCTGGTCTTAAGATTGTTGTCTTCGACATATTCACCCCACTCTATGATCTTGTTCAGT CCCCTGCCAAATCTGGATTCACGGAAGCAACAAAAGGATGTTGTGGAACAGGAACAGTCGAGACAACTTCGCTCTTGTGCAACCCCAAATCGTACG GGACATGCTCCAATGCTACTCAGTATGTGTTCTGGGACAGTGTTCATCCTTCTGAAGCTGCAAATGAGATTCTTGCCACTGCTTTAATCGGACAAGG CTTCTCTCTTCTCGGTTGATCTCTAAGTATTATTTGTCTTTTTCTCTTTGGAAATCGCTGTATCTGTCAAATCTTTGAGTCATACATTTATTTCGCTTTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001J08	AT4G37930.1	SHM1 (SERINE HYDROXYMETHYLTRANSFERASE 1); glycine hydroxymethyltransferase	GATGGTTCACATCTGTTTCTAGGGCTTCGATAGAGAGGGAGGTAGAGAGAGAGGTTTAGCGAAAATGGCTATGGCGATGGCTCTTCGGAGACTTTC TTCTTCAATTGACAAACCCATTCGTCCTCTTATCAGATCCACCACTTCATGCTACATGTCGTCTTTGCCCAGTGAAGCTGTGGATGACAAGGAGAAAT CTCGTGTCACTTGGCCAAAACAGCTTAACGCACCTTTAGAGGAGGTCGATCCTGAGATTGCTGACATTATTGAGCATGAGAAAGCTAGACAATGGAA GGGACTTGAACTCATCCCATCTGAGAATTTCACTTCTGTGTCGGTGATGCAAGCTGTTGGGTCTGTGATGACTAACAAGTACAGTGAAGGGTATCCT GGTGCGAGATACTATGGAGGAAATGAGTACATAGACATGGCGGAAACCTTATGCCAGAAGCGAGCTCTTGAAGCTTTCCGGTTGGATCCTGAAAAG TGGGGAGTGAATGTGCAACCTTTGTCTGGATCTCCTGCCAACTTTCATGTCTACACTGCATTGTTAAAGCCTCATGAGAGAATCATGGCACTTGACC TTCCTCATGGTGGTCATCTTTCTCATGGTTATCAGACTGATACCAAGAAGATATCTGCTGTGTCTATCTTCTTTGAAACAATGCCCTATCGATTGGAC GAGAGCACTGGCTACATCGACTACGATCAGATGGAGAAAAGTGCGACTCTTTTCAGGCCGAAATTGATTGTTGCTGGTGCAAGTGCTTATGCTCGAT TGTATGATTATGCCCGCATCCGAAAGGTGTGTAACAAGCAAAAGGCTGTGATGCTAGCAGATATGGCACACATCAGTGGTTTGGTTGCTGCTGGTG TTATCCCTTCACCGTTCGACTATGCAGATGTTGTAACCACCACAACTCACAAGTCACTTCGTGGACCTCGTGGAGCCATGATTTTCTTCAGGAAGGG TGTTAAGGAAATTAACAAACAAGGGAAAGAGGTTTTGTATGATTTTGAAGACAAGATCAACCAAGCTGTCTTCCCTGGACTTCAAGGTGGTCCACAC AACCACACTATTACCGGACTAGCTGTTGCTTTAAAACAGGCAACTACCTCAGAGTATAAAGCATACCAAGAGCAAGTCCTGAGTAACTCTGCCAAGT TTGCTCAGACTCTGATGGAGAAAGGCTATGAACTTGTTTCTGGTGGAACTGACAACCATCTGGTTCTAGTGAATCTGAAGAGCAAGGGAATTGATGG ATCTAGAGTTGAGAAAGTGTTGGAAGCTGTTCACATTGCATCCAACAAAAACACTGTTCCTGGTGATGTTTCTGCCATGGTTCCCGGTGGAATCAGA ATGGGTACACCTGCTCTCACTTCCAGAGGCTTTGTTGAGGAAGACTTTGCCAAAGTTGCTGAATACTTCGACAAAGCTGTGACCTTGGCTCTCAAAG
GCT-001J09	AT3G08590.1	2,3-biphosphoglycerate-independent phosphoglycerate mutase, putative / phosphoglyceromutase, putative	GACCATACCTCACCACATCACCCTCACGTCTCTGCGAATCTCCATACGACTCTTTGAGCTTTCTCTCTGTTTCTCCGCTGCTATGGGTAGCTCCGGC GACGTTAACTGGAAACTTGAGGACCATCCCAAGCTCCCCAAGGGTAAAACCATTGGCTTAATTGTTCTCGATGGATGGGGTGAATCCGAACCTGAT CAATACAATTGCATCCACAAAGCTCCAACTCCTGCCATGGATTCCCTTAAAAACGGAAAGCCTGATACATGGAGGCTGATCAAAGCCCATGGCACAG CGGTTGGTCTCCCCAGCGAAGATGACATGGGAAACAGTGAAGTTGGGCACAATGCTCTCGGAGCCGGTCGAATCTACGCTCAAGGTGCTAAGCTT GTCGATCTAGCTCTTGAGTCAGGGAAAATCTACGAGGATGAAGGTTTCAAATACATTTCTGAATCTTTCGAGAAAGGCACTGTGCACCTTATCGGAC TTTTAAGCGACGGTGGAGTCCACTCCCGCCTCGATCAAGTGCAGCTGCTGTTAAAGGGTTTCGCAGAACGTGGCGCGAAAAGAATCCGTGTCCATG TTCTTACTGATGGTCGTGATGTTTTGGATGGCTCTAGTGTCGGCTTTGTGGAAACTCTTGAAGCTGACCTCGCTGACTTACGTTCCAAAGGTGTTGA TGCTCAGATTGCCTCTGGTGGAGGTCGTATGAATGTCACAATGGACCGTTACGAGAATGACTGGAATGTTGTGAAACGAGGGTGGGATGCTCAAGT CCTTGGAGAAGCTCCCCACAAATTCAAAAGTGGTCTTGAAGCAATTAAGACACTGAGGGCCGAGCCTGGTGCCAATGACCAGTATTTGCCTCCCTTT GTCATTGTTGATGACAGCGGAAAGGCTGTGGGTCCAATTGTTGATGGTGACGCAGTTGTCACTTTCAATTTCCGTGCTGATCGAATGGTCATGCATG CAAAGGCCCTCGAATATGAAGATTTTGATAAGTTTGATCGCGTTAGAGTCCCAAAGATACGTTATGCAGGAATGCTCCAATATGATGGAGAGCTAAA GCTTCCAAGCCATTACCTTGTTTCTCCACCACTGATTGATAGGACTTCTGGTGAATATCTTGCACACAATGGCATCCGCACTTTTGCTTGCAGTGAGA CTGTTAAGTTTGGCCATGTAACCTTCTTCTGGAATGGAAACCGCTCTGGATATTTTAACGAAAAGCTGGAAAAGTACGTTGAGATTCCAAGTGATAGT GGAATATCATTCAATGTCCAGCCAAAGATGAAAGCGCTGGAGATTGCCGAGAAAGCAAGGGATGCTATCCTCAGTGGCAAGTTTGACCAGGTGCGT GTTAACCTGCCAAATGGAGACATGGTGGGTCATACGGGTGATATTAAAGCAACTGTTGTTGCCTGTGAAGCTGCTGATGTTGCTGTGAGGATAATCC TCGATGCCATAGAACAGGTGGGAGGGATATATGTTGTGACTGCAGATCACGGAAATGCTGAGGACATGGTTAAAAGGGACAAAGCTGGTAAGCCC GCTCTGGACAAGGAAGGAAACCTTCAGATTCTCACCTCTCACACCCTGAAACCGGTGCCAATTGCGATAGGAGGACCTGGTTTGTCAGCAGGAGTT AAGTTCAGACAGGATTTGGAGACACCTGGGCTTGCGAATGTAGCTGCCACAGTGATGAACCTGCATGGATTTGTGGCCCCTGGCGACTATGAGCC
GCT-001J10	AT3G51880.3	HMGB1 (HIGH MOBILITY GROUP B 1)	GGATCGTCTTTTTCTTTTGATTCCGCTTGGTTCTCTCAAACGGACAGATCTTCTATTCGTCTCTCGAGTATTATTTTAGGTTGCAGCGATGAAGACAG CAAAGGGGAAAGATAAAGTTAAGACCACAAAGGAAACCTTGAAGCCAGTTGATGACAGAAAGGTGGGAAAGAGGAAGGCACCGGCTGCGAAAGCA ACCAAACGAGAGACTCGTAAAGAGAAGAGGGCCAAAAAGGATCCAAACAAACCGAAAAGAGCTCCTAGTGCATTCTTTGTCTTTCTAGAAGATTTTA GGCAAACGTTCAAGAAAGAAAATCCAAATGTGAAGGCTGTCTCTGCTGTTGGGAAAGCTGGAGGGCAGAAATGGAAGTCAATGTCTCAAGCTGAAA AGGCTCCATACGAAGAAAAAGCTGCAAAGAGGAAAGCTGAATATGAAAAGCTTATGGATGCATACAACAAAAACATGGAGGAAGGGAGTGATGAAT CTGAGAAGTCTAGGTCCGAGGTGAATGATGAAGATGAAGCTAGTGAGGAGGAAGAGCAGCTAGAGAAGGGAAAGACAGGAGGTGAAGAAGAAGG AGATGAAGATGAAGATGAAGATGATGACGATGATGATGGTGATGCTGATGACGATGAGGATGAAGACTAAACCGGAGATAGAAATCAGATTCTGTAA CTCGGGCATAACTGTGGGTCCAGAAGCAGAAGTAAGTATTTTGTAATTTGTGTGTCGAGAACTATATAGATCCAAATCGTGTGTCTGTGTGTTTTTTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001J11	AT4G16780.1	ATHB-2 (Homeobox-leucine zipper protein HAT4); DNA binding / transcription factor	GATCATCTCTCCTCTCTCTCTCTCCCTCTCTTTCTCTCTCAAAAGAAAAGCAGAAAACTTTGCTGCAAAACGAAGATGATGTTGGAGAAAGATGATCT GGGTCTGAGCCTCGGCTTAAATTTTCCCAAGAAACAGATGAATCTCAAATCCAATCCCTCTGTTTCTCTTACTCCATCTTCTTCCTCTTTTGGATTACT CCGAAGATCATCTTTGAACGAGAGTTTTAATTCTTCAGTACCCAACTCAGATTCAAGTCGTGTAGAAACAAGAACATTCATCCGTGGAATCGACGTGA ACAGACCACCGTCAACGGCGGAATACGGAGATGAAGACGCCGGAGTATCTTCTCCTAACAGCACAGTCTCAAGCTCCACCGGAAAAAGGAGTGAG AGAGAAGAGGATACAGATCCGCAAGGATCAAGGGGGATCAGTGACGATGAAGACGGTGATAATTCGAGGAAGAAGCTTAGACTCTCCAAAGATCAA TCTGCTATTCTCGAAGAGACCTTCAAAGATCACAGTACTCTCAATCCGAAACAGAAGCAAGCGTTGGCTAAGCAATTAGGATTAAGAGCAAGACAAG TGGAAGTTTGGTTTCAGAACAGAAGAGCAAGGACAAAGCTGAAGCAAACGGAGGTTGACTGCGAGTTCTTACGGCGATGCTGCGAGAATCTAACGG AAGAGAATCGTCGGCTACAGAAAGAAGTAACGGAGTTAAGATCGCTTAAGCTCTCTCCTCAGTTCTACATGCACATGAACCCACCCACCACTTTGAC CATGTGCCCTTCGTGTGAACACGTGTCGGTCCCACCACCACCACCACCACCATCATCTCAGGCTGCCACGTCAGCACACCACCACCGGTCATTGCA GGTCAATGCGTGGGCTCCTGCTACGAGGATTTCTCACGGCTTGACGTTTGACGCTCTTCGTCCTCGGTCTTAGTCTTTTTAGTTTTGCAACTAAAGG GCATTTCGGTCATTTTTACTCGTTTTCAGGGGGACCAAGATATGCATGTAGTTGTTAACATGTATGTACTATTTTTAGAAAGAAAAAAAGAAAAAACAG
GCT-001J12	AT2G26690.1	nitrate transporter (NTP2)	GGCTTCTGTGGCTTACAAAGACCAGACACTTAGCAGAAATTACGACTATTCTCATCAAGGCAATTCTTGAAGAAAAGAAGAAAAATGGAGAGCAAAG GGAGTTGGACGGTGGCTGATGCTGTAGACTACAGCGGCCGACCCGCAGACAAATCCAAAACTGGTGGCTGGATCACTGCAGCTCTCATTCTTGGA ATAGAAGTTGTGGAGAGGCTATCGACAATGGGAATAGCAGTCAATTTGGTAACATATTTGATGGGAACAATGCATCTTCCAAGCTCAACCTCTGCCA ACGTTGTCACTGATTTTATGGGCACTTCCTTCCTCCTGTGCTTGCTCGGCGGCTTTCTCGCTGACTCTTTCCTCGGACGTTTCAAAACCATCGCTATT TTTTCAACCATTCAAGCTTTGGGAACCGGTGCACTAGCGGTAGCAACAAAGCTGCCAGAGTTACGTCCACCGGTATGCCACCACGGCGAAGTATGC ACACCTGCCACGGCCTTCCAAATGACAATTCTCTATATTGCGCTTTACCTTATAGCCCTTGGAACTGGTGGCCTTAAGTCTAGTATCTCCGGATTTGG GTCTGACCAATTTAATGACAAGGATCCTAAAGAAAAAGCTCAGATGGCTTACTTCTTCAACAGGTTCTTCTTCTTCATTAGCATGGGGACATTGATGG CTGTTACTGTTTTAGTGTATATACAAGATGAAGTGGGAAGATCTTGGGCATATGGAATCTGCACTGTGTCTATGGCTATAGCTATTGCAGTGTTCTTG TCTGGAACTAAGAGATACCGGTATAAGAAGAGCCAAGGAAGTCCCGTTGTGCAAATATTACAAGTTATAGCAGCTGCGTTCAGGAAGAGAAAAATGG AACTGCCTCAAAGCACTGTCTATCTATATGAAGATAATCCTGAGGGCATGAGAATCGAACATACTGATCAGTTTCACATGTTGGACAAGGCAGCCAT AGTTAGAGAAGAAGATTTCGATCAAACCATAGATGGCATCGCAATTCCAAACCCCTGGAAGTTAAGCTCAGTGACCAAAGTTGAGGAAGTGAAAATG ATGATTAGGCTTTTGCCTATTTGGGCAACCACTATAATTTTCTGGACAACATATGCTCAAATGATAACATTCTCAGTTGAGCAAGCTACAACCATGAG ACGAAACGTAGGAAACTTCACGATCCCAGCAGGTTCTCTCACCGTGTTTTTCGTCGCGGCTATTCTCATATCACTGGCTGTCTACGATCGTGCCATC ATGCCTCTTTGGAAGAAATGGAAAGGAAAACCAGGTTTCTCTAGTCTGCAAAGAATAGCTATTGGATTGGTCTTATCAACTGCTGGAATGGCAGCTG CAGCCCTAGTTGAGCAAAAGCGTCTGTCCGTTGCGAAATCTAGTACACATAAAACAATGCCCATAAGTGTATTCTTACTTGTTCCACAATTCTTCCTA GTAGGAGCTGGGGAAGCCTTTATATACACTGGCCAACTTGATTTCTTCATAACCCAATCACCCAAAGGAATGAAAACAATGAGCACCGGACTTTTCT TGACCACTTTGTCACTAGGATTCTTTGTCAGCAGTTTCTTGGTCTCGGTCGTCAAAAGGGTCACCGCGACTTCTATGGATGGAGGATGGTTGGCGG ATAACATCAACCAAGGGCGGCTCGATCGCTTTTATTGGCTTTTAGTCATTCTTAGTGGAATTAACTTTGTTGTCTATGTCATATGTGCTTTATGGTTTA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001J13	AT5G46760.1	basic helix-loop-helix (bHLH) family protein	GGTCATTTGCTTAGCTTTTCCTCTTTCCATTTTCCTCCAACACGTCACCTCTCTCTGTCTCTCTCTTCAGACCGGAAAAGTCTTCAACTTTCACCGGAA ATATTCCTCCATCTTATCTCCATCGTATGCTCACATGAACGACTATTTCCTCAACCAGTCAACGGCCACCGACGATAACGCGTCTGCGCCGATGGAA GCTTTCATCGGAACAAATCACTCAACGCTCTGGCCACAACCATCTCTTCCTCCTCCTCCTCCACTTTCTCAATTTAACGAAGACACTCTCCAACAACG TCTCCAAGCTTTAATCGAATCCGCAGAAGAAAACTGGACTTACGCGATCTTCTGGCAGATCTCACACGATTTCGATTCTCCCACCGGAGATAACACA TTGATTCTCGGCTGGGGAGATGGTTACTACAGAGGAGAAGAAGACAAAGACAAGAAAAAGAAGAGCTCGAGTTCGAATCCGGCGGAGCAAGAGCA TCGGAAAAGAGTGATCCGTGAGCTTAACTCGTTAATCTCCGGCGGAATCGGAGTTTCCGATGAAGCAAACGACGAAGAAGTCACCGATACTGAGTG GTTCTTCTTGGTCTCGATGACACAGAGCTTCGCGAACGGTGTTGGGCTTCCCGGAGAATCCTTATTAAACTCTCGCGTGATTTGGTTATCCGGGTCG GGTGCTTTAACCGGGTCGGGTTGTGAACGAGCTCATCAAGGTCAGATATACGGGTTACAGACGATGGTGTGTATCGCGGCGGAAAACGGCGTCGT TGAGCTTGGTTCTTCGGAAGTGATAAGCCAAAGCTCAGATCTGATGGATAAAGTCAATAGTCTCTTCAATTTCAACAACGGTAATGGTGGAGAAGCT TGTTCTTGGGGGTTAGATCTGAATCCTGATCAAGGAGAGAACGATCCAGCTTTGTGGATCAGCGAACCGACCACCACCGGAGTCGAATCGGGTCAG GTAACTCCGGCGATACACAACAGTAATTCCAATTCAAATTCCAAATCCGATTCTCATCAGATTTCGAAGCTTGAAAAGAACGAGAGCTCGATTGAAAA CCCTAGACAGAATCCGCAGAATCCGTCGCTTGTAGAGCAGGATTTGAACTTCTCGAGCTCTGGGTTGAATCAAAACGGGAACTTTCCTGATGGGTC GTCGCGGATGATGAAATCGAGTGAAACCCTAAGTTTTATGGCGGAGGAGAGCAACAAGAGGAGATCTCCTGTTTCGAAAGGGAGTAACAACGACGA AGGAATGCTTTCTTTCAGCACCGTGGTTCGATCCGCCGCGAAATCCGGCGACTCGGATCATTCCGACCTCGAAGCATCGGTGGTTAAGGAAGCGAT TGTTGTTGAACCGGAGAAGAAACCGAGGAAACGGGGAAGAAAACCGGCGAACGGGAGAGAAGAGCCATTGAATCACGTAGAAGCAGAGAGACAG AGAAGAGAGAAGCTAAACCAGAGATTCTACTCTTTGAGAGCTGTGGTTCCCAACGTTTCGGAAATGGACAAAGCTTCTCTTCTTGGAGACGCCATTT CGTATATCAACGAGCTGAAATCGAAGCTGCAACAAGCGGAATCCGATAAAGAAGAGATTCAGAAGCAGTTAGATGGGATGAGCAAGGAAGGAAACG GGAAAAGCGGCGGGTCGAGAGTGAAAGAACGAAAATGTTCGAATCAAGATTCGGCGAGTTCTATAGAAATGGAGATTGATGTGAAGATCATAGGTT GGGATGTGATGATACGTGTACAATGCAGCAAGAAGAATCATCCTGGTGCGAGATTCATGGAAGCGCTTAAGGAATTGGATTTGGAAGTGAATCACG CTAGTTTATCCGTGGTGAATGATTTGATGATTCAACAAGCTACTGTGAAGATGGGAAGCCAGTTTTTCAATCATGATCAGCTCAAGCTTGCTTTAATG TCGAAACTTCGAGAAGACAATTGAAGAAAGCCGACTCTTCAAGACATCAAACTAATCTTTCCATTGATTAGAAGTCATCAAAATTACCTCGTAATCTT
GCT-001J14	AT4G39940.1	AKN2 (APS-KINASE 2); ATP binding / kinase/ transferase, transferring phosphorus-containing groups	GGTATACGTAAGAGCAGATTGATTCGTACATTTTGATTGGTCAACCCCCCAAGAACCGTCTGGGCTCTGTGATTTTCTTAACAGACAACAGATTCAAT GGAAGGATTAGCTGTGATCAGAGCATCGCGACCGTCGATTTTCTGTTCTCTTCCAGGTCTCGGCGGCGATTCTCAGCGACGACCTTTAAGCGACGG TTTCCTCAGGCTGCCGGCGTCGTCGTCGAATGTGGCGGATAACCCAAAACTATTGTCGAATTCTGCTTCTTTTCATCATCCAATCTCCGCCGTCAAT GTTTCTGCTCAAGCTTCCCTCACCGCCGATTTTCCCGCCCTTTCAGAGTTGAATCTAAAAGAGAAGAGAATCAACGGAGAAGAGAAACCAGATAACA TCGTGTGGCACGAGAGTTCCATTTGCAGATGCGATCGACAACAACTTCTTCAACAAAAGGGTTGTGTCATTTGGATCACTGGTCTCAGCGGTTCAGG TAAAAGCACTGTTGCTTGTGCTCTAAGTAAAGCATTGTTCGAAAGAGGCAAACTTACTTACACACTCGACGGCGACAATGTCCGTCACGGCCTTAAC CGCGACCTCACTTTCAAAGCAGACGACCGTACCGAAAACATACGCAGGATCGGTGAGGTGGCTAAGCTGTTTGCTGACGTGGGCGTTATTTGTATA GCAAGTTTGATTTCTCCTTACCGGAGAGACAGGGATGCTTGCCGGTCGTTGTTACCGGATGGCGATTTCGTTGAGGTTTTCATGGATGTTCCTCTTT CTGTGTGCGAGTCAAGAGATCCAAAGGGTTTGTACAAGCTCGCACGTGCCGGCAAAATCAAAGGTATACATAGCACTGGAACGGAGCCGGATATCC GGACTTTTCAAGGTATCCGGATCCGGCTCCGGATTTAACGGATAATCAATTTTACTATCTGGATCCGGATCCGAAAACTCCGGATATCTGGAGACCG AATATCCGGTTTGAACCGAATATTTACGGATATCCGACCGGATGTCCGGTTTCGTTGATTTAAAAAAAAATCTTCAATTTTTAAAATTATAATGAGATA ACATATATAATTAAAATGTATCATCATAGCAAAAATTACAAATACCAAAAATTTAAAAACAGTCAAGTAGCATTCAAATAACACAAAGTTTAAAAGTTTA CATAACAAAAGAGAAAACAGTAATAGAGAAGTTAATTTATCTTCATATCCTTGTATTATCTATTTTCATGTTCTTCTCTCACAATCTGAAATAGAAAATT ATCATGCAATATAAATTTTAATCATGTGTAAAAAAGTTAAACCAAAAACAATTTTCGAACATAATTAAAACAAAAAATTAAATGCATATCCAAAGATTTCA AAATTTTTAAAATCTTAATAACGGATAACGGATATCCGATTTCTAAATTTTCTATTATCCGGATCCGTATCCGAAATAACCGAATTCTTAATTTCACTAT CCGGATCCGGATCTGAACTACACGGATATCCGGTTTTTACGGATCGGATAAAACCGGATACCAGATCGGATAGCGGATACCGGATAATAATTCCAG CCCTAGATATACATATATCCAAATTTTACTTGTCAAAAACGTTGACTCTGACTTGTTGACCTTTGACTTGAGTCAGAAAAACAATCTATAGCACTGAAA CTTCTACTTGAATTTTTGTTGGATAATTTTGGAGCTGATATAATCAGTGTCGTGCTTAGAGTATTAGGGACATAAGGCAAATGACAAGAAAAAATTTCC ATTTTGCTCTAATTATTTCTAAAAAAAATAAGTTGTAAATCAGATTTAAATATTATTTTATAAAATATTATAAAGTACTAATGCTTTTATTAATTTATAATAA ATTTTCAACCACAAAAAATAACACAAAAATATATATTAACCAATATACTAATTTTCCTTTTTTTGGACACCAACCAATATACTAAATAAAAATACAAAAAT TAGGGACTATAAAATTTGTTTAATATTAAGGGGACCTAAGGCAAATGCCTTATTTTTTGTTCATTAAGCACGGCTCTGGATATAATTAATATTAAGACT ATTATGTGCTGAAATATTATGTTCCGGTAAATATTCTTGTATAGACACACAAATAAACCCTAAATTTTTGTGAGTAAACATGCTTATTATTACGAAGTAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001J15	AT1G02750.1	similar to drought-responsive family protein [Arabidopsis thaliana] (TAIR:AT4G02200.1); similar to fiber protein Fb2 [Gossypium barbadense] (GB:AAN77145.1); contains InterPro domain Drought induced 19; (InterPro:IPR008598)	GGTCTCTTTTTTTTTCCTTGACATTTTCTCTCTCACGAGGGTCTAAAGCTTATAAGCTGACATGTGCAAGTAAACCACACGACGAGGAGGTCTAGTTA CCTAATTTAAAGGGTCTCAGGTTTTTGCCGATTTGTGGAGATTCAGAATCAGAGATGGAAGACGATATGTGGGCAGTTTCCTCTTCCGGCTCTTCTA GGAGCCATCGATCAGCAACGGCTGCTAAGTATCAGTCTGGTTCTTATCTAGATACGGAAGATTTTGAAGAAGAAGATGATGATATAGCAGTGGATTA CCCATGCCCGTTTTGCTCGGATGATTATGATTTAGTTGAATTGTGTCACCATATCGACGAAGAACATCAACTTGAAGCTAATCATGGGATATGTCCGG TTTGTAGCAAAAGGGTGAAGATGCATATGGTGGATCATATAACCACACACCATAGAGATGTCTTGAAGAGTGAGCAGAAGCAAACATCATACATGGA AGATCCATATTCATCGGATAAGTATCTTCAGTCTCTTCTTGATGAGTTGCCGCCATCTATGAATCACCATCATACCTCTAAAACTGTTGTTTCTGATAA GTTTTTATCGTTCATCAACAATTCTCCATTGCCGAATCAGACCAAACTTGTGCAGCCTGATTCAAGTGTACAAGAACAGACTTTGAATAAGGATTCTTC GACAGAAGAAGACTGGAAATCGTCGGCTCCTTTATCGGATACTGAACAATTGGAGAAGGCAAAGAAGTGTGAGTTTGTACAGGGACTATTGTCATCA GCCATGTTTGATGACGGATGTGACTTCTTCTGAGTAAAAGAAAATAAAGATGTGAAGGCTCTGTAATGGCAGAGGCAATTCACTGGCATTGTTGTAA
GCT-001J16	AT4G32940.1	GAMMA-VPE (Vacuolar processing enzyme gamma); cysteine-type endopeptidase	GAAAGAAATCATATCCACGTCACCATTCGCCGGCAAAAATCCAAAAAACCGGCCTTGACGATGACATCAGTCGCCGTTCCCCTTCTCGTTCTCTTGC TCTCGTTGATTGCCGTCTCCGCCGCAAGACAAGGACCCGATGATATCATCAAACTTCCGTCGCAAGCTTCTATGTTCTTCCGTCCTGCTGATGACGA CAACGATTCTTCTGCCGGTACTAGGTGGGCTGTCCTTGTCGCCGGATCCAACGGATATTGGAATTACAGGCACCAGGCCGATATTTGCCATGCTTA TCAACTTCTGAGGAAAGGTGGAGTGAAAGAGGATAATATTGTGGTTTTCATGTATGATGATATTGCAAATAATGAAGAGAATCCAAGGCGTGGGATC ATTATCAACAGCCCTCATGGGAAGGATGTCTATCAAGGAGTTCCCAAGGATTACACTGGAGATGATGTTACTGTTGATAATCTATTTGCTGTTATCCT TGGAAACAAAACTGCCACTAAAGGGGGAAGTGGGAAGGTTGTGGATAGCGGTCCAAATGATCATATCTTCATATTCTACAGCGACCACGGTGGTCC TGGAGTTCTCGGGATGCCGACTTCTCCATACCTATATGCAAATGATCTTAATGATGTCTTGAAGAAAAAACATGCTTCCGGAACCTATAAAAGCTTGG TGTTTTATCTCGAGGCTTGTGAATCTGGAAGTATCTTTGAAGGGCTTCTTGAAGAGGGTTTAAACATCTACGCTACAACTGCATCAAACGCAGTAGAA AGCAGTTGGGGTACCTATTGCCCCGGAGAGGATCCTAGTCTTCCACCGGAGTATGAAACTTGTTTAGGTGACTTATACAGCGTTTCTTGGATGGAAG ATAGTGGTATGCACAATCTGCAAACTGAGACTCTGCGCCAACAATATGAACTTGTGAAAAGGAGAACTGCAGGTGTTGGGTCGGCTTACGGTTCTCA TGTCATGCAATATGGCGATGTAGGACTTAGCAAGGATAAGCTCGACCTTTACATGGGAACAAACCCTGCCAATGACAATTTCACTTTTGTGGATGAG AATTCACTGACGCCACCTTCAAGAGTTACAAACCAGCGTGACGCAGATCTTGTCCATTTCTGGGATAAGTACCGAAAAGCACCAGAAGGTTCCACAA GAAAAACAGAAGCTCAGAAGCAAGTTCTTGAAGCCATGTCTCACAGGCTTCATGTTGACAACAGTGTGAAACTCGTCGGAAAACTCTTGTTTGGCAT TTCAGAAGGTCCTGAAGTGCTAAACAAAGTACGGTCTGCTGGGCAACCACTCGTCGATGACTGGAACTGCCTTAAAAATCTGGTGAGAGCTTTTGA GAGACACTGTGGATCGCTGTCTCAGTACGGTATTAAGCACATGAGGTCCTTTGCAAACATCTGCAACGCAGGGATCCAAATGGAGCAAATGGAGGA
GCT-001J17	AT5G63470.2	DNA binding	AAACGCGTAGATCCAATGGACAACAACAACAACAACCAGCAACCACCACCTGCCTCCGTCTATCCTCCTCCGCCTTCGGGCTCCGCCGCCGCCGTA ATCCCTCCTCCTCCATCTGGATCCACGGCGATAGTCGGCGGAGGAGGAGGAGCGTCTTACCACCACCTCCTCCAGCAACAGCTGCAACAGCTCCA AATGTTCTGGACCTACCAGCGACAAGAGATCGAGCAGGTGAACGATTTCAAAAACCATCAGCTTCCTCTCGCTCGGATCAAAAAAATCATGAAAGCC GATGAGGATGTTCGTATGATCTCCGCGGAAGCACCGATCCTCTTCGCCAAAGCCTGTGAGCTTTTCATCCTCGAGCTTACCATCAGATCTTGGCTTC ACGCCGAAGAGAATAAACGCCGTACGCTTCAGAAAAACGATATCGCCGCCGCGATTACTAGAACCGATATCTTCGATTTCCTCGTTGATATCGTTCC TAGGGAAGAGATCAAGGAGGAGGAAGAGGCGGCTCTCGGAGGTATGGTGACTCCCGCCGCGAGCGGCGTTCCTTATTATTATCCGCCGATGGGT CAGCCGGCGGTTCCTGGAGGGATGGTGATCGGAAGGCCGGCGATGGATCCTACCGGAGTTTATGCTCAGCCTCCATCTCAGGCATGGCAGAGCG TTTGGCAGAATTCAGCCGCCGGAGATGATGTGTCTTACGGAAGCGGAGGAAGTAGCGGCCATGGAAATCTCGATAACCAAGGATAAGTTGAGCTTT GGAAGGATTTTCAGATGCTGCCTCTGTCTTGAAACCAGAAGCTGAGATTCATCATCAACCCTGCCTTGAATTTTGCATGTGTCTGATTCTTATGCCTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001J18	AT1G58220.1	myb family transcription factor	GTGATTTCAATTATCGCGAGCCTGACTGCAACCGTTCTTCCTCCGTCGCGTCTTTTGTTTTTTTCTCTTCACAGCAAAAACCCACCCGTACGCGTGCG CTCCACGCGCCTCCACTATCCCCAGCACCAAGCTTCCTCTTCTCTCCAATCATCAAATCGCTTTCATTCTCCATCTCCAGAGATATCATCTGCGCTTT CTGCGCCCTAGTTCATTTCATTGTCTATCAATCCCAAATCCCATTTTAGGGTTTTATCACTGAAATTGATACCTTCGAGTAGAGATTTCGCTGCCGGT CTAATTGACTTGACACATCCGTAACATGTGAATTGCTGTTTACAAACAACGACAATGGTTGATAGCAGCAATAATAAGAGGAAAGAGTTCATCAGTGA AGGAGACATCGCCACTCTTTTACAGAGATATGACACCGCGACGATACTGAAGTTGCTACAGGAAATGGCATATCACGCTAAACCCAATATGGACTGG AATGAGTTAGTGAAGAAGACTAATACTGGAATAACCAACGCTAGAGAATACCAGTTGCTGTGGCGGCATCTTGCTTATCGAGATTCTCTCCTCCCCA AGGAAAATAATGCTCAGCTTCAGGATGATGATAGTGACATGGAGTGTGAATTGGAAGCTTCCCCTGAAGTCAGCGTTGATGCAGTCGCGGAAGCTG TTGCGCATGTGAAAGTGATTGCTGCTTCCTATGTTCCAAGTGAGTCCGACATTCCTGAAGACTCAATGGTTGAGGCTCCCTTGACCATTAACATACC TTATGGCCTGCATAAGGGGCCTCAGGAACCATCAGACTCGTATTGGTCGTCAAGAGGGATGAATATCACCTTTCCTGTTTCTCTTCAGAAAGCAGCT GAGGGACATAATGGAAATGGGTTAGCCAGCAGCATGGCTACTCGGAAGAGAAGAAAAAAATGGTCAGCTGAGGAGGATGAGAACCTGGTCACTGC TGTGAAACGACATGGTGAAGGCAGCTGGGCCCTTATGGCGAAGGTAGAATTTGACGGAGAGAAAACGCCCTCACAACTCTCCCAGCGGTGGGGGG CTATAAGGAAAAGGTGTGATACTTCAAACTCTTCTTCCCAATCTGGCCTACAGCGAACAGAAGAACAAATGGCAGCTAATCGTGCATTATCTTTGGCA GTGGGAAATCGAGTTCCCTCAAAAAAGCTTGGAGTAGGTGTACCTCCAATGGTTTCACCCGGTAGCATATCGGGAGCTCAAGCCAATGGTGCCAAC ACTGGTAGTTCACTGCAAGCTCGACAACAGTCTCAGCCAGTAGTTCAAGCACTGCCCCGGGCAGCAACATCCATTCCGACTTCAAAATCTCGAGTTA CTGCAAAGAAAACAACAGCAAATTCCACTTCGAGAGCGGAACTAATGGTAACAGCTAACTCAGTAGCTGCTGCAGCCTGTATGTCTGGCCTGGCAA CTGCTGCATCAGTGCCAAAGGTTGAACCAGGAAAAAACGCTGTTCCTGTGTTAGTGCCAAAGGTCGAACCCGTAAAAACTGCTTCCACAGCCTCTTT GCCTCGTACATCATCAGTAATGAATGCTGAGCCTGTAAAAACCGCTTCCACTTCGGCAGCTTCTATGCCTCGTCCATCAGGTGTATCATCATCACTG AATGCTGGGCCTGGAAGAACTGCTTCGGCAGCCTCTGTGCCTCGTCCATCAGGTGTATCATCATCACTGAATGCTGGGCCTGGAAAAACTGCTTCG GCAGCCTCTGTGCCTCGTCCATCAGGTACATCAACTGAGCCTGGCAAAACAGTTTTGGCACCCTCTTTCCCTCGGCCTTCAGGTGTTATCTCAGCAT CAAAGCCTGAGCCTGTTAAAGCCGCTCCAGCAGCCTCTTTGCCACGTCTGTCAGGTGTTATACCAGCACCAAAGGCTGAGCCTGTTAAAACCGCCT TGGCGCCCTCTTTGCCTCCTCCATCAGGTGTTATATCAGAACCAAAGGCTGAGCCTGTTAAAACACCTTTGGCCCCCTCTTTGCCTCGTACATCAGG TATTATATCAGCACCGAAGGCTGAGCCTGTAAAAACCGCGCCTGCGTTCTCTTCGCCTCGTCCATCAAATATTTCACCAGCACCAAAGGCTGAGCCA
GCT-001J19	AT3G46600.3	scarecrow transcription factor family protein	GATGAAACTTCCCTTTACTTTCTCTTATTTCTTCTGTTCGTTGACTAAAATTTCTCTCTCTTCTTCTTCTTCTTCTTCTTCTTCAATCTTCATCTTGAGTG AGATTTTTGGATCCTTTCATGGATGCTATTCTGCAAGTACCCAATGATGGGTTCAGATTCGAAAACGGTACTGGATCTTGCTGCAAACCAAGGAACAA TCTTGACTCTGGGACCAACCGTTTCACCTGTTTCAACGAATCTGAATCTCAGAACCCTTCTTCTTCTCCGACAAAATCTAAGGTATGTTCAGATTACC ACCCTGTTTTTAAGTACATCAATGACATGTTGATGGAGGAAGATCTTGAAGGACAGTCTTGTATGTTGGAAGACAGTTTGGCCTTACAAACCGCCGA GAGATCTTTCTTCGAAGTGCTTCAGGATCAAACTCCTCTGTCTGATCATAGCGAAGGTTCTCTCGGAAACTTCAGCTCATTAACGAGCTTACACCAAC CAACCTCAGAATTCACTGGATCGCCTGAGATATCAGAAGTATCAACCAGAAGGTATCGTCTACGGGATGATGGTGATGAAGAAGATGATATTGAGG GTGGAAGAAAAGCAAAGCTCCCTGCAATTTCTATGGTGGATGAGCTGGCGGAAAAGTTTGAGGAAGTGTTGTTGGTGTGTCAAAAGAACGAACTTG GAGAAGCAACACCGAGCAAAACCGGACGAGCAAAGAGCTCATCGAACCGATCCAAGCCTCAAAAGTCAGATCAGCCAGTGGATATGAGGAATCTC CTGATGCAATGCGCGCAAGCCGTGGCGAGTTTTGACCAGAGAAGAGCAGCTGAGAAACTGAAGGAGATAAGGGAACACTCTTCAAGCCACGGAGA TGGAACTCAGAGACTTGGTTACCATTTCGCAGAGGCGCTTGAAGCACGTATTACAGGAATCATGACTACACCAATATCTGCTACTTCAAGCAGAACA TCAATGGTGGACATTTTGAAAGCGTACAAGGAGTTTGTTCAGGCTTGCCCCACCATAATAATGTGTTATTTCACTGCAAACAGAACAATCTATGAGCT TGCTTCCAAAGCAACAACGCTTCACATCATTGACTTTGGGATTCTCTATGGATTTCAGTGGCCTTGTCTGATACAAGCCCTGTCACAGCGACCGGGT GGACCACCAAAGCTCCGTGTGACTGGAATCGAGCTGCCTCAGCCAGGGTTCCGCCCATCAGAACGGGTTGAAGAGACTGGCCGAAGACTGAAGA GGTTCTGTGACAAGTTCAACGTCCCGTTTGAGTACAGCTTCATAGCCAAAAAATGGGACACCATAACTCTTGATGAGCTGGTGATCAAAAGCGGAGA GACAACAGTTGTGAATTGCATCCTGCGTCTACAATACACGCCTGATGAAACCGTGTCCCTCAATTCTCCGAGAGACACGGCTCTGAAGCTATTCAGA GATATCAACCCTGACCTCTTTGTGTTTGCAGAGGTTAACGGGATGTACAATTCTCCCTTCTTCCTTACAAGGTTCAGAGAGGCTCTGTTCCATTACTC GTCACTGTTTGACATGTTTGAGACCACAATATCAGAAGAGAACGATTGCAGGACACTGGTGGAGAGGGAGTTGATCATAAGGGATGCGATGAGTGT GATCGCCTGTGAAGGTGCTGAGCGGTTTGCAAGGCCCGAGACCTATAAGCAATGGCAAGTTAGGATTTTAAGAGCAAGGTTTAGGCCAGTGAAACT AAACAAACAGATGATCAAAGAAGGGAAGGAAATAGTGGGACAACGTTACCACAAAGATTTTGTGATAGACAATGATAACCACTGGATGTTTCAGGGC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001J20	AT4G34350.1	CLB6 (CHLOROPLAST BIOGENESIS 6); 4-hydroxy-3-methylbut-2-en-1-yl diphosphate reductase	GACATTAGAATTTACAGTCAGCCTCGTCGTTGCCTGAGCAATCCCCATGGCTGTTGCGCTCCAGTTCTGCCGATTATGCGTGCGACCGGATACTTTC GTGCTTGAGAATCATCTCTCCGGATCCGGAGGGATCCGTCGCCGGAAACCTTTGTCAGTTCGGTGCGCGTCTGGAGATGAGAACGCTCCTTCGCC ATCGGTGGTGATGGATTCCGATTTTGACGCCAAGACGTTCCGTAAGAACTTGACTAGAAGCGAGAATTACAATCGTAAAGGTTTCGGTTACAAGGAG GAGACACTCAAGCTCATGAATCGAGAGTACACCAGTGATATATTGGAGACACTGAAGACAAATGGATACACATATTCGTGGGGAGATGTTACCGTAA AACTCGCTAAAGCATATGGTTTTTGCTGGGGAGTTGAGCGTGCTGTTCAGATTGCATATGAGGCAAGAAAGCAGTTTCCAGAAGAGAGGCTTTGGAT TACTAACGAAATTATTCATAACCCGACTGTCAATAAGAGGTTAGAAGAAATGGATGTTAAAATTATTCCGGTTGAGGATTCAAAGAAGCAGTTTGATG TAGTAGATAAAGATGATGTGGTTATCCTTCCTGCGTTTGGAGCTGGTGTTGATGAGATGTATGTTCTAAATGATAAAAAGGTGCAAATTGTCGACACG ACTTGTCCTTGGGTGACAAAGGTCTGGAACATGGTTGAGAAGCACAAGAAGGGCGAATATACATCGATAATTCACGGTAAATATAACCATGAAGAGA CCATTGCAACCGCGTCTTTTGCAGGAAAGTACATCATTGTAAAGAACATGAAAGAGGCGAATTACGTTTGTGATTACATTCTTGGTGGTCAACTCGAT GGATCTAGCTCCACAAAAGAGGAATTCATGGAGAAATTCAAATATGCTGTATCAAAAGGTTTTGACCCTGACAAAGACCTTATCAAAGTCGGTATCGC AAACCAAACAACGATGCTCAAGGGAGAAACAGAGGAGATAGGAAAATTAATTGAGAGGACAATGATGCGCAAGTATGGAGTGGAAAACGTAAACGG ACATTTCATCAGCTTCAACACGATATGCGATGCTACTCAAGAGCGACAAGACGCAATCTATGAGCTAGTGGAAGAGAAGATCGACCTAATGCTAGTG GTTGGTGGGTGGAATTCGAGCAACACTTGTCACCTTCAGGAAATCTCAGAGGCCCGTGGAATCCCATCTTACTGGATCGACAGTGAGAAACGGATA GGCCCTGGGAATAAAATAGCCTATAAGCTCCACTATGGAGAGCTGGTCGAGAAAGAGAATTTTCTGCCAAAGGGGCCAATAACCATCGGTGTGACA
GCT-001J21	AT4G17940.1	binding	GGGCATTTATCACTCTCGGAAGATCGAAGAGAAGAGAACAGTCTCGCGATGAAATCTCTTTTGATGAGAACCGGTTCGATGCCGGTTCAAAACCGG TTTATTCCGTCGCGGAAGGTGACGACGACAATCTCCAGGCACAACTCCGTCGAATCATTACCCAGCTACGGCAGCGAGGGATTCGCCGCCGGGGG GAAGATCTCGATCGATGTCAAGTCTACGGCGATGATGCGGAGGGTGTTATCGGAGAGTGATGTGATTAGATCTGAGAGAAGGTCTAAGAGTGTTGG ATCCAAGCCTTCGCCGGCGAAAATTCCGGAGGAAGACGAGGAAATTAGGTTCGCCGATGGTTGGGGATCGTTGATCTGGGAGGAGAGTGGGCTTC CTATGGAGGAGCAAGGAATCTCCGGCGGTGGTGGTGGATCTGGTTACAGCGGCGGTAAAGGAAAGGGAAACGGAAGCAGAGGAGGCGGTTACAA CGATAAGAGCAAGATCGGTGATTATTATCGAGAGATGTTGAAATCTAACCCCAATAATTCGCTTCTTCTGATGAACTACGGCAAGTTTTTGTACGAGG TGGAGAAAGATTCAGAGAGAGCAGAAGAATACTACGGGAGAGCAATACTTGAGAATCCAGGTGATGGTGAGGCATTGTCAATGTATGGAAAGATGA TATGGGAAACGAAGAGAGATGAGAAGAGAGCTCAAGGTTACTTTGATCAAGCTGTTAATGCTTCTCCTGATGATTGTATGGTTTTGGGATCATACGC ACATTTCATGTGGGAAGCAGAGGATGAGGAAGAAGAAGAAGAACTGATGGTTTCTGCTGTTTAGAAACTCCAAAGAGTGATGGAGTCTGTGACAAT
GCT-001J22	AT4G38520.2	protein phosphatase 2C family protein / PP2C family protein	GATAAAACTATATATTTTTTCTTTATTTTATTTTTTGTGTTTGGTTGATCCGTAGATCTACAACTGAGAATTTCCACGCCCACATCTCCTGACTCCCTCC CTTCTCCGATCTTCTTCTTCTTCGTTTTCTTGCTCAAACTCACAACACGACTAGATTCCATCTTGCAAGAACACAAGACTCAGGTTCGCATTGGCGAT TTCTGAGAGCTGCCTGCCTGTGAATTGGGAATTTGTGCTTAAAAAGTTCTATGTTAGTGTCACAAAACTGGTGGGAGACTCGGATGAGATGAGGGAT GCTATCTGGGTTGATGAACTTTCTGAATGCCTGTCTCTGGCCACGGTCAGATCAGCAGGGACGTTCAGGCTCAGATTCCGGCGGCCGTCAAGAGG GACTCTTGTGGTACAGAGACTCCGGTCAGCACGTCTCTGGTGACTTCTCCATGGCTGTCGTCCAAGCCAACAACTTGCTCGAGGACCAGAGCCAGC TCGAGTCTGGCTGTCTTAGCACCCACGACTCTGGTCCCTATGGCACCTTTGTTGGCGTCTACGATGGCCACGGCGGCCCTGAGACTTCACGCTTCA TCAATGATCATTTGTTCCACCATCTCAAGAGGTTTGCTGCGGAGCAACAGTGTATGTCCGCGGAAGTGATAAAGAAAGCCTTCCAAGCGACTGAAGA AGGGTTCATATCCATAGTTACCAGTCAATTTCCAACGAGGCCTCAAATAGCGACCGTTGGTTCATGCTGCCTTGTAAGCGTCATCTGCGATGGGACG CTCTACGTGGCCAATGCGGGGGACTCACGGGCAGTGCTGGGACAAGTCATGAGGGCGACCGGCGAAGCTCACGCCACTCAGCTCTCGGCTGAGC ACAATGCGTCTATAGAGTCAGTGCGTCGGGAACTTCAGGCCCTGCATCCGGACCATCCAGATATTGTGGTTCTGAAACATAACGTTTGGCGAGTAA AAGGAATCATTCAGGTTTCAAGATCCATTGGCGATGTGTATCTGAAACGGCCAGAGTTTAACCGGGAACCGCTGTACGCGAAATTCCGCCTGAGGG CACCGTTCAAGAAGCCGTTACTGAGCGCAGAGCCGTCGATCACGGTGCATACACTGCAGCCGCACGATCAGTTTATAATATGTGCTTCAGATGGGC TATGGGAACATATGAGTAACCAAGAAGCAGTAGACATCGTCCAGAATCATCCGCGTAACGGGATTGCAAAGCGGCTGGTGAAAGTGGCGCTTCAAG AAGCGGCGAAGAAGAGAGAAATGAGATACTCAGACCTGAAAAAGATTGACAGAGGCGTACGAAGACATTTCCACGATGACATAACAGTGATTGTTG TCTTCTTCGATACAAGCCTAGTGAGCAGAGCGAGCGTGTTGAAAGGACCAGCCGTGTCAGTGAGAGGCGCGGGTGTGAACATTCCTCACAACACC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001J23	AT1G73680.1	pathogen-responsive alpha-dioxygenase, putative	GACCACCATTACAATTGTGTGACTTACATCAAAAAGCATAAAGCAAACACATAATCCAAAGAAGAAGAAAAAAAAAAAACAAAGCAGAATGGGTTTCT CTCCATCTTCTTCCTGGTTCCTCCATCCTGAGCTTCATCATGTTGTTTCGAAGATGTCTTTCTTTGATTCATTTTTATTCTATATTGTGCACTTGGTGGA CAAGCTAGGATTATGGCATAGATTCCCAGTGTTATTGGGAGTAGCTTACTTGGGGATTCGAAGACATCTACATCAACGTTACAATCTGATACACGTC GGTGAAATCAACGGTCAGTGTTACGACACCGATGAGTTTTCTTATCGTACGGCTGATGGCAAGTGTAATCATCCATCCGATGATTCCGTCGGTAGCC AAGGCACCTTTATTGGCCGGAATATGCCTCCTTGCACTTCTCAATACGGCATTTTGGATCCACATCCAAGTGTGGTGGCTACAAAGTTGTTAGCGAG AAAAAGATTCATAGACAATGGTGACCAATTCAACATGATTGCTTGTTCTTGGATTCAGTTCATGATCCATGATTGGGTTGATCATTTAGAAGACACCC ACCAGATCGAGCTTGAAGCTCCAGACGAAGTAGCAAGTGGATGTCCATTGAAGTCATTCAAGTTCTTCAAAACGAAGAAAGTTCTTTCCGGTGATCA CCACAAATCTGGTGCTGTCAACACAAGAACCCCCTGGTGGGACGGGAGTGTAATTTATGGAAATGACGAGGCTGGAATGAGACGAGTAAGAGTTTT CAAGGACGGGAAGCTAAAAATCTCCGGGAATGGCTTGTTGGAGAGAGACGAAAGAGGTATTCCGATCTCCGGTGACATAAGAAACAGTTGGTCAG GTTTCTCTCTGTTGCAAGCTCTCTTTGTAAAAGAACACAACGCTGTATGTGAAATGCTCAAAGAACGGTATCCAGAATTTGATGACGAGAAACTTTAC CGGACTGCAAGATTGGTGACAGCAGCGGTTATCGCTAAGGTTCACACGATCGATTGGACAATAGAGCTCTTGAAGACAGACACACTCACTGCTGGG ATGAGGATCAATTGGTATGGTTTTTTAGGGAAGAAAGTGAAGGACACGATTGGGGCAAGATTTGGTCCTATACTTAGCGGATTAGTTGGCCTCAAGA AACCAAAAGATCATGGAGTTCCTTATTCGCTTACGGAAGAGTTCGTTAGTGTCTACAGGATGCATTGTCTTTTACCAGACACACTTATCCTCCGAGAT ATGAAATCTGAGAATGTAGACAAAGCAAACCCTGCAATAGAACGAGAGGTGCCGATGACGGAATTGATCGGGAAAGAGGGAGGCAAAAAGGGTTC GAGAATTGGATTTGAGCAGTTACTGGTTTCAATGGGACACCAATCTTGTGGTGCGTTGACATTGTGGAATTACCCTAATTGGATGAGGAAACTTGTG GCTCAAGATATCGATGGAGAAGATAGGCCTCACCTTATAGATATGGCTGCCTTGGAGATTTATAGAGATCGGGAGAGAGGAGTTCCTCGATATAAC GAATTCAGAAAGAATCTGTTGATGAGTCCGATCAGCAAATGGGAAGATTTGACAGATGATGAAGAAGCAATCGAGGTTTTAAGAGAAGTGTATGGAG ACGATATAGACAAGCTTGATCTAAACGTGGGATTGCACGCAGAGAAGAAGATCAAAGGATTCGCTATTAGCGAAACTGCTTTCTTCATCTTCCTCCT CGTCGCCTCCAGGAGGTTAGAGGCAGATCGGTTTTTCACGACGAATTTCAACGAGAAGACTTATACTAAAGAAGGATTAGAGTGGGTTAATACTACA GAGACTTTAAAGGATGTAATAGACCGACACTTCCCAAACCTAACGAACCAGTGGATGCGATGTACGAGTGCCTTCTCTGTCTGGAGCTCAGACCCTA
GCT-001J24	AT3G02470.3	SAMDC (S-ADENOSYLMETHIONINE DECARBOXYLASE)	GACGAACGCTTCTCATTGCCTCATCATTACCAAATCATCATAATCGTTCTCTCAAATTAGGGTTCTCACTTTCTCTTTTCGAAATTGTTAAGAGTTTTTT CTATTCAAAGTCTAGCGGTTTTCTGAAACATCTGGATCTGGTTTGAGGGTTTCGTTTGATATCTGGAGAAAGGAGTTTCTGGAAATAAGGATTCATAA TTCGTGGTCTAGATCTACATTCATATTTATAAGAGCGTGAATGAGATTATGATGGAGTCGAAAGGTGGTAATAAGAAGTCTAGCAGTAGTAGTTCCTT ATTTTACGAAGCTCCCCTCGGTTACAGCATTGAAGACGTTCGTCCAAACGGTGGAATCAAGAAATTCAAATCTTCTGTCTACTCCAACTGCGCTAAGA GGCCATCCTGAGTTGTAGCGTGCACCGAGTCTCCTAATATAGTTATAGCTTTCTTTAATTTCCAGTTTATAATTTACCTTTTTCAAAGCTCCGTTTCTG CTGGTTCCCAAATCCAATCGTTCTCTCCTCCAACAACAAGGCGAGATGGCCTTATCTGCAATCGGTTTCGAAGGTTACGAGAAGCGGCTCAAAGTAT CTTTCTTTGAGCCAAGCATCTTTCAAGACTCCAAGGGTTTGGGACTCCGTGCTCTGACCAAGTCCCAGCTGGACGAAATTCTCACTCCTGCTGCATG CACGATCGTTTCGTCTCTCTCCAACGACCAATTGGACTCGTACGTCCTCTCTGAGTCCAGCTTCTTTGTCTACCCATACAAAGTCATCATCAAGACTT GTGGTACCACGAAGCTCCTCCTCTCTATCCCGCCGCTCCTTAAGCTGGCCGGTGAGCTCTCTCTGAGTGTCAAGTCTGTCAAGTACACTCGTGGCT CCTTCCTCTGCCCCGGAGGCCAGCCGTTTCCCCACCGGAGCTTCTCTGAAGAAGTCTCTGTTCTTGATGGGCACTTTTCTAAGCTTGGCCTGAACA GCGTAGCCTACTTGATGGGCAATGATGATGAGACTAAGAAATGGCATGTCTATGCTGCCTCTGCCCAGTCCTCGAGCAACTGCAACAACAATGTCTA CACGCTCGAGATGTGCATGACTGGTCTAGACAGAGAGAAGGCCTCTGTCTTCTACAAGAATGAAACTGGCGAGACCGGATCAATGACTGACAACTC TGGAATCAGAAAGATCCTCCCCAAGTCCCAGATCTGCGACTTCGAATTCGAGCCTTGTGGCTACTCTATGAACTCTATTGAAGGAGATGCGATCTCC ACTATCCATGTGACCCCTGAGGATGGGTTCAGCTACGCGAGCTTCGAAGCTGTGGGTTATGACTTCAACACTATAGACCTGAGCCAGCTGGTGACA AGGGTTCTGTCTTGCTTCGAGCCTAAGCAATTCTCTGTAGCTGTGCACTCGAGCATTGGAGTGAAGGCGTACAAGCCGGAGATCAGTGTGGACTTG GAAGATTATGGGTGCAGAGAGAGGACATTTGAGTCACTAGGAGAAGAGAGTGGAACAGTCATGTATCAGACGTTTGAGAAGCTTGGCAAGTACTGT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001K01	AT2G27230.2	transcription factor-related	AGAAGAAGAGAAAAAGAGCAATAAAGCAGCAGCAAAGAAAAAAGAAAGAAATAAGCTTCATTGATTTTGGGTTTCTTCTTTTCACTCATACTTTTCATT TTCTTCTAATTATTGAAGCTGAATCAATGGCTGGAATTACTGGAATCCTAAAGCTTCAAGCTTGGAGTATATTGTGAAGAAGAAGAACGATTTTTCTCG GTTTTTTTTAACCTTTCTGGGTTATTATTTTCTTCTTTCTTTCTTACCGGAAAATGGCATGTCGGAGTATGATCGCTAGTAGCTTAGATCCTGAAAGGA AGCAGAGTGGAGGACTTAGAACAAAACAAGCTGGAAGAGGATCTTGCCGTGGAATTTGAAATTGCAGTGTTGCAAGTGAAGATCTTTCTTTAGTTGA AGCTGAGATAAAGAGAGAAAGAAGCTATGGGTGTTTTGCTAAGAGAAGCGTTGCGGTCTATGTGCGTTAATAATCAATGGTCTTATGCTGTTTTCTG GAAAATCGGTTGCCAAAATTCAAGCTTGTTGATTTGGGAGGAATGCTACAATGAAACTGCATCGACAAGCTCAGTTCCTCGAAGAGGTTCCGGACTC GGCATTGATACACAAGGGAATGAGAAAGTTCAATTGCTTACAAACAGAATGATGTTGAATAATCGAATCATTTTGGTAGGCGAAGGGTTAGTTGGCC GAGCTGCATTTACGGGACATCATCAATGGATTCTAGCGAACAGTTTCAACCGCGATGTTCATCCACCTGAGGTTATAAATGAGATGCTTCTCCAATTC TCTGCTGGCATTCAGACAGTTGCAGTGTTTCCGGTTGTTCCTCATGGTGTTGTTCAACTCGGTTCCTCACTGCCTATTATGGAGAATTTAGGCTTTGT GAATGACGTGAAGGGTCTTATCCTGCAACTGGGATGCGTCCCTGGAGCTCTCTTATCTGAAGATTACAGAACATATGAACCTGCGGCTGATTTTATT GGAGTGCCTGTGTCCCGGATGATACCTACTCAATCACACAAGATTCTCCAATCTTCAGCTTTCGTAGCTGAAACTAGCAAACCACATTTCAACTCCG CTGGACCATCAGATCATCGAAGTGATCAGATGTTTGAAGAAGCATCCTGTAATCTTGTGGATGAACAGGCAAATCTTGGAGACAGACAACAAGGAG GATGGCAAAACACAACGGGCTTTGTAGCAGCACCTTCAAATCCCGATGCGTGGCTGAATCAAAACTTCTCTTGTATGTCTAATGTGGATGCAGTAGA GCAACAAGTCCCATGTGAAGACTCCGGTTCCAAACGCTCCCTTGGAAGCGACGACTTGTTTGATATGTTGGGTTTGGATGATAAGAACAGAAGCTGT GATAATAGCTGGGGCTCTTCACAGATGAGAACAGAAGTGCTCACAAGGGAGTTATCTGACTTTAGGATCATTCAAGAAATGGATTCTGGTTTTGGTG GAACAGATCATCTATTAGATGCTGTGGTCTCAGGTGCTTGCTCCTCCACAAAGCAGATCTCAGATGATACTTCTGAGTCCTGCAAAACCACTATGAC CAAAGTTAGTAACTCTTCTGTTACCACGCCATCTCACAGTAGCCCTCAAGGTAGCCAGTTACATGAGAAGAAACAAGGGACACCGGTCGGGCCATC ACCGGTTTATGGGTCTCAGATCAGTTCTTGGGTTGAACAAGCACACAGCTTGAAGCGTGAGGGCAGTCCAAGAATGATAATTAAGAATGAAACTGCA AAACCGGCTAATAACCGTAAACGGCTTAAACCAGGAGAGAATCCAAGACCAAGGCCTAAAGATCGCCAGATGATCCAAGATCGTGTCAAGGAGTTG CGTGAAATCATACCAAACGGTGCAAAATGTAGCATAGATGCGCTCCTTGAACGTACAATCAAGCACATGCTCTTCTTACAAAACGTCTCTAAGCATTC TGATAAGCTGAAACAAACCGGGGAATCAAAGATAATGAAAGAGGAAGGTGCCTTTGGAGGAGGAGCAACATGGGCTTTCGAAGTCGGGTCAAAGTC TCTGGTTTGTCCAATTGTTGTAGAGGATCTTAACCCGCCTCGCATTTTCCAAGTTGAGATGTTATGCGAACAACGAGGGTTCTTTCTAGAAATCGCTG
GCT-001K02	AT4G21490.1	pyridine nucleotide-disulphide oxidoreductase family protein	GGGGAGATTGAATCGAACAAGCGGAAATGAGACCTTTCAGCGTCTTCGAGAGATTGTCTAGAGCTTTCCATGATTATCCTTCTCTCTCCAGGATTCT CGTCGTCTCCACCATCAGCGGTGGGGGACTTATAGCCTACTCAGAGGCAAATGCATCCTCTAGCAACAATGGTGTTGAAACTGGAACCAGAAAGAA AAAGGTAGTCCTGCTCGGAACTGGCTGGGCTGGAGCTAGTTTCTTGAAGGATTTGAACAATTCCTCATATGAGATTCAGGTTATATCGCCTCGAAAC TACTTTGCTTTCACTCCTCTGCTACCTAGTGTTACTTGTGGAACCGTTGAAGCTCGCAGTGTGGTTGAGCCGATTCGCAACATTGGAAAGAAGAAAA ATGTTGAGATGTCTTTCTTGGAGGCGGAATGTTTCAGAATTGATCCAGGAAGCAAGAAAGTTTACTGTCGATCTAAACAAGGCCTTGATAACGGAAA AAAGGAATTTGATGTTGACTATGACTATCTTGTAATTGCCACTGGAGCTCAGTCTAACACATTTAACATTCCTGGGGTGGAGGAGAACTGTCATTTCC TGAAAGAGGTTGAAGATGCACAGAGAATCCGTAGAACTGTCATTGATTCATTTGAGAAGGCAAGTTTACCAGATCTTAACGAAGAAGAGAGAAAGAG AATCCTACATTTTGTGGTTGTTGGTGGTGGACCAACAGGTGTTGAGTTTGCTGCTGAGCTGCATGATTTTGTTACCGAGGATCTAGTCAAACTCTAC CCTAAGGCCAAGAATTTAGTGCATATCACTCTTCTTGAAGCTGCAGACCACATCTTGACCATGTTTGACAAGAGAATCACAGAGTTTGCAGAAGAAAA GTTTAACAGAGACGGTATTGATGTGAAATTGGGTTCTATGGTGGTCAAAGTGAATGATAAAGAAATTTCTGCTAAAACCAAAGGAGAGCTCTCTTCTA TACCTTATGGAATGATCGTCTGGTCAACTGGTATTGGGACCCGTCCTGTGATAAAAGATTTTATGAAACAAATTGGTCAGGGTAATAGACGTGCTTTA GCAACAGATGAATGGCTTCGTGTTGAAGGATGTGATAATATATATGCACTTGGTGATTGTGCAACAATCAACCAGCGAAAAGTCATGGAAGATATAG CTGATATTTTCAAGAAAGCAGATAAGGACAATTCAGGAACACTGACACTGAAAGAATTTCAAGAAGTCATAGATGACATATGTGTTAGATACCCTCAA GTGGAGCTCTACTTGAAGAGCAAAGGTATGCGTGGCATTGCCGATCTCTTAAAACAAGCCCAAGCTGAGAATGCTTCCAATAAGTCCGTCGAACTCA ATATAGAAGAACTTAAGTCAGCTCTTTCTCAAGTTGACTCGCAAGTGAAGTTTCTCCCAGCTACTGCACAGGTCGCTGCGCAACAAGGGACTTACCT TGCAAAATGCTTTGATCGTATGGAAGAATGCGAGAAAAATCCGGAAGGTCCCATTAGGATTCGAGGAGAAGGTCGTCATCGATTCCGCCCCTTCAG GTATCGACATTTGGGACAATTTGCTCCATTAGGAGGCGAACAAACTGCAGCACAACTTCCAGGAGACTGGGTTTCGATAGGACAAAGCAGTCAATG GTTGTGGTACTCAGTTTACGCGAGTAAGCAAGTGAGCTGGAGAACGAGAGTCCTGGTGGTCTCAGACTGGATGAGGCGATTCATATTCGGGAGGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001K03	AT4G10360.2	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT1G31300.2); similar to unknown protein [Oryza sativa (japonica cultivar-group)] (GB:BAD53332.1); similar to Os05g0485300 [Oryza sativa (japonica cultivar-group)] (GB:NP_001055873.1); similar to Os01g0817100 [Oryza sativa (japonica cultivar-group)] (GB:NP_001044622.1); contains InterPro domain TRAM, LAG1 and CLN8 homology; (InterPro:IPR006634); contains	GACAAAAATTGGGATTTGGGTACGAAGAAAAGCTGTTTCTTTCTCCGATTCCTTGTGACTAAATATAAGTTTTGATTCCTGGGTTTTCTCGATTATCCC CGTTCGAACCATTAATCGCATCAAAGCAGAATCTTTAATGACGACCAGTTTCGCATTTCCTGGTGATGATTCTTCGAAACAACTTGTCTTGCTTGCAT CTATTTGTTCCGGTATTCTCATGTGCAAAATCGTTTATGACTTGACTGGTTTCATAAGCCCTTTGCTCTTCAGTGTTTATGGAAAACTCGACAACAAAG TTAGAATGGAATGGAACAACAGGGGATTCTCAACTTTCCATGCTGTTTTTGTTTCTGTGGCTTCAATCTATCTATTGGTGATATCAGATCAGTTTGATG AGAATGTTCATGGCGATTTAGTCATCAATAGCACAACGAGGTTATCGGAAGCTATAATGGGGATCTCCTTAGGCTATTTTCTAGCAGACTTAGCGAT GATCGTTTGGCAGTTTCCTGCTCTTGGTGGTGTTGAATATGTTTTTCATCACTGTTTATCGATGTTCTCGATCATTCTTTCTGTCACGAGTGGACAAAG TCAGTTCTACATTTTCCTAGTGCTCTTGTCAGAGGCCACAACCCCGTTTGTCAATCTTCGGTGGTACTTGGATACTAGTGGTAAAAAAGGCTCTAAGG CCTACACGCTTAACGGAATTGCACTGTTCTTGGGTTGGCTGGTACTGTTAAATTAGACCAAAACAACTCTCTCTGTTCTAGCATCTGAGAAAAGAAAA TAAACCAAAACAAATATCTCTGCTTCTCTTCCAGGTTGCGAGGATCCTTTTGTTTATCTACTTCTTTGTTCACATGTACCTCCATTTCCATCAGGTGAA GCAAGTGTTTCCACTGGGGTTTTACAGCCTTCTTACGATAGCTCCGGTCCTGTCAATGATGAATCTTCTTTGGTTCTGGAAAATCACCAAAGGGTTGA TCAAAACAATCTCCAAGGCGAGACACCGGGAATGAAGAAAGTTTGATGGTTAGAAAAAACTCTGCTTGACGTGAAAACAAAAAAGATTTCGATTGCA TTCACTTTGATCTGTCCATGAAAAAAAAAGATTGATATCATGTTGTGATTTGTCTTTGAAGCCTTTTTGGGTTTATAAACAAGAATGTGCCAAGCTGTG GCAATTTCTATATTCAAAGCCTTCAGCTCTTTTCTTACGTATTCAATTTGTAAACTTACAAGCAAAAAAAAAAAAA
GCT-001K04	AT4G02600.2	ATMLO1/MLO1 (MILDEW RESISTANCE LOCUS O 1); calmodulin binding	GATGAAACCTCATAGATTTTTACCATTAAAAAATTATGATGCTGACAAATCAAGAAAATATAATTGTCACTCAGACAAATCTTCTCACTCATTTCATCTT CTTCTCTTTCTCGAATTTGTCTTTGCAGTGGTAGAGAGAAGATTCTTCCTTGTCCCGTTTTTGTTCTCAGATCGAACTTCCTTTCTGGAATTTTTTCTCT TTTCTTTCCTTTTCTTATAACTAAAGAGAAATTCCGGGGAAAAAACTGAGAAATGGGTCACGGAGGAGAAGGTGTGTCGCTTGAATTTACTCCGACGT GGGTCGTCGCCGGAGTTTGTACGGTAATCGTCGCGATTTCTCTTGCGGTGGAGCGTTTGCTTCATCATTTCGGTACTGTTCTTAAGAAGAAGAAGCA AAAACCCCTTTACGAAGCCCTTCAAAAGGTTAAAGAAGAGTTGATGTTGTTAGGGTTCATATCGTTGCTACTGACGGTGTTCCAAGGATTCATCTCCA AATTCTGTGTGAATGAGGATGTGCTTATGCATATGCTTCCATGTTCAAAGGATGCTAAACTTGAAGCTGAACATAAAAACGTAACAGCAACAGAACAT TTTCAGACTTTTCTTCCTATTGTTGGAACCACTAGGCGTTTACTGGCTGAACATGCTGCTGCTGCAGCTGGTTACTGTAGCCAAAAGGGTAAAGTAC CACTGCTTTCTCTTGAGGCGTTGCACCATCTACATATCTTCATCTTCGTCCTCGCGATATCCCATGTCACGTTTTGTGCTCTCACCGTTGTGTTTGGA AGCACGAGGATTCACCAATGGAAGAAATGGGAAGATATGATTGCAGACGAGAGTTTTGACCCTGAAGCAGCTCTTAAGAAAAGAAGGGTTACTCAT GTACACAACCATGCTTTTATCAAAGAGCATTTTCTCGGCATTGGTAAAGATTCAGTTATCCTTGGATGGACGCAATCATTTTGCAAGCAATTCTATGG ATCTGTGACGAAATCAGATTACGTGACCTTGCGCCTTGGTTTCATTATGACGCATTGTAAGGCAAACCCCAAGCTTAATTTCCACAAGTACATGATGC GTGCTCTTGAGGATGATTTTAAACAAGTAGTTGGTATTAGTTGGTATCTTTGGATCTTCGTCGTCATCTTCTTGCTGCTAAATATTAATGGATGGCACA CGTATTTCTGGATAGCATTCATTCCCTTCATTCTGCTTATTGCTGTGGGAGCAAAGTTGGAGCATGTGATTTCACAGTTAGCTCACGAAGTTGCAGAG AAACATGTAGCAATTGAAGGAGAGTTAGTGGTGAAACCATCAGATGAGCATTTCTGGTTCAGCAAACCACAAGTTGTTCTCTACTTGATTCATTTTAT CCTCTTCCAAAATGCTTTCGAGATTGCGTTTTTCTTTTGGATTTGGGTTACATATGGCTTTGACTCATGCATTATGGGGCAGGTGAGATACATTGTTC CAAGATTGGTTATCGGGGTCTTCATTCAAGTGCTCTGTAGTTACAGTACACTGCCTCTTTACGCCATTGTCTCACAGATGGGAAGTAACTTCAAGAAA GCTATCTTCGAGAAGAATGTGCAGGTTGGTCTTGTTGGTTGGGCACAGAAAGTGAAGAACAAGAGAGACCTAAAAACTGCAGCTAGTAATGGGAAC GAAGGAAGCTCTCAAGGTGGTTCTGGTTCTGGTGGTATTGGTGCAGGTTTTGCAGGAATCCAGCTCAGCAAATTAACAAAAAACAACGCAGGGGAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001K05	AT2G29650.1	inorganic phosphate transporter, putative	GAGAAGGAGTGGAGAGAAAGAAAAAAAACAAAAATCTATCTCGCCATGAACGCGAGAGCTCTGCTTTGCTCTCCGAATCTCCACTCTCTCTACACTT CAAATCGTCCGCCAGAAACCTCTTCTCGCAACCGCCGGATTCTAAAATCGGATCCGAAGTCGTTACGGGTATGGATCTACCCGCGGAATCGGTCCG CCGTGTTCCGGGTTTTGGTTCGGAGCTCCGACAAAGGAGAGATTGGGAATTCGAATGCGGAGGTATACGTTGATAAAGAGATAGTGACTAGAAACG GCGTAGCTTCCGATTCGCTTAGCTCGCTCCCATGGTGGAAGGAGTTTCCGAAGCGTTGGGTGATAGTGCTTCTCTGTTTCTCAGCTTTTCTTCTCTG CAATATGGACAGAGTGAATATGAGCATAGCAATACTTCCGATGTCGGCTGAGTATGGTTGGAATCCGGCAACAGTTGGTTTGATTCAGTCTTCCTTC TTCTGGGGTTACCTTCTCACTCAGATAGCTGGTGGGATATGGGCAGACACGGTAGGTGGCAAAATGGTTCTTGGCTTTGGCGTAATCTGGTGGTCA ATCGCCACAATTCTTACGCCTATAGCAGCTAAACTTGGTCTCCCGTTCTTGCTCGTTGTTCGTGCTTTCATGGGAGTTGGAGAGGGTGTTGCAATGC CTGCTATGAACAATTTACTGTCCAAGTGGGTGCCAGTGCAAGAAAGAAGCAGGTCTCTCGCGCTTGTTTACAGCGGAATGTACATTGGATCCGTCAT TGGTTTAGCCTTTTCGCCTTTCTTGATTCATCAATTTGGATGGCCTTCTGTGTTTTACTGTTTTGGGTCTCTTGGAACTGTATGGTTGACTCTGTGGCT GACTAAGGCTGAGAGTTCACCGGTTGAAGATCTGACGTTGCTCCCTCAAGAAAGAAAGCTAATTGCAGACAACTGTGCCAGCAAAGAGCCAGTGAA GTCGATCCCGTGGAGGCTGATATTGTCGAAACCGCCGGTTTGGGCTCTCATTTGTTGCCACTTCTGTCACAACTGGGGAACATTCATTCTCTTAACC TGGATGCCAACTTATTACCATCAAGTGCTGAAGTTCAATCTAATGGAATCAGGGCTTCTCTCAGTATTCCCATGGTTGACAATGGCGATATCTGCAAA TGCTGGAGGATGGATCGCTGATACACTCGTCAGCCGAGGTTTCTCTGTAACGAATGTCCGCAAGATAATGCAAACAATTGGGTTTCTTGGACCAGC GTTCTTCCTAACACAGCTGAAACACATAGATTCTCCTACAATGGCCGTTTTGTGCATGGCTTGTAGCCAGGGGCTTGATGCGTTCTCGCAGTCTGGT CTATATTCTAATCATCAAGACATTGCTCCAAGATACTCTGGCGTGTTACTTGGTCTGTCTAACACTGCTGGAGTACTTGCCGGAGTTCTTGGCACAGC CGCGACTGGTCACATCCTACAACACGGTTCATGGGACGACGTTTTCACGATTTCGGTCGGTCTTTACCTAGTCGGGACCGTCGTTTGGAACTTATTT TCAACAGGAGAGAAGATTATTGATTGATCCACACCGAGAATTGATTTCATTTATCAGTCAATAGTTCAGCTCCAAGACATCTCCAGGTGCAAGTGACT
GCT-001K06	AT5G15830.1	bZIP transcription factor family protein	GATTAACTCACCCTCTTTGAGCTCTAAAGAGAGAGAGAGAGCGAGACATAGAGGGAGAGAGAAATTGACCATGCAGCCAATTAATAATAGCTCAAGT CTTAGCAACATGCAGCAACAAGACTACTTCCAGTTAAACCACTACTACAACAACTTAAACCCTACAACCGGTGTCAATCTTATCCATTACCCTCAGAT TCAAGAACTGAATCTACAATCTCCGGCAAGCAACAACTCTACGACTTCTGATGAAGCAACTGAAGAAATCTTCATCATAAACGAGAGAAAGCAAAGA CGTATGGTATCTAACAGAGAGTCAGCAAGAAGGTCAAGAATGAGAAAGCAAAGACACTTAGATGAGCTTCTCTCACAGGTTGCTTGGCTTCGAAGC GAGAACCACCAGCTTTTAGATAAGCTTAACCAAGCCTCGGACAGCAACGATCTCGTTCTTCGAGAGAACTTGATTCTTAAAGAGGAAAACTTGGAGC TTCGTCAAGTTATCACATCTATGAAGAAGCTTAGAGGAGCAGGAGGAGGAAGCACAAACATCCATGGAAGATCTTGTTCTTCTTCCTTGGATCATGA CTTGGATCAAGACTTAATTTCTTCTATTTCAGATGATCCAAGAACTCATCATCCATCATGACTTGTTAATTTGTTCTGATCGAACTCTAAGTTTCGGCC TCTAATCTATCTACTTTCTTTTCTTTTCTTTTTTTTTTTGGTGTCCGCGAAATTCCGCCCCTTATATATGTTTTTGGGGCGGGTACAAAAGCGGATTTTT
GCT-001K07	AT3G43230.1	zinc finger (FYVE type) family protein	GAGATGAAATAAAATATTACCCTCAGAACCGAGACGCCGTGTTCTTTCTGGTTATCTTCCTCAATCCGATCATCGATAGGTCTATTTTTATTCACCAGA ATATCTTCTTCGCGATCAAAGCACAGATTTTCGATTTTAGCGGTTAGGCATGGCTACTCTCAATGGAAAAGCTTCTTCGTATTCTCCCCATCTAAAATC GGAGAAAGAGAAGACCAAATTCAAGTATGATGATGATGATGATGATGGTGATGAATATGGAGATTCACCTAAATGGTCTGTTCAGTCAATCCCCACC AAAAAAGAGCCTGAGTATCCGACTATCGACTCAGGAGATTACGTAGATGATGGATATGATTCAGCTGACGAGCTCTCTACGCCCGTTCGAGGAAAT GGAGCCCCTGAAGTAAACTTGAAAAACGTCTTAACCGGCTTGATCGCCATTGTTACCGGGCGGAACAAGGACCTTAACGTTTCGTTAGATCAGAATA TCCCGTCTTCGAATGTCTCGTTCCTTGGCTCTAGCAAGAACGGAGATACTTACCTTCACTCATCTGTTTACATACCTAGCGCGCCGCCTCTTCTTGAA CCTACCGGGATTAATTACAGTGTCTACAAGGACTTGCTTGAAGCCGAACCACCTCAGTGGCTGCCCGACAGCTCAACTACTACCTGCATGCAGTGT TCATCTCCTTTTACCGCAATCACATGCGGAAGACATCATTGTCGGTTCTGCGGAGGGATATTTTGTAGAAACTGTTCCAAAGGGAGATGCTTGATGC CGAGTAGATTCCGGGAAAGGAACCCTCAGAGAGTTTGCGATTCTTGCTACGAGAGGCTTGATCCTTTGCAAGGTGTCCTCATTAATTCCATTAGTAA TGCCGTGCAAGTAGCAAAGCATGATGTCGTGGATTGGACATGCACACGAGGATGGTTGAACCTCCCTGTTGGTCTTTCCATGGAAGATGAGATATA CAAGGCATCTAATACGTTGAGAGGTTATTGCCAGGTAGCAAGATTAGACCCTGAGAAATCCATACCACATGCAGTTCTTAGCCGAGCTAAAGGTTTG GCAATCTTAACGGTTGCTAAAGCTGGGGCTTTGCTGTCATACAAACTCGGTACTGGTCTAGTAATATCTCGGAGATCAGACGGGTCATGGTCTGCAC CATCTGCGATACTCTCAGTTGGTCTAGGATGGGGTGCTCAGATTGGAGGTGAGTTAATGGACTTCATAATAGTGCTGCATGATTTGAAAGCGGTGAC GACGTTCTGCAGCAGAATGCACTTTTCTCTAGGCGCCGGATGCAGCGCAGCAGCCGGTCCTATAGGGAGAGTGTTGGAGGCTGACCTTCGAGCTG GTGACAGAGGCTCTGGCGTCTGCTATACTTATAGCCGTAGCAAAGGGGCATTTGTGGGAGTGTCTCTAGAAGGAAATGTTGTGGCGACAAGACGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001K08	AT1G55325.1	similar to Rhodopsin-like GPCR superfamily [Medicago truncatula] (GB:ABE89148.1); similar to Os05g0447500 [Oryza sativa (japonica cultivar-group)] (GB:NP_001055694.1); contains InterPro domain TRAP240; (InterPro:IPR009401)	GACCGATCTGATTGTAATAAATTTCACTGCCATTTCAATTTCTTTCGAATCTTTTGTGTGCAACTCTCTTGTTTACTCGGTCTTGTGAATCATATTCACA GTAGAGAGCTTCTTACATTTACTTGTTTCTTGGTTTCACTTTCTGATGAGCTGAATCCTGATACATTTGAAAAAAATTTGTTGTCGTTTCAATTTTTGTT GTGTACTTGATGTGAGCATTTCTTAGCACTTGGGACCAATCCTTTTGTTGCGACCTACAACCCTGGTAAGTTAGCAAAGCTGATGGTGAAACCACCA AGGACGCTGATCAGGAGAGATTGGAGAGAATGTCTCGGGCAGCAGAAATGGCTTGATCTTCAAGCACCACAAAAACTTCTCGTTAGCACCGCTTTC TGTCAAGGACCCTCGTGATATGAGCCTGGAGGAGCAGGTGCATCAAAAGTATGACTTGGTAAAGTTTCAACCGGAAAGTCAGAACAACAGGTCGGG CTCAAGAGCATGATGGTTTCTGGCATCAAACTGTATAATGATGGGCGGACTAATTGGGTGACAATTAACTTGACGTCAGGGATCATTTCTCAGGTTA GCTCTTTGGTTCACTAGGATCATTTCTCAGGTTAGCTCTTTGAAATATCTCATATTAAGTTGTTGCTTGATATGGCGCCAGAGTATTAACTGGACTTTC CTACATGAGTTTTGGAGATGTTTTCTTTTTTTTTTTTTTTCTTTCTCAAAGTGAAGAATATTTGAGGTATCAGAAGCGATACTAACTTCCTTGGAGCATCT GGAAATAAGAGTGATGGGTTTTATGGAAGAAGAAAATACGGTTATATTAGGAGCAGCAGTAGCCGTAATAGCAGCATTACCTCAACAAGTAGTGCGT CTAGCGGGAGTGGTTGGAGAATGACTTCAAGAACTGTAGATTCTCTGACGTGTAGGCAATCTGGCCCAAAAATGGGTTCCAAGCGGCCGTGAGCA GGAAATGAGGGTTTTTTCCTTCGTCTGTCATTACTCTACTGCAATCTGACATCAAAACAGCTCTGAAATCTGCATTTGGTCAGTCCGATGACCCAGTA GCTGTCATAGATTGGTGCAAGGGCCGAAATCAGTCTATGGATGGAGGATCTATTTCTGAGGGATGTAGTGCTGAGTCAGCCCCGAGTGAAGTGTCG AATGCAATAGATGGTGCGGAAGGAGAGAAGACTGCTCAGAGCCAGGACATATACAGTTCAGACCAACACTTTTTTTTGTGTTCTTCTATACTTGTGG GATACCAAGATGACTGGCTTACGATATCAACCAAGTCATTGCCACATTGGGAAAAAGCCACTCTTTAAGCCATATGCTCTGCCGAAAAGTATTAAGTA TACTGTTGTATGCCCGGAGCAGGTGCATTAAAGAGAAATGTCCATGAAGCTTATGGATTGCTAAAAGAATCCATTTTGGAGATTAGAACTAAAGTATT TAGTTATCCGTTGATTAAACCAACAGTTTCCTTGGAGATGATCATGGTCAGGGAGCCTGGTGATCCTGCGCCTAATACAGTTGAATACAGACACGGT
GCT-001K09	AT4G36540.1	BEE2 (BR ENHANCED EXPRESSION 2); DNA binding / transcription factor	GGGCTTTAACCCCCAAAAGAAAAGATAAGAGCTTTAAGTTTTTCTACCTTCTCTCCATGGACTTGTATATACCTGAAAAGCTTAAATGGTTGCAACAG CAACAAATGGTGTCACCTGAATTTCTTCAGATACTTGGCTCAGGTGGGAGAGAAGAGCTTAAAAGGGTTGAGAGTTATTTGGGAAATACCAATGATG AGTTGCAGAGTTTCAGACATTTTCCCGAATTTGGACCGGATTATAATGTTATTGATGGCTGCATTTCAAGAACAAGTAGCTTCCAAATGGAACCAGTA AAGAACGATGAAGTTAACAGAGCCATTTCCTTCCAGAACAAGAGAAAACCAGAGGGTAAGACAGAAAAGAGAGAGAAGAAGAAGATCAAAACAGAG GCTGAAACAGAAACGAGCATGAAAGGAAAATCAAACATGAGCAACACAGAGACATCCTCAGAGATTCAGAAACCAGATTACATCCATGTGAGAGCTA GACGAGGTGAAGCCACCGACAGACATAGCTTAGCAGAAAGGGCAAGGAGAGAAAAGATAAGCAAGAAGATGAAATGTCTTCAAGATATTGTTCCTG GATGCACCAAAGTTACTGGAAAAGCCGGTATGCTTGATGAGATCATCAACTATGTCCAATCTCTGCAACAACAAGTTGAGTTCTTGTCGATGAAACTC TCTGTCTTAAACCCAGAGCTTGAGTTCCATATCAATGAACTATCCACAAAACAGTTTCAGGCTTATTTCGCAGATCTTCCAGAAGCTGTCTCGAAGCA GTCAGTGATGGCGGATTTACAGTCTTTTCCATTACACCAGCAAGGATCTCTAGATTACTCAGTCATAAACTCAAGCCAAACCACATCTCTCGGCATTA AAGATCAGACATCTGCAAGCTGGGAAACTCACTCACAATCTCTTTACAACAGCTTGAGAACTGATTCCGTATCCAATTTCTTCAGCCTGAAGTAAAAT TATTAGGGATAAGGGTCATTGAGTAAACCACAATTTTTTTTTGTCTTATCCTTTTTCTACGTTATCTGAAATTTGAACAAGAAAGACGGAGGAAACTAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001K10	AT1G50600.1	SCL5; transcription factor	GCTGGTGGAAAGTGGGCAGCAAGTGGTAGCAACAAAGCACTTCTCTTTTGATTCTTTTGCCTTTGAAGCTTCAAAAATCGAAATCAAAAACCAATCTT TTGCTCAAACCTCAAGAATCTCTCTATCTTCCTGTCTCTCTCTCTCTCTCTCTGCAAACCAAACCAGATAATTTCAATATGGAGGCTACTCAGAAACAT ATCATTCAAGATGGATCTTCAATGTTTTACCATAAACCATCTTCAGCCCAGCAGATGGACATCTCAGTTCAAACTTTTGATTCTTACTGCACACTTGAA TCCTCTTCAGGCACTAAGTCTCATCCTTGTCTTAACAACAACTCTTCTTCAACCACAAGCTTTTCCTCTAATGGAAGTCCGATTTCGCAATCCAACAAC AACAACAACAACAACTCTTCACGGTTTTCGGAGTTTAATCATTCCCCTGATGACAACAACAACAACTCTCCCTTAAGCGGATCTTCCGCGACAAACAA CAACGAGACAGAGCTTAGTCTCATGCTTAAAGATTTGGAGACTGCAATGATGGAGCCTGATTTAGACAACAGCTTTAACGGTTGTGATCATCAAGCC GGGTTTGGACAACAACACAGGGTTGTTTCTTCAGCAATGTATAGATCTATGGAGATGATCTCGAGGGGAGATTTAAGAGGAATGCTCTACGAATGTG CAAAAGCGGTCGAGAACTACGATGTGGCTATGACTGATTGGTTGATTTCTCAGTTACAGCAAATGGTTTCGGTTTCTGGTGAGCCTGTTCAGCGCTT AGGAGCTTATATGCTTGAAGGGCTAATTGCTCGTTTAGCTTCTTCTGGTAGCTCCATCTACAAAGCATTGAGATGCAAAGACCCAACAGGTCCTGAG CTTCTTACTTATATGCATATCTTATACGAAGCTTGCCCTTACTTCAAGTTCGGTTATGAATCCGCTAATGGAGCTATAGCTGAAGCTGTGAAGAACGA GAGTTTTGTGCACATTATCGATTTTCAAATCTCTCAAGGTGGTCAATGGGTGAGTTTAATCCGTGCTCTTGGTGCTCGTCCTGGTGGACCTCCAAGA GTTAGAATAACAGGGATTGATGATCCTAGATCATCGTTTGCTCGACAAGGAGGGCTTGAACTAGTTGGACAACGACTCGGGAAGCTAGCTGAAATG TGTGGTGTGCCTTTTGAGTTCAACGGAGCTGCTTTGTGTTGCACGGAAGTTGAAATGGAGAAGCTTGGAGTTAGAAATGGAGAAGCTTTAGCGGTTA ACTTCCCGCTCGTTCTTCACCACATGCCTGATGAGAGTGTAACGGTGGAGAATCACAGAGACAGATTGTTGAGATTGGTCAAGCGTTTGTCACCGA GCGTGGTGACTCTAGTTGAGCAAGAAGCGAACACAAACACTGCGCCGTTTCTTCCACGGTTTGTGGAGACAATGAACCATTACTTGGCGGTTTTTGA ATCTATCGATGTGAAACTCGCTAGAGACCACAAAGAAAGGATCAATGTGGAGCAGCATTGTTTGGCTAGGGAAGTTGTGAATCTTATAGCTTGTGAA GGGCTTGAAAGAGAAGAGAGGCACGAGCCGTTAGGGAAATGGAGGTCTAGGTTTCACATGGCGGGTTTTAAACCGTATCCTTTGAGCTCGTATGTG
GCT-001K11	AT3G03190.1	ATGSTF11 (GLUTATHIONE S-TRANSFERASE F11); glutathione transferase	GATACTTTTTGTATTTGTTGAAATCATGTACTAAAGAGTAACAGTTTATGCTGTATCGGTACTAATAGTTCATATCAACCATTACATATTAGCTTATCTG TTTAATCAGAAAATGGTGGTAAAACTATATGGGCAGATAAAAGCAGGTAATCCACAAAGAGTATTGCTCTGTTTTTTGGAAAAGGGCATCGAGTTTGA AGTTATTCATGTCGATCTTGATAAATTTGAGCAGAAAAAACCAGAACATCTTCTTCGTCAGCCGTTTGGTCAAGTTCCAGCTATTGAAGATGGGGATT TGAAGCTTTTTGAATCGCGAGCCATATCGAGGTACTACGCGACAAAGTATGCGGAGCAAGGAACGGACCTACTGGGCAAGACCTTGGAGCAACGA GCCATCGTGGACCAATGGATGGAAGTGGAGGCCAACTATTTCAACGTTGTGGTTCTACCTTTAGTTATAAACATCGTGTTTAAGCCAAAGTTTGTTGA GTGCGACGTCGCTTTGGTCGAAGAGCTAAAGGTCAAGTTCGAGAAGGTCTTGGATGTGTATGAGAACCGGTTAGCTACGAACCGGTACTTGGCTGG GGCTGAATTCACATTGGCTGATTTGACTCATATGCCCGGTATGAGGTATATAATGAATGAAGCTGGTTTGAGCGGCATGATTACGTCTCGGGAGAAT GTTAACCGGTGGTGGGATGAGATTTCGTCCAGACCGGCTTGGAAAAAACTCATGGAAATGGCTGCTTATTAAATTAGTTTAGTATATCGTGCGTTGA
GCT-001K12	AT3G53130.1	LUT1 (LUTEIN DEFICIENT 1); oxygen binding	GAGTGGAGTCTCTCTCATTCACGTACCAGAGAGTCGAAGAAATGGAAGATGAAAGCTCCGAGAGTAGAAACAAAGCTCGCCTTGCCATCATGGAGC TCGCTAACATGATCAGCGTTCCGATGTCACTCAACGCCGCCGTGAGATTAGGCATCGCCGACGCTATCTGGAACTCCGGAGCCAACTCTCCTCTCT CCGCCTCTGAGATCCTCCCTCGCCTCCTTCTCCCATCCCGAGACAGTACCATCGGTGGCGATCCCGAGAATCTCCAGCGTATACTTCGTATGCTCA CAAGCTACGGCGTCTTCTCTGAACACCTCAACGGCGACGCCGGATCCGTGGAGAGGAAATACTCTCTCACGAACGTTGGAAAAACGCTCGTAACC GACTCCGGGGGACTCTCCTACGCCGCTTACGTCCTCCAACACCATCAGGAGTCGTTGATGCGAGCATGGCCACTGGTTCACACGGCGGTGGTGGA ACCGGAGACGGAGCCGTACGTGAAAGCAAACGGGGAGGCGGCGTACGTTCAGTACGGAAAATGTGAAGAGATGAACGGTCTTATGCAGAAGGCA ATGTCCGGAGTATCAGTGCCGTTCATGAAGGCGATATTGGACGGCTACGATGGTTTTAAATCCGTGGAGCATTTAGTTGACGTGGGAGGGAGCGCA GGAGATTGTCTCCGTATGATCCTTAAGCAGTTTCCTAACGTCCGTGAAGGGATTAACTTTGATTTGCCTGAAGTTGTTGCGAAAGCCCCCAAGATTC CTGGAGTGACTCACGTGGGTGGAGATATGTTCCTGTCAGTTCCTAGTGGTGACGCAATCTTCATGAAGTGGGTGTTAACGACATGGACGGATGAAG AATGCAAGCAAATAATGAAAAATTGCTACAATGCTTTACCAGTTGGAGGAAAGCTAATCGCTTGTGAGCCAGTCTTGCCTAAGGAAACCGATGATAG CCACCGAACCCGTGCCTTGCTAGAAGGCAACATCTTTGTCATGACAATCTATAGGACCAAAGGTAAGCATAGGACCGAAGAAGAGTTTAAAGAGCTT GGTCTCTCTGCTGGATTCCCTTCTTTTCGACCTTTCTACATTGATTACTTCTACACCATCTTAGAGTTTCAGAAGTAATGTTAAAGCATTTATCCTCTTA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001K13	AT5G54680.1	ILR3 (IAA-LEUCINE RESISTANT3); DNA binding / transcription factor	GAAAAATTTCCCTCTTCCACAAAAGGATCTCTCTGATCGCCGCCGGGAAAATTCAATTCACCGGGAGTGTTATATACTCGCCGTATTCTTTTTTCCCC TTTTTTTTCACCGGTGGAGTTTCAGGAGATGGTGTCGCCCGAAAACGCTAATTGGATTTGCGACCTGATTGATGCCGACTATGGAAGTTTCACAATC CAAGGTCCAGGTTTCTCTTGGCCCGTGCAGCAACCTATTGGCGTTTCTTCAAACTCCAGCGCGGGAGTTGATGTCTCAGCTGGAAATTCAGAAGCC AGCAAGGAACCTGGCTCCAAAAAGAGGGGTAGATGTGAATCATCCTCTGCCACTGGCTCAAAAGCATGTAGAGAGAAGCTGCGACGTGACAGATTG AATGACAAGTTTACGGAATTGGGTGCAATTTTGGAGCCTGGGAATCCTCCCAAAACAGACAAGGCTGCAATCTTGGTTGATGCTGTCCGCATGGTG GCACAGCTACGGGGCGAAGCCCAGAAGTTGAAGGACTCCAATTCAAGTCTCCAGGACAAAATCAAAGAGTTAAAGACTGAGAAAAACGAGTTGCGA GATGAGAAACAGAGGCTGAAGACAGAGAAAGAGAAGCTGGAGCAACAGCTGAAAACCATGAATGCTCCTCAACCAAGCTTTTTCCCAGCTCCACCT ATGATGCCAACTGCTTTTGCTTCTGCACAAGGCCAAGCTCCCGGAAACAAGATGGTGCCAATCATCAGTTACCCAGGAGTTGCCATGTGGCAGTTC ATGCCTCCTGCTTCAGTCGATACTTCTCAGGATCATGTCCTTCGTCCACCAGTTGCTTAACTGGGAGACAAAGACCTCAGGAAAAAAAATCATCAATT GGTTTGCTTCTCGCTTCCGCTGAAAGAAAAGTCTCCATTTGTTTTGCTCTCCTCTTTCTCGGCTTTCTTAGTCTTATCGTTGCTTTCGTTTTATGGTGT
GCT-001K14	AT5G47070.1	protein kinase, putative	GGTCCCTTTCCCATTTACAAATTTTCTCTGCTTTTCTGGACTAAGAATAGGAGAGAGAGATTATTGTATCTTTCGCTTTTAATTTTGCTGTCTCTCTCCT TAATTTTCCAGGAAAACCTCGTCCTCCTGGTAGTTTAAATAGATCTGTGTTCATACTCATTCTATCACAGAAAGACCCATTATTTTGTCGTCTCTTGTT CAGATTTCATTGTTCATGTAATCTTATCTTCTCAATTTTAGGTTTTCCATTAAACTTGTAGAGGAACCCAAAAAGCCTTTTTTTAGTATAGTTTTTGGGT TTAACTGATCAAAGTAATTATTTTTTGTTTATTTGGCCTTTGAGTTTTCCCATCAAAATTCCACTTGTTTTCCTTACAAAAAAAGGTTCAATCTTTTTGAC ATTTTTTTCTCTCTCTATCTCTGTTAAGACATGAATTGTCTGTTCTTGTTCAAATCAAAGAAAACCAAACCCAGGAATCATCAAAAAGACAGCAACAAC AACAACAAAAAGACCAAAAGAAAAGGAAAGGGATTACAAAACTCAGCTCCACAACTGACGAATCGGAGTGAAACATCGTCGTTTAATATCCAGACGC CTAGATCTTTGCCTTCTCCGAGAAGTATCAGAGATTTGTATACAGAGAGAGAACAGAATCTTAGGGTCTTCACTTACCAAGAACTCAGTGAAGCCACT TATGGGTTTAATAGAAAGCTTAAGATCGGTGAAGGTGGATTCGGTAGTGTTTATAAAGGAAAGATTCCGACCACTGGAGATTCTGATTCTCCACTTGT CGTCGCCATTAAGAAACTCAATCGACAAGGATTACAGGGTCACAAGCAATGGCTAGCAGAGGTTCAGTTTCTAGGAGTAGTGAACCACCAAAACGTT GTGAAGCTCTTAGGCTATTGCTCGGAAGACGGAGAGAATGGGATTGAGAGGCTTTTGGTTTATGAGTACATGTCGAATCGAAGTTTAGAGGACCAT CTTTTCACCCGTGGATCATACACATTACCTTGGAAACAAAGACTCGAGATCATGCTTGGTGCAGCTGAAGGATTGGCTTATTTACATGAAGTTAAGGT GATATACAGAGACTTCAAATCTTCTAATGTGCTCTTGGATGATAAATTTTGTCCGAAATTATCAGACTTTGGGCTTGCCCGAGAAGGACCTCAGGGAG ACAATACTCATGTCACAACCGCAAGAGTTGGAACACATGGCTATGCAGCTCCTGAATACGTGCAAACAGGCCATCTTCGGCTAAAGAGCGATGTGT ATAGCTTCGGTGTTGTGCTCTACGAGGTCATAACCGGCCGCCGAACCATTGAGAGGAACAAGCCAGCCGCTGAACAAAGGCTGTTGGATTGGGTC AAAGAGTATCCTGCTGATAGTCAACGCTTCAGCATGATCGTTGACCCTCGGCTACGCAACAATTATCCAGCTGGTGGAGCTAGGAGTCTGGCTAAA CTGGCTGACATTTGTCTGAAAAAGAACGATAAAGATCGACCCTCGATGGAAATTGTAGTGGAAAGATTGAAAAAGATTATCGAAGAATACGATAATG GAGATACTTCGATGGCTGCGACTAGGGAAAGCAGTCAGGTAAGGAAGAGGCAACTTGGAGAACCTGTGAAGCGAAGTTTGAGAGGAGTTAATGTTA
GCT-001K15	AT3G57800.2	basic helix-loop-helix (bHLH) family protein	GGTCCTACTCCAAATGGCTATGGAGTAAAGCTTTTCTTCTCTCTCACTAGACAGAGAAAGAGAGTCTCTTTCAAACAACAATACCTTCTTCGGGAAGT TCTCTGAGAGAGGGATATCAGACTCTTTGACCGCCATTGATGCACCTTCTTCGCGTTAATTTCTCTACCTGTTTTCGCCGCGATATGCTCGCTTACTG ACAAAAGTCAAATTCTCTTCTACTCAAGTCTCTCTCTCTCTCTCTCTCTATCTATCTATATTTGGAGGTTCGCCTGAGAAATCAGATTCCAAACTCACA AACATTGAATCACACGGCGACGGGATTTTTCTTGAATTTGGTTTCGGATATTGGTTTGAGTTGTAAGAGTTTTCCCGTGAGCTCCGTTTATGGATCTG ACTGGAGGAGTTGGAGCTAGATCCGGCGGCGGTGGGCCGTGCCGGGAAGCAACAGGGCTTGAATCGCTTCATCTCGGCGACGAATTTCGGCAAC TAGTGACGCTTCCTCCTGAGAACGCCGGTGGGTTCACGGCGTTGCTCGAGCTTCCGCCTACCCAAGCCGTGGAGCTTCTTCATTTCACTGATTCAT CGTCTTCTCAGGCGGCCGTCACCGGAATCGGTGTTGATATCGCTCCACCGCTTCACTCTTTCGGGACATTGGCTTTCCCTTCTAACTCGGTTCTCAT GGAGCGAGCAGCTCGTTTTTCGGTGATTGCCACTGAGCAACAAAACGGAAATGTCTCCGGCGAGACTACGACGAGCTCAGTGCCTTCCAATTCCAG CGCAAATCTGGACAGAGTCAAGACTGAGCCTGCTGAGACCGATTCATCTCAGCGGTTGGTTTCTGATCAAGCGGTGGAGAATCAAAGCCCGTGCCC TAGCCAGAACAATCGATCTGGCAAGAGGAAAGAATTCGAGAAGAAGGTTAAAAGCTCGACGAAGAAGAACAAAAGCTCTGAAGAGACCGAGAAGCT ACCTTATGTTCACGTTAGAGCTCGCCGTGGTCAAGCAACCGATAGCCATAGCTTAGCAGAACGAGCAAGAAGGGAGAAGATTAACGCACGAATGAA GCTGCTACAGGAGCTGGTCCCTGGCTGTGATAAGATTCAAGGTACCGCGTTGGTGCTGGATGAAATCATTAACCATGTCCAGTCTTTACAACGTCAA GTGGAGATGCTATCAATGAGACTTGCTGCGGTAAACCCCAGAATCGACTTCAATCTCGACACAATATTGGCTTCAGAAAACGGTTCTTTAATGGATG GGAGCTTCAACGGGACAGCAATGCAGCTTGCTTGGCCTCATCAAGCCATTGAGGCTGAACACTCCTATCATCACCGGCAACTGCAACCACCACCAC CGCAACAATGGCCTTTCGATGGCTTGAACCAGCCGGCTTGGGGAAGAGAAGAGGATCAAGATCATGGCAATGACCACAACAATTTGATGGCGGTTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001K16	AT1G02750.1	similar to drought-responsive family protein [Arabidopsis thaliana] (TAIR:AT4G02200.1); similar to fiber protein Fb2 [Gossypium barbadense] (GB:AAN77145.1); contains InterPro domain Drought induced 19; (InterPro:IPR008598)	GGTCTCTTTTTTTTTCCTTGACATTTTCTCTCTCACGAGGGTCTAAAGCTTATAAGCTGACATGTGCAAGTAAACCACACGACGAGGAGGTCTAGTTA CCTAATTTAAAGGGTCTCAGGTTTTTGCCGATTTGTGGAGATTCAGAATCAGAGATGGAAGACGATATGTGGGCAGTTTCCTCTTCCGGCTCTTCTA GGAGCCATCGATCAGCAACGGCTGCTAAGTATCAGTCTGGTTCTTATCTAGATACGGAAGATTTTGAAGAAGAAGATGATGATATAGCAGTGGATTA CCCATGCCCGTTTTGCTCGGATGATTATGATTTAGTTGAATTGTGTCACCATATCGACGAAGAACATCAACTTGAAGCTAATCATGGGATATGTCCGG TTTGTAGCAAAAGGGTGAAGATGCATATGGTGGATCATATAACCACACACCATAGAGATGTCTTGAAGAGTGAGCAGAAGCAAACATCATACATGGA AGATCCATATTCATCGGATAAGTATCTTCAGTCTCTTCTTGATGAGTTGCCGCCATCTATGAATCACCATCATACCTCTAAAACTGTTGTTTCTGATAA GTTTTTATCGTTCATCAACAATTCTCCATTGCCGAATCAGACCAAACTTGTGCAGCCTGATTCAAGTGTACAAGAACAGACTTTGAATAAGGATTCTTC GACAGAAGAAGACTGGAAATCGTCGGCTCCTTTATCGGATACTGAACAATTGGAGAAGGCAAAGAAGTGTGAGTTTGTACAGGGACTATTGTCATCA GCCATGTTTGATGACGGATGTGACTTCTTCTGAGTAAAAGAAAATAAAGATGTGAAGGCTCTGTAATGGCAGAGGCAATTCACTGGCATTGTTGTAA
GCT-001K17	AT1G18840.2	IQD30; calmodulin binding	GTGTCACTGAAACTAATCACAGAAGAGACTTTGCTCTTTAAGACTGTAGAGAGATTGCAAATGGAAGGCATCTTTAGCTAATCCTGTAATTGAATCAT TCACGATAGTGTGGATTTGAGATCAGATTCATTTACTGGCAAGGTGTTTTGAATTTTGGTTGTGGACATCATGGGAAAGCCTGCAAGGTGGTTAAAG AGTGTATTACTTGGAAAGAAACCTTCTAAATCTAGTGGTTCTAAAGACAAGGAGAGAGTTGTGAATGGAAAAGAGGTAGTGGTTATTTCAAACGTTGA AGAATCCGATGTGGTTTCGGATCTTCCATCTTTTGGAAATGGAACAGTTTATACCAGTGGTATGGTAGAGACGCAGAATATAAAAAATGAAGAGGTG TCAGAGAACGATATACAACTTCCTGAGGTCCAACCAACAAATGCTGCTTCTGTTCCTGATGATTCACTATCCGAATCAGACAAAATTCAGCAAGAGAT CGCAGCAACAACTGTGCAGGCTGCCTTTAGAGGCTACTTGGCTCGGCGTGCTTTCTGGGCATTAAAAGGTATAATAAGGCTACAAGCACTTATCCG TGGTCACATGGTTAGAAGGCAAGCTGTGTCGACTCTGTGCTGTGTTATGGGAATTGTCAGATTGCAAGCACTTGCTCGAGGAAGAGAGATCAGACA TTCTGATATTGGAGTTGAAGTTCGTAGGCAATGCCAGTTAAATCATGAGCATTTGGAGAATAAACTCCCTGATGACTCCGTTGTTGACACACATACGT ACCTGGGAATCAAGAAGCTAACTGCCAATGCTTTTGCTCAGAAGCTTCTAGCTTCATCGCCAAACGTGATGCCTGTGCACCTCGCCGATGATTCTTC CAATTTAATCTGGTTGGAGAACTGGTCAGCGTCTTGCTTCTGGAAACCAGTTCCTCAACCGAAGAAAGCATCAGTCAGGAAAACTCAGAAGAAGTTT GCCAGCAATTCTCAGATAGTCGAGGGCGAGTTTGCTAGACAGAAGAAGAGTGTCCGCAAAGTCCCTGCTTCAAATCTTGACAATCCCTCGGCTGCA CAGGCATCATTTGAGCTTGAGAAACCCAAACGCAGCTTCCGCAAAATCTCAACGAGCCAATCTGTAGAACTACCACCAGCAGCAGAAAATCTTCAAG TTGATCTAGAAAAAGTGAAACGTGGCTTGAGGAAAGTACATAATCCTGTAGTTGAGAACTCTATCCAACCTCAACCGGTTCCACGGAAGGACATTGA GAAGCCAACTCATGCTTTAGAAGAACCTGTGAATGACTTTGATGAAGAGAAAAAGGATGAAAAGGCTAAGACTGTGGTGGAACAGCCTGATGAGTC AATACACACACATGAACCATTGGAAACTAATGAAGTTCTTGATTCCACATTGGTCAACCAAATCGAAGAGAGCAAAGAAAATGTAATGGCTGAGGAC AGGGAGGATGCGAAAGAAGAGAGAACTCCCAAACAAAACAACAAGGAGAATTCAGCTGGAAAGGAGAATCAGAAATCGGGGAAAAAGGGTTCTTCA GTTACTGCTACTCAAACCGCCGAGTGTCAAGAGAGTAATAATGGGAATCAGACTAGTAGCCCGGGAATACCGAGCTATATGCAAGCGACTAAATCT GCCAAAGCAAAGCTGAGGTTACAATCCTCTTCTTCCCCTAGGCAACAAGGGGCTGAGAAAGCCACTAGACGTTACTCGCTACCATCTTCAGGTAATA ATGCAAGAGTCACTTCTGATTCTCCTAAACCAACAAGAGTCTCAAACTCGGGTGGCAAAACCGGAAAGAAGACGGAGAAACCTCTTCTTTCATCCCG AGAAGGCAATGGGAAGACAACTCCAGTAGAGTGGAAGAGATGATTGATCATCTGGTTAAAAAAAAAAAAAGAGTTGAGGCCTTTGTTGTCTCTCGCT
GCT-001K18	AT5G20270.1	HHP1 (HEPTAHELICAL TRANSMEMBRANE PROTEIN1)	GGGAAACACGACACCAACTTCTACCTGCATACTAATGTTTCTTCTTTAAATGTTGCAGCTGTCTCCCTTGCCTTTCCCATCTTCCTTCTTTCTCTCTCT CACCCCTCAAATTCAATTCACATTTTTAATACTATTAACTTCAATAATAATAATAATAATAAATCTTTTTCATTATATAGTTTCTTCTCATCTCAGATCTTC TACTATCTTCCTTTCCATTGATCTTCAGATCAAACATCAAGTATTTCTTGTCTCAAATAATCGACACTAGAGCTCATATGGACCAAGATGGTCAAAAAG ACGAACCAGAAACGGTGTCGTGTGGCAACAGCAAGTGCAGGAGCAAGATAGTCCCTGGAGATGATCACGATGGAGACGAAAACAGCGGTACGAAG AAAAGAAAGAAGAAGAAATCGCAGAAGACAACAAAACGACGTGAACTAATGTCGTTTAGTGAGCTTCCAGAATACATGAGGGATAACGAATTTATATT GAATTATTACAGAGCTGATTGGTCCATTAGAGATGCTTTCTTCAGCGTCTTCAGTTTCCACAATGAGTCCCTCAACGTTTGGACGCATTTACTTGGTT TCATCTTATTTGTGGGACTAACCGTCGCCAACATTATGCATCACGATAAATTCTTCCCCGTGGATGCAAAGAGTCCAGGGAATGTAACAAGATGGCC ATTCTTCGTCTTCTTAGGAGGCTCAATGTTCTGCCTACTCGCAAGCAGCATTTGCCACCTCTTCTGTTGCCACTCCAAAGACCTTAACGTCTTCCTCC TCCGCATAGACTATGCCGGTATCACCGCCATGATCATCACTTCCTTCTTCCCACCAATCTACTACATCTTCCAGTGCACTCCTCGTTGGTACTTCATC TACCTCGCAGGCATCACCTCTATGGGAATCTTCACGATCATCACCCTCTTCACTCCATCACTTTCCTCTCCCAAGTACCGCGGTTTTCGAGCTTTGCT TTTCGCCTCAATGGGGCTGTTCGGGATCGTACCAGCAGTCCATGCGCTAGTGGTCAACTGGGGAAACCCGCAAAGGAACGTGACGCTAGTGTACG AGCTGGCTATGGCAGTATTCTATCTTGTTGGGACAGGGTTTTATGTAGGGAGAGTGCCTGAGAGGCTTAAACCGGGATGGTTTGATCGTGTGGGAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001K19	AT4G40060.1	ATHB16 (ARABIDOPSIS THALIANA HOMEOBOX PROTEIN 13); transcription factor	GATACTGAAAACGAAGAGCTCTTGTTCTCTCTCTCCTCATCTTTTGCTTCCTCTGTAAATAGATTGCCATTTCTTCTAAATAGCACCCAAAAAAAAAAG CTTCTCTCTTTCGCAATCCAGTTCCACTTTGTTCCTCTAAAGCCTTCTCTTTTGAAGTGAAGAAGCTAGAACATTGTTGCAACGAAAATTTAGAAAGCA TAAAATTAAAACTCCATAAGAATTTAAATCTTTTTTTGGTGTCATGAAGAGACTTAGCAGTTCAGACTCAATGTGTGGTCTACTCTCCAATTCTACAGA TGATCAGAGTCCACGAGGGTACGGAAGTAATTTTCAATCTATGCTTGATGGTTACGAAGAAGAAGGTACAATAGTCGAGGAATATTCCGGCAACCAC CACATGGGTATATCGGAGAAGAAGAGACGGTTACGCGTTGACCAAGTCAAAGCTCTTGAGAAGAATTTCGAGCTAGAGAACAAACTCGAGCCCGAG AGGAAAACGAAACTAGCACAAGAGCTTGGCCTTCAACCTCGTCAAGTAGCGGTTTGGTTTCAGAACCGCCGTGCACGGTGGAAGACAAAACAGCTC GAAAAAGATTACGGCGTTCTCAAGAACCAATACGACTCTCTCCGCCACAATTTCGATTCCCTCCGCCGCGACAACGATTCCCTTCTCCAAGAGATTA GCAAAATCAAAGCTAAGATAAACGGAGAAGAAGTTAACAGAGCTACGATTGAGAGTGATATCTCCGCCGTGAAAGAAGAGAAAGTTTCGTTGCCGG AGAAATTATTTCACAAAACGGATCCGACTCCTTCCTCTCCTCCTCAGTTTCTAGAACATTCCACCGGTTTTAACTACCGGCGAAGCTTCACCGATCTC CGTGACCTTCTACCGAATTCCACCGCCGCCGTCGACGCTGGATCTTCCGACAGCTGCGATTCTAGCGCCGTTCTGAACGAAGAAACCAGCTCCGAT AACGGACGATTGACGCCGCCGACTACGGTTACCGGCGGGGATTTCTTACAGTTCGTGAAGACAGAGCAGAGGGAGGATCATGACGATTTTCTGGG CGGTGAAGAAGCTTGTGGTTTCTTCTCCGACGAACAACCACCGTCTCTTCACTGGTACTCCGCCTCCGATCACTGGACATGAGAATCGTTCATCGG AGGCGATTGAGTGATCGGTTTAATTGTGCTCTGTTATTACTCTCTGTGGAGTCCAAAACTGGAATAATCCAAAATAAGGAAATTAAGGAAGGATTAAG
GCT-001K20	AT4G15480.1	UGT84A1; UDP-glycosyltransferase/ sinapate 1-glucosyltransferase/ transferase, transferring glycosyl groups	GCCAAAAACAAGAAAGCAAAAGACTGTTCTTGTCACATATTTATTACCATTGTTGAGAAGATGGAGATGGATTCTTCTTCACCTCGAAAACCAATTCAT GTAATGCTCGTGTCATTTCAAGGACAAGGCAGCGTCAGTCCTCTTCTTCGTCTCGGCAAGCTAATTGCATCGAAAGGAACAGTCGTCACCTTCGTCA CTACAGAGTTTTGGGGCAAGAAAATGAGAAAAGCCAACAAGATCGTCGACGGCGAGCTTAAACCGGTTGGTTCCGGTTCAATCCGGTTTGAGTTTTT CGACGACGGATGGGAAGAAGACGACGTAAGGAGAGGTGACTTCGATCTCTACCTCGCACAGCTCGAAAAAGCCGGGAAACAAGAACTGCCCAAAC TCGTGAGGAGATACAATGAAAACAACGACCCTGTCTCTGCTCTGATCTATAACCCGTTTGTCCCATGGGTCGGACACGTGGCGGAAGAGTTCAACA TTCTCTACGCAGTTCTCTGGATCCAGTCTTGTGCCGTTTTCTCTGCTTATTACCATTACCTAAACGGCTCTGTTTCTTTCCCGACCAAAACAGAGCCT AAGCTCGACGTGAAGCTCCCTTGCGCTCCTGTCTTGAAATACGACGAGATCCCAACTTTTCTCCATCCTTCTTCTTCTCACTTCACAGCACTGCGAG AAGCTGCTCTAGCAATATTCAAAAATCTTGATAAGCCCTTCTGTTTTCTCATCAGTTCTTTCGACGCATTGGAGAAAGACGTGATCGATTACATGTCG AAGCTCTGTCCGATCAAAACTGTTGGGCCGCTTTTCAAAGTCGCTAAGACGGTGGTCACTGATGTGACCGGCGATTTCTGCAAACCGTCGGATCAG TGTCTCGAGTGGCTAGACTCGAGGCCGAGATCTTCCGTTGTCTACATTTCTTTCGGGACGGTCGCGTATTTGAAGCAAGAACAGATGGAGGAGATC TCTAAAGGGGTTTTGAAGTCTGGTTTATCGTTCTTGTGGGTGATTAGACCTCCATTGGAGGATCTACACCTCGAGGCACACGTGGTGCCTAAAGAAC TCAAAGAAGCGTGTGATCAAGGGAAAGGAAAGATCGTGGAATGGTGTCCGCAAGATCAAGTCTTGGCTCATCCTTCGTTGGCGTGTTTCGTTACTC ATTGTGGATGGAACTCGACGACGGAGGCTTTGACTTCGGGAGTTCCGGTGGTTTGTTTTCCTCAATGGGGAGATCAAGTGACCAACGCGGCTTATA TGGTTGATGTTTTCAAGACGGCGGTGAGGCTTGGCCGTGGAGCTGCGGAGGGGAGAGTTGTGCCGGGGGATGAAGTGGCGGAGAGGCTTTTGGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001K21	AT3G03640.1	GLUC (Beta-glucosidase homolog); hydrolase, hydrolyzing O-glycosyl compounds	GGGTGTCGAAGTATTGGATCGATATGAATTTATTCTGTTCTCGATCCTTATAAATAATCGAACATGATTATCTCGTAAAGCATTAAAAAAACTTGTCTG GAAAATGGCATTCAAAGCGATTCTCTTTCTGGGTTTACTTCTGGCCGTGATAGCTTCTCCGACCACCGCCGATGGTGGACCAGTGTGTCCGGAGAG TTCCACGTTTGGTCGGGGAAGCTTTCCCGATGGTTTCTTGTTCGGTGCTACCACTTCTGCTTTCCAGCATGAAGGTGCACCAGAAGAAGGAGGCCG AGGTGTGAGCATTTGGGACTCATTCACCCATAAACATTCAGAAAAAAACAATAACCTGGATGGCAGGCTTGGAGTTGATTTCTATCATCATTACAAGG AGGATGTCCAACTATTGAAAAAGCTGAACATGGATGCCTTTAGGTTCTCTATTTCTTGGTCAAGAATATTTCCCCATGGGAAAAAGGACAAGGGAGT GAGTGAAACTGGAGTTAAATTCTACAATGATCTTATCAACGAGCTCATTGCAAACGGTGTAACGCCTTTGGTTACCTTGTTTCAATGGGATGTACCTC AGGCCCTTGAAGATGAATATGGCGGGTTCTTAAGTGACCGTATTTTGGATGATTTCCGGAAATTTGCAAAGTTTGCCTTGAATGAATATGGTGATAGA GTGAAGCATTGGGTTACTATAAACGAGCCTTATGAATTTAGTATCGGTGGATATGACACGGGAGAGAAAGCACCAGGAAGATGTTCTAAATATGTCA ATGAGAAATGCGTTGCGGGAAATTCTGGACATGAAGTCTACACTGTTAGTCACAATTTGTTGTTGGCTCATGCCGAAGCTGTGGAAGAATTCAGGAA ATGTGTAAAGTGCAAAGATGGAAAGATTGGAATCGTTCAGAGTCCAATGTGGTTTGAGCCTTACGATAAGAAGTCCAGCTCAGATCCTTCAGAGGAG ATAGTGAAGAGAGCTATGGATTTCACTTTAGGCTGGCATATGGAACCAATAACACATGGAGATTACCCTCAGACCATGAAAGATAGCGTTGGTGCTC GGTTACCATCGTTTACGCCCGAACAGAAGGAGAAACTTAAGGGTTCTTATGATTTTGTTGGTATCAATTACTTTACTTCTTCGTTTGTTGCTCATGTGG ACAATGTTGAGTCAGAGAAACCGAGTTGGGAAGCTGATTCTCACTTGCAGTTACATTCACAAAATCCAGATGGGTTCAAGATTGGTTCTCAGCCACC TGCTGCGAAATACCCAGTTTGCGCAGACGGTTTAAGAAAAGTTTTGAAATACATCAAAGAGAACTATGATGATCCAGAAATCCTTGTCACTGGAAAC GGGTACAAGGAGACACTCGGAGAGAAAGATGTACTTCCCGATGCACTCAGCGATAATAACAGGAAGTATTATCATATGAGACATCTCATGGCATTAC ACGGAGCAGTCTGCGAGGACAAGGTTAATGTTAAAGGGTACTTTGTGATGTCGCTAATGGATGGACTTGAGTGGGAAGATGAGTACAAGACGAGGT CAGGACTGTACTATGTAGACTATGCACACAATTTGGGAAGGCACGAGAAACAATCTGCCAAGTGGCTCTCCAAGCTCCTTGAGAAAGTCTCGATTCA
GCT-001K22	AT5G61270.1	basic helix-loop-helix (bHLH) family protein	GGCTGCATGAGTTGTCGCTGTAATTGTGAAGAGTTTGAAAACAGAGGAGAAAGAAGATTACAACATTTTCAAGCACGAAGAAAGATAGAAGAGAGAA GAGAAAAAGGGAAAAAAGAAAGAAAGAAAAAGCTTAATTGTCAGTTTATTCTCTGCAAACGTGCGGCCTAAGTAACAACACATGTCGAATTACGGAG TGAAAGAGCTCACATGGGAAAATGGGCAATTAACGGTCCATGGTCTAGGCGAAGAAGTCGAACCAACCACCTCGGCTAACCCTATCTGGACCCAAA ATCCCAATGGGTGTGAGACTTTGGAGTCTGTGGTCCACCAGGCGGCTATGCAGCCAAGCAAGCTGCAGCTGCAGAGCCAGAATGGTCCAGGCCAT AATTCTAAGAGCAAGGACGGATCTTGCTCAAGAAAACGCGGTTATCCCCAAGATATGGACTGTTGGTTCGCTGTTCAAGAGGAGAGCCATAAAGTTG GTCACAGCGTGACTGCAAGTGCAAGTGGTACCAATATGTCTTGGGCGTCTTTTGAATCTGGTCGTAGCTTGAAGACGGCTAGAACCGGAGACAGAG ACTATTTACTCTCTGGATCGGAGACTCAAGATACTGAAGGAGATGAACAAGAGACGAGAGGGGAAGCTGGAAGATCTAATGGAAGACGGGGACGA GCAGCAGCGATTCACAACGAGTCTGAAAGGAGACGGCGTGATAGGATAAACCAGAGGATGAGAACACTTCAGAAGCTTCTTCCTACTGCAAGTAAG GCGGATAAAGTCTCGATCTTGGACGATGTCATCGAACACTTGAAACAGCTACAAGCACAAGTTCAGTTTATGAGCTTAAGAGCCAACTTGCCACAAC AGATGATGATGCAGCAACTACCTCCACCACAATCAGTTCTCAGCATCCAACACCAACAACAACAGCAGCAGCAGCAGCAACAACAACAGCAACAGC AGTTTCAGATGTCGTTACTTGCAACAATGGCGCGAATGGGAATGGGAGGCGGTGGCAATGCTTATGGAGGTCTAGTACCTCCTCCTCCTCCACCAC CATTGATGGTGCCTCCTATGGCAAACAGAGACTGCACCAGTGGTTCTTCACCCGCTTTAACTGATCCGTACAGTCTTTATCTAGCACAGACAATGAA CATCGACGTTTAGAAGAAAATGCGTCGACGCATCTACACAACAACTCTCATCACACTACAAAGCTAAATGCGCGCATCGCGTCAACTTCTTCGAAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001K23	AT3G49530.1	ANAC062 (Arabidopsis NAC domain containing protein 62); transcription factor	GGTCTCTATAATAACTCTTTAGTAAAAAAAAAAATCAAAGGTTCACATCCATCTTCTTCTTCACTTTACCAAATCGTATCCGATTTTTAGGGTTTTTCAG CATCTGAGAATTTTTATTGTTATCTTGTTGATACCTTCGAATCCTATCTCTATTATATTAAAAAAATTCTAGGCTTTTCTTGATTCGTATCTGGGAATCTT AGATATTGGGTTATTCATCTTCCGATTCGTCAAAAAAGTCGCATCTATGAATCCGAATATTGAAGTATTATCGCTGGATTCACTACCAGTTGGATTAAG ATTCCGTCCAACGGACCAGGAGCTTGTCCGTTTCTATCTCCGGAGGAAAATCAACGGCCACGATAACGACGTCAAAGCCATCCGAGAGATCGATAT CTGCAAATGGGAACCTTGGGATTTACCTGATTTCTCTGTGATCAAAACAAAAGACTCAGAGTGGCTCTTCTTCTGTCCATTGGACCGGAAGTACCCA AACGGAAGCAGACAGAACCGGGCAACAATCGCAGGCTACTGGAAGGCGACAGGGAAAGACAGAAAGATAAGATCGGACAAGGACAACATCATCGGG AGTGAAGAGAACTCTGGTTTTCCACTCTGGTCGAGCTCCCAAGGGGACACGAACCAATTGGATCATCCACGAGTATCGAGCCACAGAGAAGGACCT GAGTGGCACCAATCCAGGCCAGAGTCCATTTGTCATATGCAAATTGTTCAAGAAACAAGACCTGAGTTTAGCTGAGGAAGATTCCAAGTTGGATGAA GCTGAACCTGCAGTTTCGTCTCCAGCTGTTGCAGCATCTTCCCCGGATGATACTAAGTCTGAAGTATCTATGGTCGCTAAAACAGAAGACGTGAAGC GTTGTGACATTGCAGAATCTTCTCTTGTAATCTCCGGCGATCCTCATAGTGGTGCTTGCGATGAGGCTACAACCGCCGAGCTTGGACATCTCGATTG GCTGTCTTTTCCGGAGCTGGAGTCTGTGAATTACAAGCTGTTCTCTCCATTACACTCTCAAGTCCAGTCCGAGCTCGGATCCTCTTTCATTGCAATTC AGCCTGGCTCGAGTGACTTTTCAGGGAACCACAACAACAACAGCTTCCAAATTCAGACTCAGTACGGTACAAATGAAGTAGATACATATATATCCGA CTTTCTCGATTCGATTCTTGATCTCCCAGACGAAGTTCCAGAGAAGCAAAAGTTTGTTTTGCAGTCAGGGCCAGATCAGATTGCGCCAGCGTATCAA CAGCGTCCTGCAGGTGACATGAGCAATGATGTTTCAAGAACAGGTATCACGTTAAAGACTCGGCGGGAACAACAATCCTCAGGTTGTACCACTGAC TATATCATGCATGGAAATGCCTCAAGAAGGCTGCGTCTGCAAAGTAAACTTAACGATGTTAACTCGAAGGATACAGAGCTTCAAATAATCAAGAGAG AGGTTGAGGATACGGTCGGGGAAACCATGAAGAAGGGAAAGCCAATGAGATCAAAGAACAGAACCGGATTCTTGTTTAAAAAGATGGTGTCCGTGA AATGCTCATACGGAGGACTTCTTAGGGCGGCCATAGTTGCGGTCCTGTTCTTGATGTCTGTCTGCAGTCTAACTTCAGACTTCCGAGCTTCCGTGAT
GCT-001K24	AT4G24380.1	hydrolase, acting on ester bonds	GAAAGAAGGAAATAAGCGATACACAGAGCTTATAAAGAGGGCAACGCAAGAGGGAGAAGCCAATCAAAAACAATCAAACTGTGAAAAAAGAAAATG GGAAGCGAAGGATCGATTGTGAGGAAACCAAGGTTTCTGTGTCTCCATGGTTTCCGTACGAGCGGAGAGATTATGAAGATACAGCTTCACAAATGG CCTAAATCTGTCATTGACCGTCTCGATCTCGTTTTTCTCGACGCACCTTTTCCTTGTCAGGGCAAATCCGATGTCGAAGGGATCTTTGATCCTCCTTA TTACGAGTGGTTCCAGTTTAACAAGGAATTCACCGAGTATACGAATTTCGAGAATTGTTTGGAGTACCTAGAGGATCGTATGGTCAAGCTTGGCCCA TTTGATGGTCTCATTGGGTTTTCCCAGGGGGCAATATTGTCAGGGGGTTTACCAGGACTGCAAGCTAAGGGAATTGCACTTCAGAAAGTACCAAAGA TCAAGTTTCTGATAATAATTGGAGGGGCTAAGTTCAAATCCACAAAGATAGCAGAGAATGCGTATTCGTCGTCTGTGGACACTCTCTCCCTCCACTTT TTAGGAGAGACAGATTTCTTGAAACCTTACGGAATCGAGCTGATAGATTCGTTCAAGAATCCGGTGGTTGTCAATCATCCCAAAGGCCATACGGTCC CAAGGCTTGATGAGAAAAGCTTGGAGAAAGTTACTGCATTCATCGAGACCATAGAGCAGCATCTGGTGATGGAGGAAGACAAGAATGGTGAAGATA ACAATTGTAAGCCAAAATAGAACAGCATTCAATGTAATGTTATGACAGAATAATTCTTTAGAAAATAATCGTGAAATGGCTGTAAATAAATCTGGTAAT
GCT-001L01	AT3G60630.1	scarecrow transcription factor family protein	GAGCTATTGAATATGGAGACTCTGTTGAATCCAACCTGTTGGCCTCTCTCTCTACTCCGATCATCGGATAAAGAAGCAATCGCTGTGAATCTTCCAAT TAGCTCCGTCGTCTCCGGTTACCTTCCGTTGATCCTTCGTTTCCTGAAACAAATCTCTCCAAACGTCGTCGTTTGCTCGGACAGAAGCTGCGACCGC AACAACGACGCGCCGTTTCCTAACGGTGTGATCCACGCGCTGCAGTACTACACATCTCTGCTCGAGTCTCTCGACGCTTCCGGGAATCAGAATGAT GAGGAAGCTGCCACGAGTATCGAGAGGTTTTGTGTGCAACCGTCGATAAAGAGATTGCTGGAAAATCGTTACCGTTGGATGGAGAGATCGCCGCC GTGGAGAGGCTTGTTTGGGCAATGTGGGTTTTCTCCGGTGACGCTGAGTCAGTCGGCGGAGACACAGGCGGAGTATTTGCTGCAGAGGAATCCGT TGAGAGGATTTCATTTGGAGAAGAGACACTCGTCTTCTTCACTTGTCTTGTGTTGGCAGAGGAAAGAACTTGTTGCTGTCTCAGCATGGAAATGTTG AGGAGTAAAATTGAAGAAAATATGTCAGCTCCTCCACTTTATTTTGTCTTTTTTTTAGTACCTTTTAAATTTGGATTATATGATGTTTTAACTTGTTCTTA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001L02	AT1G24625.1	ZFP7 (ZINC FINGER PROTEIN 7); nucleic acid binding / transcription factor/ zinc ion binding	GACTTGCGATTTCCATATTTGTTTAAACATAACTCTCTTTCTCTCTCTCTCCTTCACTACCTCTTATTCTTCTGCTTTTCTTCACCAATCCTATCTTTTCT TTCTGGCTTTTATTTTCCTTACATCTGGATTGACCCATTTTTGGTAAAACACAAAGAGTACCCCTTTTTCTTAGATTCTTCTTCCTCCTCTTATCAGCTT CCAAGTCAACCTACTTCAGCTTCTGTCGGCTGTCTCTCCCCAGATCTCAACAAAATATCTTCGTTTAAGACCTAAACAAAGTTCGATTAAATGACGGA ATCTGATGATGCCTCGCGAGAATCACCAGCCAGAGTAGTAGAAACCTCTTCAAATCAAGATCTGTCCAAACCAGAATCGACCACTCCTGTCTCGCTC GATCTCAAGCTCAACGATAGTTTCAACGATGACACAAAGGGAACCAAGTGTGAATCCAGCCCGAGAGTCTTCTCCTGCAACTACTGTAGACGCAAGT TCTATAGCTCTCAAGCCCTTGGAGGTCACCAGAACGCTCACAAGCGAGAAAGAACAATGGCTAAACGAGCAATGCACATGGGAAGAATGTTTGGCC ACCATCATAGGCCTTACACATACTCATCCTCTTCCCTTGGGATGCAGGCTCACTCAGGTGTACTTCACCACAGCTTATCCCAGCCTCAGCCTCCTCT TGCAAGGTTTCATCACCAAGGGTATTTTGGTAATACCGTTCCGTTGTTCTTTGACTATGACGATGGTAGTGACTTCTTCTGGCCTGGGAGCTTCCGT CAGGTCGTTGAGGAAGCTGAAGCTCCTGTGGTGGTGGCTGTTACAGAGTCAGGTCTTGATCTGAACTCTGCTGCAGCTAATGGAAGTGTAGTAGAT AATAACAATAGCTCAAAGCCTGATCTTACCTTGAGACTCTAAGGAATGGGATTTGGAACAATGTTCAACAAAAAGAAGGAATCCGATGGCTCTTCTTC CTCGCTTCCGGGCGGCGGCGGCGGCACGGTGCCTCGAATCGGAGCAGATTCGCCGTTCCTGCAAAAGGCACGCTCGGGGAAAACCGAGATCCGA GAGCTTGAGGCGGTTTTCAAAAAGTTCGACGTGAACGGAGACGGTAAGATCTCGTCCAAGGAGCTCGGAGCGATAATGGCGAATCTAGGTCACGA GGTTCCGGAGGAGGAATTGCAGAAAGCGATAACGGAGATCGATCGGAAAGGAGACGGTTACATAAACTTCGAGGAGTTCGTGGAGCTGAACACGA AAGGGATGGATCAGAACGATGTGCTGGAGAATCTCAAGGACGCGTTTTCGGTGTACGATATCGACGGGAACGGATCGATTTCGGCGGAGGAGCTG CACGAGGTTTTGAGGAGTCTCGGCGACGATTGCTCGATAGCGGAATGTAGGAAGATGATCGGCGGCGTGGATAAGGATGGAGATGGGACGATCGA TTTCGAAGAGTTTAAGGTTATGATGACGATGGGATCTAGGCGTGATAACGTCATGGGAGGTCAGAGGTAGAGTTTCACGGCCAACACGCCCGACTG
GCT-001L03	AT4G11260.1	SGT1B (enhanced downy mildew 1b); binding	GAACTCGAAGGCAAGGCTCAAAAAACAAAAAATCCAGGATCGGTCTCTTTCTCTATAATCCGTCTTCTTCCTCCCTTCGTATACTCAAATCCGGAAAA GAATCCATTCAATGGCGAAGGAATTGGCGGAGAAAGCTAAAGAGGCTTTCTTAGATGACGACTTCGATGTCGCTGTTGACTTATACTCGAAAGCCAT TGACTTAGATCCCAATTGCGCCGCCTTCTTCGCCGATCGTGCTCAGGCCAACATCAAAATCGATAACTTCACTGACGCTGTTGCAGATGCGAACAAA GCCATCGACTTGGAACCTACGTTGGCAAAAGCGTACCTCAGAAAGGGCACTGCTTGTATGAAGCTAGAAGAATACAGTACTGCCAAAGCAGCCCTA GAAAAGGGCGCATCCGTTGCACCAAATGAATCGAAATTTAAGAAGATGATCGATGAATGCAATCTTCGCATTGCAGAAGAAGAGAAAGATTTGGCTC CATCGATGCCAACAACTTTGCCTTCAAGCTCTACAACACCACTAGCAACGGCAGCTGATGTTCCTCCTGTTCCAGTTCCTGCTGCACCTGCCAAACC GATGTTTAGACACGAGTTCTACCAGAAGCCAGAAGAAGTTGTAGTGACAATTTTCGCTAAAGGAATACCAAAGGAAAACGTAACTATCGACTTTGGT GACCAGATTCTGAGTGTTGTGATTGATGTTGCTGGAGAGGAAGCTTATCATTTTCAGCCAAGATTGTTTGGGAAGATAATACCAGAGAAGTGCAGAT TTGAAGTATTGGCAACCAAAGTTGAGATCCGTCTCGCAAAAGCAGAGATAATCACTTGGGCCTCCCTTGAATTTGGCAAAGGACAAGCTGTTCTGCC TAAACCCAATGTCGCATCAGCGGTTTCGCAGAGGCCCGTGTATCCTTCTTCAAAGCCGGGAAAAGACTGGGACAAGCTGGAAGCTGAAGTGAAGAA ACAGGAGAAGGATGAGAAGCTAGATGGAGATGCAGCAATGAACAAGTTTTTCAGCGATATTTACCAGAGTGCAGATGAGGACATGAGGCGAGCCAT GAACAAATCATTTGCAGAGTCGAACGGGACGGTACTGTCTACAAACTGGAAAGAGGTTGGGACTAAGAAAGTGGAGAGCACTCCACCAGATGGTAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001L04	AT3G53920.1	SIGC (RNA polymerase sigma subunit C); DNA binding / DNA-directed RNA polymerase/ transcription factor	GGAAGGAAAAATAAAAAAGCGTGGCAAAGGAATTTAGGCGAAATTACAAGGGAGAAGACGTAGACCATACAATACACAAAAATTATATCTCCAGTAA ATCATCTCCCTCCTCGCTCTCTCCCTTGGCGTCAATGGCTTCCTTCAATTCGTTCCCCATTCCCAAACAGATTGCCGGTTCTTCTTCTTCTTCGTCTT CCTCTTCTTCTCGGCCACGTATCTTGGTGCGATCGAGTATGGCGTCGTCGATTGGCTCCACCAATAGTATGCTGGTCTTCGTACCTCCACACCCTTT GATTAAACATTGGCTCTCCCTTTTGCGATGCGAGCAAACTTCTTTCCCCATTTTCGTTAGAATTCCGGTGAATTCTATGGGAAGCAGGATTTACCAGA AATATCCTCTAAAAGCATGTGGCTGTGCATCTGCAACTCCTTGCACTGCAGAAAATGTGTATGTAGAGCTCAAAGATCCAAAGAAAAGTATTGGCGTT GTAGAACAAATGTCATCTGCAGAAAAAGCCAATTTATCTCGTAGCATGTTGCAATACAATCTGCTAGGGAAGAACCTTTTGGCACTAGAGGAAACTTT TGTCTCCTTGGACTCGTTAAGAATGGAAAGAGATATTATGTTGCAAATGGGGAAGTTGGGGGCTACTGAGTTATTCAAGACCTGTTTATCTAGGTCC CGTGGTTCTTCAGTCACTTCATGCTTATCTGACACAGGGACCGAGTTGGTGGTAGCTACAGAAGAACAGCAGACCTTTGTGCCTTCGAGAAGAAAAT TGAAAAAGAAAGCAAGAAGGTCGAGTTTGAGTACTGGTAAAGGTGATCAGGGTTCTTTGTTGATCGGTTCAAGAACCACATGGAACGATATTGATGC CCCTAGACTGAGAAAGTCATCAAAATATAGAAAGAAAAGAGAGAGGATATCTAGAAACGAGGCTGAGATGTCAGCAGGAGCCAAGATAGTGGCGGA CATGGAGAGAATCAGAACGAAATTAGAAGAGGAAAGTGGTAAGGTAGCGAGTATGAGTTGTTGGGCTGAAGCAGCAGGAATGAACGAGATACTTCT GATGCGCAACCTACATTACGGATGGTACTGTAGAGATGAGCTGTTGAAAAGCACCCGGTCTTTGGTTCTCTTCCTTTCAAGAAATTACCGTGGACTG GGGATAGCCCACGAAGATTTAATTCAGGCAGGGAATGTGGGAGTGTTACAAGGAGCAGAGAGGTTTGATCACACAAGGGGTTACAAGTTTTCGACG TATGTGCAATATTGGATAAGGAAATCGATGTCCATGATGGTGTCACGGCATGCAAGAGGCGTTTATATTCCTTCGTCTGTAATCCGAACTATGAGTCA GATACAAAAGGCTCGTAAGACGTTGAAAACGAGCCACGGGATAAAGTATCCGGCCGATGAGGAGATTTCGAAAGAAACAGGCTACTCGTTGAAGAA GATTCGAGCAGCTAACCAATGCCTGAAAGTGGTTGGTTCAATCGACAAGAAAGTTGGGGATTGCTTTACTACAAAATTCCTGGAATTTACACCGGAC ACGACGATGGAGAGTCCCGAGGAGGCTGTGATGAGGCAGAGCGCATGGAGAGACGTACATGATCTTCTACAGGGACTAGAGCCAAGAGAGAAGC
GCT-001L05	AT5G09330.3	ANAC082 (Arabidopsis NAC domain containing protein 82)	GAGTTCTGGCTTTTCTTTCACGCCACTCTCTAATCGCTCTCTCTCTCTCTCGCTCGCCTCCCCTTCCGCCGATCGTCATCTCCACCTTCGAGTTTTTT TCCTCTCTCCGGGCTTTACGTTTCACACCAGATGTCTGTTGATCTCTGCAAGAAGAATCCATCTTTCCTTTGGTGCGACTGCGGTTATATGAGCAGG GGGAGGTTGTGGTGCTTTCAGATAATCTTGTTCAGGCACTGGACTTAGACGTTCTCTCACCTCGTCTAGTGCTCTTTTTCTTTCTCTTTTCTTCTCTTC TTTTCCTGGCTTCTCTGCAACTTTTCTACTTGATTTTGATTAGAAAGTATTCGCTTCTGCTGTTCCTGTTACTGTGACGTGACCTTTCTGCAAAAAAAC TCCCACTTTACATACTGGTGAGGAGTTTCCCGAGGAGAGTGCAAGTTTTCCCCTTTGGATCAGCCAATGGGGAAAACTCAGCTTGCTCCTGGATTTC GGTTTCATCCGACTGATGTTGAACTCGTGAGATATTACTTGAAGAGGAAAGTGATGGGGAAAAAGCTCCTCGTCGATGCAATTGCTGAACTTGACAT TTACAAGTTTGAACCCTCCGATTTACCTGATAAGTCCTACATAAGAAGTGGGGATCTCAAGTGGCACTTCTTCTGCCCGAGAGAAAAGAAATATGCA ACTGGAGTTAGGGCCAACCGAGCGACTGAGTGTGGTTACTGGAAGACCACCGGGAAGGAGAGACCCGTTCTGTGCAATGCTGAAGTTGTGGGAAA GATCAAAACTCTGGTTTATCACTTTGGTAAGTCCCCTCGTGGTGAGCGGACTGATTGGGTTATGCATGAATACAGGCTCGAGGACAAGGTACTGACA CAGAAGAATGTCCCTCAGGATACATATGTCCTGTGTGTTCTATTCAAGAAGGATGGACCGGGACCTAGGAATGGAGCTCAATATGGAGCTCCGTTTA AGGAAGAGGACTGGAGTGATGAGGAACAACATACTGATGTTCCTGCTATCAACAATCCCGCAAACCTTGATGTGCCTAACAATGAAACCTGTCTGGT TGTGGGATCCTCTCATGACGCTAATAAGGATTGTTTTGGTGGCATGATATCAGAATCTTGCGTTTCTGATTTCCTACCTGCTACAACTACTACTACTA CCTGCGAGGTTCCACATCCGAATGATGCAGCTAACACTCCTATGTCTGCTGCGCCACTTTTTGATTTTAATAGCACTGCATCTCTGGAACAAACCCTT CAGGCTCCCAACAACGATGATGACATATATTCAATGTTGGATCTCTTTGTTGATGAGGATGAGTACTTGCGTTTCAGTGAGCCAAACAACAACGAGG TAAGACATGATCCAGGTGTTTCAGCTCCCGTTTGCGTAGAAGTAGGAGAAGGCATATTCAGTGAACTGCCAGACTTGAGCAATATGCATTACAACGG CGTGCCAAGTACACCCTCTTACGACCTAGTTGAAAACTCGGAGTTCTACATAGAGCTACAGGATCTCATTGCTCCATTATCAACACCTCAAATTGGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001L06	AT2G22670.3	IAA8 (indoleacetic acid-induced protein 8)	GAAGCTTTCTGGTTCATTTTCCATGGAAGGACCTTGAGCTCTCTGCTTCTCTTCTCTCCTCTCTTTCGCTAAATTTCGTGCAAATTTCTCTTTCACTAC TTCCTTTCTTTCCTTTCTCTCCCTCTCTCTCTCGTTGGTTAATTTGATCTTCTACTGTGTTCGTCTTCTCTCTCCAGAGTCCTCTTGAAACTAAGATCTG ATGTCTTATCGATTGCTAAGTGTGGATAAGGAAGATTTGGCCACACCACCTGGTCTGAAGGAACGAAACTACTTGGGTCTGTCTGATTGCTCCTCTG TTGACAGCTCAACCATTCCCAATGTTGTTGTTCCAGAGATTGAGAAGAGCAATCTCAACTTCAAAGCTACAGAGCTAAGGCTAGGCCTTCCTGAGTC TCAATCTCCCGAGAGAGAAACCGATTTTGGTCTGCTAAGCCCGAGAACGCCTGATGAGAAGCTTCTCTTCCCGCTTCTCCCTTGTAAAGACCATGCC TCTGGAGCTACTACAGTGCACAAGAATGTTGTCTCTGGCAACAAAAGAGGATTCTCTGATACTTGGGACGAGTTCTCTGCTGTGAAAGGATCCGTTA GACCTGGAGGTATCAACATGATGCTGTCTCCTAAAGTTACATCCAACACCAAGAATGATGTCAAGAAATGCATTCAAGAAGAAAGATCCAATGCTAA GAGTGGCTTGAAACATGCACCTGCTGCCAAGGCACAGGTTGTTGGTTGGCCTCCGATCAGATCTTACAGGAAGAATACAATGGCGTCTTCTACTTC GAAGAACACTGATGAGGTTGATGGGAAACCTGGTCTTGGTCCTTTGTTTGTGAAGGTGAGCATGGATGGTGCTCCGTATCTGAGGAAAGTCGACTT GAGGACTTACACTTCCTATCCACAGTTGTCTTCTGCGCTTGAGAAAATGTTCAGCTGCTTCACTCTTGGTCAATGTGGACTTCATGGAGCTCAAGGG AGGGAAAGACTGAGCGAGATCAAACTGAAGGATCTTCTTCATGGATCGGAGTTTGTGCTTACTTATGAAGACAAAGACGGTGACTGGATGCTCGTT GGAGATGTCCCATGGGAGATATTTACTGAAACATGTCGGAAACTGAAGATCATGACTGGCTCTGATTCTATTGGCTTAGCTCCAAGGGCAATGGAGA AATCGAAGAAGAAAGACGCAATGCCTCTCAGCGCTTCAAACAAAGACGCCTCAAGACAAAAACTTTATCGCAGACTTCGAATCTTTCAAGTCTTCTTTTA
GCT-001L07	AT3G18780.2	ACT2 (ACTIN 2); structural constituent of cytoskeleton	GGTCTCGTTGTCCTCAGTTTCATCGGCCGTTTTTGTTATCTCCGGCGAGAAGAGAGAGAAAGAAGAACAAAAAGCGAGAAGAAAAGAGAGAGAAAG AGACCGGAATCATCTCGGTTCCTTTTTTCTTCTTCGATCTCATCTTCTTCTTCGATCTCATCTTCTTCTTCTTCTTCCGCTCTTCGATCTTTCTCGTTCA AGCTTATAAAAAATGGCTGAGGCTGATGATATTCAACCCATCGTCTGTGACAATGGTACTGGAATGGTGAAGGCTGGTTTCGCCGGAGATGATGCTC CAAGGGCAGTTTTCCCGAGTGTTGTTGGTAGGCCAAGACATCATGGTGTGATGGTTGGGATGAACCAGAAGGATGCATATGTTGGTGACGAAGCAC AATCCAAAAGAGGTATTCTCACCTTGAAATACCCAATTGAGCATGGTGTTGTGAGCAACTGGGATGATATGGAAAAGATCTGGCATCACACTTTCTAC AATGAGCTCCGTATCGCTCCTGAAGAGCACCCTGTTCTTCTTACCGAGGCTCCTCTTAACCCAAAGGCCAACAGAGAGAAGATGACCCAAATCATGT TCGAAACCTTCAACTCTCCCGCCATGTATGTCGCCATCCAAGCTGTTCTCTCCCTGTACGCCAGTGGTCGTACAACCGGTATCGTGCTGGATTCTGG TGATGGTGTGTCTCACACTGTGCCAATCTACGAGGGTTTCTCTCTTCCACATGCCATCCTCCGTCTGGACCTTGCTGGTCGTGACCTCACTGATTAC CTCATGAAGATCCTTACCGAGAGAGGTTACATGTTCACCACAACAGCAGAGCGGGAAATTGTAAGAGACATCAAGGAGAAGCTTTCCTTTGTTGCTG TGGACTACGAGCAGGAGATGGAGACTTCCAAGACCAGCTCCTCCATCGAGAAGAACTATGAATTACCCGACGGACAAGTGATCACGATCGGAGCT GAGAGATTCAGGTGCCCAGAAGTCTTGTTCCAGCCATCGTTTGTGGGAATGGAAGCTGCTGGAATCCACGAGACGACCTATAACTCAATCATGAAG TGTGACGTGGATATCAGGAAGGACTTGTACGGTAACATCGTGCTCAGTGGTGGAACCACCATGTTCTCTGGTATTGCGGACCGTATGAGCAAAGAG ATCACAGCACTTGCACCAAGCAGCATGAAGATTAAGGTCGTTGCACCACCTGAGAGGAAATACAGTGTCTGGATCGGTGGTTCCATTCTTGCTTCTC TCAGCACATTCCAGCAGATGTGGATCTCCAAGGCTGAGTATGACGAGGCAGGTCCAGGGATTGTTCACAGAAAATGCTTCTAAGCTCTCAAGAAAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001L08	AT5G40890.1	ATCLC-A (CHLORIDE CHANNEL A); anion channel/ voltage-gated chloride channel	GGCTTCCTCTAGAAGAAGCGACAAATACGCAGAGAAATCCAAACCGAAAGTGGTTTTGTGACAGAAAGAAAGCTCTTGAAGATCCAACCAAATTCTA CATTTGCTATTCTTCTCTTTTTCTTTTCTTCTTCTCTTTCTTCTTCTGAGTGGTCCTATTGTTTCTTGGATCATAAGAGAGAGAGAAAGAGTTATTGATG GATGAAGATGGAAACTTGCAGATTGCTAATAGTAATTACAATGGAGAAGAAGAAGCAGATCCCGAGAATAACACTATGAACCAACCTCTCCTTAAGA GACATAGAACTCTTTCTTCAACTCCTCTTGCTTTGGTCGGTACCAAGGTTTCACACATCGAGAGCTTAGATTATGAAATAAACGAGAATGATCTGTTC AAGCATGACTGGAGAAGCAGATCGAAGGCACAAGTGTATCAATACATATTCGCAAAATGGACATTAGCTTGTCTTGTTGGTCTCTTAACTGGTCTCAT CGCTACACTCATCAACCTCGCAGTCGAAAACATCGCCGGTTACAAACTTCTCGCCGTTGGCTACTACATCGGTCAAGATAGGTATGTGACAGGTCTG TTGATCTTTACCGGGGCCAATTTGGGCCTGACTTTGGTGGCGACAGTGCTTGTTGTTGTCTTTGCTCCTACGGCTGCTGGTCCGGGGATTCCTGAG ATTAAAGCTTATCTCAATGGCGTCGACACTCCTAATATGTTTGGTGCCACCACAATGTTCGTTAAGATTATCGGAAGTATTGGAGCAGTTGCAGCTGG ACTTGATCTTGGTAAAGAAGGTCCTTTGGTTCACATAGGAAGCTGCATAGCTTCTTTGCTTGGTCAAGGTGGTCCAGATAACCATAGAATCAAATGG AGATGGCTTCGTTACTTCAACAACGATAGAGATCGAAGAGATCTTATCACATGTGGATCTGCCTCTGGAGTGTGTGCAGCTTTCAGGTCACCAGTAG GAGGAGTGCTCTTCGCTCTTGAAGAAGTAGCTACTTGGTGGAGAAGTGCTCTCTTGTGGAGGACATTCTTCAGCACAGCCGTTGTGGTGGTTGTAT TGAGAGCTTTCATTGAGATTTGCAACTCTGGTAAATGCGGGCTTTTTGGTAAAGGAGGACTCATCATGTTTGATGTGAGTCATGTAGAAGTTAGGTAC CATGCAGCTGATATAATCCCGGTCACATTGATTGGAGTCTTTGGTGGTATTCTTGGAAGTTTGTATAACCACCTTCTTCATAAAGTTCTCAGGCTTTA CAATCTCATTAATCAGTAAGTCTTTATTATGAGTAACAAGAACTTCAAGAAACACACAAAGTTTTTTAGACTTTTACTTAAAAACATTTTCTTGATCAAAT TTGTTTTTTCAGGAAAGGTAAGATTCACAAGGTGCTTCTAAGTCTTTCAGTGTCTCTATTCACTTCGGTTTGCTTGTACGGTCTTCCTTTCTTAGCGGA ATGCAAACCTTGTAATCCTTCCATAGACGAGCTCTGTCCAACAAACGGAAGATCAGGAAACTTCAAACAGTTCAACTGTCCAAACGGTTATTACAACG ATCTTGCGACTCTGTTTCTCACAACCAATGACGATGCAGTTAGAAACGTGTTCTCTTCAAACACTCCTAATGAGTTTGGTATGGTTTCTCTCTGGATAT ACTTTGGCCTCTACTGCATTTTGGGGCTTATCACATTCGGTATAGCCACACCTTCCGGTCTCTTCTTACCGATCATCCTCATGGGTTCTGCTTATGGT CGGATGCTAGGCACGGTGATGGGATCATACACAAAAATCGATCAAGGGCTTTATGCGGTTCTTGGTGCAGCTTCACTCATGGCTGGTTCCATGAGA ATGACTGTCTCACTCTGTGTGATTTTCCTAGAGCTCACCAACAATCTTCTTTTGTTACCCATTACTATGTTTGTGCTTCTGATTGCTAAAACAGTTGGA GACAGCTTCAATCTGAGTATCTACGAGATCATTCTCCATCTGAAGGGTTTACCTTTCTTGGAAGCAAATCCAGAGCCATGGATGAGGAATCTCACTG TAGGTGAGCTTGGTGATGCTAAGCCTCCGGTTATATCCCTTCACGGAGTTGAAAAAGTCGCAAATATAGTGGATGCGCTAAGGAACACAACGCATAA
GCT-001L09	AT4G23130.2	CRK5 (CYSTEINE-RICH RLK5)	GATGTCTGTCTATGGTTTCATCTTCCTTCTCACTTTCCTTACAAGCCTGAGACCTTCTGTACAGCAACACAGACCGTTTTATATCAGTTCTGTTTGTCC ACCAGGGATGACTTACCTCAAAAACAGCAAATACTCTTCCAATCTCAAAACCCTTTTGTTCTCTCTTTCTTCCAAACACAATCCTTTATTCTCCTACGG ATTCAACAGTCTTACAGAGGGACAAAATCCTGACAAGGTTTTCGGATTTTTCCTCTGCCGTGGAGATGTATCGCCGGAAATCTGCCGTGACTGCGTC AGATACGCCGTCAACGACACTCTCCATCTGTGTCCAAATGGAAAGGAAGGTTTGGTTTATTACGACGAATGCATGGTTAGATACGGTGACCAGGATA TTCTCCTGGATCCTATAACCAAAACTGGACAGCTGATAGAGAACCAAGAGAATGTTACGGCAAACCAATCTGATCAGTTCAATAAGGTGGTCCTTTCT TTGACGAAAGAAGCTGCAGCTGAGGCTGCTGCTAGTCCAAGAAAGTTTGCGTTTAAGAAGTCGAACTACACATCATCTCAAATGGTTTATGTGTTGG TTCAGTGCATGCCTGATCTGACAACAGAGGACTGCTTAAGCTGTCTCCAACAAAGCATCAAGAAATTGCCTCGTGACAAAATTGGAGCAAGATTTCT TTGGCCGACTTGTACCTTAAGGTACGACCTTTACCCTTTCTACAATGAAACCTTAAGGTACCTTCCACTGCGACAGCATGGTAAGAGATCTTCCTCTC TCTCTCTGTCTCTGTCTCTGTCTGTTCAAGATTTGGGGTTTCTTGTGTCGACATGTCTGATCTAATACTTTGGCAGGTAAAGGACGAAATTCCATAGT GATAATCATAGCGATTGTTGTGCCGCTAGCTGTCTATGTTCTTCTTTTTTTAGTTGTTTCTAGCTTCCAAGCCGCATCGAGATGGAAGAAGGCTTACG AGACAGCAACTGCAGATGATGATGGGGGTGATATTACAACTGCTGGCTCCTTGCAGTTTGATTTTAAATCTATTGAAGCAGCAACTGATAAGTTTTCT GAACGTAACAAACTTGGTCAAGGTGGATTCGGAGAAGTTTACAAGGGAATATTTCCTAACGGTTTACAAGTTGCGGTGAAGAGACTATCGAAAACAT CGGTACAAGGTGAAACAGAGTTCAAGAATGAGGTTATTGTTGTGGCAAAGCTTCAGCACCGAAATCTGGTCAAGCTTCTAGGATTTTGTTTTGAAAG AGAAGAGAAAATACTTGTCTACGAGTTTGTCCCTAACAAAAGTCTCGATTACTTCCTCTTTGATTCTACATTGAAAAGCCAGCTGGATTGGACAACAA GGTACAATATCATTGGAGGAATTGCTAGAGGGATTCTATATCTTCATCAAGATTCACGACTCACAATTATCCATCGTGATCTCAAAGCCGGTAACATC CTTTTAGACGCTGCTATGAACCCGAAAATTGCAGATTTTGGAATGGCAAGAATTTTTGGAATAGACCAAACAGAAGCCAATACGAGAAGAGTGGTTG GAACCTATGGTTATATGTCTCCGGAGTATGCCATGTACGGCAAATTCTCCATGAAATCAGATGTCTATAGCTTTGGGGTCTTAGTCCTTGAAATTATA AGTGGCAAAAAGAATAGCAGTCTCTATCTAAAGGATGCTTGTTCTGGAAATTTGGTTACATATACTTGGAGATTATGGAGAAATGGGTCGCCATTAGA GCTTTTGGATCCATCCTTTCAAGAGGATTATCAAGTAAACGACATTAGCAGATGCATCCATATAGCTTTGCTATGTGTTCAAGAAGAAGTTGAAGATC GTCCAACTATGTCAGAAATCGTCCAGATGCTCACTACTAGCTCAATTGCTCTCGCCGTTCCTCAACCACCTGGATTTTTCTTCCGGAGGAAATATGAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001L10	AT1G75780.1	TUB1 (tubulin beta-1 chain); structural molecule	GATCTCTCTCTCTCTCCATCATCTTTCCTTTCAATAATCATGAGAGAGATCCTCCACGTCCAAGGCGGCCAATGCGGTAACCAGATCGGCTCCAAAT TCTGGGAGGTTATCTGCGACGAACACGGCGTTGATCCAACGGGACGTTACACCGGTGACTCGGCCGATCTCCAGCTAGAGAGGATCAATGTATATT ACAACGAGGCCTCTGGTGGGAGGTACGTGCCTCGTGCGGTTCTTATGGATCTGGAGCCTGGTACAATGGATAGCATCAGATCCGGTCCTTATGGTC AGATTTTCCGTCCCGATAACTTCGTCTTTGGCCAGTCCGGCGCCGGTAACAACTGGGCCAAAGGTCACTATACCGAAGGTGCTGAGCTCATTGATG CTGTTCTCGATGTTGTTCGCAAGGAAGCCGAGAACTGTGACTGCTTGCAAGGATTTCAAGTGTGTCACTCTCTCGGAGGAGGCACGGGTTCAGGAA TGGGAACTCTGCTGATATCAAAGATACGAGAGGAATACCCAGACAGGATGATGCTAACATTCTCTGTATTCCCATCTCCAAAGGTCTCAGACACAGT GGTTGAGCCTTACAACGCCACTCTCTCTGTCCACCAGCTCGTTGAGAACGCTGATGAATGCATGGTCCTCGACAACGAAGCTCTCTACGATATCTGT TTCCGCACTCTCAAACTCAGCACTCCTAGCTTTGGAGATTTGAACCACTTGATCTCCGCAACAATGAGTGGTGTGACTTGCTCCTTACGTTTCCCTG GACAACTCAACTCTGACCTAAGGAAACTCGCTGTGAACCTTATCCCATTCCCTCGTCTCCATTTCTTCATGGTTGGTTTCGCGCCTCTCACTTCTCGT GGCTCCCAACAATACATCTCCCTCACAGTCCCCGAGCTTACACAGCAAATGTGGGACGCCAAGAACATGATGTGCGCAGCTGATCCGCGTCACGGT CGTTACCTCACAGCCTCAGCAATGTTCAGAGGAAAGATGAGCACAAAGGAAGTCGACGAGCAGATTCTGAATGTTCAGAACAAGAACTCTTCCTACT TTGTCGAATGGATCCCAAACAACGTCAAGTCCAGCGTCTGCGACATCCCACCGACTGGAATCAAAATGGCTTCTACTTTTGTCGGAAACTCGACTTC GATCCAGGAGATGTTCAGGAGGGTGAGTGAACAGTTCACTGCTATGTTCAGGCGCAAGGCGTTTTTGCATTGGTACACAGGAGAAGGCATGGACG AGATGGAGTTCACTGAAGCTGAGAGCAACATGAATGATCTTGTCGCTGAATATCAGCAGTACCAAGATGCTACAGCTGATGAAGAAGGTGAGTACG
GCT-001L11	AT5G16990.1	NADP-dependent oxidoreductase, putative	GGTAACCAATTGGTCGAACTCAGAAGTGAATCGGAGAAGAAAACGATGAGCACCGGAGGAAACAGCGGAGCGACGGCGACGAACAAGCAGGTCAT ATTGAGAGACTACGTGACCGGTTTCCCTAAGGAATCCGATTTTGATTTCACCACCACCACCGTCGAACTTAGGGTTCCGGAGGGGTCTAATTCGGTT CTGGTGAAAAATCTCTATTTGTCCTGCGATCCTTACATGCGGTCTCGCATGGGGAAGCCTGCAGATTCTGCTCTTGCTCAAGCTTTCACCGTCGGCC AGCCAATCTTAGGGTATGGAGTGTCTAGAGTGATAGAATCTGGGCATCCAGATTACAAAAAAGGCGACTTGCTCTGGGGAATAGTTGGATGGGAGG AGTACAGTGTTATTACTCCAATTCCTGACATGCATTTCAAGATCCATCATACCGATGTTCCACTATCCTACTACACAGGACTTCTCGGTATGCCGGGT ATGACCGCCTATGCTGGATTTTATGAAATCTGTTCCCCAAAGAAAGGAGAGACTGTTTATGTGTCGGCTGCATCTGGTGCAGTTGGTCAGCTTGTGG GACAATTTGCCAAGATGATGGGCTGTTATGTTGTTGGAAGCGCCGGAAGTAAAGAAAAGGTTGATCTCCTCAAGACCAAGTTTGGGTTTGATGATGC ATTTAACTACAAGGAGGAACAAGACCTTAGTGCTGCCCTGAAAAGGTGTTTTCCCAAAGGCATCGACATATACTTTGAGAACGTAGGAGGCAAAATG CTAGACGCAGTGCTTTTAAACATGAACATGCACGGACGTATCGCTGTCTGTGGAATGATCTCTCAGTACAATCTTGAGGACCAGGAAGGTGTACACA ATCTATCCACCATAATCTACAAACGAATCCGCATTCAAGGCTTTGTAGTCTATGATCACTACGACAAATACTCAAAGTTCTTGGAGTTTGTGCTTCCGT GCATTAAAGAAGGCAAGATAGCGTACGTGGAAGATGTAGCTGAAGGACTCGAGAAAGGTCCTGAAGCTCTTGTGGGACTCTTCCATGGTAAGAACG TTGGGAAACAAGTTGTAGTTGTCGCTCGTGAGTGAAAGAAAGTTTAATAATGTTGGATGATTAATGATGTTGTGTTCCTAGTAGTTTGATTTGTTTATC
GCT-001L12	AT1G72740.2	DNA-binding family protein / histone H1/H5 family protein	GGGGGGTCACAGCAACCAAAACTTCTACAGACTCCAAACTCTCGCAATCCCAAAAGAAGGGGTTAATCTGCGCAGAGCCAGAAAAAAATCGAAACT TCCGGCAAAATTTACGCCGACTAGCCGTCGTCTGACTCCGATTATACTCCGATTGTGTATAAATACACATTCGCTGCGACAAGGAGAGAGCAGGAG GTGAAAGGCAGAAGGTTATAATGGGAAACCAGAAATTAAAGTGGACGGCGGAGGAAGAGGAGGCGTTGCTCGCCGGAATTGCGAAGCACGGCGC CGGGAAGTGGAAGAACATTCTCCGGGATCCCGAATTCGCTGATCAGCTCACCAATCGCTCCAACATCGACCTCAAAGATAAGTGGCGTAACTTGAG TGTTTCCCCCGGTACTCAATGCTCAAAGGATAAGGCAAGGCCGACAAAAGTCAAAGATGAAGCAGTCACTCCGGCTGCAGTTGCAGTTACCACTAC TCCACCTCCTAATGATAACTCTTCACCTTCACCAGCTACTTCCCTTCGTCGCAGTGCATCTACTGAGTTTAGCATTGATAACAGTTGTAACATTGTGG TGGATACGAAGAACGCCCCCAGGTCTTTCTTTATCTTCTGTTTCTCCTGCTTGGAAGTGACCAGAACTTATGCAGATTGCCCAGTTCCAAAAATGATA GCCTATCAATCCTAAGTACCAATCGTTAATAGATTAATTCATGCGTTGCTAAACATCTGATGAGTTGCTAGTTTCAGGTATGACGGGATGATATTTGAA GCTCTCTCTTCTTTAGTGGATGCAAACGGATCCGATGTCGGTTCCATTTTCAGCTTCATCGAGCCAAGACATGAAGTGCCGCCAAATTTTAGAAGAG TCCTTAGTTCAAGACTAAGAAGGCTTGCAGCTCAGGGCAAACTTGTAAAGTTACAGAACTTCCATAAGTTACCCGATCGACCAGGAGCGACAAGGAC GCCTGCCCTAAAACTAAAGGAGACAACAAACATAAAACCTAGGCAATCAAACAATCAGGCTCCGGCCGTTTCGCAAGAGATGATCGAGGAAGCTGC AATAACCGCTGCGTGTAAAGTTGTAGAGGCAGAGAACAAAATAGGTGTTGCGAAAGTAGCAGTAGAAGACTTGGAGAAGATGACTAAGCTTGCAGA AGAAACTGAAATCCTGCTGGAGTTAGCTAAAGAGATACATGAACAATGTTGTCGTGGCGAGCTTGTGCTCCTGGCTTGAGTCTACGGGACATATCTC TGAGCTCTCATTCAGACTCCGTTTAGCCGAGGCCTTTTCTCATAATGAAATCATCTTAACTTGTGATTTTGAAGACTTTCTTTGGCTGCCCAGCTAGTA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001L13	AT1G11840.4	ATGLX1 (GLYOXALASE I HOMOLOG); lactoylglutathione lyase	GCGGAAAAATTATCTGCTCGTTTCGTACATCTTCTCCCAGTTGAATCAGGATTGAATAGAAAAATGGCTGAAGCTTCTGCTGTTGCTCCAAATGCTGA GTTGTTGGATTGGCCAAAGAAGGATAACCGTCGTTTTCTCCATGTTGTCTACCGTGTTGGTGATCTTGATCGCACAATCGAGTTTTACACTGAGTGCT TTGGTATGAAGCTGTTGAGGAAAAGAGATGTCCCTGAGGAGAAGTATTCTAATGCTTTTCTGGGTTTTGGACCTGAAACTTCCAACTTCGTTGTGGA GCTGACATATAACTATGGTGTTAGCTCATATGATATTGGAACTGGATTTGGGCATTTTGCCATTTCAACTCAAGATGTTTCCAAAATGGTTGAGACCG TCCGTGCCAAGGGTGGAAATGTCACCAGAGAACCTGGTCCTGTCAAAGGTGGAAACAGTGTCATCGCGTTCGTGAAGGACCCTGATGGTTACGCTT TTGAGCTTATCCAGAGAGGTCCAACTCCTGAACCACTCTGTCAAGTTATGCTTCGTACTGGTGATCTTGACCGCGCCATCAAATTCTATGAAAAGGC CCTTGGGATGAGACTCTTGAGAAGGATTGAGAGACCTGAATACAAGTACACCATAGGCATGATGGGATATGCTGAGGAATACGAGACAATAGTTTTA GAGCTGACCTATAACTACGGCGTGACTGAGTACACTAAGGGCAATGCATATGCACAGATTGCAATAGGCACCGATGATGTGTACAAAAGCGGTGAA GTTGTGAAGATAGTCAACCAAGAGCTAGGAGGAAAGATCACTAGAGAAGCTGGACCTCTTCCTGGACTTGGCACCAAGATTGTCTCATTCCTTGATC CAGATGGCTGGAAAACGGTTCTGGTCGACAACAAAGATTTTCTGAAGGAACTGGAATGAGGAGAGCGATGATGATGGTCGAGATCACAACGTTAAG
GCT-001L14	AT1G20340.1	DRT112 (DNA-damage-repair/toleration protein 112); copper ion binding / electron carrier	GAAAGATAGCAAAAAAAAAAAACCAAACTTTTTTGTTCCAATTCTAAAAGTTATCTTGATCATGGCTTCAGTAACCTCAGCCACCGTCGCAATCCCATC TTTCACCGGTCTCAAATCAACAATCTCCAAACCCTCCGCCGTCGTCAGAATCCCCACCGCGGCGGCAGCATCACCGAAGCTCACAGTGAAGTCATC TCTAAAAGACTTCGGAGTCGCGGCCGTAGCGGCTGCAGCTTCGATTGCTTTGGCCGGAAACGCCATGGCAATAGATATTCTCTTGGGATCAGGAGA TGGGGCTTTAGCTTTTGTCCCCAACGATTTCAGTGTAGCGAAAGGAGAGAAGATTGTTTTCAAGAACAATGCTGGATTCCCACACAATGTTGTCTTC GATGAGGACGAGATCCCAAGTGGTGTTGACGCGAGCAAGATCTCCATGGACGAGCAAGATCTACTCAACGGTCCGGGAGAGACGTACGAGGTTGC TTTGACTGAGCCTGGCACCTACAGCTTCTACTGTGCGCCTCATCAGGGTGCTGGTATGGTCGGTAAAGTCACTGTTAACTAAGTAATAAATTGTGAG CGCAAGTGAGAGGCAGAGTCTCTTATTCAAGTAGAGGCTTTTCTTTCTGTGTCTTGCATAAGGTGTTTTGTATTTCTAAAGAGTGTTGAATCGAATGG
GCT-001L15	AT3G23120.1	leucine-rich repeat family protein	GGTCCATTACTTACCATTCAAAACAAAAATTATCTTTTATTTCCAAAAAAAAATGGTCATGATTCGAAGCCAATCTTATTGCGTTATTACTTTATATTCC TTCTTTTTCCTTCTTTCCTTACTAAACACATTTGCTTCTCCTACACGGTCCTTGTGCCGACGCGACCAAAGGGATGCTCTTTTGGAGCTTCAAATGGA GTTCCCTGCCTCTGCTGGCTATTCAATATATTCATGGAACAAAAGCCTCGATTGTTGTTCTTGGCCGGGTGTCCAGTGTGATGCTATCTTGGGAGAG GTGATTTCATTATCCCTCAGTTACTTTACTAATGCCAGCACCTCTTTGAAATCTAGCAGTAGTCTTTTTAAACTCCAACATCTTCAAGACCTAGATTTTT CAAATAGCAATCTCCAAGGGGAGATTCCTTCCTCCATTGGAAAATTTTTTGATCTCACATCTCTTGATCTTTCAAATAACAATTTCCAAGGGGAGATTC CTTCCTCAATTGGAAATCTTTCTCAACTCACATCTCTTGATCTTTCAAATTGTAATTTCCAAGGGGAGATTCCTTCTTCAATTGGAAATCTTTCTCAACT CATGTCTCTTGATCTTTCAAATTGCAATTTCCAAGGAAAGATTCCTTCCTCAATTGGAAAACTTTCTTATCTCAGATCTCTTGATCTTTCTTCTAATACA TTAGTTGGTGAAATTCCGGTTTCAATCGGTAACCTAAACCAACTATTATCCATGAATCTTTCGGCTAATGATCTCAAAGGTAATATCCCTGCTTCATTT GCCAACTTAACGCAGCTTTCTAGTTTGGACCTAGTGGCAAATCAATTCACTGGTGGGGTAGATGTAGTATTAGCCAATTTAACAAGCTTGGCCTTAAT AGATCTCTCCTACAATCACTTCAAATCCTCCCTTTCCGTTGACCTAAGTGGACTCCACAACTTGGTATTAATCATAGGGAATGAAAACTCATTTTCCG GACCTTTTCTCTCATCGTTGCTCATGATTTCTTCGCTACGCGAGATTTCCTTGAGCCGAAACCAAATGGAGGGACCTATTGATTTTGGGAATACCTCT TCAACATCAAACCTTGAAGTGTTAGATGTTAGCTACAACAAGTTTAACGGGCTAATCCCAAAATCTATATCGAAATTACGCAATCTCTATTCTTTATAT CTTAGCCATAACAATTTCATAGGTTCAGTCCCGGGATCCTTATCAAAATTAGTCAACCTCTGCGCCTTTGACCTTTCCTACAATAAGTTGGAAGGTCT AGTACAAAATCATTTGTGGAGATCGTCTACCTTATCGTCTGTGAAACTTTCTCATAACTCTTTCACCAGCTTTGGAAAATCAGTAAAAGTTGCTGTCGA TTTAGCATCAATACGTTATTTGGATCTTGCTTCAGGTTCACTCCAAGGACCATTTCCCCAATGGATCTGCAAGTTAATATCTTTATGGTCGTTGGATTT GTCAAACAACCATTTCACTGGCCCAATCCCTCAATGTTTGAAGAGTTTCACTTCACTTGTAGATTTAAATCTGCGAAACAACAGTTTCAGTGGATTTCT ACCAGATTTATTCATAAATATCACTGTGTTACGATCACTTGATGTCAGCCACAACAATCTGGTGGGGAAGCTTCCAAAATCCTTGATCAATTGCACGA ATATGGAGCTTCTGAATTTGAAAGGAAACAAGATCAAGGACACGTTTCCATTTTGGTTAGGATCTCTGCAAAGCTTGATGATTCTTGTGCTTCGATCA AATCAGTTCTATGGTCCACTGTCCTTTTTAGGGTTTCCAGGTTTGCGGATCATTGATATATCAAATAATGACTTCGTTGGATCATTGCCACACGAATTT TTCACCACGTGGCCTGGAATGTCATGGGATGATAATGACGATCCATATACGTGGGACCACGACTTTTATACTGGGCCTGGTACCCATCGATATTCAA TGGAGTTGGCGTACAAAGGAGTAGACACTGATTTTGATAAGATTATTAAAGCATTCAAAGCCATTGATTTTTCTGGAAACCGGTTTCGCGGACAAATC CCTAGATCGATTGGCTTATTGAATGGATTACGTCTTCTCAACTTGTCAGGCAACGCATTCACAGGCAATATTCCACAATCCTTGGCGAACATTACAAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001L16	AT2G47730.1	ATGSTF8 (GLUTATHIONE S-TRANSFERASE 8); glutathione transferase	GGTTATTATCTCCACCCACTTTCAAATCATTTAAATTCAACAACTTGAGATCCAAATCTTCTCAGTCTCGGACGACCTCAATCACCATGGCCAGCATC AAGGTTCACGGAGTTCCCATGTCGACAGCCACCATGCGCGTCCTCGCTGCTCTTTACGAGAAGGATCTCGATTTCGAATTGATCCCCGTCGATATG AGGGCCGGTGCTCACAAGCAGGAGCCCTTCCTTTCCCTCAACCCGTTCGGTCAGATTCCTGCTCTCCAAGACGGTGACTTGACGCTATTTGAGTCA AGAGCCATCACAGAGTACATAGCGGAGGAGTACAGTGAGAAAGGAGAGAAGCTTCTGTGCCCAGGCTGCAAGAAAGTCAAGGCAACCACTAACGT ATGGCTTCAAGTTGAAGGTCAACAGTTTGACCCAATCGCCTCAAAGATAGCCTTCGAGCGTATCTTCAAAGGCATGTTCGGCATGACCACCGACCC CGCCGCTGTGGAAGAGCTCGAAGGGAAGCTCGTCAAGGTCCTGGATATCTACGAGGCTAGGCTCGCCAAATCTGACTTTTTGGCCTGTGATTGCTT CACTTTGGCTGATCTTCACCACCTCCCAGCCATCCATTACTTGATGGGTACCGACTCCAAGAAACTCTTTGAATCTCGCGCTAAGGTTTGCGACTGG GTCAAGAAGATTACCGCCAGGCCAGCTTGGGCTAAGGTTGTTGCCCTCCAAAAGCAGTAACCTGACCTCTTTTCTTTCTTTCATTTGCTTTGAGCTTT TCCTTGTGATAAATAAATGAGCTGTCTTATTGTGTGTACTCTACTCTTGTATGTTTTCAGTAATGTATCGTCATCCTGGTATCTTCTCTTCTTCTTCTGT
GCT-001L17	AT4G26570.1	ATCBL3 (CALCINEURIN B-LIKE 3)	GACTCTTCTATCGTCGGGCTTTTCTCTCACTTACCAATAGAGCTCTTTTGTTTGTTTGTTTGTTTGGCGTCTTCACCGCAACCACCGCCAGCTTCAAC CGCCGGAGCCGCCGTAAGGAAGGCTCTTCATCGGCCGTTGCATACTTTTAAGGTCTTCAAAGCGTTGTCTTTCTTACGAACCAGGAAATGGTTAAAA GGCATGGAGGGTTTTGATTTACTAGAGATATCATGTCGCAGTGCGTAGACGGTTTCAAGCATGCGTGCACTTCTCTTTTACAGTGTTTTGATATTGAT ATATACAAACAATCTGGAGGCCTTGGAGACCCTGAACTACTTGCGAGAGAGACAGTTTTTAGCGTGAGTGAAATAGAGGCTCTCTATGAGCTGTTTA AGAAAATCAGCAGTGCTGTGATTGATGATGGGCTGATAAACAAGGAAGAGTTTCAACTAGCCTTATTCAAGACAAATAAAAAAGAGAGCTTGTTCGC AGACCGGGTATTCGATTTGTTCGACACAAAGCATAATGGAATATTGGGGTTTGAGGAGTTTGCGCGTGCTCTCTCCGTCTTTCATCCAAATGCTCCC ATAGAAGACAAGATTGACTTTTCGTTTCAGCTATATGATCTTAAGCAGCAAGGTTTTATAGAGAGGCAGGAGGTGAAGCAAATGGTGGTGGCTACTC TTGCTGAGTCCGGCATGAACCTGTCAGACGAAATCATAGAGAGTATAATCGACAAGACATTTGAGGAAGCTGACACAAAACATGACGGAAGGATCG ATAAGGAAGAGTGGAGGACCCTTGTTCTTAGGCATCCTTCGCTTCTGAAGAACATGACTCTCCAATATCTCAAGGATATCACGACTACGTTTCCGAG CTTTGTGTTTCACTCGCAGGTGGAAGATACCTGAGAAAAGCATGGTAGAGCAGACAATTTGGCAATTGTGTTTGTTTTCTGAGTTATGTATCATGTTT
GCT-001L18	AT5G63380.1	4-coumarate--CoA ligase family protein / 4-coumaroyl-CoA synthase family protein	GGTCTTTAACCGCCGTCGAGAATGCAGACGAAAAACAATGACAGCCGTGCGATTGACCCGAGTTCCGGCTTTGATCGACGGACAGGAATCTATCAC AGCCTTCGTCCCTCTTTGTCTCTACCTCCTATCGATCAACCTCTATCCACCACCGAATTCGTGCTTTCTCTCCTCCGCAAGTCCTCGCCACCCGCTA CCGCCGGAAAAGACATTAAAGCCATTACTTACCTTGTCAAGGCAAGCTCTGGAGATAGCCTCACTTATGGAGAGCTTCTTCTTAAGGTTCGTTCCCT TGCCGTGTCTCTTCGGGAGCGATTCCCTTCTCTTTCGTCCACAAATGTCGCTTTTATCCTCTCCCCAGCTTCGTTGCACGTACCGGTGCTTTACCTG GCTTTAATGTCGATTGGCGCTGTGGTTTCACCGGCTAACCCAATCGGATCTGATTCGGAGGTGAGTCATCAGGTTGAAGTCAGCAAACCAGTCATT GCGTTCGCGACGTCGCAGACGGTTCACAAGTTTCGTTCCTCTTCTTTCCCTCTCGGAATCGTTCTGATGGACTCGCCTGAGTTTCTCTCCTGGTTAA CTCGGTCGGATTCTTCATCGGTCAAGCCGATTCAGGTTCGGGTCAACCAATCGGACCCTGCCGCGATACTCTATTCGTCCGGGACAACCGGGCGG GTCAAGGGCGTTCTCCTCACCCACCGTAACCTAATCGCCTCGACGGCTGTGTCTCACAAACGCTCACTCGAAGATCCGGTTGATTACGACCGCGTT GGGCTCTTCTCGCTACCGCTCTTCCACGTGTTTGGTTTCGGGATGATGATCCGAGCCATCTCGCTCGGAGAGAAACTGGTGCTTCTAGAGAGATTC GAGCTCGGAGCGATGCTTAAGGCGGTGGAGAAATACAAGGTCACTGGTATGCCTGTATCTCCGCCGTTGATTGTGACGTTGTTTAAATCGGAGCTA ACGTACAAGTACGATCTCCGGTCCTTGCGTTCCCTTGGATGCGGCGGCGCTCCGCTCGGGAAAGACGTAGCCGAGAGGTTCAAGCAGAAATTCCC AGACGTGGAGATTATTCAGGTGGTGTAAAAAAACTAATATATAGAATAATCTTGGACTGCACCCAATTTCATGATTCTTTGGAATCTAATTTCTTAAAT TCAGATATGACTTTTTTGTGATGGTTTCACAGGGTTATGGCTTGACAGAGAGCTCCGGACCAGTCTCGTCCACGTTTGGACCGGAAGAGACGGTGA GATACGGGTCAGTTGGTCGTATCTCTGAGAATATAGAAGCCAAGATCGTTGATCCATCCACCGGAGAAGCCTTGCCACCGGGAAAGAACGGTGAGC TCTGGCTCCGTGGACCAGTCATCATGAAAGGTTATGTGGAGAACGAGAAAGCGACTTCTGAGACATTAGATCAAGAAGAAGGGTGGTTAAAGACCG GTGATCTCTGTTACATTGATTCCGAGGGGTTTCTATACATTGTTGATCGGCTAAAGGAACTGATCAAATACAAGGCCTATCAGGTTCCACCGGTAGA GTTGGAGCAGATTCTTCAGTCTAATCCAGACGTGGTTGATGCTGCTGTTGTTCCTTTTCCGGACGAGGATGCAGGAGAGATACCAATGGCTTTCATA GTGAGGAAGCCTGGAAGCAATCTCAATGAGGCGCAGGTCATTGATTTCGTAGCTAAACAAGTTGCTCCGTATAAAAAGGTAAGACGAGTTGCTTTCA TAAACGCGATCCCAAAAAATCCTGCTGGGAAGATTCTGCGTCGGGAGCTTACTAAACTCGCTGTAGATGGCAATGCATCTAAGCTTTGAAGAGTAGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001L19	AT3G15350.2	glycosyltransferase family 14 protein / core-2/I-branching enzyme family protein	GGTGTTCTTTGAGCACAAAGTAGAGCAGAAACAAAGCGCAAGATTAAAAAAAAAACTTCCTTTGCGTCTAGATTGAAAAACAGCATCAAGACAACTAC CAAAAAATCTCAGGTACTTGTGCCTGAATCGAGCCTGGACTCTAGATTGTTGTTGATTCTGAAAGATTCAAGCTTTTTGCTCCAAGTTTCCAAGAGAG CGGTGAATCACTTTACACTTGGTCTCTGCACACTGCTAAAACCGGTTTTGGTTCGGCAAGACAACAGTTTTCTTTCAGAAGCTTTATTTTTTCTTTGTC TCATGATCACTGGTTTGCTGCAATGGGGTATGTAAACGTGGAGAAGAGATGGGTTTTTCCTCTTGTGATCACATCTCTTGTCTGCGTTTTTCTCCTTG CAACCTCTTTCAACATGGGCCTTGTCTCTTCTCTTCGAAAAATCAACGGAATTTTCTCCATCATCCCTTCACGTCTCGTCAGGAATCAAACGAGACTT GATTTTGCAGAGTCCAAAGTTGCTAGACAAGTCCATGTTTTGCCTCATGAAGACAAGCTTCCCCGTTTTGCATACCTCGTTTCCGGGTCTAAAGGGG ATGTAGAAAAGCTTTGGAGAACGCTAAGAGCAGTGTACCACCCTAGAAACCAGTATGTTGTTCACTTGGATCTTGAATCTCCGGTGGATGAGAGATT GGAGCTGGCTTCTCGGATTGATAAGGATCCTATGTATTCTAAAACCGGCAATGTCTATATGATAACCAAGGCTAATCTTGTGACTTATAGAGGACCAA CAATGGTGGCAAATACCCTTCACGCTTGTGCAGTTCTTCTTAAGAGAAGCGCAAACTGGGATTGGTTTATTAATCTTAGTGCTTCAGATTATCCCCTG GTGACCCAAGATGATCTGCTTCATACGTTTTCTACTCTGGACCGGAACCTCAACTTTATTGAACACACAAGTCAGCTAGGTTGGAAAGAGGAGAAGC GAGCAATGCCATTAATGATTGATCCTGGACTCTACTTATTGAACAAATCAGATATATACTGGGTCACACCTCGTCGAAGTTTGCCAACTGCGTTTAAG TTATTCACTGGATCTGCTTGGATGGCTCTATCACGTTCGTTTGTAGAGTATTGCATATGGGGATGGGACAATTTACCACGAACACTCCTAATGTATTA CACCAATTTCGTGTCTTCCCCAGAAGGTTACTTCCAAACTGTAATCTGCAACGTGCCCGAGTTCTCAAAAACCGCAGTAAACCATGACCTTCACTACA TCTCCTGGGACAATCCGCCGCAGCAGCACCCACACGTGTTGTCACTCAATGACACGACGCAGATGATATCGAGCGGTGCTGCATTTGCAAGAAAAT TCAGAAGAGACGACCAAGTGCTCGACGTGATCGATAAGGAGTTGCTTAGACGGAGCAATGATAAAGATGGTTTTACTCCTGGTGGGTGGTGCAGTG GGAAACCAAAGTGCTCCCAGGTCGGTGATGTGGCTAAGATTAAGCCTAGTGCTGGAGCTCTGAGGTTTCAGGGACTTGTGACCAGGTTAGTCAATG AGGCCAAAACAGGAGTTAGTCAGTGTAAATAGTTCGAATTTTGGAAGGGAAAAAGAAAAGGAATCATTTTGGGGAGGGGCTTGGAATCGAATTCAG GGAGAGTGAGACTGTTCTTGCGATATATATAATATATGTATACATATATAGGGTTTCAGAGAATCTTGCAGTTGCAGAGAGAGCTTTAGTTCGGTTTA
GCT-001L20	AT1G19350.6	BES1 (BRI1-EMS-SUPPRESSOR 1)	GGAAGAAAGATTCTTCTATAATTCCATCGAAGAGAGAAAAGCGTATTCCTCGTGAGCACTAACTTCTCACTCTTCTTCTTCATCTTCTTCAGCTGAATC ACAATCCGTGCGTATAATCTGCAGCGACCTGTATTTATACCCGATTCGGATCGGTTTCGAAGGTGGTTTGGGTGTTTTGAGTGTTGGGGAAGAAGAT GACGTCTGACGGTGCGACGTCGACGTCAGCAGCAGCGATGGCGACGAGGCGGAAGCCGTCGTGGAGAGAGAGGGAGAACAATCGGAGGAGGGA GAGGCGGAGAAGAGCTGTGGCGGCGAAGATATATACCGGTCTCAGAGCTCAAGGTAACTACAATCTGCCTAAACACTGCGACAACAATGAAGTGCT CAAGGCTCTTTGTTCTGAAGCTGGCTGGGTCGTTGAAGAAGACGGCACCACTTATCGCAAGGGACACAAGCCTCTCCCTGGTGACATGGCTGGATC ATCCTCGCGGGTCACTCCTTACTCTTCCCATAACCAAAGCCCTTTTGAAAGTCCCATCCTTTCTTACCAAGTCAGTCCGTCTTCTTCTTCATTCCCAA GTCCTTCTCGTGGCGGCGACACACACAACATCTCCAACATCTTCCCTTTCCTCAGGAACGGTGGGATTCCTTCATCGCTTCCTCCGCTTAGAATCTC AAACAGTGCTCCAGTCACTCCACCAGTCTCATCCCCAACTTCTAAAAACCACCCCAAGCCATTGCCCACTTGGGAATCTTTTACAAAACAATCCATG GCCATTGCTGCTAAACAATCAATCTCATCTTTCAACTACCCGTTTTACGCCGTATCTGCACCTGCGAGTCCCACTCATCATCGCCAGTTCAATGCCCC TGCTACTATACCTGAATGTGATGAGTCTGACTCTTCGACTGTTGATTCGGGTCATTGGATAAGCTTTCAAAAGTTCCCACAACAGCCATTTCATGCCG GCCCTGGAGTGCCAGCCTCTCCTACGTTCAATCTAGTGAAGCCCCCCGCACCTCAGCAATTATCTCCAAACACTGCAGCAAACCGGGAGATTGGTC AAAGCTCGGAATTCAAATTTGAGAACAGCCAAGTTAAGCCATGGGAAGGGGAGAGGATCCATGATGTGGCTATGGAGGATCTAGAGCTCACCCTTG GAAACGCTAAAGGTCGTAGTTGAGATAAAGAACAAAAGAACCTGTTGTGGCATGTCGAACTGGAAGGATTGTAGTCTTCGTGTGTTGTTCAGTTCAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001L21	AT4G34240.1	ALDH3I1 (Aldehyde dehydrogenase 3I1); 3-chloroallyl aldehyde dehydrogenase/ aldehyde dehydrogenase (NAD)	GACAAGATTTCAACTCAACCAAGTTATGACGAACCTCCTGGAGATGAAGAATGCCCTTCGTTTTGCCGATGGGTTTTATCGTTCCAGATTAAAAGTCG CTGCCTTTGCTAATTCACCATCTCTGATATCTGGTGGATATCGCAGCAAAGCTTGCGTCCCCTCTCGCTTGAAATTTACTTGCTATGCAACACTATCT GCTGTGGTAACGAAGCAAACACCAGCGTTTGATGGAAAAGAAGCAGCTTTGCTTGTAGAAGAGCTCAGAATCAACTTCAACACCGGTAGAACAAAG AGCTACGAGTGGAGAATTTCTCAGCTTCAAAACATTTCCAGGATGATTGATGAGAAAGAGAGATCCATCGCTGAAGCTTTGCATCAAGATCTTTCCAA GCCTGAGCTCGAAGCTTTTCTAGCTGAGATTTCGAATACAAAATCATCCTGTATGCTTGCAATCAAAGAGTTGAAGAACTGGATGGCTCCAGAAACG GTCAAAACTTCCGTGACAACATTTCCCTCGTCTGCACAAATAGTCTCAGAACCGCTTGGAGTTGTTTTGGTTATCTCAGCCTGGAATTTCCCTTTCTT ATTGTCTGTTGAGCCAGTCATTGGAGCTATTGCAGCTGGTAACGCTGTTGTGCTAAAACCTTCAGAAATTGCTCCAGCAACATCTTCTCTTTTAGCAA AGTTGTTTAGTGAGTACTTGGACGAATCAACGATCAGAGTTATCGAAGGCGGAGTCCCTGAAACTACGGCACTACTGGATCAGAAATGGGACAAGA TATTCTTCACTGGTGGAGCAAGAGTTGGTCGCATTGTAATGGCTGCAGCTGCGAGAAACCTGACTCCAGTGGTCCTCGAACTTGGTGGGAAATGCC CGGCTCTGGTTGATTCAGATGTTAATCTACAAGTGGTAGCTAGGAGGATAATATCAGGGAAATGGGCTTGTAACAACGGACAGGCTTGCATTGGAG TCGATTACGTGATCACTACAAAAGATTTTGCATCAAAACTGATAGATGCTTTGAAGACTGAACTCAAGACATTCTTTGGGGAAAATCCATTAGAGTCA AAGGACCTATCACGGATTGTGAACTCTTTCCACTTCAAACGGTTGGAGAGTATGTTAAAAGAGAATGGAATGGCTGATAAGATTGTTAAAGGAGGCC AAACAAGCGAAGATAAGCTGAAAATATCTCCAACGATACTACTGGATGTGCCAGAGGCATGTTCCATGATGCAGGAAGAGATATTTGGACCATTACT TCCTATAATTACGGTACAGAAGATTGAAGATGGGTTTCAGGTTATACGGTCAAAGGCAAAGCCTTTAGCGGCGTATCTCTTCACAGACAACAAAGAG CTGCAGAAGAAATTTGTGCAGGACGTGGCTGCTGGAGGAATTGGCATCAATGACACCGTCTTACACGTGACTGTAAAAGATTTACCATTTGGAGGA GTCGGGGAGAGCGGGATTGGGGCTTACCATGGGAAATTCTCGTATGAGACTTTTAGCCATAAGAAAGGAGTTCTTTACAGGAGTTTTGCTGGGGAC
GCT-001L22	AT1G25550.1	myb family transcription factor	GGGGGAGAGAAAAAAAAACGAAAGAAAATTCCAGTATTCAGAAATTTCTGAATTCAGTAATAAATGACTAAATGAGTCGACGTTCTTATCTCAACGTC ACGAGAATGTTGACGTCAGTTCCTAATCTATCACCTAGATGCGACGGAATTTGAAAATTCCATTTTATTATATACCCAGAATATTCAAATATTCTCCTT CATAAACATTTTTGTCCTTTTTATCTCAAAAGAAAAAATACAATCCTTTTTTTTTAGATATGCGACGGCCCGACTTTGATCTTTAATGTCTCAGATTCTT AATTCTCCTCATCTCTCTCGCTCCTTAAAACATCCAACTTGAGCAACAAGTTTATCATTATTCCCTTCTCCCTATTTACATCTCAATATTCTTCTCTTTC ACAACTCTTCTCTTTCCTTCCTTCACTAAAAATTTTATGTTCTCTGCTCCGAATCGCCGAACCAGTCCAAGTTGTTGTTTTAGATCGGTTTACGACTAT GATTAAGATCGGATTCACGGAGGATTACACTTTGAAAATGAAGAGATGTCACGACTACGTCGAAGCGCTTGAACAAGAACAGAAGAAGATCCAAGTC TTCCAACGTGAGCTGCCCTTGTGTCTGGAGCTCGTAACACAAGAGATCCAGTCGTGTCGGAAGGAGTTATCGGAATTTTCTACTACGTCGGAGCAA GTTCACGGCCAATCAGAGTGTTCTGAGCGGACTACGAGTGAGTCCGGCGACGGTGCTGCCGTGTTTGAAGAGTTTATGCCGATCAAGTTAAATTCG TCTTCTTCCAATGAACACGAATCTACTTGTGAACCAAATAAAGACGACGGAGCTGAAAATAATGGTGATAAGAAGAAATCTGATTGGCTTAGATCTGT TCAGTTATGGAACCAGCCCAAAGAGGATCGGACAACAACGGTGGTGGTAGATGGTAAACGAAACGGTGGTGCGTTTCAACCGTTTCATAAGGAGAA GCCCGTGGTTGCGGCGGCAGCTAAGGCTGATTCTCAACCGGTAAAAGCAATCACTCCAACGCCGACGACGTCGAGTTCCACGGCGGAAACCGTCG GAAGTAAAAGAGAGCCGGAGAACCATAAACACTCGCAAATGCATAGGAAGCAGAGACGTTGCTGGTCGCCGGAGTTACACCGGAGATTTCTGCAC GCGCTTCAGCAGCTAGGAGGATCACATGTTGCCACGCCGAAACAGATTAGAGATCTCATGAAAGTTAATGGTCTAACCAATGACGAAGTTAAAAGCC ATTTACAGAAATATAGATTGCATACAAGAAGACCAGCCACTCCGGCAATGACCAACGGCGGAGAAAATCCACAGCAACCGCAATTCATGGTTGTGG AAGGCATTTGGGTGCCGTCGCACGATGCAGCGAACAGAGTTTACGCTCCTGTGGCAGTACAACCGCCGCTAGCTTCACCGTCGGAAGATAGAAGT
GCT-001L23	AT2G37770.2	oxidoreductase	GGCGCTGTGTATGCTTTTGAACCAACGCTATCGATCTTTAATCTCCGATAATGGCGAACGCGATCAGATTCTTCGAGCTTAACACCGGCGCTAAGAT CCCGTCGGTGGGTCTCGGAACATGGCAAGCCTCTCCGGGCCTCGTCGGCGATGCCGTCGCCGCCGCTGTAAAGCTCGGATATCGTCATATTGATT GCGCTCAGATCTACGGCAACGAAAAAGAGATTGGGACAGTCTTGAAAAAACTGTTTGAAGATAGTGTAGTGAAACGCGAGGAGTTGTTCATCACTTC CAAACTCTGGTGTACTGATCATGACCCTCAAGATGTGCCAGAGGCACTAAACAGAACTCTACAAGATCTGCAGCTTGACTACGTCGATCTGTATCTG ATGCACTGGCCTGTACGGATGAAGAAAGGTTCTGTTGGAGCTAAGCCAGAGAACCTTTTACCTGTAGATATTCCTAGCACATGGAAAGCAATGGAAG CACTCTATGATTCGGGCAAGGCACGAGCCATAGGTGTAAGCAACTTCTCGACCAAGAAACTAAGTGATCTCTTGGAGTCAGCTCGTGTTCCTCCAG CTGTTAATCAGGTCGAGTGTCATCCTTCTTGGCGACAAACTAAGCTAAGAGAGTTCTGCAAATCCAAAGCAGTTCATCTCACTGCATACTCGCCATT GGGCTCTCCAGGAACAACGTGGCTCAAGAGCGATGTTCTGAAGAACCCTGTACTGATTAATGTTGCGGAGAAGCTTGGAAAGTCTCCTGCGCAAGT TGCGCTTCGCTGGGGACTCCAAATGGGTAATAGTGTACTTCCAAAAAGTACTAATGAAGGTAGAATCAAAGAGAACTTTGAAGTTTTCGAGTGGTCA ATACCTGATGACCTGTTCGCTAAGTTTTCAGAGATTGAACAGGCTAGGTTATTGACTGCTTCCTTCTTTGTTCACGAGACACTGAGCCCTTACAAGTC TCTTGAAGAAATTTGGGATGGGGAGATATGATTATTATATTCAGCTGATCTATTTTGTTTTGTCAATAAATGGGAGGTTTCTCTCTGTGTTGAACTTTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001L24	AT3G06780.1	glycine-rich protein	TGGGATTTGGGGAAAAAAATCGAACAAGGTCGTTGTCGGATTTCTGGATCATGGAATTCTCTCTAATCGCCGATACAGTCGCAGTTTGCACGGCGAA GCAAGGCATAGCGTTTGGGAAATCTCTCCTCAATCGGTTGGATTTGGCCAATCACATTTCATTTGCCGATTCTACCGTTGATCACTCTCCGGGTGGA ATCGTTCAAGCATCGGCTGTTATCTTCCCCGTTGATGCAATCGCCCCTCCACCGGTTAGATCCAGCTCTTACAAGACAATCCGCCGGATCCGCAAAA AGCGGCGTACGAAACGCGTTTTATTTGGCGGTGACTCGGAAGACGGAGGAGATTTTGGTCGTTTTCTACTAGAAGGCGATTTCGGTGGTAACGACG GTCCATTTGGATTTGGTGGAGGAGGCGATGGCGGCGGAAAAGGATGGAACTACGGTGGTGGTGGTGGTGGTGGTTTCGGAAGTGGGAATTGGGA TGAGTCTTCGTCTTCGTCGTGGTCGGATCCAGCAATGGAATTCGTGTACGAAGTGATCTGCTGGATCGCGTTATCGAATTGCGTGCACTTCGCGTTC AAGAGGATAGTGAGGATCGTGACGGACGGTGATAGGGAGAAGTTGAACCTGACATTGTCTCCGGTGTGCTGACAAATACCGTTGCAGTAATATATG
GCT-001M02	AT4G01370.1	ATMPK4 (MAP KINASE 4); MAP kinase/ kinase	GAGGTGCGTGCGTCTTGGGTTCTTCGCTTTTTCTTTCGTTCGATTCAGTCCGATTTTTGTAGGGTTTACTGGTTAAGATATGTCGGCAGAGTCTTGTT TCGGTGGTTCTGGAGATCAAAGCACCAAAGGATTGCCTACTCATGGTGGTCGCTATGTTCAGTATAATGTCTATGGAAACCTCTTCGAAGTTTCTAG AAAGTATGTTCCTCCTCTTCGTCCAATCGGTAGAGGCGCTTATGGCATCGTCTGTGCTGCTACGGACTCAGAGACTGGAGAGGAAGTAGCTATCAA GAAGATCGGTAATGCTTTTGACAACATTATCGACGCCAAAAGGACTTTGAGAGAGATTAAGCTTCTCAAGCATATGGATCATGAAAATGTTATTGCTG TAAAGGATATAATAAGACCACCGCAGAGAGAGAACTTCAATGATGTTTACATTGTTTATGAGCTGATGGACACTGATCTCCACCAAATTATACGCTCA AACCAACCGTTAACTGATGATCATTGTCGGTTCTTCTTGTATCAGTTGTTGCGTGGGCTCAAGTACGTTCATTCAGCGAATGTATTACACCGAGACCT AAAACCCAGCAATTTGCTTCTGAATGCAAACTGTGATCTAAAGCTTGGGGATTTCGGGCTTGCGAGGACCAAATCCGAGACAGACTTCATGACTGAA TATGTTGTCACACGTTGGTACCGAGCTCCAGAGTTGCTCCTTAACTGCTCAGAGTACACAGCAGCAATTGATATTTGGTCAGTCGGTTGTATACTCG GTGAAACAATGACAAGAGAGCCGTTGTTTCCTGGTAAAGACTATGTTCATCAGCTTAGACTTATCACTGAGCTTATAGGATCACCTGATGATTCAAGC TTGGGATTCTTAAGGAGTGACAACGCAAGGAGATACGTTAGACAGCTTCCGCAGTACCCGAGACAGAACTTTGCTGCTAGATTCCCAAACATGTCA GCTGGTGCGGTCGATTTGCTGGAGAAAATGCTCGTCTTTGATCCAAGCAGACGCATTACAGTTGATGAAGCGTTGTGCCACCCATATTTGGCTCCG CTGCACGATATAAACGAAGAACCGGTGTGTGTGAGGCCGTTTAATTTCGATTTCGAACAACCTTCTTTGACAGAAGAGAACATTAAGGAGCTTATATA TCGTCAAACACTCAACTTCAATCGTCAAGACTCAGACTAAGACGCTATCAGAAAGACTGCTAAAAAAAACTCATCAGAATCGTTCTTTTCTTTTGCTC
GCT-001M03	AT3G15190.1	chloroplast 30S ribosomal protein S20, putative	GACTCTACTTACGGAGGGAGAGAGAGAGCAGAGAAGAGAAGAGAAGCGTGTAGAAATCGATGGCGACGATAGTGCAGTGTCTTTCCTCCTGTGCG GCCCTTGATTCCAAATTCAAAGTCCTTTCGCTCAAGGGAATTTCTTCTTCTTTTTCTTCCGCGTCAGCATCATCTTCATCCTCTTCCTTCTCCACTCGT CGCGGTTCGTCGGCTACTTTAGGCTCCTCCCTTAGCTACTCTCAGAGCGTTTCTCAATGTATCGCTTTTTCCTCCGGGAATTTGAGGGTACAGAAGC CAATGAGGCAATTGATTGTGTGTGAGGCTGCTGCTCCCACGAAAAAAGCCGATTCAGCTGCCAAGAGAGCTCGCCAAGCCGAGAAGAGGCGTCTT TACAACAAATCTAAGAAATCTGAAGCCCGTACTCGAATGAAGAAGGTTTTGGAAGCACTCGAGGGGCTCAAGAAGAAAGCAGACGCGCAACCTGAT GAGATTGTAACAGTGGAGAAACTGATAGGAGAGGCTTATTCTGCAATAGACAAAGCGGTGAAGGTTAGAGCGCTACACAAGAACACTGGTGCGCGT AGGAAGTCTCGGTTGGCTAGGAGGAAAAAAGCCGTCGAGATCCACCACGGTTGGTACGTCCCAGACACAGCAGTAGCTGCAGCAGCAGAAGCTGT GACCATGGCTGCGTAAGAACTTGGACAGAGATAAATGGGAATTTGTTTTTTGTTATAAGATCATGTGGAAGAAGATGTGAAAATTGCTTTCAATATCA
GCT-001M04	AT4G37980.1	ELI3-1 (ELICITOR-ACTIVATED GENE 3); oxidoreductase/ zinc ion binding	GACACTTGACAATATTTAGCGTCACTCAAAAAAAAAAAAAAAAAAAACAGTTGGAATTCTATTCTCTTGTTGGTTATCCATAATGGGAAAGGTTCTTGA GAAGAAGGCGTTCGGATTGGCCGTGAAAGACGAATCTGGTGTTTTCTCGCCTTTCTGTTTCTCAAGAAGAGAGACGGGAGAGAAGGATGTGAGGTT CAAAGTGTTGTTCTGCGGAATTTGCCACACTGATTTAAGTATGGCCAAAAACAAGTGGGGGTTTACTACTTACCCTCTCGTCCCCGGGCATGAGATA GTTGGCGTGGTGACTGAAGTCGGAGCCAAAGTGACTAAATTCAACGCCGGAGACAAAGTCGGAGTTGGTTATATGGTCAGCTCGTGCCGGTCATGT GACAGCTGCACCGATGACCAAGAGAACTATTGTCCAAAAATGATCATAACTGCCGGAGCCAAGTACTACGATGACACCATAACCCATGGTGGTTACT CCGACCACATGGTTTGTGAAGAGGATTACATCATCCGTATTCCAGAAAATCTCCAATTAGACGCTGCCGCGCCGCTACTCTGCGCCGGGGTCACGG TCTATTCCCCGTTGAAGTATCATGGGCTCGACAAGCCCGGTATGCACATTGGTGTGGTGGGTTTAGGTGGTCTGGGTCATGTAGCAGTTAAATTTGC CAAGGCTATGGGTATTAAGGTTACGGTTATTAGTACTTCGGATAGGAAGAGAGACGAGGCTATTAGCCGGCTTGGTGCGGATCTGTTCTTGGTGAG CCGTGACCCGGAGCAGATGAAGCAAGCAATGGGGACTATGGATGGTATTATTGATACCGTATCCGCGACTCATCCGCTTCTTCCGCTGCTTGGGTT GCTTAAATACAAGGGAAAACTTATTATGGTTGGTGCACCCGAGAAACCACTCGAGCTTCCGGTTCTGCCTCTCATCCTTGGAAAGAAGATGGTGGTT GGAAGTATGATAGGAGGGATAAAGGAGACTCAAGAGATGGTAGATATGGCCGGAAAACACAACATCACGGCGGATATTGAGCTTATCTCTGTGGAT TATGTCAACACCGCCATGGAACGGCTCGAGAAGGCCGACGTTAGGTACCGATTTGTGATTGATGTTGCCAACACATTGAAGAAGCCTACTCCTTAAA TTACATAAAAAGCTTCAGAAGTCAATTTCCCGAAACTTTTTTTGTTCTTTCGTTTCTTGTAATCAGTTTCGTCTTCTTTCATTACGACTTTCTCTCTAGC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001M05	AT1G06040.1	STO (SALT TOLERANCE); transcription factor/ zinc ion binding	GGGTTGCTCCCCAACAACTTGTCCCCAGAAATACAAGTTTCTCTCTTATTCTTTCCATAATCTTCATTTCTGTTACTTATCCTCTAAATCCCTTTCTCTT CACCTACATTCCTGCTAAGCTTCTCTCAGAAAGATCCAGCAAGTCAAATTACCAAACCCAAAAAAGTTCGGATTTTCTTGATTTTAAACACAGAATCAA GAAAGAGGGCAACAGTAACTGGAAAAAAAAAAAAAGAAACGATGAAGATACAGTGTGACGTGTGTGAGAAAGCTCCGGCGACGGTGATATGTTGCG CCGACGAAGCAGCTCTGTGCCCTAAATGCGACGTCGAGATCCACGCTGCTAATAAACTCGCTAGCAAGCACCAACGCCTTCATCTCACCTCTCTCT CCACTAAATTCCCTCGTTGCGATATCTGCCAAGTAAGTATATACATAGATCTGTCTCTCTCTGTTACTCTTTCTCTGGTTAATTGATTAGATCTTGTTAT ACAACCAAGAGATTCGTTTTATTGTCGATCTTAGCTATCGCAAAGTTACGACCTTTTAGATCTTAACAGCAACTCAGATTAGTAGATTTGTATGCTGAT TACGTTGCTGTAACTTGTAGGAGAAGGCAGCTTTCATATTCTGTGTAGAGGATAGAGCTCTGCTTTGTAGGGACTGCGATGAATCCATCCACGTAGC TAATTCTCGATCTGCAAATCACCAGAGGTTCTTAGCCACTGGGATCAAAGTGGCTCTGAGCTCAAGTAGTTGCAGTAAGGAAGCAGAGAAGAATCAT TCTGAGCCTTCAAACAACCAACAGAAAGCTAATCAGATCCCGGCTAAATCCCCGACCCAGATACAGTCTTCTTCTGCTTCTCCTCTTCCCTGGGCTG TTGACGATTTCTTCCACTTCTCTGATCCTGAATTCACTGATAAGAAAGGACAGCTTGATCTTGGTGAGTTAGAGTGGTTTTCAGACATGGGTTTCTTC AGTGATCAGATTAATCAGGAGGCTCTTCCTGCAGCTCAAGTTCCCGAGCTTTCTGTGTCGCATTTAGGTCATGTTCATTCATACAGACCAATGAAGA CGAATGTTTCATACAAGAAGCCGAGGTTAGAGATCAGAGATGATGATGATGAGGAGGAGCACTTCATTGTCCCTGATCTAGGCTAAAAGGCTATATG TAAGCTATGTGTAGACATTCATCCATAGAAAAGTAAGAGGAAGAAAAAAGACACAGAAACTCATCTGTGTAAGGATGATGCGTGGAGTCAATGTCAT ATGTTTAGTTTCATGTAAGTTGAAGGTTATTAGAGATTTGGTTGTTTTTTTTTTGTGGTAATGTGTTATGAGATGTTTGTGTTTGAGTTTGTTGATATA
GCT-001M06	AT5G26240.1	CLC-D (chloride channel D); anion channel/ voltage-gated chloride channel	GAATCAGAAACGAATGAATCAAAGGTAGTGCGGTTTTTGAAAAAATCCCGTCTTTGTGATCGAATCGCTAAAATCCAGGAGCTTTTCGATTCGATCAT CATGCTCTCGAATCATCTACATAACGGGATCGAATCTGGTAACCTGATCTGGTCTCGTGTCCCTGAATCCGATGATGCTTCCACCGACGGCGTTGG CCTACTCAGCTCTCCTCGTGACGGCGGAGGTGTTGATAGTCTCGACTATGAGGTCATCGAGAATTACGCTTACAGAGAAGAACAGGCGCATCGTGG TAAGCTTTATGTTGGCTACTACGTTGCTGTCAAATGGTTCTTCTCTTTACTCATCGGGATCGGAACTGGATTGGCTGCTGTTTTCATCAATCTCTCAG TTGAGAATTTCGCTGGATGGAAGTTTGCTCTCACTTTTGCCATCATTCAAAAGTCTTATTTTGCGGGTTTTGTAGTTTACCTTGTCATCAATCTAGTCT TAGTGTTTTCTTCTGCGTATATCATTACCCAATTCGCTCCTGCTGCGGCTGGCTCTGGCATTCCTGAGATTAAGGGTTATCTCAATGGAATTGATATT CCTGGCACCTTGCTCTTTAGAACCCTCATCGGAAAGTTTGCTCTCTCATAGATATTTGGAAGCATTGGTTCTGTTGGGGGTGGCTTAGCCCTGGGGA AAGAAGGTCCTTTAGTACATACAGGTGCCTGCATTGCTTCGTTGCTTGGTCAGGGTGGATCCACGAAATATCATCTGAATTCTAGATGGCCGCAACT TTTTAAGAGTGACAGAGATCGCCGTGATCTTCTGGAGTTGCTGCAGCATTTAGAGCTCCAGTTGGCGGAGTGTTATTTGCATTAGAGGAGGTTACAT CATGGTGGAGAAGTCAACTTATGTGGCGTGTCTTTTTCACTTCCGCTATTGTGGCTGTTGTGGTGCGTACTGCCATGGGATGGTGCAAGAGTGGAA TATGTGGACACTTTGGTGGAGGTGGTTTCATTATATGGGATGTATCAGATGGTCAAGATGACTACTATTTCAAGGAGCTACTACCAATGGCTGTAATT GGAGTTATCGGAGGCCTACTTGGGGCATTATTTAACCAGCTTACACTTTATATGACATCTTGGCGTCGCAATTCTTTGCACAAGAAAGGAAATCGAG TGAAGATATATGAAGCATGCATCATCTCTTGTATTACTTCAGCGATCTCATTTGGGCTACCACTCCTAAGGAAATGCAGTCCGTGCCCTGAATCAATT CCTGATTCTGGTATTGAGTGTCCACGGCCTCCAGGAATGTATGGGAATTACGTAAATTTCTACTGCAAAACAGACAACGAATACAATGATCTCGCTA CAATTTTCTTCAATACGCAGGATGATGCTATAAGGAATTTGTTCAGCGCGAAAACGATGCGAGAGTTCAGTGCTCAGAGTTTACTAACGTTTTTGGCT ATGTTTTATACATTAGCAGTGGTGACCTTTGGCACTGCTGTTCCCGCTGGGCAGTTTGTTCCTGGGATAATGATAGGATCAACTTACGGGCGTCTTG TAGGCATGTTTGTTGTCAGGTTTTACAAGAAGCTCAACATTGAGGAGGGAACATATGCTTTGCTGGGAGCTGCTTCGTTTCTTGGAGGCTCGATGCG GATGACTGTATCTTTATGTGTTATCATGGTTGAAATCACAAATAACCTGAAACTTCTGCCTCTTATAATGTTGGTTCTCCTCATTTCAAAGGCCGTCGG TGATGCTTTCAATGAGGGATTGTATGAAGTACAAGCACGCCTGAAGGGCATTCCATTGCTGGAATCGAGACCCAAGTATCATATGCGTCAAATGATT GCAAAGGAAGCTTGTCAAAGTCAGAAGGTAATCTCTTTACCTCGAGTTATCAGGGTTGCAGATGTTGCTTCAATTTTGCGTAGCAATAAACACAATGG ATTTCCGGTAATCGACCACACGAGAAGTGGTGAAACACTTGTCATCGGGTTAGTTCTGCGGAGTCACTTGCTTGTTCTCCTTCAATCGAAGGTAGAT TTCCAACATAGTCCTTTGCCTTGTGATCCAAGTGCTAGACCTATCAGGCACAGTTTCAGCGAGTTTGCTAAACCTGTCTCATCGAAAGGGTTATGCAT
GCT-001M07	AT5G49450.1	bZIP family transcription factor	GCTCGAGATCCTCGTCGATAAACAGATTCTCGAAATTCTAGAGTTGTTATTATTCATTAACCAAAGAGAAATGTCAATGGACGGAGTTATGACATGAG AAATCTCAACCAATTCTCTCGATTCCTCGTTTATCATTCCGTATCCGTCGTGATTCTTCACTGGTTTTACGTCTTTTCTTGAACAATTTTTTTTTTTTTT TTTTTTAACTTTATCGCAAGTGTTAGGACAAACAAACATGGCAAACGCAGAGAAGACAAGTTCAGGTTCCGACATAGACGAGAAGAAGAGAAAACGC AAGTTGTCAAACCGCGAATCGGCTAGGAGATCGCGTTTAAAGAAACAGAAACTAATGGAAGACACGATCAACGAGATCTCGAGTCTGGAGAGACGA ATCAAAGAGAACAGCGAGAGATACAGAGCGGCGAAACAGAGGCTGGACTCGGTCGAGTCGGAGAACGCGGTTCTTAAATCGGAGAAAACGTGGCT TTCGAGCTACGTCAGCGATTTAGAGAATATGATCGCCACGACTTCCTTAACGCTCACGCAGAGTGGCGGCGATGATCAGAACGCAAACGCGGAAAT AGCGGCTGGAGATTGTAGGCGTAGACCATGGCAATTGAGTTGTGATTCTCTACAACCAGTTACGTCCTTCAAGACATGAGCTTTGTGTATTACTCCC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001M08	AT5G37020.2	ARF8 (AUXIN RESPONSE FACTOR 8)	AACCTATCTCTTTCTCTCTCCCTCACTACTGTTTGAAGTCTAGACAGCGACGGAAACTGCTTCGAGGGATTTTAAATGCCACGGAAAGCGAAGTGAG ACAGATTTTCCTTATCTTCTTCCTCTATCTCTCTTCCTTTCTCCACAAAGATTTGACTGCGAGCGTTTTTGTTGTTGTCTCTCTTCTTCAAATGTTCCAA TGCGTATCTGCTCAGCTTTTGTTCTCAGTGTTCTAATGGTAAAAGCCTGATTTTTTTCGAGCTTCTGCGAAATGGGTTTTCTCTGATTCGCCGGTGAG AGAACAGTGTGAAATTTTGGGTGGGGGTAAGAAGAGAAAAAAGGAGATGGAGAAGGAAGAATTTGTCTTCCTCAAGCTCAAGATTTATAGCTGGTGT AGTAGCTGGAAGTGAAGAAAAAATCGTACGGAAAATTAGGGTTTTGCTAATTTCAGTTTTTAGTGTTTTGAAGAAAGCAAGATTTTGGGGGTTTCTCT ACTCTCTAAAACATGAATCTTTCAACATCTGGATTTGGTCACCAGAGTCATGAAGGAGAAAAGAAGTGTCTTAATTCTGAGCTATGGCATGCTTGTGC TGGACCATTGGTCTCTCTTCCATCATCTGGAAGCCGAGTTGTCTATTTTCCACAAGGTCACAGCGAACAGGTTGCTGCTACTACTAATAAGGAAGTT GAGGGTCACATACCCAATTACCCAAGTCTACCACCACAACTAATATGTCAGCTCCATAATGTTACAATGCATGCAGACGTGGAGACTGATGAGGTGT ATGCCCAAATGGTACTTCAACCATTGACACAGGAGGAGCAGAAGGATACGTTTGTACCGATTGAGTTGGGAATCCCGAGCAAGCAGCCTAGCAATT ATTTCTGCAAGACTTTGACAGCGAGTGATACTAGTACACATGGAGGGTTTTCTGTTCCTAGACGTGCTGCTGAGAAAGTTTTTCCTCCATTGGATTAC ACACAGCAGCCACCAGCACAGGAGTTGATTGCAAGGGATCTTCATGATAATGAATGGAAGTTTAGGCATATCTTTCGCGGACAGCCCAAACGGCAT CTGCTTACAACTGGTTGGAGTGTTTTTGTCAGTGCCAAGCGACTTGTGACTGGAGATTCTGTCATTTTCATCAGGAATGAAAGGAATCAACTCCTTTT GGGAATTCGTCATGCCAGTCGACCACAGACTATTGTACCATCATCTATGTTATCTAGTGATAGCATGCATATTGGACTCCTCGCTGCTGCTGCTCAT GCGGCTGCAACTAATAGCTGTTTTACAGTGTTTTATCATCCAAGGTCTAGCTCATCTGAGTTTGTGCTACCACTTCCCAAGTACATTAAGGCCGTTTT TCACACGCGTATTTCAGTCGGGATGCGCTTTCGTATGCTCTTTGAGACAGAAGAGTCAAGCGTTCGAAGGTACATGGGTACTATAACTGGCATTGGT GATCTGGATTCTGTTCGTTGGCCAAACTCTCATTGGCGGTCGGTGAAGGTTGGTTGGGATGAATCGACCGCTGGAGAGAGACAGGCAAGGGCTTC TTTATGGGAGATTGAACCTCTTACCACTTTTCCCATGTATCCATCACTGTTTCCTCTCAGGCTAAAGCGTCCTTGGCATCCGGGCGCATCGTCAATG CACGATAGCAGGGGTGACATAGCAAGTGGCCTAACATGGTTTAGAGGTGGAGCTGGAGAGAATGGCATGCTTCCCTTAAACTATCCATCTGCTAGT TTGTTCCCATGGATGCAACAGAGTCTACTAGGAACTGATCAGAATCAGCAGTACCAAGCAATGTTAGCAGCCGGTTTGCAAAACATTGGAGGTGGA GATCCTCTAAGACAGCAGTTTGTGCAGCTCCAAGAGCCAAACCACCAATACCTTCAACAATCAGCTTCTCTCCACAATTCTGATTTGCTGCTTCAGCA ACATCACCAAGCATCATCACAGCAGCAACTCCCTCGCCATCTTCTGCAAGCTCAAACTCAGATGACTGAGAATCTTCCTCAGCAGAACCTGCGACAA GAAGTTAGTAACCAAGTAACTGGACAACCACAGCAACCAAACCGTGTGTGGCAGCATTCTGATTTGCTCTCTCCTTCGTTCATGAAATCAGATTTCG
GCT-001M09	AT2G47750.1	auxin-responsive GH3 family protein	GGTGGTTTACCAATTAGAGCAGTCCTCACAAGCTACTACAAGAGCAAACATTTCCAATGCAGAGCTTATGATCCATTCAACGACTTAACCAGTCCTAT CCAAACCATCCTTTGTGAAGACAGCAACCAAAGCATGTACTGTCAGTTATTAGCCGCACTGATTCACCGCCACAAAGTGATGCGTTTAGGAGCGGTC TTTGCTTCAGCGTTTCTCCGTGGAATCTCTTATCTCGAGCAAAAATGGAGCCAGCTCTGCGAAGACATCCGCACGGGTCATCTCAGTCCCATGATCA CGGATCCAGGGTGCCAGATGGCCATGTCTTGCCTTTTAACGTCGCCAAATCCAGGCTTAGCAAACGAGATCGAGGAAATATGTGGACGCTCGTCGT GGAAAGGGATTATCTGTCAGCTGTGGCCGAAAGCAAAGTTCATTGAAGCAGTAGTGACAGGGTCGATGGCACAGTACATACCAGCGCTTGAGTTCT TTAGCCAGGGAAAGATTCCATTGGTTTGTCCAATGTATGCTTCCTCTGAGACTTACTTTGGAGTCAACGTGAAGCCACTGTCGAAACCAGCCGACGT CGTTTTCACACTCTTGCCTAACATGTGCTACTTCGAGTTTATCCCTCTCGGCAAGAACGGGACCCTCTCTCTTGACCTAGACGACGATGATCAAGTC CCTTGTGATAAAGTCGTTGACCTGGTCAACGTAAAACTTGGACGCTACTATGAGCTGGTGGTCACAACTTTCGCAGGATTGAACCGGTACCGAATCG GGGATGTTCTTCAAGTGGCCGGTTTCTACAACAAAGCACCACAATTCCGGTTTATCTGCAGGAGAAACGTGGTTCTAAGCATCGACTTAGACAAAAC CAACGAGGAAGATCTACACAGGAGCATCACGTTGGCCAAGAAGAATCTCCACAACAAGGCATTCCTGGCGGAATACACGAGCTACGCGGACACGT CATCAGTGCCAGGTCACTACGTGCTCTTCTGGGAGATCCAAGGGCTCGAACCTGATCATCAACAGAAGCTGATGGAAGAGTGTTGCATTGCGGTTG AGGAAGAGCTTGACTACATTTACAGACAATGCAGGACGAAAGAGAGATCGATCGGGCCGTTGGAGATAAGAGTGGTGGAGCCAGGAACGTTCGAG AAACTCATGGACCTGATTATAAGCCAAGGAGGCTCCTTTAATCAGTACAAAACGCCGAGATGTGTTAAGTCCGACAGTGCCACGCTCGAGCTCTTGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001M10	AT3G25070.1	RIN4 (RPM1 INTERACTING PROTEIN 4)	GAAGGTATCTCTTTTGCAATCTCTCTAGAATTCTCCCATGGCACGTTCGAATGTTCCCAAATTTGGAAACTGGGAAGGTGAGGAGAATGTTCCTTACA CAGCTTACTTTGACAAAGCTCGTAAAGTTCGAGCTCCAGGAGGCAAGATAACAAACCCGAACGACCCTGAATATAGCTCGGATTCGCAGTCTCAAG CTCCTCCTCCTCCTTCAAGAACCAAGCCTGAGCAGGCTGACCCAGTTAGAAGGTCACGTGAGCAGATGAGAAGCCGAGACGAGAGCGAGTTGAAG CAGTTTGGTGATGGTGGTGGTGGTTCATCGAATGAGGCTGCTAACAAAAGACAAGGAAGGTCTTCTCAAAACAATAGCTACGACAAGTCTCCGTTG CATAAGAATTCATATGATGGCACTGGAAGATCCAGGCCTAAACCCAACCTAAGAGCTGATGAAAGCGTAAGATCTCACACTTTTTAGCCGCAAAAAT GAAAAATGTCGAATTTGGTCTTCTTTGAAGCTCTCTGTTTGTTTGCATCACTTGGTTTCAGAGGTTGTCAGATTCTTGGTTGAAGCTGTCTGTTTCTTG CTTATCTGTGTGTTCCATAGCTCTCAAATGCATAATATTTGAAAGCTATTTAAAATATCACTTTTACCCGCAAAAATGTCAAATTTGGTCTTCTTTGAAG CTCTCTGTTTGTTTGCATCACTTGGTTTCAGAGAATGTCAGATTCTTGGTTGAAGCTGTCTGTTTCTTGCTTATGTCTGTGTGTTCCATAGCTGTCAAA TGCAGAATATTTAGAGAGCTATATTTTTTATTTTTTTTTACAAATTTGAGAGCTATTTAAGATCTCACTTTTTTGTACAAATTTGAAGCTCTCTGTCTGTT TGCATCACTTGTTTAACAGAGTGTTAGCTTTTTGGTTAAAGCTTTCTGTTTCTTGCTTATGTCTGTGTTTCATAGCTCTCAAATACAGAATATTGACACT TTTACCCGCAAAAATGTCGAATTTGATCTTCTTGCGTCACTTGTTTCAGAGAATGTCAGATTCTTGATTGAAGCTGGCTGTTTCTTGCTTGTGTTCAAT AGCTCTCTATCTAACTATATCTGAGTTTTCATACTGTTTCTATAGCCTGAGAAAGTCACTGTGGTGCCTAAATTCGGTGATTGGGACGAGAATAACCC GGCTTCAGCTGATGGTTACACACACATCTTCAACAAAGTACGTGAAGAGAGAAGTTCTGGAGCAAATGTGAGTGGGTCTTCAAGAACACCGACTCA CCCTATCTCCCGTAGTAACCCTTCCAACACTTCCAAATGTTGCTGCTTTGGCTTTGGAGGGAAATGAATGTGGAATGTTTGACGGAAGATTGTATATA
GCT-001M11	AT2G22240.1	inositol-3-phosphate synthase isozyme 2 / myo-inositol-1-phosphate synthase 2 / MI-1-P synthase 2 / IPS 2	GACAAAACCAAACACAGAGCTTAACCAAGAGAGAAAAGAAGAGAGAGTGAGAAAATGTTCATCGAGAGCTTCAAGGTAGAGAGCCCAAACGTGAAG TACACAGAGAATGAGATCCATTCGGTGTACGATTACGAAACGACAGAGGTAGTCCATGAGAATCGTAACGGTACTTATCAATGGATTGTGAAGCCCA AAACTGTCAAATACGATTTCAAAACCGACACTCGTGTCCCCAAATTAGGGGTTATGCTTGTTGGTTGGGGAGGAAACAATGGATCAACTTTAACCGC TGGTGTGATTGCTAACAAAGAAGGAATCTCGTGGGCGACGAAAGACAAAGTGCAACAAGCGAATTACTTTGGTTCACTCACTCAAGCTTCGTCGATT CGTGTCGGATCTTACAATGGCGAAGAGATCTACGCTCCTTTCAAGAGTCTCCTTCCAATGGTGAATCCAGACGATGTTGTGTTTGGTGGTTGGGACA TAAGTGACATGAACTTAGCAGACGCCATGGCTAGAGCCAGAGTCCTTGACATTGATCTGCAGAAACAGCTTAGACCTTACATGGAGCACATGATCCC ACTCCCTGGAATCTACAATCCAGATTTCATCGCTGCGAATCAAGGGTCACGTGCCAATAACGTGATCAAAGGTACCAAGAAAGAACAAGTTGATCAC ATCATCAAGGACATGAGGGAGTTTAAGGAAAAGAACAAAGTGGATAAGCTAGTTGTTCTTTGGACAGCCAATACAGAGCGTTACAGCGATGTGATTG TAGGGCTTAACGATACCATGGAGAATCTAATGGCTTCTGTCGAGAAGGACGAGTCTGAGATCTCGCCTTCTACGCTTTACGCTATCGCTTGTGTTCT TGAAGGCATCCCTTTCATTAATGGGAGTCCTCAGAATACGTTTGTTCCCGGACTTATTGAATTGGCTATTTCGAGGAATTGTTTGATCAGTGGGGATG ATTTCAAGAGTGGTCAGACTAAAATGAAATCCGTTTTGGTTGATTTCCTTGTTGGAGCTGGTATCAAGCCTACTTCGATTGTGAGCTATAATCATTTG GGAAACAACGATGGCATGAACCTCTCAGCTCCACAGACTTTCCGCTCTAAGGAGATCTCAAAGAGCAATGTGGTAGACGACATGGTGGCTAGTAAT GGCATCCTCTTTGAGCCTGGTGAACACCCTGATCATGTGGTTGTCATCAAGTATGTGCCGTATGTTGCCGATAGTAAAAGAGCTATGGATGAGTACA CGTCCGAGATATTCATGGGAGGGAAGAACACAATTGTTATGCATAACACTTGTGAGGATTCTCTCCTGGCTGCTCCAATCATCTTGGATCTTGTTCT GCTCGCTGAACTGAGCACCAGAATCCAATTCAAAGCTGAAGGAGAGGGAAAGTTTCATTCTTTCCACCCAGTAGCTACCATACTCAGTTACCTCACG AAGGCACCTCTTGTACCGCCGGGAACGCCGGTTGTGAACGCTCTATCGAAGCAGAGGGCAATGCTGGAGAACATTCTTAGGGCTTGCGTTGGGCT TGCGCCAGAGAATAACATGATCATGGAGTACAAGTGAAGGATATGATGAAGAAGCAGCATAGGGACCTAAGAGCTTAGGATATGCAGCAGAATCAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001M12	AT1G01060.4	LHY (LATE ELONGATED HYPOCOTYL)	GAGTTATCTTCTTCCTTCTTCTCTATCTTTTCTCCGCTCTGCTAAAAAAAAAAACAATAGAGATTTGGTTTTTTATTCGTTTTCCGATTGGACTGTTTTC GGGAACGATGACTTCTCCGGCGAGTTCCCGGTGAGATGATCTAGTTTCTATTTTGGATTGCATACGTTGTTCCTCCATGGCCACTCTCAAGGGTTTT GGCTGCGATGGATTCGTTTGGTTGCTCTAGAATCTGAACCCATTTGCAATTTGGAAGCTTTGATGTTTGGGGGAGATCAAAGATGTTTACTTTGATAT ATTAGAGAGGATTTGAGGCAGCGAGAAGCTGCAAAGATCCGGTTATGGATACTAATACATCTGGAGAAGAATTGTTAACTAAGGCTAGAAAGCCATA TACAATAACAAAACAGCGAGAACGATGGACAGAGGATGAGCATGATAGGTTTCTAGAAGCCTTGAGGCTTTATGGAAGAGCTTGGCAACGAATAGA AGAACATATTGGGACAAAGACTGCTGTTCAGATTAGAAGTCATGCACAAAAGTTCTTCACAAAGTTGGAGAAAGAGGCTGAAGCTAAAGGCATTCCC GTTTGTCAAGCTCTGGACATAGAAATTCCACCTCCTCGTCCTAAAAGAAAACCCAATACTCCTTATCCTCGGAAACCTGGGAATAACGCTACATCTTC CACTCATGTATCATCAGCAAAACTTGTGTCCTCGGCCTCTTCTTCACATTGTAATCTGCTGGATTTAGAAAAACTGCCATTTGCCGAGAAAACGTCAA CTGGAAAAGAAAATCAAGATGATAACTGCTCAGGGGTTTCTACTGTGGACAAGTATCCCTTACCAAAGAAAGCAACTCACACTTTCATGGAAACTGA ACTGTCTCTTAAAAAGGCAAGTGCCGATAATGGAACGAGTAAAACCTCAAAAGTGGACAATATGGCTCAAGATGGTCCGGAGAAGAACAAAGACAG AGATGGTGACGGTATGCACAGCGCGCAGAACTACCATTGGCATTTCCCCGCTGATTTTGTAAACGGAAATATGGCAAAATGGCCTCAGTTTCATCCC CCAGGTATGGTATCTCCAGACTTCATGTTTCGTCCTATGGAAGATCGAGTTCACGGGCAATCTAGCTCGCACGTGAATCTTCCTGCTACAACAACAA CATCTGCTACTACAACTTCTCAACAACTGTTTCCAGCGTGCCATTCCCAGGATGATTACCGTTCGTTTCTCCAGATTTCTTCTACTTTCTCCAATCTTA TTATGTCAACTCTCCTACAGAATCCTGCAGCTCATGCTGCAGCCACATTTGCTGCTTCAGCTTGGCCCTATGCAAATGTCGCCAATTCTGGAGATTC ATCAACGCGAATGAGCTCTTCTCCTCCAAGTATAGCTGCCATTGCTGCTGCTACAGTGGCTGCTGCAACTGCTTGGTGGGCTTCTCATGGACTTCTT CCTGTATGTCCTCCTACTCCACTCACTTGCCTTCCATTACCAACCGTTGCAGTTCCAAATCCAGAAGCGATGGGTATCGCTGAAAATGCTGAGCTAC CGCCTGAGAAACAAACCACAGATATGCAAGATCAAAACATGGCTTCAAAATCTCCAGCTTCATCATCTGACGATTCAGAAGAGACTGGAGTAACCAA GCAAAATGTTGACTCAAATACCAATGGGAACACGGAGGAAGTTGTTGCTGGTGCTGCTGCTTTGCATGATTCCCAGAATAAAAAGCCAGTGGATCG CTCATCGTGTGGCTCAAACACTCCTTCGGGGAGTGACGCGGAGACGGACGCATTAGCTAAAATGGATAAAGATAAAGAGGACGTGAAGGAGACAG ATGCAAACCAGCCAGGTGCTATTGAGACAAGTAACCGTCGAAGTAAAATCAGAGACAACAACAGTCCAATCACTGATTCATGGAAGGAAGTCTCCCA AGGGGGTCGTATAGCGTTTCAGGCTCTCTTTGCAAGAGAGAGATTGCCTCAAAGCTTCTCACCTCCTCAAGTGGCAGTGAATGTGAATGGAAAACA AGCTGACCCGTCAATGCCATTGGCTCCTCATTTCAAGAGTCAAGATTCTTGTGATGCAGACCAAGAAAGTGTAGTAATGATTGGTGCTGGACCGGG
GCT-001M13	AT4G02590.2	UNE12 (unfertilized embryo sac 12); DNA binding	GAATCAACCAAACAAATTAAAAAAATAAAATAAAAATCATAGCTTTTCGCATGTAGATTTCCTCTTTGAAGGTTAGAACTCGCTAATCGTAACTCATCG TGACTCGTTCGAGTCAAAAATCCCATTTCTTTTACTCAAACCAATGGCTGGTAACAACCCTCACGAGAACCTTTCTGACCAAACACCTTCTGATGATT TCTTCGAGCACATCCTTGGTCTTCCTAACTTCTCAGCATCTTCCGCCGCCGGTTTATCTGGAGTAGACGGTGGATTAGGCGGAGGAGCACCGCCGA TGATGCTGCAGTTGGGTTCCGGCGACGAAGGAAGTCACATGGCTGGGTTAGGAGGAAGTGGACCAACTGGATTTCACAATCAGATGTTTCCTCTAG GTTTAAGTCTCGACCAAGGGAAAGGACCTGGCTTTCTTAGACCTGAAGGAGGTCATGGAAGTGGGAAACGATTCTCAGATGATGTTGTTGATAATCG ATGCTCTTCTATGAAACCTGTTTACCATGGGCAGCCGATGCAACAGCCAGCTCCATCGGCGCCACATCAGCCTACATCAATCCGTCCTAGGGTTCG AGCTAGGCGTGGTCAGGCTACTGATCCACATAGCATCGCTGAACGGCTACGTAGGGAAAGAATAGCAGAACGGATCAGGGCGTTGCAGGAACTTG TACCTACTGTGAACAAGACAGATAGAGCTGCTATGATCGATGAAATTGTGGATTATGTAAAGTTTCTAAGACTCCAAGTTAAGGTTTTGAGCATGAGT CGTCTTGGTGGAGCCGGCGCAGTTGCTCCACTTGTTACTGATATGCCTTTGTCATCATCAGTTGAGGATGAAACGAGTGACGGTGGAAGAACTCCG CAACCTGCTTGGGAGAAATGGTCCAATGATGGTACTGAACGTCAAGTGGCTAAATTGATGGAAGAAAATGTTGGAGCTGCGATGCAGCTTCTCCAAT CTAAGGCTCTTTGTATGATGCCAATCTCGTTGGCTATGGCGATTTGCCATTCTCAGCCTCCGGATACATCTTCAGTGGTTAAGCCTGAGACGAATCC TCCACCGTAGGATTTGTGCAAGTATGGGGTTTGTACAGAAATTCAACATGGCTTTTGCTTTCTACTGCTACTTGACTCTGGTGTCTTGCTGATTCATC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001M14	AT1G13360.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT3G25870.1); similar to Os01g0131300 [Oryza sativa (japonica cultivar-group)] (GB:NP_001041925.1)	GGCACCTCTATCTCTCACTAATTTCGATATTGCCACTGACATAAAACAAAGTTTCACCGAACCAAAAGAAAAAAAGCGTAGTTGCTAAGCTATGGCGG AGGAGGAATTGTTGGCCAACGAGGAGAGGCTAACTCGGGCTGACTCAGCTGAGTCGACCGAGAAGAAGCGAGTTAGAGACGAGTCTGACGACGC GGTTCTCGAATCGCCGGAGGTGAAGAGGCTGAGAGACGATTTATTCGATGTTCTCGATGACTCGGATCCTGAACCGGTGAGTCAAGATCTCGACTC GGTTATGAAGAGCTTCGAGGACGAGTTATCAGCTGCGTCTTCGACGGTTACCACCGCGGCGCAAGGCTCCGACGAAACTCAGCCGGATCTTGGTT ATCTTCTCGAGGCCTCCGATGACGAGCTCGGCTTGCCACCGCCTCCACCGGTTTCTCCGATTCCAATCGCGAAAGAAGAGGAGACGACGGAGACG TTAACGGATTTGGTACGAGCGTCGTCAGATTCGTCCGGGATCGACGAGCTATGGGGGTTGGAGGACCACGTGTCGAATTACGGATCGTTAGATTTG GGTACCGTCGTCGGAGATGGTGGAGATTACGTGGCCGTTGATGGACTTTTCGAATTTTCCGACGATTGTTTTGATTCCGGGGATCTATTTTCTTGGC GGTCGGAGTCTTTACCGGCGGAATAAACGACAAACTTTCCGGAGTTTTTTTTTCTTAGGTGGTGGTAAATTGGAAAAACGGTGCCGTTTTGTAAAGC GTTTAGCCTCCCTGTCGTTTTTTACCGTTACCATTTTATGGTAAATGGTTAATATCTTTTAAGTTTTAATTATTAGGAATAGGAAAGTTAAATATTTTGTT
GCT-001M15	AT1G19400.2	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT1G75180.3); similar to hypothetical protein [Oryza sativa (japonica cultivar-group)] (GB:AAN65010.1); similar to Os03g0775600 [Oryza sativa (japonica cultivar-group)] (GB:NP_001051432.1); contains domain 2-HYDROXYACID DEHYDROGENASE (PTHR10996:SF1); contains domain 2-HYDROXYACID DEHYDROGENASE (PTHR10996)	GGGGATCTTCATAGTTTGAGACGCTTCGAGTGTGTTCTCAATGGTAGTTTTTTTGTTGTTGTTGAAGATACACAATTTCGATTTCAGAGCCTCTTGAAA CTTTATTTCTTATCTGGGTCAATCTCGAAAGTTTGAGATTCTAATCTTAGTGTGTCGTTTCTCTGCATCTGCAAAAGTTTGAAACTTTGAATCTTTAACT GTCTTAGCGTTTGCGATTCAACTTATTGTTGGTCGATTACTATTTGCGTTATTGCTTCTGTGATGGGAATCTTCCCTTTTGGGACAGAATGATTCTCTT TTCCCGTTTAAAGTATTCCTCGTTTCATGTCCATATAATAAGGCTTTCTGTTCCTCAAAACCAGGTCTCTCTCTCTCTTTTTGGGATTTTTCATCGGAAT TAAGGCTTACACAAGTGTGTTCCGACTAGATTTTGGAGTGAGAATTAACTTTGGGTTTTAAGCACTCGTTGGTCCTCTTCCTCTCGAATCATGGAGGA CACTGGTGTGACACTTGACAATGGTGAAGCCTTTCAAATATCTAGATATCATAACTATAACCATCACAGCTCCAGAATCTCATCTCCCTGGTTGGATT TGAGAGTTTTTTACGTCAGGATAAGCAATTTCACTGTGGATGATTCGACCCCTGAAGTCCTCACCATCAATCACATTCCTCTGGATCCAGATACGCTT TTGGAGATAAACGGTGTTAGGATGAGCATGTACTCGGAAGGGTGTTCTTCACAGCTCAGGAGGGACCGGGTTGATAAGAAATCCGAAGAAGCTACT TATGTCAGCACAGACAATATCAGGTTAACCGGTAGCATAAAGTTTGAGGTTTATGACAGAAACGAGCTTGTTCTGTCTGGAACTCTTGAGATGTCTGA CAGTAAAGGTTTCACTGGGGAATCGAATAATCGATGGAACATGGATTGTGAGGCTGTAAACACTGCAGGGTCTGGTTTCTTTAAGGAGAAGAGCATT AACGGTCAAGAGTTGTCGTCACCATTGCCAACTATCGAGGTTTATGTCACTGGTTGCTTCTCAGGAACACCTATCATCTTAACCAAGACTCTGCAGC TTGGTTTGAGAAAGAAACACGGTAGAAGAATGGCATTGGACTCAATTCCTGAGTATGAAACGGCAGAGCCTCGGAAAAACAACCCCTCGGAGCTTG ATTTTCAGGCAGAAGAATACGCAAATTACAAAGAGGAATACGAAGGAGACATGTATTGGAGAAGTGAATGCATAGATGGAGAGATGTCATGGTTCAA TCGAGCTCTAAGCGTTCGTGTTCGGATAGGAGTTGGTCTCTGCGTTGCTCTTGCGATTGCTGTGCGTCTTCTCGTTGCTAGTTATCAATGAAGCAG
GCT-001M16	AT2G39460.1	ATRPL23A (RIBOSOMAL PROTEIN L23A); RNA binding / structural constituent of ribosome	GGCCTGCGGCTGCAAAGTGAGCTAGGTTTATCAGCTGCTTAGCCTCTCCAGAGATTTAGAGTGAGAAGAACCATCCTGAGCTATGTCTCCGGCTAA AGTTGATACCACAAAGAAGGCCGACCCAAAGGCCAAGGCTTTGAAGGCTGCAAAGGCAGTGAAGTCTGGCCAAGCCTTCAAGAAGAAGGACAAGA AGATCAGGACAAAGGTCACCTTCCACAGGCCAAAGACTTTGACCAAGGCCAGAGACCCCAAGTACCCGAGAATCAGTGCAACTCCGAGGAACAAG TTGGATCATTACGGAATCATCAAGTACCCACTCACCACCGAGTCCGCAATGAAGAAGATTGAAGACAACAACACTCTTGTCTTCATTGTTGACATTCG TGCTGACAAGAAGAAGATCAAAGACGCCGTTAAGAAGATGTATGACATTCAGACCAAGAAAGTCAATACCCTCATCAGGCCTGATGGAACGAAGAAA GCGTACGTGAGGCTTACACCGGACTACGATGCTTTAGACGTTGCTAACAAAATTGGCATCATCTAAACTTATTTACCTTGGCAACTTAAAAACAGACT TGTGGTTTTGTCTCTCGTAGTCTCAGTTTTGCTTTAAGATATTATTACCATCGTCTGGTGATTGTAGTATTTGGGCAAAAACTTTTTTTTAACAATACAT TCTTGTTGCAGTTTATTGTTGAATTCAAGTTATATGTTTTCGGCTTCTGAACAATCTTATATTAGTCCTCTTATAAACTTCTTAAAAGCACATAAGCTAA
GCT-001M17	AT3G60900.1	FLA10 (fasciclin-like arabinogalactan-protein 10)	GGATCTCCACATTAGCCACTAACGGAGCCGGGAAATACGATTTAACGACGTCGACTTCCGGCGACGAGGTTATCCTCCATACCGGCGTTGGTCCGT CGAGACTCGCCGACACGGTGATCGATGAGACACCTGTCGTGATTTTCACGGTGGATAAAGTTCTTCTCCCCACCGAACTCTTCGGTAAATCCCCAT CTCCGGCGCCGGCACCGGAGCCAGTGAGCGCACCGACACCGTCTCCGGCTAAGTCACCGTCTCCAGCAGAAGCTCCGTCACCTGTGGCAGCTTC TCCGCCGGCACCTCCAGTGGATGATTCGCCGGAAGGAGCTCCGTCAGAGTCGCCGACAAGTTCAGAGGACAGCAAGGCAAAAAACGCGGCGTTT CACGTGAACGCACCTGCCTACTTCACCGTATTGGTCACTCTTGCCGCCATATCTCTATTGCTATAAAAGCCCTTACAAGTTATCGTAATTACGCAGAG TGCCACTTCCTTTTGCTCATTTTTATATTAATTTAGTCTGTTTGTTAAGACTGGGATTAGAGAGTGAGGTTTTAAGTTAAATTGTTTTAATTAATTTAGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001M18	AT1G32900.1	starch synthase, putative	GGCTTCGATTTCTTCTCACCTTTCTTTGATCACATTCTCATCTCAAAACCATTAGCTTCGGAGCTTTGAGCTCTAAATTTCCTCAGTTGCTGGCGAAAT CGGCAAAAAGGGTCTCTCACGATGGCAACTGTGACTGCTTCCCACTTTGCCTCAAGAGCCTCACTTGTCAACAACCATGGAGGTTCAGCTTCAGGC TTTGAATCCAACGCCAATCTGTCTCAGATTACCTTGAAAGGTCAATCTATGACTCACTGTGGGCTAAGGTCTTTCAACATGGTGGATAGGCTTCAGA GAAGATCTCAAGCTAAAGCTGTTTCTGTTAAATCCTCAAGTGGTCGAAGCAGAACACTTCTAAAGCTAAGCCTGCCGGTAAGATTGTGTGTGAGAAA GGGATGTCTGTGATCTTTATTGGAGCTGAGGTTGGTCCATGGAGCAAAACCGGTGGCCTTGGTGATGTCTTAGGTGGTCTGCCTCCAGCTTTGGCC GCTAGAGGCCACCGTGTGATGACGATTTGTCCTCGGTATGACCAATACAAAGATGCTTGGGACACTTGTGTCGTGGTTCAGATCAGAGTTGGTGAT AATGTTGAGAGTGTCCGTTTCTTTCACTGCTACAAACGAGGAGTTGATCGTGTCTTTGTTGACCATCCAATCTTCCTTGCCAAGGTTTGGGGTAAAAC TGGATCCAAAATCTATGGCCCTATAACTGGAGTAGACTACACTGACAACCAACTCCGGTTCAGTTTGTTGTGTCAGGCTGCTCTTGAGGCACCACGG GTTTTAAACCTAAACAGCAGCAAGTATTTCTCCGGACCGTATGGTGAAGATGTGGTCTTTGTTGCCAATGACTGGCACACTGCTCTCCTTCCTTGTTA CCTCAAATCTATGTATCAATCACGCGGAGTGTATATGAATGCAAAGGTTGTCTTCTGCATTCACAACATAGCCTACCAAGGAAGATTTTCCTTTGAAG ACTACTCTCTTCTCAATTTGCCCAACAGCTTTAAAAGCTCTTTCGATTTCATGGACGGGTATGAAAAGCCAGTGAAAGGACGAAAGATAAACTGGATG AAGGCTGCAATCCTGGAAGCAGACCGTGTCTTAACAGTTAGCCCATACTATGCTCAAGAACTCATCTCTGGCATCGACAGAGGCGTGGAACTGCAT TCACACCTTCGAATGAAAACAGTTTCTGGAATCATAAACGGAATGGACGTTCAAGAATGGAATCCGGCTACTGACAAGTACATCGATATCAAATACG ATAAAACCACTGTTACGGATGCTAAGCCATTGATCAAAGAAGCACTCCAGGCTGCTGTTGGACTTCCAGTGGACAGGGACGTCCCAGTAATCGGTT TCATAGGGAGATTGGAGGAGCAGAAAGGCTCTGATATTCTAGTGGAAGCTATTTCCAAGTTCATGGGGCTCAATGTTCAGATGGTTATTCTTGTGAG TACACAAAAGTAGTGGACTTTTGGGATCATAACGTATTTATAAACGTTGAGGTTCACAAACTTATTGATAATTTTTCACAGGGAACCGGTAAGAAGAA GATGGAGGCTCAGATTCTTGAACTGGAAGAGAAATTCCCAGGGAAAGCAGTTGGAGTGGCGAAATTCAACGTGCCATTGGCTCATATGATCACAGC AGGAGCTGACTTCATCATTGTCCCGAGCAGGTTTGAGCCGTGCGGTCTCATTCAACTACACGCCATGAGATATGGAACCGTACCTATAGTGGCATC TACTGGTGGGCTTGTGGACACTGTTAAAGATGGGTTCACAGGATTCCACATTGGAAGATTCAACGTCAAGTGTGAAGTTGTGGATCCGGAAGATGT GATTGCAACAGCAAAGGCTGTGGCGAGAGCCGTTACAGTGTACGGAACATCAACCATGAAAGATATGGTCAAGAACTGCATGGACCAAGACTTCTC
GCT-001M19	AT3G53020.1	STV1 (SHORT VALVE1); structural constituent of ribosome	GCTAGGGTTTCGGGAGCAGCCTGAGGAGGAAGAAGAGGAGCAGCAGTATCAGCAGCCATGGTTCTCAAGACGGAACTTTGTCGTTTCAGTGGACA GAAGATTTACCCAGGAAGGGGAATCAGATTCATCCGTTCTGATTCTCAGGTTTTCTTGTTTGCCAACTCTAAGTGCAAAAGGTATTTCCACAACAAGT TGAAGCCGTCCAAGCTTACATGGACTGCCATGTACAGAAAGCAGCACAAGAAGGACGCAGCACAGGAGGCTGTGAAGAAGAGAAGACGTGCCACC AAGAAGCCATACTCAAGGTCCATTGTTGGTGCTACCTTGGAAGTGATTCAGAAGAAGAGAGCTGAGAAGCCAGAAGTTCGTGATGCTGCAAGAGAA GCTAATCTGCGTGAGATCAAGGAAAGAATCAAGAAGACCAAAGATGAGAAGAAGGCTAAGAAGGCAGAATTTGCTTCTAAGCAACAGAAGATTCAG GCAAAGGTCCCCAAGGCTGCTGCTGCGAAGGGTCCTAAGTTGGGAGGTGGTGGTGGCAAACGTTGAAGAGCCAAAGCCATCTCTCTCTTACTCTG TGTTTGCTGCTAGTCGTTGGTTACTTTTATTAGTTAATGATGATTTCAGAATATTCTGCAAAACGTAAACCTTGTTATTTGCTTTTGTTTTCTACTTTTTG
GCT-001M20	AT4G34680.2	GATA transcription factor 3, putative (GATA-3)	GAGTGCCCTCTGACTTTGCCCATTTCTCTCTCTCTCTCTCTCTCCTCCTCTGTTTCTTCGCCTTCTTTTAGCTTTTCTTCTTCTATCTTCGTCTTTTA TCAGGTAAAGAATTATGATGAGCATATCCCTGCACATACCTCTCTCCCCTTCTCATCTTTCTGATTTCTCGAAAGTTTGCATGCGCAGACGGTTTTGT AGATCATAAAGTTTAGCTTTTTAGCAACCTTTTTCTTGTTTATGTTATGTGTATGGTTGTTGTAATAGTGAGAATTAAGACTATGTCAAGTGATAATTGA AACTTTTAGAATTTGCATATGTATGTATGAAAGAGTGAATGGAGATGTGGACGGAAGCTAGAGCCCTAAAGGCAAGTCTAAGAGGAGAAGCTATAAA GCATCAAGTGCTTATGTCGGAAGAATTAAGCCGAACTTCTTCTGCTGAAGATTTCTCTGTTGAGTGTTTCCTCGATTTCTCAGAAGGTCAAGAAGAAG AACCAGAAGAAGAACTTGTCTCTGTGTCTTCTTCACAAGAAGAACATGAACAAGAACAAGACTGCATCTTTAGTTCACAACCTAGCGTCTTTGATCAA CTTCCTTCTTTGCCGGATGAAGATGTGGAAGAGCTTGAATGGGTATCTCGTGTTGTGGATGATTGTTCATCACCAGAAGTCTCACTTCTCTTCACTCA AACCCACAAAACCAAACCAAGCTTCACATCTCGAATTCCGGTTAAACCAAGAACCAAACGGTCTCGGAACAGCCTAACGGGTGGCCGGGTTTGGCC ACTCGTTTCAACCAATCAACATGCAGCAACAGAGCGATGGAGGAAGAAGAAACAAGAAACGGCCGTTGCGTTTCAACGAAGATGCAGTCATTGTGG CACAAACAACACACCTCAGTGGAGAACCGGTCCTCTCGGTCCAAAAACATTATGTAATGCCTGTGGAGTCCGGTTTAAATCCGGTCGGCTATGCCC GGAATACAGACCGGCGGACAGTCCAACGTTTTCGAATGAGATCCACTCCAATCTTCACAGGAAAGTTCTGGAACTGAGAAAGAGTAAAGAGTTGGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001M21	AT2G13360.2	AGT (ALANINE:GLYOXYLATE AMINOTRANSFERASE)	GATAGTCGAATTATACCACCCTTAGATATTATTTCTCAGCTCTCAACAAGAACATACCCCAAATGAGTGAAGCAAAGGGTCACGTTCTGTTTTTTCCAT ATCCACTACAAGGCCACATTAATCCAATGACCCAACTCTCTAAACGCTTATCCAAAAAGGGACTCACTGTCTCACTCATCATCGCCTCCAACAACCAC CGTGAACCTTACACTTCCGACGACTACTCCATCACCGTCCACACCATCCACGACGGTTTCCTTCCCCACGAGCATCCTCATACCAAGTTCAAAGATC CTAAACGTTTTACCGACTCTACTACTCGTAGCCTCACCGATTTTATCTCTAGGTTGAAGTTATCGGACAATCCTCCAAAGGCTCTGATCTATGATCCA TTTGTACCCTTTGCATTGGACGTAGCCAAGGACTTGGGTCTATACGTTGTGGCCTATTTCACTCAACCATGGTTGGCTAGTCTTATTTACTACCACAT CAACGAAGGTACCTACGATGTTCCCGATGATAGACACGAGAACCCGACGCTTGCATCGTTTCCGGCTTTCCCATTGCTAAGCCAAAATGATCTTCCT TCGTTCGCCTGCGAAAAAGGGTCTTACCCTTTATTATACGACATTGTGGTTAGCCAATTCTCTAACTTGCGCCGAGCTGATTGCATTCTTTGCAACAC TTTTGATCAACTTGAACCTAAGGTAAGGTTATAGCTTACGATTTATATTGTTTTTGGTTTTATGTATCTGAGTTTTGAGAAGGATAGTTTCGTAGATAGT TTTGTGGAACGTCTTTTCTTTTCACAGGTAGTGAAATGGATGAATGATCAGTGGCCGGTGAAGAACATTGGACCGGTTGTTCCGTCCAGATTCTTGG ATAACCGGTTGCCGGAAGACAAAGATTACGACCTCGGAGATTTCAAGACGGAGCCGGACGAGTCTGTTTTGAGTTGGCTGGCGAATAAACCGGCG AAGTCGGTGGTTTACGTGGCGTTTGGGACGTTGGTGGCTTTGAGTGAGAAGCAGATGAAGGAAACCGCATTGGCGATTAGACAAACCGGATACAAT TTCTTGTGGTCTGTTCGAGATTCCGAGAGAAGCAAGTTACCGTCTGGTTTTGTGGAAGAAGCTTTGGAGAAAGACTGTGGACTGGTGGCTAAGTGG ATTCCTCAGCTAGAGGTTTTAGCACATGACTCAATTGGATGTTTCGTGACACATTGTGGATGGAACTCGACATTGGAGGCACTATGCTTAGGGATTC CTTTGGTGGGGATGCCTCAGTGGACGGATCAGCCCACGAATGCGAAGTTTATAGAGGATGTGTGGAAGATTGGGGTTAGAGTAAAGACTGATGAAG AAGGGTTTGTGAGTAAGGAAGAGATTGCGAGATGCATTGTTGAGGTTATGGAAGGAGAGAAAGGGAAAGAGATGAGGAAGAATGTTGAGAAGTTAA AGGTGTTGGCTCGTGAGGCTATCTCCGAAGGAGGTACTTCCGACAAGAACATTGATGAGTTTGTTGCTATTTTGACTTGAGAATATGGAAACTGAGA TGTTTGGATTGTTGTCAGTTTGTTAGTTTATTACCTAATAACGACTTCTATGTCGGTTAAATTCTGAGTGATCCTTTTGGCTTCGTTGGTTATCACCTG CAAACAAATCAATATATGAAATGTTGTGTTATAAAAGAAGAGAGCTCGAGGGCCAAATCGGCCATCACGAGGAGCTTACGCCCTATTCAGAGTGTGG AGAAAGAGGAGAAAGAAGAAAAGGGGAAAATGGACTATATGAATGGACCAGGTAGACACCATCTGTTTGTACCAGGACCAGTGAACATACCGGAAC AGGTAATCCGTGCGATGAACCGAAACAACGAGGATTACCGGTCACCGGCCATCCCGGCACTTACGAAAACGTTGTTGGAGGACGTGAAGAAGATAT TCAAGACAACATCTGGGACACCATTTATGTTTCCCACGACCGGAACTGGTGCTTGGGAGAGTGCCTTGACCAACACGCTATCTCCTGGAGACAGGA TCGTCTCGTTTCTGATCGGACAGTTTAGCTTGCTGTGGATTGACCAGCAGAAGAGGCTAAATTTCAATGTTGACGTGGTTGAGAGTGAATGGGGGC
GCT-001M22	AT3G52400.1	SYP122 (syntaxin 122); t-SNARE	GAAAAATAATTTTCCAATTTCCTTTTGAATTTTCAAAACGAAGATTTCTAGTATCTTCCGCTGAGGACAAATTTCACGCCAAAGCAGCCATGAACGATC TTCTCTCCCGCTCGTTCAACCGCTCCGTCGCGGACGATTCATCGCCGCCGCACTCACACAGCATCGAGATGCCAAAGGCAAAGTGTTCCGGCGGA AGCTGCCGCGGTGGAAACAACCTCGACAAGTTTTACCTTGACGTGGAGGAAGTGAACGGCGAGCTAAAAGAGCTCGATCGACTCTGTCACAGTCTC CGATCGAGCCACGAGAAGAGCAAGACGCTTCATAACGCTAAGGCGGTGAAGGAGCTCAAGGCAAATATGGACGCCGATGTGTCGACGGCGCTTAA GACGGCGAAACGCGTGAAAGGAAACCTCGAGGCTCTGGATCGGTCGAATGAAGTGAACCGGAGTTTACCGGAAAGCGGACCGGGTTCATCATCG GACCGGCAAAGGACGTCGGTGGTTAACGGGTTGAGGAAGAAGCTTAAGGACGCGATGGATAGTTTCAATCGAGTGAGAGAGACGATCTCTACTGA GTACAGAGAGACGATTCAGCGAAGGTACTTCACCGTCACCGGCGAAAATCCCGACGAAGATACCGTCGATCGTTTAATCTCCACAGGAGAGAGCGA AACATTTTTGCAGAAAGCGATACAAGAACAAGGTCGAGGTAGGATTTTGGACACAATAAACGAGATACAAGAGAGACACGACGCAGTGAAAGACATT GAGAAGAGCTTGAACGAGCTGCATCAGGTGTTTCTTGACATGGCCGTATTGGTTGAGCACCAAGGTGAGCAACTCGACGACATTGAAGGCAACGTC AAAAGAGCCAACTCGCTTGTCCGGTCCGGTGCGGACCGGCTCGTTAAGGCGCGGTTCTATCAGAAGAACACGCGCAAGTGGACTTGCTTCGCCAT TTTGTTATTGATCATTATTGTGGTCTTAGTTGTGGTGTTTACGGTTAAGCCTTGGGAAAATAATGGTGGTGGTGGAGGAGGTGGTTCGAACAGTCAA GCCACTCCGGTCCAAGCTCAGCAGCCACCGTCGCCTCCGTCTCTGACCCGGCGGCTACTTCGTTAAATCTTTTTTTTATTATCTTTTGTAATGTTTTG
GCT-001M23	AT5G13080.1	WRKY75 (WRKY DNA-binding protein 75); transcription factor	GACAAAAAAAAAATCTTCTTTAGGTCGATCGGTCTGTGTTGTTATAACTAAGATTCCACAGTTAGTTAGGAATATGGAGGGATTTGATAATGGATCGT TATATGCTCCGTTTTTGTCGCTGAAATCGCATCAAAACCTCGCTAAATCGGAGTTATTACACCAAGGCGAAGAAGAGGCCTCAAAAGCTAGAGAAGG TTCTTCGAGAAGCGTGGAGTTGAAAAAGAAAGGGAAGAAACAAAAGTTTGCGTTTCAGACAAGGAGCCAAGTGGATATTCTTGATGATGGTTACCGA TGGAGAAAATATGGCCAAAAAGCTGTCAAGAACAACAAGTTCCCTAGGAGTTACTATAGGTGCACATATGGAGGATGCAACGTGAAGAAGCAAGTG CAAAGGCTAACAGCGGACCAAGAAGTCGTTGTCACAACCTACGAAGGAGTTCATTCGCATCCCATCGAAAAATCCACCGAAAATTTTGAGCATATTC TCACCCAAATGCAAATCTACTCTTCTTTTTAATTATTCTCTCAAATCTTTTATACCTTTGAAGCGTTATTTCTGAAGGCTCATGTTGTAAATTATTTTAGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001M24	AT3G57020.1	strictosidine synthase family protein	GATGTCACTAGGTGTATACAAACAGCTAGTGTTACACACGTCTCTTCAGCCAAAATATTAATTTTCGTAAGGTTGAAAAGAATGCCGCTTAGTCAGAA AGTTCCGACTTGGGCCGCCGTTCCGGCTGTGTTGGCCGTATTTTCCGTGATTTCATATCAGACCATAATTGCGCCGGACAATTTAAAAGGCACGAAA CATGTATTGTCGATGGCTAAGACCATACCACTTCCTGTTCATGGACCAGAGAGCATCGAGTGGGATCCACAAGGAGGAGGTCCTTATGCTGCCGTC GTGGACGGCCGTATTCTCAAGTGGCAAGGCGATGGTATAGGCTGGGTTGAGTTCGCTTACACATCTCCTCACAGAGGGAACTGTTCAAGGCATGAA GTAGTGCCTACTTGTGGAAGACCACTAGGACTTAAATTCGAGAAGAAAACAGGAGACTTGTACATCTGCGACGGTTACCTTGGGGTCATGAAGGTT GGACCAGAGGGAGGCTTGGCTGAGTTGGTCGTGGACCAGGCCGAAGGTCGCAAAGTAATGTTCGCCAACCAAATAGATATCGACGAAGAGGAAGA TGTCTTGTACTTCAATGATAGTAGTGACAAGTATCATTTCAGGGAGGTATTTTACGTGGCTTCTAACGGCGACCGGACGGGAAGAGTGATCAGATAC AATAAGAAGACAAAAGAGGCCAAAGTTGTGATGGATAACCTCCGTTGTAACAACGGTTTGGCTCTAAACAAAGACCGGTCTTTTCTAATCTCATGCG AGTCTTCCACAGGCCTTGTCCACCGATACTGGATCAAAGGTCCCAAAGCCGGGACTCGCGATATCTTCGCCAAGGTTCCAGGTTACCCCGACAACA TCCGCTTGACACCGACGGGGGACTTCTGGCTTGGCATACACTGCAAGAAAAACCCGTTAGGGCGGTTTATGATTAATAACCGGTGGCTCGGGAAAA TAGTTGAAAAGACAGTGAACTTGGACTTGTTGATTGCAGTAATGAACGGGTTTAAGCCGCATGGGATCGCCGTGAAAATCTCCGGAGAGACAGGGG AGATCCTTGAGGTACTTGAGGACATAGAAGGGAAGACGATGCAGTATGTAAGTGAGGCTTATGAGAGAGATGATGGAAAGTTATGGTTCGGGTCCG TTTTCAGCGCTCGCGTATGCGTTCTTCATCGCAAATCACTAGTAGTAATTCGCGTTCTTGTAGCTAGCGATGTCATCGCTTCTCTCTTTTAAATCAAC
GCT-001N01	AT1G52400.2	BGL1 (BETA-GLUCOSIDASE HOMOLOG 1); hydrolase, hydrolyzing O-glycosyl compounds	GAACAATATCTAAAGCTAGAGAACTAGAGAGACAGAGAGACAGAGAGACACAAAATGGTGAGATTCGAGAGGGTTCCTTTACTGTCACTGTTAGGG TTAGTTCTGGTTCTAACATTGGTCGGAGCTCCGACCAAAGCCCAAGATCCTGTTTGCCGTCAAGCTGATACGTTTAGCCGAGCCAGCTTCCCTGAAG GATTCCTCTGGGGAACCGCAACCGCAGCGTTTCAGGTTGAAGGAGCTGTTGATGAAGGTTGCAGAGGTCCAAGCATGTGGGACACTTTCACCAAG AAATACCCACATAGATGTCAAAACCATCACGCTGATGTTGCCGTTGATTTCTACCATCGTTACAAGGAAGATATCGAGTTGATGAAAGACCTCAACAC TGATGCTTTTAGACTTTCTATTGCGTGGCCCAGAATTTTCCCCCATGGAAGAATGTCCAAGGGAATAAGCAAACAAGGAGTCAAATTCTACCACGAC CTCATCGATGAGCTTCTTAAAAACAAGATCACTCCACTAGTAACAGTCTTTCACTGGGATACTCCTCAAGACTTAGAAGATGAATACGGTGGTTTCTT GAGTGGCCGCATTGTGCAAGATTTTGCGGAATATGCAAACTTTACTTTCCAAGAATATGGACACAAAGTGAAAAATTGGATCACATTCAATGAGCCAT GGGTGTTTAGTCGTGCCGGTTACGACGTCGGGAAAAAAGCTCCGGGACGTTGTTCACCATACATCGAAGAATGGGGAAAGCACTGTGAAGATGGA CGGTCAGGATTTGAAGCTTATCAAGTCAGTCACAATTTACTCTTGTCTCATGCTGAAGCCGTTGACGCCTTCAGAAAATGCAAACAGTGTGCTGGAG GTAAAATTGGAATTGCCCACAGTCCAGCTTGGTTCGAACCAGCCGACCTTGAGGCTGTTGGAGCTCCCATTGAACGTGTGCTTGACTTCATCTTGG GATGGCATTTGTATCCAACAACTTACGGAGATTATCCACAGTCGATGAAGGATCGCGTTGGTCATAGATTGCCAAAATTCACAGAAGCGGAAAAGAG AAAGCTAAAGAATTCTGCAGATTTTGTAGGGATGAATTATTATACCTCAATGTTTGGAGCTGGTCTAAAGGACTCTAATTCTAAGAACCCGAGTTGGA CGACGAATTCTCTTGTTCAATGGGAAAGCAAGACTGTCGATGGATACAAAATTGGTAGCAAGCCTGCTGGTGGTAAACTGGATGTCTATTCAAGAGG AATGAGAAAACTTTTGAAGTACATCAAGGACAATTATGGTGACCCAGAAATTATGATCACCGAGAATGGATATGGAGAGGACCTTGGAGACCTTCAC AATGACGTAAAAACTGGGACAAATGACCACAACAGGAAATATTATCTTCAAAGGCATCTCTTGAGTTTGCACGAGGCCATTTGCGATGACAAGGTGA AAGTTACGGGATATTACGTGTGGTCTTTGATGGACAACTTTGAGTGGCAAGATGGATACAAGGCTAGGTTCGGGCTTTACTATATCGATTTCCAAAA CAATTTGACTCGTCACCAGAAAGTTTCGGGCAAATGGTATTCTGATTTCCTTAAGCCGGGATTTCCAACTTCCAAGTTAGTGAGGGAAGAACTCTAA
GCT-001N02	AT5G65060.1	MAF3 (MADS AFFECTING FLOWERING 3); transcription factor	GGAATTAGGGCATAACAAATCCCTTATCGGAGAAAGGAGCGATGGGAAGAAGAAAAGTAGAGATCAAAAGAATCGATAACAAAAGCAGTCGACAAG TCACCTTCTCTAAACGACGCAATGGTCTGGTCGAGAAAGCTCGACAACTCTCAATTCTCTGTGAATCATCCATTGCTGTTCTCGTCGTTTCGGCCTC CGGCAAGCTCTACAACTCCTCCTCCGGCGACAGCATGACCAAGATCATCGATCGCTATGACATACAACATGCTGATGATCTTAAAACCTTGGAACTT GCGGAAAAAACTCGGAACTATCTTCCACACAAGGAGTTACTAGAATTAGTCCAAAGCAACCTTGAAGAACCGAATGTTGATAATGTAAGTGTAGATTC TCTAATTTCGGTGGAGGATCAGCTCGAGACTGCTATGTCCGTAACTAGAGCTAGAAAGACAGAACTGATGATGGAGTTTGTGAAGACGCTTCAGGA AAAGGAGAAGTTGCTGATAGAAGAGAATTCTCTTCTGGCTAATCAGTTGGGGAAGAACACGGCTCTGGTAACAGATGATGAGAGAGCACTGTCACC GGCAAGTAACTCCGGCAACAACCCACCGGAGACTCTTTCGCTGCTCAAGTAACCACCATGATTCAACGGCTGAGGTTTCACCATCTCAAAGCCTGA TCCAGAATTCAAAATCACATTTGTAAATTATATCAAAGCTGCATAATCATAAACCCTTTACCTCCTCTAATGAGGAAATTAAGGTAAAAGAAAGCAAAA ACAAAAGCTCCTATCCTCTTAGAACTAAAGGATTGTAAAACTAAGATAAAAATATTCGTTCTTTGTTGTACCTTCGTCGACAATATCAGAGCTCGTGTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001N03	AT5G64040.1	PSAN (photosystem I reaction center subunit PSI-N); calmodulin binding	GACCAATCAAACCCAAAAACTCTTCAATTTTCCGAAAAACAAAAAGAGAAAGAGATCTGTAATGGCGACCATGAACTCGAGTGTTCTCACTTGCAGCT ACGCAATCTCTGGTGCTAGCTCAGCAGAGCTAAACCAGAAAGTGGGCTTGGTGAATTCATCAGTTGGGTTTGGTCAGAAGAAACAGACGATGTCTG TGATCAAAGCTCAACGAGTTGGAGGTGATGATGTTGATGGGTCTAATGGAAGAAGATCCGCCATGGTTTTCCTAGCTGCTACACTCTTCTCCTCTGC TGCTGTTTCTGCTTCTGCTAATGCTGGTGTCATCGATGAATACCTCGAGAAGAGCAAGGCCAACAAAGAACTTAATGATAAGAAGAGATTGGCAACA AGTGGAGCAAACTTTGCGAGAGCATTCACTGTCCAGTTCGGAAGCTGCAAGTTCCCTGATAATTTCACTGGATGTCAAGATCTTGCCAAGCAAAAGA AAGTCCCATATATCTCGGAAGATTTGGCGTTGGAATGTGAAGGGAAAGACAAGTACAAGTGCGGTTCCAATGTTTTCTGGAAATGGTGAAGAAGTTT
GCT-001N04	AT3G02070.1	OTU-like cysteine protease family protein	GAAAAATCCCTGAAGCCGTCAAAGAGAAGGTCGTCGACACCTACTTGCTTCTCTTCTCATCTCCGTCGCATCAGAAGGATTACAAGAGTTTCTTTCTT CACTTGTTGGAGCAAATACTACTTTACAAGAAAACATGGGAGACTCTTCGAGTTCAACCTCTTGGAGCAGTCAAAAGGATACAGAAGACGATCGGAT GATTGCTCTTATGTTATCTGAAGAGTACACTAAACTAGATGGTGCAGTAGGCAGACGCCTCTCCAATCTTGCTCCCGTGCCTGTAAGTTTGGTTCTA GTCCCTTTCGTACAACTACAAATCACAACGAATGCAAGAGTATCGCTATAGATTTTATTGTACAGAATGAAACCTTTCTACATACTTAGCTCTCTCTCT CTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTTTATATATATATATATCTATCTATCTATATATATGTTCTTGTTTTGCAG CATGTTCCACGGATAAATTCTTATATTCCCAACTTAAATGATGCCACCTTGGATCACCAACGCCTTCTTCAAAGGCTAAATGTTTATGATTTGTGTGAG TTGAAGGTCTCTGGTGATGGAAACTGCCAGGTGAATGGAGGCTTGATTTCAAACTATCTTCTTCATCTCATTTTTTTTCTTACTCTCTCTGCTCGGGTA CTCCGTACTCGTATCTTATAGATAAATTTGAGTCTTTTCAGTTCCGAGCACTTTCTGACCAGTTGTACCGATCTTCAGAGTACCACAAGCAAGTTAGG GGAGAAGTTGTTAAACAGGTGACATGTCTTATGAGTAATGAGCGATGAACAGAAGCAGTGACCACCTATATGACTGTGTTTTATAATTAGCATTAATT GTTGAAGTTGGACAAATTCTTATGTGAGATTGATATCTGTTTGGAAATTAGGTGCACACATTCCTTTCCGTGCCTAGTTGTCCCATTGTTTTTTCTTGT TGCTGCAGCTCAAGGACAATCGTTCTATGTACGAAAGCTATGTTCCGATGAAATACAAACGATATTACAAAAGGATGGCAAAACCTGGAGAATGGGG AGACCATGTTACCCTACAAGCTGCGGCAGATAGGTTTGCAGCAAAGATATGCCTGCTGACATCCTTCAGAGACACTTGTTTCGTTGAAATTATGCCT CAGTACCAAGCACCCAAGCGCGAGTTATGGTTAAGTTTCTGGTCAGAGGTGCATTATAACTCGTTATACGATATTCAAGCTGCTCCAGTTCAGCAGA
GCT-001N05	AT1G07890.1	APX1 (ASCORBATE PEROXIDASE 1, MATERNAL EFFECT EMBRYO ARREST 6); L-ascorbate peroxidase	GCATAAAGTACTCGTGTTCACCTCGTGCCAGCCACTCGCATTTCTCAGATTTTATCCTTTCTCTGCAAAAAGATTTTAGCGAAGATGACGAAGAACTA CCCAACTGTGAGCGAAGATTACCTAAAGGCTATTGAGAAGTGCAGGAGGAAGCTTAGAGGCATGATCGCTGAGAAGAACTGTGCACCCATCATGGT CCGCCTCGCATGGCACTCTGCTGGAACATTCGATTGCGCCTCAAGGACTGGAGGTCCCTTCGGAACAATGAGGTTTGATGCTGAGCAAGCTCATG GAGCCAACAGTGGTATCCACGTTGCTCTCAGGTTTTTGGAGCCCATACGGGAGCAATTCCCTACCATCTCTTTTGCTGATTTCCATCAGCTTGCTGG TGTTGTGGCCGTTGAAGTCACTGGTGGACCTGAAATTCCTTTCCACCCAGGAAGAGAGGACAAGCCCGAGCCACCTCCAGAGGGTCGTCTTCCTG ATGCTACAAAGGGTTGTGACCACTTAAGAGACGTCTTTGCAAAGCAGATGGGTTTAACTGACAAGGACATTGTCGCTTTATCTGGTGCCCACACTCT GGGGAGATGCCACAAGGATAGGTCTGGCTTCGAAGGTGCCTGGACTTCAAACCCTCTTATTTTCGACAATTCATACTTCAAGGAACTCTTGACCGGA GAGAAGGAAGGCCTTATTCAGCTTGTCTCTGACAAGGCGCTATTGGACGATCCTGTTTTCCGTCCTTTGGTTGAGAAATACGCTGCTGACGAAGAC GCCTTTTTTGCTGATTACACTGAGGCTCACTTGAAGCTTTCAGAGCTCGGGTTTGCTGATGCTTAAGCTGTCTCCAAGACTCTGCTTTTGGATTGTGG GCCATAGGGTTCGCATTGCATTTGAACTTTGTCATTTGATTTCTTAATGTACTCTCTTGGATTTGCGTAGCTTGTTTTTGTTTGTTGTTGCGGAATGGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001N06	AT2G38950.1	transcription factor jumonji (jmj) family protein / zinc finger (C5HC2 type) family protein	GAGAGGCAATTGCTTCGGTAATGTCTGGAAGTTTTCGGATCTCAGTTCGCCTGGGACGTTGCAGCTTTCTTGACCTATTCTGAGATTCAGTTTATTTC CTCTTCCGGAAAATAATCTGTTAATGGGCATTGAAGGTGGGCACACATATTCAAAATCTGGAAATATGGACAAATTGTCAACTCCACCAGGTTTTGTT TCTCAAACATCGTTTGTGCTGAGGAATGTACACCGAGACAGAGAAAGTTCCAGGTCGGTGCTGGGACAAGACCAGATAACTGGATTCGGCACAGAT GATGCAGATAGTTTCAAGATGTTTCTTACAAACCGACCGTGGATATTGCACAATCACACAACTCCCAGCTCAGAGGCCTTAAAGCCAATGAAATCTG AGGTACGGGCAAGACGGGTACCGAAAGTCTCCAAGAACGTAGTCCTTGAGGAAGCTCCGGTGTTTAACCCAACCGAGGAGGAATTCAGTGACACC TTGTCATATATTGCAAGCTTGCGGGACAAAGCTGAGCCTTATGGGATCTGTTGTGTTGTTCCTCCTCCTTCATGGAAACCTCCATGTCTTCTCGAGG AGAAAAAAATATGGGAGGCTTCCAAATTTGTCACTCAAGTTCAGCTCGTTGATGGATTTCATATCGAGGACCCAAATATTAAAAAGGAGGCTGATGC GGATAGTGATGATGATACATCTGAGACGATCAAGTTTTATAGAATGGAGCGCGGTTTTATGCATACTTTGGAGAGCTTTAAAAACTTTGCAGATTCAC GCAAGAAGGAGCATTTTAGCCTAAAGGATGAGGTTTTGAGTTCCAAGGATTCATCTCCATCACTAAAACCAGAGCCAACCACCGAAGACATTGAAAA AGAGTATAGACAACTTGTTGAGAATCCACTTGTTGAAATTGGGGTGCTTTATGGCAATGATCTAGACACCACAAAGTTTGGCAGTGGATTTCCCTTAT CTGGACCATCCGAATCTTGCAACTACAAAACATCAGGATGGAATCTGAACAATACAGCTAAGCTTCCTGGCTCTCTTCTTTCTTTTGAAGACTGCGAA TCAATTTGTGTCCCTCGCCTAAGTGTAGGAATGTGCTTCTCTTCGCAGTTGTGGAAATCTGAGAAGGAGAGACTTTACTCGCTCTGCTATATGCATAT GGGTGCTCCTAGAGTTTGGTATTCGGTTGCAGGATGTCATCGTTCTAAGTTTATGTCTACCATGAAGAGCTTATTCCCTGAGATGTCAGGAGAACAG TCAAAGGTGATGATAATGTCTCCATATGCGTTGAGCATGGAGGGTATACCAGTGACCCGGTGTGTCCAGAACCCTGGCCAGTATGTTATTACATTTC CAGGGTCGCATTACTCTACCGTTGACTGTGGCTTTAACTGTTTGGAGAAAGTAAATTTTGCTCCCCTTGATTGGTTGCCCCATGGGGATGTTTCTGC TCAGCAGAATCAAGATAAGAGTAGAAAATCTTTAATATCGTATGATAAGCTGTTATTAGGAGCTGCAAGGGAAGCCGTGAAATCCCTCAAGGAATATT TATTGTCCAAGAAAAAGACAGCAGACAATATGAGATGGTATAATTCTTGTGGTAAGGAGGGGATATTTTCCGACATGGTTAAGTCACGGGTCAAGCA GGAGAAACGCAGACGTGAGTTCCTTGGTAATTCACTAAAATCGCAAAGGATGGACAAGAGTTATGATGATGTTAGCAAGAGGGAATGCTGTATATGT ATTGCTCATCTGTATCTTTCCGCTGTTCAATGTTCATGTTCTGCGGATCGATACTCGTGTCTGAGCCACGTAAAGAAACTCTGTGCCTGTCCGTGGG ACAGTAAGAGTTTACTTTACAGGTACACAACCGACGAGTTGGATATTCTTGTAGAGGCGTTGGAACAACATAAACTCAGCGCTATGTTCAGATGGGG AAACGTTGATCGCAACTACTGTGCTTCTAGGGGCATCACAAGCTCACAACCCGGAGATGCAGGCAAGAAAACAGATGAGGATATGCCTTGTAACAA GAAGAAGAACTGAGGCAAAGATGTTCAAGCTGCAACTAAGGAGCAGATGAAGGCAAGAAAGGCGCAGACTGATGATGGAGATAATGAAGGCTAAAGA
GCT-001N07	AT5G51890.1	peroxidase	GGAATCCTCAAACAACTTCACCAACAACGAGTACTTTTTGAGGCCTAAACACACACACACACACACACACAAAACCATAAAATGGCCTTCTCGAAGACG CTCGTTTTCACGATGATCTTTACGGTTTTTGCGATGGTTAAGCCCTCAGAAGCTGCTCTTGATGCTCATTACTATGATCGATCGTGCCCCGTCGCAG AAAAAATCATTCTTGACACTGTTAGGAATGCAACTTTGTATGATCCCAAAGTGCCTGCTCGTCTCCTCAGAATGTTCTTCCACGATTGCTTCATCAGG GGATGTGACGCATCGATTCTACTAGATTCAACACGGTCAAACCAAGCTGAGAAGGATGGTCCTTCAAACATCTCGGTACGATCATTCTACGTGATCG AAGAAGCTAAGACAAAGCTCGAAAAGGTTTGTCCTCGTACTGTGTCTTGTGCCGACGTAATCGCCATCGCAGCCAGAGATGTGGTCACCCTGTCCG GTGGTCCTTACTGGAGCGTACTTAAAGGGCGAAAAGACGGGACGATTTCGCGGGCAAACGAGACAGTCAATCTCCCAGCACCAACATTCAACGTGT CTCAACTTATCCAAAGCTTTGCAGCAAGAGGCTTGTCAGTGAAAGACATGGTTACACTCTCTGGCGGCCACACGCTAGGGTTCTCTCACTGTTCTTC TTTCGAGGCTCGTCTTCAAAACTTCAGCAAATTCCACGACATTGACCCTTCGATGAACTTTGCATTTGCGCAAACCCTCAAAAAGAAATGCCCGAGAT CCTCTAACCGAGGCAAGAACGCAGGGACGGTCTTGGACTCTACAACCTCGGTTTTCGATAATGATTACTACAAGCAGATTTTGTCGGGGAAAGGAG TGTTTGGGTCTGATCAGGCGCTTCTAGGAGATTACAGGACTAAGTGGATCGTTGAGACTTTTGCTCGAGACCAAAAGGCTTTCTTCAGAGAGTTTGC AGCTTCTATGGTGAAACTTGGAAACTTTGGAGTCAAGGAAACGGGAGAAGTGAGAGTCAAGTCTGGCTTTGTCAATTAAGAAGCAAATGTCTAGAGA ACAAGGAAGCAAATGAGAGTTTTCTTTTTCTTCAAATTTGATTTCATTTATATTTGATATATTATAATAATGTAAACTCGGAAAATGTATCGACCGTAAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001N08	AT5G15410.1	DND1 (DEFENSE NO DEATH 1); calmodulin binding / cation channel/ cyclic nucleotide binding / inward rectifier potassium channel	GATACAATCTCTCTCTCACACACGCTCTCTCTCCCTGCAAATCTTCTCTCTCTCCCATGGTGGTTCCTCTATTTCAATCATGCCCTCTCAGCCCAACT TCATCTTCAGGTGGATTGGACTGTTTTCCGATAAATTCCGTCGGAAAACGCCTGGAATCGAGGAAATCAGCATCGTCCAAAACAACAGTGGGGAATC GAGCAGCGGCGATGATACGCCGGTGTTGAGCTCCGTCGAGTGTTACGCTTGTACACAAGTAGGCGTACCAGCCTTCCACTCAACCAGCTGCGATC AAGCTCACGCGCCGGAGTGGCGTGCTTCTGCCGGCTCTTCCCTAGTCCCGATCCAGGAAGGATCCGCCCCGAACCCGACCCGAACCCGATTCAG ACGTCTCAAGGGTCCGTTCGGCGAAGTTCTCGACCCAAGGAGCAAGCGCGTGCAGAGATGGAACCGCGCGTTGCTTATAGCTCGCGGGATGGCTT TAGCGGTGGATCCGCTCTTCTTCTACGCGCTCTCCATCGGCCGAACCACCGGACCGGCGTGTCTCTACATGGACGGCGCGTTCGCGGCGGTGGT CACGGCGGTTCGCACGTGTCTCGACGCTGTTCACCTGTGGCACGTGTGGCTTCAATTCAGACTGGCTTACGTCTCGAGGGAGTCTCTCGTCGTCG GTTGCGGGAAGCTCGTTTGGGATCCACGCGCCATCGCGTCACACTACGCTCGCTCGCTCACTGGCTTCTGGTTCGATGTTATAGTCATCCTCCCTG TTCCACAGGCTGTGTTTTGGTTAGTCGTGCCGAAGCTGATAAGAGAAGAGAAGGTTAAGCTGATAATGACGATCCTTCTGCTAATCTTCTTGTTCCA GTTCCTCCCCAAGATTTATCACTGCATCTGCTTGATGAGAAGGATGCAGAAGGTCACTGGTTACATTTTTGGGACTATTTGGTGGGGTTTTGCTCTTA ATCTCATCGCATATTTCATCGCTTCTCACGTCGCTGGGGGATGCTGGTATGTTCTTGCAATACAGCGTGTTGCTTCTTGCATAAGACAACAATGCATG AGGGCCGGGAACTGCAATCTTAGTCTGTCTTGCAAAGAAGAGGTCTGTTACCAATTTGTGTCACCGATTGGATATCCATGCTTATCTGGAAACCTTA CCAGTGTGGTCAACAAGCCTATGTGCTTAGATTCTAACGGACCATTCCGATATGGTATCTACGGTTGGGCACTTCCGGTCATCTCCAGCAACTCTCT TGCGGTTAAGATCCTTTACCCTATCTTCTGGGGTCTAATGACTCTCAGCACTTTCGGGAACGATCTTGAGCCCACAAGCAATTGGCTTGAGGTTATG TTCAGCATAGTTATGGTCCTTAGTGGGTTATTACTCTTCACGCTGTTGATCGGAAACATTCAGGTGTTTTTGCACGCGGTGATGGCAAAGAAGAGAA AAATGCAGATTCGGTGTAGGGATATGGAATGGTGGATGAAACGTAGGCAGTTGCCTTCTCGGTTAAGACAGAGAGTAAGGAGATTTGAGCGACAGA GATGGACTGCCCTCGGTGGAGAAGACGAGCTGGAACTTATACAAGATTTGCCTCCGGGCCTTCGAAGAGATATCAAACGATATCTTTGCTTTGATCT CATTAACAAGGTACCATTGTTCAGGGGCATGGACGATTTGATCCTAGACAACATTTGTGATCGGGCTAAGCATCGCGTCTTCTCTAAAGACGAGAAG ATCATCCGCGAAGGAGATCCTGTACAAAGAATGATATTCATCATGCGTGGGAGAGTCAAACGTAACCAGAGCCTAAGCAAAGGTGTGGTAGCCACT AGTACGCTCGAACAAGGCGGTTACTTAGGCGACGAGCTACTCTCATGGTGCTTAAGGCGTCCATTCATCGACCGTCTTCCTCCTTCCTCTGCAACAT TTGTCTGCCTAGACAACATAGAGGCGTTCTCACTCGGATCCGAAGATCTTAGGTACATCACCGATCATTTCCGTTATAAATTCGCAAACGAGCGGCT TAAGCCGACCCGAAGATACTATTCCTCAAACTCGAGCAGTTCCCCTCCCCTAAATATTCAAATCCCCTCCCCCCCCTAGACCAACAGAAGCCCTC
GCT-001N09	AT3G54220.1	SCR (SCARECROW); transcription factor	GGAAGACGAGTTAGATACGGCCAGGCTCAGTGTCCTCGTCCACCACAAAGCTCCCCCCTTTCTACGGGAATCATCCTTCTCCAACACACTCCCTTC CAAATACACTCCGATCCTTCATTTGTTAAATTTTGCTTTCATTTTTCCTCATTTATCATCATCGGAGATCGTGAAGAAAGAAGAATATCAAAGTTAAATT AAGAATCCCCATAGAGAGAGAGAGAGAGGCTACTTACCTGCAAAACACCCTTTTCTGTTTGGATTATCGATTTTGGATTTTCAAAGTTTGGTTCTTTTT TTTTTTTTGTTGCTGTTGTTATCCTCTATTTATAACCATGCAATCTCACGACGAACCCTCCAATCTCCATGGCGGAATCCGGCGAGTTCAACGGCGGT CAGCCTCATAGTCCCATTAGAACAACTTCTTCTGGCAGTAGCAGCAGCAACCGTACTGCTCCACCTCCTCCTCCTCCACCATCAGTTATGGTGAGAA AGCGATTAGCTTCCGAGATGTCTTCATCTTCTTCCTTAAACAACCCTGACTACAACAACCATCGTCCTCCTCCTCGCCGTGTCTCTCACCAACTTGAC TCCAACTACACCATCACTTCTCCTCCACCACCACCACCTATAACGGCGGCGGCCGACTATACCACTCAGCCGACCCCACCGCTCTCTGTATGTGGC TTCTCCGGTCTTCCGGTGTTTCCTTCCGACCGCCGGACAGCGATGTCCGTACAGCCAATGGAACAAGACTCTTCGTCTTCTTCTTCTTCACCTACTG TGTGGGTCGACGCCATTATCAGAGACTTAATCCACTCCTCAACTTCAGTCTCTATCCCACAGCTTATCCAAAACGTCAGAGACATCATTTTCCCTTGT AACCCAAATCTCGGCGCTCTTCTCGAGTACAGACTCCGATCTCTCATGCTTCTTGACCCTTCTTCGTCCTCCGACCCTTCTCCTCCTCAACCTTTCGA CTCCATCACTCAACCTCTATATCATCAGATCTCTAACAATCCTTCTCCTCCTGTAACGCAACAACAACAACAGCAACAACAACAACAGCAACAACAGC AACAACAGCCTAAGCCAACACCTCCTCCAATTCAGCAGCAAGAAAGGGAGAATTCTTCCACCGATGCACCGCCGCCTGAGACAGTGACCAGCACG GAGACCACCGTAGCAAACACGGCGGAGGCGTTAAGAGAGAGAAAAGAAGAGATTAAGAGACAGAAGCAAGACGAAGAAGGCTTGCATCTTCTCAC GTTGCTGCTACAGTGTGCTGAAGCAGTCTCTGCGGACAATCTCGAAGAAGCAAACAAGCTTCTCCTCGAGATCTCTCAGCTCTCTACTCCATACGGA ACATCTGCGCAGAGAGTCGCTGCGTATTTCTCGGAAGCAATGTCTGCGAGATTACTCAACTCTTGCCTCGGGATTTACGCGGCGTTGCCTTCACGG TGGATGCCACAAACGCACAGCTTGAAGATGGTCTCTGCGTTTCAAGTGTTTAATGGGATAAGCCCTTTGGTGAAATTCTCACACTTTACAGCTAATCA AGCGATACAAGAAGCTTTTGAGAAAGAAGATAGTGTGCACATCATCGATTTGGATATCATGCAGGGACTTCAATGGCCTGGTTTATTCCACATCCTA GCTTCTAGACCCGGAGGACCTCCTCACGTGCGTCTCACGGGACTTGGTACTTCCATGGAAGCTCTTCAAGCTACTGGGAAGCGTAGTTTTTAGGAA AGAAAAATAAACATAGCTTCTAAATTTGCAGGTCTATACTATGACAGCAGTAGTGGGCTTTGGTACTCGTATGACCCTCAAACGCAACAATATGTAGC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001N10	AT2G25080.1	ATGPX1 (GLUTATHIONE PEROXIDASE 1); glutathione peroxidase	GAAGGACCAAAAATGGCTTCTTCTTCTTCTTACGCACCATTCTCTGCTATCTTCAACGGTTCCAGACCTAACCCATCTGTAAAACCCGCGGCTTTCCT CGCGTCTTCCTTGAAATTCTCCACCGTCATATCGAATTTCGCAAATCTGAGTAATGGGTTCTCTCTGAAATCTCCGATTAATCTTGGGTATCTCTTCAA GTCGCGGTATTTCAATGTCCAAGCTAGAGCTGCTGCAGAGAAGACCGTTCACGATTTCACTGTAAAGGACATTGATGGGAATGATGTTTCTTTGAAC AAGTTTAAGGGGAAAGTTATGTTGATCGTCAATGTCGCTTCAAGATGTGGCTTGACATCATCAAATTACTCAGAGCTCTCACATCTGTACGAGAAATA CAAGAGCCAAGGATTTGAGATTCTAGCTTTTCCCTGCAATCAATTTGGTGGCCAAGAGCCCGGTTCTAACCCTGAGATCAAACAATTCGCTTGCACC CGGTTTAAAGCAGAGTTCCCTATATTTGATAAGGTCGATGTGAATGGACCGAGTACAGCTCCGATCTACGAGTTCTTGAAATCAAACGCAGGAGGAT TCTTGGGTGGACTCATCAAATGGAACTTTGAGAAGTTCTTGATTGATAAAAAGGGAAAAGTCGTTGAGAGGTACCCTCCCACCACTTCCCCTTTCCA AATCGAGAAAGACATCAAGAAGTTGCTTGCTGCTTAATAACTTTTGCTTCATGAGAGTACACAGAAACTAACCGGTATTTGAATCTTAATGTTACCGG
GCT-001N11	AT5G62640.2	ELF5 (EARLY FLOWERING 5)	GGATATTTCGAGCCTCGTAGATAGATAGATCGAGAGTCGAGGAAGAGGAGGAGAGAAAATCTAATTTCTGGGAAGAAAATTCGTACTTCTTTTCGAT TGAAATATTAAACCTCAACAAAAATCTTGGTTTATTCACGTACAATTGTGAGCAAATCCTCCTAAATCGGTGAGAGCTTGGGAAGCGGAAATATGAAG ACGACGAAAGGAGGGAAAGTGATGAACCCTACTGATGCTTACCGCAAGCAGATCCGCAAGAGGGAAATTAAACGTAACAAGAAAGAGAGACAGAA GGTAAGAGAGGTTGGAATTTTGAAGAAGGATCCTGAGCAAATCAAGGAACAGATCAGGAAACTCGACATGTCAAAGGCTGAAGGTGCATTGGACAA AGCAAGAAAACATAAAAAGAGACAGCTTGAAGATACTCTAAAAATGGTGGTCAAGAAGAGAAAGGAATATGAGGAGAAAAAGAAGGAGCAAGGAGA GGCCACAACCTCTGTTATGTTCAGTCATCTACCACCTCAACGAAGAACAACCATTGAAGAGGATGAAAGATCGAAGGACTTAAGACCAGAGGACTCT GTTTATTATCACCCTACTTTGAACCCGACTGGTGCACCACCCCCCGGAAAGCCACCAATGTATAATTCATCTATAGGACCTAGAACCTCCGCAGATG GTGCTTCATCTAGCGGTGCTACATTGTCTTCTAATATCGAGTCAGAAGATTCCGTCTTAGTTGCTCCTCCTCCACCTCCTCCACCTCCTCCACTTCCT CATCTTCCGGATGGAAATACTACATTATCTGCTTCTTTGCCCCTTCCGCCTCCACCTCCTTTGCCGCCAACTACAGGACTTAATTTGCCCCATCCACA ATTTCCACCACCGCCTCCGGGACCCCCTCCAAAAGAGCATGATCTGGTTCGTCCTCCTCTTCCTCCACCTCCTCCACTTCCTCAGTCTTCCCAACCG CCTCCTCCGGGTCTAAGTGGTAGTGAAGGCGATGGTAGATTCCCTGAACTATCAAATCAAACTTTCGACGAGCACAAGAACACTAATATAACTTCCA TCCTTCCGCCTCCACCACCTGGCCTTCCCTCAAACCCTCCAAGCAACGAATCTGAGGGTGGTCCATCAGAATCTAACAGCAGTGGTTTTCAAAACG CTAACCTCTCTAAGATGGTTGCACCACCACCACCTTTACATCAGCAACATCAATCAACATTTGCAGGAGCGTCGGCTTCATTGACTAATTTTCAACCT GATGTTCTTCTGCGTCCAGGAATGTTGCATTTTCCACCTCCACCACCTCCACTCGATATGCATCCTCCTCTTCCTGGAATGGTGGGCGGTCATCTAA TCCCGAGGCCACCGTATGGCCCACCACCTGGACCACCACCTATGATGAGGCCGCCGCTTCCACCGGGACCACCGCCGTCTAGTTTTCACGACGGT CAAGCAATGATCAGACCATATGTGCCAAACAAACCATCTTATGTAAAATCCGCTGCTCCTACCGTTGTCAGGAGACCTCTCGCTCAACACACACCTG AGCTTACATCCATGGTCCCTGCCTCGGTTCGAGTCAGGAGGGAATCAGCAGCAGTAAGCAAACCGAAACCAAAGACTGCGGTAGCCACGAGCTTG
GCT-001N12	AT1G79700.2	ovule development protein, putative	GATCGTATATGCTCATTAAAAGTTTGAAACCCTCTTTTCACCATTGTCGCTCCTCATTCATTCTTCTCTCTTACCGGGAATGGCAAAAGTCTCTCAGCG GAGCAAGAAGACAATCGTCAACGACGAAATCAGCGATAAAAAAGCGGTTGCGGTTGCGTCTGTGTCTTCGTCCGCTTTCCTTAAATCAAAACGCAAA CGGAAGCTGCCGCCCCAAAACGCTCCACCTCAACGCAGCTCCTCCTACAGAGGCGTGACAAGGCATAGATGGACGGGGAGATACGAAGCGCATTT GTGGGATAAGAACTGCTGGAACGAGACGCAGACCAAGAAAGGACGTCAAGTTTATCTTGGGGCATATGACGAGGAAGAAGCAGCAGCACGTGCCT ACGACTTAGCGGCATTGAAGTACTGGGGACGAGACACACTCTTGAACTTCCCTCTACCTACTTATGAAGAAGACGTCAAAGAAATGGAAGGCCATTC CAGGGAAGAGTACATTGGATCTTTGAGAAGGAAAAGTAGTGGGTTTTCTCGTGGTGTATCAAAATACAGAGGCGTTGCAAGGCATCACCATAATGG GAGATGGGAAGCTCGAATTGGAAGGGTGTTTGGTAATAAATATCTATACCTTGGAACATACGCAACGCAAGAGGAAGCAGCCAGAGCATATGACAT CGCGGCAATAGAGTACCGTGGACTTAACGCCGTTACCAACTTCGACGTCAGCCGTTATCTAAATCTACCGGAATCGAAAAACCCTAGCGCCGCCGC AAATCATCTCCCGGATGAATCCGATTATTACGATTCTATGCCCGTTCGAAACCCAAACCACGAGCCAAGATCACCAGACGGTCAAACTTCGTCAGAG GATAACGACTATACGAAAACAGAGGAGACACTCGACCCGGAAGCTATTCCATCTCGCCGGAGCTTTCCCGACGATATCCAGACGTATTTTGGGTGT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001N13	AT1G70160.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT5G54870.1); similar to unknown protein [Arabidopsis thaliana] (TAIR:AT4G27020.1); similar to unknown protein [Oryza sativa (japonica cultivar-group)] (GB:BAD53001.1); similar to unknown protein [Oryza sativa (japonica cultivar-group)] (GB:BAB89049.1); similar to conserved hypothetical protein [Medicago truncatula] (GB:ABE93629.1)	GAATCAGAAACAGAGAGAAGAGAGAGAAATCCCAATGGATCATCTTCAATCTTGACAGCACGAGAAACCCTCTTCCCCAAAAATACCCAAAGTTCTA GGACCAAAGTTTTCAAAATCACTAATTGAAAATTCCCGCAAAGTAATCGGAGCGATCCGATCGAATGTCTCAGAACCCTCCACCTCTGACTCGGACG CTCCTCTTGCTCCTATGTCTTCTAGGTTTAGGCTTTTGCGTTGACCTGGGTCAATCCCTGAAGGTCCCGTTCAGCGTCAACGATGTTCTTCCGATGC TGCCTCGCCAAGTGTCGTGGCCCGTTTTGAACAGCTTCCACAGCGCCGTGGATTTGTTGCCTGTTTTTATCGGGTCCGTTACTCCGAATAACGCGT CTCTTGAGTGGAAAGGTGCTTGCTTTCATGGCAACGAGGCTCGTCTCGATATCACCGGTAGCGATCGCGATGAACCTGGGCTTGGAGGTGGCGTT CTCCATCTCAAGACATCAGAGGCACATAGCTTGACCTGCATGGACATATATGTCTTTGCAACGCCGTACAGGATCACCTGGGACTACTATTTCTCTG CCCGAGATCATACGTTGAACTTTGATTCCTGGGAAGAGAAAGCTGAACTGGAATATGTGAAGGAGCATGGAGTTTCAGTGTTTCTAATGCCATCAGG GATGCTTGGGACGTTGCTTTCCTTGATAGATGTGTTGCCACTTTTCTCCAACACTGCTTGGGGACAGAATGCGAATTTGGCTTTCTTGACGAAACATA TGGGCGCTACGTTTGAGAAAAGACCTCAACCTTGGCGGTCCACAATCAATCCAGAAGATGTGCATTCTGGCGATTTCTTGGCTGTGTCAAAGATTAG AGGTAGGTGGGGAGGGTTTGAGACGTTGGAGAAATGGGTGACTGGGGCTTTTGCTGGTCATACTGCTGTTTGTTTGAAGGATGATTTGGGGAATCT TTGGGTTGGTGAATCAGGACATGAGAACGAGAAGGGTGAAGAAATCATTGTTGTGATTCCTTGGGATGAATGGTGGGATTTGACATTGAAGGATAAT TCAAATCCTCAAATAGCTTTGCTACCTCTACATCCTGATATCCGAGCAAAGTTCAACAATACTGCTGCGTGGGAATATGCACGAAGCATGTTAGGCAA ACCGTATGGATATCACAACATGATTTTCAGCTGGATTGATACTCTTGCCGATAACTACCCACCTCCCCTTGATGCTCACTTGGTTATTTCTGTCATGT CTATGTGGACTCGTGTACAACCATCATATGCCGCAAATATGTGGAACGAGGCACTCAATAAACGACTTGGTACTGAGGATCTGGATTTGTATGGGAT TCTTGAAGAAACAGCGAGGCGTGGAATGTCGTTTGATGAACTGCTCACCATCCCTGAACAGGATGAGTGGGTTTATAGCGACGGGAAATCAACAAC CTGCGTTGCTTTCATTCTTGCTATGTACAAAGCCGCTGGTGTATTTGGCCCTCTCGCTGATCACATTCAAGTCACTGAATTCACTATTCGAGATGCGT ACACACTGAGGTTGTTTGAAGAAAACCAGACGCGCTTACCGAGTTGGTGTAACACAGAGGAAGGGAAGCTTGAGTTCTGTCAGATTCTGGGTGAAT ACAGAATGGAGTTGCCTGGTTATAACACCATTCAACCATATGCTAACATGAACGAGAATTGCCCTTCTTTTGCCTCCTGATTATGAGAGGCCTTCTAA
GCT-001N14	AT5G27150.1	NHX1 (NA+/H+ EXCHANGER); sodium:hydrogen antiporter	GAGAATCTCTCTCGCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTACACGCAGGACCGTACACGTCTCTCTCTATTTTCA GAATATCGAACTCGTATAATTCTCAGTCGCGTAATTTTCTCTCCTGTTTTCTGCTCGATTCCTTCGTTTTCTCTTTCGTGTTCTGGTCTTCGAATCGCG TCTCTGTTCTCTTGTTTTACTCTTGAAGCTCGAACACGGTCGTGTAGAAGAATCTCAGGCTTTAGCTTCGGAGCTTCGATCTCCGTATTGATTTTTGTT CTCGTGAGCTTTGACTTTATTATTCGCCTTCTTAACAATTAGAAGTTCTTCCTGGAGATAATCAGATCACGCGGAAGCAGCTGAGGAATTGTTTCAAT GGACAGCACGGAAAGATAAGAGATTTCCGATTTGCTGATCCAAAATCTGAATGTTGTACTTGTTGATGTCTCAATAGTTGTTGTGTACTCTCGTTCGG TTATATATTCTGGGAGGGCAACACGGAATTTGGTGGATCTAGAAGATGGCAATGCTGGCATCATATTTCGATTCTTTTATATCTAAAATGCCGTCATT ATCGACCTCTGATCACGCCTCTGTGGTTTCGTTGAATCTCTTTGTTGCACTTCTTTGTGCTTGTATTGTGCTTGGCCATCTTTTGGAGGAGAACCGAT GGATGAACGAATCCATCACAGCGTTGTTGATTGGGCTTGCCACTGGTGTTGTCATTTTGTTGATTAGTAAAGGAAAAAGCTCACATCTTCTGGTCTTC AGTGAAGATCTTTTCTTCATATATCTCTTGCCACCCATAATATTCAATGCAGGGTTTCAAGTAAAAAAGAAGCAATTTTTCCGCAATTTCGTGACTATT ATGCTTTTTGGTGCTATTGGAACTGTTATCTCTTGCACTGTCATAACTTTAGGTGTAACGCAGTTCTTTAAGAAACTGGATATTGGGACCTTTGACTTG GGTGATTATCTTGCAATTGGTGCTATATTTGCTGCAACAGATTCTGTGTGCACTCTGCAGGTTCTGAATCAAGATGAGACACCTTTGCTATACAGTCT TGTATTCGGAGAGGGTGTTGTGAATGATGCCACATCGGTTGTTGTCTTCAACGCAATTCAGAGCTTTGACCTCACCCACCTTAACCATGAAGCTGCT TTTCATCTTCTTGGAAACTTCTTGTATTTGTTTCTTCTGAGCACATTGCTTGGTGTTGCAACCGGTCTGATAAGTGCCTATGTCATCAAAAAACTATAT TTTGGAAGACACTCAACTGATCGAGAGGTTGCCCTCATGATGCTTATGGCGTATCTGTCTTATATGCTTGCTGAGCTTTTCGACTTGAGTGGTATTCT CACCGTGTTTTTCTGTGGGATTGTGATGTCCCATTACACCTGGCACAACGTAACCGAGAGCTCGAGAATAACTACAAAGCATACCTTTGCAACTTTG TCGTTTCTTGCGGAGACATTTATTTTCTTATATGTCGGAATGGATGCCTTGGATATTGACAAGTGGAGATCCGTGAGTGACAGCCCGGGAACATCAG TCGCAGTGAGCTCAATCCTAATAGGCTTGCTCATGCTTGGAAGAGCAGCCTTCGTCTTTCCATTATCATTTCTGTCAAACTTAGCCAAGAAGAACGAA AGCGAGAAAATCAACTTTAAGATGCAAGTTGTCATTTGGTGGGCTGGTCTCATGAGAGGTGCTGTATCAATGGCTCTTGCATACAACAAGTTTACAA GGGCCGGGCACACTGATTTACGCGGGAATGCAATCATGATCACCAGTACTATAACCGTCTGTCTTTTTAGCACCGTGGTGTTTGGTATGCTGACCAA ACCGCTCATAAGACACCTATTACCGCACCAGAAAGCCACCACGAGCATGTTATCTGATGACAACAATACCCCAAAATCAATCCAGATCCCATTGCTG GACCAAGACTCGTTTATTGAGTTCGCAGGGAACCACAATGTGCCTCGGCCTGACAGTATACGTGGCTTCTTGACACGGCCAACTAGAACGGTGCAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001N15	AT1G75800.1	pathogenesis-related thaumatin family protein	GGAGAATCCTCCTCCTTTTAAGTGTCTGTTATATAATATAAATCAAGAAGAAGAAGAAGAAGAAACAGAGCAAATATAAAATCAATCCTTAAAAGCTTC ACATTTTTCTTCTTCTTCTTTCTCCAGACCAATGGCTCTTCCGTTGCCACTGATCTTACTATTCTTCTCCCATTTCTTCCTCCCCGGGATTGAATCGAC GAGCTTCATTATGCAGAACAAATGTGAATACACAGTCTGGCCGGGACTTCTCTCCAACGCCGGAGTTCCTCCTCTTCCGACGACCGGATTCGTTCTC CAAAAAGGCGAAGAGCGAACAATCAACGCGCCAGCTTCATGGGGCGGTCGATTCTGGGGAAGAACGCTCTGCTCCACCGACACCGACGGAAAATT CTCATGCGAAACCGGCGATTGCGGATCCGGAAAACTCGAATGCTCCGGATCCGGCGCCGCTCCTCCGGCGACACTAGCCGAGTTCACGCTCGAC GGATCTGACGGTCTCGATTTCTACGACGTCAGCCTCGTCGACGGATACAACGTCCCGATGCTCGTCGTCCCTCAGGGAGGCTCGGGGCAGAACTG CAGCAGCACGGGATGCGTCGTGGATCTGAACGGCTCGTGTCCGACGGAGCTGAGGGTGACGAGCGTCGACGGAGGAGGAAAACAGTCGATGGG ATGCAAAAGCGCGTGCGAGGCGTTTCGGACGCCGGAATATTGCTGCAGCGGCGCGTTTGGAACGCCTGACACGTGTAAACCGTCGTCGTACTCGT TGATCTTCAAAGCCGCGTGCCCACGTGCGTACAGCTACGCCTACGATGATCTGAGCAGCACCTTCACATGCGCCAAGTCCCCTAATTACGTCATCA CCTTCTGCCCATCTCCAAACACCAGTCAAAAATCATCTCAAGATCAGAGTCCAGATCCGAAAGTGACGACGCCGCCAGGGACGTCGACAACTCCAG CCGGAGACAGTACGACGTGGTCGCCGGTAGATACATCGATGATATACGAAGGTGCTCTGGACCAGAGCAAAGGATCACCGTCAACGTGTCATCTG TCCTTATGTGGAATCACAGTCACTGTCGCGCTGGCCTTTTGTCGGATGTGGCAGCTCTTTTGACCTAACTTTGTCTCCCGCGGTAAACACTAAATCA AGACGAGGTGGGCCCGCACTAAAGCCTTATCTCGTCCCGGCCCATGTGACCTTTTTCCGTAATAACCGACGTCGGATTGAGTCAGAGTTGAAAAAG GTACAGCAAAAAGATCCTTACACAATTTACAAAGTTACCCTCTCACGGGAGGAATCTTAATCTGGGTGAGGAACACGTGGGAAAACCAAAGTGGGCT
GCT-001N16	AT4G13770.1	CYP83A1 (CYTOCHROME P450 83A1); oxygen binding	GGGTGACAACCAAAAATGGAAGATATTATCATCGGCGTTGTGGCACTCGTCGCGGTTCTTCTCTTCTTCCTTTCTCAAAAAACGAACACCAAACGGT ACAAGCTGCCTCCCGGTCCAAAGGCGCTTCCCCTGATCGGAAACCTCCACCAGCTTCAGCAGACTAACCCACAACGTTTCTTCCATGGATGGGCCA AAAATTACGGTCCGATCTTGTCATATAAGATAGGAAACAGAATAATGATGGTGGTATCTTCGGCTGAGCTAACCAAAGAGCTTCTCAAGACGCAAGA TGTCAACTTTGCTAACCGGCCTCCGCACCGTGGTCACGTGCTCATGACCTACGGAAGAAGTGACATGGCTATGAACCACTACACACCGTTGTACCG GGAGATGAGGAAGATGGGCATGAACCACTTGTTCTCACCCACTCGTGTGGCCACCTTTAAGCACGTGCGGGAGGAGGAGGCTAAGCATATGATGG CTAAGATCGAAAAGGCTGCGGAGAGATCTGAACCGGTCGATATAAGCGAGCTTATGTTGACCTTCACGAACACGGTTGTGTGTAGGCAAGCGTTTG GGAAGAAGTACAATGAAGATGGGGAAGAGATGAAGAGATTCATCAAGATTCTTTATGGGACTCAGAGCGTTTTGGGGAAGATTTTTTTCTCTGACTT TTTCCCGTTTAGTGGATTTCTCGATAATTGGACAGGCCTCACGAAATATATGATGGACTGTTTTGAAAGACAAGACACTTACATTCAAGAGATTATCG ATGAGACGTTAGATCCCAACAGGGTCAAGCCAGAAACTGAGAGCATGATAGATCTCTTGATGGAGGTCTACAAAGAGCAACCATTCGCCTCCAAGT TCACTATAGGGAATGTCAAAGGAGTGATTTTGAATATAGTGGTTGCCGGAACTGACACGGCGGCTGCAGCGGTTGTGTGGGGGATGACGTATCTAA TGAAGTACCCTGAAGTGAGGAAGAAAGCTCAAGCAGAAGTGAGAGATTATGCAGGAGAGAAAGGTTTAACGTTCATTACTGAAGACGACATCAAGA ACCTTCCTTACTTCAGAGCCTTAGTTAAAGAAACATTAAGGATTGAACCAGTGATTCCTCTCCTTATCCCTCGTTGTTGCATTCAAGATACCAAGATTG CTGGTTACGATGTCCCCGCGGGGACCACAGTCAATGTAAATGCGTGGGCTGTGTCTCGTGATGAGAAGGAGTGGGGCCCGAACCCTGACGAGTTC AGGCCCGAGAGGTTTCTTGAGAAGGACGTTGACTTCAAAGGCACGGACTATGAGTTTATACCGTTTGGGTCAGGCCGGAGAATGTGCCCTGGAATG CGTCTTGGTGCGGTGATGATTGAGGTTCCATACGCGAACCTTTTGCTCAACTTCGACTTCAAACTTCCTAATGGAATGAAACCAGAAGACATCAACA
GCT-001N17	AT5G47220.1	ATERF-2/ATERF2/ERF2 (ETHYLENE RESPONSE FACTOR 2); DNA binding / transcription factor/ transcriptional activator	GGGAAAAATTTAGATTCTTGACAATTCAATCCAAAACAAAAAGAAAAAAAAAACTCATTTTCTCTGTATTAACAATGTACGGCCAGGGAGAGATCATG GCGGCAGCGGAATCCGATTATGCTTTGTTGGAGTCGATACGACGTCACTTGCTAGGAGGAGAGAACGAGTTTCGACTCAGCGAGTCAATACCGAGT TCTTGTTTCACAGAGAGTTGGGGAGATTTGCCATTGAAAGAGAACGATTCCGAGGATATGTTAGTCTACGGAGTCCTCAAAGACGCATTCGACGGAA CCTTTGACACGTCATCGCCGTCGTCGGACTTGAGCTGTCTCAGCGACTTTTTAGACTTAGAACCGTCGTCGTCGAAGCGCCAGACTAATCCGTCTCT GAACGATTTTCCGGCGGTTAAACTCGAACTGTCGGAGAATCTCGCGGCGGTTGCGGAGAAACCGAAGCTCGCCGTGTCTGCGGCGCCGCCGGCG AAGGGGAAGCATTACAGAGGAGTGAGGCAGAGGCCGTGGGGGAAATTCGCGGCGGAGATTCGTGATCCGGCGAAGAACGGAGCGAGGGTTTGGT TAGGGACGTTTGAGACGGCGGAAGATGCGGCTTTGGCTTACGATAGAGCTGCTTTTAGGATGCGTGGTTCCCGCGCTTTGTTGAATTTTCCGTTGA GAGTTAATTCCGGTGAACCGGACCCGGTTCGAATCACGTCGAAGAGATCTTATGCTTCTTCTTCGTCGTCGTCGTCTTCGTCTGAAAACGGACAGAC GAAACGGAGGAGGAAGACAGAGAACCTGCCGTCGGAGTTGCAGGTCAAGTGTGAGGTTGCCTAAGAAACGGAGGAGGAAGACAGACACGTGTCG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001N18	AT5G20350.1	TIP1 (TIP GROWTH DEFECTIVE 1)	GATCGTAAGATCAATCATTCTTCTTCCTCTTGATTCTCCCAGAAAAACCCTATCACGTACGCACCCTCTCTCATTTTCCCCCAAATCTCACGATTAGTT TATGCCAAGGTGGGTGAGGGGAGAATAATCTTCAAGGTCAACCCATGAAAGCTTAAAAGGTCTTCGAATCCTCTCACACCCACACAATCGCGATCG ATCTTGTAGAATCTGGTGGAGGCCGAGAAAAAGAAAATGTCGTCGGAGATTGAGGTGGTGGAGGAAGTCCAATCGAATCCCAAGGAGAACGGGGA ATCGAGCTCTAAAGGGATTGAAGACGAGAGTTTGAAGAACGATGTGTATACTGCGGCGGCTTATGGTGATTTGGAGAAGCTTCATAGATTGGTCGA GTGTGAGGGTTGCTCTGTTTCTGAGCCCGATGGCCTTGGCTACTATGCTCTTCAGTGGTCCGCCTTGAACAACCGCACCGCCGTTGCCCAGTACAT TATCGAGCATGGTGGAGATATCAACGCGACGGATCATACTGGACAGACTGCGTTGCATTGGAGTGCAGTGCGTGGTGCGATACAAGTTGCAGAACT CTTACTACAAGAGGGTGCAAGGGTGGATGCAACAGATATGTATGGATATCAGCCAACACATGTTGCAGCACAGTATGGCCAGACTGCTTTTCTCTGT CACGTCGTCTCAAAGTGGAATGCTGATCCTGATGTTCCCGATAATGATGGAAGAAGCCCCTTGCACTGGGCTGCATATAAAGGTTTTGCAGATTCCA TTCGCCTTCTTTTATTTCTAGACGCATATAGAGGACGGCAGGACAAAGAAGGTTGCACTCCTTTGCACTGGGCGGCAATTAGAGGTAATTTGGAGGC TTGCACTGTCTTGGTGCAGGCTGGGAAGAAAGAGGATTTGATGATTACTGACAATACCGGGCTTACGCCCGCACAACTTGCTGCTGAAAAGAATCA CCGACAAGTTTCTTTTTTCCTTGGTAATGCTAGAAGGCTGCTTGAAAAGCGGTGTGACGGAAGCAGTCCCCTTGGAAGATTGTCAAAGTTGGGACTT GCTCCAGTTCTTTGGTTCATGATCCTGCTGCTTCTACTCATATATACTAATTCTGTTATTTTGGCATCCAATCTGCCAAAGCTAACAACTGGGATCGGT GCGCTTGCATGGCTGGGATTCCTTCTTGCAACTGCAGGACTATTTTTGTTTTATCGTTGTAGCAAAAAGGATCCAGGTTACATCAGAATGAACATCCA CGATCCGCAGACCATGAAAGATGATGAACCACTGTTGAAAATAGAGCTAAACAACCCTGCTTTGCTTGCTGGGAATTGGACGCAGCTCTGTGCAAC GTGCAAGATTATTCGACCTCTTCGAGCTAAGCATTGTTCCACCTGTGATCGTTGTGTAGAGCAATTTGATCACCATTGTCCTTGGGTATCAAACTGTG TTGGAAAAAAAAACAAGTGGGACTTTTTTCTTTTTCTTCTACTTGAAGTTTTAGCGATGCTAATAACTGGTGGCGTCACTCTTGCAAGAGTCTTGAGTG ACCCTTTAGCTCCATCTTCGTTTGGAGCATGGATGAGCCATGTCGCTAGTAATCATGTGGGCGCATTATCCTTTCTTCTTGTTGAATTCTGCCTCTTC TTTTCAGTCGCCGTCTTAACAGTCATACAGGGGTCTCAGATATCGAGGAATATAACCACAAATGAAATGGCTAATGCACTGCGCTACAGCTACCTAA GAGGTCCAGGTGGTCGCTTCAGGAATCCTTATGATCTAGGTTGCAGAAGAAACTGCTCGGACTTCTTGGTGAAAGGTTATAACGAAGATATTGAGTG TCATGAAGAAGACACAACACCGAGACAAGAGGGTATTAGCATGATGCAGATGCAGCGGAGTTCTAATATTCAAAATGGCAATGGCCATGTTGCTATC CATCTTAACCCCATACATAATTCCCACTCACATCTTCATTCTTCAAACTCCAGCCATAGCCATAGCACTAACTCAAAGACTCATACTCTTCCTTTCCC
GCT-001N19	AT4G30210.2	ATR2 (ARABIDOPSIS P450 REDUCTASE 2)	GAGGAGTCTCTCTCTCACCTACACCACACCTAACCAAACCCTCCGATTTAGAGAGAGAGAGAGATCTTCTTCTTCCTTCTTCCTTCTAGGCACACCA ATACGCCATGTCCTCTTCTTCTTCAACCTCCATGAAGGTTTCTCCCTTCGATCTCATGTCAGCCATCATCAAAGGCGAGCCCGTGGTTGTTTCCGAC CCGGCGAATGCCTCCGCTTACGAGTCTGTAGCCGCCGAATTGAGCTCTATGCTCATTGAGAATCGTCAATTCGCCATGATTGTCACCACTTCCATAG CTGTTCTCATCGGCTGCATCGTTATGCTCGTATGGCGGAGATCCGGCACTGGAAACTCCAAACGCGTCGAGCCGCTTAAGCCTTTGGTGATCAAGC CTCGCGAGGATGATGTTGACGATGGCCGTAAGAAAGTCACCATCTTCTTCGGAACACAGACCGGCACTGCCGAAGGTTTTGCTAAGGCTTTAGGAG AAGAAGCTAGAGCAAGATACGAGAAGACCAGATTCAAAATCGTTGATTTGGACGATTACGCGGCTGATGATGACGAGTACGAGGAGAAATTGAAGA AAGAGGATGTGGCTTTCTTCTTCTTAGCCACATATGGAGACGGTGAGCCAACAGATAATGCGGCGAGATTCTACAAATGGTTCACCGAGGGGAATG ATAGAGGAGAATGGCTCAAGAACTTGAAGTATGGAGTTTTTGGATTAGGAAATAGACAATATGAACATTTTAATAAGGTTGCCAAGGTTGTAGATGAC ATCCTTGTCGAACAAGGTGCACAGCGTCTTGTTCATGTTGGTCTTGGAGATGATGACCAGTGTATTGAAGATGACTTTACCGCATGGCGAGAAGCAT TGTGGCCTGAGTTAGATACACTGCTGAGGGAAGAAGGTGATACAGCTGTTACACCATACACTGCAGCTGTGCTAGAATACAGAGTTTCTATCCACAA CTCTGAAGATGCGTTGAATGAGAAAAATTTGGCCAACGGGAATGGTCATGTCGTGTTTGATGCTCAGCATCCTTACAGGGCAAATGTTGCTGTGAGA AGGGAGCTTCACACGCCAGAGTCGGACCGTTCGTGCACCCATTTGGAATTTGACATTGCCGGAAGTGGCCTGACGTATGAAACTGGAGATCATGTT GGTGTACTTACTGAGAATTTAAATGAAACTGTTGAGGATGCGCTTAGTTTGCTGGATATATCACCTGATACTTATTTCTCCCTTCACTCTGATAAAGAA GACGGCACACCAATCAGTAGCTCGCTTCCTCCTCCATTCCCACCTTGCAACTTGAGAACAGCACTTAAACGATATGCATGTCTATTGAGTTCTCCTAA GAAGTCCGCTTTACTAGCTTTGGCTGCTCATGCATCTGATCCAGCTGAAGCAGAGCGATTAAGACACCTTGCATCACCTGCTGGAAAGGATGAATAT TCAAAGTGGGTAGTAGAGAGTCAAAGAAGTCTACTCGAGGTGATGGCCGAGTTTCCTTCAGCCAAGCCGCCACTTGGTGTCTTCTTCGCTGCAGTT GCTCCAAGGTTGCAGCCTAGGTTCTATTCGATATCATCATCTCCCAAGATTGCTGAAACTAGAATCCATGTCACTTGTGCGCTGGTTTATGAGAAGAT GCCAACCGGCAGGATTCATAAGGGAGTGTGTTCGACTTGGATGAAGAGTGCTGTGCCTTATGAGAAGAATGAAAACTGTTGCTCAGCGCCGATATT TATTAGGCAATCCAACTTCAAGCTTCCTTCGGATTCTAAGGTACCAATCATCATGATCGGTCCAGGGACTGGGTTGGCTCCATTCAGAGGTTTCCTT CAAGAAAGACTCGCGTTGGTAGAATCTGGTGTTGAACTTGGACCATCAGTTTTGTTCTTTGGTTGCAGAAACCGTAGAATGGATTTCATCTACGAGG AAGAGCTCCAGCGGTTTCTTGAGAGCGGTGCACTCTCAGAACTAAGTCTCGCCTTCTCTCGTGAAGGACCTACCAAAGAATATGTACAGCACAAGAT GATGGACAAGGCTTCTGATATCTGGAGCATGATCTCTGAAGGAGCCTATGTATATGTTTGTGGTGACGCCAAAGGCATGGCAAGAGACGTACACAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001N20	AT5G64260.1	phosphate-responsive protein, putative	GAAAATTTTCCGTGGTTCTGAAGCTTTTATTTCTCAAGGCGACAATGAAGATTTTTCTCATCCTTGTCTCTTTCCTCGTCCTCTTACCTGTTTCTCTAC AGGATCCGAGTCCTGGAGTCAAGGCACCGACCCGGGCTCACGCGGAGCTCACGAGTCATGGGTTTCCGATTGGGCTGCTTCCTCTATCTGTCAAG GATTACTACATCAACCAAACCTCCGGCGACTTCTCCCTTTTCCTTCACGGGACATGCAAAATCACGCTTCCTCCTGACAATTACCTCGCCACTTACTC GAATAAGGTAACGGGTCGGATTACCCAGGGCCAGATCGCGGAGCTCCGGGGAATTCGGGTCCGGGCGTTTTTCCAGTGGTGGTCTATCACCGGG ATTCGATCCTCCGGTGATAATCTTGTGTTTGAGGTCGGCGTGGTAACCGCCAAGTACCCCTCGAAGAATTTCGTCGAGAGTCTTGATTGCGAAGGA AAGCGATCATCTTCTTGATTCAATTCAGGAGATCTGTGAAGGCAGGAGCAACAAGTGAAGAAAATAGTTTGTATTATATTATTCTCCAGATAAAATAAA GCTTGTAATGTAAAACCGCATCTAAACCACGACTCTATTCTTCACCCGTGATGGCCGATTTGGCCCTCGAGGGCCAAATCGGCCATCACGATCCTAT AAACCCCCAAACAAAACCTCTGTTATCTCTTCAATATCTTCTTTGCCCTCTTAATGGCTTGTAATTACCGTTTTGCTATCTTTCTCACTTTGCTCTTCGC CACCGCCGGTCCTTCCACCGCCGCGTTGGTCAAGGAGCAGCCGCTAATTCTCAAGTACCACAACGGCGTTCTCTTGAAAGGAAATATCACAGTCAA TCTCGTTTGGTACGGAAAATTCACACCCATCCAACGGTCCGTAATCGTCGACTTCATCCGCTCGCTCAACTCCAAAGACGCCGCAACCTCCGCTGTT CCTTCCGTCGCGTCGTGGTGGAAGACGACGGAGAAATACAAAGGCGGATCCTCAACGCTCGTTGTCGGAAAACAGCTTCTCCTCGAGAAATATCCT CTCGGAAAATCCCTTAAAAATCCTTACCTCCGTGCTTTATCCACCAAGCTTAACGGCGGACTCCGTTCCATAACTGTCGTTTTAACGGCCAAAGACG TTACCGTCGAGGGGTTCTGTATGAACCGATGTGGGACCCACGGATCCTCCGGCTCGAAATCGCGTCGCGCGGCCAACGGCGCCGCTTACATATGG GTCGGAAACTCCGAGACGCAGTGCCCGGGATATTGCGCCTGGCCGTTTCACCAGCCGATTTACGGACCACAAACGCCGCCGTTAGTTGCGCCTAA CGGTGACGTTGGAGTTGACGGAATGATCATAAACCTCGCTACACTTCTCGCTAACACCGTCACGAATCCGTTTAAAAACGGATATTACCAGGGCCCA CCAACTGCGCCGCTTGAAGCTGTTTCCGCTTGTCCTGGCATATTCGGGTCGGGTTCTTATCCGGGTTACGCGGGTCATGTCCTCGTCGACAAAACA ACCGGGTCTAGTTACAACGCTCGTGGACTCGGCGGTAGGAAATATCTCTTGCCGGCGATGTGGGATCCACAGACCTCAACGTGCAAGACCCTGATT
GCT-001N21	AT5G29000.3	myb family transcription factor	GCTTGTTCTTTGATTCCGTATTGATTTGTTGCCGCCGTTGCTGAGTTCGACTCTTCATGCTACTGTAGAAGACAGATACCGCAAGTTGCCTAACTCTT TCTTGGTTTCATCGGGTCAGGAACTGATGAATAACCCCGTGCCTTATCAGGTGGTCTCTAGTGGATATCTCTTCTCGTCTCCCTCTGGATTCTGCAAT GTTTCAGCTCATGGAAGGAGTTCCCAAACTCAGCCAAGCGACAGATTGGCTATGCAGGATTGCCCTGTGGAAGCGTCATTGACTAATCATCACCCT CAACAGTTCACAGATCCACTTGATGAGTTCTTTGATTTTTCTGACCATGTTCCCGTTCCAAATCCACAACCAGAGAGTAGCGGGGTAAGGGTGGTCT CATCAGTGGAACCTCATGAGAAAAGCGAGTGGCAAAATTGGGCAGATCAGCTGATTTCTGCTGACGATGGTACGGAGCCAAATTGGTCTGAGCTTC TCGGAGATCCAAGTTCCCACAATCCAAACTCAGAGATACCGACACCACTTTCGGAAGTACCAAGGCAAGAGATACAAGCTTACCAGCAGCATCAGA TTGTTGTATCAGAGGAGCAGATCAGTGGCAGAAACTCATCATCTAGTGCAGCAACATCTAAACAACGCATGCGCTGGACACAAGAACTTCATGAGG CGTTCGTTGATGCTGTTAACCAACTCGGTGGTAATGAACGAGCCACGCCTAAGGCTATTTTGAAGCTCTTGAATAAACCTGGCTTGACCATTTATCAT GTAAAAAGCCATTTGCAGAAATACAGAACGGCAAGGTATAAACCAGAGACTTCAGAAGCTACAGGAGAACCTCAAGATAAGAAGATGACATCTATCG AAGATATCAAATCTCTTGACATGAAAACGAGCGTTGAGATCACACAAGCTCTGAGGTTACAGATGGAAGTTCAGAAACGTCTCCATGAGCAGCTCGA GATCCAACGGTCGCTGCAGTTGCAGATTGAAAAGCAGGGCCGATACCTACAGATGATGTTCGAGAAACAACAGAAGTTACAAGAGAGCAAGAGCTC TCCCTCAGATGCATCACCAAAGCAATGCAACACTACATCTGCAGAAGTCGAATTTGGTCTTGAGACACAAACAGGAGACCAAACTGAATCTGCTTCA TCGTCAAGGAAACGAGTCAGAGAAGATTAAAACATGTTAAGGTTGAATTCGTTGGAGAAACATATGTTAACTGGGAATTAAGTTAGGTGTTTTGTGGA
GCT-001N22	AT1G20696.1	HMGB3 (HIGH MOBILITY GROUP B 3); transcription factor	GAAGATATTTACAACCCCCCACTAGCCCTCTCTTCTCTTAGCCTCTCACTCGAATCGTTCACAAAGCGTAAAATCACGAACACTTAGTAATCCTTTAC TCACTCTCTCTCCCATTTTCAAACCCTACGATCTTCGTCAAGAATCATTCATGAAAGGAGGTAAATCAAAGACTGAAACCAGGAGCTCCAAGCTCTCT GTGAACAAGAAGCCTACTAAGGGAGGCAAAGGTGCTGCTAAGGATCCAAACAAACCAAAGAGGCCAGCCAGTGCCTTCTTCGTTTTCATGGAGGAG TTCCGTGAGACTTACAAGAAGGAACACCCAAACAACAAATCTGTTGCTGCTGTTGGAAAAGCTGGTGGACAGAAATGGAAATCCTTGTCAGACTCTG AGAAGGCTCCCTACCAAGCTAAGGCTGACAAGCGCAAGGTTGAGTATGAGAAGAATATGAACGCCTACAATAAGAAACAGGAGGAAGGTCCCAAG GAGGATGAGGAATCTGACAAGTCAGTGTCTGAGGTTCATGATGAGGATGACGCCGAGGATGGGAGTGATGAGGAGGAAGACGATGACTAAGAAGT TGGTAGCATAATATAGGAGGACGCTGCAGGGATCTCTCGGATGTTTTATCTCTCTTTTTTTTTAATCTTAAAATGTTAACGAGGCTGGTTAAAATGTGT CTTTTTTTTTTCTTCTTTTATCCTTTCTGATGTTTTTATTAAACTACCACTCTCTCCCACTGGTTCTACGGGTAATGGAAAAGTGAATGTAGAATGAGAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001N23	AT4G31550.2	WRKY11 (WRKY DNA-binding protein 11); transcription factor	GGAAGAACCAAGAGATCTCATCATGGCCGTCGATCTAATGCGTTTCCCTAAGATGATGGATGATCAAAAGGCTATCCAGGAGGCTGCATCGCAAGG TTTACAGAGTATGGATCACCTGATTCGCATCCTCTCTAACCGCCCCGAACAACACAACAACAACAACAACAACGTTGACTGCTCTCAGCTCACCGAT TTCACCGTCTCCAAATTCAAAACCGTCATTTCTCTCCTTAACCGTACCGGTCGCGCCCGCTTCAGACGCGCTCCGGTTCACTCTTCTCCTCTGAAAC AACAGAGTCAGCTCGTTAATATCGCTGCCCCACCGGAGACTCCGACGAGAACGACGGCGAATCTCTCTCAAATCGTTCCTCCTCCTCCACAACCAT CGGTTGTTGTTACTCCGTCGAGCTTCGTTCACTCGAATCAGCCGAGCGTAACACTCGATTTCACTAAACCCAGCATCTTCGGATCCAAATCCAAGAG CTCTGAGCTCGAATTCGCCAAGGAAAGCTTCAGTGTCTCTTTAAACTCTTCGTACATGTCGTCGGCGATAACCGGCGACGGTAGCGTTTCCAAGGG ATCCTCAATCTTCCTCGGGTCAGCTCCGGTTAACTCCTCCGGAAAGCCACCGTTGGCTGGTCATCCTTACAGAAAGAGATGCCTCGAGCACGAGCA CTCCGAGGATTTCTCCGGCAAGATCTCCGGCTCCGGCCACGGCAAGTGCCATTGCAAAAAAAGCAGAAAAAATCGGATGAGGAGAACCGTGAGAG TACCGGCGATAAGTGCAAAGATCGCCGATATTCCACCGGACGAGTTTTCATGGAGGAAGTACGGACAAAAACCGATCAAGGGCTCACCACACCCAC GTGGTTACTACAAGTGCAGTACGTTTAGAGGGTGTCCAGCGAGGAAACACGTGGAACGAGCATTGGATGATCCTGCGATGCTTATCGTGACTTACG AAGGAGAGCACCGTCATAACCAGTCCGCGATGCAGGAGAATATTTCTTCTTCAGGCGTTAATGATTTGGTGTTTGCCTCCGCATAACTTTGACTTGT
GCT-001N24	AT4G18390.2	TCP family transcription factor, putative	GAGATTTTATTTCTAATTGTTTTTCTTACAATCCCTAAAACCCTAGCCCTCTTTCACGCCACCTACTAACTAAGCTCAAGTTCAAGCTCCTCTGTTTCT GCTGCTTGTGGCTGAAATTGTTTCAGACAGTGCTTTTGATGACTCTGAAACAGCTGCAGACAAGCTTAAACGAAGCTGTATCTACTGACTTTGATGGT GAAATATCAAAAACCCTAAATTAAAAAAATAGAATAAACACAACCTTTTTAATTTTATTTTTTCTTGTCTTTTGGTTTTTCCTCTGAGGGTTTTCATCATC AATGCTTTCGAAGTACAGTGGGTGAACCAAAAAAAAAAGAGAGTTAAACCCCACTTTTTTTTCCACTTCTTCTTCTTTAAGTCCCACAGAAAAAAAACCC TAAAGTTTAGATTTTTAAATTTGGGGGTAAACAAAAAAAAGCCCTAATTTTTATATGGGGTTTGTATTTTGAAAAGCTTAGGCATGAGATTGTTGGTGA GATGTTTCCGAAAATCGGAGATGATGAAATGATTGGAGATCTGATGAAGAATAACAATGGAGACGTCGTGGATAACAACAACAACAACCGGTTAAGC CGGTGGCACCACAACTCTTCCCGGATAATTAGGGTTTCGAGAGCTTCCGGTGGCAAAGATCGACACAGCAAAGTCTGGACTTCGAAAGGCCCACGT GACCGGCGTGTCCGGTTATCAGTCTCCACCGCTCTTCAATTTTACGACCTTCAAGACCGGTTAGGTTACGATCAGCCCAGCAAAGCCGTGGAATGG CTTATCAAAGCGGCGGAAGATTCAATCTCCGAGCTTCCTTCGCTCAACAACACGAATTTCCCGATAACCGACGACGAGAATCAGAACCAGACACTAA CCGGTGCTGCGGCTAATTCCTTGTCTAAATCGGCTTGTAGTAGCAATTCGGACACGAGCAAGAACTCTTCTGGGTTGTCTTTATCGAGATCGGAGCT CAGGGATAAAGCTAGAGAGAGAGCTAGAGAGAGAACAGCGAAAGAGACCAAGGAGAGAGACCATAATACCAACAGTCACACTACCTCCTTTACCGA TCTGTTAAATTCCGGTTCAGATCCGGTTAACACAAACCGGCAATGGATGGCTCCTTCTTCATCGCCTGCTCCTGCTCAAATGGAGTATTTCAGCTCG GGTTTAATTCTCGGGTCGGGTCAAACCCATTTCCCGATTCAAACAAATTCTCACCCTTTCTCATCAATCTCCGATCATCGTCATCATCATCATCCTCAT CAAGAGTTTTCCTTCGTTCCCGACCATCTAATTTCCCCGGCAGGATCCAACGGCGGTGGAGCGTTCAATCTCGACTTCAACATGTCGACATCCTCCG GCGCCGGAACCGCCGTGGCCTCCGCCGGGTTCAGTGGTTTCAACAGGGGGACCCTTCAGTCCAATTCAACAAATCATCATCATCATCATAATCAGT CATTTCTCGCTAATCTACAGAGGTTTCCATCATCAGAAGGTGGAGGTCCACAGTTCTTGTTCGGTGCACTGCCTGCAGAGAATCACCACCCACACAA CCACAATCACCAGTTTCAGCTTTACTATGAAAATGGATCCAGAAACTCAGACCAAAAGGGCAAAGGCAAGAACTGATGATATTTACCATTTGCATCTT
GCT-001O01	AT1G69230.2	SP1L2	GTTGTTTGTGTGCCTATAAAATCACAAGTCACAGACATCTCGCTTTCTCTCACTGACTCTTCCTCGCATCTTTCTCCGATCACATTGCCGATAACTAG ATCTATTATCGGAGCCGCCGCAGCTTAGTGCCTTACCAAGAGAGAGAGAATGGGTCGTGGAGTTAGTGCAGGTGGAGGGCAGAGTTCTTTGGGTT ATCTTTTTGGGAGCGGAGAGGCTCCAAAGCCAGCCGTTAACAATGCTCCAGCTGAAACTCAGCCTGCTCCTACTCCTCCTCCTCCTTCTCCAGCAC AGCCTAAAACCGAAGCTCCAAAACCTGTTGATGTCACCAAACAAGGTCCTGCTGGTCTCAATAGCAACTCTGCAAACAATTACATGCGCGCAGATGG ACAGAACACAGGCAACTTCCTCACGGACCGGCCATCGACCAAGGTTCACTCAGCTCCAGGAGGTGGCTCGTCTCTGGATTACCTCTTTGGTGGTG GACCTGGTGGTAGCAACTAGCAACTGAGGCCAAGCTGGGTCACTACTCTATCTTTCTTAATCCTTTTGTCATTCTTATGGAACCTCTTTGTTCCCTGT CCCCAAAAAAAAGAAAGAAAACAAAAAAACTCTGTATGATGTCTAAATTTTAGTATACATATGAGCTTCTTTGTGATAAAAAAACATATGAGCTTCATAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001O02	AT5G08650.1	GTP-binding protein LepA, putative	GAGAAGAGTAACACATACAGTGCCATGGCCATGGCTTCTGCTATGGACTTATCTCCTCCAACGTTCTTCTTATCCGGAACTTCTTCTTCTTCATCTCT CCGTCGTCTCTCATCCATTTCCGTCTCTAGCTTCCGCCGTCACTCTACCCGGAGGTTACAGTTACTTTGCCAGGCCACAGCCGGAACTCAGCCTCA GAGCGGCCTCTCTGAGTCTGGCTCCAAATTAGCCGCCCGTTCTGGCCAGGACCGTCTTTTGAAGGTCGGTTTCATGTTTTATTAATTCTCTCACCCA GAAACTTGGATGAATTGATTTCAAATGATTTGTCGAAAATTGTTTTGAATTTGCAGGTTCCGATTTCGAAGATCAGGAATTTTAGTATTATAGCTCATA TCGATCATGGGAAATCGACGTTAGCGGATAAGTTGCTTCAGGTGACTGGTACTGTCCAGAACAGAGATATGAAGGAACAGTTTCTTGATAACATGGA TTTAGAGAGAGAACGGGGCATCACAATCAAGCTCCAGGCAGCTCGGATGCGTTATGTTTACGAGGATACACCATATTGCCTCAACTTGATAGATACT CCAGGTCATGTTGATTTCTCTTACGAGGTTTCCCGGTCTCTTGCTGCATGCGAGGGTGCTCTTCTTGTTGTGGATGCATCCCAGGGTGTGGAAGCG CAAACATTGGCTAACGTTTATTTGGCTCTAGAAAACAACCTCGAAATTATTCCTGTTGTGAATAAGATTGACCTTCCTGGCGCTGAGCCAGAGCAAGT TATCAGGGAGATTGAGGAGGTTATCGGCTTAGACTGTAGCAACGCTATACTCTGCTCGGCAAAGGAAGGAATTGGTATTACGGAGATATTAGATGCA ATTGTTCAAAGGATACCTCCACCTCGCGATACTGCAGAAAATCCCTTAAGAGCCTTAATTTTTGACAGTTATTATGATCCCTATCGTGGTGTCATTGTA TACTTTCGAGTTATTGATGGGAAAGTGAAGAAAGGCGACAGAATCTTTTTCATGGCAAGCGGAAAGGACTATTTCGCCGATGAAATAGGCGTTCTAT CTCCGAATCAAATTCAAGTGGATGAATTGTATGCGGGTGAGGTAGTGTGCTCTTTTAAACATAATTATTCTGTTTGTTTCACTTACTTTCCAGTTCTTT CGTTTCCCATTTGCTTGAGTAAATATTGGCTTTTCAGCAGAAACCTTGATATTACGAAATGAAGATGTCAGTTTTCTTTTGCTGTTATGGGGTTTATTC CAATGCATGTTAATAGGGAAACTATAAGCATTTTCATGTAGCAGCTTTGGCAGAAGATGGAGCTGTGATTCATAACAATTTGAGTGCAATAAAACAAA TGTGTTTTCACTTCTCTTGAGGCTATATTTGAGAGGGAATGGTTTAATTACATAATTCTTTGCACGTTCTAATAGCTAGAAAGATGCGCTGGTTGACTA TCATGCCACATTCCTTCCTTACTCATAATTTGAATGTTAGTGTTCTTAATTACAGGTGGGCTATATTTCTGCTTCTATAAGATCGGTTGCAGATGCCAG GGTAGGAGATACAATAACAAACTATGGAAGAAAGGCAGAAAGCTCTTTACCTGGTTACGAGGAAGCTACCCCTATGGTGTTCTGTGGCCTGTTTCCA GTTGACGCTGACCAGTTTCCGGATCTTCGAGATGCATTGGAAAAACTGCAACTCAATGATGCCGCCTTGAAGTTTGAGCCCGAAACTTCAAGTGCCA TGGGTTTTGGCTTTAGATGCGGTTTCTTGGGTCTTCTCCACATGGAAATTGTGCAGGAAAGATTAGAGAGGGAATACAATTTGAATCTTATTACCACT GCTCCAAGTGTTGTATATAGGGTGAACACTGTAAATGGTGATACTACTATGTGCTCAAACCCATCTCTCCTTCCACAACCTGGGCAAAGGAAATCAG TCGAAGAACCATACGTTAAGATTGAGTTGCTTACACCAAAAGAATTTATCGGTGCGCTTATGGAGCTCGCTCAAGATAGGAGAGGGGAGTTCAAAGA AATGAAATATATAGCTGAGAACAGAGCTTCCATCCTCTATGAGTTACCCCTTGCAGAGATGGTGGGAGATTTCTTTGATCAGTTAAAGTCCAGGACC
GCT-001O03	AT1G09340.1	catalytic/ coenzyme binding	GGCTCACGAACCATTCACAGACTTCAAATAAGACTTTTTTCTTCAGTTGCTCAGAGAGTGAACCAACCATGGCAAAGATAATGATGCTGCAACAGAG CCAGCCTTCATTCTCTCTCCTTACTTCTTCTCTCTCTGACTTTAATGGCGCTAAGCTCCATTTACAAGTCCAGTACAAGAGGAAGGTTTATCAGCCAA AAGGAGCACTCTATGTTTCAGCATCGAGTGAAAAGAAGATTCTGATAATGGGTGGCACTCGATTCATCGGTGTGTTCTTGTCCAGGCTCCTTGTCAA AGAAGGACATCAGGTTACATTGTTCACGAGGGGTAAATCTCCTATTGCCAAACAATTGCCTGGTGAATCTGACCAAGACTTTGCTGATTTTTCTTCCA AGATTCTTCACTTGAAAGGAGACAGAAAGGACTATGATTTTGTGAAATCAAGTCTTTCAGCAGAAGGTTTCGATGTTGTTTATGATATCAACGGAAGG GAGGCTGAAGAAGTTGAACCCATAATAGATGCACTTCCTAAACTAGAGCAGTACATCTACTGTTCTTCAGCTGGAGTTTATCTGAAATCTGATATCTT GCCACACTGTGAGGTCGATGCAGTTGACCCGAAGAGCAGGCACAAGGGGAAGCTGGAGACTGAGAGCTTACTGCAATCAAAAGGTGTAAACTGGA CTTCTATACGCCCTGTCTACATCTACGGTCCATTGAACTACAACCCCGTCGAAGAATGGTTCTTTCACCGTCTAAAAGCCGGTCGCCCAATCCCAGT TCCAAACTCAGGGATCCAGATCTCACAACTCGGTCACGTTAAGGACTTGGCAACAGCCTTTCTCGCCGTGCTTGGTAACGAGAAAGCCAGCAGGGA GATATTCAACATCTCAGGAGAGAAATACATCACCTTTGATGGGTTAGCAAGAGCTTGTGCAAAGGCTGGTGGGTTTCCAGAGCCAGAAATTGTTCAC TACAACCCTAAAGAGTTCGACTTTGGGAAGAAGAAGGCATTCCCTTTCCGTGACCAGCATTTCTTTGCATCGGTGGAGAAAGCAAAGCATGTCCTGG GATGGAAACCAGAGTTCGACTTAGTGGAGGGTCTCACTGACTCGTACAACCTTGATTTCGGTCGCGGAACTTTCCGGAAAGAGGCAGATTTCACCA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001O04	AT5G65110.1	ACX2 (ACYL-COA OXIDASE 2); acyl-CoA oxidase	GGCCGGTCTCTTATTCCTCTCCTCCACCGTTGGAAATTTCATTGATATTTTTTTTTCTCAGATGGAATCTCGGCGAGGGAATCAGATGGAATTTTCCG AGCTACCTGCAACGAGGCGGATCCAACGATTGTCTTCACACATCTCTCCCGCCGTGACGGCGCCGCCGCAGCAACCGATGGTGCAGACGGAGGC GTGTGCTTCGCGGTCGAAGAAGCTGGAAGTAAATGGGGAGGCGTTGTCGCTTTACATGAGGGGAAAACACATGGATATACAGGAGAAAGTGTACG AGTTCTTCAATTCCCGCCCGGATTTACAGACGCCGATCGAGATCTCGAAGGACGATCACCGGGAATTGTGTATGAGGCAGCTCTATGGAGTTGTGA GAGAAGCTGGGATTAGGCCGTTTAGGTATGTTGCTGACGATCCAGAGAAGTATTTCGCGATTATGGAAGCTGTTGGAAGTGTGGATATGTCGCTTG GGATCAAGCTTGGCGTTCAGTACAGTCTTTGGGGAGGCTCTGTGATCAATTTGGGAACCAAGAAGCACAGAGACAAGTATTTCGATGGCATTGACA ACCTCGACTACACCGGTTGCTTTGCCATGACCGAACTCCACCATGGGTCAAATGTTCAAGGTCTCCAGACCACGGCCACGTTCGATCCCATCACAG ACGAGTTCATAATTGACACACCTCATGATGGAGCTATCAAATGGTGGATTGGAAATGCTGCAGTTCATGGAAAGTTTGCCACTGTTTTCGCCAGGCT CATCCTTCCAACTCATGATTCCAAAGGAGTCTCGGATATGGGCGTTCACGCCTTCATCGTTCCGATCAGGGATTTGAAAACCCACCAGGCGCTTCCA GGTGTTGAGATTCAAGATTGTGGACATAAAGTTGGCCTTAATGGAGTGGATAACGGTGCATTGAGATTCCGTTCTGTGAGGATACCTCGAGACAATC TTCTCAATCGCTTTGGAGATGTGTCCCGAGATGGGAAATACACAAGTAGTTTGCCAACAATCAATAAAAGATTTGGAGCAACACTCGGTGAGCTTGT AGGTGGAAGAGTAGGCCTTGCCTATGCATCTGTTGGTGTCCTTAAAATTTCCGCTACTATTGCTATTCGTTATTCGCTGTTAAGGCAACAATTCGGTC CTCCAAAGCAACCTGAAGTCAGTATTCTTGATTACCAGTCTCATCAACATAAGCTCATGCCGATGTTAGCCTCGACTTATGCATACCATTTTGCAACT GTGTACCTCGTGGAGAAGTATTCGGAGATGAAGAAGACTCACGACGAGCAATTGGTTGCTGATGTTCATGCACTCTCTGCTGGACTCAAGTCTTATG TAACGTCTTACACCGCCAAGTCGCTGTCGGTTTGCAGAGAAGCCTGTGGAGGACATGGTTACGCAGCTGTTAACCGGTTTGGAAGCTTGAGAAACG ATCATGACATTTTCCAAACATTTGAAGGAGACAACACAGTGCTTCTGCAACAGGTGGCAGCTGATTTATTGAAGCAATACAAAGAGAAGTTCCAAGG TGGGACATTGACAGTCACATGGAGTTACTTGAGAGAATCGATGAACTCTTATTTGGCTCAGCCAAATCCCGTTACAGCTCGTTGGGAAGGTGAAGAT CATCTAAGAGATCCTAAATTCCAACTTGATGCTTTCCGGTATCGGACATCGCGCCTCCTACAAAGTGTTGCAATGAGATTGAAGAAACACACCAAGA CTCTTGGAACCTTCGGTGCTTGGAACAGATGCTTGAATCATCTCTTGACACTTGCAGAATCTCACATTGAATCAGTCATTCTCGCCAGGTTCATTGAA GCTGTACAAAACTGTTCGGACGCAAGTGCAAGAGCTGCTCTGAAACTAGTATGTGATCTATACGCATTGGACCGAATCTGGAAAGATATAGGAACGT ACGCTAACGTCGATTATGTCGCCGCTAACAAAGCTAAGCGCATTCATAAGTTGACAGACTATTTGACTTTCCAAGTAAGGAATCTGCCAAAGCAATT
GCT-001O05	AT4G20260.2	DREPP plasma membrane polypeptide family protein	GGTGTTTCAGAAGAAGAAGAAGAACAGATCGAGACGAAGAAGATCTCCAAAGAGATTTATCATCTCAAAAATCGTTCGAGTTGAGAAGGTTAATTAA AATTAAATAACAAAAAGATGGGTTACTGGAATTCGAAGGTTGTTCCAAAGTTCAAGAAGATATTCGAGAAAAATAGTACCAAGAAAGCTGCTGCTGCT GAAGCTTGCAAGACCTTTGATGAGTCTAAGGAAGCAATCAACAAGGAGATTGAGGAGAAAAAGACAGAACTCCAACCAAAGGTCGTGGAAACCTAT GAGGCCACGTCTGCTGAAGTCAAGGCTTTGGTGAGAGACCCTAAGGAGGCTGGTTTGAAGAAAAACTCAGCGGCTGTGCAGAAGTATCTCGAGGC GCTTGTCAATATTGAATTCCCCGGATCAACGGCTGTGAAAGACGCTTCATCTAGCTTTGGAGCTGGCTATGTCGCAGGACCAATAACATTCATATTC GAGAAGGTATGTGTGTTCCTTCCTGAGGAGGTAAAGACACGAGAAGTACCGGTGGAGACAGCCAAAACCGAAGAACCAGCCAAAACGGAAGAGCC AGCCAAAACCGAAGAACCAGCCAAAACCGAAGAAACAAGTGGTGAGAAAGAGAAGGAGATTGTTGAAAAGCCCAAGAAAGAAGAGACCGTTACAAC CGCGGTCGTGGAGGAAAAGAAACCGGAGGTAGAGAAGGAGGAGGAGAAGAAGCCTGTGGAAGAAGTGAAAAAGGAAGAAGAAGCTGCTCCGGCT CCGGCTCCGGCGGTTGTTGAAACTCCGGTGAAGGAACCGGAAACAACGACGCCGGCTCCGGTGGCAGAGGCACCAAAGCCTTGATTTGTTCCAAG ATGGTATGATTGCTTCTCTTGTTGTATGAAAACATCTCTGTACGTAACAAAAATGAAAGGAAGAAACTGAAAGGAACATAAAAAAACCTTATTTTTCAT TCTTTTTATTTTATTTGGTTTGTCTTTGTGTGGAAAAATCTCTGTTTTTTTTTAAGTCTTTTATATGTTTTTTTAAATTTTATTCATGTGAATTTGTAACAAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001O06	AT3G17650.1	YSL5 (YELLOW STRIPE LIKE 5); oligopeptide transporter	GGAGTCCAAGTTGACTCCTTTGAGCTTTGATTTTCGTACCAATAATACTTTCCTTCACGATCCCTCGCCTCTCGTAGATCTAAGAAACAGAGAAAACG AGAGAGAGATAGGATGAGAAAGGGAGTCTTAAATCCAGGCAGAGATCGTCAAATTGTGGAACATGAGTTGCAGGAAACTGGGTTTAGCCCAGAATC AGAGAAGGCGACAAAAAAGAATGTTGAAGAAGACGAAGATGAAGAGGAAGAGGAAGAATCTGTGGAGAAGATCTTTGAAAGCAGAGAAGTGCCTTC TTGGAAGAAGCAGCTGACTTTGAGGGCTTTCGTGGTGAGCTTTGTGCTGAGCATCTTGTTTAGCTTCATTGTTATGAAGCTCAACCTCACAACGGGA ATCATACCATCGCTCAATGTCTCCGCTGGTCTTCTGGGATTCTTCTTCGTCAAGACATGGACCAAGATGCTTCATAGGTCTGGATACTTGAAACAGC CATTTACTCGCCAGGAGAATACTGTTATTCAGACCTGCGTTGTTGCTTCTTCCGGCATTGCCTTCAGCGGAGGGTTTGGGACTTACCTCTTTGGCAT GAGTGAACGAATTGCGAACCAATCAGGAGATGCTGCCCGTGGCGTCAAGGACCCTTCTTTAGGTTGGATAATCGGTTTTCTCTTTGTTGTCAGCTTT CTTGGGCTCTTCTCGGTCGTTCCCCTACGAAAGATAATGGTAATAGACTTCAAACTAACATACCCAAGTGGTACTGCAACTGCTCATCTTATCAACAG CTTTCACACCCCTCAAGGCGCCAAGCTGGCCAAGAAACAAGTGAGGGTGTTGGGGAAATTCTTCTCCTTCAGCTTTTTCTGGAGTTTCTTCCAATGG TTCTTTACCGGAGGAGAAAATTGTGGGTTCTCCAACTTCCCTACTTTCGGACTCAAAGCATACCAGTACAAGTTCTACTTTGATTTTTCAGCAACATAT GTAGGTGTTGGCATGATATGCCCATACATAATCAACATCTCTGTTCTTTTGGGAGGAATTCTCTCTTGGGGGATAATGTGGCCTCTCATTGAAACCAG AAAGGGAGATTGGTTTCCTGCTGATGTCGAATCCAGCAGCATGAATGGCCTTCAGGCTTATAAGGTGTTTATAGCTGTTGCGATAATCCTAGGAGAT GGATTATACAACTTTTGCAAAGTGCTGAGCCGTACACTCTCAGGTCTATTTATACAGCTACGAGGCACTACACCTCCTTCAAGAACATCTTTCACAGT CGAAGAAGACCCTCCTGCTTCCCCATTAAGCCCACAGCAATCTTATGATGACCTACGTCGTACAAGATTCTTCCTCAAAGATCAAATCCCTACTTGGT TTGCTGTTGGAGGATATATCATAATAGCTGCAACATCTACTGCGATACTCCCTCACATGTTTCAGCAGCTGAGATGGTATTACATTCTGGTCCTCTAT ATCTGCGCGCCTGTCTTAGCTTTCTGTAACGCTTATGGAGCTGGACTCACAGATTGGTCCTTAGCTTCAACTTATGGAAAGCTAGCCATATTCACAAT CGGAGCTTGGGCTGGCTCTGAGCACGGTGGTATGCTAGCTGGTCTCGCAGCATGTGGCGTTATGATGAACATAGTATCGACAGCTTCGGATCTCAC ACAGGATTTCAAGACAGGTTACCTCACTTTATCATCGCCAAAGTCGATGTTTGTGAGCCAAGTCATTGGAACAGCAATGGGTTGTGTGGTATCTCCT TGTGTGTTCTGGCTGTTCTACGAGGCGTTTGATGATTTAGGCCTTCCCAACAGTGAATACCCTGCACCATTTGCTACCGTATATCGAAGTATGGCTA AACTAGGAGTAGAAGGTGTCTCATCATTACCGAGAGAATGTCTCGTCCTATGCTACGCGTTCTTCAGTGTGGCGATTCTCGTAAACATAGTAAAGGA TAGTCTTTGGAGCAGATGGGGACGGTTCATTCCTCTTCCGATGGCAATGGCTATACCGTTTTTCTTAGGGCCTTACTTTGCCATTGACATGTGTGTG CGAAGTTTCATACTTTTCATGTCGGAAAGAGTAGATGGAGGGAAGGGGGAAGCTTTGGGGAGTGGGGTGGGTTGTGGTTTGATATGGGGAGAGGGC
GCT-001O07	AT5G51890.1	peroxidase	GGAATCCTCAAACAACTTCACCAACAACGAGTACTTTTTGAGGCCTAAACACACACACACACACACACACAAAACCATAAAATGGCCTTCTCGAAGACG CTCGTTTTCACGATGATCTTTACGGTTTTTGCGATGGTTAAGCCCTCAGAAGCTGCTCTTGATGCTCATTACTATGATCGATCGTGCCCCGTCGCAG AAAAAATCATTCTTGACACTGTTAGGAATGCAACTTTGTATGATCCCAAAGTGCCTGCTCGTCTCCTCAGAATGTTCTTCCACGATTGCTTCATCAGG GGATGTGACGCATCGATTCTACTAGATTCAACACGGTCAAACCAAGCTGAGAAGGATGGTCCTTCAAACATCTCGGTACGATCATTCTACGTGATCG AAGAAGCTAAGACAAAGCTCGAAAAGGTTTGTCCTCGTACTGTGTCTTGTGCCGACGTAATCGCCATCGCAGCCAGAGATGTGGTCACCCTGTCCG GTGGTCCTTACTGGAGCGTACTTAAAGGGCGAAAAGACGGGACGATTTCGCGGGCAAACGAGACAGTCAATCTCCCAGCACCAACATTCAACGTGT CTCAACTTATCCAAAGCTTTGCAGCAAGAGGCTTGTCAGTGAAAGACATGGTTACACTCTCTGGCGGCCACACGCTAGGGTTCTCTCACTGTTCTTC TTTCGAGGCTCGTCTTCAAAACTTCAGCAAATTCCACGACATTGACCCTTCGATGAACTTTGCATTTGCGCAAACCCTCAAAAAGAAATGCCCGAGAT CCTCTAACCGAGGCAAGAACGCAGGGACGGTCTTGGACTCTACAACCTCGGTTTTCGATAATGATTACTACAAGCAGATTTTGTCGGGGAAAGGAG TGTTTGGGTCTGATCAGGCGCTTCTAGGAGATTACAGGACTAAGTGGATCGTTGAGACTTTTGCTCGAGACCAAAAGGCTTTCTTCAGAGAGTTTGC AGCTTCTATGGTGAAACTTGGAAACTTTGGAGTCAAGGAAACGGGAGAAGTGAGAGTCAAGTCTGGCTTTGTCAATTAAGAAGCAAATGTCTAGAGA ACAAGGAAGCAAATGAGAGTTTTCTTTTTCTTCAAATTTGATTTCATTTATATTTGATATATTATAATAATGTAAACTCGGAAAATGTATCGACCGTAAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001O08	AT1G06430.1	FTSH8 (FtsH protease 8); ATP-dependent peptidase/ ATPase/ metallopeptidase/ zinc ion binding	GGACACTAGCTTCTTCTTCGTCTGCCAAATTTTCACAGATGGCTGCTTCTTCGGCTTGTCTTATCGGGAGCGGATTATCTGTCCACACAACCAAACA GAGGTCTAAACAGCTTGGCCTCTCCTCAACGTTTGCTTCAGTTGATAGGACATCTAAAGTTACTGTTGTGAAGGCTTCTTTGGATGTGAAGAAACATG AAGCAAGAAGAGGTTTCTTCAAGCTTCTACTTGGAAACGCTGCAGCCGCCGGGGTGGGTTTGCTTGGAAGTGGAAAAGCAAATGCAGATGAACAAG GGGTTTCTTCGTCTAGGATGTCATATTCTAGGTTTCTAGAGTATTTGGACAAAGGAAGGGTTGATAAAGTAGATTTGTATGAGAATGGGACTATAGCT ATTGTGGAGGCTGTTTCTCCTGAGTTGGGTAACCGGATTCAGCGTGTACGCGTGCAGCTACCGGGATTAAGTCAGGAGCTTCTCCAGAAGCTGAGA GCTAAGAATATTGATTTCGCAGCACATAATGCTCAGGAAGACCAAGGCTCTCCGTTACTCAACTTGATTGGGAATCTTGCATTCCCAGTGATTCTGAT TGGTGGTTTGTTCCTTCTCTCGAGACGGTCCTCTGGTGGAATGGGTGGCCCTGGTGGTCCCGGCTTCCCACTTCAACTTGGTCAGTCGAAAGCAAA GTTCCAGATGGAGCCAAACACCGGTGTGACTTTCGATGATGTTGCTGGAGTCGATGAAGCCAAGCAAGATTTCATGGAAGTGGTGGAGTTTCTGAA GAAGCCTGAGAGGTTCACTGCGGTTGGTGCCCGAATCCCTAAAGGTGTTCTCCTTATTGGCCCTCCTGGTACTGGGAAAACACTGTTGGCAAAAGC CATTGCTGGTGAAGCCGGTGTACCCTTCTTTTCCATCTCCGGTTCTGAGTTTGTTGAGATGTTTGTCGGTGTTGGTGCCTCAAGGGTCCGCGACCTT TTCAAAAAAGCCAAGGAAAATGCTCCTTGCATTGTTTTTGTGGATGAAATAGATGCTGTTGGTAGGCAGAGAGGAACCGGAATTGGTGGGGGTAATG ACGAAAGAGAACAGACCCTAAATCAGCTCCTGACTGAGATGGATGGTTTTGAGGGTAACACTGGTGTTATCGTAGTTGCTGCAACCAACAGGGCAG ATATTCTTGACTCCGCCTTGCTGAGACCAGGGCGTTTTGACCGGCAGGTGTCTGTTGACGTTCCAGACGTTAAGGGAAGAACAGATATTCTCAAGG TTCACTCCGGGAATAAGAAATTCGAGAATGGTGTTTCACTAGAAGTAATAGCCATGAGAACGCCTGGATTTAGTGGAGCTGATCTTGCAAACCTCTT GAACGAGGCTGCCATACTGGCAGGACGCCGTGGAAGGACAGCAATATCATCAAAAGAGATTGATGACTCAATTGATAGAATTGTAGCTGGTATGGA AGGAACAGTCATGACTGATGGGAAGAGCAAAAGCTTGGTCGCTTACCATGAAGTTGGACATGCCGTCTGTGGAACATTGACTCCTGGACATGATGC TGTTCAAAAGGTCACATTGATTCCACGAGGCCAAGCGAGAGGTCTGACTTGGTTCATTCCCTCAGATGATCCAACTCTAATCTCCAAACAGCAACTC TTTGCAAGAATTGTTGGTGGACTCGGAGGTAGAGCCGCTGAAGAAGTCATCTTTGGTGAGCCTGAGGTGACTACTGGCGCGGTTGGTGACTTGCAA CAGATCACCGGTCTGGCCAAGCAGATGGTGACAACATTTGGGATGTCTGAAATCGGACCATGGTCGCTAATGGATTCGTCGGCTCAAAGCGACGTC ATAATGAGGATGATGGCAAGAAACTCAATGTCGGAGAAGCTTGCAAATGATATCGATTCAGCGGTGAAGACACTATCAGACAGGGCATACGAGATA GCTCTGCGGCGACATAAGCAACAATCCGCAAGCTATGCACAAGATTGTTGAACTACTTCTCGACAAAGACACAATCTCAGCGCATCAATTCCGACCA
GCT-001O09	AT1G06390.1	GSK1 (GSK3/SHAGGY-LIKE PROTEIN KINASE 1); kinase	GGTAAAGAGCACATGGCCTCATTTCCGTTGGGGCCTCAGCCTCATGTTCTTGCTCCTCCTCCGCCGTCGCAGCAGCTTCACGACGGAGACGCTTTG AAACGCCGTCCTGAATTGGATTCTGATAAGGAAATGTCTGCTGCTGTTACAGAGGGCAATGATGCTGTTACTGGTCATATCATTTCCACTACCATTG GGGGAAAAAACGGTGAACCCAAACAGACCATTAGTTACATGGCTGAGCGGGTTGTTGGAACAGGATCATTCGGAATTGTTTTCCAGGCGAAATGCT TGGAAACTGGAGAATCAGTTGCCATTAAAAAGGTCTTGCAAGATCGACGCTATAAAAATCGTGAGTTGCAACTAATGAGACTAATGGATCACCCAAA TGTCATCTCCTTGAAGCATTGTTTCTTCTCTACAACGAGTAGAGATGAGCTTTTCCTTAACCTCGTTATGGAGTATGTACCTGAGACTTTGTACCGGG TTTTGAGGCACTATACTAGCTCAAATCAGAGAATGCCCATTTTCTATGTCAAACTTTACACATATCAAATCTTCAGAGGTTTGGCTTACATCCACGCCG TTCCTGGTGTTTGCCACAGAGATGTGAAACCACAAAATCTTTTGGTTGATCCCTTAACACATCAAGTTAAGCTGTGTGACTTTGGAAGTGCAAAAGTA CTGGTCAAAGGTGAAGCAAATATATCATACATCTGCTCTCGTTATTATCGAGCTCCAGAACTCATCTTTGGAGCCACAGAATATACAGCATCCATAGA TATATGGTCTGCTGGTTGTGTTCTGGCAGAGCTTCTTCTTGGCCAGCCGTTATTTCCAGGAGAAAATTCAGTTGACCAGCTTGTGGAGATCATAAAG GTTCTTGGTACTCCAACCCGAGAAGAAATTCGATGTATGAACCCAAACTACACAGACTTTAGATTCCCAAATCAAAGCTCATCCTTGGCACAAGGTTT TTCATAAGCGGATGCCTCCAGAAGCCATTGACCTCGCTTCCCGGCTTCTTCAATATTCACCAAGTCTACGCTGCACTGCGCTCGAAGCATGCGCAC ATCCATTTTTCAATGAACTCCGGGAGCCAAACGCCCGTCTTCCAAATGGTCGTCCATTACCGCCATTATTCAACTTCAAACAAGAGTTAACTGGAGTT TCATTGGAGCTGATCAATAGGCTAATACCTGAGCATGTGAGACGACAGATGAGCACAGGATTACAAAACACTTGAAAACTGTGGATGTCTGAGAAAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001O10	AT4G02060.1	PRL (PROLIFERA); ATP binding / DNA binding / DNA-dependent ATPase	GAGCAGTCAATCGTCATTCCTTTGTCTCTCACTCTTTCTCTCCGACTCTCTCTCTCTTCTCTCTAGCCTTAGCCTAAGTTTCAACCATGAAAGAGCATG ATTACGAAGCCGACAAAGCGCTTGCCAAGGAATTTCTCGCGAATTTCTCCGATGTTAATGGCGGATCTAAGTACCTGGAGATTCTCCAAGAAGTTGC GAATCGTAAGATTCGGGCTATTCAGATCGATCTGGAGGACCTATTCAATCACAAGAATGATGATGAGGAGTTTTTCAGACGGTTGACTGAAAACACC CGCCGATATGTTTCCATTTTCTCCGCCGCAATTGACGAGTTGCTACCTGAGCCAACGGAGGCATTTCCAGATGATGATCATGATATACTGATGACAC AGAGAGCCGAGGATGTAACTGATAATGCAGATGTTCCTGATTCGCGTCAGCAAATTCCTTCGGAGATTAAAAGATTTTACGAGGTTTATTTTAAAGCT CCTTCAAAGGGACGGCCATCTACCATTAGGGAGGTTAAGGCTTCACACATTGGGCAACTTGTCAGGATAGCTGGTATTGTGACTCGCTGTTCCGAT GTCAAGCCACTGATGGCGGTTGCTGTGTACACATGCGAAGATTGTGGTCATGAAATTTACCAGGAAGTCACATCAAGAGTTTTCATGCCTTTGTTTA AGTGCCCCTCCAGCCGCTGTCGCCTTAACAACAAATCCGGAAATCCTATTCTTCAGCTCAGAGCATCAAAGTTTCTAAAGTTCCAGGAGGCCAAGAT GCAAGAGTTGGCTGAGCATGTACCTAAAGGGCATATTCCGAGGTCAATGACTGTTCATCTAAGAGGAGAGTTGACAAGAAAGGTAGCACCTGGTGA CGTTGTTGAATTCTCAGGGATTTTTCTTCCCATTCCTTACACTGGGTTCAAGGCACTTCGAGCTGGCCTAGTAGCAGACACATATCTGGAAGCAACA GCTGTGACTCATTTCAAGAAGAAATACGAAGAATATGAGTTTCAGAAAGATGAGGAAGAACAGATTGCACGTTTGGCCGAGGATGGTGACATTTACA ATAAGCTATCACGATCTCTGGCCCCTGAGATTTATGGACATGAAGATATTAAAAAAGCTTTGCTTCTCCTTCTTGTGGGTGCTCCTCACAGGCAGTTA AAGGATGGGATGAAGATCAGAGGAGATGTGCATATATGTCTGATGGGTGATCCTGGAGTTGCCAAAAGTCAGCTTCTGAAGCACATTATAAATGTTG CTCCAAGGGGAGTCTACACAACAGGAAAAGGTAGCAGTGGAGTTGGTCTAACAGCCGCTGTTATGAGAGATCAAGTGACAAATGAGATGGTTTTAG AAGGAGGAGCACTGGTCCTGGCTGACATGGGAATCTGTGCAATTGATGAGTTTGATAAGATGGATGAATCCGATCGTACTGCAATTCATGAGGTCAT GGAGCAGCAAACTGTAAGCATTGCGAAAGCTGGGATTACCACGTCTTTGAACGCTCGAACAGCTGTTCTTGCTGCAGCCAATCCAGCCTGGGGAAG ATACGATTTGCGAAGAACCCCCGCTGAAAATATCAATCTTCCACCAGCCCTTCTTTCAAGATTCGATCTTCTGTGGTTGATCTTAGATCGAGCTGATA TGGACAGTGACCTTGAATTGGCTAAGCATGTACTTCATGTGCACCAGACAAGAGAATCTCCTGCGCTTGGCTTTGAGCCGCTGGAACCTAATATTCT CCGTGCATACATTTCAGCTGCGAGGAGATTATCACCACACGTTCCAGCAGAGTTAGAGGAATATATAGCAACAGCTTATTCCAGCATCAGGCAAGAA GAAGCGAAATCAAATACTCCTCATTCTTACACAACCGTGAGAACTCTGCTCAGCATTCTACGCATATCCGCTGCACTAGCAAGGTTGAGATTCTCAG AATCAGTGGCACAAAGTGATGTGGATGAAGCGCTTAGACTAATGCAGATGTCGAAAATATCATTGTATGCGGATGATCGACAAAAAGCAGGACTGGA TGCAATATCAGACACATACTCCATCATAAGAGACGAAGCTGCAAGATCGAACAAGACACATGTGACCTACGCAAATGCACTTAACTGGATCTCTAGA
GCT-001O11	AT5G54250.2	ATCNGC4 (DEFENSE, NO DEATH 2); calmodulin binding / cation channel/ cyclic nucleotide binding	GCAAAATCCTCTTCCATATCTATTCATTGATTATATCTTTCTCTCTCTCTTTCTTGCATGCATTAGTACTTTCCATGGCCACAGAGCAAGAATTCACAC GCGTACCTCGCGCCTCACGTGACTCACGCGCCTCAAGCAGCGTAGGATATTACTCAGACGAAGATTACACGGAGGAGGAAGATGAGGAAGAAGAA GAGATGGAAGAAATTGAGGAAGATGAGAAGGAAGAAGAAGAAGAAGAAGAGCCACGTGTGGGGGTCACGTGCAAGGGAAGAAGAAACGGGT CATCGGGTTATAATAAATGGATGATGCTGGGTCGAATACTTGACCCGAGATCCAAATTAGTTCAAGAATGGAACAGAGTCTTTCTCCTTGTGTGCGC GACGGGGCTCTTCGTGGACCCACTTTTTCTCTACGTCCTATCGGTGAACGCCGCGTGTATGTGTCTCCTCGTCGACGGTTGGCTCGCTCTCACCGT CACTGCCTTACGCTCCATGACCGATCTTTTGCACTTATGGAACATTTGGCTTCAGTTCAAGATTGCTCGCCGGTGGCCTTATCCCGGCAGAGATAGC GACGGCGATATTAACGAAGGAGATGGGACACGTGTACGTACGAGAGTCGCTCCACCTTACGTTAAGAAGAAAGGGTTCTTCTTCGATCTCTTCGTC ATCTTACCATTACCTCAGGCAGCAGGAGCATGTTGGTACTTGTTGGGGGTCCAAAGATCAGCGAAATGTCTTAAAGAACAATGTGAAAACACGATGG GATGCGACCTAAGGATGTTATCATGTAAGGAACCAGTGTACTATGGCACGACCGAGATGGTCCTTGACAGGGCTAGATTGGCTTGGGCACAAAACC ATCAAGCCCGATCCATTTGCTTAGATATCAACACAAACTACACATATGGTGCTTATCAATGGACCATTCAACTTGTGAGCAATGAAAGCCGGTTGGAG AAAATCCTTTTCCCTATCTTTTGGGGTCTCATGACTCTCAGCACATTTGGGAATTTGGAGAGCACAACAGAGTGGTCTGAGGTTGTCTTCAATATAAT AGTTCTAACAAGTGGTCTTCTTCTCGTTACCATGTTGATCGGTAACATCAAGGTGTTTCTGCACGCAACAACTTCAAAGAAGCAAGGAATGCACCTGA AAATGAGGAACATAGAGTGGTGGATGAAGAAGAGACATTTACCATTAGGGTTTAGGCAACGAGTGCGTAACTACGAGCGGCAGAGATGGGCGGCT ATGCGCGGTGTAGACGAGTGTGAGATGGTTCAAAACCTTCCAGAAGGTCTTAGGAGAGACATCAAGTACCATCTTTGTTTAGACTTAGTCCGGCAG GTTCCACTGTTTCAACATATGGATGACTTGGTGCTTGAGAATATTTGCGACCGTGTGAAGTCTCTCATTTTCACCAAAGGAGAAACCATTCAGAAAGA AGGAGATGCAGTGCAAAGAATGTTGTTCGTAGTGAGAGGTCATCTTCAGAGTAGCCAGTTATTAAGAGATGGCGTGAAAAGCTGTTGCATGTTAGGT CCCGGTAATTTTAGCGGCGACGAGCTTCTCTCGTGGTGTCTCCGACGACCCTTCGTGGAGAGGCTACCGCCGTCTTCGTCAACTCTTGTAACGCTC GAGACCACCGAAGCGTTTGGACTAGACGCCGAGGACGTTAAGTACGTGACTCAACATTTCCGTTACACTTTTGTCAACGAGAAAGTCAAACGCAGT GCCCGCTATTATTCTCCTGGCTGGCGGACTTGGGCTGCGGTTGCGGTTCAGCTCGCTTGGAGACGGTACAAGCATAGGTTAACGTTGACGTCACT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001O12	AT4G11310.1	RD21 (RESPONSIVE TO DEHYDRATION 21); cysteine-type peptidase	GAGCACAAAAACCTCCTCTCTTCTTTTTGTTTTTTTTCAACTTATAAAAAAAAACAAACACAAACCAAAGTTTCATTAGTTTTGAACCCCAAAAAGAAAA TGGGTAGTGCTAAATCAGCCTTGCTGATCCTCTTACTAGCAATGGTCATCGCATCTTGTGCCACGGCCATGGACATGTCCGTCGTTACATACGATGA TAACCACCACGTGACCGCCGGTCCTGGCCACCACGTGACCGCCGGTCCCGGCCGCCGCAATGGAGTTTTCGATGTCGAGGCATCGTTAATATTCG AGTCATGGATTGTCAAACACGGGAAGGTGTACGATTCCGTTGCCGAGAAGGAACGGCGTTTAACGATTTTCAAGGACAATCTCCGTTTCATCACTAA CCGGAACTCTGAGAATCTCGGTTATCGACTCGGTTTGAACCGGTTTGCTGATCTATCTCTACATGAGTACAAAGAAATTTGTCACGGGGCTGATCCA AAACCACCTAGGAACCACGTGTTTATGAGTAGTAGCGATCGATACAAGACTAGTGCTGGTGATGTGCTTCCTAAGTCCGTTGACTGGAGAAATGAAG GTGCCGTGACTGAAGTAAAAGATCAAGGCCATTGCAGGAGTTGTTGGGCGTTCTCGACTGTGGGGGCAGTAGAAGGCTTAAACAAGATCGTGACA GGAGAGTTAGTCACTTTGTCTGAGCAAGATTTGATCAATTGTAACAAAGAAAATAATGGTTGCGGAGGAGGTAAAGTCGAGACTGCCTATGAATTCA TAGTTAGCAATGGTGGTCTTGGTACCGACAACGATTATCCTTACAAGGCTGTTAATGGAGCTTGCGACGGCCGCCTCAAGGAAAACATCAAGAATGT TATGATTGATGGATATGAAAATTTGCCTGCAAACGACGAATTAGCTCTCATGAAAGCGGTTGCTCACCAGCCTGTAACTGCCGTTATCGATTCTAGCA GCCGAGAATTCCAGCTTTATGAATCGGGAGTTTTTGATGGAAGGTGCGGAACAAACCTAAATCATGGAGTTGTTGTGGTCGGGTATGGAACCGAGA ACGGTCGTAACTATTGGATCGTGAGAAACTCGTGGGGCAACACTTGGGGAGAGGCTGGCTACATGAAGATGGCACGCAACATTGCCAATCCAAGA GCGTTATCTCGAATCGCTATCGCACTTTCATACGCTCTCAACAACTCGTTTACTACCGCCAAAACCTCGATCGCTTAATTATATCAACTAAATCTATC
GCT-001O13	AT5G42640.1	zinc finger (C2H2 type) family protein	GGCAGGCTTATATAAAAAGGATACATAAGCAAGCGATGTAAAATACAATTTATCTTTCGAAAATGTCTCCAATCACAAATATTTTCAACTCTTACGGTA ATGATCATAGAATGAACCATCGTGGATTTGTTCCCATCCAAGGAAACTCCACTTTGAGGAATCATAATTCCAATGTGGTTCGGTCGATGTTCACTTCT GATCACATGAGACATGAAGATTTGTTTTCTTCATCTCCTCTTTTTCCTTCTTATCAAAATTCACATGTCTCTTCATCTTCTTTTGGATTGAACAATTCAC TTTATCGTATGAGGAGAGAAGTTGATTCTGTTTCTGGTGTTGATTATTTTCCTATCAAAGATAATCCTCAGTTTTCTCAAGTCTCTTTCACCCAAACTAT TACAAATAGGTATTCTGCTATTGTTCCTACCAACACAATTGTCAATGTTCAATATGATATTGAACGTGTCAAACGTGCCTTGGATTCTAATACCAATAT TTGGAATCGTCCTTCATTTCATCCTCCAACTTTTGCTGATAATCATAGCGAGATCTTGAACCCTGAACCTCTTAATGTCGTGTTTCCTCACCAAGACTC TGCTTCTCGTCAGCATTTAGACATGTTTTCTTCCTTGTCATCAATGCGAAACAACCATGACCAACATGTTCCCCAAGATGGTCCATCTTTGATGAATA GCCCTAAACCAACCAGGGTTTTTGAAGAAATGAATGGTTATATCGATTCTGAAGAAGACGAGGGAAGTGAAGATGATGATAGCTATGATGGTCGGAC GCATAGTCTACCGTATATAAAATACGGTCCATACACATGTCCTAAGTGCAAAGGTATGTTTGAAACTTCACAAAAATTTGCTGCACATATGTCATCTCA CTACAAGACTGAGACGACCGAAGAAAGAGGTCTCAGGATTCGCGCAAGGAACAAAAACAAATATCGTAAACTAGAGAACGAACTTCTTGGCGAATC TCAGAAGAACAAACAGGAGGATGGGGCTAGTAGCAGTGGAGTCAGTGGCGATAAATCTCTCCAAGATCTTGTGACGGTAAAGAAAGAGCTTGTTTA
GCT-001O14	AT1G72110.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT2G38995.1); similar to Protein of unknown function DUF1298 [Medicago truncatula] (GB:ABE82755.1); contains InterPro domain Protein of unknown function UPF0089; (InterPro:IPR004255); contains InterPro domain Protein of unknown function DUF1298; (InterPro:IPR009721)	GAAGTGATGGAAGGAGAGGAGCCAGTCAGTCCAATTGCACAGCTGTTCAGCTTGCCGGGTCTCGACGTCTTCAACATTGTAACCATTGGATGCAAA ACCGAGGGCGATCCATCAACCGTTGTTGAAGGATTAAAGAACACATTGATTAACCATCCACGCTTCTCTAGCATACTGGTGACGGGTCATGGTGAG CGCAAAGGAAAACCTAAATGGATTCCGACCAAAGTAAACGTAGAAGAGCACGTGGTTGTTCCGGAAATAGATCCCAACATTGAGAATCCTGATGAAT TTCTAGAGGACTATACATCAAACATGGCTCTTTCTCCGATGGATATGTCCAAGCCATTATGGGAGTTTCACCTGTTGAAACTTAAGACATCACATGCG AAATCTATCGCTGTTGCTAGGTTCCATCATTCTTTGGGCGATGGGATGTCTCTTATGTCTCTTTTACTTGCTTGTACTCGAAAAACATGTGATCCGGA GGCATTGCCTACTTTTGTGTCTCCAACGAAAAGCAAAGCGAAGAACGCTTGTTGGTTGTTGGTTGCTTGGTTATGGTTTATTCTAAGACTGATGTTCC ATACTTGTGTTGAAGTTATCAAGGCTTTGGTTCATATATGTTTCGCGGGGGACACCGCAGCTTATTTAATGGGTAAACCAGGAGTTACACTTAGCACT AATAAGTTTATTCATCGGATCATTAGTTTGGATGATGTCAAAAAGGTGAAGAACGCCTTGAATATGACGGTAAATGATGTTCTTTTTGGGATGGTACA AGCGGGTCTTTCACGATATTTGAATCAAAGATATGATCTTGAAACAACTTTAAAGACAAGAAAAACTCTTCATGGTGTTGTTTTTTTCAACCTCAGGCC AAATAAAGATATCGAGGATTTGGCTAATATGATGGCAAAAGGTTCTAAGTGCAGATGGGGAAACTCGATAGGTTATGTTCTGATTCCTTTGTGGCTGA AGTCAGAAGATGATATTCTTGAATATGTTCGACAGGCTAAAACTACTATGGATCGTAAAAAACTTTCCCTAGAACCTCTATTTTCCTCTGGATTGCTCA AATTGACCATGAAGGTTTTTGGACTTACCGCACTTAAAAACCTTGTAAAGAGGATATTTGGTAGCACAACAATGATATTCTCAAATTTGGTTGGTCCT GCCGACGAAATTAGTTTTTTTGGCCATCAAATATCTTACATTGCTGCAAGTACCTTTGGCATCCCACAGGCGCTCATTATCGGTATTCAGAGCTATGT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001O15	AT2G23760.3	BLH4 (BLH4); DNA binding	GGACCTCTTCTTCTCTCTTCTCTTTTATCTCTCTCTCTCTCTTCCTTTCTCTTTGGGAGAGATTTTTATAAGTTTTTCTTTAATCTTTGATGGTTTCCAGA ATTTGCTGAATAAACTCTCACTACCAGAGAAAGAGAAAGCTAGAGAGAGGAAGAGAAAACGATAGCTAAAGCTTAATCTTCTCTTTCTTTAATTCTCT GCAACTCCAAGGATCCAAAAGCTTTGGAGAGAGATATAATGAATAACAAGAATCAAGAACTGATATGGGTCTAGCAACTACAACTCTTCCTCATCATC ATCACAAGATTCTTGACAACAATTCAGATTCTATGTCCCAAGATTATCATCATCACCAAGGAATCTTTTCCTTCTCCAATGGATTCCACCGATCATCAT CTTCCCATCAGGAAGAAGTGGAGGAATCCGCCGTCTCCGGAGCTCCGATCCCGGTTTATGAAACCGCCGGAATGTTATCTGAAATGTTTAGTTACC CTGGCGGCGGCAACGGTGGCTCCGGCGAGATTCTTGATCAATCTACTAAACAATTGCTAGAGCAACAAAACCGTCACAACAACAACAACTCAACTC TTCATATGTTATTACCAAATCATCATCAAGGCAATTATGGTTTCACCAACGAGCAACATCACTTCACATGGCCATCTTCCTCCGATCATCAAAGTCAAG GAGAGATGATCGGTACCTTACACGTGGAAGGTGGAAAAGGTTTATCTTTATCTCTCTCATCTTCATTAGAAGCAGCAGCAGCAGCTAAAGCAGAAGA ATATAGAAGCATTTACTGTGCAGCCGTCGATGGAACTTCTTCTTCTTCCAACGCATCGGCTCATCATCATCAATTTAATCAACTCAAGACTCTTCTTCT TGATAACCCTTCTCATCAACATCAAGTTGTTGGACATTTTGGGTCATCATCATCTTCTCCAATGGTGGCTTCTTCCTCCATTGGAGGGATCTATACGT TGAGGAATTCCAAGTACACTAAACCAGCACAAGAGTTGTTGGAAGAGTTTTGTAGTGTTGGAAGAGGACATTTCAAGAAGAACAAACTTAGTAGGAA CAATTCAAACCCTAATACTAGTGGTTGTGGCGGTGGAGGAGGAGGCGGCGGAGGTGGTGGTGGAGGGTCATCTTTGTCTGCCGGAGCAGCCAAT GATAATCCTCCTTTATCTCCGGCTGATCGAATTGAACATCAAAGAAGAAAAGTCAAGCTACTCTCTATGCTTGAAGAGGTGGACCGACGGTACAACC ACTACTGCGAACAAATGCAAATGGTAGTGAACTCGTTCGACCAAGTAATGGGCTACGGTGCGGCGGTTCCGTACACGACATTGGCCCAAAAGGCAA TGTCTAGACATTTCCGATGTTTGAAAGATGCGGTAGCGATTCAGCTTAAACGCAGCTGTGAGCTTCTAGGGGATAAAGATGCGGCCGGCGGTGCAT CCACCGGGTTAACTAAAGGTGAAACGCCACGATTGCGTTTGCTAGAGCAGAGTTTGCGTCAGCAACGTGCGTTTCATCATATGGGTATGATGGAGC AAGAGGCTTGGAGACCGCAACGTGGTTTACCTGAACGCTCCGTTAATATCCTTAGAGCTTGGCTTTTCGAACACTTTCTTAATCCGTACCCAAGCGA TGCTGATAAGCACCTCTTGGCTCGACAGACTGGTTTATCCAGGAATCAGGTGTCGAATTGGTTTATAAATGCTAGGGTTCGTCTATGGAAACCAATG GTTGAAGAGATGTATCAACAAGAGGCAAAAGAAAGAGAGGAACAAGAATTAGAAGAAAATGAAAAAGAAGATTATCAACAACAAAGAAGACATCAAC AAACAAACAACAATAACAACAATGACACGAAACCCAACAATGAAAGCAACTTCACTCTCGTTCAGACAATAACTGCACAAACTCCAACAACAGCGAC GATGACATCGACACCTCACGAAAACGACCCTTCATTCCTCCCTTCTTCCTCCTCCGTCGCCGCCACTTCTCACGGCGTTTCAGACGCTTTCACCGTC GCCACGTGTCAGCAAGACGTCAGTGACTTTCACGTCGACGATGGTCATGTGAACGTCATAAGATTCGGGACCAAACAGCCTGGTGACGTGTCGCTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001O16	AT3G03780.2	AtMS2 (Arabidopsis thaliana methionine synthase 2); 5-methyltetrahydropteroyltriglutamate-homocysteine S-methyltransferase	GGCTCTCTTGCCATCTCTCTTCACATATTATCTCCGATTCCAACTCCGTAAGTTTATAAAAAACAGAAAAAAAAATTCAAAATGGCATCCCACATTGTT GGATATCCTCGTATGGGACCTAAGAGAGAGCTCAAGTTCGCATTGGAGTCATTCTGGGATGGCAAGAGCACTGCCGAGGATTTGAAGAAGGTGTCA GCTGATCTCAGGTCTGACATCTGGAAACAAATGTCTGCTGCTGGGATTAAGTACATCCCAAGCAACACCTTTGCTTACTATGACCAGGTCCTCGATA CCACCGCCATGCTCGGTGCTGTTCCTCCCAGGTACGGTTGGAACAGTGGCGAGATCGGTTTTGATGTTTACTTCTCCATGGCCAGAGGTAACGCCT CTGTTCCTGCCATGGAAATGACCAAGTGGTTTGATACCAACTACCACTACATCGTCCCAGAGTTGGGCCCTGAAGTGAAATTCTCTTACGCATCTCA CAAGGCTGTGAATGAGTACAAGGAGGCTAAGGCTCTTGGTGTTGAGACCGTCCCTGTACTTGTTGGCCCTGTCTCTTACTTGCTTCTTTCCAAGCTT GCAAAGGGTGTTGACAAGTCTTTTGATCTTCTCTCCCTTCTCCCCAAAATTCTCCCAATCTACAAGGAAGTGATTGCAGAGCTTAAGGGAGCTGGTG CCACCTGGATTCAGTTTGATGAGCCTCTTTTTGTCATGGATCTTGAGGGTCACAAACTCCAGGCTTTTAGCGGTGCCTATGCTGAGCTTGAATCAAC TCTCTCTGGTCTGAATGTTCTTGTGGAGACCTACTTCGCCGATGTCCCTGCTGAAGCATTCAAGACCCTTACTTCCTTGAAGGGTGTGACTTCCTTT GGATTTGATTTGATTCGTGGCACCAAGACCCTTGACTTGATCAAGTCTAGTTTCCCCAAGGGCAAGTACCTCTTTGCTGGTGTTGTTGACGGAAGGA ACATCTGGGCCAATGACCTCGCTGCCTCTCTCATTACCTTGCAGTCACTTGAGGGTGCTGTTGGTAAAGACAAGCTTGTGGTCTCGACCTCTTGCTC CCTTCTCCACACCGCCGTTGACCTTGTTAACGAGACTAAGCTCGATGCTGAAATCAAGTCGTGGTTAGCTTTTGCTGCCCAGAAGGTTGTTGAAGTT GACGCATTGGCCAAGGCTTTGGTCGGTCAGACGAATGAGGCTTTCTTCTCTGCCAACGCTGCGGCTTTGTCTTCGAGGAGGTCTTCCCCAAGAGTC ACTAACGAGTCTGTTCAGAAGGCTGCTGCTGCTTTGAAGGGATCAGACCACCGTCGTGCAACTGAAGTAAGCGCTAGGCTAGATGCTCAGCAGAAG AAGCTAAACCTTCCAATCCTTCCTACCACTACCATTGGATCCTTCCCACAGACCGTGGAACTCAGGAGGGTTCGCCGTGAATACAAGGCCAAGAAAA TCTCTGAAGAGGATTACGTCAAGGCCATCAAGGAAGAGATAAAGAAAGTTGTTGACATCCAAGAGGAACTTGACATCGATGTTCTTGTCCACGGAGA GCCTGAGAGAAACGACATGGTTGAGTACTTTGGAGAGCAATTGTCAGGTTTCGCATTCACAGCTAACGGATGGGTGCAATCCTATGGATCTCGTTGT GTGAAGCCACCGATCATCTACGGTGACGTGAGCCGCCCCAAGCCAATGACAGTCTTCTGGTCCTCAACAGCTCAGAGCATGACTAAACGTCCCATG AAGGGTATGCTTACAGGCCCAGTCACAATTCTCAACTGGTCATTCGTCAGAAACGACCAGCCAAGGCACGAAACCTGCTACCAGATCGCTTTGGCT ATCAAAGACGAAGTGGAAGACCTCGAGAAAGGCGGTATTGGAGTCATTCAGATCGATGAAGCCGCTCTTAGAGAAGGATTGCCTCTTAGGAAAGCC GAACACTCTTTCTACTTGGACTGGGCTGTTCACTCTTTCAGAATCACCAACTGTGGCGTCGAAGACAGCACTCAGATCCACACTCACATGTGTTACT CAAACTTCAACGACATCATCCACTCCATCATCGACATGGACGCTGATGTGATCACCATTGAGAACTCTCGTTCAGACGAGAAGCTTCTCTCGGTGTT
GCT-001O17	AT1G32050.1	secretory carrier membrane protein (SCAMP) family protein	TGGGTGGATTTAGTTTCATTTTTACGCTCCCCGGAAGATCTCAGTTCATCTTCTACGCACCCTCCGCTGAGAAGTGAATAATGAATCGCCAACACGA TCCCAATCCCTTCGACGAAGAAGAAGAAGAAATCGTCAATCCGTTCTCAAAAGGAGCTGGTGGCGCTGGAAGGGTTCCTGTGGCATCTAGGCCAGT TGGGTTTGGCAATAACCTTGATGCTACGGTCGATATTCCGTTGGATACGGTGAATGAATCTTCAAAGAAACAGAGAGAGCTTTCTGATTGGGAAGCA GAACTTAGGAATAGAGAAAGGGATATTAAACGAAGAGAAGACGCTATTGCTAAATCTGGTGTGCAGATAAACAATAAAAACTGGCCACCCTTTTTCC CAATTATACACCACGACATTGCTAACGAGATACCAGTTCATGCACAAAAACTGCAATATCTGGCATTTGCTAGTTGGTTGGGTATAGTTCTGTGTCTC GTATTCAATGTCATTGCAGTGATAGTCTGCTGGATTAAAGGCGGAGGAGTCAAAATCTTTTTTCTAGCCACAATCTATGCACTGCTTGGATGTCCAAT TTCATATGTATTATGGTACAGGCCTCTCTACCGAGCAATGAGGACTGACAGCGCTTTCAAGTTCGGTTGGTTTTTCTTCTTCTACCTGATTCACATTG GCTTTTGCATATTTGCTGCCATTGCTCCTCCGATCATTTTCCGTGGACAATCATTAACGGGTGTGCTGGCAGCAATTGATGTTATCTCAGCCAGTTTA TTAGCCGGGATCTTCTACTTTGTCGGCTTCGGTCTCTTCTGCTTGGAGTCGCTTCTGAGTCTTTGGGTTCTCCAGAAAATATACCTCTACTTCAGGG GAAACAAGTAAGAGGATACAATACATATACTAGAGCAAATACCTTCCACGATACCGCGCTCTTAGAAGGTTTGATTATAGTATTAGACTATCTTACTA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001O18	AT1G61190.1	disease resistance protein (CC-NBS-LRR class), putative	GATAGAGAAATTGTGTGGCTTTTCATTTTTCATGTGAATCGTATCAGTCGATGCATATGTGGGAGTGGTGGAAATTAGAAACCAAAGAGGACCGACA GATAACAAATCATATATGCCTTCGTCACTTGTAAAATGCTTTTCACATAAAACACTTCTTCATCTTTAGCTTTCGTTTGTTGCTTACTCAAAGTTTTCTC TCTTTCTATCGACATGGGGAGTTGTAATCCTATCCAACTTACTGGTGGTGATCTCAATCGTATCTTTAGATTCTTATGTGGCAAAGGTTATATTCGAAA CCTCAAGGAGAATCTCAGGGCTCTGAAGAGGGAAATGGATGATCTCAAGGCAATTGAAGCTGAGGTGAAGAACAAAGTAGCGAGAGAGGAGGCAC AACATCAACAAAGGCTTGAAGCTGTCAAGGTATGGCTAACACGTGTCGAGAGCATCGATACACGATTCAATAATCTGCTTAGTACTAGTCCTGTTGA GCTTAAGAAGTTATGTCTCTGTGGTTTATCTTCAAAAAGTGTATGTTCCAGCTACAAATATGGGAAAAAGGTATTCTTGTTGCTGAAAGAGGTTAAGA AACTCAAATCGGAGGGTAATTTTAAAGAGGTTACTGAGCCGGTTTTGAGATCTGCAGTAGAAGAAAGGCCTACTGGGCCTACGATTGGTCAGGAAA CAATGCTGGAAAAGGCATGGAAGCGCCTTATGGAAGATGGAGTTGGAATCATGGGTTTGCACGGTATGGGTGGTGTAGGCAAGACTACCCTTTTCA AGAAAATCCACAATAAGTTCACTGAAATAGGTAGATTTGATGTTGTGATCTGGGTTGTGGTGTCTCAAGGTGCAACTATTTCAAAGCTTCAAGATGAT ATTGCAAAAAACCTACACCTTTGCGACGGCGAGTGGAAGAACAAAAGTGAAAGTGACAAGGCAATCAATATACACAGAGTTTTAAAAGGGAAGAGAT TTGTCCTGATGTTAGATGATATATGGGAGAAATTGGATTTAGAAGCCATTGGAGTTCCGTTTCCCACCAGAGAAAATGGATGCAAAGTAGCATTCAC CACTCGTTCTCGGGAAGTATGTGGGCGGATGGGAGATCATGAGCCGATGAAAGTCGACTGTTTGGGACAAGAAGAAGCATGGAAATTGTTCAAAAG CAAAGTAGGAGACAATACATTAAGTAGAGATCCTGCCATTGTCGAGCTTGCCAAAAAGGTCGCTAAAGAATGTTGTGGTCTGCCACTAGCGCTTGTT GTCATTGGTGAGACAATGTCATCTCAAACTACGGTACAAGAATGGGAGCTTGCAGTCGATGTTTTGTCCAGATCAGCTGCAGAGTTTTTTGACATGG AAAACAAAATTCTTCCGATTCTGAAGTATAGCTATGATAGCTTGGCGGGTGAACATATCAAGTCGTGTTTCCTCTATTGTGCTCTGTTTCCGGAAGAT TATGAGATAGATAAAGGAGATTTGATAAAATATTGGATGTGCGAGGGATTCATCGGGGAACACCAATCTTATAAAAGGGCAGTGAATAAGGGTTATG AGGTACTTGGTACCCTTATCCGCTCAAATTTACTGACAGAACAGCCTGATAGGATAGGTCTTGTTGTGATGCATGACGTGGTTCGCGAAATGGCTCT ATGGATTGCATCTGAGTCTTTTTTTGTTCAAGCAGGAGTCGGATTACACGAAACGCCAAAAGTCAAGAATTGGAGAGCTGTGAGAAGGATGTCTTTA ATGAGGAATGAGGTTAAAGAGATAAAATGCAGTTCCAAGTGTTCTGAACTTACAACTCTGCTCCTCCAGAAGAATAAGTTGAAGAATCTCTCAGGTGA ATTCATCGGCTCTATGCAAAAGCTAGTTGTTTTGGATCTATCACTTAATCTCGCTTTCGAAAAACTTCCTAAGCAGATATCGAAGCTGGCCTCCTTGC AGTATCTTAACTTGTGGGGCACAAGTATAAAGCAACTGCCAGTTGGTTTCCAAGAGTTGAAAAAGCTAATTCATCTGGATTTGAGTTATACATACAGT CTTCGTAGTATCAGTGGGATATCAAAGCTGTCGAGTTTAAGAATTTTGAAACTAAGATTTTCTAAAGTTGATGGAGATGTTAGCATGTTGGAGGAGCT
GCT-001O20	AT5G66760.1	SDH1-1 (Succinate dehydrogenase 1-1)	GGTTCGCGTCCTCTTCTTAAAGGAACGTCTCTCCCTCTCGCGAGTTCTGAGGGAAAGAAAACTATTCGTCTTCATTTCTACGGATTTGCATTCAACTG ATTCGCTTTGAGAAATCAAGAAGAAGATGTGGCGCTGCGTCTCTCGTAGCCTTCGAGCTCCTTATTCAAGGACCTCACTCTCTGGATCTCGGATTTC TAGATTATTCTCCACGGGTTCGACCGATGACTACAAGATAGTGGATCACACCTATGACGCGGTGGTGGTTGGAGCTGGTGGTGCAGGACTTAGGGC GGCGATTGGATTATCGGAGCATGGCTTTAACACCGCTTGCATTACCAAGCTTTTCCCCACACGGTCACATACTGTCGCTGCTCAGGGTGGCATTAAT GCTGCACTAGGAAATATGTCTGAAGATGACTGGAGATGGCACATGTATGATACTGTGAAAGGAAGTGACTGGCTAGGTGATCAAGATGCTATCCAG TATATGTGCAGAGAGGCACCCAAGGCAGTGATTGAACTTGAGAATTATGGGCTGCCGTTTTCTCGTACTGAAGAGGGGAAAATTTACCAGCGTGCA TTTGGTGGTCAGAGTCTTGACTTTGGAAAAGGTGGTCAGGCCTATCGTTGTGCTTGTGCTGCGGATCGTACTGGGCATGCTCTCTTGCATACCCTCT ATGGACAAGCTATGAAGCATAACACCCAGTTCTTTGTTGAATACTTCGCTCTGGATTTGCTCATGGCTAGTGATGGTAGTTGCCAGGGTGTAATTGC ACTAAACATGGAGGATGGAACATTGCATCGTTTCCGCTCTGCACAAACAATTTTGGCCACTGGGGGGTATGGAAGAGCGTACTTCTCTGCAACTTCA GCACATACATGCACAGGAGATGGCAATGCCATGGTTGCACGGGCTGGTCTTCCACTCCAGGACTTGGAGTTTGTTCAATTCCATCCTACTGGTATAT ATGGGGCCGGATGTCTCATCACTGAAGGATCTCGGGGTGAAGGTGGTATCCTTAGAAACAGTGAAGGTGAGCGTTTTATGGAACGATATGCTCCTA CAGCCAAAGATCTTGCATCAAGAGATGTTGTCTCCAGATCTATGACTATGGAAATCAGGGAAGGTCGTGGTGTAGGACCGCATAAGGATCATATCTA TCTCCATTTGAATCATCTTCCACCAGAAGTTCTAAAAGAAAGGCTTCCTGGAATCTCTGAGACTGCTGCTATCTTTGCTGGTGTTGATGTTACCAAAG AGCCAATTCCAGTCTTGCCCACTGTTCATTATAACATGGGTGGTATCCCAACAAATTACCACGGAGAGGTAGTTACCATCAAAGGTGATGATCCAGA TGCAGTGGTTCCTGGGCTTATGGCTGCTGGGGAGGCAGCTTGTGCATCTGTTCATGGTGCCAACAGGCTTGGTGCAAATTCTCTCCTCGACATTGT TGTGTTTGGCCGTGCTTGTGCAAATAGGGTTGCAGAGATAAACAAACCAGGAGAGAAACAGAGGCCTCTTGAGGAGGATGCAGGTAGGAAGACTAT CGAATGGCTGAACAAGTTAAGAAACTCAAGAGGGTCGCTTCCTACTTCAAGTATCAGATTGAACATGCAGAGGATTATGCAGAACAATGCAGCTGTC TTCCGCACCCAAGAAACTTTGGAAGAAGGTTGTCAGTTGATCGACAAGGCCTGGGAAAGTTTCGAGGATGTCCAGGTTAAAGATAGGAGTTTGATAT GGAACTCTGATTTGATAGAGACAATAGAACTGGAGAATCTTTTGATAAACGCTGCCATAACAATGCATTCAGCGGAAGCACGAAAGGAAAGCAGAGG AGCACATGCTCGGGAAGATTTCACGAAAAGAGAGGATGGAGAGTGGATGAAGCATACATTGGGATATTGGGAAGATGAGAAAGTGAGATTGGATTA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001O21	AT1G02390.1	ATGPAT2/GPAT2 (GLYCEROL-3-PHOSPHATE ACYLTRANSFERASE 2); acyltransferase	GAGAGTCTAGAATACAGCGACTTAACTTTATACTAGTAAAAGAAAAAAAGTCAAAACTATGTCCGGTAATAAGATCTCGATTCTCCAAGATCTTGTCTT CTTCTTCTACCAGATTTTTATTCTCCGGCGTTGGTTTCATCGTAACCCTAAACAAAAATACCAAAAAATCCCTTCTCATCACGGTCTTCACCAAGCGCA AGATTTATCACATCACACCGTGATGTTCAACGTTGAAGGAGCTCTACTCAAATCAAACACCTTATTCCCTTATTTCATGCTTGTAGCTTTTGAAGCCG GAGGAGTATTAAGGTCATTTTTCCTCTTCATTCTCTACCCATTTATAAGCTTGATGAGCTACGAAATGGGCTTGAAGACCATGGTGTTGTTGAGCTTC TTCGGGGTTAAAAACGAAAGATTTCGAGCGGGGAAATCGGTTTTGCCTAAGTATTTTCTAGAAGAAGTCGGGCTCGAGATGTTCGAGGTTTTGAAAA GAGGAGGCAAGAGAGTTGCTGTGAGTGATTTGCCTCAAGTAATGATTGATGGGTTCTTGAGAGATTACTTGGAGATTGAAGTTGTGATCGGGAGAG AAATGAAAATGATCGGTGGTTACTACTTAGGCATCATGGAGGAGAAGAAGAAACATGAAGTTGATTTCGGTAAATTGATTCAAGAAGAAAAACTAAGT AGTGGTCATGTCATTGGCATCACTTCCTTTACTTTTCCAAGTCACCGATCTCTATTCTCTCAATTTTGCCAGGAGATTTACTTTGTCCGAAATTCAGAC AAAAAAAGTTGGCAAACCTTACCACGAAATCAATACCCTAAGCCATTGATTTTCCACGATGGTCGTTTAGCCATTAAGCCAACACCTTTAAACACACT CGCATTATTCATGTGGGCCCCATTCGCCGCCGCTCTAGCCGCTGCGAGACTCGTCGCCGGCCTAAACCTCCCTTACGCCTTAGCCATTCCTTTCCT CGCCTTCTCCGGTCTCCGCCTTACCCTCACCGTCAATAACCAAATTGACCTAATTTATACCGACCAGAAAAAAGGTTGTCTCTTTGTGTGTAACCATA GAACGTTACTAGACCCACTTTACATTTCTTACGCTCTAAGAAAGAAAAGCATCAAAGCTGTTACGTATAGTCTAAGCAGATTATCTGAGCTTCTAGCT CCGATCAGAACCGTTAGATTGACTCGTGACCGTGTCCAAGATGGTGAAGCCATGGAGAGATTGTTGAGCCAAGGAGATCTCGTGGTTTGTCCCGAA GGGACTACGTGTAGAGAGCCTTACTTGCTTCGGTTTAGTCCACTTTTCGCGGAGATTAGTGACGTCATCGTACCGGTTGCTATCGACTCGCATGCG ACTTTCTTCTATGGCACGACGGCTAGTGGGTTTAAGGCCTTTGATCCGATTTTCTTCCTCTTGGATCCTTACCCTTCTTACACCGTCCGATTGCTTGA TCTTGTTTCTGGAGGTGGCTCGTCCACGTGTCAAGATCATGATGATGGTAAAACTAAGTTCGAGGTGGCTAATCACGTGCAGCATGAGATCGGGAA
GCT-001O22	AT2G20400.1	myb family transcription factor	GGACAACAACAAAAAAAAAACGCGAAAGGATCAAGGGAGAGAGCGATATCTCCGGTTCAAGGATCCCGATTTACCCGCCAATACCGGTGGAAAAGA TTCCTTTTTTGCTTCTGTAGCCTTCTTCTCGATTTTCTCTTCGCCTGGGTTTTGCGGGTGTTTTCATGAGCTTTTAGATGCAAGACCTGGTTGGTCGT GCACCTCTTTGGCATCTTCAAGAACCGATGAAATCTACTTTCACAGATATTAGCAAGGAAAACAATGGAGACTCGCTGAGTGACCTTGCACGCACTT CTTCAGGACCATCTTTACAAAACCCTTCAGTAGCAGCAGACATGTCCTTCCATTCAGAACACAATCAACTCATGGAAGGGCCTTATCATCTTCTCTCT GAAAATGGTGGAGCAGTTGGTCATATATATTCAAATGATCTCCATAACACTCCAATGGTGTCTCACGAGAAACAAAATGGAAGCAGTGATGTACCTTT CATCTCTAAGATATTGGATTGGGATCCAGCTTCAATCCCGGATCTCTTTGATTGTCCTTTTGATTCGTCCACTCAAAGCAACCAAATGGAGGATGGTG GCATCGTGGCATCTGATGACATTCACAGACGAATCTTCTTGCCAGAATTGGATGACGAATTGATTACTGATGAGAATCCTCTAATGTCTACTCACTGG AACGATCTTCTCCTTGAGACAAGTTCCACCCCAGCTTCGAAGGTCCAGAAACCAACTATGCAATCGCAGATTCAACAACCCCAAGTTGTTCTGCAGC AGCCTTCTCCTTGTGTGGAATTGCAACCTCTTGTTAGGACAGTATCCTCAAACAATAATAACAACAACGACAGTAATAATAATGCAGCAGCTAAGGCA CGTATGCGTTGGACACAAGAACTTCATGAGGCTTTTGTTGAGGCTGTTAACCAGCTTGGCGGCAGTAATAAAGCAACTCCTAAGGGTGTGCTGAAG CATATGAAAGTCGAAGGGTTGACTATATATCATGTCAAAAGTCATTTGCAGAAATATAGGACATATAGACCAGAACCATCAGAAGCAGGTTCGTCAGA GACGAAGTTGACACCGATTGAGCATATTACATCTCTTGACACGAAACGTGGGATAGATATAACTGAGGCGCTGAGAATTCAGATGGAAGTTCAGAAG CAACTGCATGAGCAGCTCGAGATTCAAAGAAACATGCAACTTCGGATAGAAGAACAGGGAAAGGCCCTGATGATGATGTTTGAGAAGCAAAATATG GGTTTTGGCAAACCGGAACAAGGAGACGACGAAACAAGTCCTGAAAATGGTTCAGAGGAATCAGATTCCCCACCATCAAAGCGTCCGAGAAAAAGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001O23	AT4G29190.1	zinc finger (CCCH-type) family protein	GAGCAACCAAAAAAGAGCTCTTTTGCCTCCGAGAAAACCAGAAAAACAAAACTGAGAAAGACGAATGTGATTTATCGCCGGAGATTAAGAAGATGAT GATCGGAGAAGCTCGCCGGACACACCCCACGGTGGAAATTCCTCCATGGCCAGTTTCTGAAGATTTTTCGGCGGCGGATATGTTTTCGCCGGCAAT GAACAGTCCAGATTGCAGCATGCTTGAAGCTTTGGCGGCGTTGCAGCGGTATCTGCCGTCTAACGAACCGGATCCGGATTCTGACTCGGATCTTTT GGGTCCTGACTCTCCAATCGATGCTTACTCATGTGATCATTTCCGCATGTACGATTTCAAAGTCCGGAGGTGCGCTCGTGGCCGGAGCCATGATTG GACGGAGTGTCCGTACGCTCATCCCGGAGAGAAAGCTCGCCGGAGGGATCCGAGGAAGTACCATTACTCCGGGACGGCTTGTCCCGATTTCCGAA AAGGCAGTTGCAAAAAAGGAGACACTTGCGAGTTCGCTCACGGAGTTTTCGAGTGTTGGCTTCATCCACTTCGTTACCGGACTCAGCCATGTAAAG ACGGCGGTAACTGTCGCCGGAAAGTTTGTTTCTTTGCTCACTCACCGGATCAGCTTAGGTATCTACCGAATCGGAGCCCAGATCGTGTCGATTCCTT TGACGTTTCGTCTCCGATTCGTCATTCCTGTGCGAGAGCGTTTCAGCTCTCGATATCTCCTGTTTCAGGCTCGCCGCCGATGAGCCCAAGAGCTGA CTCGGAGTCTTCTCCGATGACTCAGTCACTGAGTCGATCACTCGGATCTTGCTCTATAAACGACACCGTTACGTCGTTTAGGAACTTGCAGTTTGAA AAGGTGAAATCTTTTCCTCCGACTTACAACAATCCGTTACGATGCTACCAATCCGGATTCGGGTCGCCCCGAGGATCCATCTTGGGTCCTGGGTTTC AGAGTCTGCCTTCAACCCCGACCCGACCCGGGAATTTGGATATTTGGGAGAATGGTTTAGAGGAAGAGCCAGCAATGGAGCGGGTCGTGGAGTCG GGTCGTGAGCTACGAGCAAAGATGTTTGAGAAACTGAGCAAGGAGAATTGCATGGATCGGGTTGAACCGGATCCGGATCAGAATTCGGGTGAAGC TCCTGATGTCGGCTGGGTATCTGAGCTGGTGATGTAGGGAGTCAGATATCCGACCCGTACCCGGAACTCTAAATCTCATTGATAGTCAGTCAAATAT CGGTTTTTTTAAGGATCTCTTCTAAGGACAAGAGGAGGAGGTCGAGTGTGTTCATATTATTATTCACTAATTTCGTATTATCTGATAATTATAATAATAA
GCT-001O24	AT5G13180.1	ANAC083 (Arabidopsis NAC domain containing protein 83); transcription factor	GACACCGCACTCTCTTCTTCCTCCTCTGTGATTTTATCTCTCTCTCCTCTGTTTGGACCCATGGATGAGGTTAAACTCGTGAAGAATGGTGTTCTGAG ATTGCCACCTGGATTCAGATTTCATCCCACTGATGAGGAACTTGTGGTTCAGTACCTAAAGAGAAAAGTCCTCTCTTCTCCTTTGCCAGCTTCCATCA TTCCTGATTTCGATGTTTGCAGAGCTGATCCTTGGGATTTACCTGGCAATTTGGACAAGGAGAGGTACTTCTTCAGCACAAGGGAAGCCAAGTACCC AAATGGGAACCGGTCCAACCGGGCAACCGGTTCCGGTTATTGGAAAGCTACCGGTATCGATAAACGGGTCGTGACCTCTAGAGGAAATCAAATCGT TGGGCTGAAGAAAACACTCGTCTTCTACAAAGGCAAACCACCTCATGGATCAAGAACCGATTGGATCATGCACGAATATCGCCTCTCTTCCTCTCCT CCGAGTTCCATGGGCCCCATCCAGAACTGGGTTCTTTGTCGTATCTTCCTAAAGAAGAGAGCCGGTAATAAAAGCGACGACGACGACGGAGATAAC CGGAATCTTAGATATAATAATAATGACCAAACTGAAATAATTACAACAAACCAAACCGAAGATAAAACGAAACCAATCTTCTTCGATTTTATGAGAAAA GAAAGGACTACGGATTTGAACCTTTTGCCGAGCTCTCCATCTTCCGATCATGCCTCAAGTGGACTCACGACGGAGATCTTCTCTTCTGATGAAGAGA CCAGTAGTTGCAATAGTTTCAGAACAAATCTTTAATTTAATTTTAATGTTGACTATCTTAATAATTTAATATTAATACGACTCTCCTTCCCTTTTTTTTCC
GCT-001P01	AT4G17230.1	SCL13 (SCARECROW-LIKE 13); transcription factor	GATTCTTGCGTAAGCAAAGAAACCTTCTTCTTCTTCTCTTTGTCCCCTTCCAACAATCTCCCAATCCAAAAACAATCCCTTCAGCTTCTCTCCTTGAGG GGTTCAAACAAAAGAGGCACTGTAGAGAGAGTTTTTAGATAAAGAAGATAGATCAAGGAGTGCGTATTACTGAGTTTTAATCCAATGCAAACGTCTCA GAAACATCACAGTGCAGCTGGACTGCACATGCTGTATCCTCAAGTCTACTGTTCACCTCAGTTCCAAATGATAGACAGCAATGGCTTCTCTGATATTC CATCCAAAGAAAACTTCTTCACCCTCGAATCCTCCACTGCTTCTGGTAGTCTCCCTTCCTACGACTCCCCTTCCGTGAGCATCACTTCTGGCCGGAG CCCGTTTTCTCCTCAGGGCTCTCAGTCATGCATCTCGGATCTCCATCCGTCTCCTGAAAACGTCTATGGATCTCCCTTGAGCGGGGCTTCTTCTTAC GTCTATGATGAAGCCGGTGTCAGGAGTAAGATCCGGGAACTTGAGGTCTCGCTGCTGAGCGGTGATACAAAAGTTGAAGAGTTCTCAGGTTTCAGC CCAGCTGCAGGGAAGTCTTGGAACTGGGATGAACTCTTGGCGTTGACTCCAAAGTTGGACTTGAAAGAGGTGTTGGTGGAGGGTGCTCGGGCTGT TGCTGATGGGGATTCCGCTACAGCTTGTGGATTCATCGATGTCTTGGAACAGATGGTTTCGGTCTCAGGCAGTCCTATCCAACGGCTAGGTGCTTA CATGGCAGAAGGGCTTAGAGCGAGGCTTGAAGGTTCTGGTAGCAATATATACAGAGCCTTGAAATGCAATGAACCAACGGGAAGGGAATTGATGTC TTACATGGGCGTTCTCTATGAAATCTGCCCTTACTGGAAATTTGCGTACACAGCTGCTAATGCTGCGATCTTGGAAGCAACGGCTGGAGAAAACAGA ATCCATATTATCGATTTCCAGATCGCACAGGGATCACAATACATGTTTTTAATTCAGGAGCTTGGGAAACGTCCTGGTGGGCCACCGTTGCTGCGTG TGACTGGTGTGGACGATTCACAGTCCAACTATGCACGTGGAGGAGGGCTCAGCTTGGTAGGTGAGAAGCTCTCAAAGATGGCGCAGTCATGTGGT GTCCCGTTCGAGTTTCACGACGCAATCATGTCAGGTTGCAAGGTGCATAGGGAACACCTCGGTGTGGAGCCTGGCTTTGTTGTCGTTGTGAACTTC CCTTACGTGTTGCACCACATGCCAGACGAGAGCGTAAGCGTTGAGAATCATAGAGACAGGCTGCTGCATCTGATAAAGAGCCTCTCCCCGAAACTC GTGACGCTAGTGGAGCAAGAATCCAACACAAACACATCGCCCTTCCTGTCACGGTTTGTGGAGACACTAGACTACTACACTGCGATGTTTGAGTCG ATAGATGCAGCGAGGCCACGAGATGATAAGCAGAGGATCAGCGCAGAGCAACACTGTGTGGCGAGAGATATAGTGAACATGATAGCCTGCGAGGA GTCAGAGAGAGTGGAGAGACACGAGGTGCTGGGGAAGTGGAGGGTCAGGATGATGATGGCTGGATTCATGAGCTGGCCGGTCAGCTCAACAGCT GCGTTTGCAGCGAGTGAGATGTTGAAAGGTTATGACAAAAACTACAAACTGGGAGGGAGTGAAGGAGCGCTTTATCTCTTCTGGAAGAGGAGAGCC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001P02	AT4G23630.1	BTI1 (VIRB2-INTERACTING PROTEIN 1)	GAAATCGAAAACTGTGAAAAAAAAGCAGCTAAAATACTGTGTTCTTTGTTGTTCGACCGAATCGGAACCTTAAGATCTGCGTGAAATCGAATCGGAAA ACGATGGCGGAGGAACATAAACACGAGGAATCTGTGACCGCTCTGGAGCCAGCTGTGGAGGTTGTGGAGAGGGAATCGTTGATGGACAAGATATC GGAGAAGATCCACCACGGTGGTGGATCTTCGTCTTCATCTTCATCGTCCTCTGATGACGAGGACGATAAGAAGAAGAAGAAGAAGCCGTCTTCTCC TTCTTCTATGCAGTCGAAGGTTTACCGCTTGTTCGGAAGGGAGAAGCCTGTGCACAAGGTTCTCGGCGGTGGAAAGCCGGCTGAGATATTCATGTG GAAGAACAAGAAGATGTCTGGTGGAGTTCTTGGTGCTGCTACAGCTGCCTGGGTTCTCTTTGAATTGATGGAATACCACCTTCTCACTCTGCTCTGC CATGTGATGATTGTTGTGCTCGCTGTGTTGTTTCTATGGTCTAATGCAACCATGTTCATTAACAAGTCTCCACCAAAGATTCCTGAAGTTCATATCCCT GAAGAGCCTATCCTTCAGCTTGCGTCTGGGCTCAGAATCGAGATCAACCGTGGATTCTCTTCTCTTCGTGAGATTGCATCTGGAAGGGATCTCAAGA AATTCCTCTCTGCTGTTGCCGGTTTATGGGTTCTATCAGTCTTGGGTGGCTGGTTCAATTTCTTGACATTGGCATACATAGCTCTTGTGCTGCTCTTC ACTGTCCCTATTGTCTACGACAAGTACGAAGACAAAGTTGATCCGTTAGGTGAGAAAGCGATGATCGAGATCAAGAAGCAGTATGCAGTGTTGGAC GAGAAGGTGTTGAGCAAGATCCCATTGGGCCCGTTGAAGAACAAGAAGAGAGATTAGGTTTTTACAAAATGGTAATTCGTCGATAGCAAAAGGGTGT TGTGAAATGGTATCGAAGTTATGTGTTAGATCCTTTAATATGTTATTTGTTTCGGGCGGTTTTTAGGTTGCTCTTTCGGTTATGTGAATGAACTTGGAA
GCT-001P03	AT5G15850.1	COL1 (CONSTANS-LIKE 1); transcription factor/ zinc ion binding	GACGTTGAAAGAAGAGAGCAATTGGGCACAAGCCTGTGATACATGCAGGTCAGCCGCCTGCACTGTGTACTGCCGAGCTGACTCTGCCTACTTGTG CACGAGCTGTGATGCTCAAGTCCATGCTGCAAATCGTGTTGCTTCCCGCCACGAACGTGTTCGAGTCTGTGAATCATGTGAGCGAGCCCCTGCTGC CTTCTTCTGCAAGGCAGATGCTGCTTCTCTATGCACAGCATGTGACTCACAGATCCATTCCGCAAACCCACTTGCTAGACGACATCAACGAGTTCCG ATTCTGCCAGTCTCTGGCGACTCTTACAGTTCCATGGCCACTAACCATTCCAGTGAGACAACACTGACGACAGATCCAGAGAATAGACAGGTGGTG GGTCAAGAAGAGGAGGATGAAGATGAAGCAGAGGCGGCTTCTTGGTTGTTGCCTAATTCAGGGAGAAACAGTGGTAACAACAACAACAACAACAAC AACAGCCAGAACAATGGTTTGTCGATTGGTGACGAGTATCTTGACCTTGTCGATTACAACTCCGGTCTGGATAAGCAATTCACAGATGAATCCAATC AGTATCATCAAGAAGACTGCAACGTACCTCAGAGGAGCTATGGGGGAGATGGAGTTGTTCCACTACGAGTGGAAGAATCAAAAGGTCATCACATGC ACCAAGAGCAATACAACTTTGAGTTTGGATTCACAAATGTCTCCTCAGGAGCTCATCGAAGCTCCAATGGTTCCCCAAGTCATATGGTGAGTCATAT CGGAGCTGTGCCAGAGTCTGCAACTAGTGACACAACAGTATCACACCCAAGATCGCCCAAAGCGGTAGCAGAGCAGCTACCAGACCCTCCAACTC AGATGCTGAGTCCAATGGACAGAGAGGCTAGGGTCATGAGATACAGAGAGAAGAAGAAGATGAGGAAATTTGAGAAGACCATAAGATATGCTTCGA GGAAAGCGTATGCAGAGACAAGACCACGGATCAAAGGCCGGTTTGCAAAGAGGAAAGAAGTCGATGCAGAGGCAGACAAAGCTTTCTCCACAATG ATAATGTTCGACACAGGATATGGAATTGTTCCTTCATTCTAAGGATTACACATGCTTAGTTACTACCACTGTAATGCATTATAGGTCTGTAGTTTTTGT
GCT-001P04	AT5G11520.1	ASP3 (ASPARTATE AMINOTRANSFERASE 3)	GAAACAAAAATGAAAACTACTGAGTTCTCTTCTTCTTCCTCGCCAAGCGATCGCAGGATCGGTGCTCTGCTCCGTCATCTCACCGCTGGGACAGATT TTCCGATTACAGATCGTCTGAGCTCCGTTTTCGCGTCGCCTACGTCGGGAGTCACCGGCGGTTCTGTTTTCGCTCATCTTGTTCAAGCTCCCGAGG ATCCTATTCTTGGGGTGACAGTTGCATATAACAAAGACCCAAGCCCAATTAAGCTGAATTTGGGAGTTGGTGCTTACCGAACTGAGGAGGGAAAACC TTTGGTTCTTAATGTTGTGAGGAAAGCAGAGCAGCAGCTTATCAATGACAGATCACGAATCAAGGAGTATCTTCCCATTGTTGGGTTGGTTGAGTTC AACAAGTTAAGCGCTAAGCTCATATTAGGCGCTGACAGTCCTGCGATACGGGAGAACCGGGTTACTACGGTGGAGTGTTTGTCTGGTACTGGTTCC CTGAGAGTTGGAGGGGAGTTTTTGGCCAAGCATTATCATCAGAAAACAATTTATATTACTCAGCCAACATGGGGAAATCACCCGAAAATTTTCACACT GGCTGGTTTGTCAGTGAAAACTTACCGCTACTACGATCCGTCAACACGAGGGTTGAACTTTCAAGGTTTATTAGAAGACCTTGGTGCTGCACCACCT GGTTCTATAGTGCTTCTCCATGCCTGTGCTCATAACCCAACTGGTGTTGATCCAACCATTCAACAATGGGAGCAAATCAGGCAATTGATGCGTTCAA AGGGATTGATGCCATTCTTTGATAGTGCTTATCAGGGCTTTGCGAGTGGAAGTCTGGATACAGATGCAAAACCGATTAGGATGTTTGTTGCAGATGG CGGAGAATGCCTCGTTGCTCAAAGTTATGCAAAGAACATGGGGCTCTATGGAGAAAGAGTTGGAGCTCTCAGCATTGTATGCAAATCAGCAGACGT TGCGGGGAGGGTTGAGAGCCAGCTGAAACTAGTAATAAGGCCAATGTACTCAAGTCCTCCGATTCATGGTGCATCTATCGTGGCTGTAATCCTCCG TGACAGGAATTTGTTCAACGAATGGACGCTAGAGCTGAAGGCAATGGCTGATCGTATCATCAGCATGAGAAAACAGCTTTTCGAGGCATTACGTGCT CGAGGCACGCCTGGAGACTGGAGTCACATCATAAAGCAGATCGGTATGTTTACATTCACAGGGTTAAACCCAGCTCAAGTCTCCTTCATGACTAAAG AGTACCACATCTACATGACATCCGACGGGAGGATAAGCATGGCTGGTCTGAGTTCAAAAACAGTACCGCACCTTGCAGACTCAATCCACGCTGCTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001P05	AT5G60790.1	ATGCN1 (Arabidopsis thaliana general control non-repressible 1)	GGAAACCACCATTAACCCTAATTAGCCGAACAGGTGTCGTACAAAACTCTGAAACTAGATCTACAGATCTCTCGAGCTCACGATCTCCCCCAATCCC ACAGGGAGATTTGAAGATGGTGTCAGACGCTAGCAAGAAGAAGGCTGCTCAGAAGAAAGCTGCTGCCGCCGCGAAAAGAGGCGGTAAAGCTGCAG CCGCTTCTAAATCGGCCGGTACTTCTTCCAATGGAGCTGATAACTTGTCGAGTGGTGTCGAAGCCCTTCAAATCTCTGATCGGACGTGCACCGGAA TTCTCTGCTCGCATCCTCAATCAAGGGATATTCGGATAGAATCTCTGTCTGTCACGTTTCATGGTTACGACCTCATTGTGGATTCAATGTTGGAGCTT AACTATGGAAGACGTTACGGTCTGCTTGGGTTGAATGGTTGTGGAAAGTCCACACTTTTAACTGCAATTGGACTCAGGGAGTTGCCGATTCCTGATC ACATGGATATCTATCATCTCTCCCACGAGATTGAAGCTACTGACATGACTTCCCTTGAGGCTGTTATGAGCTGTGACGAGGAGAGGTTGAAGCTGGA GAAGGAAGTTGAAACTCTGATTGAGCAGGATGATGGAGGGGGAGAGCGTCTTGATACTATCTATGAGCGGTTAGAAGCCATGGATGCTTCAACCGC AGAGAAGCGTGCTGCTGAAATTCTGTTTGGTCTTGGTTTCGACAAGGAAATGCAGGCCAAGAAAACTAAAGATTTCTCTGGTGGCTGGAGGATGAG AATTGCATTAGCAAGAGCACTCTTCATAATGCCAACGATCCTTTTGCTTGATGAGCCGACAAATCATTTAGATTTGGAAGCTTGTGTCTGGTTAGAGG AGAGTCTGAAGAATTTTGACCGCATCCTTGTTGTGGTATCCCACTCACAGGATTTCTTGAATGGAGTCTGTACAAACATCATCCACATGCAAAGCAAA CAGCTCAAGTACTACACTGGTAACTTTGATCAGTATTGCCAGACCCGTTCTGAACTAGAAGAGAACCAGATGAAACAATACAGATGGGAGCAGGAG CAGATTTCTCACATGAAGGAGTACATTGCTCGGTTTGGTCACGGATCAGCCAAACTTGCTCGTCAGGCACAGAGTAAGGAGAAAACATTGGCAAAG ATGGAGAGAGGTGGGCTCACAGAAAAGGTCGCCAGGGATAGCGTTCTCGTTTTCCGTTTCGCTGATGTCGGGAAGCTTCCACCGCCAGTGCTTCA GTTTGTGGAAGTCTCTTTCGGGTACACACCTGACTACCTCATATACAAAAACCTCGACTTTGGTGTCGACTTGGACTCGAGGGTTGCACTTGTTGGA CCCAATGGAGCTGGAAAGAGTACTCTTTTGAAGCTCATGACTGGTGACTTGCACCCTACTGAAGGAATGGTTCGGCGTCACAACCACTTGAAGATT GCTCAGTACCATCAGCATCTGGCTGAGAAGCTAGACCTGGAATTGCCTGCACTTCTCTACATGATGCAGGAGTTCCCTGGTAACGAGGAGGAGAAG ATGAGAGCTGCGATTGGTAGGTTTGGTCTAACAGGAAAGGCCCAGGTTATGCCGATGAAGAATCTATCTGACGGACAGAGGAGCCGTGTGATATTC GCATGGTTGGCTTATAAGCAGCCTAACATGCTTCTGTTGGATGAGCCGACTAACCATTTGGACATTGAGACAATCGACTCTCTCGCTGAGGCGTTGA ACGAGTGGGATGGTGGTTTGGTTCTGGTGAGTCACGACTTCAGGCTGATTAACCAAGTGGCTCATGAGATATGGGTGTGTGAGAAACAATGCATAA CCAAATGGAACGGTGACATTATGGACTTTAAGAAGCACCTCAAGGCTAAAGCTGGACTTGAAGATTGAATGTAGAGTCAAGTTTCTCTCCTCTTTTAA
GCT-001P06	AT3G45260.1	zinc finger (C2H2 type) family protein	GGAAAGAGTGTTTCTGTATCTCTCTCTGTCCAACTGTTTTGTCTTCTTACTTCGAAACTCTCTCTTCCTCTTTCTTTCTCTCTCTCTTCTCTCCCAACTA AACCAACATGATGATGCCAGATGATCATCATCACCTCTCAGTCCCCAGCTATGTCCTTAACCAAGAACACATCACCCCAAATCCTAACCCTAACCATA ATACTGCCACCTCAAACTCAACCAAGAAGAAAAGAAATCTCCCGGGAAATCCAGATCCAGATGCAGAAGTCATCGCTCTATCGCCAAACTCCCTCAT GGCGACGAACCGATTCATCTGTGAGATCTGCAACAAAGGATTTAAGAGAGACCAGAACCTTCAGCTTCACCGGAGAGGCCATAACCTTCCATGGAA GCTAAAGCAAAGGACGAACAAAGAGCAAGTCAAGAAGAAAGTGTACATCTGTCCTGAGAAGAGCTGCGTACACCATGACCCAGCTCGAGCCCTCG GTGACTTAACCGGGATCAAGAAGCATTTCAGCAGAAAACATGGAGAGAAGAAGTGGAAATGCGACAAATGTTCCAAGAAATATGCTGTCATGTCCGA TTGGAAAGCTCATAGCAAAATTTGTGGTACCAGAGAATACAGATGTGACTGTGGTACCCTCTTTTCCAGGAAAGATAGTTTCATTACGCATAGAGCAT TTTGTGACGCTTTAGCTGAAGAGAGTGCTAGATTAGTCTCAACTCCCGCACCGGCACCTGCACCCGCTTATTTGAACAATGCCCCGGACATGGAAG TCAACCTTGGAAACATGAATGCAAATCCTCAAAATCGACAACTGAACACTACATCTTCTCAACTGGACCAACACGGTTTCAATACCAATCGCAATAAC ATCAATGCCTTCTTGGGACAAACCTTTACCAACCAGCTTCCCTTACCAACAAACGTATTCGCCTCCTCATCATCGCTTTCACCTCGTAGTGCATCAGA ATCGCTTCAAAATCTTTGGCATGTACAAGGACAATCATCTCACCAATGGCTCGTCAACGAAAACAACAACAACAACATTCTCCAGAGGGGAATCTCC AAGAACCAAGAAGAACATGAGACTAAGAAGGGAATTAGTAACGGTTCTTTGTTCTCTTCAGAATCTCGCAATAGTTATACTCCAAACGGTGGACAAGT AATGGCATCCATGTCGGCTACTGCATTGCTACAGAAAGCGGCTCAAATGGGATCAAAGAGAACATCATCAAGCTCCGACAATAGCACGGCTTTTGG TTTAATGACTTCCTCCATCTTCAACATCAAACAAACGGAGAGTAATGTAAAAGCTAAGGAAGTTGATGAAAGAGGCTTCACCAGAGACTTTCTTGGTG TGGGAAGTCAACACCGTCCCTGGCAATTATTAATGGCCAACCATAATCATCGCGAGTCATCTCCTCCGGCAAGAACCAACGGCATGAATCAGTAATC AGAAACTAATCCAAGTGACGAAGAGTGTACAAATCAACCACGGCAGCACAAAACGAAGAAAACTGTGAAAGATGATGATATTCCGAGTCGGAGAGA ATCTCTGAGTTAACTCGGTGCTGCAGACTGGGTCCTCGCGCTTGACGAAGATGGCTATTAGGGTCCACTCCTGCATGCATGGGGAAACTTCTGACC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001P07	AT1G44446.1	CH1 (CHLORINA 1); chlorophyll a oxygenase	GACGGTGACGCCATGAACGCCGCCGTGTTCACTTCTTCTGCTTTATCTCTTCCTATATCCTTCTGTAAAACTAGATCATCTAAACTCAGCAGAAAGAA GGGAGTGAAAGGAGAATTCAGGGTTTTTGCTGTGTTTGGGGAAGAAGGTGGATTAGTTGAGAAGAAGAGTCAATGGGGACCTTTGTTTGATGTTGA GGATCCAAGATCGAAAACTCCTCCTTTTAAAGGCAAGTTCTTGGATGTAAATCAAGCTCTTGAAGTTGCTAGATTCGATATTCAATACTTGGATTGGC GTGCTCGTCAAGATCTTCTTACAATCATGCTCCTACATGAAAAGGTCGTTGATGTACTTAATCCTCTGGCTCGTGAGTACAAGTCAATCGGCACTGTG AAGAAAGAACTAGCGGAACTGCAAGAAGAGCTAGGGAAAGCACACCAACAGGTTCATATATCTGAAGCAAGGGTTTCAACTGCTTTAGACAAGTTAG CTCACATGGAAAAATTGGTTAATGATAGGTTGTTACCCGTTAGAGTTGCAACGGAAACAGATAAACCTTCGACTTCAACCTCTGTACAAGACTTAGAC AAGGAAAAGACAAACGTTGGTGCCAAAACCTTGAATGTTTCTGGCCCTGTTCAGCCTTATAGTCAACAATTGAAGAACTTTTGGTATCCCGTTGCTTT CACCGCAGATCTCAAGCATGACACGATGGTACCAATTGACTGCTTTGAGCAACCATGGGTTATCTTTAGGGGAGAAGACGGGAAACCGGGTTGTGT AAGGAACACGTGTGCGCATAGAGCGTGTCCTCTTGATCTTGGCACAGTGAAAGAGGGACGTATCCAATGTCCTTACCATGGATGGGAATACTCAAC CGATGGAAAATGTACAAAGATGCCATCTACGAAGCTATTGAATGTGAAGATAAAGTCGATACCTTGTCTTGAACAAGACGGAATGATCTGGGTCTGG CCCGGTGATGATCCACCTTCACCTACTCTTCCTTCTTTACAACCTCCTTCAGGGTTTGTAATCCATGCAGAGCTTGTAATGGACCTCCCTGTGGAACA CGGATTGCTTCTAGATAATCTCTTGGATCTTGCACATGCTCCATTCACTCACACATCTACTTTTGCAAAAGGCTGGAGTGTCCCAAGTCTAGTGAAGT TCTTGACGCCATCCTCCGGTCTACAAGGATACTGGGATCCGTATCCAATCGATATGGAATTTAAACCGCCTTGTATTGTGTTATCGACAATCGGGAT CTCCAAGCCAGGGAAACTAGAAGGAAAGAGCACTAAGCAGTGTGCAACACATCTTCATCAACTCCATGTCTGTTTACCATCTTCAAGAAACAAGACA AGACTTCTATACCGAATGTCTCTAGACTTTGCTCCTATATTGAAGAATGTTCCATTCATGGAACATCTCTGGAGACATTTCGCTGAACAGGTCTTAAA CGAAGATCTGAGACTGGTTTTAGGACAACAAGAACGGATGTTGAATGGTGCAAACATATGGAACTTGCCTGTTGCTTACGATAAGCTCGGAGTTCGG TATAGACTATGGAGGAACGCGGTAGATCGTGGCGATGATAAATTACCCTTCTCCAGCTAACTGTTATTTGAAAAGATAAAATCTAAATGTTTCAGCGA
GCT-001P08	AT4G02920.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT1G03340.1); similar to IMP dehydrogenase/GMP reductase [Medicago truncatula] (GB:ABE86673.1)	GAGCGATAAGTTTTGCTTATTTCTTTCCCCCATGGATTTTTGACGAAGAAGAAAAGAGAGGAACCGAGTTTTTCTTCGACCGGATTGAAATTTGGTCT CTCTTCAACAACAACAAAATGATCAAGCTTTGCTTCATGACTTCTCATGGCTATCAAATCCCTGGACTTGGTCTTCCTCAAGAGCTCAGTAACACCGA AATCATCAAGAATAGCCGGTCTTATCTGGTGAATCCTGCAACGAGGCAGGAGATCATACCTGCGAGCTCGTTTAATCTGAATCCACAAAACTTGGAA CCATGGAAACCGGTTGGTTCATTCAGCAAACCTAACCAATTCGTGGAGATTGACTCAGCCATGATGAAACCTCTGCTCATGGATGTTCATGAGAAGG CACCAGAATCTCTGGTTTTGAGCTTTGGAATCGCTGAGAAGTATGCAAGACAAGAGAAAGTGATGGAGTTTCTTCTGTCTCGGTCGGAGGAGTTCAA GGAAAGAGGATTCGATATGTCTCTGTTATCTGAATTGATGGAGCTAGAGGCTATGAAATCAAGTTCTCAGCTGCTACCGTATGGTGCTTCCTCTGTT CTGTACTTAAATCAAGAATTAGGAAAACCGGTTTTGGATCTCGTTAGAGATATGGTGGATAATCCAGAGTTCTCTGTGCAATCGAATGGCCACGTTCT GTTTTCCTCAAGTAGCAATCATGAGCTGAATGATATACTTTCTATTGCTTCTGAGTTCAATTTGTCAAGGAATTCAACAATAAGGAGACAGCTCTCACC GCTTGTGCCGCAGTTTCAGTGGTTTGAAACTGAAGTATTAGAACCGGCTGAGCTGAAAGCAGTCACAGTGCTAGCACCTTTGAAGAGTCCTGAGAA AACCAGGCTCAAGCCTTCACCAAGGAAACAAAACACGAAGCGGAAAGCTAAAGAGAGTGACCTCTACAAAAGAAACCATCTCCACGCTTACGAGAG TCTTCTGTCTTTGATGATAGGCAATGATCCTCAACACAAACAAGCAACAATACTCTCTTTACAGAGATCATGCGGAGAGCTTTCAGAGCTCCTTACTC AGTTTTCTATCAGCGCCGCTGGAACTGGAATCGCTGTGCTCTTCTCTGTGGTCTGTAGCCTTGCTTCAAGACGTGTACCCTTTTGCGCAAACAAGTT CTTCGACACAGGACTTGGTTTGAGTTTGGTAATACTGTCTTGGGCTGTGAATAGACTCAGGGAGGTGATTGTTCAAGTCAATAAGAAAGCAAACAAG CCTTGTTCAAATTTGAAGAACCAAGAAATCATAAACAATGTGGAGAGAAGCATCAAGGAGGTTTACTTCAGAGCTGCCACGGTAATCGCGGTGTTTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001P09	AT5G54630.1	zinc finger protein-related	GACGACAACAATGGACGATTCAAGCACAAGAAGCCAAAAGAAGAAGAAGAAGCTTCAAAGAGACAACAGCAACAAAACGATTAATCCAAAGAACAA GAACAACATCCCAACTGTTTGGTTCTCACTCAAGAAATCTCTCCACTGTAAATCCGAACCATCCGATGTCCACGACCCCAAATCCACAAAACAGCTCT CATCAATCTCCACCAAGAGAATCTCCGGCGTCAACCCCGGCATCGTCGCCGGCGGATGCGGCGGTGGATTATCGGGATGTTCAAGGTCGATAGCG AATCTCAAAGACGTAATCCATGGAAGCAAACGTCATTTCGAGAAACCGCCGATAAGTAGTCCTCGTTCTATTGGAAGCAACGAGTTTCTCAATCCCA TCACTCACGAGGTTATACTAAGCAACTCCACTTGCGAGCTTAAGATCACCGGCGTCGGAGACATGGCTTCACCGGCCGGAGCAACGGAATCAGGC GGTGGCGGCGGCGGCGGCGGCGGAGGAGGAGGAAATGGTCGGTCGACGACTTTTGTTGGGATGTTGAGGCCGGGAACGCCGATGCATTAT CTGAATCATTCCGCTTCTTACCGGAGTCAAACGACGGCGAGGAAGGGTTCGTTTGCCTTGTCGGAGAGAGAAGGAAGAGGAGGAGGAGGAGAAGG GTTAGGGTTTCACACAAACAGGAGAGTTTCTTTGGAGATAAACAGAGACTCCGCCGTTAATGGTGGAGGCAATTCCTCTGTTTCTTGCCATAAATGT GGTGAACAGTTCAATAAACTCGAAGCTGCAGAAGCTCATCATCTCTCTAAACACGCCGTGACGGAGCTCGTAGAAGGCGACTCCTCGAGGAAAATC GTGGAGATAATCTGCAGAACGAGCTGGTTAAAATCAGAGAATCAATGTGGAAGAATCGATCGAGTCTTGAAAGTGCACAATATGCAGAAAACGCTAG CAAGGTTCGAGGAATACAGAGAGACGGTGAAGATCAGAGCGAGCAAACTCCAGAAGAAGCACCCGAGATGTCTCGCCGACGGGAACGAGCTGCT CAGATTCCACGGAACCACCGTCGCTTGCGGTTTAGGGATAAACGGGTCGACGAGTATCTGCACGGCGGAGAAATGCTGCGTCTGCCGGATTATAA GGAACGGGTTCTCGGCGAAACGGGAGAAGAATAACGGGATAGGGGTTTTCACGGCGTCGACGAGCGGTAGAGCGTTTGAGTCGATCGTGGTCAA CGGTGGAGATCAAAATGGAGATGATCGGACGGTGAGGAAAGTGTTGATTGTGTGTCGGGTTATAGCCGGAAGAGTTCATCGGCCGGTGGAGAATG
GCT-001P10	AT1G58290.1	HEMA1; glutamyl-tRNA reductase	GGATCTCCTTCTTCCACATCGCACACCCATCCCTCTCTGTCTCTCTGCTCGATTCCTGATCTCTAGGTTTTGGGTTTTTGTAGACAAAGAGGGAAAAG CGAGATTGAGATTGGGATTCTATGGCGGTTTCGAGTGCCTTCGTTGGTTGCCCAAAGCTCGAAACTTTATTAAATCACCATAATCTGTCTTCCTCTTC TTCGTCTTCTCCTTCGCAGACGCCATTGGGTCTCAATTGTGTTCGTTCTTCTCCGAGGAACAATAGAACCAGGCGTGGTCTGATCCAAAGAGCACGT TGCGAGCTTTCTGCGTCTGATTCTGCGCCCAATGCAGCAAGCATCTCTGCTCTCGAACAACTCAAGAACTCTGCAGCTGATAGATATACAAAGGAAA GAAGCAGCATTGTGGTGATTGGACTTAGCATTCACACAGCTCCTGTTGAGATGCGTGAGAAGCTTGCTATTCCAGAAGCTGAGTGGCCACGAGCTA TTGGAGAATTGTGCGGTTTGAATCATATCGAAGAAGCTGCTGTACTCAGTACCTGTAACCGTATGGAGATATATGTTTTGGCTCTCTCTCAGCACCGT GGCGTTAAAGAAGTGACTGAATGGATGTCAAAGACGAGTGGGATACCAGTATCAGAGATTTGTCAGCACCGTTTTCTGCTGTACAACAAGGACGCT ACGCAGCATATATTCGAAGTCTCAGCTGGTCTCGACTCTCTTGTCCTAGGAGAAGGTCAGATCCTTGCGCAGGTGAAACAAGTCGTAAAAGTTGGTC AAGGAGTGAATGGATTCGGGAGGAATATCAGCGGGCTATTTAAACACGCGATAACCGTTGGGAAGCGTGTCAGAACAGAGACAAACATCGCAGCT GGGGCTGTTTCGGTCAGCTCAGCCGCTGTCGAGCTTGCTCTGATGAAGCTTCCGGAATCTTCACACACATCAGCTAGGATGTTGATCATCGGCGCA GGGAAAATGGGAAAGCTTGTGATAAAGCATTTGGTAGCCAAGGGTTGCACAAGAATGGTGGTGGTCAACAGAAGTGAAGAGAGAGTTATAGCTATC CGTGAGGAGATGCCGGGTGCTGAGATTGTATATCGACCTCTTGATGAGATGCTAGCTTCTGCTGCAGAAGCGGATGTAGTTTTCACCAGCACAGCC TCTGAGACGCCATTGTTCTTCAAGGAGCATGCAGAGAATCTCCCTCCAGCTTGTCCAGAGATTGGAGGAGTGAGGCTTTTTGTTGACATCTCTGTCC CGAGAAATGTCGGGTCTTGTCTCAATGAAGTAGAAACCGCACGGGTTTACAATGTGGACGACCTCAAGGAAGTAGTTGCTGCCAATAAAGAAGACA GGTTGAGGAAAGCAATGGAAGCTCAGACCATAATCGCAGAAGAATCCAACCAGTTTGAAGCATGGAGGGATTCACTGGAGACGGTTCCTACGATCA AGAAACTAAGAGCTTATGCAGAGAGAATCAGAATGGCAGAGCTTGAGAAGTGCTTGTCCAAAATGGGAGATGACCTCAACAAGAAAACGACGAGAG CTGTTGATGACTTAAGCCGAGGTATTGTGAACAGATTCTTGCACGGTCCAATGCAGCATTTGAGGTGTGACGGGAGTGACAGTAGAACGCTGAGCG AGACCCTTGAGAATATGCATGCGTTGAACAGAATGTACGGTCTCGAGAAGGACATTTTGGAGGAGAAGCTCAAGGCGATGACGGGACAACAAAAGT AAAATGGTAAGAAGAAGATGTTCATTCTCTTTTGACAGATAAGATTACATCGAACTAGCTTCCCCGCAAAACCCGAGTAAATTGCATAGATCCTCAAA
GCT-001P11	AT2G20630.1	protein phosphatase 2C, putative / PP2C, putative	GGTCTTTCTCTCTCTCTCTTCCTATTTTGAATCATTCCACATTTCACATTCACACAAAAATCCTTTGTCACAAATGACAGGCCGAGAAATTCTCCAT AAGATGAAGTTGAAGGCTGGATTCTGCGGATCTGAAACGGGGAGAGGTAAAAGCAAGATGTGGAAGAACATAGCGCACGGTTTTCACTTTGTCAAA GGCAAAGCGAGCCATCCGATGGAGGACTACGTTGTGTCTGAGTTCAAGAAAGTTGACGGCCATGAATTGGGTTTGTTTGCCATCTTTGACGGTCAC TTGGGCCATGATGTGGCCAAGTACTTGCAGACCAATCTCTTTGACAACATTCTCAAAGAGAAGGATTTCTGGACTGACACTGAAAACGCTATAAGGA ATGCTTACATATCAACAGATGCTGCGATATTAGAGCAGTCGCTTAAACTTGGCAAAGGCGGATCAACGGCTGTGACAGGAATCCTGATAGATGGGC AAAAGCTAGTGGTTGCTAACGTTGGAGACTCAAGGGCAGTGATGTCAAAGAATGGCGTTGCGTCTCAGCTCTCGGTTGATCATGAACCAAGCAAGG AACTTAAGGAAATAGAGAGCCGTGGTGGCTTTGTATCAAATATTCCAGGGGACGTTCCAAGAGTTGATGGACAACTAGCGGTTGCGAGGGCGTTTG GAGATAAGAGCTTAAAGTTACATCTGAGCTCAGAACCAGACATCACTCACCAGACAATCGATGATGAGACCGAGTTTATCATTTTCGCGAGTGATGG AATCTGGAAGGTGATGTCGAACCAAGAAGCTGTGGACGCGATCAAAAGCATAAAAGATCCACAAGCGGCAGCAAAGGAGTTGATAGAAGAAGCAAT CGCTAAGAATAGCAAAGACGACATCTCCTGTATCGTTGTAAGGTTCCAGTGCTAATCATATAAAGCTTATTTCTCTATAAGCAAGTTTTACCAATCAAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-001P13	AT4G34430.2	CHB3 (Arabidopsis thaliana switch 3D); DNA binding / transcription factor	GAACGTTTTGCTTAAGCCTGAAAATGGTTTTGTTGTTGTAGCTGCATAGCAAAGCGAAGACACTGAGATGGAAACCCCGAAGATTGGTCCGTCTCTT GAGATGGAGGAGAAACGACGCGATGCTGGAACCCTAGCTTCGGCTGGTAGCTCTGGAGATTCTCCGGCATCTGAGCCGGCAACGCGGCGGCGCG CCGGAGCTTTGAAGAGAAAAGCGAATGCTCTCGGGACCTCCAATTCCTCTTCCACATCGTACAAGAGGATGTTGACGCGCGAGAAGGCGATGCTTG CGTCTTTTTCTCCGGTACACAACGGGCCTCTTACTAGAGCTCGACAGGCACCGAGCAACATGCCGTCGGCGGCTGGGGTGAAGTCGGAGCCGTTG AATGTCGCGGTGGGTACGGATGGCGAGAAGCCGAAGGAGGAGGAAGAACGAAACAAGGCGATCCGTGAGTGGGAGGCTTTGGAGGCTAAGATCG AAGCTGATTTCGAAGCAATTAGATCTCGCGACAGCAATGTTCATGTGGTGCCTAATCATTGCGGTTGGTATTCATGGGAAAGAATTCATCCGCTGGA GGAGCGTTCATTGCCCTCTTTCTTTAATGGCAAATTGGATGGTCGCACTTCTGAGGTATATAGGGAAATACGGAATTGGATCATGAGGAAGTTTCATT CTGATCCGAACACACAGATAGAATTAAAAGACTTAGCAGAACTCGAGGTTGGAGACACGGAAGCAAAACAAGAGGTGATGGAGTTCTTGGACTACT GGGGCTTAATTAATTTTCACCCATTCCCATCCTCATTAGCAGATGCTAGTTCTACCGCTGGTGATCATGATGATTTAGGGGATAAAGAGTCACTGCTT AACAGTCTATACCGATTTCAAGCAGATGAGGCTTGCCCTGCTCTTGTTCACAAGCCTCGTCTCACAGCACAAGCTACGCCATCAGGGTTGTTTACAG ATCCAATGGCTGCTGATGACTTACTGAAGCAAGAGGGTCCAGCAGTCGAATATCACTGCAACTCCTGTTCAGCTGATTGCTCTCGCAAGCGCTACC ACTGCCCCAAGCAGGCAGATTTTGACTTGTGTACGGAATGCTTTAACAGTGGCAAGTTCAGCTCAGATATGTCATCTTCTGATTTTATACTGATGGAG CCTGCTGAGGCCCCTGGCGTTGGTAGTGGGAAGTGGACTGACCAAGAGACTCTTCTTCTCCTTGAAGCTTTAGAAATCTTCAAGGAAAATTGGAAC GAGATTGCAGAGCATGTTGCTACGAAAACAAAGGCTCAGTGTATGCTTCATTTTCTTCAAATGCCAATCGAGGATGCATTTCTTGATCAAACTGACTA CAAAGATCCAAGTACAAAAGACACTACAGATTTAGCTGTGTCTAAAGATGATAAATCTGTCCCAAAAGATGCACCCGAAGAGACAGAAAATAAGAATC GTGTTGATGAAGTTGAAACTATGAAGGAAGTTCCAGAACCAGAAAATGACAATGAAGGAAAAGTTTCTCAGGGATCTTCAAAGCCTGGAGATGCGAG CCAAGACACTGATGAAGTGGAAGCTGACCAGAAAACGCCCAAGCAAGAAACCGTCAGTGATGAAAGATGTAAAGATGAGGCTGATGAAAACATTGC TCTGAAAGCTCTGACTGAAGCTTTTGAAGACGTTGGTTATCCCATTACACCTGAAGCCTCTGTTTCCTTTGCTGATTTAGGAAATCCTGTCATGGGAC TGGCAGCCTTTCTGGTAAGATTGGCGGGATCTGACGTTGCTACTGCTTCAGCCCGGGCTTCCATAAAATCTTCTGGACTGTTGCTCGCTACAAGACA TTGTTTTATTCTGGAAGATCCACCAGATAACAAGAAGGATTCAACTGAATCAAAAAGTGTGGATGCAGCAGCGAACGATGATAATACACATAAAGATG ACGAGCCAGAAGAAAAAAGCCAAAAAGCAGAAGATCTCTCCTTGAATTTAGATGATAGCGAAATCGTAGATATTGATCCAGCGAAAAAGAATCAGCA
GCT-001P14	AT3G57520.1	ATSIP2 (ARABIDOPSIS THALIANA SEED IMBIBITION 2); hydrolase, hydrolyzing O-glycosyl compounds	GGTTCGGCAAACAAACACCGATTCGATTCTTGAATCTTGACCAGTGATTCTTTCCATTGACGGAGCCACCAGCTTTGGGCGGCGATTCCGTGTTCTC CTGTAGAAGCAACATTTTGGTCCTGCATAGTTGACTTTCTCTCTCCTTTCTTATTTACCACCGCATTTTCTCTCTCTTTCAGTCTCGGACGAACGGGAA GCAATCCGTTAACTTAAGCGGTCTTGAGAAGATGACGATTACATCAAATATCTCTGTCCAAAACGACAACCTCGTTGTCCAAGGGAAGACAATCCTG ACCAAAATCCCCGACAACATTATCCTAACTCCGGTTACCGGTGCTGGATTTGTTTCCGGCGCTTTTATAGGTGCAACATTTGAACAAAGCAAGAGTC TCCATGTGTTCCCAATTGGTGTCTTGGAGGGCCTTCGGTTCATGTGTTGTTTCCGCTTTAAGCTATGGTGGATGACTCAGAGAATGGGAAGCTGTGG AAAAGACATTCCTTTGGAGACACAGTTCATGCTACTGGAGAGCAAGGATGAAGTTGAAGGAAATGGAGATGATGCTCCGACCATCTATACCGTCTTT CTCCCTCTACTTGAAGGCCAGTTCAGAGCTGTTCTTCAAGGGAATGAGAAGAATGAGATAGAGATTTGTCTCGAGAGCGGAGATAAGGCGGTTGAA ACTAGCCAGGGAACCCACCTTGTCTATGTCCATGCTGGAACCAATCCCTTTGAAGTTATCAAGCAATCCGTAAAAGCTGTAGAGAGACACATGCAGA CATTTCATCACCGTGAGAAGAAGAAGCTGCCTTCTTTCCTAGATTGGTTTGGCTGGTGTACATGGGATGCGTTCTACACAGACGTGACTGCCGAGG GCGTTGATGAAGGCCTTAGAAGTCTTTCTGAAGGAGGTACCCCTCCTAGGTTTCTGATCATAGATGATGGTTGGCAACAGATAGAAAACAAAGAGAA AGATACAAACTGCGTTGTCCAGGAAGGAGCACAGTTTGCTACCAGGCTTGTTGGTATCAAGGAGAATGCAAAATTTCAGAAGAATGATCAGAAGGAT ACGCCAGCATCAGGACTTAAGAGTGTAGTTGACAATGCGAAGCAGCGCCATAATGTGAAGCAAGTTTATGCGTGGCACGCTTTAGCTGGCTACTGG GGTGGAGTTAAACCCGCTGCCTCTGGAATGGAACACTATGACAGTGCATTAGCATACCCAATTCAGTCCCCAGGTGTCTTAGGGAACCAACCAGAT ATAGTAATGGACAGCCTCGCTGTTCATGGTCTCGGTCTTGTCAACCCTAAGAAAGTGTACAACTTCTACAACGAGCTGCATTCCTATCTGGCTTCAT GTGGTATAGACGGAGTCAAAGTCGATGTGCAGAACATCATCGAAACACTTGGTGCTGGTCTTGGCGGAAGAGTCTCTCTCACTCGCAGCTACCATC AGGCTTTAGAAGCTTCCATTGCGCGGAACTTCGCAGATAATGGTTGCATTTCATGTATGTGTCACAACACAGATGGACTATATAGCGCTAAGCAAAC CGCTATTGTTAGAGCTTCCGATGATTACTACCCGAGAGATCCTGCCTCTCACACCATCCACATCGCATCGGTTGCATACAACACCCTTTTCCTTGGG GAATTCATGCAACCTGACTGGGACATGTTCCATAGTTTACACCCAACTGCAGAGTACCATGCTGCAGCGCGTGCTGTTGGTGGATGTGCAATTTATG TCAGTGATAAGCCAGGGAACCACAACTTTGATCTGTTGAGGAAGCTGGTTCTTCCAGATGGATCAGTTCTTCGTGCTCAGCTTCCTGGTAGGCCTAC CCGTGACTGCTTATTCGCTGATCCAGCTAGAGATGGGATAAGCTTGCTCAAGATATGGAACATGAATAAGTTCACTGGTATGGTTGGTGTATTCAAC TGTCAAGGTGCTGGTTGGTGCAAGGAAACGAAGAAGAACAGGATTCATGATACTTCTCCTGGAACACTCACTGGTTCGGTCCGTGCTGATGATGCT GATCTCATTTCTCAAGTTGCTGGTGCAGATTGGAGTGGAGATTCAATAGTCTACGCTTACAAATCAGGGGAGGTGGTAAGACTACCAAAAGGTGCCT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001P15	AT5G15780.1	pollen Ole e 1 allergen and extensin family protein	GAAAGAGAAAGAGAGAGACAGAGTCGATAACTATGGAGAGAACAACGACCTTATGGGTTTGGTTTATTCTTACGATTTTCATAGGAATCTCTATTAAT GGAGGTTTCTCTGAAGGACAGCAACATCTTACGAAGAAGACACGTTCTTCTGCGGTTGTGGTCGGAACTGTCTACTGTGACACTTGTTTTAATGGCG CCTTTTCCAAATCACCCAACCACTTAATCCCAGGTGCGTTAGTTGCAGTAGAATGCATAGACGAGAACTCGAAACCGAGTTTCAGACAAGAAGTGAA AACAGACGAGCACGGAGAGTTCAAAGCAAAGCTACCATTCTCTGTAAGCAAACACGTGAAGAGGATCAAGAGATGCTCGGTGAAGTTGCTAGCTAG CTCAAAGCCATACTGTTCAGTAGCTGCTTCTGCGACTTCTTCTTCTCTCAAACGCATTAAAACGAGCAAACAACATGGTGACAACACTCGGGTGTTCT CCGCAGGGTTCTTCACTTTCAAACCCGAAAACCAACCAGAGATCTGTAGCCAAAAACCGATCAATCTCCGTGGAACCAAGCCTCTATTACCGGATCC TGCATTCCCTCCACCAATCCAAGATCCGGTTCCTAACAATCCTTCTCCTCTCCCAAACCTCCCAATCATCCCTCCGCTTCCGGACTTACCTCTTCCTC AACTCCCTCCTCTTCTTCCTCCAGGAACGCCTCAGAAATCAGCTTCCTTGCAAAACAAGAAAGGTGATTCCTTGGAAGACAAGAAAACCGAAGTACT AAAACCAAATTTCTTCTTTCCTCCAAATCCGGTAACGCCTCTCCTCCCTCCAACACCGCTTAACCCGCCTCTTATCCCTCCAAACCCACTAAACCCGC CGTCTCTTATCCCTCCAAACCCGCTAAATCCGCCGTCTCTTATCCCACCAAACCCTTTGATTCCTTCTCCGCCAACTCTTCCTCTTCCACCGCTACCG TTTCAGCCGCCTCCTTCGACGTTGCTTCCTCCTCTGCCGTCGGTTCCGACTCTTCCTCCTGTTCCGGTCATAACTCCGCCTTCACCGACGCCACCTT CTTCTTTCCCTGTTCCTATTCCTCTCCCTCCCCTCATCCCTGGAACCCCTCCCATCATCCCTGGAATCCCTCCCATTATCCCTGGAGTCCCTCCGGC TTCGACTTCGTTTTCTACTCACCATCAACCCTAAATTTCATTATCGTTTCTCCAACACGTTTTTCTCATCATCTAATCTATAATATATCTATCATCTCTCTT
GCT-001P16	AT2G18960.1	AHA1 (PLASMA MEMBRANE PROTON ATPASE); ATPase	GGAAGCTCGCTTCACCTATATTTCTCTCTCTTCTTCTTCTCTCTCTCTGGTGTGTGTGTGTGTGATCGAGTGTTGAAACGACAGAGAGAGACGCCGT TTTGGATTTCTTTGCGAAGGAAGGAGAGGGAGAAGCGAGATGTCAGGTCTCGAGGATATCAAGAACGAGACTGTTGATCTGGAAAAAATTCCCATT GAGGAAGTTTTCCAGCAGCTAAAATGTACAAGGGAAGGATTGACGACGCAGGAAGGGGAGGACAGGATTCAGATATTTGGCCCCAACAAGCTCGA AGAGAAGAAGGAAAGCAAAATTCTGAAGTTTCTGGGGTTCATGTGGAATCCGCTTTCATGGGTTATGGAAGCTGCGGCTATCATGGCCATTGCTTTG GCTAATGGTGATGGCAGACCTCCGGATTGGCAAGATTTCGTGGGTATCATCTGTCTGCTTGTTATCAACTCCACAATCAGTTTCATTGAAGAAAACAA TGCCGGAAATGCTGCAGCTGCTCTCATGGCTGGTCTTGCTCCTAAAACCAAGGTGCTTAGGGATGGAAAATGGAGTGAACAGGAAGCTGCTATTCT TGTTCCTGGTGATATTGTTAGCATTAAGCTTGGAGACATCATCCCAGCCGATGCCCGTCTTCTTGAAGGCGATCCTTTAAAGGTTGATCAGTCTGCT CTAACTGGAGAGTCCCTTCCTGTGACCAAGCACCCGGGTCAAGAAGTTTTCTCTGGTTCAACTTGTGAACAAGGAGAAATCGAAGCAGTTGTTATAG CCACAGGAGTTCACACCTTCTTTGGCAAAGCTGCTCACCTTGTGGACAGCACTAACCAAGTTGGGCACTTCCAGAAAGTTCTTACTTCCATTGGGAA CTTCTGTATCTGTTCTATTGCTATTGGTATAGTGATTGAAATAATCGTCATGTACCCCATTCAAAGGAGAAAGTACAGAGATGGAATTGACAATCTCTT GGTCCTCTTGATCGGTGGTATCCCTATTGCTATGCCAACGGTCTTGTCCGTGACTATGGCTATCGGGTCTCACAGGTTGTCTCAGCAAGGTGCCAT CACCAAACGTATGACTGCCATAGAAGAAATGGCAGGAATGGATGTCCTGTGCAGTGACAAAACCGGGACACTAACCCTTAATAAATTGAGTGTGGAT AAGAACTTGGTTGAGGTTTTCTGCAAGGGCGTGGAGAAAGATCAGGTCCTATTATTTGCAGCCATGGCTTCTAGGGTTGAGAACCAGGATGCTATTG ATGCAGCCATGGTTGGCATGCTTGCTGATCCAAAGGAGGCCCGAGCTGGAATCAGGGAGGTTCACTTCCTTCCATTCAACCCTGTGGACAAGAGAA CTGCTTTGACTTACATCGACTCTGATGGCAACTGGCACAGGGTCAGCAAAGGTGCTCCCGAGCAGATCCTCGACCTTGCCAATGCCAGGCCTGACC TTAGGAAGAAGGTACTCTCTTGTATTGACAAGTACGCCGAGCGTGGTCTTAGGTCACTGGCAGTTGCTCGTCAGGTGGTCCCTGAGAAAACAAAAG AAAGCTCAGGTGGTCCATGGGAATTTGTTGGCTTGTTGCCTCTTTTTGACCCTCCAAGACACGACAGTGCTGAAACCATTCGTAGGGCTTTGAATCT TGGTGTTAATGTTAAGATGATCACCGGTGATCAACTTGCTATTGGTAAGGAAACTGGTCGCAGGCTTGGAATGGGAACCAATATGTATCCATCTGCG GCTCTTCTCGGTACTGACAAGGACTCGAACATTGCATCCATTCCTGTCGAGGAGTTGATCGAGAAGGCTGATGGGTTTGCTGGCGTCTTCCCAGAG CACAAATATGAAATCGTGAAAAAGCTGCAAGAGAGGAAACACATTGTTGGAATGACTGGTGATGGTGTCAACGATGCTCCTGCTTTAAAGAAAGCTG ACATTGGTATTGCTGTGGCCGATGCTACAGATGCTGCTCGTGGTGCCTCAGATATTGTTCTCACCGAGCCTGGATTGAGTGTTATCATCAGTGCAGT GCTCACTAGCAGAGCTATCTTCCAGAGAATGAAGAACTATACCATTTATGCAGTCTCAATCACAATCCGTATTGTGTTTGGTTTCATGCTTATTGCTTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-001P17	AT1G32230.2	RCD1 (RADICAL-INDUCED CELL DEATH1)	GAAGCAAATTTTTGGTCAGGAGAAGAGGAAAACTCAGGAACCGCCGACTTAAGCTTTTTTTTTTTTTTTCTTCTTCAATCAATTATCGTCGAAGATACTT ATATAATGAGTCGTCTCCTTCGAAACTGTTTCTTCTTCGTCATCGCCGGCTTAGGGTTTTCTTCTCTATAAGCATATATACCTACTAATCGTCTTATCT CCCCTTCTGATTTAGCTTTTGCTTTCGTTGAAAACCCTTGCCTCAGCGATCGATCTGGAAACTTCATCAGGAACTGTTTTGCCGGCGCCTGTAAAAAT CGAATAAGACGGTGGCATTTCTTCTCTGATTGTGTTTATTTCTATCACAAAGAAGATGAACACACATGTATCTATCTATCAGGCTCTAATTCTTACTGT TAGTGTTCTGTAATGCTTTCGGCGAGACACTATCTTTAGGACAGCTAGGGAGTTTACAGTTGACTTTTTCTTTCGAGGTTATAGGTTTAGCGTTGTTA ATATCTAGAAATGGAAACCAAGATCGTCAAGGTGTTGGATAGTAGGTGTGAAGATGGATTCGGGAAGAAGAGGAAGCGCGCAGCAAGCTATGCTGC ATATGTTAATGGAGCATCGTGTGCAAAGCTGCAACATGTGCCCCCACCGAACGCTCAGTGCCAAACTCCTGACAAAAGGAGAAAATTGGAAGGTGA AAACAAGCTTAGTGCTTACGAGAATCGCTCTGGGAAGTCACTGGTCAGATACTACTCTTACTTTAAGAAGACGGGAATCGCAAAGCGTGTTATGATC TACGAGAAGGGTGAATGGAATGATTTGCCTGATCATGTTATCTGTGCCATACGAAATGAATTAGCTGAAAAGAGGGCAGCAATTGAGTTTGAGTCGT GTGGTCATCATTTTCTTTTCGACTTCTTGCACATGCATAGGCTAGACTTGGAAACTGGGGCAAAAACCCCGCTTGCATGGATTGACGTTGGAGGAAA ATGTTTTTTCCCTGAAATTTACGAGAGTGATGAGAGGAACGATTGCTGCCATCATAACTGTGTGGAAGATTCGAAACAATATGCTCCGCATGAGATCA AGTTACGCCTTGAGATTGATGTTAACGGTGCGGAGTCACCTAGGTTGAATTTGGAGGAGTGCAGTGATGAATCCGGTGACAATATGGACAATGTTC CAGCAGAGGATAGCTCCAGCCGCAAGCTTGAAGCTGCTGTTTCGAAATGGGATGAGACCGATGCTATGGCAGTATCTGGTCTCAAGCCTGCTGGAT CTCAAGGACTTGATAAAGATTCGGTTATGAAAATGTTTGCTATAGGTACTGCTTCTCTAGGGCACGTAGCGGTGCTGGACGTGGGCCGTTTTTCCAG TGAGATTGCTGAAGCTCGTCTAGCGCTTTTCCAGAAGCAGGTTGAGATTACTAAGAAACATCGAGGGGATGCAAACGTTAGATACGCATGGCTTCCT GCAAAGAGGGAAGTTTTATCTGCGGTTATGGTTCAGGGACTTGGAGTTGGTGGTGCGTTTATTAGAAAGTCTATCTACGGTGTTGGGATTCATTTGA CTGCTGCAGACTGCCCTTATTTCAGTGCTAGGTACTGTGATATTGACGAAAACGGAGTACGGTACATGGTATTATGCCGTGTTATAATGGGGAACAT GGAGCTTCTTCGTGGTGATAAAGCTCAGTTTTTTTCTGGTGGAGAAGAGTATGACAACGGAGTCGATGATGTGGAGAATCCGAAGAATTACATTGTC TGGAACATCAATATGAACACTCATATATTCCCGGAATTTGTCGTTAGGTTCAAGCTGTCTGTTCCCTCCAATGCTGAAGGTAATTTGGTTGCTGCTAA GCATGATAACTCGGGGGTCACTTTGGAAGGACCCAAGGATCATCATCCTCCACAGTTAGAGTCAAACGGACAAGGAGGAGGTTCAGGGAGCGCAA ACAGTGTCGGTTCGAGCACTACAAGACCCAAATCTCCATGGATGCCTTTTCCTACACTGTTTGCAGCAATCTCACATAAGATTGCAGAGAAAGATAT
GCT-001P18	AT1G07470.1	transcription factor IIA large subunit, putative / TFIIA large subunit, putative	GGCTCCTCCCGATCTCTGATCTCTGATTCCTCTGCTCTGTCTTCGCTTCGTCGCCGATACCTGCCCGGCTCCGTCCTACTGCCTCCGTTAACCCCG AGATTCACGGAGGACGAATCTCGTTTTTCGCCGGAATCAAGATTAGGAGATTTTAGGGGCTGAGAAGATGGCTACAACGACGACAACAAGCGCTGT GTATATCCATGTCATCGAGGACGTCGTCAACAAAGTCCGTGAGGAGTTCATTAACAACGGAGGTCCCGGCGAGAGTGTTCTCAACGAGCTCCAAGG AATTTGGGAGATGAAGATGATGCAAGCTGGAGTCTTGTCTGGACCGATAGAGAGGTCATCGGCTCAGAAGCCAACACCTGGAGGTCCATTGACTCA TGATCTGAATGTTCCTTATGAAGGCACTGAGGAGTATGAGACTCCCACTGCTGAAATGCTCTTCCCTCCGACACCATTGCAGACCCCCCTTCCGACG CCGCTTCCGGGTACTGCTGATAACTCCTCCATGTATAACATCCCTACTGGCTCAAGTGATTATCCAACTCCTGGAACTGAGAACGGAAGCAACCCTG ATGCTAAAGGAAGACCCAGTCCTTATATGCAACCACCTTCTCCATGGACAAATCCAAGGCTTGATGTTAATGTTGCTTATGTGGATGGCCGTGATGA GCCTGAGCGAGGAAACTCTAATCAGCAGTTTACGCAGGACTTATTTGTGCCATCTAATGGGAAACGAAAGCGCGATGATTCTTCTGCACAATATCAA AATGGTGGGTCTATACCACAACAGGATGGTGCAAGCGATGCTATGCCTAAGGCAAACATTGAGGGTGATACACTCTGCATTACCTTAGTTGGCAATA GAAAATTCCCACGGGATTTCATCTGTTCCTCTTCAAAAATTCCTCAAGTTGATGGTCCAATGCCTGACCCCTATGATGAGATCTTGTCGACGCCAAAT ATATACAGCTATCAAGGACCCAGTGAAGACTTTAATGATGGCAGAACTCCTGCTCCAAACGAGATCCAAGCGAGCACTCCCGTTGCTGCACAAAAC GATATCATTGAAGATGATGAAGAATTGTTGAACGAAGATGATGACGATGACGAGTTGGATGACCTAGAGAGTGGTGAGGATATGAACACACAGCATC TGGTTCTGGCTCAATTTGACAAGGTGACTCGCACAAAGAGCAGGTGGAAGTGCAATCTGAAAGACGGGATCATGCATATAAACGATAAAGACATTCT
GCT-001P19	AT3G18773.1	zinc finger (C3HC4-type RING finger) family protein	GAGAGCAAAACAGCATAAGAGAAACCAAAGCAAAACAAAGAGAAGATATATTCTGATCTGAAAGCTTTAATTAATAGTAGAGTGGTGAAGATGTCTTC AGATCACTTACCTTCTTCATCTCAAGTCTTCCAAGAACACTTCATGGACAGTTTCATCTCAAGGAAATTGCTTCAGCAACTCCCATTTCACCACAACAC TCAACAACAACAACAAGAACAAGCTCATGTACCTGATAAGAACAACTTGAGCGCCAACGTTCTCCTGCTTCTCTCTATCCTTGTCTGCGGTATCATCT GCTCGCTCGCGTTGCATTATGTAATCCGTTGTGCATTCAGACGTTCCTCGAGTTTCATGATCTCTGATCCCATCCCAAGCCAGTCCACACCACGAGG TTCAGAAGCAAACAAAGGGATCAAGAAGAAAGCTCTCAAGATGTTCCCAGTAGTGAATTACTCACCTGAGATGAACATAGAGTCAGGTGTTGGCGAG GAGTGTGTCATTTGTTTGTCTGATTTCGTAGCTGGAGAACAGCTTCGTCTGCTTCCCAAGTGCAACCACGGGTTCCACGTTCGCTGCATAGACAAGT GGCTTACGCAACATATGACTTGTCCGAAATGCAGACACTGTCTGGTAGAGACATGCCAAAAGATCTTAGGTGACTGTGATGAAGCTGATCAAGTTGT CGCAACAACAACAGAGAGCGTAGATGTCAGAATCGCTCCTCTGGAACCTGAAGCAAGAGTAAACACTTTTAGAGAAAGCAGCTAGAGTATGTCAAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-001P20	AT1G74950.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT1G19180.1); similar to PnFL-2 [Ipomoea nil] (GB:AAG49896.1); contains InterPro domain ZIM; (InterPro:IPR010399)	GGAGAACAAGCATCAGAAAAATTGAAGAAACCAGGAGGATTCGTTTTTGCTCCAGTTTTTTGTTGATCGATTCTTTCGGTGAGCTTTGATTTCGCGAA ATCGAAGCCGTTTTTGTTGTCGATTGATTATTTAACGATGTCGAGTTCTGCGGAGTGTAGAGAATTCGTTGCACGGAGGCTACCCGAGAAGAAGCCG AGCTTCTCACAGACATGTAGTCGATTGAGTCGTTATCTCAAGGAGAAGGGTAGCTTCGGAGATCTGAGCTTGGGGATGACATGCAAGCCCGACGTC AACGGAGGTTTTGCTGTGTCACATCAGCCCAAAATGATGAATCTGTTCCCTTGTGAAGCTTCAAGAATGGATTCTTCGGGTGCTCAAGACGTGAAAC CAAAGATTTTGTTTCCTCGCCAATCAAGCTTTTCTTCCTCCTCTTCCTCTGGGATCAAAGAAGAGGTCGAGATGGTCAAAGAGACTAAATCTGTGAAG CCAGAGTCTCAATCTGCTCCACTGACCATATTCTACGGCGGTCAAGTTATGGTGTTTGATGATTTTCCTACTGACAAGGCCAAAGAAGTCATTGACTT GGCTAACAAAGGAAGTGCCAAAAGCTTCGCAGCTGAAGTGAATTATACTCAGAGCTTAGCCAAGAATCAAAAAGAGACTGCTTCGACCCCAAATCCA GTTCCTAGTCCTGCAAAACCCACAGCACAAGAGCCAATCCAGCCCAACCCGTCCTCTTTAGCATGTGAACTCCCAATTGCTAGAAGAGCCTCGCTTC ATCGATTCCTGGAAAAGAGAAAGGATAGGATTACATCAAAGGCACCGTACCAGATAGACGGTTCAACCGAAGCGTCTTCCAAGGCTAACACAGCTT GGCTCGGTTCGCGGTAATCTTTGAGACTGTCTAGACTTGAGAGACCATCTCGTAAGATTCTTTTGATGCTCCGTCGTTTACAAATATCAATCTCCTCT GTTCATTTTTTTATATATAACTTGATTTCACGCCTAGTAGTTTTTGTTTGTTCAATACGCCAAAAACTCAGTATATTTGTATGAAAGTAATCTTCTTATAG
GCT-001P21	AT5G01590.1	similar to RNA binding protein [Bigelowiella natans] (GB:ABA27214.1); contains domain GYF domain (SSF55277)	GACTGATATGTTTTTTCCAGAAACATCAAACCGATAAAGCCCTGAACCCTAATTTTTTATTTGGCTTGGCTGGAGAAGGAAGGACCGTGTTCTACTAT GTCGTCAATTAACTTCAATCCTTTTCAAAACTGGTTCGAGAGACCACCGAACCCAGTCCCTTCCATCAATTTCGTCTCGCTCGCTGACTCCTTCTTTC CCAAGTCGCAGTCTCCGAATTTCGCTTCGATAGGACTTCCTAAATTCTCCAAGAAGTCCACAAAACCCGAAACAGAAACCGAGGAACCTGGACGAT GCAAGAAAATCGCTGAGCAGTTCTTCTGGGAGTGCGAGAATAGACCGGATTACAGGCACGCTCCGGAAGTGGATAAAATTCTGAACGAAGATCCAG TATTCGAGAAGAAGGAGAATCCGAGCGCAGAAGAGATTGAAGCTGAGGAGAAATGGTGGGAGAGATTCCGAGCGAGTCCCGTGGTTCAGTTTATG ACTCGCGCCGAGGAGATTGCCGACGATATGAACAAGATGGAGCTCGAGGAAAACGACACGCCTTATCGGAAAGAAGACAAGGATCTCTGGCGAGC CGTCCCTCATGTGCCTGGATTCGACGGGAGGCCGATGCCGAGGAAGGCGATAAAATCCAAAGAAGAGAGTGATGACAAGTTTTGGGATTTCATGAA ACAGTTCCTCTTCGGACTCTGGGGTTTCCGGCAAAGGCCTTACCCGCCGGGTCGACCCATTGACGTGGCTCAGGCAATCGGCTACAAGCGCCTCG AGAAGCGTTATTATGACTTCATAATGAAGACCGGTGGGTGGTGGTATAAAGACCGGCTTGGCCGTTCCAGGGGACCTTGTGAGCTGATTACCCTGA AGACGGCTTATGGAGCTGGAATAATTGACAGAGATACTTTCATTTGGGGCGAGGACATGGATGAATGGGCCCCTATTCACATGGTTTACGGTTTGG AACCTGCAATTGCCACTTGGGAAGTGAGGCTTGGTGCAGCGGCAACGGCTTTCCTACACAAACTCCAAAAGGGAATACCGCCATGGGTTCCTCTCA AGGGACGAGAGCCAAAAACATACAAGCAGCTTCAAAAAGAAGCCATTGAGAGTAAGAAACGCGACATGGCAATTCTCGAAGCAAACGATGGTGTTT GGCCTGGAGTCAGAACTCCCAGCCATGCCTATTCCTCTGGGCAAGTGGGTCTGAATTAACAACTGTCCTGGAATCTGATCACATGCCGAACAAGTT CATCCCCAAACAACTAAGGCAAGAGTTGGCCAAAGTAATACCGGGGTTAAGGCCATGGGAAGTGATAAGCATAGAGCAAGCGATGGATCAGATCAC CTATGGTGGGGAGTGGTACCGTGAGCCACTCGGTACCTACACTACTGGTCCCCCTTACATCAGAGAATGGAACAGAAATGTCATGAGATTGTTCCG GATTTACTACAACCTTAGCGTTCGAGTAGGGCAGAAGCTGGAGAGCACAGTCCCTGGATTCAGCTCTATAATGGAAAAAGTCCAGAAAGATTTTGAC
GCT-001P22	AT1G49950.1	ATTRB1/TRB1 (TELOMERE REPEAT BINDING FACTOR 1); DNA binding / transcription factor	GGCGAATCTGACGAAAATTTCTACCAAGAAAATATCGGAATTGTATCGCGAAGATCAAATTTCTCTCAGAAGTCTGATAATCCTGAACAGACTTAACA TTGACACAGCACTGTAGTTGCTGTTTCAAAACCGTGATGGGTGCTCCTAAGCAGAAATGGACTCAAGAAGAAGAATCAGCTTTAAAGTCTGGGGTTA TCAAGCATGGTCCTGGTAAATGGCGCACAATTCTCAAAGACCCTGAATTTAGTGGAGTCCTGTACCTGCGTTCCAATGTAGATCTTAAGGACAAATG GAGAAATATGAGTGTCATGGCCAATGGGTATGGATCGCGTGAAAAGTCTAGGTTAGCTGTTAAAAGGACGCTCTCTCTTCCTAAACAGGATGATAAC TCACTTGCCAATACCACCTCATTGCAAAGTGATGAAGAAATGGGAGATGCTAAGCATTTTTCTACTACTGGCTCTTCTGCATTGCAAGTTTCTGCTAC TCCTACTACAAGGAGACCTAATGCTGGATAGCCTTATAATGGAAGCGATAGCTACAATGAAAGAGCCTGGTGGCTCTAATAAAACCACAATTGCTGC CTACATTGAGGAACAATATCACGCTCCGCCAGACTTCAAAAGGTTGCTATCTACCAAGCTGAAGTTCTTGACAGGTTCTGGTAAACTTGTGAAGGTT AAACGCAAGTACAGAATTTCGAACTCCACTCCTTTGTCTTCCCAGAGGAAAAGAAATATGGGGTCATCTTCCGGAAAACAGAGCATTCATTCTTTGCC TTCACAAACAGACGGAGATGAAGTGAGTGTTCAGACGAGGTCACAGATTGATGCAGAGCTAGCCAAAATGAAGACTATGAGCGTACATGAGGCGGC AGCAGTTGCAGCACAGGCAGTTGCAGCGGCAGAAGCTGCCATGGCTGAGGCTGAAGAAGCTGCAAGGGAAGCAGAGGCAGCAGAAGCCGAAGCA GAAGTAGCTCAAGCTTTTGCTGAAGAAGCTGCAAAGACATTGAAAGGAAGAAATACCTGCAAAGTGATGATCCGTGCTTGAGGTGCTGGGGAGAGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-001P23	AT1G56010.2	NAC1 (Arabidopsis NAC domain containing protein 21, Arabidopsis NAC domain containing protein 22); transcription factor	GAGCAAATGATCCAATAATAATCATTCTCTTCTCTCTATCTCTTATTTATTTCTTGATTTTCTCTGCTCTCTCTCTCTCTCTTTTTTTTTAATTAATCATCC GCTAATCAAAGAGAGAGAGCCTTAATTAAAACCAAGAAATAGTGATCAAGAGAGAGAGATATGGAGGCGGAGGAAGAGAAGGAAAGAAGTAGTAGT ATAAGCATGGTGGAGGCAAAGTTGCCGCCGGGATTCAGATTTCACCCAAAAGACGACGAGCTTGTCTGCGATTACCTTATGAGACGATCGCATCAT CCTTCTCCTCCTCCTCCTCTTTTCTTGATCCATGTCGATCTCAACAAGTGCGAGCCCTGGGACATCCCCAAAATGGCATGTGTGGGAGGGAAGGATT GGTATTTCTACAGCCAAAGGGATCGGAAATACGCAACGGGGCTGAGAACAAACCGAGCAACGGCCACCGGATATTGGAAAGCCACCGGAAAAGAC AGAGCCATTCTAAGAAAAGGTAAGCTTGTTGGGATGAGGAAGACATTGGTGTTCTATCAAGGTCGAGCTCCCCGAGGTCGAAAAACTGATTGGGTC ATGCACGAGTTTCGTCTCCAGGGATCCTTTGATCCTCCCAATCATTCTCTCAACTCTCCACAGGAAGACTGGGTCTTGTGTATAGTGTTCCATAAGAA TACAGAAAGAGTTTTATGCAGAGACAACACTGGGAGCTGTTTTCATGAGACAGCCTCTGCCTCCCTTCCTCCATTGATGGATTCTTGCATCAACTTTG ACCAAGAACCCTCTTCTTACTTCGCTGATGACTATCACTTCATCATCAACGAGCAAGTGCCCTGCTTCTCCAATTTGTCACAGAACCAAACCCTAAAC GCAGACCTAACCAGCTCAGTCTCTGAACTCAAGACTCCTTGCAAGAACCCTAACCCTTTGGTTCCTGGTGGTTCACCCCCAGCCACGCTCCCAGGG CTCGACACGTTCTGTTCTTCAGATCAGATGGTTCTCAGGGCTCTGCTCAGTCAGCTCACCAAGATCGATGGAAGCCTCACCTCTAAAGAAACACAGA GTTATGGAGACGGTAGCTCTGAGAGCCTCTTGACCGATATCGGTGCTTGGAATCGCTGATGGTCGAGTGTAACGAGAGATATATTATTCCTATATTC ATATTCATCATTCAAACAATATTGTTCACGCCGCTAATTACGCGTTCGTCTCGCATTATACAAACATTTTCTCACTCTTCTACGCGACTATATTCATCT
GCT-001P24	AT1G04250.1	AXR3 (AUXIN RESISTANT 3); transcription factor	GGTGCGTTTTTTAATAACATTTTTCCATCTTCCTCATCACCTTCCAAAGAAGAAGAAGAACATTGAAGAAAGAAGAAGGATAGAGGTTAATAATGATG GGCACTGTCGAGCTGAATCTGAGAGAGACTGAGCTGTGCCTTGGTCTTCCCGGTGGAGATACGGCGGCTCCGGTAACCGGAAACAAGAGAGGGTT CTCGGAGACGGTTGATTTGAAGCTGAATCTGAACAATGAGCCTGCAAACAAGGAAGGATGTACAACTCACGACGTCGTGACGAATTCTGTTTCCAA GGAAAAGAGTTCAAGTCCCAAAGATCCAGCCAAGCCTCCTGCCAAGGCACAAGTTGTGGGATGGCCTCCGGTGAGATCATACCGGAAGAATGTTCT GGTTTCGAGCCAAAAATCGGAGGCTGCGGCATTTGTGAAGGTGTCGATGGACGGAGCACCGTACTTGAGGAAAGTCGACTTGAAGATGTATAAAAG CTACGACGAACTCTCTAACGCTTTGTCCAACATGTTCAGCTCTTTTACCATGGGAAAATATGGAGGAGAAGAAGGAATGATAGACTTCATGAATGAG AGGAAACTGATGGATTTGGTGAATAGCTGGGACTATGTTCCCTCTTATGAAGACAAAGACGGTGATTGGATGCTCGTCGGCGACGTCCCTTGGCCA ATGTTCGTCGATACATGCAAGCGTTTACGTCTCATGAAAGGTTCTGACGCCATTGGTCTCGCTCCGAGAGCAATGGAGAAGTGCAAGAGCAGAGCT TGAAGTTAAAAGATTAAGTGGTGATGGTTATATATTTGATTAACACTTTGATGGGTGTTAATAGTTTTTTTTTTCATTACGAAAAACATTGTTCAATATC TATTTTTTTCTTTTAATGTCTATGTTTTGATCTGAATTTCGTATGTAGGTACACTTTATAAGCTATTATGTGTTATGAATCAAGTTAAATATGCGAGACAT
GCT-002A01	AT3G52640.1	nicastrin-related	GGGAAAAAAAGAGTCATGAATCGACAAGAAAAATCTCAGTCTTGACTCCGAAACTCCCCCCGCGTAATTCCGAACTAGGTTTCTTATCTCCGGCGAT CGGAGCTCTCTCTTCTCTCTTCCACCTTTCCCCTTTTTGTTTCCCAGCGATGATTTCCAGGTAGCTTCTGCTGATTGCAATTCTGACGGTAGCCATGG CAATGGGACTTCCTCGTCTTGTTGCTATTGCTTTTACACTTCATCTTGTTTCAATCCTTCCTCTCCCTATCTCTCTCGCAGATGAGATAACATCTATTG AATCTGTCCCCGACCTTCAGAAGCTAATGTATGTTGCTGTTGATGGGTATCCTTGTGTACGGCTTCTCAATCTTTCTGGGGAGATTGGATGTGCAAA CCCTGGATTGAACAAGGTGGTGGCTCCAATCATAAAACTAAAGGACGTTAAAGATTTGGTTCAGCCTCACACTATTTTGGTGACAGCTGATGAAATG GAAGGTTTCTTTAGCAGGGTGTCAAATGATTTGAGTTTTGCTAGCCAAATTGGTGGCGTTCTAGTTGAATCAGGATCTAGCTTTCAACAAAAGTTCAA AGGTCTTTCTCCAGATAAAATGTTTCCTCAAGCGCAGTTTTCACCATACGAAAACGTTGAGTACAAATGGAATCCAGCTGCATCAAGCATTATGTGGA AAGCTTATAATTTTCCTGTGTACTTATTGTCAGAAAGTGGCATATTAGCTGTGCAGCAGATCCTTTCCAAGAAAGAGATGAAGCATAAAACTTATACCA GTAACGTTGCTGAATTCAATATGGTTATGGAGACTACCAAAGCTGGTACACACAATTCGGAGGCTTGTTTGCAGGAAGGAACTTGCCTCCCATTGGG CGGATATAGTGTTTGGTCCTCACTTCCACCAATCAATGTTTCGTCTTCCAACAATCGCAAGCCAGTAGTGCTAACTGTGGCGTCCATGGATTCTGCA TCATTTTTCCGTGACAAGAGCTTTGGTGCAGATTCACCGATATCTGGAATGGTAGCTCTTCTGGGAGCAGTTGATGCTCTTTCTCGAGTTGATGGTTT TAGTAATCTCAAAAAGCAGCTTATATTTTTGGTTCTGACCGGAGAGACGTGGGGTTACCTTGGCAGCAGGAGGTTCATACACGAACTTGATCTGCAT TCAGAGGCTGTTGCAGGCCTTAGCGATACTCCCATTGAAACGGTGCTTGAAATAGGATCCGTTGGAAAAGGTTTGAGTGGAGGGATGAATACCTTC TTTGCTCATAAAACTAGGGTTTCTTCTATTACAAACATGACACTGGATGCTTTAAAGATAGCTCAGGATTCACTTGCATCAAAGAACATTAAGATTCTT TCAGCTGATACTACAAATCCGGGAATACCTCCATCATCCTTGATGGCATTCATGAAAAAGAACCCTCAGACTTCAGCTGTTGTTCTTGAAGACTTTGA TGCCAAGTTTGTGAATAAGTTCTACCATAGCCACCTCGATGATTTGTCAAATATCAACTCCTCATCCGTAGTAGCTGCTGCTTCTGTTGTTGCCCGTA CGCTGTACATCCTTGCAAATGACAGCAAAGATACAAGCAACTCAGCTCTGGGATCTATCCATGTCAATGCTTCTTTCGTTGAAGAGCTTCTAGCCTGT CTTTTATCTTGTGAACCGGGCTTATCATGCAACTTGGTGAAAGATTATATTTCACCAACAAACACTTGCCCAGGCAACTATGCTGGCGTCATCCTCGG AGAACCTTCATCCAAACCTTACCTTGGTTACGTCAGTGATGTTTCCAGATTCCTCTGGAACTTGCTGGCTGATAAAACATCTGTCCAAAAGAGAAACA CAGCCTCAGTTTGTTCAAAAGGAGCCTGTAGCAAAAGCGACGAAGTGTGCATCAAAGCAGAGAGCAACAAGGAGGGAACATGCGTTGTTTCCACAA CGACGTATCTTCCACGATATTCAACCCGATTGAACTATGACGATCGACGTTCGACGATTCTCGCCTCAGAACACATCGGATTCTATCGCGATGCTTCA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002A02	AT2G30520.1	RPT2 (ROOT PHOTOTROPISM 2); protein binding	GGTCTCCTTCACTTCACAACCAATAAAAATGGCGACAGAAGGAAAAAACCCCATCAACATGAACACAATGTCTTCATCTCTTCAGAGAACCGGTCAAT GGGTTTTCTCACAAGATATTCCAACCGATGTAGTAGTTGAAGTCGGAGAAGCCAATTTCTCTCTTCATAAGTTCATGCTAGTGGCGAAGAGTAACTAC ATAAGGAAGCTAATAATGGAATCCAAAGATAGCGACGTGACGAGAATTGATCTCTCGGATATCCCCGGAGGTCCAGAGATGTTCGAGAAAGCTGCT AAATTCTGTTACGGTGTTAACTTCGAGATTACCGTGCAGAACGTGGCGGCTCTTCATTGCGCCGCCGAGTTTCTTCAGATGACCGATAAGTACTGCG ACAACAACCTCGCTGGTCGGACTCAAGATTTTCTTTCTCAGGTCGCTCTCTCTAGCCTCTCCGGAGCCATCGTCGTCCTCAAGTCTTGCGAGATTCT CCTTCCTATTTCTCGTGATCTTGGTATTGTTCGCCGTTGCGTTGACGTCGTCGGTGCTAAGGCTTGCAACGAGGCAATGTTTCCGTGTCGATCACCA CCGAATTGGTGGACAGAGGAGCTCTGTATCTTAGACGTTGACTTCTTCTCCGACGTCGTAGCTTCCATGAAACAGAGAGGCCTGAAACCTTCTTCCT TAGCCTCTGCAATCATCACCTACACCGAGAAATCCTTAAGAGACCTCGTCAGAGACCATTCCGGCAGAGGAATCAAGTATTCCGATCCCGAAAACAA CGGCTCCGACGAGAGATCCCAACAGAGAGATCTCGTTGAATCAATCGTCACTCTCTTACCTTCAGACAAAGGGCTTTTCCCTGTCAACTTCCTCTGT TCTCTCCTCCGTTGCGCCGTCTTCTTGGACACCTCACTCACCAGCAAGAACGAGCTCGAGAAACGAATCTCCGTCGTCCTCGAGCACGTCTCCGTC GACGATCTCTTGATCCCGTCTTTCACCTACGACGGCGAACGGTTACTAGACCTCGACAGCGTCAGAAGAATCATCTCTGTTTTCGTCGAGAAAGAGA AAAACGTCGGAGTTTTCAACGGCGGAGATTTCAACAGAGGATTATGCTCTGTTTCTCTCCAGAGAGTTTCGAAGACAGTTGATTCTTACTTAGCAGA GATCGCTAGCTACGGAGAGCTAACCATCTCCAAGTTCAACGCGATCGCGAATCTCGTTCCCAAATCCGCTAGAAAATCAGACGACGATCTTTACAGA GCCATTGACATCTTCTTGAAAGCTCATCCGAATCTTGACGAGATCGAGAGAGAGAAAGTGTGTAGCTCAATGGATCCTCTCAAGCTTTCTTACGACG CACGTCTCCACGCTTCGCAGAACAAGAGATTACCTGTAAACATCGTTCTCCACGCGCTTTACTACGACCAGTTAAAGCTAAGAAGCGGGGTTGAAGA TAAAGAAGGAGCAGTGGTTATGGTCCCCGAGGCTTTAGCGACACGTGGACAGGTTAAAGCTGATACTTCGTTGGCTAAAGAGAACGAAGCTTTGAG GAGTGAGCTGATGAAGATGAAGATGTATGTTTCTGATCTGCAGAAGAATAAACAGAGTGGTGGTGGTGGTGCAGGAGCTTCTTCTTCGAATTCATCG TCGTTGGTGAACAGTAAGAAGAGCAACAAACCTACTTTCTTCTCTTCTGTTTCGAAGAAACTTGGGAAGTTGAATCCTTTTAGACATGGGTCTAAAGA TACTTCGAACATTGATGAAGATCTTGCTGGTGTTGATATTACTAAGCCAAGAAGACGAAGATTCTCAATCTCTTAGAAGAGTAAAAGAAACGTTTGAT CATTTACCTTTTCTGTGTTTTTGGTCTGTGTGTGTGTGTTTTTGTGTATAACTCCTTTAGTTTAGTGTGCTCTCTTTTTTTTTTCATTTTTTTTCCTTTTGA TGCGTGACTTTTGTTTTTGGAAGGTGTGTTTATTGTTTAATAATGAGTTTGGGATATTCGAAATTTCGAACATCCCCGTGATGGCCGATTTGGCCCTC GAGGGCCAAATCGGCCATCACGAAAATCTCTCTCTCTCTCTCTCTTTCTCTCCCTCTCTACTCTCTGCAATGGCGTCTCTCCAGCAAACTCTATTCTC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002A03	AT4G19990.1	FRS1 (FAR1-related sequence 1); zinc ion binding	GAAATGCATATTTTTTTTTCCCTCCAAACTGTATTAGATTCTCAATTTTTCTCTGATTCGCTCTGTTAGTCTATCGATCTTCATTTGAGCTGCCTAACAT CGTTTCTGGGTTTTGCTTTTGATCATGAGTTCGATTCGTCTTCAATCTTTTAACTGTTGGGTCCGATGATTCGAGCTGACTTTGTGCTGATTATGGAAT CTAAATATTTTGGCTTTTCTTGTTTAGATGATTCGTTTCCATATCTGAAGTTGTTTTGCTTTCATTTTGAGGTTTTAGTATTATGATTTTGCTGATTCTAA GTTTCAATTGCTCCGTTGATATTAGAATCTCTTAGTCCATAGTGCTTTTTATGGTGATTCTCGTAATTTCTTTGGCATATAACTGACCAAATTGTGTGTT CACAGGGTTAATTTGACTCATGGTTTTAAGTGTAAAACAAGCTTAAGTGATGGGGATTGATCTCGAAATGCCGTCAGGAGAGTGTGATGATCAAATG TTAAACTCAGGGATCAATGAAGGGATAGAGTTTGAATCAAAAGAGGAAGCATTTGAGTTATACAAAGAATATGCTAAATCTGTTGGCTTTACTACCAT AGTAAAAGCTAGTCGTCGTTCAAGAATGACTGGTAAATTTATCGATGCCAAGTTTGTTTGTTCGCGGTATGGAAGCAAAAAACCAGAGGAAGAAGAA GAAGGCATAGAAGGATGTAACATCCCTCAAGCGAGGAAACGTGGTAGAATCAACCGTTCATCGTCTAAAACCGATTGTAAAGCATGCTTACATGTTA AGATAAGGCAAGACGGGAAGTGGGTTATTCGCACTTTGATCAAAGAACATAACCACGAAGTCTTCCCTGGACAAGTTAATTGCATGAAAGAATCTCG TGGGCGGAAAAAACTCGAGAAACAAAGTGGTGATACTGTGAAAGAGATGAAGATCAGAAAGGCTCTGGCTTTAGAGGATGGTGATGTTGAAAGGCT CCTAAACTTCTTTACGGATATGCAAGTCGAGAATCCTTTCTTTTTTTACGCCATTGATCTGAACGAGGAGCAGAGCCTAAGAAACATCTTTTGGGTTG ATGCAAAAGGCAGGTTGGATTACACGTTTTTCTGTGATGTTGTATCTATCGACACTACATTCATCAAGAACGGGTATAAACTGCCTCTTGTCGCTTTT ATTGGAGTGAACCACCACGGACAGTTCCTGTTGCTTGGCTCTGGATTATTATTAACAGATGAGTGTAAATCTGGATTTGTTTGGCTTTTTCGATCATG GTTAAAATCGATGCAAGGATGCCAACCTAGAGTTATTCTTACCAAACACGATCAAACGCTCAAAGAAGCTGTTTCTGAAGCCTTCCCATCTTCTAGAC ATTGTTTTTATATGTGGGATACTCTTGGTCAGATGCCGGAGAAGCTTGGACATGTTATGAGACAAGAGAAAAGCTTTATGGATGAGATAAATGAGGC TATTTACGGTTCTTGCAAGAGTGTTGAATTTGAAAAGAAATGGTGGGAGGTAGTTGATAGGTTTCGTGTGAGAGACAATGGGTGGCTTAATTCATTGT ATGAAGATAGGGAATATTGGGTTCCTGTATATATGAAAGGTGTTTCTCTAGCAGGAATGTGTACAGCTCAGAGATTGGATAGCGTGAACTCTGTTTTT GATAAATACGTTCATAGGAAAACAACGTTGAAAGCATTTCTTGATCAATACAAGACGATGATACAAGAGAGATACGAAGAGGAAGAGAAAGCGGAGA TTGAGACATTATATAAACAACCTGGACTTAAGTCACCTTCACCATTTGGGAAGCAAATGGCTGAGGTATACACGCGTGAGATGTTCAAGAAGTTTCA GGTTGAGGTGCTGGGAGGTGTTGCTTGTCACCCGAAGAAAGAAGGCGAAGAAGATGGGGTTAACAAGAGGACTTTCAGGGTCAAAGATTATGAAC AGAACCGTGCTTTCATTGTGGAGTGGAACTCTGAATCATCTGAAGTTGTCTGTTCATGTCGATTGTTTGAGTTTAAAGGGTTTCTTTGTAGGCACGCG ATGATTGTTCTGCAGATGTCTGGAGAACTTACTATTCCTTCTCAGTATGTGTTGAAGCGTTGGACAAAAGATGCGAAAAGTAGAGAAGTGGTAGAAT
GCT-002A04	AT3G04120.1	GAPC (GLYCERALDEHYDE-3-PHOSPHATE DEHYDROGENASE C SUBUNIT); glyceraldehyde-3-phosphate dehydrogenase	GCTCATTTTTCACTGTGTAAAATACCTTCTCTCTGTTAATCTCATCTTCAATTTCTCTCTCTCTCGCGTATTTGATTGAAAAATGACTGGCGCTAAGATT AAGATCGGTATCAATGGTTTCGGAAGAATCGGTCGTTTGGTCGCTAGAGTCGTTCTTCAGAGGGACGATGTTGAGCTCGTCGCCGTCAACGATCCG TTCATCACCACTGAGTACATGACCTACATGTTCAAGTACGACAGTGTTCACGGTCAATGGAAACACCATGAACTCAAGGTCAAGGATGAGAAGACCC TTCTCTTCGGTGAGAAGCCAGTCACTGTCTTCGGCATCAAGAACCCTGAGGATATCCCATGGGGTGAGGCTGGAGCTGACTTCGTTGTTGAGTCTA CCGGTGTTTTCACTGACAAGGACAAAGCTGCTGCTCACTTGAAGGGTGGTGCCAAGAAGGTTGTCATCTCTGCCCCAAGCAAGGACGCTCCCATGT TTGTTGTTGGTGTTAACGAGCACGAATACAAGTCCGACCTAGACATTGTCTCCAACGCCAGTTGCACCACTGACTGCCTTGCTCCCCTTGCCAAGGT TATCAACGACAGGTTTGGAATTGTTGAGGGTCTTATGACTACCGTCCACTCTATCACTGCTACACAGAAGACTGTTGATGGACCATCGATGAAGGAC TGGAGAGGTGGAAGAGCTGCTTCATTCAACATCATTCCCAGCAGCACCGGAGCTGCCAAGGCCGTCGGAAAGGTGCTTCCACAACTCAACGGAAA GTTGACCGGAATGTCCTTCCGTGTTCCCACCGTTGATGTTTCAGTTGTTGACCTCACGGTTAGGCTCGAGAAAGCTGCAACCTACGATGAAATCAAG AAGGCTATCAAGGAGGAATCTGAAGGCAAGCTAAAGGGAATCCTTGGTTACACCGAGGATGATGTTGTCTCAACTGACTTCGTTGGTGACAGCAGG TCGAGCATTTTTGACGCCAAGGCTGGAATTGCGTTGAGCGAGAACTTCGTGAAACTGGTGTCGTGGTATGACAACGAATGGGGTTACAGTACCCGT GTGGTCGACTTGATTGTTCACATGTCCAAGGCCTAAAGCTGAGAAGAAAATCTCGAGACTGATGGGGAGGGAGGAATTCTTATTTCTCGTCCCTTTT AATGTTGTCAGTTTGTCGTTTTTTGAATAAATTTTGTTTGAGATTTAAAACTGTTTTGCTTTTGCGGAATCTGATTGAGTTGAGTTGATGTGAGTTTGTA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002A05	AT1G27540.2	F-box family protein	GCTGACGCCTTCTTTAATCTCAGCAACAGACGAGATATTCCCCGTCCTGAATCCCTGATAATGGAGGAATCTACACTCAAACGAAATTCGAGTTGTC CGGATAATCAGTGTGCTAAGGCCATGCGTTCGACTTTGATTCTGCGGCCGAAAAGCGGATCTCCATTGCTGTTGCTGTTTTCAGAAGAGGATGGTT GTCGTCTGTACAGCCCAGAGGAAGATAGGGTTTACGAGACAACGAGGAGTGACTTTTCAGGATACCGAATCCTGGGAAACTCGGGTAAGTGGTTCC TGGTGGTAGATTCTCGATCAGATCTCTATATTATAGACGTGTTTAGCGAGGAGAAGATCCATCTCCCACCTCTAGAATCAATGAAAGGTGGTTATTAT AAGCTTGAGCGAGTAGCAGATAAGGAATTGACATGCAAATTGATTAGTGAGTCGTATCGATCTGGGGTTGTTTTAACGGCCATGGATCTGAGAGGTC TTTTGTGGGTAGACGACAAGAGTGGAAACTACGTTGTTGTTTGGAAATATGTTGAGCTGGGTAGACAATTTTTAGGTTATTGCAAGAAAGGGGATGA TCATTACACCGAGATTCCAACAGCCAAGTTGGGTGATGTTCGCAGGGAGTTACGAGGCCAACGTGATCTGGTACTCAAAGGTTACAGTCTTTACATC TTCACGTCTTATGATTACATTCGACACCTGGATCTTTCTGGACAAGATGGTTTCAAGGATGTTTCCGAGACCCATAGGTTTCCAATGTGGAGAGATGA TTATATGAATGAGGAACTACTCGGAATGACGACCATCTCATGCCGCGATACCATTGTTGTTACAACATCAGGAGAGGCTTTGATTGTCCATAGTAGA GGTTACGAGTCTAACGAAAACTTTGAAAAACATAGGATATTCCGCGTGTACAAGAGGGATTCTAAAGATCTAGACCCCGATACCAGAGACACAAGGC TTGTTCAGGTGGATTCTCTAGGTGATGAGGCACTGTTTCTTGATATGGGCTTCACTGTACCTGCTGACCATACCCTTGGTATTGAGCCAAACTCCAT CTACTTCACACATGATAACCGTCTCCGTCCTGATTGGAGGACTCCACGCTTCGACATCTGTGTGTACAATCTTGCAACAAAGACCACCAAACGCTTC GCGCTTCTCTCGAACTTTAAGCTCAACGATCGCTCGTTTCTCCCCTAGTCATATATCATTCGCTCTCGTTTCTTTCAGCGATTCTCTTCCT
GCT-002A06	AT1G33590.1	disease resistance protein-related / LRR protein-related	GACCACACAACACCACACCATGAACACTTCTTCCTCTTCTTCTTCCTTCCCTCTCTTTATCTTCGCCGCCATTATCTTTCTCCGGTGCCTAAACCCCA CCGGAGCCGCCACGTGTCATCCAGATGACGAGGCGGGTCTTCTAGCATTCAAAGCGGGTATAACCCGAGATCCTTCGGGTATTCTCAGCTCATGG AAGAAAGGTACTGCTTGCTGCTCATGGAACGGTGTCACTTGTCTCACCGGCGATCGCGTCACCGCACTCACCGTCGCCGGACAGTCTGATGTCGC CGGAAGTTTCCTCTCCGGCACTATCTCTCCGTCGTTAGCCAAACTCCAACACCTCGACGGAATTTACTTCACCGATCTCAAAAACATCACCGGATCT TTCCCCCAGTTCCTTTTCCGATTACCAAAGCTTATATACGTTTACATCGAGAATAACCGTCTCTCCGGTCCTCTTCCGGTTAACATCGGTTCGTTAAG CCAATTCGAAGCGTTTAGTCTCGAGGGAAACCGGTTCACGGGTCCAATCCCGAGTTCGATTTCGAATTTAACTCGGTTATCGCAGCTCAATCTCGGC AATAATCTCTTAACCGGAACTATCCCTTTAGGGATTGCTAATCTCAAGCTCATGTCGTCTCTAAATCTCGGCGGTAACCGTCTCACCGGAACAATCCC GGATGTTTTCAAATCCATGACGGAGCTCCGATCGCTAACTCTCTCTCGCAACAGATTTTCCGGTAATCTCCCGCCGTCGATCGCGTCTCTCTCGCCG ATTCTCAGGTTCCTCGAGTTAGGCCAGAACAATCTCTCCGGTACCATCCCGAGCTATTTATCGAGATTCAAAGCCCTCGATACATTGGATCTCTCAA GGAATCGATTCTCTGGAATCGTACCCAAGAGCTTCGCGAATCTCACAAAAATCTTCAATCTCGATCTCTCACACAATCTCCTAACCGATCCGTTCCCT GAATTGTTCGTGAAAGGAATCGAATCTCTTGATCTATCGTACAATCAATTTCACCTGAAAATGATTCCAAAATGGGTGACTTCGTCGCCGATCATCTT CTCGTTGAAGCTAGCGAAATGCGGAATCAAGATGAGATTTGACGATTGGAAGCCTGCAGAGACTTACTTCTACGATTTCATCGATCTCTCGGAAAAC GAGATCTCAGGGAGTCCGGCGAGGTTTCTGAACCAGACGGAGTATCTTGTGGAGTTCCGTGCGGCGGGGAATAAACTCCGATTTGATATGGGGAA GCTGAAGTTTGCGAAGACACTGAAAACTCTTGATTTGTCGAGGAACTTGGTGTTTGGGAAGGTGCCTGCGACGGTGGCTGGATTGAAGACACTGAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002A07	AT5G48800.1	phototropic-responsive NPH3 family protein	GCACCATCACCAAACTACTCCACTTGATTCGGTTCTTCTTTTCTTGTTCTTGAACATAATTCTGCTTCATGGACAAGCATCATCAGCATCTTCTGCTAC AGCATCATCAACATCTCCATCATCACCAGAAGCTCTCGCTTGCTAAATCTTCCCGACAAAGCTGTAGTGAATGGATCTTTCGAGACGTTCCAAGTGAT ATAACCATAGAAGTAAACGGAGGAAACTTTGCTCTGCATAAGTTCCCTTTAGTCTCTAGAAGTGGAAGAATCCGGAGAATCGTTGCAGAACACAGAG ATTCAGATATCTCCAAAGTGGAGCTTCTCAATCTCCCAGGAGGAGCAGAGATATTCGAATTAGCAGCCAAATTCTGCTATGGAATTAACTTTGAGATC ACTTCATCAAACGTTGCGCAGCTCTTTTGCGTCTCTGATTACCTCGAGATGACAGAAGAGTATTCCAAAGACAATTTGGCTTCAAGAACAGAGGAGT ATTTGGAGAGCATTGTATGCAAGAACCTTGAGATGTGTGTTGAAGTCTTGAAACAATCAGAGAATCTTCTCCCACTTGCAGACGGACTCAATATCATA AGCAGATGCATCGATGCCATTGCCTCAAAGGCCTGCGCCGAGCAGATCGCTTCGAGCTTCTCACGGTTGGAGTATAGTAGCTCAGGTAGACTTCAC ATGAGCAGGCAAGCGAAGAGCAGCGATGGAGGAGATTGGTGGATTGAAGATCTTTCGGTTCTTAGGATTGATTTTTATCAGAGAGTGATGAATGCA ATGAAGTGCCGTGGCGTGCGTCCAGAGAGTATAGGAGCTTCTTTGGTGAGTTACGCCGAGAGAGAACTGACAAGAAGATCCGAGACCGGACATCA TGAACATGAACAAACCATCGTTGAGACAATTGTTGCTCTTTTGCCTGTTGAAAAACTCGTGGTTCCCATAAGTTTTCTCTTCGGGTTACTGAGAAGAG CAGTGATGCTTGATACTTCAGTTTCCTCTAGGCTTGATCTAGAGAGGAGGATAGGTTCTCAGCTTGATATGGCGACTCTAGACGATCTATTGATACC GTCTTTTCGTCATGCAGGAGACACTTTGTTCGAAATTGACACGGTTCATAGAATCTTGGTGAATTTCTCACAACAAGGAGGAGATGATAGCGAGGAT GAAGAGTCTGTGTTTGAATGTGATAGTCCACATTCGCCTTCACAAAGCGCCATGTTTAAAGTTGCAAAGCTTGTAGACAGTTATCTTGCTGAGATTGC TCCTGATGCTAACCTTGACCTTGCCAAATTCTTGCTCATTGCAGAAGCCTTACCTCTTCATGCTCGCACCCTTCATGATGGCTTATATCGCGCCATTG ATCTTTATCTTAAGGTGCATCAAGGGTTATCAGATTCAGATAAGAAGAAGCTGTCAAAACTTATTGACTTCCAGAAACTCTCACAAGAGGCTGGAGCA CACGCTGCTCAAAACGAGCGGCTTCCTCTGCAATCCATAGTTCAAGTTCTCTACTTTGAGCAACTGAAACTTAGAAGCTCTTTGTGTTCTTCTTACTC AGACGAAGAGGCAAAGCCAAAGCAGCACCAGCAGCAACAGTCATGGAGAATAAACAGTGGAGCTCTCAGCGCAGCAATGTCGCCCAAAGACAACT ATGCGTCTCTGAGAAGAGAAAACCGGGAACTGAAACTCGAGTTAGCTAGGTTGAGAATGAGGCTTAACGATTTAGAGAAGGAGCATATCTGTATGAA GAGAGATATGCATAGGTCTCACTCGCGCAAATTCATGAGCAGTTTCTCAAAGAAAATGGGGAAACTTAGCTTCTTCGGGCATAGTTCTTCAAGAGGA
GCT-002A08	AT5G02760.1	protein phosphatase 2C family protein / PP2C family protein	GATAATTCACAACTAGCACAGCTACTACTTGTTATCACTCCCCCATCAATTCAATCTATAGTCTTATCTGTGTATATATTACGATATTGCTCGAAGATTA CATACCTGGGAAAATGGTCAAACCCTGCTGGAGAATAGGTGCCGGTATGGAGAGAAGTAAGATCAATCCCACAAAGAACGATGGCTTGACATGGTA TAACGATCTTGGTCTTCACGCCTTTGGAGAGTTCTCGCTGGCCATGATCCAAGCCAACAGTGAGATGGAGGACCAGTGCCAGATCGAATCAGGGCC ATTGACATTCAACAACCCAACAGTTCAAGGCACGTTTGTTGGAGTGTATGATGGTCATGGAGGTCCAGAGGCTTCCAGATTCATTGCAGACAACATC TTCCCCAAGTTAAAGAAGTTCGCCTCCGAGGGTAGAGAGATTTCAGAGCAGGTGATCAAGAAAGCATTTTCAGAGACAGACCAAGACTTTCTCAACG GAGTGAAGAAACAATGGCGCAAGAACCCACATATGGCATCAGTGGGGTCATGTTGCTTGGCAGGAGTGATATGCAACGGATTGGTGTATATTGCAA ACGCAGGAGATTCCAGGGCTGTATTAGGCAGATCTGAGAGAGGTGGAGTGAGAGCTGTTCAGTTATCAGTAGAGCACAATGCCAATGTAGAGTCTG CTAGGCAAGAGCTATGGTCAATGCATCCTAATGACCCCAACATTCTTGTGATGAAGCACCGGATGTGGCGTGTGAAAGGCATCATCCAGGTCACAA AATCCATAGGAGATGCATACCTCAAAAGAGCAGAGTTCAACAGAGAGCCGTTGCTGCCCAAATTCAGACTACCAGAACATTTCACCAAACCAATACT TAGCGCTGATCCATCAGTCACGGTTACTCGGCTTAAACCAGAAGACGAGTTTATGATTCTTGCTTCAGATGGGCTTTGGGAGCATCTTAGCAACCAG GAAGCTGTTGATATTGTACATAGTTCCCCGCGCCAAGGAATAGCAAGGAGACTACTCAAAGCTGCACTGAAGGAAGCAGCAAAGAAAAGAGAGATG AGATACTCAGACCTGAAAGAGATCAATCCTGGTGTGAGAAGGCATTTCCATGACGATATATCTGTTATTGTGGTCTATCTCAAGCCCCAGATGGTCA AAACCAATGGTTGGGCTTCTCCACTGTCAGTAAGAGGTGGCTACCCTATGCATTCAACATCATGAACAGATACCACAGCATCGACTCTTCGTTTCTC
GCT-002A09	AT2G33480.1	ANAC041 (Arabidopsis NAC domain containing protein 41); transcription factor	GAAGAATCTCTCTGTTTCTTTTGTTTTTTTTTTTTTTCTCTCAGAATCTTAAAAAGATGGAAAAACATAGCTCAATTAAGAACAGAGGACTGAGATTACC ACCTGGGTTCCGGTTTCACCCGACCGATGAAGAGCTAGTGGTTCAGTATTTGCGTCGAAAAGTGACCGGTTTACCCTTACCAGCTTCTGTTATACCG GAAATCGATATATGTAAAGCCGATCCATGGGATTTACCAGGTAAAGAAATAGAAATTTTTTTTTTGGGTTTCTTGTAATTCTATTCAATTCATTTCATTT TCTTTTGATGGTTTTGGCAGGTGATTGTGATTCAGAAAAGTACTTTTTTAGCACGAGGGAAGCCAAATACCCAAACGGAAACCGGTCGAACCGGTCA ACGGGTTCGGGTTACTGGAAAGCGACTGGAATCGACAAGCAAATCGGAGGGAAGAAGCTTGTGGGGATGAAGAAAACTCTGGTTTTCTACAAAGG GAAACCACCGAACGGGACAAGAACCAATTGGGTTCTTCATGAATATCGCCTTGTTGATTCATATGTAAGATTCACAAATTTGATCACTTCTATATATAA ATCGATTCGATAAGAAACTGGGCTCAAAGTTGTCTCTTTTTTTGTTATGTTTTGGGCAAAAAAAAAGGGAGAGAGCAAGAATTGGGTACTGTGCAGA GTGTTCTTGAAGAAGAGGAGCAATAATAGTAACAAGAGGAAAGAAGATGAGAGAGAGAGAGAGAAAGTGAAGACAAGAAGAGTACTTGTCCGATATTC TATGACTTTATGAGAAAAGACAGGAAGAGAAGAAGTTGCTGCGATTTGAATTTGACTCCTACGTGTTGTTCTTGTTCTTCTTCTTCTTCTGCGTCT TCGTCAGTTTGCTCAAGCGCTTTAACTCAGACATCTTCTAATGACTCTGATAATCACGAAGTAATTAGTTGTCGGAAAAATAAGTTTTGTCTGTTTCTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002A10	AT3G04790.1	ribose 5-phosphate isomerase-related	GCTTCTCCAACCAGACACTTCTCTTCCATTCACCTCCTCTCCAATGGCTTCCTTATCCTTCGTTTCCTCTTCTCACCTTACTCTACGCACTCCCTCTCT TACCTTACGCACAGGCTCTTTCTCTTCTTCCCCTAGAACCTCTGTTTCATTCTCCGTCAGGGCTCAGTCCGTCGCACTTTCGCAGGACGACTTGAAG AAGCTCGCGGCGGAGAAAGCTGTAGAAGCGATTAAACCTGGGATGGTTCTAGGGCTCGGAACCGGTTCCACCGCAGCCTTCGCCGTCGATCAGAT CGGAAAACTCCTTTCCTCCGGCGAACTCTACGACATCGTTGGCATCCCGACGTCGAAGCGAACGGAGGAACAAGCGAGATCGTTGGGGATTCCGC TTGTCGCGCTAGATACGCATCCGAGAATTGATCTCGCTATCGACGGAGCAGACGAGGTGGATCCGAATCTGGATTTGGTCAAAGGTCGAGGAGGT GCTCTGCTCCGGGAGAAAATGGTGGAAGCTGTGGCGGAGAAATTTATCGTTGTGGCTGACGATACGAAACTCGTCAAGGGACTCGGCGGAAGCGG ATTGGCTATGCCGGTGGAGGTTGTTCAGTTTTGCTGGAACTTTAATCTCATTAGGTTGCAAGATCTGTTCAAGGAATTCGGGTGTGATGCGAAGCTG AGAGTCGACGGAGATGGGAAGCCTTATGTGACGGATAATAGCAATTACATCATCGATTTGTATTTTAAGAATCCGTTGAAGGATGGATTCGCGGCGG CGAAAGAGATCGGGAAGTTTCAGGGTGTGGTGGAGCACGGTCTGTTTCTGGGGATGGCTACGTCGGTGATTATCGCCGGGAAGAACGGCGTTGAA
GCT-002A11	AT1G48620.1	histone H1/H5 family protein	GAACCTTTTTTTATCTCCTCCTTCCGCAAAAATTTAATTTCGTTGAAATTAAAAGAGGAAAAGAAAAAGAAAACGAAAAAACAAAAAAAAGCCCTAAAT CAAAATCTCATCACCTTCCTCTGTTTTCTCTCTCTAAATCCATGGATCCTTCTCTCTCTGTACCCAATGATCCTCACCATCCTCCTCCGTTCACCGCTT TTCCTCCTTTCACCAACTCCAATCCCTTCGCCACCGCCCAACACCCCTTCTTCACCGCCGCTAACCCCTCCGCCGTCGCGCCGCCTAACAACAACC AGTTCTTTCAACCGCCGCCGCAACAAGTTCCTCATCCATCTTTTAACCACCCTCCTTACTCCGACATGATTTGCACTGCGATTGCGGCTTTGAACGA GCCAGACGGCTCAAGCAAGCAAGCAATTTCGAGGTACATCGAGAGAATTTACACTGGGATACCTCCAGCTCATGGCGCTCTGCTAACTCACCATCT CAAGACTCTGAAGAACAGTGGAATCCTCGTGATGGTGAAGAAATCCTACAAATTCGCAGCTACTCCTCCTCCGACTAGCGTAGCTGTTGCAGCTGC AGCTCAAGCTGCTGGTCTTGAGCCTCCCAGATCTGATTTCCCGAGTAACATCACAGTCAACGAGAACCAACCTTTACCTGATCCGGCTGCGACTTCT GCTCCTCAGACTCAGAAACGTGGTCGTGGTCGACCTCCGAAACCAAAACCCGATGTTCAATCCAGTGATGCTCAGACTAACGGAAAATCCACCTGG GAACCAAACGAATTTCCTGTTTCTCGACCAGAGGATGAGATTCAGCCACAGATTCAGCCTCAGATGCAGCCACAGATGCAGCCACAGATGCAGCCA CAGACGCAGCAGCCGATAAGGAGGCCACCGGGTCGTCCGAGGAAAGATGGAGCTTTGCCGACAGTGAAGCCGGCTTCTGTTTCCGGAGGCGTTG GAATCGTGAAGCGAAGAGGTCGGCCACCGAGTGGAAGAGCTGCTGGGAGAGAGAGGAAGCCAGCAGTGGTCTCAGCTCCGGCTTCGGTGTTCCC ATACGTTGCTAACGGTGGAGTCAGACGCCGAGGGAGACCGAAGAGAGTTGACGCAGGTGCTTCTTCTTCTCTTGCGCTACCTCCACCACCACCTAA CGCGGAGAGTGGAGGAGCTGAGGTTGGAGTCATGGTTGCGAAGAGAGGACGAGGACGGCCTCCGAAGATTGGAGGTGTGATCAGGAAGCCTATG AAGCCGAAGAGAGGCTATTTTCGTACTGGAAGACCTGTAGGAAGACCAAGAAAGAATGCTGCGTCAAAGGGTGCTCCTGGACAACAAGATATTGGC TATGGTGAACTCAAGAAGAAGTTTGAATTGTTTCAAGCGAAAGCGAAGGATATTGTTAACGTGTTGAAAGCCGAGATAGGAGGAAGTGAAAACCAAG CAGTGGTTCAAGCCATACAAGAGCTGGAAGAGCTAATTGTAACAACAACAGAGACGCCGCCAACAGGGGAACCACAACACATGGAAGAAACGCAG CCACTTGAACAACACCCTGAACCTGAACCTGAGGGACAGGGACAAGAACAAGGTCAAGTTCAAGGACAAGGACAAGCACAGACAGAAGCAGAGGC TATGCAGGAAGCTCTGTTCTAAAGAGAGCAGTCTTGACATAGTTTGTAAAAGCTAGCAAGTGGTGATGATGATGGTGGGTTTGCTTGTTGTGTGTTC TATGAATTTTTTAATCTTATAAGGGTGTTTGCAGGAGAGAAAACAAAAAAAAAAACCAAAATGATGATGATTGTGTCTCTAACCAAACAACAAGGAGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002A12	AT3G61150.1	HDG1 (HOMEODOMAIN GLABROUS1); DNA binding / transcription factor	GGAAACCGCTTTTCGTCTTCTTCTTCGAACTCTTCTTGAACATGCACAGAAGCAACCAACTTTCATCCATCTTACGAGAAAAACAATAATTTAGTGTAG TGATTTGTGGATATTAATATATAAAATTAGTACATTTATCCGTTTTCCGGGATTCATCAATGAATTTCGGCGGTTTTCTTCATCACGACGACGATAAAT CCTCCGGCGGCGAAACCGTCGGTGGTGGAAACCATTTCTCTTCCGCGGCGGATGGCCTCGTTAAATCCGTCTTCTCTTCTCCTCGTCTCTCTCTTG GTCTCCAAACGAATGGAGAAAACAACGGTGGAGGAGGAGAAGTGGGTAGAATCGGTGAGAGTTTGGAGGTGAGTGTAAGTCGCACAAGTCCAGAG AGCAGATCTGGAAGCGATAACGCCGAAGCACTCTCCGGCGACGATGACGTAGACGCTTCTGATCATAGACCTTTTAAGAAGAAGAAACGTTACCAC CGACATACTCCTCAGCAAATACACGAACTCGAATCGGTTTTCAAGGAGTGTCCTCATCCCGATGAAAAGCAACGGCTCGACCTTAGCCATCGGCTTA ACTTGGATTCTCGTCAAGTCAAGTTCTGGTTCCAAAACCGCCGTACACAAATGAAGACGCAAATTGAACGCCATGAAAACGCTTTATTAAGACAAGA GAACGATAAGCTCCGAGCGGAGAACATGTCTGTACGGGAAGCCATGAGGAATCCAATGTGCGGTCACTGCGGTGGCTCCGCCGTTCTCGCCGAGA TCTCTCTCGAAGAGCATCACTTAAGGATTGAGAACTCACGCCTCAAAGACGAACTCGACCGTATCTGTGCCTTAGCCGGGAAATTCATTAACCGGTC CGACGACCAATTACCAAATTCCGCTCTCAGACTCGTCGTCGGTTCAAAAAACGGTTACGGTGGTGGTGACGGATTCACTCTCGTCCCTCCTCCTGG ATTTGAGATGTCTTCTTCATCTCCTTTCTTCTCCGGTTTAGCAGCTCCGGTTAACCGTAGCGGTACGGATGTAGCAACTAGACTCCAGCAGAAGTCA TTGTATATGGAATTAGCCCTTTCCGCCATGGAAGAGCTTGTGGAAATGGCGCAAACAAGCGAGCCACTTTGGATCCCGAGCTCGAAAGGCAAACGC GAATCGCTTAACCGAGAGGAATACGACAAAAAATTCAGCTCTTGTAGTGTTGGTCCTAAACCGGACGGTTTTGTCTCAGAAGCTTCTAAAGAAGTTG GAATGGTTATCATCAATAGCTTAGCCCTCGTCGAGACCTTAATGGACTCGGAACGATGGGCGGAGATGTTTCCATGTATGATCGCAAGAAATTCGAC TACCGAAATTATCTCTAATGGTATGGGAGGGACAAGAAACGGTGCTCTTCATCTGATGCAAGCAGAGCTTCAGTTGCTATCACCTCTTGTGCCGGTT CGTCAAGTAAACTTTTTAAGGTTCTGTAAACAACACGCAGAAGGTGTTTGGGCGGTCGTTGATGTCTCTGACGATAAGATAAGCGATCGAGGCGGTT CAGCCTCAGGTCGGTCTTCTCTGAGCTGTAGAAGGCTACCCTCTGGTTGCCTTGTGCAAGACATGCCCAATGGCTACTCCAAGATAACATGGATAG ACCACAGCGAGTACGACGAGACCAAAATCCACCACTTGTATCGTCCACTAGTCAGCTCCGGCCTTGCTTTCGGCTCCAAACGGTGGATATCAACAC TGCAACGACAATGCGAAAGCCTCACAATCCTCATGTCCTCAACAATCCCCAACCGCAACATTAAACCCACACCCATAAGCTCTACAGGGAAGAAGAG TATGCTAAAGCTAGCCCAAAGAATGACTGAGAATTTCTGTAGAGGCGTGTGTGCTTCTTCTTCTCAAAAATGGAGCAGGCTTGAGGTCGGTAACATC GATGAAGACGTTAGGATCATGACAAGGAAGAATGAGGATGATTCCGGTGAACCGCCGGGGATTCTTTTAAGCGCCGCCACCTCCGTGTGGGTCCC GGTTTCACCAAGACGGCTCTTCGATTTCCTCAGAGATGAGCTTTTGAGATCGGACTGGGATATTTTATCCAACGGTGGACCAATGCAGGAGATTGCC
GCT-002A13	AT5G22000.1	CIC7E11; protein binding / zinc ion binding	GAGAGACCACGCGCAGAGAAAAGAAAAGAAAAGAAAGGGTCTTTGTCTTTGTCTTCTTCTTCATCATCTCCCTCTCCTTTTTCTCTCCATTATCTTCG GGGGAATCATGAATCTAGGGTTTTGTTTTCTCTCTTAACCCTAGGTTTCTTCTATCGACTTGATCAGCCTTACTATCTCTTTCATCTCCGTTAGCTCAT CATCGCGATTTATATGGAGGGAGCAGGAGATACAACGACGCCTGAGGGGCATCTGACTTCGGCAGCAGCTTTTGTTGAAGGGGGAATCCAAGATG CTTGTGATGACGCCTGTAGCATTTGTCTTGAAGCCTTCTGCGAAAGCGATCCATCTACTTTGACTAGCTGCAAGCATGAGTATCATCTCCAATGCATT CTTGAGTGGTGTCAAAGGAGTTCACAGTGCCCAATGTGTTGGCAATCAATTAGTCTCAAAGACCCCACAAGTCAGGAGTTGCTTGAGGCTGTTGAAC AGGAGAGGAATTTCCGCTTCAATCCATCTAGAAATGCCACCATATTTCGTCACCCAACTCTCGGTGATTTTGAACTACAACATCTCCCAGTGGGTGT GGATAATGCGGAGATTGAAGAACGAATCATTCAGCACTTGGCTGCTGCTGCTGCTATGGGACGAGCAAGACATGGGGCAAGAAGAGAAGGCCACA GAAGCAGGTCATCAAGTCAAGGTCATCCACAGTTCATGGTGTTCTCTTCGCATCCTAATGCTTCGCCTCCTCCACCTCATCCTCCCATGCCTTCCTC TCCATCTCAGAGAGATGACAGTGACACAGTCACAAGCCTTCCTCACTCTCCTAACAATACTTTAGGGGAGGGTTCTGTTCAGTCAAACATGCAGCAA CCAACTTCTTCACATCGCCGCCAGGTTTCTCCATCGGCATCTGATTCAAACAGCAGGTCTCTTAATCAATCGTCCCCCAGTGATCAAGATAGAGCTG GACCATCCGAACTCCAATCATTTTCAGATTCTCTGAAGTCTCGATTAAACGCTGTCTCAACGAGATACAAAGAATCGATATCAAAGAACACAAGGAAC TGGAAAGATAGGTTTTTTTCTCGCAACACGTCCATGGCAGATCTTGGCTCTGAGGTTAAAAGAGAGGTCAGTGCCGGAATCGCCACTGTGTCCCGC ATGATGGACCGTCTAGAAATGAAAGAAAACAGTAGACCCGACACTGCATCTGTATCAAATGGCTCAGAAAATCACACTCCTGAATCAAACAATGAGC ATACTAGATCAGAAGCGGGTGATGGACATTCTTTGAATGAAAGAGATGTTAAAGGAACATGTGCGGCTGGTTCTGGTTCAGGCTAATAAAACAAGTG CCAGCATCTTGTTGGCAAGGAGACGGGGAGATGTTGTTTATTGTGAAATCCTGATATATATATAATATATACAGAGTCAGAAGTTTCAAACGTGTGGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002A14	AT4G39800.1	MI-1-P SYNTHASE (Myo-inositol-1-phosphate synthase); inositol-3-phosphate synthase	GACACAAAACCGATTAAAACAGAGAAACAGAAGTTAATCATCATCATTTCCTCAGATTTTATTATCTGCTTAAGATTTTCTAAAATGTTCATCGAGAGC TTTAAAGTAGAGAGTCCGAACGTCAAGTACACAGAGAATGAGATTCAGTCCGTGTACGATTACGAGACGACGGAGGTTGTTCACGAGAACGTTAAC GGTACTTTCCAATGGATTGTGAAGCCAAAGACTGTCAAATACGATTTCAAAACCGATACTCGTGTCCCCAAATTAGGGGTTATGCTTGTGGGTTGGG GAGGAAACAACGGATCAACACTCACCGCCGGTGTAATTGCGAATAAAGAAGGAATCTCGTGGGCAACGAAGGACAAAGTGCAACAAGCGAATTACT TCGGATCACTAACTCAAGCATCATCTATTCGGGTCGGATCCTACAACGGTGAAGAGATCTATGCTCCTTTCAAGAGCCTCCTTCCAATGGTGAATCC TGATGATGTTGTGTTTGGAGGATGGGACATAAGTGATATGAACTTAGCAGACGCCATGGGAAGAGCCAAGGTCCTTGACATTGATTTGCAGAAACA GCTCAGGCCTTACATGGAGAACATTGTGCCACTCCCTGGGATCTACGATCCTGATTTCATCGCTGCAAATCAAGGTTCACGTGCTAACAACGTCATC AAAGGTACCAAGAAGGAACAAGTCGACCGCATCATCAAGGACATGAGGGAGTTTAAGGAGAAGAATAAGGTGGATAAGGTTGTGGTTCTATGGACG GCTAACACAGAGCGTTACAGCAATGTGATCGTCGGGCTAAACGACACAATGGAGAATCTTATGAACTCTGTGGATAGAGACGAGTCTGAGATCTCT CCTTCGACGCTTTATGCTATTGCTTGTGTTCTTGAAGGCATCCCCTTCATCAATGGAAGTCCTCAGAACACCTTTGTTCCAGGTCTTATTGATTTGGC TATCAAGAACAATGTTTTGATTGGTGGAGATGATTTCAAGAGTGGTCAAACCAAGATGAAATCTGTCTTGGTTGATTTCCTTGTTGGTGCAGGAATCA AGCCTTCAATAGTGAGCTACAATCACTTGGGGAACAACGATGGAATGAACCTCTCGGTTCCACAAACATTCCGATCTAAGGAGATCTCGAAAAGTAA TGTCGTGGACGATATGGTTGCTAGCAACGGTATCCTCTTTGAGCCCGGTGAACACCCAGACCATGTAGTTGTCATCAAGTATGTACCATATGTGGCG GATAGCAAGCGAGCAATGGATGAGTATACATCAGAGATATTCATGGGAGGGAAGAACACAATTGTGATGCACAATACCTGCGAGGACTCTCTCTTA GCTGCTCCAATTATTTTGGATCTTGTTCTCCTCGCGGAACTCAGCACCAGGATTCAGTTCAAATCCGAAGGAGAGGGGAAGTTTCATTCTTTCCATC CTGTGGCCACCATACTCAGCTACCTCACCAAGGCACCGCTCGTGCCGCCAGGAACACCGGTGGTTAATGCGTTGTCGAAGCAGCGGGCGATGCTT GAAAACATTATGAGGGCGTGCGTTGGGCTGGCGCCGGAAAACAACATGATCTTGGAATACAAGTGAAACAAGAAGCATTTAAGAACCTTTCATTTGC
GCT-002A15	AT1G10370.1	ATGSTU17/ERD9/GST30/GST30B (EARLY-RESPONSIVE TO DEHYDRATION 9, GLUTATHIONE S-TRANSFERASE 30, GLUTATHIONE S-TRANSFERASE 30B); glutathione transferase	GGTCATACCATTTAAGTCCTCATCTAGTATTTTGGATCTTGAGAAGAAAATGGCGAGTGATGAAGTGAAGCTGATCGGTGCATGGGCGAGTCCCTTT GCGATGAGGCCAAGGATTGCTCTAAACCTCAAATCTGTTCCCTACGAGTTCCTCCAGGAAACGTTTGGTTCCAAGAGCGAGTTGCTTCTTAAATCAA ATCCGGTTCACAAGAAGATTCCGGTTCTGCTACACGCTGACAAACCGGTCTGTGAGTCCAATATCATCGTCGAGTATATCGATGAGACTTGGAGCTC ATCTGGACCATCCATTCTCCCTTCTCATCCGTATGACAGAGCCATCGCTCGGTTCTGGGCTGCTTACATCGACGAAAAGTGGTTTGATTCTCTAAGA AGTATCCTAAAAGCTGAAGGAGAAGAGGAGAAGAAAGCGGTGCTAGCTCGAGTGGAAGAAGGGAACGCGATTCTCGAGAAGGCCTTTAAAGATTG CAGCAAAGGAAAATCTTTCTTCAACGGTGACCAAATCGGTTACCTCGACATTGCATTCGGATGCTTCTTGGGTTGGTTGAGAGTCACCGAGTTGGCA GCTGGTCATAAACTTGTTGATGACGTCAAGACTCCTTCTCTGTCCAAATGGGCTGAGCGGTTCTGTAATGATCCCGCTGTGAAACCTGTCATGCCCG ACACTGCAAAGCTCGCTGAATTCGCTCAGAAGATCTTTGCCAAGCCTCCACAGGCTTAATTTCATTTGGTTGTGGATTATTTGTAGGCTGAGCCTGA GTTCTCGCGAGAATAAACTAATTAAGAGTGCTACTTTATTTATAGTTGTTTTTATTTTATTTTTTTGGTGTGTGTTTTGGGTATTTTGAACGTTAATTTTG
GCT-002A16	AT3G10520.1	AHB2 (NON-SYMBIOTIC HAEMOGLOBIN 2)	GCAAATTTAGAGAGAGAGAAAAAAAAGAGAGAGAGAAAGATGGGAGATATTGGGTTTACAGAGAAGCAAGAAACTCTGGTGAAGGAGTCCTGGGAG ATACTGAAGCAAGACATCCCCAAATACAGCCTTCACTTCTTCTCACAGATACTGGAGATAGCACCAGCAGCAAAGGACATGTTCTCTTTCCTGAGAG ACTCAGATGAAGTCCCTCGCAACAATCCTAAACTCAAAGCTCATGCTGTTAAAGTCTTCAAGATGACATGTGAAACAGCAATACAGCTGAGGGAGAA AGGAAAGGTGGTTGTGGCTGACACAACCCTCCAATACTTGGGCTCTGTTCATCTCAAAAGCGGCGTTCTTGATCCTCACTTCGAGGTGGTGAAAGA GGCTTTGGTAAGGACACTGAAAGAAGGGTTGGGAGAGAAATACAATGAAGAAGTGGAAGGAGCTTGGTCTCAAGCTTATGATCACTTGGCTTTAGC CATTAAGACCGAGATGAAACATGAAGAATCATAAAACCCCTAGAGATCATCGGAATATAATTATATATTCATGAATGATGAATCTGTGTGTGTATGTAC TAAATGTTTGCTACTACTCATTGGTTTTGAAGAAGGATTTTGAGCTCTCTAACGGGAGATATATGATACGGTTGTTTTTCTTGCAAAGGTTATCTCTGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002A17	AT3G54920.1	PMR6 (POWDERY MILDEW RESISTANT 6); lyase/ pectate lyase	ATGTGGAACTTTGAAAGCAGGTGACGAAGCGAGTGGATTCGAAGGACGATGGTGAGTGGGCGAATTGGAATTGGAGAACGGAAGGAGATCTGATG GAGAACGGAGCTTTCTTTGTGGCGTCTGGTCAAGAAATGAGCTCAATGTACTCTAAAGCTTCGAGTTTGGAGCCTAAAGCTGCTGCTCAAGTTGACC AGCTCACTCGAAACGCTGGCGTTTTTGGCGGTCCCAGGTACTCTTTTTTTTACTCAGTATGAGCCAACATTTTTAAAAAGTGATGCATGATCGATTAG CTGTGAAAGCGCGTGATTAGGGCATGATTTGCTAACGACGTCAAGAACTAAACAATCTTATTTTTTAGTACCTTTTTTTTAGAATCTTGTTTATCTATT GAGTTTGTGCACATTAATAATCATGGTTGTAGATATTGTCTAGGTCGAGTTAATTTGTGATCTTTTGGAAAGGCCTTTCTATTTAATCAACCTTTACTAA AATAGTAGGATAAAAACTTGTCCTTTCTTTTTTTTTCTTGAGCTTTTTCTATAAATTACTTACATTTGATGTTCCATTATTCTTCAAACAGAGACGCGTCC GTATATAATTACGGGTATAAACAAAAAAATACTTGAAAATTAATAATGTATAAAAATGAGCTCATTGAGAATATCAGACGTTAGAATTTGGAAGTATTC CAGAATTCAAGTAGAGGCACGTGATCGTCTTCCTGGGGAACCGACCAACTTGACTAGTGTCTGAAATAAACCCCCACTTGCCCATTTCTTTTTTGCA TTTTTTTATTATTTACACTTTATAATCTACTTGCTCTGTCAAGTTTTCTCTGTCCATTTGGGAATATGGACGGTCGAAATGTCTGTCATGATTTTAGTTA AGATATATGTATGATTGATCTACATTTTTGATACATCAGTTGTTAATTACTTGTCCCCTAGTCAATTTTACGAAAGAAAAAAAGTTAATGTATTTTGGGA GTTATATGATAGAAAATGCTGTTTAAAGAGAAGGGACCCCCTACGTAGAAAAAGATGATTCCTTTTTTGCTATGGACCCTATTTTAAATCGCATTAATG ACCCTTTTGACTTTTTCTTTTCTATCTTTGATGCTTGGATTTAGCATATATGTATGGTCGATTTTATTAGGCATACTTTCTTCTAATGAAACGTTTATTTT TGACAGGGATGATGAAGGTCAGAGTGGCGATACTTATACTGGGTATGGAGGAGGAGGCGGCGAGGGTGGCGGCGGCGGCGTTATCAGCGGTGGA
GCT-002A18	AT3G22370.1	AOX1A (alternative oxidase 1A); alternative oxidase	GATTCTGTTCATCTTTGCTTCTGCATCATGATGATGAGTCGCGGTGGAGCCAAGGTGGCCTCGTCGCTAATGAAAGCCGCTGGACCACGGTTGTTC TCGACCGGCACTGCGATCCGTCCGGTTTCGTCTCTCGAAGCTTTATCGGCGAGCCGTCTTTTGAAACCTCCGGTTGATTCCGGCGTGAGCGGGAG TGCTTGGATCTGGAGCAGAGCTCCGGGTTTCGGAGGCGTGCGATTCGCTAGCACGGTTACTCTCGGAGAAAAACAGGAGACGGAGGCGAATCCGA AAAAGACGGAGAACGAATCCGTCGGCGGAGACGCTGGAGGTAACAAGGGAGAGAAAGGAATCGATAGCTATTGGGGTGTTGAACCGAATAAGATT ACTAAAGAAGACGGCACTGAATGGAAGTGGAACTGTTTCAGGCCATGGGAGACGTATAAAGCTGATCTGACGATAGATCTGTCAAAGCATCATGTA CCAACGACGTTTCTTGACAGATTAGCTTATTGGACTGTCAAATCTCTCCGATGGCCTACCGATATCTTCTTCCAGAGGCGATATGGATGCAGAGCTA TGATGCTGGAAACTGTAGCAGCAGTGCCCGGAATGGTCGGAGGAATGTTGCTTCACTGCAAATCTCTCCGGAGGTTTGAGCAAAGCGGAGGATGG ATCAAAGCTCTTCTCGAGGAAGCAGAGAACGAGAGGATGCATCTCATGACATTCATGGAGGTAGCGAAACCCAAATGGTACGAGAGAGCTCTCGTG ATCACTGTTCAAGGCGTTTTCTTCAACGCTTATTTCCTCGGATACCTAATCTCCCCGAAATTCGCTCACCGTATGGTTGGTTACCTTGAAGAAGAAGC AATCCATTCGTACACTGAGTTCCTCAAGGAACTCGACAAAGGTAACATCGAGAACGTTCCTGCTCCCGCCATTGCCATTGATTACTGGAGGCTCCCT GCCGATGCAACACTTCGTGATGTCGTCATGGTTGTTCGTGCCGACGAGGCTCATCACCGTGACGTTAACCATTTTGCATCCGATATTCATTATCAAG GTCGTGAACTAAAGGAAGCTCCAGCTCCAATTGGGTATCATTGATTTCGATTGTATCTCGTTGAATAAGAAGAGAGCTTATTTGCTGAAGTTTTAAAC TCTTTTCTAAAGAAATTTGAGAAAAAAAAAAATGAAGTCTATGTCTCTTCTTCTTCGCTTGTATATATAGATCATATCTCTACTCGAGCCATACTTTGAAA
GCT-002A19	AT1G02360.1	chitinase, putative	GACACAAAAAAAAAAAAAAAAAGAAAAAACATCTTTAAGAAATGGCTCAACACTCTTCTCTTCTATTATGCTTACTCCTCTCGATCTTCATAATACTATCT TCGGGCCTAACCGAAGCCACCACAATCACGCGTATAGTGTCGAAATCGCTCTACGAGTCAATGTTCATCCACAAAGACAATACCGCCTGTCCCGCA AATGGTTTCTACACCTACGAATCATTCGTGGAGGCGACAAGGCGGTTTCCTAGATTCGGGAGCGTCGGATCCATGGAGACGAGGCGGCGCGAGGT GGCTGCGTTTTTGGCTCAGATTTCACACGAGACGACCGGAGGGTGGGCAACGGCGCCGGACGGACCGTACGCGTGGGGATTGTGTTTTAAAGAA GAAGTGAGTCCACAAAGTAATTATTGCGATTCTTCTAACACGGAGTGGCCTTGTTTCTCTAACAAGACTTACCAAGGAAGAGGTCCCATTCAACTCTC TTGGAACTATAACTACGGACCGGCTGGTCGAGCCCTAGGATTCGACGGTTTAAGGAATCCGGAAACGGTGGCAAATAATTCGGTGATAGCTTTCCA AACAGCACTTTGGTTTTGGATGACGGAGCAGAGTCCTAAACCGTCGTGCCATGACGTTATGATCGGTAAATACAGGCCTACGGAGGCGGATTTGGT GGCTAACCGGATCGGCGGGTTTGGTTTAACCACAAACATTATAAACGGCGGTTTAGAGTGTGGGATTGCTGGAGACGGGCGGGTTAATGACCGGA
GCT-002A20	AT2G35760.1	integral membrane family protein	GAGTGTATCTACAGTGCCTCTTCTCACTAAATCTCCATCTTTCTCTATATAAGTAATCAAGATTAGTGATAAAGATGAGTTATTTAGGAGTCGGACTCA GTCCCGTAAACGTCGCCGGAACCAAAATGAAGCTGATGGATCGAAAAGTGAGACTCACGGAGCTGATCCTGAGGTGTTCCGTTTGTGCCCTTGCTC TCGTCGCTGCGATTCTCATTGCTACAGACACCCAAGTTAAGGAGATTTTCACCATCCAGAAGAAGGCCAAATACACCGACATGAAGGCCCTTGTGTT TTTGGTGGTGGTCAATGGTATAGCCGCGGCTTATTCTTTGTTGCACATGGTTCGTTGCGTGGTGGGTATGATGAAAGGAAGCGTTTTGTTCAGTAAG CCTCTGGCTTGGGCCATTTTCTCTGGAGATCAGGCTATAGCATACTTGACCGTAGCGGGAGTTGCAGCAGCGGCGCAGTCTGCGGCATTTGCGAA GCTGGGTGAGCCAGAGCTCCAATGGATGAAGATATGCACAATCTATGGGAAGTTCTGTAACCAAGTTGGTGAAGGAATTGCGACCGCCTTGCTTGC TAGCATCGGAATGGTTTTGATCTCTTCCATTTCTGCTTTTGCTCTCTTTCGTTTGTATGGCGGTAACAAAGCTCAGCAAGGCTCACGGTGGTGAAGAT CAAGGCCAATACTGGTCTTGGACTAATCTTGTTAGTGGAACTTGTGTTAAATATTGTGGTCTTGTGTACCCTTTCTCAATGTGTATACCGTCCATTACT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002A21	AT3G08730.1	ATPK1 (P70 RIBOSOMAL S6 KINASE); kinase/ protein binding	GGTCTCCTTCCCCAGGCATCCTCTCTGAGCTTAGAAAACCTTCATGGCATTTGCGCACTTCTGCAGCATCGAATGTTTCCTTAAAATCGGGAAACAG CAAGAGCTTCTTCTCCTTGTTATCGGATTGCCTATTGCCAGCAGTCGTTTTAGTCAGTTTTCTCCTCATTAAAACTCTGTCGATACAGAATCCCTCACC AGTCTGGTAAAGCTTTCCCTGCGATTCTGTATCGATTTTCTGTTTTTTTGATTGGTGTAAATTATGGTTTCCTCTCACCGTCCTGTCCCCAACAAAAAC CACAAACAGCAATATTTATCCCTCAGCCCTTCAGATTCTGTCTTGAAAGATAATGTTGAACTAGATTTCTCTGATGTGTTTGGCCCACTCCCTGAAGA GGCCAATGATGTTGTTTATGACGAGCCTGCTGTTGTCTACAGCCGATCCCACTCATTGGTCGGCCCATCTTCGTTTGGCAGTCATTCTTTCAAGCTG AACAGGCTCACCTTACGAGAGACTGAGCACTCCATTGAATTGGTCGAATCTCTGGAATGTTTTGAAGGTGAATCGTTAGAGAAAAGCGATGACTTTT CTGGTAATGACGACACTGACAGTGAGAAAGCTACAGAGGGAGATCTGGTAAAGGTCTCAGGTGTGGTAGGCATTGAGGATTTTGAGGTTCTAAAGG TTGTGGGGAAAGGGGCGTTCGGGAAAGTATACCAGGTGAGGAAAAAGGAGACATCTGAGATATACGCCATGAAGGTCATGAGAAAAGACAAGATAA TGGAGAAGAACCATGCGGAATACATGAAAGCTGAGCGAGATATTCTTACCAAAATTGATCATCCTTTCATTGTTCAACTTAAATACTCTTTTCAGACTA AGTATAGGCTGTATCTTGTGCTCGACTTTATAAACGGAGGGCATCTATTCTTCCAGCTCTATCACCAAGGGCTTTTCAGAGAGGACTTGGCTCGTGT GTACACTGCGGAAATCATCTCTGCAGTTTCACATCTCCATGAGAAAGGCATAATGCATAGGGATCTCAAACCTGAAAACATTCTCATGGACGTAGAT GGCCATGTGATGCTAACTGATTTTGGTTTAGCAAAGGAATTTGAAGAAAACACAAGATCAAACTCCATGTGCGGAACAACGGAGTATATGGCACCTG AAATCGTTCGTGGAAAAGGGCATGATAAGGCTGCTGACTGGTGGAGCGTTGGGATTCTTCTCTATGAGATGCTCACGGGAAGCCACCTTTTATGGG GAGCAGAGGAAAGATAGAGCAGAAAATTGTGAAGGACAAGATCAAGCTTCCGCAGTTTCTGTCTAGTGGAGCTCATGCGTTGCTGAAAGGGCTGCT GCAAAAAGAGCCAGAAAGGCGACTTGGAAGTGGACCGAGCGGAGCAGAGGAGATAAAAGAGCACAAATGGTTCAAAGGAATGAACTGGAAGAAGC TGGAGGCTAGAGAAGTGAAGCCAAGTTTCAAGCCGGAGATATCGGGAAGGCAATGCATAGCAAATTTTGACAAGTGTTGGACTGAAATGTCTGTGT TGGATTCTCCCGCAAGCAGTCCAAGCTCGGATCCTAAGGCCAACCCTTTCACCAACTTCACATACGTCAGGCCTCCTCCTTCATTCCTTCAACAATC
GCT-002A22	AT1G09480.1	cinnamyl-alcohol dehydrogenase family / CAD family	GGATGAACAAACTCTCACTTCATTCTAAAACAAAGAAAAGAGAGATGAACGGCCAAGGAAAGGTAGTCTGCGTCACCGGAGCTTCCGGCTACATAG CGTCTTGGATTGTGAAGCTTTTGCTCCTCCGTGGCTACACCGTCAAGGGCACTGTTCGAGACCCAACGGACCCAAAGCAAACAGAACATCTTCTTG CACTTGACGGTGCAAAAGAAAGTCTCAAATTGTTCCAAGCAGATCTTTTGGAAGAATGTTCCTTCGATCAAGCTATCGAAGGTTGTGACGCTGTCTTC CATACCGCATCTCCGGTTAAATTCACCGTCACGGATCCTCAGACTGAGTTGATAGATCCAGCCCTAAAGGGTACTATCAACGTCCTTAATGCATGCA AAAACGCTGACTCTGTCAAAAGGGTCATTGTAACATCTTCCACTGCTGCGGTTCTTGTTCGAGAACCCCCTTTGGGGCCAAACGACGTCGTAGACG AGACCTTCTTTTCTGATCCAACTACTTGCATGGAGACAAAGTTCTGGTATCCACTCTCAAAGACTTTGGCTGAGAATGCAGCATGGAAATTTGCCAAA GGCAACGGAATCGACATGGTTGCGGTGAATCCAGGATTTACAATCGGACCACTATTGCAACCAATTCTTAATTTTTCGGTGGAGATTATTGTGGATAT CTTAAATGGTAAGAACCCTTTCAATAGTAGATACTACAGGTTCGTGGACGTGAGAGATGTTGCTTTGGCTCATATTAAAGCGTTGGAGACTCCTTCG GCGAATGGCAGATACATCATCGATGGTCCAAGTATGACGATTGACGACATTAAAGAGATTTTGCGTGAGTTATTTCCAGATTTGTGTCTTGCTGATAT GAATGGAGATAGCGAGATGAATGAAATGAATTACAAAGTGTGTGTGGAGAAAGTGAAGAATTTGGGAGTTGAGTTCACTCCACTTAAATCAAGCCTT AGAGACACTGTTATTAGCCTCCAGGAAAAATGTCTTATATGATCATAATAATGTATTTTGAGGTTTTCTTTTGTCTGTCGTCTAATGTATTGAGACTCTT
GCT-002A23	AT3G01470.1	ATHB-1 (Homeobox-leucine zipper protein HAT5); transcription factor	GAGCTGATACGTTGACAGAGCAAAGGCAAGGCCAAACTTAAGGACTTTTTCTCTAACTAAGTAACAAGTAATCGGGAAAGCAATCCAAGATTATGAT CTGAATCTCTCTGGTTTTTACCAAAAACTAAACTTTTTGGTCGAAAAATCGGAAAGGGTTTCCTTGGAATATTGTTCAGTGATCCCTCTGGTTCCGGA GGGGTATTGCAGTTCATGATGGGATTTTGCATCTGCCCGTTGGAGTCTCCGGCGAGATTACTATGGAGTACAAGCTTCTTCCGTCATAAGATTATGA TCTTTTAATCCTCTTTTTGTTTTTTTTAACTTCCTCTCGTTCTTCTTACTTTCAACCCGATCCTCTCTCTCTCTCTCTCTCGCTCTGTTTCATCTTTCT TTTCTTTGCTTTCGAAATCTGTGATTTGAAGAAGTTTGTTTTTTGTTTTTCCCTGGGATAATCATCGATGGAATCCAATTCGTTTTTCTTCGATCCATCT CCCTCCCATGGCAACATGTTCTTCCTTGGGAATCTCAATCCCGTCGTCCAAGGAGCAAAATCGGTGTTGAACATGGATGAAACATCAAAGCGAAGG CCTTTCTTTAGCTCGCCGGAGGATCTCTATGAGGAGGAGTATTACGACGACCAGATGCCCGAGAAAAAGCGTCGCCTCACTACCGAACAGGTGCAT CTGCTGGAGAAAAGCTTCGAGAAGGAGAACAAGCTAGAGCCAGAGCGCAAGACTCAGCTTGCCAAGAAGCTTGGTCTACAGCCAAGGCAAGTGGC CGTCTGGTTTCAAAACCGCCGAGCTCGTTGGAAAACCAAACAGCTCGAGAGAGACTTCGATCTTCTCAAGTCCACTTACGACCAACTCCTCTCTAAC TACGACTCCATCGTCAAGGAGAACGATCTGCTCAGATCCCAGATGGCTTCCCTCGCCGAGAAGCTCCAAGCCAAAGAAGAGGCAGCCATTGAGCC ACCGGGTCAAGTACCCGAACCAAACCAACTCGATCCGCTAAACATTAACCGGTTCGAACCAGCAATCAAAACAGAGGACCGGTTAAGTTCAGGGAG TGTTGGGAGTGCTGTACTAGACGAGGACGCACCTCAGCTACTAGACAGCTGTGACTCTTACTTCCCAATCATCGTACCCATCCACTCGGAAGATGAT AACAACTACAACAATCCCGGTACTGCTAATGACCGGAGCTGTTTCGCCGACGTCTTTGTGCCCACCACTTCGCCGTCGCATGACCACGGCGAATCA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002A24	AT5G22400.1	rac GTPase activating protein, putative	GGAGCTCTGTGGCTTTCGTCTTCAACCCTCAAACCCAAAACCCAGAAGCAGAGGAAGAGAAAGAGAAGGCTTCGTTCACCGCCATGACTGAAGTCC TTCACTTTCCTTCATCTCCGAGCGCTTCTTCTCCCTCTTCTTCTTCACCATCTCCATCTACCTCCCATTCCAATGCGACTCTCCTGATTAGCCCTGACC ATCGGAGAAGTAACCCAGTTCCTGGATTCGCGCAAGATGTTGACTTTCAAGTCTCAATCGAACAACAACAACAACAACTGCAAGATTTGAGTCGGAG CACAGGTAGAGAGGAAGACGGCGGAAGCAGCGGCGGGGAAGATCAGCTCTCGCTGTTGGCTCTTCTTGTCGCCATTTTCAGGAAATCTCTGGTTT CTTGCAAGACCAATCGGAGGGAGCTCTGTAGCATGGAGATCGGATGGCCCACCAATGTCCGCCACGTGGCGCACGTCACCTTCGATCGCTTCAAT GGCTTCTTGGGTTTGCCCGTTGAGTTCGAGCCTGAGGTTCCCAGAAGGGCTCCAAGCGCCAGTGCAACAGTCTTTGGGGTATCAACCGAATCAATG CAATTATCATATGATTCAAGAGGCAACTGTGTACCAACCATACTCTTGTTGATGCAAAATTGTTTATACGGCCAAGGAGGCTTGCAGGCAGAGGGAA TTTTTAGACTCACTGCTGAGAATAGTGAGGAAGAGGCAGTTAGGGAACAGCTAAACCGAGGATTTATACCCGAGCGAATCGATGTTCACTGTTTGGC AGGGCTTATCAAGGCATGGTTTAGAGAACTCCCTACAAGCGTTCTTGATTCGTTGTCTCCTGAACAAGTCATGCAGTGCCAAACAGAGGAGGAATAT GTCGAGCTCGTTAGGCTTCTTCCACCTACAGAAGCGTCTCTGCTTGATTGGGCCATCAATCTAATGGCTGATGTTGTTCAGTACGAACATCTTAACA AGATGAATTCACGTAACATCGCTATGGTATTCGCGCCTAATATGACACAGATGGATGATCCATTGACGGCGCTGATGTATGCGGTTCAAGTGATGAA CTTCCTCAAGATGCTAATCGAAAAAACTCTAAGGGAAAGGCAAGACTCGGTAGTAGAGCAAGCTCATGTGTTCCCTTTAGAACCTTCTGATGAGAGC GGTCACCAAAGCCCTTCACAGTCTTTTGCTTTTAACACCAATGAGCAGAGTGAAGAGACGCAATCAGACTACATTGAAAATGCAGAGAATCAGAGTT TAAGCAGTGAGATATCAGACGAATCAACCTTTGAGAACAATGCTAGGACCGAGCGGTTAAGTGACTCGGGTCACATAGAAACAGATAGAAAAAGTA GGGTGCAGGTGGTGGCTATGGCTCCTCCGGCTCAGTGGCCTGTGGGTGGAACAAAAGGATTGACCAACTTGAGCCGTGTAGGTTCGAGGGTAGA GCGTACTGAAGCTTGGCGGTGAAGAAAAAGTAGCAGAGAAACCCCCCTTGAGGAGACTTGAGCTCTCTATTCATCAAAATCAGATTGTTGGTTGATT
GCT-002B01	AT1G08010.2	zinc finger (GATA type) family protein	TTGGGACAATTTTAGATTCTCTCTCTCCTCCATCTCTCTCCTCTCTCTCTATCACTCTCCCTCGCTCGCGCTTGGGAATGCTTTCTGTGTAGTCATCAT CTGTATCACAAGAGGGTGACAAATGAATAACGGTTCTTGGTTACCTGAAGAGGACTTCAAGGGTTTAGGGGATAACTTCTTTGATGATCTCATCAATC ATCTCGATTTTCCCCTAGAAGACATCGAAACCGGCAGTGGCGATGGAGATTGGGACGCCGAGTTTCAGAACCTCGTGCCTCCTTCATTGGATGTGC TCACGAGTTTGTCCTCTGAGTTCACTCATGGTAGCACTTGCAAGGGACAACGCGTGGGAGTCCAAAAGCCCGTGCCCGTTTTGAAGCAGTCGAGTT CTTCGGAAGTCGACAGCTCCCTTCCTGATGTCAAAGTCTCAAAGCTGTTTCAGTCTTCAAGCCCAGTCTCAGTTCTCGAGAGCGCCAATGGTTCTGT GTCGTTCCAAAACCCAAACCGAGCTCAGAGGCTGGCCCTTCCTGTGAAAGGCATCAGAAGCAAGCGCAAACGCCCCACAGAGCCGAGAATCAGGT CCCTCCTGACATTTGCATCAGGAATGTCTCAGCAGTTTGCTCCAGATGAGTCAGAATCTGAAACTTACCTCTTTTCTGAGAATTCCTCCAAGAAGAGA CGCAAGAAGAGCAAGAACCGTGCGGCCCACTCGGTCTCTTACAGTCCAGAGCCGTTTAACGCAGATGGGACAGTCCGGAAATGCACTCACTGCGA GACAACCAAGACTCCACAGTGGAGGGAAGGTCCCAGTGGGCCTAAAACACTTTGCAATGCTTGTGGCGTCAGGTTCAGATCAGGCCGTCTTGTTCC AGAATACCGTCCAGCCTCGAGCCCGACCTTCATCCCAACTGTGCATTCAAACTCTCACAGGAAGATCATTGAGATGAGAAGGAAAGATGGAGACCA GTTTAAAACCGGAAGAATTTATGCGGTTAGATCCCGAGCTTAGAAACTGTGTAACTTCTGTAGACCGAATGAGTTTGGTCTATTTGTGAGGATCCGTA GAATTGGTTAACTCTCTGTAAGACTTTATGTTCTTAAAACTAGGATTTAGTGTGTCTTTGGTTTATAATCTGATGCAGAGAGTTTAGGGGTTTAACTGG AAGATTTAGGGTCTAAGTATTTGTTTGATTATGTTGTTTGCGTGAGATGTGTTTTATGAGAGTAGTGTAATGGGATTTTTTGTTTTGTTTGTTGAGGTAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002B02	AT4G34880.1	amidase family protein	GAAAGTTTCGCCCTTTTTGAGTGAGATAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAATTGGCGGCCGGCGTTGACCCTTTCGG TTTCTTTCGTAAGCCATGGACATGATTGCTCTGCGATTCATCTTCTCATCATCTCTTCTTCTTCTTCCTCAAGCTCTTCTTATGCAATTTGGGACT CAATCTCAAATCATTCACACTCCAAAGTTCTCGATCCAAGAAGCCACTGTTGATGACATCAGACTTGCTTTCAAGGAGAAAAGACTGACATCAAAACA ACTCGTCGAGATGTATCTCGAATCCATCTCCAAGCTCAATCCGATGCTCCACGCAGTCATCGAGACGAATCCAGATGCGTTGACCCAAGCAGAGAT CGCAGACAGAGAACGCGAGCTCAAAATCGGCGTCACTGAGCTTCCTATCTTGCACGGTGTTCCGATTCTGCTCAAGGATTCCATCTCCACCAAGGA CAAGCTAAACACGACCGCTGGTTCCTTGGCTTTGCTTGGTTCGGTCGTGGCTCGAGACGCTGGTGTTGTCAAGAGACTAAGAGAATCTGGTGCTGT GATCTTGGGCAAAGCCAGTTTAAGCGAATGGGCTAATTTCCGATCTCTCTCCATCCCAGATGGTTGGAGCGCACGTGGCCTCCAAGGAAAGAATCC GTACGTTTTATCAGCAAATCCGTGTGGTTCAAGTAGTGGTTCAGCTATATCAGTGGCGGCTAATCTTGTGGCCTTGTCAATTGGGACTGAAACTGAT GGTTCCATTCTCTGTCCGGCGAGTCAGAACTCGGTGGTCGGGATTAAACCGAGTGTCGGGCTCACTAGCCGAGCCGGGGTCGTTCCCATCTCCTT GAGACAGGACACTGTAGGGCCGATATGTAGGACAGTCTCGGATGCTGTTCATCTTCTTGATGCTATTGTGGGTTATGATCCGTTGGACGAGGCCAC GAAGGCTGCCTCCGAGTTCATACCTGAAGGCGGTTACAAGCAGTTTCTGAAAGCTAGTGGTCTCAAGGACTAGAAGGCGCGATCGTCATTGACAAT TTAACCATCCCAAACATCGAAGTCATTGTGGATTTTACTAATAGCGGTGAAGAGATAGCACTTTTAACTGAGTTCAAGATTTCTCTGAATGAATATCTT AAAAGGCTTGTGAAATCACCCGTACGGTCCTTAGCAGACGTTATTGCCTTCAACGAGAAATTCGCTGAAAAGGAAAAGGTGAAAGAATGGGGACAA GAGGTCTTCCTTGCAGCAGAAGCCACCAATGGAATGGGTGAGAAAGAGAAAGCAGCGTTGCAGAAAATAGAAAAACTTTCGAGGAATGGAATCGAA AAGCTAATGAAAGAGAATAAGTTGGATGCAATATTGACGCTTGGTTCTACGTTAAGCTCGGTTCTCGCCATAGGAGGGTATCCAGGAATCAATGTCC
GCT-002B03	AT3G06850.2	DIN3/LTA1 (DARK INDUCIBLE 3); alpha-ketoacid dehydrogenase	GGTTGTTAGAAAGAAATCCCAAATTCATCTGTTTTTTTTTTCTTCTTTCTGTTTCTCCATACACTGATTTAATTTACCAAGAGCAACCGTGAAAAACGAT GATCTCGCGGCGGATCTTGAGGAACCATCGGTTTCTCCGCCTATTCAGCTCATCTTCTGTTTGCGCTCCGCCGTTTCGGGTACCGGAGTATCATTCT CACTCGTTCACCTCTCCGACGTCGCGCCCATTCCTTGTTAACTCTCTCTCTTTGATGAAATGGTGTGGAGGAAGAAGAAGAAGCTGGTTTTCGAACG AAGCCATGGCCATAGATTCAAATGCAGGGTTGATTGATGTGCCACTGGCACAAACTGGGGAAGGTATTGCTGAATGTGAGCTACTCAAGTGGTTTG TGAAAGAGGGCGATCCTGTTGAAGAGTTTCAGCCACTCTGTGAAGTTCAGAGCGATAAAGCAACAATAGAGATAACGAGCCGTTTTAAGGGGAAAG TGGCTCTGATTTCTCATGCTCCAGGTGACATTATTAAGGTTGGAGAGACTCTGGTTACGCTATCGGTTGAAGACGCTCAGGACGCTCTTCTAGTAAC CTCTGAAAGTCCAGGAAATGTAAATCCGAGCGGTTCGAAGCAAAACACAGACAATCTTGTTGGAGCTCTTTCAACGCCTGCTGTTCGTAACCTTGCA AAAGACCTTGGCATTGACATCAATGTCGTTATTGGAAGTGGTAAAGATGGTAGAGTCTTGAAAGAGGATGTTCTTAAAATTGGTGGCCAGGATGGTA ATGTAATTGATTCAGTTTCTTCTGAGAGTCATGTTAAAGGAGGAAACTCCATTTCCTCTATAACGAGTAACATTGAAGATAGAACAATTCCTCTAAGGG GATTCAACTGAGCAATGGTCAAGACAATGACTATGGCTACAAAGGTACCACATTTTCATTTCGTTGAGGAGATAAACTGCGATGCACTTGTGGAGCT CAAGCAATTCTTCAAAGAGAACAATACAGATTCCACGGTCAAGCACACTTTCCTTCCTACCTTAATCAAGTCGCTGTCAATGGCTCTAAGCAAATATC CCTTTGTGAATAGTTGCTTCAACGAGGAGTCTCTCGAGATCGTCCTCAAAGGTTCACATAACATTGGAGTTGCAATGGCTACTGAGCATGGCCTTGT CGTACCTAATATAAAGAATGTCCAGTCGTTATCTCTACTAGAGATAACCAAAGAGCTGTCTCGGTTACAACATTTGGCAACAAACAACAAACTTAGCC CCGAGGATGTAACTGGTGGAACCATAACTCTGAGTAACATTGGAGCAATCGGTGGGAAATTCGGGTCCCCGCTTCTAAACTTACCTGAAGTTGCCA TCATTGCTCTTGGAAGAATCGAGAAAGTTCCAAAATTCTCAAAAGACGGAACTGTTTATCCTGCATCGATAATGATGGTTAATATCGCTGCGGATCAC
GCT-002B04	AT1G19570.1	DHAR1 (DEHYDROASCORBATE REDUCTASE); glutathione dehydrogenase (ascorbate)	GATCAACTCAATAATTCTTCCATATCGCTGCCAATAACAAAAATTAAACATCAAGATGGCTCTCGAAGTCTGCGTGAAAGCCGCCGTTGGTGCCCCT GATAAACTCGGCGACTGCCCGTTCAGCCAAAGGGTTCTTCTCACCCTCGAGGAGAAGAGTCTACCCTACAAAATTCATCTGATCAATATCTCCGACA AACCTCAGTGGTTCTTAGACATTAGTCCTCAAGGGAAAGTACCAGTGCTTAAGATCGACGGCAAGTGGGTGTCTGATTCCGACGTCATCGTCGGTAT TCTCGAGGACAAGTATCCTGAGCCATCTCTCAAGACTCCTCCTCGATTTGCCTCTGTGGGATCCCAGATTTTCAGCACTTTCGTGGCTTTCTTGAAG AGCAAAGACTCCCATGACAGAACCGAACATGCGTTGCTTCATGAGCTAGAAGCTCTGGAGAATCATCTCAAGACTCATGATGGTCCTTTTATCGCCG GGGAGAGAGTCACCGCGGTGGATCTAAGCTTAGCACCAAAGCTTTACCATCTCGAGGTCGCTCTTGGACATTTCAAAAGCTGGTCTGTCCCAGGCA GCTTGCCACATGTCCATAACTACATGAAAGCTCTGTTCTCTCTCGACTCGTTTGAGAAGACAAAGACCGAGGAGAAGTATGTGATTTCGGGATGGGC TCCAAAGGTCCACCCTTGAAACCATTAGTGTCCACTTCGCTATGAGATTATTGGTGTGGTATTGTGGTTTTCAAGGTTCTCTTCTATAAGCTTAATAAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002B05	AT3G51870.1	mitochondrial substrate carrier family protein	GGCGGCCATTTCTATTTCTTTATTGTTGTTTTTTGAAACAAACCTTCGCCTTATCTCTTTTCCCTCTTAACCATGGAGGAAGAAGACACAGCGACTCTC ACATTTCACCGTATCCCTTCCCTCAGTTCCTCCATACTAACCTCTTCTCCGGCCAAATCCGGCACCGTACAGTTATGCCGCCGTGTGCGGCGGAATT CGGCTCTCGGAGATGCCGGTTTGGTTAATAGATTCGCCTGCATTTCTCTGGTGGAGAAGTGCGACCAGAGGGAATTCGCTCCGACGTCGACTCAG CTACTGAACAACCCGCTTGCTATCCTTGCTCTTGTCCCCAAAGATGCCGCCATCTTCGCCGCCGGTGCTATTGCCGGAGCCGCCGCGAAAACGGTT ACGGCTCCGCTTGACCGTATCAAGCTTCTTATGCAGACACATGGTATACGAATTGGACATCAGAGTGCAAAAAAGGCTATTGGATTTATCGAGGCAA TCACTTTGATAGCCAAAGAAGAAGGAGTGAAAGGTTACTGGAAGGGAAATTTGCCACAGGTGATAAGAGTGTTACCTTACAGTGCGGTCCAGCTTTT GGCTTACGAGAGTTACAAGAAATTGTTCAAGGGTAAAGATGATCAACTCTCAGTAATAGGAAGACTTGCAGCTGGTGCTTGTGCTGGTATGACGTCT ACTTTGTTGACATACCCACTAGACGCTTTGAGATTAAGGTTGGCAGTAGAACCTGGCTACCGAACAATGTCTCAGGTTGCTTTGAGTATGCTCCGTG AAGAAGGAATTGCATCTTTCTATTACGGTCTGGGACCTTCTCTAGTGGGGATAGCTCCATATATTGCTGTTAACTTTTGTATTTTCGATCTAGTGAAGA AGTCTTTACCGGAGGAATATAGACAAAAGGCACAATCGTCTCTATTGACAGCTGTTCTTTCGGCCGGTATTGCAACACTGACATGTTACCCTCTCGA CACTGTGAGACGGCAAATGCAAATGAGAGGAACTCCATACAAATCAATCCCGGAAGCATTTGCTGGAATTATAGACCGTGATGGGCTTATAGGCTTG TACCGTGGCTTTTTACCCAATGCATTGAAAACTCTACCAAACAGCAGCATTAGGCTTACAACCTTCGATATGGTAAAACGCCTTATCGCCACAAGTGA GAAGCAGCTTCAAAACATCAAGCATCATAATGCTAAGCGACAGCAAACTCGATAGCGATTTCTTAACTTTTCGCTACATTAAAATTTTCGAGCTGCTC
GCT-002B06	AT2G46590.1	DAG2 (DOF AFFECTING GERMINATION 2); DNA binding / transcription factor	GAGCCTTTTAATCTGACTACTCGTTAATTATATATTGAAAAACTAATAGAGATTAGATAATTAAAAGTTATGATTTGTTATTTACCATTTGTTCTTTGTGT TCATATCTTTTCGTTTTTATTAACTCCTATATAGTTCTATCAGATAACAAGGAAAATATAATGTGCATGTTTCATTTTTCTCCGTTTGGTAGTGCTTAAAT TTGAGAAGCACGATGCCTATTAAACACTAATTAGCTCCCTCTTTGGGGGTTCTCTAATTAATTCTTTCAATTTCAATGCTTAGGGCTTTCAAGAAATGA TGAACGTAAAACCAATGGAGCAAATCATGATTCCTAATAACAACACACATCAATCAAACACCACGTCCAATGCAAGGCCAAACACCATTCTCACATCT AACGGCGTCTCAGCCGCAGGAGCCACCGTCTCTGGCGTAAGCAACAACAACAATACGGCGGTTGTAGTGGAGAGGAAAACAAGACCACAAGAGAA ACTAAATTGTCCAAGATGTAACTCAACCAACACAAAGTTTTGTTACTACAACAACTATAGTCTCACACAACCAAGATACTTCTGCAAAGGTTGTCGAA GGTATTGGACCGAAGGTGGATCTCTTAGGAATGTTCCTGTCGGAGGAAGCTCGAGAAAGAACAAGAGGTCATCTTCTTCTTCTTCTTCATCAAACAT CCTTCAGACAACACCATCTTCACTTGGTTTGACCACACCACTTCCAGATCTAAACCCACCAATTCTCTTCTCAAACCAAATCCCTAATAAATCAAAAG GGTCATCACAAGATCTTAACTTGTTGTCTTTCCCAGTCATGCAAGATCAACATCATCACCACCATCATGTTCACATGTCTCAGTTTCTTCAGATGCCTA AGATGGAAGGAAATGGCAACATGACTCATCAGCAGCCTTCATCATCATCTTCTCTCTATGGTTCTTCGTCGTCTCCTGTTTCAGCGCTTGAGCTTTTA AGAACAGGAGTTAATGTTTCTTCCAGATCAGGGATCAACTCATTTATGCCTTCTGGTCCAATGATGGATTCATCAAACAATGTGCTATACACTTCTTCA GGGTTTCCAACAATGGTCGATTACAAGCCAAGTAATCTCTCTTTCTCTACTGATCATCAAGGGCTTGGACACAGCAACAACAATAGGTCTGAAGATG GTCATCACCAAGGTAGGGTTTTGTTTCCATTCGGGGATCAAATGAAGGAGCTTTCATCAAGCATAACACAAGAAGTTGATCATGATGATAATCAACAA CAGAAGAGCCATGGTAATAATAATAATTCAAGCCCTAATAATGGATACTGGAGTGGGATGTTCAGTACTACAGGAGGAGGATCTTCATGGTGAAGCA AAATGATCGAAAGAGATGATGAAATGAGCTTTCTAACTCTCTTTCATGATATTTTGCCTCACATAGTCACATGGGGTACTTTAGTTAAAGTTGTCAGAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002B07	AT2G42790.1	CSY3 (CITRATE SYNTHASE 3); citrate (SI)-synthase	GGCTTTTTTCTCCAATCTTTGAATTCTGATTTTGCTGGTGTTGAAAATGGAGATACCGGAGAAAGCTAGAGCTCGATTGGGTGTTCTCTCGGCGCATT TTTCGGCAAATGATCCTGTCGAATCAGTACAGGGATCTCCGGCGATCGAGCGATGTTACACGTTGTCTAATATCAGTCCCCTGAAGGGAGCCCTGA CGGTCGTCGACGACCGCACCGAAAAGAAATATCAGGTCCCGGTCTCAGCTGATGGCACCGTTAAAGCTGTTGATTTCAAGAAGATAACGACGGGGA AGGAAGACAAGGGGATTAAACTATACGATCCTGGTTACTTGAACACGGCTCCTGTTCGGTCCTCGATTTCTTACATCGACGGAGATGAAGGGATCCT CCGTTATCGAGGGTACCCAATAGAGGAAGTGGCTGAGAGCAGCACTTTTCTGGAGGTTGCGTATCTTCTCTTGTATGGGAATCTGCCCTCTGAAAG TCAGCTATCTGATTGGGAGTTTGCAGTTTCTCAGCATTCAGCTGTGCCACAAGGAGTATTAGATATTATACAGGCTATGCCTCACGATGCACACCCA ATGGGAGTTCTTGTAAGTGCAATGAGTGCCCTCTCCATCTTTCATCCTGATGCTAATCCTGCTCTAAGGGGCCAGGACATTTACAATTCAAAACAAGT TAGAGATAAACAAATTATTCGCATTATTGGAAAGGCACCAACTATTGCAGCTGCTGCTTATTTGAGGATGGCAGGGAGGCCTCCCGTTCTTCCTTCG GGAAACCTTTCTTATGCAGAAAATTTCCTCTATATGCTGGATTCCCTGGGAAACCGATCCTACAAACCTAATCCTCGTCTGGCTCGTGTGTTGGACAT CCTCTTCATACTGCATGCTGAGCATGAAATGAACTGCTCCACCGCTGCTGCTCGGCATCTTGCCTCTAGTGGTGTTGATGTGTACACTGCTGTTTCT GGAGCTGTGGGGGCGCTTTATGGTCCTCTTCATGGTGGTGCGAACGAGGCTGTGCTTAAAATGCTATCAGAGATCGGGACTGTTGAAAATATTCCA GACTTCATCGAGGGTGTGAAGAACAGGAAGAGGAAGATGTCTGGTTTTGGACACCGTGTGTACAAAAACTATGACCCACGAGCGAAAGTAATAAAA AAGCTAGCAGATGAAGTATTCTCCATTGTTGGAAGGGATCCTCTAATTGAGGTAGCTGTTGCTCTCGAGAAGGCAGCTCTTTCTGATGATTATTTTGT TAAGAGAAAGCTTTATCCGAATGTTGATTTCTACTCTGGATTAATATACAGGGCAATGGGATTTCCACCAGAGTTTTTCACGGTCTTATTCGCGATTC CTCGCATGGCTGGATACTTGTCGCATTGGAAAGAGTCGTTGGATGATCCTGACACCAAGATTATGAGACCACAACAGGCGTGTGGCTGAGGCATTA CACACCACTTACAGAGAGAAAGGTGACTGATGAGTCAAAGGAGTCGGACAAATTGGGTCAAGTCTCGACTTCGAATGCATCAAGAAGACGTTTGGC TGGATCTTCAATTTAGGCGTAGATCTTTTTAGGTCCATACCATACGCTGATTCACCGCACTGTACCGCAAAGAATAAAAGAGATTGGGTTCTCTAGCC
GCT-002B08	AT5G13010.1	EMB3011 (EMBRYO DEFECTIVE 3011); RNA helicase	GGGGGGTGATCGCTCGTCATATTTTTTCCGATCGTGTTGCTACTTTCACAGTTCCCAAATTTATCCCTCTCCTCCACGCCTTCGAAAGACCGACTTTG GAGCGATTTATGTATGAATGATTAACCCGAAGAAGGAGTTCGCACTGTTATAATTGGATATCCAGAAAAAGCTCCTGGAATCGCTACCTCACGCTCT AATAGGAGGTGAAGGAATCGAAGCTCTAAGGAAGGGAAAGTAATTCTTCCCAGCAGAGTCGTTTTCTCGCCGAGAAAAACGCACGAGGAAGCTGTG TGTTGTTAATTTCCGGGACAGATTGTGACTATTAGAGGTTTTGAGCTGAAATCGACGAAATTCGTCCACTGAGTAAATATGGGGGTCGATCCATTCAA AACCACGGACACGTTAGAAGCTGAGAAGGAAACCGGCGGTGATCTCCCTCTGAAGGATAAACTAACTTTTACAGCTCCTGAGAGAAAGTCCCGTCT AGGTTTCGATGTTAGGGCAATTGAGAAGAGGGAGAATGGCAAGTCCGAGGCGGAGTTTAAGGTCCCCAAGAAGCCAACAATATCTGTTACAGCATC TTTGGATGAAGAGGATAAATCTGATGTATCAGGATCAGATTTTGGAGCAGGAAATACTCTACATGACCATTCCAGCAGACGCTATAGAGAGAAATCTT CAAGATCTGAGACTGCGGAAGAAAGTACCGTGACTACAGAGAATGCTGCGGCTTCAGATGTTTCCATGACTCCCAGGAGTTCATCCAGCACTGCTA GATATGAGAGAGATGATAGCATCAGATATCGAAAAGAACATAGGTATGATAAAAGTGAAACCCCGCGGTCAAGGCAGAGAAACACCTATGATGAGAT GGATCGCTACCGAGGGAGGGAGTCCTATCGCCAAGCTAACCGAGATTATCACGGAGAAAAGCGTGGAAGATGCAGTAGCGATAGGAGAACTCCAG GTAGGTCAGACTGGGATGATGGAAAATGGGAATGGGAAGATAGTCCACACGGAGATCGAGACTCTAGTTACAGCAAGCGACGTCAGCCTTCCCCG TCACCCATGTTAGCTGCAGCTTCACCAGATGCTCGTTTAGCCTCCCCGTGGCTGGATACACCACGTTTAACAATGTCTTCTGCTTCTCCATGGGATA TTGGTGCACCTTCCCCTGTTCCAATCCGGGCTTCTGGGTCCTCTATCAGATCCGCAAGCTCTAGGTATGGTGGAAGATCCAATCAACTTGCACACTC TAGGGAAGGTGATCTGACTGAGGAGGGGCATCCAGATGAGGATAGATCGCAAGGAGCTGAAGAATATAACCCTGAGATCACAGAAAAAATGCGTTT GGAGATGGAATATCACTCGGACCTTGCATGGTATGATACGGACGAAGGGAACTCACTGTTTGATGCAGATAGTGCATCCTTTTTTCTTGGAGATGAT GCGTCTCTACAAAAGAAGGAAGCCGAGCTGGCAAAAAGACTGGTTAGAAGGGACGGTAGCAAAATGTCACTTGCTCAGAGTAAAAAATACTCTCAG CTTAATGCAGATAATGCTCAGTGGGAAGACCGTCAGCTTCTCAGATCTGGAGCTGTTAGAGGCACAGAAGTGCAGACTGAGTTTGATAGTGAAGAA GAACGGAAAGCAATTCTTCTTGTACACGATACGAAGCCTCCTTTTCTTGATGGAAGAGTCGTTTTCACAAAGCAAGCGGAGCCAGTAATGCCTGTAA AGGATCCCACATCAGATATGGCTATAATTTCACGAAAAGGATCGGGCCTTGTCAGAGAAATTCGGGAGAAACAAAGTATGCATAAATCACGACAGCG ATTTTGGGAGCTTGCAGGATCTAACCTTGGTAATATCCTTGGTGTTGAAAAATCAGCTGAGCAGATTGATGCCGATACTGCTGTAGTTGGTGACGAA GGTGAAGTAGACTTTAAAGGAGAGGCTAAATTTGCACAACATATGAAGAAGGGGGAAGCTGTGAGTGATTTTGCCATGTCAAAAACCTTGGCAGAG CAACGACAGTATCTCCCCATATTTTCTGTTAGAGATGAATTATTGCAGGTAGTAAGAGAAAACCAGGTAATTGTGGTGGTTGGCGAAACTGGTTCGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002B09	AT3G20770.1	EIN3 (ETHYLENE-INSENSITIVE3); transcription factor	AGAGAGACTCCACAAACGCAAGAAACGCAATTAACAAAAGTCGCTTTCTACCCACGTGATCTTTCGTCGACTTTTCTTCTTCTTCTCCTTCATCTTCAT CTCGTCTCTAACTTTTCGGGGAGCTTTTGATGTGAATTAGGGTTTTATCATCATCTCTTTCTTTGTCCCTTAACCAAGAAAGGAGAAAGTCAGAGACTT TTTTATTTTACTCCTATCATTTCTATTGGGCTGCCTGTTTATCTCCAGGTTAATCGGTTCTGGTCTTACTGTGAAGAGTCACGATGATGTTCAACGAGA TGGGAATGTGCGGGAACATGGATTTCTTCTCTTCCGGGTCTCTCGGAGAAGTTGATTTCTGTCCAGCACCACAGGCTGAACCGGACTCAATCGTTG AAGATGACTATACCGACGACGAGATCGATGTGGATGAATTGGAGAGGAGGATGTGGAGGGACAAAATGAGGCTTAAACGTCTCAAGGAACAGGAC AAGAGCAAGGAAGGAGTCGATGCTGCAAAGCAGAGGCAGTCTCAAGAGCAAGCGAGGAGGAAGAAAATGTCTAGAGCTCAAGACGGGATCTTGAA GTACATGTTGAAGATGATGGAAGTGTGTAAAGCTCAGGGCTTTGTTTACGGTATCATCCCTGAGAATGGAAAACCTGTCACCGGTGCATCGGATAAT CTCCGTGAGTGGTGGAAAGATAAAGTCAGGTTCGATCGTAACGGTCCTGCGGCTATAACCAAGTACCAAGCGGAGAACAATATCCCTGGGATTCAT GAAGGTAACAATCCTATTGGACCGACTCCACACACTTTGCAAGAGCTTCAAGACACGACTCTTGGATCGCTTTTGTCTGCGTTGATGCAGCACTGTG ATCCTCCTCAGAGAAGGTTTCCTTTGGAGAAAGGAGTTCCTCCTCCATGGTGGCCTAACGGGAAAGAAGAGTGGTGGCCTCAACTTGGTTTGCCTA AAGATCAAGGTCCTGCTCCTTACAAGAAGCCTCATGATTTGAAGAAGGCGTGGAAAGTCGGCGTTTTGACTGCGGTTATCAAGCATATGTTTCCTGA TATTGCCAAGATCCGTAAGCTCGTGAGGCAATCTAAGTGCTTGCAGGATAAGATGACTGCTAAAGAGAGTGCTACTTGGCTGGCCATTATTAACCAA GAGGAGTCTTTGGCACGAGAGCTTTACCCTGAGTCCTGCCCTCCAGTTTCTTTATCTGGCGGAAGTTGCTCTCTTCTGATGAATGATAGTACTCAAT ACGACGTTGAAGGTTTCGAGAAGGAGGCTCATTATGAAGTTGAAGAGCTCAAGCCAGAGAAAGTGATGAATCCTTCAAGCTTTGCCATGGCTGGTA AAATCCATGAGTTCCCTGTGAAGGAAGAAGTCATGTCGGGAAACTCGGAATTCATGAGGAAGAGGAAACCAAACAGGGATCTGAACACTATAATGG ACAGAACTGTTTTCACATGCGAGAATCTTGGATGTGCGCATAGCGAGATCAGCAGGGGATTTATTGATAGGAACGCAAGAGATAACCATCAGTTGGT TTGTCCAAACCGAGGGAGTTGCTTACCGTATGGAGCAGCAGCAGCATCCAGGTTCCATGTCAATGAAGTTAAACCTGTAGTTGGATTTTCTCAGCCA AGGCCAGTGAACTCGGTGGCTCAACCAATCGACTTGACCGGTATTGGAGTTCCTGAAGATGGACAGAAGATGATCTCCGAGCTCATGTCCATGTAC GACAGAAATGTCCAGAGCAACCAAACTTCTATGGTCATGGAAACTCAAAACGTGTCTTTGCTTCAGCCAACTGTCCAGAATCATCAAGAACACCTCC AGTTCCAAGGAAACATGGTCGAAGGAGGTTTCTTTGAAGACTTGAACATCCCAAACAGAGTTAATAACAACAACAACAACCAAGCGTTTTTCCAAGG AAACAATAATGGGTTTAAGTTCGACGCTACACACAACAACAACAACAACAACTTTGAAGCTGCTCATAACAATAACAACAACAACAGTAGCAGCAACA GCTTTCAGCTTGTCTTTGATTCTAGAGGTTTGATTTGGCTTGATTGGAGTAGAGAAGAGATATGTGAATGGGTGGAGTGCTAGGAGGGATGGATGG
GCT-002B10	AT3G61440.2	ATCYSC1 (BETA-SUBSTITUTED ALA SYNTHASE 3;1)	GACCTTTCACTCGTCTTCTCCTACTCGTCTCTCTCTTTTATTTTAGTTTTTTCTGAACTCTCTCTCTCTCTCTGGGAACTTCGTTTCGTTTACTCTGTTT AGTCTCCGATGGCTACTGTTTCGAGGAGGTTGCTGAAGAAAGAGACGATCCCCCGCATCAGCCAAAGCACGAGGAAGCTCTTCTCCACCGATGGA CCAGCTTCTTTCCTTGAGAGACTCAGAAATCTTCCCAAAGATTTCCCCGCCACTTACGCCAAACGCGATGCCTCTCTGCTCATTGGAAGAACTCCTC TCGTGTTTCTCAACAGAGTCACTGAAGGCTGCGAAGCTTACATTGCAGCTAAGCAAGAACATTTCCAGCCTACTTGTAGCATCAAAGACAGACCAGC TTTAGCCATGGTTGTAGATGCAGAGAAGAGAGGCCTTATCGCCCCTGGCAAAACAACATTGATAGAGCCCACTTCAGGAAACATGGGAATAAGTAT GGCTTTCATGGCGGCTATGAGAGGGTACAAAATTATAATGACAATGCCTTCTTACACCAGCTTGGAGAGGAGAGTGACGATGAGATCATTTGGTGCA GAGCTTGTCCTCACTGATCCAGCCAAAGGAATGGGTGGAACCGTTAAGAAAGCTTATGATCTCCTTGAGAACACTCCTGATGCTCATATGCTGCAAC AGTTTGCTAATCCAGCAAACACTCAGGTGCTTAAGAGCTATAGATATATTCCCTTTCTCATTTTGGCGTTTCACATTTTTATCTAGAGATGATGCTTGG AATATTGGTGCAGATTCATTTTGATACGACTGGTCCTGAGATTTGGGAAGATACACTTGGGAATGTCGATATCTTCGTGATGGGAATTGGCAGTGGA GGCACAGTCTCTGGTGTTGGCCAATACCTTAAATCTAAAAACCCCAATGTTAAGGTGATTGATCTAGGTTCTGAACATATCTTGTGATTGTCAAAAAA TTGAGATTGCTTTTGCAAATGGTAGATATATGGAGTAGAGCCTGCTGAAAGCAACATACTCAACGGTGGCAAACCAGGTCCACATGCTATAACAGGC AATGGGGTTGGATTTAAACCGGATATCTTGGATATGGATGTGATGGAGAGCGTTCTTGAGGTTAGTAGTGAGGATGCTATAAAGATGGCTAGAGAAT TGGCACTGAAAGAAGGTCTCATGGTTGGGATATCGTCGGGGGCTAACACCGTGGCAGCCATAAGACTGGCGAAAATGCCAGAGAATAAAGGCAAA CTCATTGTGACGATTCATGCGAGCTTTGGAGAGAGATACCTGTCGTCCGTTCTGTTTGATGAGCTGAGGAAAGAAGCGGAAGCGATGAAGCCAGTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002B11	AT5G53140.1	protein phosphatase 2C, putative / PP2C, putative	GAGTGCCACGTAGCCGCTTCTGCTCGGTGCCATCCTCTCTCTCCTCTCACTACTCCCCACTCTCCCCATCTCCTTCTCTCTTGGATTCTCTCAGATT CCATGGAAGCTTCAAAAAGCTGATTCGTGGAGCAGTTTTTCCTTCACTCTCAGATTCTGGATCCGTGCTCCTGCATTGGAGAAACTGATTAAGTTAAG ACCTGCCTGATGGTATGCAGCAGTTTCATAAGGAGTGTCATTGTTCAGGCTGGTCATATTGGGGTTTTGGCTCAAGGAAGACATCAGTTTAGCCATA TTAAGAAGACCTTTAGTTTTGGTAAGAAGACCTTTAGTTTTGGTATCGAATTTAGAACCAGTGCAGCAAAGATGATGGTCGATTCTTGTTCCGGAGAG AAACGAGTATCCTTAGTTGATATGCCGCCTGAGAAAGTTGATGATGGCGGATACATCGGTGGTGGTTGGAAAAATGATGAAGGAAGCTTGAGCTGT GGGTACTGTAGTTTCAGAGGGAAAAGGTCTACGATGGAAGATTTCTATGATGTCAAAGCTTCCAAGATTGATGGCCAAACAGTTTGCATGTTTGGAA TATTTGATGGACATGGTGGTTCACGTGCTGCTGAGTACCTGAAGGAACACCTCTTTAACAATCTTATGAAACATCCACAATTTTTGACAGACACGAAG CTGGCATTAAGTGAAACATATAAACAAACTGATGTAGCATTCCTTGAGTCGGAAAAGGATACATACAGAGATGATGGCTCCACAGCATCTGCTGCGG TGTTGGTGGGGAACCATTTGTATGTTGCAAATGTCGGAGACTCAAGGACAATAGTTTCTAAATCTGGAAAAGCAATCGCGCTATCTGATGACCATAA GCCGAATAGAAGCGATGAAAGGAAGCGAATTGAAAACGCTGGTGGTGTTATCATGTGGGCAGGAACATGGAGAGTAGGTGGGGTGTTGGCAATGT CCCGGGCCTTTGGTAACAGAATGCTGAAGCAATTCGTTGTTGCTGAACCCGAGATACAAGATCTAGAAGTAGATCACGAGGCCGAGTTACTTGTGC TTGCAAGTGACGGTTTATGGGATGTAGTACCAAATGAGGATGCGGTATCGCTTGCACAGAGCGAGGAGGAACCGGAAGCAGCCGCCCGCAAGTTA ACCGACACTGCCTTTACTCGTGGCAGCGCAGACAACATCACATGCATTGTTGTTAAATTTCATCATGATAAAACCGAATCTCCCAAAACCGAACCAAT CGCCATGGCTGAAACAGAGCAGGAACTGAACACCAAAGCTGAACCAGAACCGGAATCAAACCTCAATGCTGAACCGGAAACCGATTCAAGTCCCAA AGCTGAACTGGAACCGAAAGCAGAAGCTACACCCGATACAAAACCAGAAACCGAACCAGAGACCAAGGGTGAGAAGCCGGGTGAGTAAAGTAGCT GGGGAAGGTGTGCAAATCCATGTGCAAACAGTTGAATATAAAATTGCTTAGTAGTTGTGTGCTTTGTGGCTACATGTAACGTGTGTGGGGATTTGTG
GCT-002B12	AT4G39100.1	SHL1 (SHORT LIFE)	GCAAAATGATCGCAAGAATTTTCCCTCACTTTCTCGAGAAGAAAATCTCTGCGTCTTTCTCGCCCTTCACCTTCAGATGCCCAAGCAAAAAGCTCCAA AGAAGCAACTCAAGTCCTATAAATTGAATCACATCAATAGGACGATTCAAGAGGGAGATGCTGTTTTGATGCGGTCGTCGGAGCCGGGAAAACCAT CTTACGTGGCGAGAATTGAGGCAATCGAGACGGGGGCGCGTGGATCGCACGCGAGGGTCCGTGTGAGGTGGTATTACCGGCCGGAGGAATCAAT CGGAGGGAGGAGACAGTTCCATGGAGCCAAGGAGGTCTTCCTCTCGGACCACTACGACCTTCAAAGCGCCGATACGATCCAGGGCAAGTGTAAGG TCCACAGTTTCAGTAGCTACACCAAACTCGACTCCGTCCGAAACGACGACTTCTTCTGTCGTTTCGAGTACAATTCCGCCACCGGCGCTTTTAATCC CGACAGAGTCGCCGTATTCTGCAAGTGTGAGATGCCGTACAACCCTGATGACTTGATGGTGCAATGCGAAGATTGTTCGGAGTGGTTTCATCCTTCT TGTATAGGGACGACAATAGAGGCAGCTAAAAAGCTTGATCACTTCTACTGCCAAGAGTGTTCCCCAGAACAGCAGGATTTGGACAACTCTAATTCAA CTTCTAAAAAATCAGACGATAAGGTGAAAACAAAACGCAGCTTAGAGGTAACCAAGACGAGGAACAAACATACCAAACGATCAGGTTAACATAAGAC CTCTAAGTTCTTTCTCTGGACTGAGTTGAGTATCAACGTGTAATCTATAAAGGTGTTTGTGTTCTTTCCCTTTGTTTTTTTTTACCTGAAGAACGAGGG
GCT-002B13	AT2G27050.1	EIL1 (ETHYLENE-INSENSITIVE3-LIKE 1); transcription factor	GAATCTTATCTTTTTTCAGATCGTTGGTTTATTGTCTATGCTAACTCATTTTCCGATCTGGGTTTAGAGATGACAATATTAGTTTTAGTCTCTGAGTTTA ATTTGATGATTTTTTTATAAAATTCTAGGTAACAGAATTGGATTGGTTCTGGTGAGAGAGAGATGATGATGTTTAACGAGATGGGTATGTATGGAAAAA TGGATTTCTTCTCTTCCACATCACTGGGAGAAATCGATGTGTGTCCATTGCCACAAGCTGAACAAGATCATCCAGTGGTTGAAGAAGACTACACCGA TGACGAGATCGATGTTGATGAGCTTGAGAGAAGGATGTGGAGAGACAAAATGCGTCTGAAACGTCTCAAGGAGCAGCAAGGGAAGTGTAAGGAAG GAGTCGATGCTTCGAAGCAGAGACAGTCACAAGAGCAAGCTAGGAGGAAGAAAATGTCTAGAGCACAAGATGGGATCTTGAAATACATGTTGAAGA TGATGGAAGTTTGTAAAGCTCAAGGCTTTGTTTACGGTATCATCCCTGAGAAAGGCAAACCTGTGACTGGTGCTTCCGATAATCTACGGGAATGGTG GAAAGATAAGGTCAGGTTTGATCGTAACGGTCCAGCGGCTATTGCCAAATACCAAGCAGAGAACAATATTTCAGGAGGGAGTAATGATTGTAATAGT TTGGCTGGACCAACACCACATACACTTCAGGAGCTTCAAGACACGACTCTTGGATCTCTTTTATCGGCTTTGATGCAACATTGTGATCCTCCTCAGA GGCGGTTTCCTTTAGAGAAAGGTGTTTCTCCACCGTGGTGGCCTAATGGGAAAGAAGAGTGGTGGCCTCAACTTGGTTTACCAAAAGAACAAGGTC CTCCTCCTTACAAGAAGCCTCATGATTTGAAGAAAGCTTGGAAAGTCGGTGTTTTGACTGCAGTTATCAAGCATATGTCGCCTGATATTGCGAAAATC CGTAAGCTTGTGAGGCAATCGAAATGCTTGCAAGACAAGATGACTGCCAAAGAGAGTGCTACTTGGCTTGCCATTATTAACCAAGAAGAGGTTGTG GCTCGGGAGCTTTATCCCGAGTTATGTCCTCCTCTTTCTTCTTCCTCCGTGGGAAGTGGGTCTCTTCTCATCAATGATTGTAGCGAGTATGATGTTGA AGGTTTTGAGAAGGAACAAGACGTGGAAGAGCGAAAACCAGAGATAGTGATGATGAATCCTGCAACAAGCTTTGGAACTGGTAAAATGCAGCAACA GTTTCCTGTAAAGGAGGAAGTCGTGGCCACCATGGGAAACTTGGAATACGCGAGAAAGAGGAAGCCGAACAACGATCTGAATGTTATGATAATGGA CAGACCAAGTTTCACTTGTGAGAATGGTCAGTGTCCTCACAGCAAAATCAATATGGGATTTCAGGACAGGAGCTCTAGGGACAATCACCAAATGGTT TGTTCATACAGAGACAATCGCTTAGCTTATGGAGCAGCTTCGAAGTTTCATCATATAGGTGAAGTGAAACCAGTAGCTGTGTCACAACAGTCGCAAC CCTTTCCTCAGTCAGTCCAACCGATCGACCTATCAGGCTATGGAGTCCCGGAAAACGGGCAGAAGATGATCACCGAGCTAATGGCCATGTACGACA GAAATCTCCAACCAAATCAAAGCATGAGCATTGATGCAAAAGCAGCTCAGAATCATCAAGAACAGCAGCTGAGTCTCAACCGGAATCAGATGTTTAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002B14	AT5G41410.1	BEL1 (BELL 1); DNA binding / transcription factor	TGAAGTTTTTTTTTTTTTTTTGGCTCTTTCTCATGTTTTGGAAATTCAGGGTATAATTAACGTTTGCTTTTAAAAATTTTCATCGATTCTTTTCCATCGAGA TAGGTTCTTGTAGATCTTGATGAAACTCTTGTTCTTATCCCAAAAGGAGTTTTGTTTTTTTCTTCTCTTCTTATTGGGTTTTTAGTTCTTGAGACATGGC AAGAGATCAGTTCTACGGTCATAATCATCATCATCAAATGATTAATCAGATCCATGGGTTTGATGAGACAAACCAAAATCCAACCGATCATCATCATC ATCATTATAATCCTCAGATCTTTGGCTCAAATTCCAACATGGGGATGATGATAGATTTCTCCAAGCAACATCAGATTAGGATGACAAGTGGGATGGAT CATCATCATCATCATACAAGTGGTGGTACTGATCAGAATCAGCTTCTAGAAGATTCTTCATCCTCCATGAGACTATGCAGCGTTAATAATGATTACCC AAGCGAAGTAAATGATGATAGACCACCACAAAGACCAAGCCAAGGTCTTTCCCTCTCTCTATCCTCCTCAAATCCTACAAGCATCAGTCTCCAATCTT TCGACCACCACAGACCCCAACAGCAACAACAAGGGTATTCTGGTAAATCAACGCATCATCAGAATCTCCAACACAGCCAGATGATGATGATGATGGT GATGAATAGTCACCAACAAAACAACAACAACAACAACGACCATCATCATCATCAGTTTCCGATTGGGAGTTCCAAGTATCTGAGTCCAGCTCAAGAG CTACTGAGTGAGTTTTGTAGTCTTGGAGTAAAGGAAAGTGATGATGAAGTGATGATGATGAAGCATAAGAGGAAGCAAAAAGGCAAACAACAAGAAG AGTGGGACACAAGTAACAACAACAATGATCAACATCATGACCAATCTGCCACTACTTCTTCAAAGAAACATGTTCCACCACTTCACTCTCTTGAGTTC ATGGAACTTCAGAAAAGAAAAGCCAAATTGCTCTCCATGCTTGAAGAGCTTAAAAGAAGATATGGACATTACAGAGAGCAAATGAGAATTGCGGCAG CAGCGTTTGAGACGGCGGTTGGGGTAGGAGCGGCGGAGATGTACACGGCGTTAGCGTCGAGGGCAATGTCTAGGCATTTCCGGTGTTTGAAAGA CGGACTTGTAGGACAAATTCAAGCAACAAGTCAAGCTTTGGGAGAAAGAGATGAGGATAATCGTGCGGCCTCAATTTCTGCACGTGGCGAAACTCC ACGGCTGAGGTTGCTCGATCAAGCTTTGCGGCAACAGAAATCGTATCGCCAAATGAGTCTCGTGGAAGCTCATCCTTGGCGTCCACAACGCGGTTT GCCTGAACGCGCGGTCACGACGTTAAGAGCTTGGCTCTTTGAGCACTTTCTTCACCCATATCCAAGCGATGTTGATAAACATATATTGGCCCGACAA ACTGGTTTATCAAGAAGTCAGGTATCAAATTGGTTTATCAATGCAAGAGTTAGGCTATGGAAACCAATGATTGAAGAGATGTATTGTGAAGAAACAAG AGGAGAACAAATGGAGGTTACAAACCCGACGTTCATCGACACTAAACCGGACCCAAACCAGATAATTCGTGTCGAACCGGAATCTTTATCTTCCATC GTTACTAAAACCGGCCACAAAGACAACTCAAACCAAGGAACGGCGTCGTCGTCGTTTGGGTCAACGTTTGACTTTTCATTATACGGTAACCATGCTG TGACATACGCTGGTGAAGGAGGGACACGTGACGTGTCGTTGACGCTTGGGTTACAGAACGGTGGCGTGAGTTTAGCGTTATCTCCAGTGACGGCT
GCT-002B15	AT5G66880.1	SNRK2-3/SNRK2.3/SRK2I (SNF1-RELATED PROTEIN KINASE 2-3, SNF1-RELATED PROTEIN KINASE 2.3); kinase/ protein kinase	GTAGCTTTGTCTCTCAATTTTCTTCCTCTTTGGAGATATTTTTCCTTTGGCGAATCTTCCTCTTCCTAGATTCCAGCGGCAACAGATTCTATTCGTGGG AGATTCGAATTTGAGGGCCTCTGATGTGATCGGCGAGCTAGAGGAAAGGCGAGATAAATCGGAGATGGATCGAGCACCGGTGAGCTCAGGACCGA TGGATATGCCGATTATGCACGACAGCGATCGATATGACTTCGTCAAGGATATTGGGTCCGGTAATTTCGGAGTGGCTCGCCTCATGAGGGATAAAG TCACCAAGGAGCTTGTTGCTGTCAAGTACATCGAGCGAGGAGACAAGATTGATGAAAATGTTCAAAGGGAAATCATAAACCACAGGTCACTTAGGCA TCCTAATATTGTCAGATTTAAAGAGGTCATTTTGACGCCGACTCATCTGGCTATCATAATGGAATATGCTTCTGGTGGTGAGCTTTATGAGCGGATTT GCAATGCAGGACGGTTTAGTGAGGATGAGGCTCGATTCTTCTTTCAGCAGCTTATATCTGGAGTCAGCTATTGTCATGCGATGCAAATTTGCCATCG CGACCTGAAGCTGGAGAATACATTGTTGGACGGAAGTCCTGCACCTCGCTTAAAGATATGTGATTTTGGATACTCTAAGTCTTCAGTTCTTCATTCGC AACCAAAGTCAACTGTTGGTACTCCTGCTTACATTGCACCAGAGGTGCTGCTTCGTCAGCAATATGATGGCAAGATTGCAGATGTATGGTCGTGCGG TGTAACTTTATACGTCATGTTGGTTGGAGCTTATCCGTTCGAAGATCCAGAAGAGCCAAGAGACTATCGAAAGACGATCCAGAGGATCCTTAGTGTT AAATACTCAATCCCTGAAGACATACGGATTTCGCCTGAATGCTGTCATCTAATTTCAAGAATATTCGTGGCTGACCCCGCTACGAGGATTAGCATTCC AGAGATCAAAAACCATGATTGGTTCTTGAAGAACCTCCCAGCTGATCTTATGGACGAGAGCAACACAGGAAGCCAATTTCAAGAGCCTGAACAACCA ATGCAAAGCCTTGACACAATCATGCAAATCATCTCTGAAGCCACAATTCCCGCTGTTCGAAACCGTTGCCTAGACGATTTCATGACCGACAATCTTG ATCTTGACGATGACATGGATGACTTTGATTCTGAGTCTGAGATCGACATTGACAGTAGCGGAGAGATAGTTTATGCTCTGTAGTTTAAAAAAGCTTTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002B16	AT5G14960.1	DEL2/E2FD/E2L1 (DP-E2F-LIKE 2); DNA binding / transcription factor	GACTCGGGAAATATCTTTTCTTGTTTACAGAAGAAATGGATTCTCTCGGTCGGCAGTCTTACAGCCGGAAGGAGAAATCTCTCGGTGTTTTAGTCTC CAATTTCCTGAAACTGTATAACCGAGACGACGTTGATCTGATTGGGCTCGACGATGCCGCCGGGAAATTAGGAGTTGAACGCCGGCGTATATATGA TGTGGTTAATATATTGGAGAGCATTGGGCTTGTAGCAAGAAGAGGGAAGAATCAGTATTCGTGGAAAGGCTTTGGACAACTTCCCCGTGCTCTAAGT GAACTAAAAGATGAAGGAATGCGAGAGAAGTTTGGCATCATTCCATGCGTGACCAAGTCAGAGATGGTCTTATATGACCAAGTTAGAGAAGAACCTT TGAAGTTAACTCCTGATGATCAAGAAAACTCGCCATCCCCAAAACTTGACAGCAAGAAGGAGAAGTCTCTCTGGGTTCTTGCACAGAACTTTGTGAA GCTTTTTCTATGCTCTGATGATGATCTGATAACACTTGATGGCGCTACAAAAGCATTGTTGAATGTATCTCAGGATCCCATGAATATGAGAACTAAAG TTAGACGCCTTTACGACATTGCAAATGTGTTTTCCTCGATGAATTTAATAGAAAAGACTCATATCCCAGAGACTAGGAAACCGGCGTATAGGTGGTTG GGAGCCAAAGCCATATCCGAAAGCAGATTCCTTACTGCCCCTGCAACCCTATGTGATCGTAATGAGCCTAAAAAGCGGGTATTCGGGACCGAGATC ACAAACTTTAACGCAAAGAGAAACAAAACAGATTGTTCTAAAGACTCCAAGCATTACGGAAATCAAAACACATGCAGTGTCATCAAGCAAGAACAATG TGATTCGAAACCAGCAGAGAAGAGCTTTGTGGTCGGAACCGGAGGTGCTTCTAAGAAGAACAATGTAGAAAACAACCATAACCAAAGACTTGAAGAT CTTGAGACCCTTTCTTCTACCCACAAGCTACAGTATTGCAATCATGAGTTAATTGGTCTGCTTGGGCACTACACAGAGACATGGAGGTCATGGCATG CAGAGTTTGATCGGAAATGACTTAACCAGGTAGATTTTTCTTGCGGCGTTACTACAACTATTTGATGGATGCCAAATTTTGCTGCTGTTTCGGCTCAG
GCT-002B17	AT4G04890.1	PDF2 (PROTODERMAL FACTOR2); DNA binding / transcription factor	GAGCGCTCTCCCGGTATAAGATTTTCCAAGACACCCCGCCGGTTTTCCGGTAACCGGTCGGTTAGCCAGATCCCTAGCAAACAACCCCTTTACATC TCTTTGTCATTACCTCAGATCTTTCGTCAGTCCGCAAGAAAAACTGGCACAAATCAAAGATCATTGTGAATTAGGGTTTCTTTGCGTCTCCAAAAGTTA GATCTCTCTTTAAAAAAAAATATTCTTGGAGAAGAAAATCAAATCCAGAAATGATTATGATCACAACCTTGAAGATTTGAAGGAAACCAAAGCTCACAA CTAAAAACAGTCCACTTTAAGATTAGTATCTCTGATATATTGAGTGAACAGAATCAACCAACATCACAATGTATCATCCAAACATGTTTGAGAGCCATC ATATGTTCGACATGACCCCAAAGAGTACCTCTGATAACGACTTGGGAATCACTGGAAGCCGAGAAGATGATTTCGAGACAAAGTCAGGCACCGAAG TCACCACCGAGAATCCTTCCGGTGAAGAACTTCAAGATCCTAACCAACGTCCCAACAAAAAGAAGCGTTACCATCGCCACACGCAACGCCAAATTCA AGAGCTCGAATCTTTCTTTAAGGAATGCCCACATCCAGATGATAAGCAACGTAAAGAGTTGAGCCGCGATCTCGGTTTAGAGCCTCTTCAAGTAAAG TTTTGGTTCCAAAACAAACGAACACAAATGAAGGCACAACATGAGAGGCATGAGAACCAGATTCTTAAGTCAGACAATGACAAGCTGAGAGCAGAGA ACAATAGATACAAAGAGGCTCTAAGCAATGCAACATGCCCTAACTGTGGCGGTCCAGCTGCTATCGGAGAAATGTCCTTCGACGAACAGCATCTTA GGATCGAAAATGCTCGTCTCCGAGAAGAGATTGATAGGATATCTGCCATCGCTGCTAAATACGTTGGGAAGCCATTAGGATCTTCTTTTGGCGCTCC ACTAGCGATCCACGCGCCTTCTCGTTCTCTCGATCTTGAAGTAGGCAACTTTGGGAACCAGGCAGGTTTTGTAGGGGAAATGTATGGAACAGGGGA CATTTTGAGGTCAGTTTCGATCCCTTCTGAGACAGATAAGCCTATGATCGTCGAGCTAGCGGTTGCAGCTATGGAGGAACTCGTGAGAATGGCTCA AGCCGTGGATCCTTTATGGGTTTCAACTGATAATAATTCGATAGAAATCCTCAACGAAGAAGAGTATTTCAGAACTTTTCCAAGAGGAATTGGACCAA AGCCATTAGGATTGAGATCAGAAGCGTCAAGAGAATCCGCTGTTGTTATAATGAATCACATCAACCTCGTTGAGATTCTCATGGATGTGAATCAATG GTCTTGTGTATTCTCTGGGATTGTGTCAAGAGCCTTGACCCTTGAAGTTCTCTCAACTGGAGTTGCAGGAAACTACAATGGTGCTTTGCAAGTGATG ACTGCTGAGTTTCAAGTTCCTTCTCCGTTGGTCCCGACACGTGAGAACTACTTTGTGAGATACTGTAAACAGCATAGCGACGGTTCTTGGGCTGTGG TTGATGTCTCTTTGGACAGTCTTAGACCTAATCCAATCTCAAGAACCAGAAGAAGGCCTTCAGGTTGTCTCATTCAAGAATTGCCTAATGGTTATTCT AAGGTTACATGGATTGAACATATGGAGGTGGATGATAGATCGGTTCACACTATGTATAAGCCGTTGGTTCATTCCGGTTTAGCTTTTGGAGCGAAAC GTTGGGTGTCTACACTCGAACGCCAGTGCGAGCGGCTCGCGAGTTCTATGGCCAGCAACATTCCGGCGGGTGATCTTTCCGTGATAACGAGTCCA GAAGGGAGGAAGAGCATGTTGAAGCTAGCGGAGAGGATGGTGATGAGCTTTTGCAGCGGCGTAGGCGCGTCGACTGCACACGCGTGGACTACAA TGTCGTCTACAGGATCCGATGATGTTCGGGTTATGACCCGAAAGAGCATGGATGATCCGGGAAGACCTCCGGGTATCGTTCTTAGCGCCGCGACG TCGTTTTGGATCCCTGTGGCTCCGAAACGTGTTTTCGATTTCCTCCGTGACGAAAATTCAAGAAGCGAGTGGGATATTCTGTCAAATGGAGGAATGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002B18	AT2G25900.1	ATCTH (Arabidopsis thaliana Cys3His zinc finger protein); transcription factor	GCTGGTGCCTAAACCGAAAATGATGATCGGAGAAAATAGCCGGCCACATCCAACGATCCATATCCCTCCGTGGGATCCGATCAACGATCCAACGGC CACAATTTCATCACCATTCTCTTCCGTTAACTTTCACGACTATCCACACTCTCTCGACTCTTTCGCTTCTCTTTACCGTTACCTTCCATCCAACGAGTT CGCGAACGATTCCGACTCATCAAGCGGCGATGAGTCACTCTCACTCTCATTCGCTGACTCGTTCGCGTGCGATGAGTTTCGCATGTACGAGTTCAA AGTACGGCGATGCTCTCGAGGCCGATCTCACGACTGGACGGAGTGTCCGTTTGCGCATCCCGGAGAGAAAGCTCGGAGACGCGATCCGACGAAG TATCATTACTCAGGTACGGCTTGTCCTGAGTTTCGTAGAGGGAGTTGTAGAAGAGGTGACTCGTGTGAGTTCGCTCATGGTGTTTTCGAGTGTTGGC TACATCCCGCTCGTTATCGGACTCAGCCTTGTAAAGATGGGACGAGTTGCCGGAGAAGAATCTGTTTCTTTGCTCATACGCCGGAGCAGTTACGCTT TTTGGCGAACTCAGCAGAGCCAGATCTTGGATTATCATCGATTCGTAACCACTTTTCGAAATCAGCGACGGCTACTTCTCCTACATCGATCTTAATCT CTCCTCCGTTTTCTCCACAATCGGAATCTCCGCCGCTTTCTCCGAGCACCGGTGAACTTATTGCGTCTATGCGGAAAATGCAATTGAACGGAGGATG TTCATTGAGCTCACCGCTAGGGTTACCTCACCGGTCGAGTCTGACTCAGGGAAGGACATGGCCGCGGATAAGAGAGTTCGAGATCTGGGACAATG CATGTGAAGAAGAAGTTCCGGCGATGAAACTGGTGGAATCTGGGAAAGAACTGAGAGCGAGGATGTATGCGAGGCTCAGCAGAGAAAACTCGCTC GGGTGAGTCGACTCGGTTCTATCAACTGAGGCATTAATACGATTTGTGAATATTGATGTGTAGATAAAGTGACGCAACTACGGATGATGATGAAGAA GAAAAGCGTTTAGGAACAAAAAAATTGTAAAGCTATGGATAATGCGAGGTTAATTTTGGGATTTCTGCAAGTTTTTTTAACATGTTCGTATTTTGTTTA
GCT-002B19	AT1G77000.1	ATSKP2;2 (ARABIDOPSIS HOMOLOG OF HOMOLOG OF HUMAN SKP2 2); ubiquitin-protein ligase	GGTTCTAATTCCTGTATTTCCTTTGAGGTGGTAGAATCAAGAAACCGCTTAAAAGTATTAAAAGATGGTGATGAGTGAAGGAGGAGCAGGAACAAGG GAACTTAGCCGATGCTTCGAGAAGATGAAGGAGATGAAAATGGAAGGAATCATGATCACTGAGTGGAAAGACATACCACTGGAGCTTCTGATGAGG ATCCTTAACCTTGTAGATGATCGGACGGTGATCATTGCTTCTGGTGTTTGCAGTGGCTGGAGAGATGCTATTTCCTTTGGCCTCACTCGTCTCTCTCT CTCTTGGTGCAAGAAGAATATGAACGGTTTGGTTCTGTCTCTTGCTCCCAAATTCGTCAAGCTTCAGACTTTAGTTCTGCGACAGGACAAACCGCAA CTTGAGGACAACGCAGTGGAAGCTATAGCAAACCACTGCCCCGAGCTACAAGATCTTGACCTAAGCAAAAGCTTGAAACTTACTGACTGTTCCCTCT ATTCTCTGGCTCGCGGTTGCACTAACCTCACTAAACTCAACCTTAGCGGCTGCACTTCATTCAGCGACACTGCACTCGCGTATTTGACAAGATTTTG CAGGAAGCTCAAAATTCTGAATCTTTGTGGTTGTGTGGAAGCTGTATCTGACAATGCGTTGCAGGCAATTGGAGAAAACTGCAATCAAATGCAGTCA CTAAACTTGGGATGGTGTGAGAATATAAGTGATGATGGAGTCATGAATTTAGCCTATGGCTGTCCTGATCTACGAAGCCTTGATCTCTGTGGCTGTG TTCTAATTACAGATGAGAGTGTGGTGGCTTTGGCGAATAGGTGTGTACATTTGAGGTCATTGGGTTTATACTATTGCAGAAACATTACGGACAGGGC AATGTACTCGCTGGCTCAGAGCGGAGTGAAGAACAAGCACGAGATGTGGCGCTCGGTTAAGAAAGGCAAATTCGATGAACAAGGACTAAGAAGCC TTAACATTAGCCAATGCACTTACCTCACACCTTCTGCTGTTCAAGCCGTCTGCGATACATTCCCTGCGCTCCACACTTGTTCAGGCAGGCATTCCCT CGTCATGAGCGGTTGTCTGAATCTAACATCAGTTCACTGTGCCTGCATCCTCCAGGCTCACCGTGCTCACACCCACACTGCTTTTCCTCACCCGGCT CATTCAATCAGTCTCAGCGACAGCGTCTCTCGCTCGACGTCTCTCTAGAGATAAGCTTTTAAGCTCAAATAAAGCTTCTTTCTTTCAGTTTTCTCTTC
GCT-002B20	AT5G57170.1	macrophage migration inhibitory factor family protein / MIF family protein	GGCGTTTCTAACCTGAAAGCCACTGGTTTGCGAGAGATAGCTTTGATTTTGTCTGAAGAATCAAGAAGATGCCCACTTTAAATCTCTTCACTAATATA CCAGTCGACGCCGTCACATGCTCCGACATACTCAAGGACGCTACTAAGGCCGTCGCTAAGATCATCGGCAAACCTGAATCCTATGTAATGATACTG CTTAATAGCGGAGTGCCTATTGCATTTGCTGGTACCGAGGAACCAGCTGCGTATGGAGAACTGATATCTATCGGAGGATTGGGACCAGCCGTTAAC GGAAAGCTTAGCGAGACGATATCCGAGATTCTTCATATCAAGCTCTCTATAGATAGCTCCCGCTTTTATATCAAATTCTACGATTCCCCGCGACCCTT CTTTGGATTCAACGGATCAACTTTCTAAAACTCCGGAGTCAAAGCCAGGACGAAAGAGGCGAATTCAACCTTGTATATCATGAGCTTGATTTATACAA TTTCACATTCCTTAAAGCCAAATATAATCTTCATGTTTTCATTGGCTTTTCGGACTAGTTGTTACTTCTGATATGATCTCAATCTCATTATCTGGGACTA
GCT-002B21	AT2G46680.1	ATHB-7 (ARABIDOPSIS THALIANA HOMEOBOX 7); transcription factor	GAGAAAAGAAAAGAAAAGAAAAAGAAATCATAGGTCCTCTGAGGAAATTCCGATTAGATGACAGAAGGAGAAGAATATTCTCCGATAATGATGTCAG CAGATCCATTCATGAGCATGAAGAAGATGAAGAAGAGCAATCAAAAGAACAACAACCAGAGAAGGTTTAGCGACGAGCAGATCAAGTCACTGGAGA TGATGTTCGAGTCAGAGACGAGGCTTGAGCCAAGGAAGAAGGTTCAATTAGCGAGAGAGCTTGGGTTGCAGCCGAGACAAGTGGCAATATGGTTT CAGAACAAGAGGGCTCGTTGGAAGTCAAAGCAGCTAGAGACAGAGTTCAACATCCTCAGACAAAACTACAACGACTTGGCTTCTCAGTTTGAGTCC CTCAAGAAAGAAAAGCAAGCTTTAGTCTCTGAGTTGCAGAGGTTAAACGAGGCGATGCAGAAAACACAGGAGGAAGAAAGGCAGTGTTGTGGTGAT CAAGCGGTGGTGGCTCTAAGCAGCACGGATCATGAATCAGAAATCGAAGAGAACCCGAGGCGCGAACAGGAAGAGCTTAGACCGGAGATGGAGAT GTGTGAGAAGGGTCATCATGACCATCATGATGATGGTCATAATAACAACAACAACATCAAGAGAGAATATTTGGGCGGGTTTGAGGAAGAAGCAGAT CAGTTAATGAACATTGTGGAGCCAGCTGATAGTTGCTTGACATCATCTGATGACTGGAGAGGTTTCAGATCAGATACTAATCTCTTGGACCAGTCAA GCAGCAATTACCCATGGTGGGATTTTTGGTCATGAAAACAAAAATGAAGAGGCAAACATATTTAGTCTTTTTGCAGACTAAAAGATGTTGAATAGAGA GATTGGATACATGTTCAAAAACCGAAATTTACAAAAGCAAACGTATCCATCACATGACTTGAGCCACGGATATAGAGGTTTTGGGTCCAGCAAATGA CTCGTCGAAAGCAGCAGCAGGGATTTTGAGCTGAAATCTCATGTGGTCTTTGTCTGTATAAATTGTGTGTTAGAAAGTCGTATATTCTCTCAGTTAAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002B22	AT5G63610.1	HEN3 (HUA ENHANCER 3); kinase	GACCGTTTTTGGAAACGCAATCCTCATTCTTCCGTCTCACCGGAATTTTCTGGCTTTTGTCTACTTTCCTCCGTCGCCGGCGCTCGCCAATCTGAGC TCGTCCTCCGAATTTCATTCATCATTCATCTGATTGACTTATCCGGAACACATTCATCCCAACTATATAAAAGAGGAAACCAAAATGGTTTCGTTTTGT TAGACTTCTACTCCACATAGTACGTACGTTAGGTAGACAGTGCTAAAAAGGCAATGGGGGATGGCAGTTCCACCAGATCCAACAGCTCGAGCAGCA GTAGCGAGAAACCAGAGTGGCTGCAACAGTACAATCTCGTTGGTAAGATTGGTGAAGGGACTTATGGTCTTGTCTTCTTGGCTAGAACCAAGACCC CGCCCAAAAGGCCAATCGCCATCAAGAAGTTTAAGCAGTCAAAAGACGGAGATGGAGTTTCCCCTACTGCGATTCGAGAGATCATGTTACTCAGAG AGATTTCACATGAGAACGTCGTGAAGCTTGTGAACGTCCACATCAATTTCGCAGACATGTCTCTGTATCTTGCCTTTGATTACGCCGAGTATGATCTC TATGAAATCATCAGGCACCACAGAGACAAAGTCGGGCACTCGTTGAACCAGTATACAGTCAAGTCTTTGCTCTGGCAGCTTCTCAACGGATTGAACT ATCTCCACAGCAATTGGATCATACACAGAGATTTGAAGCCGTCGAATATCTTGGTTATGGGTGAGGGAGACGAACATGGGATAGTGAAGATAGCTG ATTTCGGGCTTGCACGGATATACCAAGCTCCGCTGAAACCGCTGTCAGATAACGGAGTTGTGGTAACAATCTGGTACCGTGCGCCTGAGCTGCTTC TTGGCTCAAAGCACTACACGAGCGCCGTAGATATGTGGGCGGTTGGATGTATATTCGCAGAATTACTGACCCTGAAACCGTTGTTTCAAGGAGCAG AGGCCAAATCGTCTCAAAACCCTTTCCAAGTAGATCAGCTCGACAAGATATTCAAGATCTTGGGTCATCCGACGATGGAGAAATGGCCAACGCTTGT TAACCTTCCGCACTGGCAAGCCGATCTGCAACACATCCAAGCTCATAAATACGACAGTGCGGGACTCCACAACGTGGTTCACCTAAACCTGAAAAG CCCTGCTTATGATCTCTTGTCCAAAATGCTGGAATACGATCCTCTGAAACGGATCACGGCCTCACAGGCACTGGAACACGAGTATTTCCGGATGGAT CCTCTTCCGGGAAGGAACGCATTTGTAGCCTCACAGCCGATGGAGAAGAATGTGAGTTACCCGACTCGTCCTGTGGATACAAACACGGATTTCGAA GGCACGACGAGCATTAATCCGCCACAAGCAGTAGCAGCAGGAAACGTAGCGGGGAACATGGCAGGAGCTCATGGAATGGGGAGTAGATCGATGC CAAGACCAATGGTTGCACATAACATGCAGAGGATGCAACCTCAAGGCATGATGGCTTATAACTTCCCGGCTCAGGGAGGGATGAACCCGAGTGTTC
GCT-002B23	AT2G45290.1	transketolase, putative	GACAGAAAGCTTAGTCTTACGTTTCTTCATTTCATTAGACTCTGAGAGCATCCATGGCTTCTACTTCTTCGTCTCTAGCGATCTCTCAAGCTCTCCTTG GCCGAGCCATCTCTCAAAATGGCTCTGACAAGTGCGTCTCTATCCCAGCTTTCTCTGGTCTCAAATCCACTTCCCCACGCACCACCTTCTCCAGTCG ACGCATCGCCTCCACGAACAGTCACTCCCTACGCCCTCTCGTTCGTGCAGCCGCCGTAGAGACGAAGACTGAGTCGTCCCTGGTTGAAAAATCGG TTAACACGATCAGGTTTCTGGCGATCGATGCGGTAGAGAAGGCGAAATCGGGTCATCCGGGTCTTCCCATGGGTTGTGCTCCGATGTCTCACATAT TGTTCGATGAGGTCATGAGGTATAACCCGAAGAACCCTTACTGGTTTAACCGTGATCGCTTCGTTCTCTCCGCTGGACATGGCTGCATGCTGCAATA CGCTCTGCTTCACCTCGCTGGCTACGACAGCGTCAGGGAGGAGGATTTGAAGAGCTTCCGTCAATGGAGAAGTAAGACGCCAGGACACCCTGAGA ATTTTGAGACTCCTGGTGTTGAAGTCACTACTGGTCCTCTTGGACAAGGTATTGCAAATGCTGTTGGTTTAGCTCTTGCTGAGAAGCATCTGGCTGC TAGATTCAACAAACCTGACAATGAAATCGTTGACCACTACACATATTCGATTCTTGGAGATGGTTGTCAGATGGAAGGGATAACAAATGAAGTTTGCT CTCTGGCTGGCCACTGGGGACTTGGAAAGCTCATTGCTTTCTACGATGACAATCACATTTCCATTGACGGAGACACAGAAATTGCCTTGACAGAGAG CGTGGACAAGCGCTTTGAAGCTCTTGGATGGCATGTTATTTGGGTTAAGAATGGAAACAATGGATATGATGATATCCGTGCTGCCATTAAGGAAGCT AAGGCTGTAACAGACAAGCCCTCTTTGATTAAGATCACTACTACAATTGGTTATGGATCTCCCAACAAGGCAAACTCATACAGTGCTCACGGAGCTG CCCTTGGAGAGAAGGAAGTTGAGGCTACCAGACAAAACCTTGGATGGCCATATGAGCCGTTCCAGGTACCTGAGGATGTCAAAAGCCATTGGAGC CGTCACACTCCCAAAGGCGCTGCTCTTGAAGCTGATTGGAATGCCAAGTTTGCAGCTTATGAGAAGAAGTACGCAGAGGAAGCAAGAGAACTAAAA TCTATTATGTCAGGGGAATTGCCTGCCGGTTGGGAGAAGGCACTTCCTACATATACACCAGATTCTCCAGGTGATGCCACTAGAAACCTGTCTCAGC AATGTCTTAACGCACTTGCGAAAGTTGTGCCCGGTTTCCTTGGCGGGAGTGCTGACCTTGCATCTTCCAACATGACATTGCTTAAAGCATTTGGCGA CTTCCAAAAAGCCACACCTGAAGAGAGAAACCTCCGGTTTGGTGTAAGGGAACACGGTATGGGAGCTATCTGCAACGGCATTGCCCATCACAGCCC CGGTTTGATCCCTTACTGCGCAACTTTCTTTGTGTTTACTGACTACATGAGAGCTGCAATGAGAATCGCGGCTCTGTCTGAAGGTGGTGTTATATAC GTTATGACACATGACTCCATTGGTCTGGGAGAAGATGGACCAACCCATCAACCCGTTGAACACTTGTCCAGTTTCCGTGCCATGCCCAATATTCTAA TGTTCCGTCCTGCTGATGGCAATGAAACAGCCGGTGCATACAAAATCGCTGTCACTAAACGGAAGACACCTTCTGTCTTAGCCTTATCTAGACAAAA GCTGCAACAACTTCCAGGAACATCCATTGAAAGCGTCGAGAAAGGTGGATACACCATTTCTGATAACTCAACAGGTAACAAACCCGATGTGATCTTG ATCGGAACTGGATCAGAGCTGGAGATTGCTGCTCAAGCTGCAGAGGAGTTAAGGAAAGAAGGCAAAACTGTAAGAGTTGTTTCTTTTGTATGTTGG GAACTGTTTGATGAGCAATCAGATGCATACAAGGAAAGTGTTTTGCCATCTGATGTATCAGCTAGAGTTAGTATCGAAGCCGGATCGACATTTGGAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002B24	AT1G06460.1	ACD32.1 (ALPHA-CRYSTALLIN DOMAIN 31.2)	GATCCCTCTCTATCTCTCCACAGATCGAAGAAAGCAGAGAGAGAGTTTTTTTTTTTTTTTTTTTTTAAAAAAGATGGAGCTTGAATCCATCACCGCTAGA CGCAGGCTCGCTACCGTCGCCGCTCACTTTCCGGCAAGTATTAACGATCCCGTCTCCACCGCACCTCTCGTCCCCTTGAATTGCAGCAGCAGTTTG AATTCTGTCATCAGAAGATATGACAACAAAATCTCTTTTGCCCGGCAAGCATCTTCCGAACAGGGCTTTTTTATGAGGCAGGCTTCGACCGACGAGC CTCAGAATGGTGGCATCAGTTTGAAGAACTCTGTCATTAGAAGAGGTGACAACAGGATGAATTTTGCTCGGCAAGCATCTTCTGCACAAGGTTTTTTT ATGAGACAGGCTTCTTCAACTGATGAGAGGACCATACCACAGGACACTGCGTCTACCAAGTGCTCTGCCGCCAAAACGAATGGCTTCCTTTCTTCTA TAGTTTCCAAACCTGAGTACGCCCCACCACAGTTTTCCAAGGCCGCAAAAGAAAAGTTCGCTTCTTCTTCTGATTCTTCACTAAATCAGGAAAAGGAC AACTGGAAAAAGCCATCTAAGGCCGACCTTCCTAAGTTAGCCAATTTAGGGACTGTTTGGTCTCCAAGATCTAATGTTGCAGAATTCGAACACAACTA TGTTGTGGCGGTAGAGCTACCAGGGGCCAGTATCAATGATATAAGGGTGGAGGTTGACAACACAGACTTGACTGTGACAGGGAGGCGCACATCTA TCTGTCAAAAAGTTGATGCATGCACCAAAGATTCAGTCTTTGGATACCACAAGCAAGAAATACTACAAGGACCATTCAAAGTTTCCTGGCCACTCCCC AGCAATGTGAATAAGGATAATGTTTCCGCTGAATTTATGGATGGGCTACTGAGGATAGTGATTCCAAAGCTTTGAGGGTTCAGCGTTCTGGAACCAT ATACATACCGTAGACAATGTGTATAATTAGTATATGCTGTTTGTGTTGAAGAAAATAAAAAATGGATTGATGAAAGAAAGATATGTAAAATAGTTGTCT
GCT-002C01	AT5G20570.1	RBX1 (RING-BOX 1)	GGACGCTTCTTCTCCCGTCTCTGAAAACAACCTAGCGAGCTCAAAAATCTCTGATTCTTCGGCTTTCTAGGGTTTTTTTCGCTCTCTTCCGATCAAAG ATCAATCAATGGCGTCTCTCGATTCCGACGTTCCTATGATTCCTGCCGGAGAAGCCTCCAGCAGTGTAGCCTCTTCTTCGACCAAGAAACCTAAGCG ATTTGAAGTTAAGAAATGGAGTGCCGTTGCTCTCTGGGCTTGGGATATCGTTGTTGACAATTGCGCCATCTGCAGAAACCACATCATGGATCTGTGC ATTGAATGTCAGGCTAATCAGGCCAGCGCTACAAGTGAGGAATGCACTGTTGCTTGGGGGGTTTGCAATCACGCCTTCCACTTTCACTGCATCAGC AGGTGGCTAAAGACTCGTCAAGTTTGTCCATTGGATAACAGCGAGTGGGAGTTCCAGAAATATGGTCACTAAATCATCCAGTCGTTCGAGCAAATAT GTGTCTAGTCGAAGATATCAGTTTCCGCACATGATACCAAGATTGATCAAGTTGTTTTTTTTTTCTTTTTTTCTCTTTTGTAATGTCTTTCACAAGTTGT
GCT-002C02	AT3G54890.1	LHCA1; chlorophyll binding	GAAACACCTCTTGTTCACATCTTTCTCTTTGTGGTAAACAGAAAGGGAGAGAGAGAGAGAGAGAGATAGAAGACAATGGCGTCGAACTCGCTCATGAG CTGCGGCATCGCCGCCGTTTACCCTTCGCTTCTTTCTTCTTCAAAGTCTAAATTCGTCTCCGCCGGAGTTCCTCTCCCCAACGCCGGGAACGTCGG CCGAATCAGAATGGCCGCTCACTGGATGCCCGGAGAGCCACGACCAGCTTACCTCGACGGTTCTGCTCCTGGTGACTTTGGATTTGACCCACTTG GACTTGGAGAGGTTCCAGAGAACCTTGAGCGATACAAAGAATCAGAGCTCATCCACTGTAGATGGGCCATGCTCGCTGTTCCAGGGATTTTGGTAC CAGAGGCTTTGGGATATGGAAACTGGGTTAAGGCTCAAGAATGGGCAGCATTACCTGGAGGACAAGCCACTTACTTGGGGAACCCTGTCCCATGG GGTACTTTGCCCACAATCTTGGCCATAGAGTTCTTGGCTATTGCATTTGTCGAGCACCAGAGAAGTATGGAGAAAGACCCCGAGAAAAAGAAGTACC CGGGAGGCGCATTTGACCCTCTTGGATACTCCAAAGACCCGAAGAAGTTCGAGGAGTTGAAAGTTAAGGAGATCAAGAACGGGCGGCTTGCGTTG TTGGCCTTTGTAGGATTCTGTGTGCAACAATCTGCCTACCCAGGCACAGGACCATTGGAGAACCTTGCTACTCACTTGGCGGATCCATGGCACAAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002C03	AT1G64060.1	ATRBOH F (RESPIRATORY BURST OXIDASE PROTEIN F); NAD(P)H oxidase	GGACTTTCTCCACTGAGCCACGACGCGTTTGAAATCTCTCTCTCTCTCTCTCCAAAGATTCCACCTACCTATATATATATACAATCTATATGCTACG TGTATATACGTCCAATATACTTCGTCGAACAGTTTGATCGTCAGTGTTCGCCGGCGAAGAGACGATCCAATTTTTGGATCTATCCGATTTTTTTTTCCT TCTTTTGTTGGTCAATGAGGCCGTTCTCGAAGAACGATCGGCGCCGGTGGTCGTTTGATTCCGTTTCCGCCGGAAGAACCGCCGTCGGGAGTGCC TCTTCTTCTCCGGGAACTGAATGTTCCAACGGTGGTTACGGTGAAGAGTTCGTCGAGGTTACGATCGATCTTCAGGACGACGACACCATCGTTCTTC GAAGCGTCGAGCCAGCAACCGCCATTAATGTCGATATCTCCGATGAAATCGCTGTAGGAGGAGGCGGTTCGGCTTCGATTTCGAGATCTCCGACGA TGAAGCGAACCTCGTCGAATCGGCTCCGGCAATTCTCCCAGGAGCTCAAGGCGGAAGCAGTCGCGAAGGCGAGACAGTTATCGCACGAGCTGAA GCGATTCTCATGGTCTCGGTCTCTTTCCGGTACTTTATCCGCCGCGAATCAAAACGGCGGAGGAGGAGGAGGTGGTTTAGTGAACTCGGCTCTAGA GGCTCGAGCTTTGAGGAAACAACGAGCTCAGCTAGATCGGACTCGGTCTAGTGCTCAGAGAGCTCTTCGTGGCTTGAGATTCATCAGCAATAACAA TAAGAACGTCGATGGCTGGAACCATGTTCAAACCAATTTCGAGAAACTTTCCAAAAACGGTTTCATCTATCGCTCCGATTTCGCTCAATGCATAGGAA TGAAAGATTCCAAGGAATTCGCACTGGAGCTGTTCGACGCATTGAGCAGGAGAAGAAGATTGAAAGTTGAGAAAATCAGTCACGACGAGCTTTACG AGTATTGGTCTCAAATCAACGACGAAAGCTTCGATTCTCGCCTCCAGATCTTCTTCGACATAGTGGACAAGAACGAAGATGGGAGAATTACAGAAGA GGAAGTAAAGGAGATTATAATGCTGAGCGCATCTGCAAATAAGCTATCGAGATTGAAGGAACAAGCAGAGGAATATGCAGCATTGATTATGGAAGAG CTAGATCCTGAAAGACTTGGCTACATAGAGCTATGGCAACTAGAGACTCTGCTTCTACAAAAAGACACATACATCAACTACAGTCAAGCATTGAGTTA TACAAGCCAAGCATTGAGCCAAAACCTTCAAGGGTTAAGAAAAAAGAGCAGAATACATCGAATGAGCTCGGATTGCGTCTACTTCATGCAAGAGAAC TGGAAAAGGATATGGGTTTTGTCCTTATGGATATTGATCATGATCGGATTGTTCTTGTGGAAATTCTTCCAATACAAGCAAAAAGATGCATTTCATGTG ATGGGTTATTGCTTACTCACAGCAAAAGAAGCAGCAGAAATACTTAAATTCAACATGGCTCTCATACTTTTCCCAGTTTGTAGAAACACAATCACTTG GCTCAGATCCACAAGACTCTCTTACTTCGTTCCCTTTGATGATAACATCAACTTCCACAAGACAATTGCAGGAGCCATCGTAGTAGCCGTGATCCTTC ATGTTGGAGACCATCTTGCTTGTGATTTCCCAAGAATTGTTAGAGCCACCGAGTACGATTACAATCGCTATCTGTTTCATTACTTTCAGCAAAAACAG CCAACTTACTTCGACCTCGTTAAAGGACCTGAAGGCATCACAGGGATTTTAATGATCATTTTGATGACTATTTCATTCACATTAGCAACAAGATGGTTT CGGCGTAACCTCGTCAAGCTTCCTAAGCCATTTGATCGTCTTACTGGTTTTAACGCCTTTTGGTATTCTCACCATTTGTTCGTCATTGTCTATATCTTG CTTATCCTTCATGGTATCTTCCTCTATTTCGCCAAGCCTTGGTATGTTCACACGACATGGATGTATCTTTCAGTACCAATTTTACTCTATGGTGGAGAA AGAACACTAAGATACTTCCGTTCTGGTTCTTATTCTGTCCGACTTCTAAAGGTTGCTATATATCCTGGTAACGTTCTAACGTTGCAAATGTCGAAACCA
GCT-002C04	AT2G40750.1	WRKY54 (WRKY DNA-binding protein 54); transcription factor	GATGCATCTTCCTTTGATTATTTCTCTCTCTTGATCAGAGAGAAAGCAAAGAAACAAAACCCAGAAAAAATCTATCTTTCTTCTCTCCACTATATTACT CCATTTTCTCATCCTCAAATCATCATACCAAGAAAAAAAAAACCTAAGACAAAAAAATCCATAGACCCATTAAATTGCTGTAAACCAAAAAAAAGAAAA GAAATGGATTCAAACAGTAACAACACCATAAAGAGAAAACTTGTCGACCAACTAGTCCAAGGCTACGAATTCGCTACTCGGCTTCAGCTTCTCCTCT CTCATCAACACTCTAACCACAGCACCGATCAGACCCGTATCGTTTCCGGGTCGGGTTCAGTTCCCGGTGATCTGGATCCCGTTGATGAGCTCCTCG CTAAGATCTTGGGATCTTTTCATAAAACCATATCGGTTCTTGATTCTTCTGATACCGTCGCCGACCTCTCTGTCCCTATCGCCGTCGAGGGTTCACGT AATGCTTCATGCGGCGATGATTCGGCGGCTCCGGCGAGTTGCAACGGTGGAGATTCCGTCGACAGTAGAAAGAGGCTTGGGGTTAGTAAGGGTAA AAGAGGATGCTACACTAGAAAGAAGAGATCGCATACTTGGACCGTGGAAGCTAGAAGAATTGATGCAGACAGATATGCTTGGAGGAAGTATGGGCA AAAGGAGATTCTTAATACCAAATTCCCAAGAAGTTACTTTAGATGCACACACAAGCCAACACAAGGATGCAAAGCAACGAAGCATGTTCAGAAACAG GAACAATGCCCTGAGATGTTCCTAATCACATACATTGGCCACCACACATGCAATGCTAACGACCAAACACGAGCCAAGACTGAGCCTTTTGATCACA AAATAATGGATTCGGACAATACGATATTGGCTGAAACCATTGCTCAGGGCCATGTCAATGTTGAGGTACAAGAGCAAGAGAAAAACATCAGTAGTGT AACGGTGGCAGGCGCAGGGATGGTTAAGGAAGAAGAGAATAACAATGGTGACCAGAATAAAGACTATTGTGAGGGTTCTTCGACAGATGGGGACTT GTCATTGGTTTGGCAAGACGCGTTGATGTTTGATGATCATCAACATCATCAGAATCCTTACTATCATGGTAAAACTAGTACCATTGCTCAACAATTCTC TTTTATCGACAACGATCAGCTTTGCTCGTTCTTCGACTCATATTGCGCTTACGAACAAAGAAAGTCGCGTATAAAATGCGAATCGCGATTTACGAAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002C05	AT1G74170.1	leucine-rich repeat family protein	GGTTTTATTTGCAATGGAAGGGAAGGTGTTCTGGGGAAAATACTTGATATGTGTGATGTTACTGTTGGGGCAGCTACATGGATACCAAAGCTGTGTT GAGAAAGAAAGGAATGCTTTGCTGCAGCTCAAGAAATACTTAGTCTCAATTACTCGAGAAGTTTTTGTAGACGATGTTCTCCCTACTTGGACTAATGA CACAAAGAGCAATTGCTGCGGGTGGGATGGCCTTAGGTGCAATCTTACAAGCGGACGGGTGACCGAGATTGCCTTTGACTTGAACTCCAAAGACAA TTCTCTCTTTAATCTTTCGTTGCTACATCCTTTTGAAGATGTTCGAAGTCTGAACTTCTCCGGGTCCTTTCTCAGGGGCTTGTTTGATGACGTTGAAG GTTATAAAAGCTTGAGGAGATTAAGAAACCTGGAGATTCTGGATCTCTCCTGGAATAATTTCAACAACAGCATCTTTCCCTTACTTAACGCTGCTACA TCACTCACAACTCTGTTTCTTAGGGGCAACAACATGGTTGACCCTTTTCCTGTTAAAGAACTCAAAGATTTGACAAACTTGGAACTGCTGGACCTGAG TGAAAACAGTTATAACGGCTCCATACCAGTACGAGAGATAACTTCGCTCAGGAAGCTGAAAGCTCTGGATCTAAGTGATAATGAATTTTCGGGTTCA ATGGATTTGCAAGGGATATGCAAATTGAAGAATATGCAAGAGCTCGATCTCAGTCACAACAAACTTGTAGGTCAGTTTCCCTTATGTTTAACTAGCTT GACTGGACTTCGAGTTCTTGATCTCTCATCAAACCAGTTGACTGGGGAGATCCCATCTGCTCTCGGTAACCTTGAATCCCTTGAGTACTTGTCGTTG TTAGATAACGACTTCGATGGCTTCTTCTTACTTGATTGGCTCGCCAAACTCTCAGAGCTTAAAGTGTTGAAACTTGGCTCAAAATCCAACTCTTTTCAA GTAGATTCTAAGAGTTCTTGGAAACCAAAATTTCGGTTGAATGCTATTGTCCTACGATCTTGCAACTTGGAAATAGTTCCTCGTTTTCTCCTACAGCA GAAAGGTTTGAATTATGTTGATCTCTCCGACAATAAAATTTCTGAAAACTTTCCTTTTTGGCTATTGGCGAACAATACAGAGCTCGAAGTTTTGCTTCT GAAGAATAATATTCTTACGAGCTTTCAGCTACCGGAATCTGCTCATGATCTACGTTCCCTTGACGTGTCAGTCAATGAATTCAATCACATGTTTCCTG AGAACATTGGGTTGATACTTCCACATTTACGGTATATGAATATATCGAAGAACGGCTTTCAAGGAAATCTGCCATCTTCTCTGGGTAACATGAGTAGG ATTGACACTCTGGATGTATCTCACAACAGTTTCCAGGGAAAGCTACCAAGAAGCTTAGTAAAGGGTTGTTATAACTTGGCTTACTTGAAGTTGTCACA TAACAAACTAAGTGGAGAGGTTTTTCCAGAATCAGCAGAGTTATATGATTTACGTTGGCTGTATATGGATAACAATCAGTTTACAGGAAATATTGGAC AAGGTTTGCAGAACTTGACATTTTTGCATATCCTTGATATATCGAATAACAATCTCACGGGTGTTATTCCAAGCTGGGTTGGCGAACTTCCAAGGTTA TATGCAATACTGCTTTCAAACAACTCGTTGGAAGGTGAAATACCTACGTCGTTGTTCAACAAAACTTTTCTTCTGCTATTGGACCTCTCTGCAAACAGT TTATCTGGGGGATTACCTCCACACGTCGATTCTACATTGCCGGTAATATTGCTCCTGCAAGACAATCATCTATCAGGAGATATTCCAGACACGTTGCT GGCAAATGTCAGCATACTTGATCTGAGAAACAACAGATTGTCTGGGAATATACCGGAGTTCATCAACACCCAAAGCATCAGTGTTCTTCTTCTCCGA GGGAATAATTTAACAGGTCATGTTCCTCGTCAGTTGTGTGGCCTAAGAAACATCCAACTTCTGGATCTTGCCAACAACAGATTGAATGGATCCATACC TTCATGTCTCAGCAATACATCATTTGGTTTGGGGAAAGAGGATAATGCATTTCACGTTTCTAATCTCGATCTAGGTATAGAGCGTGTTTATGATGATC
GCT-002C06	AT2G30950.1	VAR2 (VARIEGATED 2); ATP-dependent peptidase/ ATPase/ metallopeptidase/ zinc ion binding	GCCTCTTTCCATCTTCCAAATTTTCACAGCGCGAGATTCTCCTTGTTCACTATCATCTGCTATCGATACAGATGGCAGCTTCATCAGCTTGTCTTGTT GGAAATGGATTGTCAGTCTACACAACCAAACAGAGGTTAAGCAAGAATTTTTCCCGGAGACAGATTGGTCTTTCCACAACTTTTTCCTCAGTTAGTAG AACATCCAAGGTTAATGTCGTCAAGGCTTCTTTGGATGTGAAGAAACATGATGGAAGAAGAGATTTTCTCAAGATCTTGTTAGGAAACGCCGGAATC GGTTTGATTGGAAGCGGGAAAGCAAATGCAGATGAACAAGGGGTTTCTTCTTCAAGGATGTCATATTCTAGGTTTCTAGAGTATCTGGACAAGGACA GGGTGAACAAAGTGGATCTGTATGAGAATGGAACAATAGCTATTGTGGAAGCTGTTTCTCCCGAGTTGGGTAACCGTGTTCAGCGTGTGCGTGTTC AGCTACCGGGATTAAGCCAAGAGCTTCTCCAGAAGCTGAGGGCCAAGAATATTGATTTTGCAGCACATAATGATCAGGAAGACCAAGGTTCTGTGTT GTTTAACTTGATTGGTAACCTCGCTTTCCCTTTGCTTTTGATTGGTGGTTTGTTCCTTCTCTCGAGACGGTCCTCTGGAGGAATGGGTGGACCTGGT GGTCCTGGTTTCCCACTTCAGTTTGGTCAGTCTAAGGCAAAGTTCCAAATGGAACCAAACACTGGTGTAACGTTTGATGACGTTGCTGGAGTTGATG AAGCAAAGCAAGATTTCATGGAAGTTGTGGAGTTTCTGAAGAAGCCAGAGAGATTCACTGCGGTTGGTGCCAGGATCCCGAAAGGTGTTCTCCTCA TTGGTCCTCCTGGTACCGGGAAAACCCTTTTGGCGAAAGCCATTGCTGGTGAAGCTGGTGTGCCTTTCTTCTCCATCTCTGGTTCTGAGTTTGTTGA GATGTTTGTCGGTGTTGGTGCCTCCAGAGTCCGCGATCTTTTCAAGAAAGCCAAGGAAAACGCTCCTTGCATTGTCTTTGTAGATGAAATTGATGCT GTTGGTAGGCAAAGAGGAACCGGAATTGGTGGAGGTAATGATGAAAGAGAACAGACTCTCAATCAGCTGCTAACTGAGATGGATGGATTCGAAGGT AACACTGGTATTATCGTAGTTGCTGCAACCAATAGAGCAGACATTCTTGACTCTGCTTTGTTGAGGCCAGGACGGTTTGACCGGCAGGTAAGTGTTG ACGTTCCAGACATTAAAGGGAGAACAGATATTCTCAAGGTTCATGCCGGTAATAAGAAGTTTGAAAATGATGTCTCACTTGAAGTAATTGCAATGAGA ACACCTGGATTTAGCGGAGCAGATCTCGCTAACCTCTTGAACGAGGCCGCCATATTGGCTGGCCGGCGTGGGAAGACAGCGATAGCATCTAAAGA GATTGATGACTCCATTGACAGAATCGTTGCTGGCATGGAAGGAACTGTGATGACAGATAGCAAGAGCAAAAGCTTGGTTGCTTACCATGAAGTTGGT CACGCAGTTTGTGGAACATTGACTCCAGGACATGACGCTGTGCAAAAGGTAACGTTGATACCAAGAGGCCAAGCGAGAGGTCTGACTTGGTTTATA CCATCAGATGACCCGACTCTCATCTCCAAGCAACAGCTCTTTGCAAGAATCGTTGGTGGACTCGGTGGTAGAGCTGCTGAAGAAGTCATCTTTGGT GAGCCCGAGGTGACTACTGGCGCTGTTGGTGACTTGCAACAGATCACCGGTTTGGCCAAGCAGATGGTAACAACATTTGGAATGTCTGACATTGGA CCATGGTCGTTGATGGTTTCATCAGCACAAAGCGATGTCATCATGAGGATGATGGCAAGGAACTCCATGTCTGAAAGGCTTGCAGAAGACATTGATT CTCCAATTAAGAAACTCTCCGACAGTCCATACGAGATAGCTCTAAGCCACATAAGGAACAATCGTCAAGCCATGCATAAGCTTCTTGAACTCCTTCT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002C07	AT1G69170.1	squamosa promoter-binding protein-like 6 (SPL6)	GATTTCTCTTCTTCCTCTCTGTTATTCTAATCGTTAGGGTCTGAATTTTTTCGTCGATTACATCTGGGTCTTGTGCCAATCGAAGGAAAAGGTGAATCT TTCTCACTCATAAGGACACTTGAATTTCCAAGGCGAAGAAAGCTTCCTAATTTAGGGTTTTTGTGTCACTTATCGAATCGCATAGTTGTAGTTGAATG GTAGCAGAAGTTGATCCTTGTACTGATAGTGTAAACACCGTTGTCTTAGTTTCAATTTTTGCGTGATGGATTTTTGGAGCTACGGGAGAAGCGTTTTC TTGGAAAATGGAACTGTTCTGCCTTCTGATTCGTTTGCTCAGAGTAGAAAAGCCATGGCTGGATATGAGCAGAGACTCTCTAATGAATTTGAGAATG ATGATGATGTTTTGATGTCCCATATGGCTGGTAAATCCAATGGATTCAGTGCTGTTTCCATTAGCAAGATGGCGTCTTCCTCTTGTCTTGCTCCTTCG AGTTTGTTGCCCGTTGAGGAGGATGAGGAGGAGAACCAATCTTCTTCTTCAAAGCTGTCTAGAATAGATTTCAAAGTTAGGAGCTTTTTGGATTACGA GAACGATGGTACTTCGTCTAGAGCTAAAAAGACTCGAGCTTCAAACCTGTGCCCACAGAATCCCTTGTGTCAAGTGTATGGATGCAATATGGATCTG AGCTTTTCAAAAGATTACCACAAAAGGCATAGAGTTTGCGAGACTCATTCAAAGACTTCCGTGGTTATAGTTAGCGGTATTGAGCAGAGATTTTGTCA ACAGTGCAGCAGGTTTCATTTCCTCTCAGAATTTGATGATGGGAAAAGAAGTTGCAGAAGACGATTAGCTGGTCACAATGAGCGAAGAAGGAAGCC TTCATTCTATTTCCTACCTGGTAAACGGCATAAGCTTCTTCGAACATCTCAAGGGAACAAGTTTCTTGAAGCTTCATCAGTCAATGACTTCTCATTGGT CTTACCAGAAGCGTTTCCCGGTAATTTCTTGTACAGAGTAACGGATGAGCAAGACCACTGTGCAAGTAGACTCGTGAGTTTCAAAGATGAACCTACT TGCTCTATGTTTCCTGCGATTGCGCAAAACAACAGTCGTAGGATATATGAATCTAAAGCAAGGATTTATTCACCGGAAGCTTCTGGTGTATCCTCGAT TTGGGACTTACATGAGGCAGCGCCACGCTCTACTTGTGCTCTCTCTCTTCTGTCAGCTCAGTCCCAACAACACTTCTCTGAGACTCCAAGTCCAAAC ACAGCTTTCTCAATCACCAAACCAAACCAAAACCTCAATCAGATGCAACCGTTGTGGATGGATCCTGGCAAGACCAGTTCTGTTTCTAGTTCACGTAA TGGAAAAGGATCATCCACGGTTGATCTACTGCAATTGTCATCGCATCTTCAAAGAATCGAGCAACAGAGGAATATCACTGATGAGGTGAAGCAGGAA TATAATGAACTTTATTTCCCTAGCTCCTAAAAGAAAATTGACATTCTTATTCCTTTAAACAGGCTCTAGTTTCTTGAAACTGTGTTGTGTATAAGGCAAG
GCT-002C08	AT1G01710.1	acyl-CoA thioesterase family protein	GAGGTGGCGATCGTTCTACACAAAACAGTTAAACCGGCGATTTCTCCCGACTACATGGAATCCGCCATGAACACCGAATCAGTTTTCGAGTTCCTTG GAAACGTTCCCTTACTTCAGAAGTTGCCGAGTTCTTCTCTTAAGAAAATCGCCCAAGTTGTTGTGCTCAAACGCTACGGGAAAGGGGATTATGTGAT TCGTGAAGACCAAGCTTGGGATGGTTGCTATTTCATTTTTGCAGGAGAGGCTCAGGTTTCCGGACCAGCCGAAGAAGAAAATCGTTCCGAATTTCTC TTGAAAAAATATGATTACTTCGGCCATGGTATTTCTGCGCATGTTCATTCAGCAGACATAATTGCTACGTCCGAGCTTACATGTTTGGTGTTGCCGCG TGATCATTGTCGTTTGCTTGAGACAAATTCAATCTGGCAGTCGGATAAAGAAGTTCAGAAATGCTCTTTAGTTGAACGCATATTGCATCTGGACCCTT TAGAATTGAATATCTTCAGGGGGATCACTCTTCCTGATGCTCCCAAATTTGGAAAGGTTTTCGGAGGACAGTTTATGGGACAGGCACTTGCTGCGGC ATCAAAAACTGTTGATTTTCTGAAGATTGTCCACAGTTTACATTCTTATTTTCTTCTCGTTGGAGATATCGATATCCCCATTATATATCAAGTTCACCGC ATACGTGATGGGAACAACTTTGCCACCCGAAGAGTGGATGCAATACAGAAAGGAAATATCATATTCATATTGTTGGCATCATTTCAGAAAGAGCAAC AGGGATTTGATCACCAGGAGTCAACCATGCCCTCTGCACCAGATCCTGATACGCTTCTATCACTAGAGGAGTTGCGTGAACGTCGTATAACTGACC CTCATCTACCTAGGAGTTACCGAAACAAAGTTGCAACTGCAAATTTTGTTCCATGGCCTATAGATATTCGATTTTGTGATCCCAGTAATTCAACAAACC AGACAAAGTCTCCACCGAGATTGAGGTATTGGTTTAGAGCAAAGGGAAAGCTTTCTGATGACCAAGCTTTGCACCGATGTGTCGTCGCATTTGCTTC GGATTTAATATTTGCCAGCGTCAGTTTGAACCCTCACCGTAGAAAGGGCCTGAGATCTGCTGCACTTAGTCTCGACCATGCGATGTGGTTTCATCGA CCTCTAAGAGCTGATGACTGGTTGCTTTTTGTGATTGTCAGTCCAACCGCGCACATGACCCGTGGCTTTGTCAGTGGTCAAATGTTCAACAGAAAAG GAGAGCTGGTTGTATCTTTAACGCAAGAGGCCTTGTTAAGAGAGGCTAGACCTCCTAAACCCTCGGTGACGTCGAAGCTCTGAATGAGCCACCGTA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002C10	AT2G22830.1	squalene monooxygenase, putative / squalene epoxidase, putative	GACGCGTCGATTCAGAAACCTCTCCTTAACCACCGGGGCCACCGTTATTCGCCGCCGGGGAGCGGCGGAAGAGAGATACAAGTGCGGCTCCCTAA CCTCTACCTCTAAGAAGACGATAACAATGGCGCCGGTGATTGAATTGGATCAATTCATTCTTGGGACATTTGTGGCTTCTCTGTTCGCGTTTGTGCTC CTCTACGTTTTACGCCGAAATAGCAGCCGCGACGCGAATTTGATTCGGAGTAAGAAGAACCGTGGGCTCGTCGTTGCTCAAAACGACGCTGTATCG AGGAATCCTGCGACGGAGGGTGATTCCGGTATCGATGTTATCATCGTCGGAGCTGGTGTTGCCGGTGCAGCTCTTGCTCATACTCTCGGCAAGGAA GGACGACGTGTTCACGTAATAGAAAGAGACTTGTCTGAGCAAGACAGAATCGTCGGTGAATTGCTTCAACCTGGTGGTTACTTGAAGTTAATTGAGC TCGGCCTTGAGGATTGTGTAAAGGAGATAGATGCTCAACGAGTCCTTGGTTATGCTCTCTTCAAAGATGGGAAGCACACTAAACTTTCTTACCCCTT AGAAACGTTTGATTCGGATATAGCCGGGAGAAGCTTCCACAATGGGAGATTTGTGCAGAGAATGCGAGAAAAGGCCGCAACACTTTCAAATGTACG ATTGGAGCAAGGAACAGTTACGTCGTTGCTAGAAGAAAACGGGACAATCAAAGGGGTTCAATACAAAACAAAAGAGGGCAATGAACTTAGATCATAT GCTCCTCTCACGATTGTTTGCGATGGTTGTTTCTCCAACTTGCGTCGCTCTCTCTGCAAGCCTAAGGTCGATGTGCCCTCTACTTTTGTGGGTCTTAT CTTGGAGAATTGTGAACTCCCATTTGCAAATCACGGGCATGTTGTTCTCGGTGACCCATCACCCATCTTATTATATCCCATCAGCAGCACAGAAGTC CGTTGCTTAGTCGATGTACCTGGTCAAAAAGTTCCTTCCATTGGAAATGGTGAAATGGCAAAGTATCTGAAAACACAGGTTGCACCTCAAGTACCAC CTGAGGTTCGTGAAGCGTTCATCTCCGCCGTTGAAAAGGGTAATATAAGAACCATGCCGAACCGAAGCATGCCAGCTGATCCGGTTCCTACACCTG GAGCACTTCTCCTTGGAGATGCATTCAACATGCGACATCCTTTAACCGGTGGTGGAATGACTGTTGCATTGGCAGATATCGTTATACTCCGTGAGCT TCTAAGGCCTATTCACAGTCTTAACGACAAAGAAGCACTGTCTAAGTACATTGAATCCTTTTACACACTGCGGAAACCTGTAGCTTCCACCATTAATA CATTGGCGGGTGCGTTGTACAAGGTCTTTTTAGCTTCTTCCGATGAAGCGAAAACGGAGATGCGTGAAGCTTGCTTCGACTATCTTAGCCTTGGAG GTGTTTGCGCATCTGGTCCGGTTGCATTGCTCTCTGGTTTAAACCCTCGTCCTTTGAGTTTAGTTCTCCACTTCTTTGCTGTGGCGATCTATGCTGTT GGTCGTTTAATGCTACCATTTCCTTCTATCAAAAGCTTTTGGCTTGGAGCTAGAGTTATCTCGAGTGCGTCAGGTATCATCTTTCCCATAATAAAAGC AGAAGGAGTCAGGCAAATGTTCTTCCCTCGTACTATCTCTGCCATATACCGTCCTCCTCCTCAATGATTTCATCAGGAGCTACGTACACTGAATGATC
GCT-002C11	AT3G51730.1	saposin B domain-containing protein	GGTACGCAATCGACCAATTCGACGGATCTGGTATTTGATTGTTACCATCTTCTTCTTCTTCTTCTCACAAGCCAGATACTACGAATCATTTGCTCG ATTTTTTTCTTTCCTTCTGAAAAATAGGAATCAATGGGACCCAAAGCTCGAACGTTGGTTATTCTCTTGCTTGGTTTGACCTTGCTTTCTGACGCTAGA TCTTTCTTTGACTCCACCCTCTCAGAGGAAGTTTCCAAGAAGGAAGACGTTTGCAAACTGTGTGAGGAATATGTTACTGATGCTCTCAACTACCTTGA GAAAAATGAAACACAAGCCCAGATATTCGAAGATCTTCATGATCAGTGTTCCCAATTGCGCGGATTTTCGCAGCAGTGCATAACTCTGGTTGATTACT ATCTCCCTCTCTTCTTCATGCAACTGGAGTCGTTTCAACCTCATTATTTCTGCAAGAGGATGAATCTTTGTGGCAAAGTGGTAGCTCTTGTGGAAGAA GCCCGTCAAGACAGTTGCGGTGTATGCCACAGGACCGTTTCAGAGATTCTCATCAAACTTCAAGATCCCGACACACAGTTGGATATAGTTGAACTGC TTCTCAAGGGATGCAAATCGTTCAACAACTACGAGAAGAAGTGCAAGAAGTTGGTGTTCGAGTATGGACCTCTGATCCTCGTTAATGCAGAGGAATT CCTAGTGAAAAACGACATCTGTACACTCTTACGCGCATGTCCGGCCGAGAAAACGGTTCTAAGGCAGCCCGGGTCGGCGGATTCTTGAATGTTAAA ACAATGGGTCTAATTAGGAACAGGAGCTGCTGTGTATTGTCCATAAGAATTGTTGCAGACTTTGTGAACTGTCTGTGTGTATGGTTAGACACACTCC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002C12	AT3G22104.1	phototropic-responsive NPH3 protein-related	GGGGGAAAATTAAGACACAGAGCGAGAGAGAGAATCTGGTTCTCGTAGTGGGTTCTCTTGATAAATTTGTTTTTGGGTGTTGTTTAGTTTCTTTCTCT TTTTTGTTTTTGGCTATGGAAGCTTGCTCTGTTCTTGAAGTAGACATAAACGGAGAAGAAACTGTCTTTCTCAATAAGGTAACTCTTTCTCTCTCTCTC TCCCTCTCTGTCTTCTTCCTCTCTATAACAGACTCTATACACTAAATTAGGCTCAAAATCCAAACTTTAACCGTTTCTCAATGTTAATCTCACTTTTTCT TATCTGGGTCTCTCCGATTTTTCCTTATAGTTTTCTTGCCTTGAATGTTGATTTAAGAAAAGGTCATATGGGTTCTAATTTCTCCATCTAAAACTGTAAA AAAAAACTGGTTTTTATCTATATTTTAAAGACATTTGTTGTGTGTGTATTTTGTTTTGATTCTATGAACATATTATGGCTCACGTATAGTGTGTGACTCT CCTACATTCAGCATTTAATGTTCTATCACCGAATTACCTTAAAACGAGGGCACACAAGTTTCTTTTTTTCCTGTGAAACTAATCACTAATTCAGAAATC TATAACTGATTGTCTCTGAGTCTCATTGATCTTATGTCTCCATCACCATTTATTGCATTTTTTGTTCTTACCTTTCCTCTGACTTTCTCCAATATTCTTAT GCAAATCGACAAAAATTTCACATTAATAGGATGATAAATCTTTCAGAAGATGTTAAGAAGTTGCTCTCTTTGCAATTTGCTTGGACACTATTCACTTCC CTTTTGTTCTCACTTGTGACTATGAGATTGACATTTTACTTACATGATTGAAGAGACACAGAGACGTCTTTGTAGTTGATATTTAATTCGATCCCGACT TGTAATAACTGTTCATCATTTTTTTTAACTTAATTCCTTCACAAACAGTAAAATGGCTTAAAGTTTAAACTTTTATTTTCTTGTGGGTCTTTCAAGATTAA ATCAAATCTGTTACTTAACTCTGCAATCACATGACTTTTGGTTATTGGATTTTGTGTTTTGATTTCAGCAAATCATATGCAAGTATTCTGGAACATTCAG GAAACTGCTTGGGAAATCTACTAGTTCCAATGGTAATCTCAAGGTTATCTTTAATGATTTCCCCGGTGGAGCGGGAACTTTCGAGCTTGTATCGAGAT TCTGCTATAACAACGGTCATTTTACTGTGATGCCTTCGAATGTAGTCTTCTTGCATTGTGCTGCTACGTTCATGGAAGTCCCTAAAGTCTTGCAAAAA ACAAAAAAGTGTATGGAAGAGATTCGTTATTGGGCTTGGCCAGAGGTTCTTCTTGGTTTGAAACAGTGTCAAGAACTTGAAACATCGCCTGAAGCAG ATCCTTTAGCCTCGATATTGATGGATGCGCTTGTGGAGAAACTGTGTTTAGCCATTGAAACGAGTCCCTCTAGTGCTGCTTCTGCTTGTTCACCAGAT AGCAGCTTGTTTCGGTTTTCTTGTGACAGTAAAAGCACAGAGAGTTTCAAAAATAGCTCTGCTCGGTCAACATGGTGGTTCGATGAGGTTCTTGTTCT AAGTCCTCGTTTGGCTGAAATGTTCTTGAAGCTGATGATCTCGCGGAAATTTGACAATCTCATCATAAGTAGATTCTTGTTTTATTACCAGAAGGTCAA GTTTTGCCCAGCGTCTTCTAATGAGAAAAGAAAGATTCTTGAAACCGCCATTGATACGCTTTACGTGTTAGACCGAAGCTGTGTTCCTTGCAAGAGC CTTTTCGGGGTTTTGAGGCTCGCTCTTGGATTGAACATAAACAAAGGCAGTATGAACAAGCTAGAGCTTATGATTGGTCATCAATTGGATCAAGTAAC ACTTGACAATCTTCTTGTTCCATCTCCATTGAAATCGAGTCACTTGTACTATGTGAATCTCGTTCTTAGACTCACAAAAGCTTTCCTCGACGAAGCAAG AAGAGGATCACAACTGAAGAAAGTGGCGAGCTTGATTGATCAGTACATAGCTGAAGTAGCACCTGATCCTTGCTTGAAATCTTCAAAGTTTCTATCTC TCCTCACACTCATTCCAGATTCAGCTCGAGAATCTCATGAAGATATCTACCGTGCTATTGATATGTATCTCGAGGCTCACGCAGGATTAAACAATGGT
GCT-002C13	AT2G24280.1	serine carboxypeptidase S28 family protein	GCTTCTTCTTCTGCCTCCTTGCGTGTATTTTTGAGTTACTCTTGTTTTGAGAGAGAGAGAGACAAAAAATGTCTGCTTGTTTGTGTCTTGTGTTCCTGT TCTTCATTAGTTTTGCAGAAGCAACGTATCCTCCAGGAGGTTTCCACCATTTTTCTTCTCTAAGACAAAACAAGAAGGCCTCTAAGTCAAAATCAGAG TTACCTTTTGAGACTCTCTACTTCCCTCAAAATCTTGACCACTTCAGCTTCAGACCAGAGAGCTACAAAGTCTTCCACCAAAAGTACCTTATCAACAG CCGGTTCTGGCGTAAAGGTGGCCCCATCTTCGTCTACACCGGAAATGAAGGAGACATCGACTGGTTTGCTTCCAACACCGGTTTCATGTCTGATATT GCTCCCAAGTTCGGGGCTCTTCTTGTCTTCATTGAACACCGGTTCTATGGAGAATCAACGCCATTTGGGAAGAAGTCGCATAAGTCGGCTGAGACAT TGGGTTACCTGAACTCACAGCAAGCGTTGGCTGATTATGCAATCTTGATAAGAAGCTTGAAGCAAAATCTTTCGTCCGAGGCATCTCCTGTGGTTGT ATTTGGTGGCTCTTATGGTGGAATGCTTGCAGCGTGGTTCAGGCTCAAGTATCCTCACATAGCAATAGGTGCATTGGCATCCTCCGCTCCAATTCTG CATTTCGATAACATTGTGCCATTGACGAGCTTCTATGATGCCATTTCTCAGGATTTCAAGGACGCAAGTGTTAACTGTTTCGAAGTCATCAAGAGAAG CTGGCAAGAGCTGGAGGCAGTTTCCAACATGAAACATGGCTTGCCAGAACTCAGCAAAAAGTTCAGAACTTGCAAAGGACTTCATTCTCAGTATGCA GCCAGAGATTGGTTAATGTCAGCGTTTATTTATACAGCCATGGTTAATTACGCGACCGCAGCTAATTTCATGGCGCCACTGCCTGGTTATCCCGTGG AGCAGATGTGTAAGATCATCGACGGGTTCCCTCGAGGATCTAGCAATCTCGATCGTGCCTTTGCTGCTGCAAGCTTATACTACAACTATTCGGGTTC AGAAAAATGCTTTGAACTTGAACAACCAACTGATGATCATGGACTCGACGGTTGGGGATGGCAGGCATGCACGGAGATGGTAATGCCAATGAGCTG CTCGAACCAGAGCATGTTTCCACCGTATGATAATGACTATGAGGCATTCAAAGAACAATGCATGAGTAGATATGGAGTGAAGCCGCGACCCCATTG GATCACCACTGAGTTTGGTGGGAAGAGAATAGAGACAGTGTTGAAGAGATTTGGAAGCAACATCATATTCTCCAATGGTATGCAGGATCCTTGGAGC CGTGGAGGGGTTCTGAAGAACATTTCTAGCAGCATTATCGCGCTCGTGACCAAAAAAGGAGCACACCATGCGGATCTCAGAGCTGCTTCAAAAGGC GACCCGGAGTGGCTGAAAGAGCAGAGGAGGCAAGAAGTTGCCATTATAGAGAAATGGATCAGTGAGTATCACAGAGCTTTGAGAGAAGAAGAGTA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002C14	AT5G53760.2	MLO11 (MILDEW RESISTANCE LOCUS O 11); calmodulin binding	GGTAGAATCCAAATTCTTCTTCACATTTTCTCTCTCTCTCTCAACGAGCTTCTTCATCAAGGTGTTGCTCTGCCGGTGATCGAATCTCCACTAATTTCA GTTTCTCCGGTGATCGTCTGAGAGAAATTTATACCGGCGGCGTTAAAGGACGGTGGATTTATTGATTTTTCCAGGCTTTTCCGTTTTCATTATAGTCG AAAAACCTTACCAGAGAAATTTCAAGCTTTTTTTCTTTCTGGGTTTCAATCGGAGTAGAATCTCTGTTTTTCTTAGTCAATTAGATTACTGGGTCCGAT TGTTGTTTCTCCGAGAACGCTTGATGGGTTTTAAAGGTTGGATTTTTAAACAGCATTTCTCAAATCACTGGTAATATAATCAAGGAATGTGATTTTGGC TTCCCAAAAATCGAAACTTTCCACGGCGAAGAAGTTGCTTTGTTGAGAGGAGCTCGTGAGCGTGAAGAATCCGATTTGAAGAAATGGGAGAAGGAG AAGAAAACGAAGCAGAGCCAAATGAGAGATCTTTGGCATTATCGCCTACTTGGTCTGTTGCTTTAGTGTTGACTGTCTTCGTTGTTGTTTCTTTAATC GTTGAGCGCTCCATTTTCCGTCTAAGCACTTGGTTAAGGAAGACAAAGAGGAAACCTTTGTTTGCTGCATTGGAGAAGATGAAACAAGAGTTGATGC TTCTTGGCTTCATATCACTTCTTCTTACAGCTACCTCTAGCACAATAGCCAACATATGTGTCCCTTCAAGTTTCTACAACGACAGATTTGTTCCGTGTA CACGATCTGAGATTGATGAGGAGCCTGAGAGCGAATCATCTGTCAAGCGGAATCTTTTAACGAAATCCCTTTTTTTCAACGTCTTTAGGAGAAGGTT GGAAGGCATTAACCATGCTACTTGCAGCGAGGGACATGAGCCCTTTGTTTCATACGAAGGCCTGGAACAGTTGCATCGCTTCATCTTTATAATGGCA GTTACACATGTAACTTACAGCTGCTTGACCATGCTCCTTGCAATTGTAAAGATTCATAGTTGGAGGATCTGGGAAGATGTAGCTCGTATGGATCGAC ACGATTGCTTAACTGCTGTGGCAAGGGAAAAAGTATTCAGAAGGCAAGAAACATTTGTCCAGTATCATACATCTGCTCCTCTGGCCAAGAATAGGTT GCTTATATGGGTGACATGTTTCTTCAAACAATTTGGACATTCTGTTGTGCGTTCTGACTATCTTACACTCCGCAAGGGATTCATTGTGAATCACCACC TCACATTGAAGTACGATTTTCACAGCTACATGATTCGTTCTATGGAGGAAGAGTTCCAAAGGATCGTTGGTGTAAGTGGACCGCTTTGGGGGTTCGT AGTTGCTTTCATGCTCTTTAACATAAAAGGATCGAATCTCTATTTCTGGATAGCAATCATTCCTGTTACTCTTGTTCTTCTGGTTGGTGCCAAGCTGCA ACACGTAATAGCAACATTGGCATTGGAGAATGATGGTTTAACAGAATATCCCTCGGGAGTGAAGCTGAGACCTCGTGATGAACTTTTCTGGTTCAAT AAACCAGAACTACTCTTGTCCCTTATCCATTTCATTCTATTCCAGAATTCGTTTGAATTGGCTTCCTTCTTCTGGTTTTGGTGGCAGTTTGGTTACAAC TCTTGCTTCCTTAAGAATCATCTCCTTGTTTACTTCCGACTTATTTTAGGATTTGCTGGACAGTTTCTATGCAGCTATAGCACACTGCCACTATATGCA TTGGTCGCTCAGATGGGAACGAATTATAAAGCGGCTCTAATACCTCAGAGGATAAGAGACACGATTCAAGGTTGGGGAAAAGCGACCAGAAAGAAA AGAAGGCATGGGTATTACGGAGATGATTCAACTGTTAGAACAGAGACAAGCACGGTTGCATCTATCGAAGAATATGATCATCAGGTGCTTGATGTTG CTGAAACTTATCAAGAACAACAAAAACAAGAACAGCAACAACAAGCTATTGACGTTCAGTTGCAGCCTATCGAAGCTCGTACCGCCTCTCTTTCTCT
GCT-002C15	AT4G25640.1	MATE efflux family protein	GGTTGACTCGGAGGCGAGTGAGTGAGTACTGAGCTTTGGTTTAACATTTTGTGACCCGGAAGGAGGAGATGGATCCGACGACGCCGTTTCTCTCG CACAGTGGCGAGCCTGAGGAGGACTATGCTCCGGCGAGGACATGGAGCGACCTGAAGCAAGTTCTGTCCACAGAGTCGGCCAAGATGTGGATGA TCGCTGCTCCGATTGGTTTCAACATCATCTGCCAATACGGCGTCACTTCCTTAACCAACATCTTCGTCGGCCACATCGGCGAGATCGAGCTCTCCGC CGTCTCCATCTCTCTCTCCGTCATCGGCACCTTCTCCTTCGGCTTCCTGCTAGGCATGGGAAGTGCACTTGAAACACTTTGTGGCCAAGCATTTGGA GCTGGTCAAGTCCATATGTTAGGTGTTTACATGCAGAGATCTTGGCTTATCTTATTCGTCTCTTGCATCTTAATCCTTCCGGTTTACATCTTCGCCAC GCCGGTTCTGATATTTTTCGGTCAAGCAGAGGAGATTGCTGTTCCGGCTGGACAGTTCACTCTCTTAACCATCCCTCAGCTCTTCTCACTCGCCTTC ACTTTCCCTACCTCCAAGTTCCTTCAAGCGCAGAGCAAAGTCATCGCCATAGCTTGGATCGGGTTTCTTGCTCTCCTCCTTCACGTTGGTATGCTCT GGCTCTTCATTGTCGTGTTTGGTTGGGGAACAAACGGTGCTGCCTTGGCGTTTAACCTTACTAATTGGGGAACAGCCATCTCTCAAATCGTTTATGT GATTGGTTGGTGTAATGAAGGCTGGTCTGGTTTGTCTTGGCTGGCTTTTAAAGACATTTGGGCTTTTGTTAGACTCTCCATTGCTTCCGCTGTTATGC TTTGTCTTGAAGTCTGGTACATGACGAGTATCATTGTCCTCACTGGTCACCTTGACAACGCTGTTATCGCTGTTGATTCCCTTTCTATATGCATGAAT CTCAATGGTGTGGAGGCCATGCTGTTCATTGGAATAAACGCTGCTATAAGTGTCCGTGTCTCCAATGAGCTTGGCTTAGGCCGTCCACGAGCAGCG AAATACTCTGTTTATGTCACGGTGTTCGAGTCACTTCTCATTGGTCTTGTCTTTATGGTGGCCATCATCATAGCCAGAGACCATTTTGCTGTCATCTTC ACAAGCAGCGAAGTACTTCAACACGCAGTGTCTAAGCTAGCTTATCTTCTTGGTATAACCATGGTTCTCAACAGCGTGCAGCCAGTTATATCCGGTG TGGCTATTGGTGGTGGTTGGCAAGGGTTAGTGGCTTATATCAACTTGGGTTCTTACTACATTTTCGGCCTTCCCTTTGGATATCTTCTTGGTTACAAA GCAAACTTAGGAGTGATGGGACTTTGGATTGGAATGATTGCCGGGACAGCACTTCAAACGTTGTTACTGATGATTGTTCTGTACAAGACAAACTGGA ATAAAGAGGTTGAGGAGACGATGGAACGTATGAAGAAATGGGGAGGGAGCGAGACGGCAAAGAAGGATGTGATTGCTTGATTGTTTTTTTTTTTTTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002C16	AT5G67560.1	ATARLA1D (ADP-ribosylation factor-like A1D); GTP binding	GAGAAACAAAAAATCTTGATGAGGTAATAATATCAGCAGCGAAGAGCGGAAGAAGGCAAAAAAAAAAAAAAAAAAGAGAGAAGCTTCCATTTAGCCCA TAGAGATCCGTTGAGGAGAATTTCTAGCAGACCCGATCTGTCGTCTCTGTTTCTACGAATCTCTTTCTCTGTCGGAAACTTGAGAGTTTTCTGAATCA TAAAACATGGGTTTGTGGGATGCTTTTCTCAATTGGCTTCGCAGCCTCTTCTTCAAGCAAGAAATGGAGCTTTCATTGATAGGTCTTCAAAATGCAGG AAAGACATCACTTGTTAACGTTGTTGCGACCGGTGGATACAGCGAAGACATGATTCCTACGGTTGGCTTCAACATGAGGAAAGTGGTAAAAGGAAGT GTCACAATCAAACTTTGGGATCTCGGTGGTCAACCTAGGTTCCGCAGCATGTGGGAACGCTATTGCCGTTCTGTTTCCGCCATTGTGTATGTAGTTG ATGCTGCTGATGCTGACAACCTCAGTGTGTCGAAAAGCGAACTCCATGATTTGTTGAGCAAGACGTCGCTTAGTGGTATCCCTCTTCTAGTCCTTGG AAACAAAATCGACAACCCTGCTTCTTTGTCCAAAGAAGCCTTCACCGAGGAAATGGGACTCAAGTCGCTTACAGATAGAGAAGTCTGTTGCTTTATG ATATCTTGCAAGAACTCTACCAACATTGATTCAGTGATCGATTGGCTTGTAAAGCACTCGAAGTCAGCAAGCTAAAATTTGCGCCAAAAGAACACAAC TCTGTGCAAGTTTTCCTGTGTGTTGCTCCTTTGATGATGATGATGGTGATGGTGGGAGAAGAGAATTTTCTTTTCTTTTATATTATCCTGTGAAACAAG
GCT-002C17	AT1G69870.1	proton-dependent oligopeptide transport (POT) family protein	GACAACCAAAAAAGCTTCCAACAGCAAGAAAGTGTACGAGTGATGTGCCCACTCTCGACATTTATCAATCATTTCATGTGTTTTTCTTGATTTATTTAT ATATATTGCAACAAAGTGAGGATATATAGAATCTCACGACATTAACTCCGCCATAAATTCGAAGTGAGAATTATTTCTGAGTGTAGTTAATAAATCTTG GAGATGGTTTTGAAGGATATAAAGGATGATTCTTCTTTGCCACGATCGTCCGGTGGTTTCTCCAAATCTTCGCCGCCACCACCAGAGGTGGAAGCTG TTGATCCATACAACCGGAAAATTTCGCCAGATTCTATGTTGGGTGCTGAGAAGGTTCAGAAAAAGCCCGGAGGATGGAGTGCCATCACGTTCATTTT AGGAAATGAGACGTTGGAGAGACTAGGAACGATTGGGTTGTTGTCAAACTTCATGGTGTATCTAACCAGAGTGTTCCACTTAGAACAAGTCGACGCT TCAAATGTCATCAACATCTGGTCTGGTTTCACCAATCTCACTCCCCTCGTCGGCGCGTTCATCTCAGACGCTTACGTTGGCCGTTTCAAGACCATCG CTTTCGCCTCATTCGCCACCCTCATCGGACTAGTGACATTGACACTCACAGCATCGCTTCCTCAACTCCACCCAGCAACATGCAACAGCAAAGACCC AGTCAGTTGTGGCGGTCCTAACAAGCTCCAGTTTGGAATTTTGCTGTTAGGTCTCGGTTTCCTCTCCATAGGGAGTGGAGGAATAAGACCATGTAGC ATCCCTTTTGGGGTTGACCAGTTTGACCAGCGAACTGAAGAAGGTCTTAAAGGAGTAGCAAGTTTCTTCAACTGGTATTACATGACTTTCACTGTGGT TCTGCTCATTACACAAACCGTGGTTGTGTACATCCAAGACCAAGTCAGCTGGATCATTGGTTTTAGCGTCCCTACAGGACTCATGGCTTGTGCTGTT GTTATGTTTTTCGCCGGGATGAAGCTTTATGTCTACGTTAAACCCGAAGGAAGTATATTCTCTGGAATCGCTCAAGTTGTCGTGGCAGCTCGGAAAA AGCGAAAAATGAAGCTCCCTGCGGAAGATGACGGCACTGTGACCTACTATAACCCACCCGTTAAAGATAGCGTGTTATCCAAGTTACACCATAGTAA CCAATTCAGGTTTCTAGACAAAGCGGCGGTGATAGTAGAAGGTGACCTAACATCGGAGGGAGTTCCGGCGAACAAGTGGCGGCTATGCAGCGTCC AAGAAGTGGAAGAAGTAAAGTGTTTGATCCGAATAGTTCCTGTTTGGTCGGCTGGAATTATCTCACAAGCGGCCATGTCGCAACAAGGAACATTCAC GGTCTCTCAAGCTTTGAAAATGGATAGACATATGGGTCCAAACTTCGAGGTTCCAGCTGGTTCTCTCTCCGTCATCTCTCTCCTTACCATCGGCGTTT TTCTCCCCTTATACGACCGCGTTTTAGTCCCGTTTCTCCGCAGGATCACCGGCCATAAATCCGGAATCACACTCCTCCAACGAATCGGGACAGGGA TCGTTTTTGCGATCCTTTCTATGATTGTAGCCGGTCTCGTGGAGCGTGTGAGACGCACACGCTCCATCAACGCCGGAGATCCGACAGGGATGACTC CAATGTCGGTGTTTTGGCTCTCGCCGCAGCTAATTCTCATGGGACTATGCGAAGCGTTTAATATTATTGGACAGATTGAGTTCTTCAACAGTCAGTTT CCGGAACACATGAGAAGTATCGCTAATTCTCTCTTCTCTTTATCTTTCGCTGGTTCGAACTACCTTAGCAGTTTGATAGTGACGACTGTTCATAAATTC ACCGGTGGTCGTGACCGTCCGGATTGGCTGAACAAGAATCTCAACGCGGGAAAATTGGACTACTTCTATTATCTGATTGCGGTTTTGGGTGTGGTTA
GCT-002C18	AT1G48270.1	GCR1 (G-PROTEIN-COUPLED RECEPTOR 1)	GGGGATACACCAGTACACCACGCGACGGGAAAGAAACGACGAGCACGAAAAGCGGAGGATCGTCAAATCTCTCGATCGGGTTTAAATTACAGGTA ACTATGTCGGCGGTTCTCGCGGCCGGCGGCGGATTAACTGCCGGAGATCGCAGCATTATCACGGCGATTAACACCGGTGCTTCGAGTCTCTCGTT CGTCGGCTCAGCCTTCATCGTCCTCTGCTATTGCCTCTTCAAAGAGCTTCGGAAGTTCTCTTTCAAGCTCGTCTTCTACCTTGCTCTCTCTGATATGC TTTGCAGCTTCTTCCTAATCGTTGGAGATCCTTCAAAGGGGTTCATTTGTTACGCACAAGGCTACACCACACATTTCTTCTGCGTAGCTTCGTTCTTG TGGACAACTACTATTGCTTTCACTCTTCACCGCACTGTGGTTAAGCACAAAACTGATGTTGAGGATTTGGAAGCCATGTTTCACTTGTATGTCTGGGG AACTTCCTTGGTTGTGACTGTCATACGTTCTTTTGGTAATAACCACTCGCATTTGGGGCCGTGGTGCTGGACCCAAACTGGTCTTAAGGGAAAGGCT GTTCATTTCTTAACTTTCTATGCTCCTCTTTGGGGTGCTATTCTCTACAATGGGTTTACATACTTCCAAGTGATACGGATGCTAAGAAACGCTAGACGT ATGGCGGTTGGAATGTCAGACCGAGTGGATCAGTTCGATAATAGAGCAGAGTTAAAGGTGTTGAACCGATGGGGATACTATCCGCTGATTCTAATA GGATCGTGGGCATTCGGTACTATCAACCGCATTCATGATTTCATCGAGCCAGGCCATAAGATCTTCTGGCTCTCAGCTCTTGACGTGGGGACAGCT GCACTAATGGGCTTGTTCAATTCAATAGCATATGGTTTCAACAGCTCAGTGCGCCGAGCAATCCATGAAAGACTGGAACTATTCTTGCCGGAACGGC TATATCGATGGCTTCCGAGTAATTTCAGACCAAAGAACCATCATCTGATTCTACACCAGCAACAACAACAACAGCGAAGTGAAATGGTCTCACTCAAA ACCGAGGAGCAGCAATGACACTACCTAACTTTTCAACATTATATTTCATGGACCGATAACAAGAAGGCGGGTTGTGATAATAGCATTTGGATGGAGA TTGCTAAGTTTTTTGCTTCTTTCTTTTCTCTCTTACATGCGTTTAGCTCTTATCAGCAGCAATAGCTTTCTTCTCTCTGGATCAGATATGCTGAAGCGC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002C19	AT4G38960.2	zinc ion binding	GGGAATGGATTTAAAAGGCGAGATAAAATAATTTATAAAAATTTCTTTCCTTTTCCTACTTTCTTCTTCTTCTTCATCTTCTTCGTCCTTGATTGATA CCAACGACTAATCCTAACCCTTAATCTACTTCGTCCTAAATTAATCAGGTTTCTACTAATTCCACTTCATCTCTTTCAATCGCAATCTGGGTTCTGTATT GAAGGTGGGATTCATTGTTCCGAACAGAGTGAGAAAAAAAGAATTTTAAGATTGAAGAAGAAAGATGCGAATTTTGTGCGATGCGTGCGAGAACGCA GCCGCTATCGTCTTTTGCGCTGCCGATGAAGCTGCCCTTTGCCGCTCCTGCGATGAAAAAGGAATGGTTTTGTCTCCAATGTTTGCATTTAGTATAA CTTGTGGAGAAGAAAATAGTCACTTTTCCGCGCTTTACGATTAATCCGTACTACAGTTAGATGACTCTTAAGGGTTCATATGTGCAATAAGCTAGCGA GTCGGCATGTACGTGTAGGTTTAGCCGAACCAAGCAATGCTCCATGCTGCGATATATGCGAAAATGCACCTGCCTTCTTTTACTGTGAGATAGACGG GAGTTCGCTTTGTCTGCAATGTGACATGGTAGTACATGTTGGTGGCAAGAGAACGCACGGGCGGTTTCTTTTGCTCAGACAGAGAATCGAGTTTCC AGGCGATAAGCCAAAACCAAACAATACGAGAGACAATTTGCAAAACCAAAGAGTCTCTGCAAATGCAAACGGTGAAGCTAATGGCAAGACTGATGA CGAAATGATTGATCTAAACGCTAACCCACAGAGAATACATGAGCCAGCATCAAATAACCAAGATATCGATGTAAATAACGCGAGCAATCACGAGCCT GCAGGAGTTGTGCCAGTTGGACCCTTTAAACGAGAGTCTGAGAAGTGATAAGGGTTTGGTTTGGTGTAAGCGAAGGTTTCGTTGAAGAAGGAAGGC
GCT-002C20	AT2G41250.1	haloacid dehalogenase-like hydrolase family protein	GAAGACAACAATCACAGAGAGAGCTATGGCGTTACGAAACAAGAGGTTAGCGACACTTCTCTTCTCCATTCCCGGAAACTCTCGGGTCTGCAATTCC GGTGGGTTTCATCACGGCTCGGATCGGATCGCGAGAACCGGGGCATTGCTCAGCCGCTGGATCTCCTCTGCTTCGTCATCTTCCGCTGTTGTGGC GGAGGATGAATCTGGAGGGATTTACGGATTGGGAAGTGTATTGAAGGAGTACGAAGATTACAGGAGATCGCTCTACGGCGAGTTCACGCACAAGG CTTTGCTCGTCGACGCCGTTGGTACTCTCCTTGTTCCCGCCCAACCCACTGCACAGATATACAGGGATATTGGAGAGAAGTATGGAGTTGAGTACT CGGAGGCTGAGATACTTACTAGATACAGAAGAGCTTATCAGAAACCATGGGGCGGATCTCATCTCAGATATGTAAACGACGCGAGACCTTTCTGGC AATATATAGTGAGTGCATCGACAGGCTGTTCGGATTCTCACTACTTTGAAGAGCTTTACAACTATTTTACTACAGAACAGGCGTGGAAGCTATGTGAT CCAGAGGCAGAGAAAGTGTTCAAGGCCATTAAAGAAGCGGGTGTAAAAGTTGCCATTGTGTCCAACTTCGACACTCGATTAAGACCTCTCCTACGA GCACTGAGATGTGAAGACTGGTTTGATGCTGTGGCTGTTTCAGCAGAAGTTGAAGCGGAGAAACCAAACCCAACTATCTTCTTGAAAGCTTGTGAAT TGTTAGGAGTTAATCCAGAGGATGCGGTTCATGTAGGAGATGACCGTAGGAATGATGTATGGGGCGCTAGAGACGCAGGCTGTGACGCTTGGCTC TGGGGAAGTGAAGTTACTTCATTTAAACAGGTTGCTCATCGGATAGGAGTGAAGGTTTGAAGCAAAGCATATGGGAGAAATGGATGGGAGAAATGG ATGGGAGAAATGGTTCAGACATCATTGTGAGGCGGCTTCAGTTTTAGCTCTTTTTTTTTTTTTTGTGAGCAGTTTTGTACATTTGATTAATCTTTTGTA GTATAATGTGTGTAATATATGTTGCCGACCTGCCGCGTATGTAAAAAACCAGAAAAAACACCTCTTGTTCACATCTTTCTCTTTGTGGTAAACAGAAA GGGAGAGAGAGAGAGAGAGATAGAAGACAATGGCGTCGAACTCGCTCATGAGCTGCGGCATCGCCGCCGTTTACCCTTCGCTTCTTTCTTCTTCAA AGTCTAAATTCGTCTCCGCCGGAGTTCCTCTCCCCAACGCCGGGAACGTCGGCCGAATCAGAATGGCCGCTCACTGGATGCCCGGAGAGCCACGA CCAGCTTACCTCGACGGTTCTGCTCCTGGTGACTTTGGATTTGACCCACTTGGACTTGGAGAGGTTCCAGAGAACCTTGAGCGATACAAAGAATCA GAGCTCATCCACTGTAGATGGGCCATGCTCGCTGTTCCAGGGATTTTGGTACCAGAGGCTTTGGGATATGGAAACTGGGTTAAGGCTCAAGAATGG GCAGCATTACCTGGAGGACAAGCCACTTACTTGGGGAACCCTGTCCCATGGGGTACTTTGCCCACAATCTTGGCCATAGAGTTCTTGGCTATTGCA TTTGTCGAGCACCAGAGAAGTATGGAGAAAGACCCCGAGAAAAAGAAGTACCCGGGAGGCGCATTTGACCCTCTTGGATACTCCAAAGACCCGAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002C21	AT2G42600.1	ATPPC2 (PHOSPHOENOLPYRUVATE CARBOXYLASE 2); phosphoenolpyruvate carboxylase	GGTAATCTCATAGAGTAAAACTAAAAAGGATTCCACAAGATTTTTATTATTTAATTGAAGAGAGTTTTCGGCTATAAATAAGCTACAACTACTTATCGA ATGGACTAGCTTTTCGCTACTGAGATTTTTCTAATTAAACTCTTTAAAAAAAACAAAAATCTATCAAACTTTTGTCACCCGTCTCTTCTCTTTCCATCGT CTTCCTCGTGAACGAACGAAACTTCTCGATCCTCTTTTTTTCTTTTTTTCACCTGTTTTTGGGTTTCACGAGATACTTCCACTCTACTACGCCACTCTT TTTTTTTTCCCCATTTGTTTTTTTTTTGTTTTAATTTCCCCATTTTCCGTAATTAATCTAAAGGTGAATCTTTTTGTTTGACGTGTTTCACTTCCAGCTTTA TCGGATTCTATCTCCTTGATTTTCGCCGATTGTGTCAATCTGGAAATTTCTGGGGACTAAAGGGGTTTTTATTCGATTTGGGATTAGATTTTTAAAGGT GGGGAGTGTGTGAGAGAGAGAGAGAGAGAGAGAAAGAGAACCATCAACCATGGCTACGGGAAATTTGAAGAAGATGGCTTCCATTGATGCTCAGC TCAGGCTTATTGCTCCTGGGAAGGTTTCTGAAGACGACAAGCTTGTTGAGTACGATGCTCTGTTGTTGGATCGATTTCTCGATATTCTTCAGGATCTG CATGGCGAAGAAGTCAGAGAATTCGTTCAAGAATGCTACGAGGTTGCTGCTGATTACGACGGAAACCGCAACACGGAGAAGCTAGAGGAGCTTGG AAATATGCTGACGAGTTTGGATCCAGGAGATTCAATTGTAGTTACGAAATCATTCTCCAACATGCTTAGCTTGGCTAATCTGGCTGAGGAAGTCCAG ATTGCGTACAGGCGCAGGATTAAGAAACTTAAGAAAGGCGATTTCGCTGATGAGGCCTCTGCAACGACGGAATCCGACATTGAAGAGACTCTCAAG AGGCTTTTGCAGCTTAACAAGACCCCTGAAGAGGTCTTTGATGCTCTTAAGAATCAAACTGTTGATTTGGTCTTAACCGCTCATCCGACTCAATCTGT TCGTCGGTCTTTGCTCCAAAAGTTTGGAAGGATTCGTGATTGTTTGACACAGTTATATGCAAAAGACATTACTCCTGATGATAAACAAGAACTAGATG AAGCTCTGCAACGAGAGATTCAAGCTGCTTTTCGCACGGATGAAATCCGAAGAACTCCTCCTACACCGCAAGATGAGATGAGAGCGGGTATGAGCT ACTTCCATGAGACAATCTGGAAAGGAGTTCCGAAATTCTTGAGACGTGTTGACACGGCTTTGAAGAACATTGGAATCAACGAGCGTGTTCCTTACAA TGCGCCTCTTATTCAGTTCTCTTCTTGGATGGGTGGAGACCGTGATGGAAACCCGCGAGTAACTCCTGAAGTTACAAGAGATGTATGCTTATTAGCA AGAATGATGGCTGCTAATCTCTACTTCTCCCAGATAGAAGATCTTATGTTTGAGATGTCAATGTGGCGTTGCAATGAGGAACTTCGTGTTCGTGCAG AACGTCAAAGGTGTGCGAAAAGGGATGCGAAACACTATATAGAATTTTGGAAACAAATTCCTTCGAATGAGCCATACCGAGCTATTCTCGGAGATGT GAGGGACAAACTGTACAACACACGTGAGCGTGCACGTCAGTTATTGTCGAGCGGAGTTTCAGACATTCCTGAAGACGCGGTGTTCACAAGTGTGGA CCAGTTTTTGGAGCCACTTGAGCTTTGTTACAGGTCGCTCTGTGATTGCGGTGACAGACCTATAGCCGATGGAAGCCTGCTCGATTTCTTGCGCCAA GTGTCGACATTTGGGCTTGCACTTGTCAAACTTGACATCCGTCAAGAATCTGAGAGACACACCGATGTCTTGGACGCGATCACGCAGCACTTAGGC ATTGGATCATACAAAGACTGGTCAGAGGATAAAAAACAGGAGTGGCTCTTATCTGAGCTAAGCGGAAAACGCCCTCTCTTTGGACCGGATCTTCCCA AAACTGAAGAAATCGCAGATGTTTTGGACACTTTCAAAGTCATCTCAGAGCTTCCTTACGACAGTTTCGGTGCTTACATAATCTCAATGGCCACTGCT
GCT-002C22	AT1G51700.1	ADOF1 (Arabidopsis dof zinc finger protein 1); DNA binding / transcription factor	GAAAGGAAACAAATTTATACTTCATCTTCCCCAAAAACCAAAAAAAAAAAAGTTTTCGGGTTCCGATTCAGAGGAAATTTTACAGTAACAGAATTTTCGT TTGTTTTTATTCCCGAGTGAAAAAAAAAATGCAGGATATGACGTCAGCAGCAGCGTATTACCAGCAAGCGATGATGATGACGACGACGGCGAAGCA GCAACCGGAGCAAGAGCAGCTAAAGTGCCCTCGCTGTGACTCACCCAACACCAAATTCTGTTACTACAACAATTATAATCTATCACAGCCCCGTCAC TTTTGCAAAAACTGCCGTCGTTACTGGACCAAAGGCGGTTCCCTCCGTAATATCCCCGTCGGCGGCGGATCTCGCAAGAACAGCAAACGATCATCT TCTTCTTCGTCGTCGAAGACCAAAACAGTCGCTGCTTCCGATCAGAAACAAGAAGAAGAGGGTATTAAAGGGAATTCGGGTCAGGAAATTGATCCAA CCCGGATGTTATACGGGTTACCGGTTGGAGATCCGATTGGTGGGAATTTCAGTTCGCTTTTGGCGTCGAATATGCAGATGGGACTTGGAGGGATTA ATTACGATTCCGGGTCACGTTGGTATCCGGGTACGGGTTTGGGTTCGGTCTCGGGTTTTCGGAGGAGTGATGACGCGTGGACTGCTATGAATAGA GTCGAGAAGAATTGAAAGAATCTCAAGGGTAATTTGGTCTAATCGGTATAGATGTCGTTTTTTTTAGTTAACGCGTAGTCAATATAACAACAAACGAT
GCT-002C23	AT3G15540.1	IAA19 (indoleacetic acid-induced protein 19); transcription factor	GACTACAATAAGAGAAGTGTGTGTGAGACGAAAGTTATCATATTTCATATAATTATATCGAATAATAAAGAGAAAAAAAGTTCAGAAGAAATGGAGAAA GATGGACTCGAGCTTGAGATAACGGAGCTGAGATTGGGTCTTCCGGGGAGAGATGTGGCGGAGAAGCTGATGAAGAAAAGAGCTTTCACGGAGAT GATCATGACGTCTTCTGGTAGTAATAGTGATCAATGTGAAAGCGGCGTCGTTTCATCAGGTGGTGACGTGGAGAAGGTTGCTAGTGATTCTCCGGC GGCGAAAAGTCAGGTGGTGGGGTGGCCGCCGGTTTGCTCTTACCGGAAGAAAAACAGCTGTAAGGAAACTTCGACGACGAAAGTGGGATTAGGGT ATGTGAAAGTGAGCATGGATGGTGTGCCTTACTTGAGGAAGATGGATCTTGGTTCAAGCCAAGGTTACTATGATTTAGCCTTTGCTCTCGATAAGCT CTTCGGTTTCCGTGGCATCGGAGGGCCTTGAAAGATGGTGATAACTGCGAATACGTTACCATATACGAAGACAAAGATGGAGATTGGATGCTCGCT GGAGATGTACCTTGGGGAATGTTCATAGAGTCGTGCAAGAGGCTGAGGATTATGAAAAGATCGGATGCTACAGGTTTTGGGTTGCAGCCTAGAGGA GTAGACGAGTGATGATGACTTGAAGAAGAAGCAAGAAGCTGGTTAATTAATTTAACCTTTAAACTTGATCAAGATCCTTTAGAACATTTTTCCTATTCA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002C24	AT5G22510.1	beta-fructofuranosidase, putative / invertase, putative / saccharase, putative / beta-fructosidase, putative	GGTCTCACTTTCCCGACAAAAGTTTCCTCTGACTCGAAATCATCTCTCTCGGAAGCTGAATCTGTATCATCAAAGTATCATTTTGAAGTTTTATCAGTT ATTCTAGTAATCTGAGTATATAGGGTAATAAAAATGGCGGCTTCAGAAACAGTTCTACGGGTTCCTTTGGCATCTTTATCTCCATCGTGTTATCTGGC TTCTTTCTTCGTTAACCCGACTCCAATCCTATCGCTTAAACCCGCTGGTAGAAAACGAAGAGGCTTAAGATGTACAAACTCACATGAAGTTTCTCGAG TCTCGAACAACGTGGCGAGAGAAACTATGTTTCACAGTCCAAATTGGGATTTAAAGGGTAAAAAATTGGTGTCCACGAGATGCAAATGCCAGAAACA TGATGTTGAGGAGAACTTCAGATCCACGTTACTTCCTTCTGACGGTTTGGGCAGCGAACTGAAAAGCGACTTGGACGAGATGCCTCTACCTGTAAAT GGAAGTCTTTCATCTAATGGTAACGTACAATCAGGTGGACCAAAATCTATCGAGGATGAAGCTTGGGATCTATTGAGGCAGTCCATTGTTTACTATTG TGGCAGTCCTATTGGAACCATTGCTGCTAATGACCCGAACTCTACCAGTGTCCTGAATTATGATCAGGTCTTCATTCGTGATTTCATACCCTCGGGG ATTGCCTTTCTTCTGAAAGGAGAGTATGATATTGTTCGGAATTTCATCCTTTACACCCTCCAGTTACAGAGTTGGGAGAAAACCATGGATTGCCATAG CCCAGGTCAAGGATTGATGCCTGCTAGTTTCAAGGTGAAAACTGTTCCTCTTGACGGTGATGATTCATTGACGGAGGAGGTGTTAGATCCTGATTTT GGTGAAGCAGCAATTGGACGTGTTGCCCCGGTTGATTCTGGCTTGTGGTGGATTATATTGCTGAGAGCATATGGAAAATGCACAGGTGACCTTTCA GTGCAGGAAAGAGTTGATGTTCAGACCGGAATCAAGATGATCTTAAAGCTCTGTCTTGCTGATGGTTTCGATATGTTCCCTACTCTATTAGTCACTGA TGGGTCCTGCATGATAGACCGTCGAATGGGAATCCATGGTCATCCACTAGAGATTCAGGCACTATTTTATTCAGCGTTGGTCTGTGCACGTGAGATG CTTACGCCAGAGGATGGATCAGCTGATCTAATCCGAGCTCTCAACAATCGTCTTGTTGCATTATCTTTCCACATCAGGGAGTATTACTGGTTGGACTT GAAAAAAATAAACGAAATATATCGTTACCAGACTGAAGAATACTCTTACGACGCAGTTAATAAATTCAACATATATCCAGATCAGATCCCTTCATGGTT AGTGGACTTTATGCCCAACAGAGGAGGATATTTGCTTGGAAACCTTCAGCCCGCTCACATGGATTTCAGATTCTTTTCTTTGGGAAACCTTTGGTCCA TAGTGAGCAGTTTGGCTACAAATGATCAATCACATGCAATTCTTGATTTCGTCGAAGCAAAATGGGCAGAACTTGTGGCAGACATGCCATTCAAGAT CTGTTACCCTGCTATGGAAGGTGAAGAATGGCGAATTATTACCGGAAGTGATCCAAAGAACACTCCTTGGTCTTATCACAATGGAGGTGCCTGGCCA ACATTGTTATGGCAGCTGACAGTAGCAAGCATCAAAATGGGTAGACCAGAGATTGCAGAAAAGGCGGTTGAGTTAGCCGAGAGACGGATTGCTATA GACAAATGGCCAGAGTACTACGATACCAAAAGAGCAAGATTCATCGGTAAACAGGCACGGCTTTACCAAACTTGGTCCATTGCGGGTTACCTAGTG GCCAAGCTCCTCTTGGCAAATCCAGCTGCAGCAAAGTTCCTCACTAGTGAAGAGGATTCGGATTTGGAAAACGCATTCTCTTGCATGATCAGTGCTA
GCT-002D01	AT2G21050.1	amino acid permease, putative	GATCTACTGGTATTCTACTCAAAAGAGAGAAGAAGCAATGGAGAACGGTGAGAAAGCAGTGGAGACGGTTGTTGTTGGGAACTATGTGGAGATGGA GAGTGAAGGGAAAGCCTCGGATATGAAATCAAAGCTTTCAAACATGTTTTGGCATGGCGGCTCTGTCTATGATGCTTGGTTTAGCTGCGCTTCCAAT CAGGTGGCGCAAGTGCTGTTGACGCTGCCATATTCATTTTCACAGCTTGGGATGCTCTCAGGGATTCTGTTTCAGCTCTTCTATGGCCTCTTGGGTA GCTGGACTGCATACCTCATCAGCATTCTCTATGTTGAATACAGAACCAGAAAAGAGAGAGAGAAAGTTAACTTCAGAAACCATGTCATTCAGTGGTTT GAGGTTCTTGATGGATTGCTTGGGAAGCACTGGAGGAATGTTGGGTTAGCATTCAACTGCACCTTCCTTCTCTTTGGATCCGTGATTCAACTCATAG CCTGTGCCAGGTACTAGCTAACCCATTAATCAATCCTTTTTTATATATTGAGGAAAGAAAAGAAGAGAGGATTAGCTAGCATTCATCATAACAACTGA TGAATGAATGTGCAGCAACATATATTACATAAATGACAATCTGGACAAGAGGACATGGACATACATATTTGGGGCATGTTGTGCGACCACAGTGTTC ATCCCTTCCTTCCACAACTACAGGATCTGGTCCTTTCTTGGACTCTTGATGACGACTTACACTGCTTGGTACCTCACCATTGCCTCCATCCTCCATGG CCAGGTAGAAGGAGTGAAGCATTCGGGACCAAGCAAGCTGGTGTTATACTTCACAGGGGCCACAAACATTCTTTACACTTTCGGAGGTCATGCTGT TACTGTAGAAATAATGCATGCGATGTGGAAGCCGCAGAAGTTCAAGTCGATATACCTGTTCGCGACTGTGTACGTGCTGACGCTGACGCTGCCTTC AGCGTCTGCGGTTTACTGGGCGTTTGGCGATATGCTTCTAAACCATTCAAACGCATTCGCTCTGCTGCCAAAGAACCTATTCCGAGACTTCGCAGTG GTGCTGATGCTCATCCACCAGTTCATAACGTTTGGGTTCGCGTGCACGCCGCTCTACTTCGTGTGGGAGAAGCTCATAGGGATGCACGAGTGCCG GAGCATGTGCAAGCGAGCCGCCGCTAGGCTTCCCGTCGTTATTCCCATTTGGTTTCTTGCCATCGTTTTCCCTTTCTTCGGTCCCATCAACTCCACC GTCGGCTCTCTCCTCGTCAGCTTCACCGTCTACATCATCCCTGCGCTCGCTCACATCTTCACCTTCCGCTCCTCCGCCGCACGCGAGAACGCCGTC GAGCAGCCTCCGAAGTTTCTTGGGCGCTGGACTGGGGCTTTCACCATCAACGCGTTCATTGTGGTTTGGGTCTTCATCGTTGGATTCGGCTTCGGT GGCTGGGCCAGCATGATCAATTTTGTTCACCAGATCGACACTTTCGGCCTCTTCACCAAATGCTACCAGTGCCCTCCTCCCGTTACGGCCTCGCCT CCTCCCATCAGCCACAATCACACTCGCTCCCACCTTTGAAACTTTACTGAGCAACAATGAATGATGCTCTCACGATAAGATTTGGGTTCGTTTAGATC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002D02	AT5G63860.1	UVR8 (UVB-RESISTANCE 8)	GCTGGGCAGGAGAAAGAAGAGAGAGAAAGAGAGAGTTCTCCGCAACTGTGATCGATGACGGAGGAGATGGTGGCCGATGAAGTTACGCCTCCGC CACGTAGGGTCCTTATCATCTCCGCCGGTGCTAGCCATTCCGTCGCTCTGCTCTCTGGGGACATTGTTTGCTCATGGGGTCGAGGAGAGGATGGC CAATTAGGTCATGGAGATGCAGAGGATCGACTTTCTCCGACGCAACTAAGTGCCTTAGATGACCACCAGATTGTATCCGTCACCTGTGGTGCTGAC CACACGGTTGCTTATTCAGAATCTCGCATGGAGGTCTACAGTTGGGGATGGGGTGATTTTGGGAGATTAGGCCATGGGAACTCAAGCGACTTGTTT ACTCCGCTGCCAATCAAAGCTTTGCACGGTATTCGGATTAAGCAGATTGCGTGTGGAGATAGTCATTGTTTGGCTGTGACAATGGAAGGCGAGGTT CAGAGTTGGGGGCGCAACCAGAATGGTCAACTTGGTCTTGGGGACACAGAAGATTCTCTAGTGCCTCAGAAGATTCAAGCCTTTGAGGGAATACGA ATCAAAATGGTTGCTGCTGGTGCGGAACACACTGCTGCGGTTACAGAAGATGGTGATCTTTATGGATGGGGATGGGGAAGATATGGAAATTTGGGA TTAGGTGACCGGAATGACCGCTTGGTTCCTGAAAGAGTTACCTCTGCTGGTGGTGAGAAGATGTCGATGGTTGCTTGTGGATGGCGGCACACAATA TCAGTTTCATACTCTGGAGCATTATATACTTATGGATGGAGCAAATATGGACAGCTAGGACATGGAGACTTGGAGGATCACCTTGTCCCTCACAAAC TGGAAGCGTTGGGCAACAGTGTTATCTCCCAGATTTCGGGAGGTTGGAGACACACAATGGCATTGACCTCTGATGGAAAACTATATGGATGGGGTT GGAATAAGTTTGGGCAAGTAGGAGTGGGCAACAATTTAGATCAGTGTTCTCCTGTGCAAGTGCGAATTCCCGACGATCAGAAAGTAGTTCAAGTGTC ATGTGGATGGAGACATACATTGGCTGTGACTGAAAGAAATAATGTATTTGCTTGGGGCAGAGGCACAAATGGACAGCTCGGCATTGGAGAATCGCT TGATAGGAATTTTCCCAAGATTATAGAGGCACTGAGCGTCGATGGAGCCAGTGGACAACATATAGAATCTTCTAATTTTGATCCATCTTCAGGAAAAA GTTGGGTGTCACCCTCAGAGAGATATGCGGTTGTTCCTGATGAAACCGGCCAAACGGATGGTTCAAACAAAGGCAATGGAGGTGATATCAGTGTCC CACAAACTGATGTCAAGCGTGTACGATTTTGAGTTGAGACAATTCCTTTTTTTTTTTCCGTGTGTTGTTGGTTTCGAATGTTTTTCAATGATGTCTTTTG
GCT-002D03	AT5G47140.1	zinc finger (GATA type) family protein	GACAAACACTCTCTCTCTCTCTCTAACCTCACCACTTTCTCTCTCTTTCCCTTTTTCACAGCCATTTGTTAGATTCCTCTCTCTCTCTCTCTCTCTCT CTCTCTCTCTCTCTCTCTCTCTCTTTTATATTGGATTGTATTAGACTGATTTGCTCAATGAACCGAAAGGAAAAAAAAAATCTCTGAATTTTTCTCTT CCGTTGTTTCGGTTTCTAAATTTTCTGGGTTGTTCTTATTTTCCTCGGACTTTTACTTTCTTGAATTTTCTCAGAAGAAGTTTTTTTTCACTCTTGTTTGT GGGGTTTTTATTATTGGCTTCTATTAGTTTTTCTGCAGGAAAAAAAACCTTTTCTGGGTTTTTCTTCGCAGAGAAGCTTCTCAATATCCAGTTTTTGTAT AGCTCAATAATATACAAAACCAATAATCATAAACTCAGTTTCTCAGAGTCTCTTATTCTTGTGAAATTATATATATTAATTTTTGAAAAAAGAGGGAAAA GGAAAAGATGGGAAAGCAAGGGCCTTGCTATCACTGTGGAGTTACAAGTACACCACTATGGCGAAACGGGCCACCAGAGAAGCCGGTACTGTGCA ATGCGTGTGGTTCGAGATGGAGAACGAAGGGAACATTAGTAAACTACACACCGCTTCATGCTCGTGCTGAAGGTGATGAGATTGAGATTGAGGATC ACAGAGCTCAAAGGATAATGATCAAGGGAATGTCTGTGAACAAAAAGATTCCAAAGAGGAAATTATATCAAGAAAATTTCACTATTAAAAGAGCTAAC TTGGAATTCAACAACGGTTTCAAGATGAAGGCTTTAGAAGAAGAAGCTAGCAATAGATCGAGTTCAGGATCGGTTGTATCGAACTCCGAGAGCTGTG ATCAATCTAATGCGTGGGAAACGACTTTTCCTTGCAAGAGGAGGACATGCGTGGGGCGTCCAAAGGCGGCTTCTTCTGTTGAGAAGCTCACAAAGG ATCTCTACAGTATTCTACAAGAACAACAATCTTCTTGTCTCTCTGGTTCTTCTGAGGAAGATTTGCTTTTTGAGAACGAATCACCAATGGTGATAGGAC ATGGGAGTGTTCTTATGAGAGATCCTCACTCTCGAGAAGAGGAATCTGAAGCTAGCTCACTCTTGGCTGAGAGCAGCAAGTCCTCATCAATGCATTC TGTTAAATTTGGTGGAAAAGCTATAAAGCAGGAGCTGTTCAAGAGGACCAAATCTCAAGCCTTGGGAAGACATAGTTTATCACTCTGTAACATAGATT TGAAGGATGTTTTCAACTTTGATGAGTTCATGGAAAAATTCACAGAGGAAGAACAGCAAAAACTGATGAAATTACTTCCTCAAGTTGACTCTGTTGAT CTTCCTGATAGCCTCAGAAGCATGTTTGAGAGTTCTCAATTCCAAGAGAACTTCTCCTTGTTTCAGCGACTTGTGGCAGATGGTGTTTTTGAGACATC TTCATCTTCATCTTCTTCCTCTAGATCAAAACTTGAAGACATCAAGACACTTGCAAAGCTTGCTCTATCCGATCCTAACAAATCACATTTGTTGGAAAG CTATGACCTGCTCAAGGAACAGAGAAAAGGGATTGAAGACTCTGTTACTGCAACATCAAGGGTCTCAAACCCGAATCTATCGAATAATCATAGTCTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002D04	AT1G51680.1	4CL1 (4-COUMARATE:COA LIGASE 1); 4-coumarate-CoA ligase	GAGGCCAAAGCCTATAAATACAATCACGAAACCAAAATTATCCAAATCTTCAAAAAGAAAAAGAAAAAAATTATCTCAAAACTTACTATGACGCCACAA GAAGAAGCCATGCAGAAACAGAGCAGCAACAGTAGTGACGTCATTTTCCGATCAAAGCTACCGGATATTTACATCCCCAATCATCTCCCTCTCCACG ACTACATCTTCCAAAACATCTCCGAATTCGCCTCCAAGCCTTGCCTAATCAACGGTCCCACCGGCCACGTATACACTTACTCCGACGTCCACGTCAC TTCCCGTCGAATCGCCGCCGGTTTCCAAAAACTCGGCGTTAACCGAAACGACGTCGTAATGATCCTCCTCCCGAATTGCCCCGAGTTCGTCCTCTC CTTCCTCGCCGCCTCTTTCCGCGGCGCAACCGCAACCGCCGCGAACCCTTTTTTCACTCCGGCGGAGATCGCGAAACAAGCCAAAGCCTCCGGTT CGAAGCTCATCGTCACCGAGTCTCGCTACGTCGACAAAATCAAAAACCTCGACGGCGTCGTGATCGTCTGCACCGACGACGACGAATCAGTCCCG ATCCCGGAAGGTTGCCTCCGATTCACCGAGTTGACTCAGTCAACAGAGATCGACTCGATGGAGATTTCTTCCGACGACGTTGTGGCTCTTCCTTACT CCTCCGGCACGACGGGACTGCCCAAAGGAGTGATGCTGAGTCACAAGGGACTGGTCACGAGCGTCGCTCAGCAAGTCGACGGCGAGAATCCGAA TCTGTATTTCCACAGAGATGACGTCATCCTCTGTGTGTTGCCGATGTTTCACATCTACGCGCTGAACTCGATCATGCTATGTGGGCTTAGAGTCGGT GCTGCGATTCTGATAATGCCGAAATTCGAGATCAATCTGCTTTTGGAGCTGATTCAGAGGTGTAAAGTGACGGTGGCTCCGATGGTTCCTCCGATTG TGTTGGCGATTGCGAAGTCGCCGGAGACGGAGAAGTATGATTTGAGCTCGATTAGAGTGGTGAAATCTGGTGCGGCTCCGCTTGGTAAGGAGCTT GAAGATGCCGTTAGTGCCAAGTTTCCTAATGCCAAACTCGGTCAGGGATACGGAATGACGGAAGCAGGTCCGGTGCTAGCGATGTCATTAGGGTTC GCGAAAGAGCCTTTTCCGGTGAAATCAGGAGCATGTGGAACAGTGGTGAGAAACGCCGAGATGAAAATCGTCGATCCAGACACCGGAGATTCCCT ATCGAAGAATCAGCCCGGCGAGATCTGCATCCGTGGTCACCAGATCATGAAAGGATACCTAAACAATCCGGCGGCCACGGCAGAGACCATCGACA AAGAAGGATGGCTTCACACCGGAGATATCGGATTGATCGACGACGACGACGAGCTTTTCATCGTCGATCGATTGAAAGAGCTGATCAAGTATAAAG GTTTTCAGGTTGCTCCGGCGGAGCTTGAGGCTCTTCTCATCGGTCATTCCGATATCACCGACGTCGCCGTCGTCGCGATGAAAGAAGAAGCTGCTG GTGAAGTTCCTGTTGCGTTTGTTGTCAAATCCAAAGATTCCAAGTTATCTGAAGATGATGTGAAACAATTCGTGTCAAAACAGGTTGTGTTTTACAAG AGAATCAACAAAGTGTTCTTCGTTGATTCGGTTCCTAAAGCTCCATCAGGGAAGATATTGAGGAAAGATCTGAGGGCAAAACTAGCAAATGGGTTGA
GCT-002D05	AT5G56010.1	HSP81-3 (Heat shock protein 81-3); ATP binding	GATCAATACTTTCTCTGCTCTCCCAACGAAAATTTAGAAAAAGCTCTGTTCGCTTCTTCTTTCGTCTCGGGTCTAAATCTGCTATAAAAACCGTAGAAC TCGAAAAGCTAGAATTCCGATCAGCGAGATGGCAGACGCAGAGACTTTTGCATTCCAGGCCGAGATCAACCAATTGCTTTCCCTCATCATCAACACT TTTTACAGCAACAAGGAGATCTTCCTTCGTGAGCTCATCAGTAACTCCTCCGATGCTTTGGACAAGATTAGGTTCGAGTCCTTGACCGACAAGAGCA AGCTCGATGGTCAGCCTGAGCTCTTCATTCACATCATTCCTGATAAGACTAACAACACCTTGACCATTGTTGACAGTGGTATTGGGATGACCAAGGC TGATTTGGTCAACAACCTTGGAACAATTGCAAGGTCTGGTACAAAGGAATTCATGGAGGCATTGGCTGCTGGAGCTGATGTTAGCATGATTGGTCAG TTTGGTGTTGGTTTCTACTCGGCTTACCTGGTTGCTGATAAGGTTATTGTCACCACCAAGCACAATGACGATGAGCAGTACGTGTGGGAGTCTCAGG CCGGTGGGTCTTTCACCGTGACCAGAGACACCTCTGGAGAGAGTCTTGGTAGGGGTACAAAGATGACCCTTCACCTCAAGGAAGACCAATTGGAGT ACCTTGAGGAGCGGAGGCTCAAGGATTTGGTCAAGAAGCACTCTGAGTTCATCAGCTACCCAATCTCTCTGTGGGTTGAGAAGACCATCGAGAAGG AGATTTCTGATGATGAAGACGAGGAAGAGAAGAAGGACGAGGAAGGCAAGGTTGAGGAAGTGGATGAGGAGAAAGAAAAGGAGGAGAAGAAAAAG AAGAAGATTAAGGAGGTTTCTAACGAGTGGGATTTGGTGAACAAGCAGAAGCCTATCTGGATGAGGAAGCCAGAGGAAATCAACAAGGAGGAATAC GCTGCTTTCTACAAGAGTCTGAGCAATGACTGGGAAGAGCACTTGGCTGTGAAGCACTTTTCCGTTGAAGGACAGCTTGAGTTCAAAGCTATTCTCT TTGTTCCCAAGAGAGCTCCTTTCGATCTCTTTGACACTAAGAAGAAGCCTAACAACATCAAGCTCTATGTCCGTCGTGTCTTCATCATGGACAACTGC GAGGATATCATCCCAGAGTACCTTGGATTCGTCAAAGGTATAGTTGACTCTGAAGATCTTCCTCTCAACATCTCACGAGAGACATTGCAACAGAACA AGATCCTTAAGGTCATCCGCAAGAACCTCGTGAAGAAGTGCCTGGAGCTCTTCTTTGAGATTGCTGAGAACAAGGAGGACTACAACAAGTTCTACGA AGCATTCTCCAAGAATCTGAAGCTCGGTATCCATGAGGACTCTCAAAACAGGACCAAGATCGCTGAGTTGCTCCGATACCATTCCACCAAGAGCGG CGATGAATTGACCAGCCTCAAGGACTACGTGACAAGGATGAAGGAAGGCCAGAACGATATCTTCTACATCACCGGCGAGAGCAAAAAGGCTGTTGA GAACTCCCCTTTCCTCGAGAAGCTCAAGAAGAAGGGGTACGAAGTCCTTTACATGGTTGACGCCATTGATGAGTACGCCATTGGTCAGCTCAAGGA ATTTGAGGGAAAGAAGCTCGTCTCTGCAACAAAGGAAGGTCTGAAACTTGAAGAGTCAGAGGACGAGAAGAAGAAAAAGGAGGAGCTCAAGGAGA AGTTCGAAGGACTCTGCAAGGTGATCAAGGACGTTTTGGGAGACAAAGTTGAGAAGGTTATCGTCTCTGACCGTGTAGTGGACTCGCCGTGCTGTC TTGTAACCGGCGAATACGGGTGGACCGCAAACATGGAGAGGATCATGAAAGCTCAAGCTTTGAGAGACAGCAGCATGGGTGGTTACATGTCGAGC AAGAAGACGATGGAGATCAATCCAGAGAATTCGATCATGGACGAGCTGAGAAAAAGAGCTGAAGCGGATAAGAATGACAAGTCTGTGAAGGATCTC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002D06	AT2G38400.1	AGT3 (ALANINE:GLYOXYLATE AMINOTRANSFERASE 3); alanine-glyoxylate transaminase	GGTAACCATCGAAACAGTGTCGTAGTCTCTGCATTTTTTTCCTTAGAGGAAAGAGAGAAAAAGTAGAGAGACCATGCAGAGATTCACGGCCAAAAGA TCAGTGCGTAACATTTCCGGTTCCCTTTGGCGACGATGCATCTCATCGACGTCTCAGGCGACGGCGGCAGCTCCCGCCAAGGATTCCGACGAATTT CTGGCGAGGCTTCCGCCGTTCGATTACACTCCTCCGCCGTATACAGGCCCCTCCTCCGATGTCATCCTTAACAAGAGGAAGGAGTTTCTTAGCCCT TCCATGCCCTGCCTCTATCGAAAGCCGTTGAACATTGTGGATGGGAAGATGCAGTATCTGTTCGACGAGAGTGGTCGGAGATACTTAGATGCTTTTG CCGGAATCGCAGTTGTGAACTGTGGACATTGCCACCCAGGTGTGGTTGAGCCAGTCATCAACCAAATCAAGCGACTCCAGCATCCTACCGTTCTTT ACCTTAATCATGCCATTGCTGATTTCTCCGAGGCCCTCGCTTCTAAACTCCCTGGTGACCTCAAGGTGGTGTTCTTCACAAACTCAGGGACGGAGGC TAATGAATTGGCACTCATGATGGCTAAACTATACACTGGATGTCAAGACATTGTGTCCATTAGAAACGGGTATCACGGGAATGCAGCTGGAACAATG GGGGCTACTGCTCAAAGCATGTGGAAATTCAACGTTGTTCAGACTGGTACACACCACGCTTTAAACCCAGATCCTTACAGAGGTGTGTTTGGTTCTG ATGGAGAGAAGTATGCAAGAGATGTGCAAGATCTCATACAATATGGCACCACCGGACACATTGCTGGTTTTATCTGTGAAGCTATACAGGGAGTTGG AGGGATCGTGGAGCTAGCCCCGGGCTATTTGTCAGCGGCTTACGATATTGTGAAGAAAGCTGGAGGATTGTTCATTGCGGATGAAGTTCAGTCTGG ATTTGCTCGCACCGGCAATTTCTGGGGATTTGAGGCCCACAATGTTGTCCCTGACATAGTTACCATGGCAAAGGGAATTGGGAATGGGTTTCCTTTG GGAGCTGTTGTGACAACTCCGGAGATAGCAGGAGTGTTGACTCGACGATGCTACTTCAATACCTTTGGTGGAAATGCTGTGTCTACCACAGCTGGT CTTGCCGTTCTGAATGTTATTGAGAAAGAGAAGCTTCAGGAAAATGCATCGATGGTCGGATCTTATCTCAAAGGAAAACTCAACCAGCTGAAAGAGA AACACGAAATTATCGGGGATGTACGGGGAAGAGGACTGATGCTTGGAGTAGAGCTGGTGAGTGATCGCAAGCTTAAGACTCCTGCAAGCGCCGAG ACTCTGCACATCATGGATCAAATGAAAGAGTTGGGTGTGTTGGTTGGTAAAGGAGGCTACTTTGGAAACGTCTTTAGAATCACACCACCTCTCTGCT
GCT-002D07	AT4G31860.1	protein phosphatase 2C, putative / PP2C, putative	GGTATTGGTATTAGTGTGAGTAAGAAGAAGAAAACAAACTCAGGAACTTTCGTTGCTTCTCAGGAAAACAAAATCAGACCTTTTCTCATTTTCTCGGG CTACAATCTGATCTCAAGATAAATCATCGAAAGTTTCATCTTCCTCCTCTAATCAATTCCGATCGAGTTATCTTTCCCACCCCAAGATTTTTGTCAGCC ATTATCGAGCCAGAGATATTGATTTCTTAAATAGCTTCAAAGATCACAGGTCTCTGAGCTGATTCAGAAAGAGATGGGTATATATCTTAGTTCTCCGA AAACAGATAAGTTTTCAGAAGATGGAGAGAATGATAAACTTAGATACGGTTTATCCTCTATGCAAGGTTGGCGTGCGAACATGGAAGATGCTCATGC AGCAATACTTAATCTGGATGATAACACTTCCTTCTTGGGTGTCTATGATGGCCATGGAGGTAAAGTTGTTTCAAAATTCTGCGCCAAGTATCTACACC AGCAAGTTCTCAATAATGAGGCTTATGCAGCTGGAGACGTAGGGACTTCTCTTCAAAAAGCATTTTTCAGAATGGATGAGATGATGCAAGGACAGAG AGGATGGCGAGAATTAGCAATACTCGGTGACAAGATCAACAAGTTCAGCGGAATGATTGAAGGGTTTCTATGGTCACCAAGAAGTGGGGACAGCGC TAATAAACCCGATGCTTGGGCTTTTGAGGAAGGTCCTCATTCTGATTTTCCTGGACCTAATTCTGGGAGCACAGCCTGTGTTGCTGTTATTAGACACA AGCAGCTAGTTGTTGCAAATGCTGGTGACTCACGTTGTGTGATATCCAGGAAGGGTCAGGCTTATAATCTTTCTAGAGATCACAAACCAGATCTTGA AGCTGAGAAGGAAAGGATATTAAAAGCTGGTGGCTTTATTCACGCTGGTCGAGTCAATGGAAGCTTGAATCTAGCAAGAGCTATCGGTAACCTCTTC CTCACACTATGCAACTTGTTTACGTGCAATCTCTGATTGGAGCTACTCTTTACAGGTGACATGGAATTCAAGCAGAATAAGTTTTTGTCATCTGAAAA GCAAATTGTTACCGCCAGTCCAGATATCAACACTGTTGAACTCTGTGACGATGATGATTTCCTTGTTCTTGCCTGCGATGGAATTTGGGATTGCATGT CAAGCCAACAACTCGTTGATTTTATACATGAACAGATGAATTCAGAAACCAAACTCTCGGTGGTATGTGAAAAAGTTCTCGATAGATGTCTGGCTCCA AACACCGCAGGTGGTGAAGGCTGTGATAACATGACCATGATCTTGGTTCAATTCAAGAAGCCTCTTCAGTCCACGGAGCCTACTCCATCAGAAACC
GCT-002D08	AT5G42780.1	ATHB27 (ARABIDOPSIS THALIANA HOMEOBOX PROTEIN 27); DNA binding / transcription factor	GAATCACGAACTCTCTCTCTCTCCAGCCTTTTTCTCTCTCCTCTTCTTCTTTTTCATCACCAATGGACGAGAAAAGATCATCGAAGAAACGAGAAAAA CGCAGAAAACGCAACAAAGCCAAAGCCATTTGCCGTGAAACTGGAGACCACGTTCATTACCCTCCGACGCGCCCACCAAAATCCACGCGTCCTCGT CACGCGCCGTCACCGATCCTCGAATCTATCTTCCAACTTGCTCGCAAGTCACGCTACGGAGAATGCGTGAAGAATCAGGCCTCCGGCATCGGAACC ACCGCCTACGACGGCTGCGGCGAGTTCGTTAGCGCCACCGCTGGAGAAGATTCTATGAATTGCGCTGCATGCGGCTGCCACCGTAGCTTCCACCG GGAAGAATCACTTTCCGGAGGAATCCTTGAAGAGCTAAATCTTACTCCGCATCAGTTTCGCCAGATCTTCTGCTCCCCTTACGGCGAGAGAAAGGAC GAAGGTAAGAAGCGGATCGTGATGGATCGATCGGGCGGCGACGATTTAGTGGAGGAAGGGGAAGGGAGAGTGAAGAGGTTGAAGACGAAGTTCA CGGCGGAGCAGACTGAGAAGATGAGGAACTATGCGGAGAAGCTGCGGTGGAAAGTGAGCCCTGAGAGTAGAGAGGCAGTTGAGAAATTCTGCGT TGAGATTGGAGTTAACCGGAAAAAAATTATGGTTTGGATGAACAATCACAAGGATAAAAATTGATGATGACTACTACATTCCAATGGTGTTGCTTATTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002D09	AT2G15080.2	disease resistance family protein	GATATTTCCACCAGTTTTAATATTCAAGAAAGTTAAATTGGTTTGAAGCAAGATGCAAAAACGTTCTTGGAATTCAATGAGTACCATTCCTATTACTCT TTCTTTTCTCCTCTTCATTTTTTATTTTCAAAAAGTATTTTCGGCTCCTAGTAGACACTTGTGTCGTCCAGAACAAAGGGATGCACTTCTCGAGTTCAA AAACAAGTTTGAAATTGGCAATCCTTCTTCTTTTTGTATTACTTCTCATCCCAAAACGGAGTCATGGGTGAATAACAGCGACTGTTGTTATTGGGACG GTATCACATGTGATGCCAAATCTAGAGAACTGGTCAGTCTAGACCTTTCTTGCAGCTGCCTCCATGGCCGCATTCACTCTAACAACAAACTTTTTAAT GTTCAAAACCTTCGCTTTCTAACCACTCTTGATCTTTCATGTAATGATTTAAGTGGTTGGATTCCCTCTTCATTTGGAAATCTTTCTAGTCTTACATATC TCAGCCTCGCTCGTAACAACTTTGCTGGTGAAATCCCATCTTCACTTGGAAGTCTTTTGCATCTCACCTCTCTCGACCTCTCTTTTAACATTTTTATTG GTGAAATCCCATTTTCATTAGGAAATCTTTCTCATCTCACCTCTCTCGACCTCTCTAATAATAGTTTTGTTGGTGGAATCCCAATTTCACTTGGAACTC TTTCTCATCTCACCTCTCTGAACCTTTATGATAACAATTTTGTTGGTGAAATCCCAAGGTCACTTGGAAATCTTTCTCATCTTACCGATCTTGACCTCT CTTGTAACAATTTTGTTGGTAAAATCCCATCGTCACTTGGAAGTCTTTCTCATCTCGCTTTTTTGTACCTCTATTATAACAGTTTTGTTGGTGAAATCCC ATCCTCACTAGGAGATCTTTCCCATATCACCTCTCTCAGCCTCTCTTTTAACTATTTTGTTGGTGAAATCCCATCATCACTTGGAAATCTTTCTCATCT CAGAGATCTCAGCCTTGCTCATAACAACTTTGTTGGTGAAATCCCGCCTTCTTTTGGTAGTTTGAGCAACTTAGCCCTGTTAGATGTTAAGTCCAATA AGCTTAGTGGTAGCTTTCCTCTTACACTACTAAATCTGACAAAACTGTCAATTTTATCCCTCTCCAACAACCAGTTCGCAGGCATGCTTCCTTCTTTTG TCACCATTCCTTTGTTGGATACTCTTAGTTTGGAAAATAACCAACACAACGACACTCGAGAATTTGGGAATATTTTTTCATCACCTAAACTAGTAGAGT TAGACCTTTGCAATAACAACTTCATAGGGCCTGTTCCCATATCCATTTTCAAATCTGTGAACCTTGTGACGCTCGATCTTGGTGATAATCACCTCAGC GGAGAACTGCCAGAGATATTTTTCAATGGCAGTAATCTAAGGTCACTCAATGTTGGTCACAACCAACTGGTGGGAAAACTTCCGAGATCTTTGGCTA GTTGTTCTTCTTTGGAGGTTCTAAACGTGGAACACAACAGAATCAATGACACTTTTCCATTTTGGTTGGAATCCTTACAAAAGCTACAAGTACTGGTT CTCCACTCTAATGAGTTTCATGGGTCGTTACAATACAATCCCAAGGTTGCTTCTTGGTTTCCTCAATTGCGAATCATGATATATCATATAATTCCTTCA ATGGAACCCTACCATCTGATTTCTTCATATATTGGAGAGCAATTTCCTCGGAGGAAAACCGTTCAGAATTGAAATACATTGGAGAACAATCGTATTAC AAAGACTCATTGGTTTTAATGAATAAAGGAGTAGAGATGAAATACACGAGGATCCTTTCACTCTTAACAGCCATTGATATTTCTGGTAATAGACTCCAA GGACCAATCCCTAAATCCATTGGTCTAGTGAAGAATCTTATTGTGCTCAATCTGTCAAGAAATGGTTTCATTGGCAACATCCCTTCATCTTTGACGAA TCTGAAGGAGCTCGAGTCACTAGACTTATCGCATAACAAGCTTTCAGGCAAAATTCCACCTGCTCTCGGGGCCCTCACAAGTTTGTCTAAAGTTATA TTTTCCCACAACCAGCTCGTCGGTCCAATACCGCATGGCACACAGTTTCAGACACAAGATGCTTCGTCATTTGAAGGTAACCTTGGACTTTGCGGTC
GCT-002D10	AT1G51340.2	MATE efflux family protein	GGAAGAGGGTAAAAATTTCAGCCTTTGATCCAAGCTTTTTCTTCTTTTGGTCAACAGCTAAATTGTTCATAGAACAAAATTTGGATATTCTGGAACCCT CTAGATTTCTATTCACAAATTCTGTATACACATTCTATTATGTACTTGTGAAGCTCATAAACTCAAGAAGCTTCAGTAACATCTGTTTATGATGTCTGAA GATGGCTACAGCACAGATTTTCCAAGAAACCCTCTTTGCATCTTCTTTACTGATTTCAGATCAGTTCTGAAATTTGATGAGCTCGGTTTGGAGATAGC TCGAATAGCTTTACCTGCAGCACTTGCTTTAACAGCTGATCCTATTGCATCTCTAGTCGACACAGCCTTCATAGGCCAAATTGGTCCTGTAGAGCTTG CTGCAGTTGGTGTTTCAATTGCTTTGTTCAACCAAGTTTCAAGAATCGCTATTTTCCCACTCGTTAGCATCACAACTTCCTTTGTAGCAGAGGAAGAT GCTTGTAGTTCTCAGCAAAATATTGTCCAAGATCATAAAGAATGTATTGAAACTGGTAGTAACAATACAAATGAGGAAACTCAAGAACTGATTCCTGA AAACAATAAAGATTCTACATCAGATGAATCTAAAACCAGTAGCAGTATCTTTAGTGTTAGTAAAACTCCAGCCAAGAAAAGAAACATACCATCAGCTTC ATCTGCTTTGATCATTGGAGGCATTCTTGGCCTTCTTCAAGCAGTGCTTCTTATATCCGCAGCTAAACCTCTCTTGAGTTTCATGGGAGTTAAACACG ATTCTCCAATGTTGAGACCTGCTCAAAGGTATCTATCTCTAAGATCACTTGGTGCACCTGCTGTTCTTCTCTCGCTCGCTACTCAAGGCGTTTTCCGA GGGTTTAAAGACACAACAACTCCGTTATACGCAACTGTAATTGGAGATGCTACAAACATAATACTCGACCCGATTTTCATATTCGTTTTCCGTCTAGG CGTGACAGGAGCAGCCACTGCTCATGTTATATCCCAATACCTTATGTGTGGAATACTCTTGTGGAAACTGATGGGTCAAGTTGATATCTTTAGCCTAA GTACCAAACATCTTCAACTCTGTAGATTCATGAAAAATGGCTTTCTTTTACTGATGAGAGTAATAGCGGTAACATTCTGTGTAACACTTTCCGCGTCAC TAGCTGCTCGAGAAGGATCCATTTCCATGGCAGCTTTCCAAGTTTGCTTGCAGGTTTGGTTAGCTACTTCACTACTTGCAGACGGGTTCGCTGTAGC TGGCCAGGCGATACTAGCAAGCGCGTTTGCCAAAAAGGATTACAAAAGAGCTGCAGCTACCGCCTCTCGTGTACTGCAGTTGGGATTGGTTCTTGG GCTTCTACTCGCGGTTATACTTGGAGCAGGATTGCATTTTGGAGCAAGACTATTTACCAAAGACGATAAAGTCTTACACCTCATTAGCATAGGACTTC CGTTTGTGGCAGGAACACAACCAATCAATGCTTTGGCGTTTGTGTTTGATGGAGTTAACTTTGGAGCATCTGATTTTGGTTATGCCGCAGCTTCATTA GTAATGGTGGCTATAGTTAGCATTTTGTGTTTGGTTTTTCTCTCATCAACTCATGGGTTCATTGGACTTTGGTTTGGTCTCACCATTTACATGAGTCTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002D11	AT5G22010.1	AAA-type ATPase family protein / BRCT domain-containing protein	GAAGAGGTGTGCCTTTAGTAGTCACGGCGACCGTTTCTTCTTCGCCTAAATCGCTTGTAGCCGAGAAAATTCGCCGGAGGAGAAGCAAGGCATTTT GCTCTTTGGTATTCGAAGTCTCCACACGGGCAAATGTCGGATATTCGGAAATGGTTTATGAAAGCCCATGAAAAGGGAAATGGTAGTGCTCCAAAAT CGACTTCTTCCAAGGCAGTTGCTGTGACTAGTGCTGCAGAGACTGCATCCATAAAATCAGAGCAGGCTAGTGAAGACCAGGAAAGTGCTGCTAGAA GAAAAACGAGCAAGTATTTTGGCAAGTCCCGTCCAAGAAAGGCTATCAAGGTTGATGATGACGATGATGATTTTGAGGTACCTAATTCAAGGAAGAC TCGTGATAGCACTCCCAGCAAAAAACTAAAGTCTGGATCAGGCAGAGGAGTCACAAGTAAAGCCGTTGATATTGACGAGGATGATGATGGTGAAGA TGCCCAAGAAAAAGAGACTCCTCTAAAATCAGGTGGAAGAGGCCGTGGCGGTAGAGCTGCATCAGGGGCCTCAACTGGTGGAAGAGGTAGAGGTG GAGGGCGAGGTGGGTTTATGAATTTTGGTGAAAGGAAAGACCCACCGCATAAAGGAGAAAAGGAAGTTCCTGAAGGCAACCCTGATTGCTTAGCTG GATTGACATTTGTAATTAGTGGAACACTTGATAGTTTAGAAAGAGAAGAAGCAGAAGATCTGATAAAGCGACATGGTGGTCGTGTTACAGGCTCTGT TAGCAAGAAAACGACTTACCTTTTGTGCGATGAAGACATCGGCGGAAGGAAATCCGAAAAGGCTAAAGAGCTGGGCACTAAGTTCCTTACAGAGGA TGGCCTATTTGACATGATCCGTTCCTCTAAACCCGTTAAAAAGTCTCTACCTGAAAGGACCAACAAAGGCACTGAAAAAGTCAGTGCACAGCTGAAG ATAAGTCCTCAGAAGGAAGAGACAAGAGGCAAACTTGTAGCGAAAATTTCACCCAACAAGGTTCCCCCACATTCCTCACCAGCAAAGGCAAAAAAGA AAATTATCCAGACTTCCTTGCCATGGACGGAAAAATACAGACCGAAGGTTCCAAATGAGATTGTTGGGAATCAGTCATTGGTTACTCAGCTTCACAA CTGGCTGTCCCATTGGCATGATCAATTTGGGGGTACTGGAAGTAAAGGAAAGGGGAAGAAATTAAATGATGCCGGTGCCAAGAAGGCTGTGCTTAT GAGCGGAACACCTGGTATTGGAAAAACAACATCAGCAAAGTTGGTTAGTCAGATGCTTGGTTTCCAGGCAGTTGAGGTTAATGCTAGTGACAGTCGT GGAAAGGCAAACTCGAATATCGCCAAAGGAATTGGTGGTAGCAATGCAAATACTGTAAAAGAACTTGTCAATAACGAAGCTATTGCTGCTAACATCG ATAGGTCAAAGCACCCAAAGACGGTTCTAATCATGGATGAAGTAGATGGAATGTCTGCAGGCGACAGGGGAGGTGTAGCAGATCTTATTGCTAGCA TTAAAATATCAAAAATTCCTATCATCTGCATTTGTAATGACCGATACAGTCAGAAACTGAAAAGTTTAGTAAACTACTGCCTGCCCCTCAATTTCCGGA AGCCCACAAAACAGCAGATGGCAAAAAGGTTGACACATATTGCTAAGGCAGAAGGCCTTGAAGTTAATGAAATTGCCCTGGAGGAACTCGCTGAGA GAGTGAATGGTGACATACGTTTGGCCCTAAATCAGCTACAATATATGAGCCTGTCCATGTCAGTCATCAAGTACGATGATATCAGGCAGCGCCTGCT AAGCAGTGCGAAGGATGAAGATATTTCGCCTTTCACAGCTGTTGACAAGTTGTTTGGTTATAATGGTGGGAAGCTGAGAATGGATGAACGGATTGAC CTTAGCATGAGTGATTTTGATTTGGTTCCCCTTCTTGTACAGGAAAACTATCTCAATTATAGGCCAAGTTCCACCGGCAAAGATGAGGCAAAACGAAT GGAGTTGCTTGCTCGTGCTGCTGAATCTATTGCAGATGGAGATATTATCAACGTGCAGATTCGGAGACATAGGCAATGGCAACTCTCTCTATCTTCC
GCT-002D12	AT4G00860.1	ATOZI1 (Arabidopsis thaliana ozone-induced protein 1)	GACGAGATACGTAAGTCGCTATTTCTTTTCCTCTCACCTAAACGCTACGAACGATTCTTCTCGAAAATTCCTACGCCTCTCCGTGTTCTCGCTTCGTC GTCTGCGAATCGATTGAGGTTAAGTATGTCAAGAGCCACGTACATAATCGGTGCCCTTGCAGGATCTGCTGTAGTAGCCTACGTGTGTGACAAAGT CATTTCTGATAATAAGCTATTCGGAGGCACTACTCCAGGAACTGTTCTAAACAAGGAATGGTCGGCTGCGACTGAAGAGAGATTACAAGCATGGCCA AGAACCGCTGGTCCTCCAGTCGTGATGAACCCTATCAGTCGCCAGAACTTCATCGTCAAGTCACGCCCTGAATAAGTGTTTCTGTTTCTGTGCATCG TTCTCATTCGTTATGGATTCATTACAATATTTGCGCTTTTGTTGGCCTTTGCTTTGATTTTGAGGATCCGGCTATTTTCTCTAGCTGGTTGTAGTAATAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002D13	AT5G20990.1	B73 (CHLORATE RESISTANT 6); molybdenum ion binding	TGAGCGAAAGAAATGGCTGGTCATGAAGGTCGTTGTGGCGGCGAAGGAAAATCGGAGATGATACCGACGGAGGAAGCTCTGAGGATAGTACTCAG TGTCTCCGAGCGGCTGCCTCCGGTAGTCGTATCGCTGCAGGAAGCGCTTGGGAAGGTGTTGGCGGAGGATATTCGTGCTCCTGATCCTCTTCCTC CATATCCTGCTTCCGTCAAGGATGGATACGCGGTTGTTGCATCAGATGGTCCTGGAGAATACCCGGTGATTACAGAATCAAGAGCTGGGAATGATG GACTGGGTGTGACTGTTACTCCTGGAACTGTGGCTTATGTAACAACTGGTGGACCTATACCTGATGGTGCCGATGCAGTTGTCCAAGTTGAGGACA CTAAAGCAATTGGAGACGTCTCAACTGAATCAAAAAGAGTAAAAATACTGATTCAAACCAAGAAAGGCACTGACATCCGTAGAGTGGTATGGTTTCTT ATTTCCCGCTTATATAGTCAGTCTTGTAGTTGATATTTTTGGGTTCCTTTATTTATGACTGTTTGCTAAATAGTTGTAGTATCATACTGTCTAACGTACT GCCATTTGTTGATCTAAGTAAACTTTAGGATGCATGTGAGACCAGTATGTAAAATGAATTTAACTGTTGTGTCGTTTGATGGTTAAGTCACTACTTTCT TTTATTGGGATAAGTGGTAAATGATGGCCGGGTTTTGAATATGTACTTGAATTGTTGGACACCTTTCCATCTTTGCTACCGTTTAGGTGTGAACATGC AATGCTTCTTACAGAAAAGGCGCTTCTGGGACATAGAATTGGATAGCTAAAGCATGTTTCCCTATTAAGATAAATCATCAAACCTAAAACGAAAATGA TAGTTTTTTTCCAGCTGTTTGGAATCATTTTATGTTGATTGTTTCCACAAGATTCATTCAATTTATATGCAAGGGTTGCGACATTGAGAAAGATGCGAC TGTACTAAAAATTGGAGAAAGGATTGGTGCCTCAGAAATTGGCTTGCTAGCAACTGCAGGAGTAACCTCGGTGAAGGTATATCCTATGCCAACAATT GCTGTTCTCTCTACTGGGGATGAACTTGTGGAGCCAACAGCTGGGACTTTAGGTCGTGGTCAGATTAGGGACTCAAATCGAGCAATGTTACTGGCT GCAGTGATGCAGCAGCAATGCAAAGTTGTTGACCTCGGAATCGTTAGAGATGATAGAAAGGAACTTGAGAGAGTTTTGGATGAGGCCATATCCTCT GGAGTCGATATTATTATTACGTCTGGTGGTGTTTCAATGGGAGATAGGGATTTTGTCAAGCCATTGCTCAAAGAGAAAGGGAAAGTTCATTTCAGCA AGGTATTGATGAAACCTGGGAAACCTTTGACGTTTGCTGAGATCAGTACAAAACCAGCTGAAAGTATGATGGGGAAAACGGTCCTTGCATTTGGGTT ACCAGGAAATCCTGTTAGCTGTTTGGTTTGTTTCAATCTCTTTGTTGTGCCTACAATCCGCCAGCTTGCAGGATGGACAAGCCCCCATCCACTGAGA GTACGAGCTCGACTTCAGGAGGCGATAAGGTCCGATTCCATTCGTCCGGAGTTTCATCGGGCCATCATCAAATGGAAAGAGAACGATGGATCAGGG ACTTCCGGATTTATCGCTGAGAGCACGGGACATCAGATGAGCAGTCGGCTTTTAAGTATGAGGTCGGCTAATGCTTTGTTAGAGTTGCCTGCTACG GGCAATGTGCTTTCTGCTGGAACTTCTATATCAGCTGTAATCGTCTCCGATATTAGTGGCTTCTCTATGGATAAGAAAACCTCATTATCAGAACCAGA ATTTCTTCGGAAAGAAAAGAAGTACGATGAAGTACCTGGGCCTGAGTATAAAGTTGCTATTCTTACTGTCAGTGATACTGTCTCAGCTGGGGCTGGA CCTGATCGAAGTGGACCCAGAGCCGTATCAGTGATTGATTCCTCGTCTGAAAAACTGGGAGGAGCGAAGGTAGTTGCAATAGCTGTTGTTCCCGAT GAAGTGGAAAGAATCAAAGACATTCTTCAGAAATGGAGCGATGTTGATGAAATAGATCTCATTCTTACACTTGGTGGTACTGGCTTCACTCCAAGAG
GCT-002D14	AT4G24990.1	ATGP4 (Arabidopsis thaliana geranylgeranylated protein)	TGGTAGAAAAGACGACGAAAAAGAAAAAGGAAAAGAAAAAAAAAAAAGGGAGGTGAAAAACCGTTCGGCTTTGAGAAGTTCCCAAAGGAAAAGTTT GGATATTTGGTGGACTCTTGAGAGCTTTCGTCAAAAGCTTTTCCTTCCTTCCTTCCTTCTTCCTCTTTTTCTTCCCACACCTCATCAAAGATCACAAGG TGAAATCGAGCAAGAGCTACTATTATTCTATTAGAACTATTTCAGATCTGAAAAGAGCTGTGTTTAAGGCTGGTTTCTGAGAGTCCGGGATTGGTGAT CGGAGCTGGATTTTGGTGGTATCGGAGGTCTGAGATAAGTCAACGGATATGCCGGAGGAGGAGTCGATAGATATCAAATTCAGGCTATACGATGGC TCCGATATCGGACCGTTTCGGTATTCAGCGGCGTCCACGGTTGATTTTTTGAAGCAGAGGGTCGTCTCTGATTGGCCCAAAGGCAAAACGGTTGTG CCAAAAGGGATAAACGAAGTCAAGCTGATCAGCTCGGGTAAGATCTTGGAGAACAGCAAAACTGTTGGCCAGTGTAAGACACCGTTTGGAGATATT GCAGGTGGTGTCATTGTGATGCATGTTGTTGTACAGCCATCTCTAGCAAAAACCAAAACAGAGAAGAAGGTCGATAAAGCACCCAAGGCGGTTATAT GCACATGCACCATTTTGTGAAGGGAGCAAGACATGTATCATACAGACCATATCAATTCTTCAGGTACAGAAGAAAACAAAGACAAAAAGAATGGTAA AGGCAAAGTAAAGCTTCCCTTTTAAGCTGTGGAGTATCATAACCTCGAAATGCAAAGCTTTGAATGTGTAGAAAATGATTAGATTCTTTTGAAGTACAT CATATGTTGTCCCTTGTTTGTTTTTTTTTTGTTAACACTATCTGGTATATCATTCGCGTCCCAACGTCTTGTAATAAACAGAAGTTGTATAGGTTACTAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002D15	AT1G12860.1	basic helix-loop-helix (bHLH) family protein / F-box family protein	GATCTTCCTTGGATTTTTTTTACACTCTCTCACTCTGAACTAATTCCGCAGAAAAAGAAGACAGAGAGGTGGCAAATATGAAGTGGAGGTGAGAGAC GGAAAGCAAAGATAGTCACGAGAATCAGTGTGAAAGAGCTATGAACGGCGACGGAGTTTGGCTCGACGGCGCCGGACAACGGTCTCCTGCGGCAA ACGACGGCGGAGATAACGATGAATCTGCGTCGTGGGTCAGAAACCCAGAAGAAAACTGGTTCAATAACCCACAACCACCACCAAATCCACACGATT CTCAAATCCTCCTCCATAGCAACCAAAATGACTTCAGATTCAATGGTGGGTTCCCGTTAAATCCTTCAGAGAATCTGCTTCTCCTTCTTCAGCAATCG ATTGATTCCTCTTCTTCTCCGTTGCAACCTCCCTTCACACTCGACGCTGCTTCACAACAACAACAGTCTTTCTTAGCTACAAAAGCTTGCATCGCTTC TCTCCTCAGCGTCCCCACCAGCAGCAACAACAACAACAACAATCCTTTTGATGAATTCGGCTTCGATTCTGGGTTTTTAGGACAAATCCATGGGAAT CAGACTCCAATCTCGATGAATTTCGCTGGTATGAGTTCACGGCCGGAATTCCTCTCTTCCCGGCCGATTCCTCCGCCGGGAAACATCACCGGAGGT AATGGATTCAGTCCTCTGGAATTCGAAGGAGTCGCGAATGGCGTTTTCGAGAACAGAGCTAAGGTTCTGAAACCCTTAGAGGTATTGGCTTCATCAG GCTCGCAGCCGACACTGTTCCAGAAACGAGCTGCAATGCGTCAGAGCTCGAGTAGCAAATTGTGCAATTCAGAGAGTTCTTCTGAGATGAGGAGAT CGAGCTACGAGAGAGAGGTCGACGACACTGTACTGGAATCATCGACATCTCTGGGTTGAATTACGAATCTGATGAGCATAACAAAGGCAAGAAGAA AGGAATGCCTGCTAAGAACTTGATGGCTGAGAGAAGAAGAAGAAAGAAGCTTAATGATAGGCTTTACATGCTTAGATCAGTTGTTCCCAAAATCAGC AAAATGGATAGAGCATCTATACTTGGTGATGCCATTGATTATCTCAAAGAGCTCTTACAGAGAATCAACGATCTTCATACCGAACTCGAATCTACTCC ACCGAGTTCTTCAGGCTTGCACCCGTTAACACCGACCCCACAAACGCTATCTTACCGTGTTAAGGAAGAGTTATGTCCATCCTCCTCCTTGCCAAGT CCTAAAGGCCAGCAAGCAAGAGTTGAGGTTAGATTAAGAGAAGGAAAAGCAGTGAACATTCACATGTTCTGTGGACGTAGACCAGGTCTTTTACTTT CCACCATGAGAGCTTTAGACAACTTAGGATTGGATGTTCAACAAGCCGTGATTAGCTGTTTCAACGGTTTTGCTTTGGATGTTTTCCACGCTGAGCAA TGCCAAGAAGGCCACGACATGATGCCTGAACAAATCAAAGCAGTGCTTTTAGACACAGCAGGTTACGCCGGTTTGCTTTGATTCCCACTTCGTTTGC
GCT-002D16	AT2G42620.1	MAX2 (MORE AXILLARY BRANCHES 2); ubiquitin-protein ligase	AGAGAGAGAGAGAGAGCAGAGGAATGTCAGCATCACGTGGCTCTCTCTCCTCCCAAGACAAATCTCTTCTTCTTCTTCTTCTTCGTCTTCCCTAA ATCTTCTCGATTACTCTCCTCTCCCAAGATTTCTTCTACCTTCCCCATGGCTGCTTACTCCACCACCACCCTCTCCGATCTACCTGACGTCATCTTAT CCAACATTTGCGCTCTCGTCTCCGATTCCAGAGCTCGCAACTCTCTCTCCCTCGTCTCCCGCAAATTCCTCGCCCTCGAGCGATCCACTCGCTCTCA CCTCACTCTCCGTGGCAACGCTCGTGATCTCCACCTCCTCCCTGGCTGTTTCCCATCCGTTTCTCATCTCGATCTCTCTTTCCTCTCCCCTTGGGGT CACTCCCTTCTCGCCTCTTTGCCCATTGATCACCAGAACCTTCTCGCTCTCCGTCTCCAGCTCTGCTTCCCTTCCGTCGACACTCTCTCTCTCTACTC TCGCTCCCCGACTTCTCTCGAGCTTTTGCTCCCTCAATGGCCCAGAATCCGCCACATCAAGCTCGTCCGATGGCACCAACGCGCCTCTCACATCCC CTTAGGCGGCGACTTCGTCCCTATCTTCGAGCACTGTGGTTCCCTCGAGTCTCTCGATCTCTCCGCCTTCTACCACTGGACCGAGGACCTTCCTCC CGTTCTCCTCCGTTACTCTGACGTCGCGGCGAGGCTCAATCGCTTGGATCTCTTGACGGCTTCCTTCACCGAGGGTTACAAATCGAGCGAGATCGT CGATATCACCAGATCCTGCCCTAATCTGAGGTATTTCCGTGTAGCTTGCACCTTTGATCCTAGATACGTTGAATTCGTCGGAGACGAGACTCTCTCC GCCGTAGCCACCAATTGCCCTAAATTAACGCTCCTCCACATGGTCGACACGGCGTCGCTTGCGAGCCCTAGGGCGATTCCAGGTAACGAAACCGG AGATTCTGCGGTCACGGCGGGGAATCTCATCGAGGTTTTCTCTGCTCTTCCGCATCTAGAGGAGCTTGTGCTTGATGTTGGGAAGAACTTGAATCA CAGTGGTGTGGCTTTAGAGTCCTTGAAACTGAAGTGCAAGAAGCTAAGAACACTGAAGCTAGGACAGTTCCAAGGAGTTTGCTCCGCCACAGATTG GCGGCTTGACGGCGTGGCTTTGTGCGGTGAATTGCAGTCGTTGTCGATTAAAAACTCGGGCGATTTGACTGATATGGGTCTGGTGGCTATAGGGAG AGGATGTTGTAAGCTGACTGAGTTTGAGATTCAAGGGTGTGAGAATGTAACAGTGAAGGGACTAAGAACAATGGTTACTCTCCTGAGGAAGACTCTG ACTGATGTTAGAATATCCTGCTGCAAGAATCTTGATACAAGAGCTTCCTTGAAGGCGATTGAGCCCATCTGTGATCGGATCAAGAAACTGCATATAG ATTGCGTGTGGTCTGGTTCAGAGGAGGGGGGAGGAGAAAGGGTGGAAACAAGCGAGACTAACCACGAGGAAGATGATGATGATGATGATGATGAT GATTACGAGAGGAGCCAGAAGAGGTGCAAGTATTCATCTGAGGAAGAACACTGCTCACTGTTTCCAAACAGTGATGGGAATGGGTTCTGTTCTGAA GACAGAGTGTGGGAGAAACTTGAGTATCTGTCTTTATGGATCAGTGTTGGAGAATTTCTGACACCATTACCTATGACAGGACTAGATGACTGTCCGA ATTTGGAAGAGATTAGGATCAAGATAGAAGGAGATTGCAGGGGTAAGCGTAAGCCAGCTGAGCCGGAGCTCGGGTTAAGCTGTCTTGCTCTGTATC CAAAGCTCTCAAAGATGCAATTAGATTGCGGGGACACGATCGGCTACGCACTGACCGCACCGCCGATGCAGATGGATCTGAGCTTGTGGGAGAGG TTTTTCTTGACTGGAATTGGGAACTTGAGCTTGAGCGAGCTGGATTATTGGCCAGCACAGGACAGAGATGTTAACCAGAGGAGTCTTTCGCTTCCTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002D17	AT1G08970.2	HAP5C (HEME ACTIVATED PROTEIN 5C); DNA binding / transcription factor	GGTTAAAGTCGACAAAGGGGAAAAGCAAAAACCCTAATAAATCACACCAAATTAAGATAAAACCAGATCTTTAAAACTCTCTTCCCACCAAGAGGATC AACTACTGTCTTCCTCAAATCCAACTCTTCTTCCACATCAACTTCAGATTCTTCTTGCAAAACCAACTCAAAGAGAATGGATCAGCAAGAGCATGGAC AGTCCGGAGCCGTGAACTACGGCACAAACCCATACCAAACCAACCCGATGACCACCACCGTAGCCGGGAGTGTGGGCCCAGCGGCACCACCAGG CCAGCTAGCGTTCCACCAGATCCATCAGCAGCAGCAGCAGCAACAGCTGGCACAGCAGCTTCAAGCATTCTGGGAGGATCAATTCAAAGAGATCGA GAAAACAACCGATTTCAAGAACCACAGTCTTCCTCTCGCGAGGATCAAGAAGATCATGAAAGCAGATGAAGACGTCCGTATGATCTCTGCAGAGGC GCCTGTTGTGTTTGCAAGGGCCTGTGAGATGTTCATACTGGAGCTGACACTAAGGTCGTGGAACCACACGGAGGAGAACAAGAGGAGGACGCTGC AGAAGAACGATATAGCTGCTGCGGTTACTAGAACCGATATCTTTGATTTTCTTGTGGACATTGTTCCACGAGAGGATCTTCGAGACGAGGTCTTGGG AAGTATTCCGAGAGGGACTGTCCCGGAGGCTGCTGCTGCTGCTGGTTACCCGTATGGATACTTGCCTCCAGGAACAGCTCCTATAGGTAACCCGG GAATGGTTATGGGTAACCCGGGTGGTGGTGGTGCATACCCGCCTAATCCTTACATGGGTCAACCCATGTGGCAGCAGCAGGGACCTGACCAACCT GACTCGGAAAATTAGCTTTGGCTAAGAAACTAGTTTCTAGTCAGAAAGGAGGAGACTTTAGAGAAGAAAAGGAAAAGAACATATCAGATTTTCATATC CGTGTTGTAGGAAGAATGTTGAGTGTTTATGTCTATTCGATCCTTTCTTTAAAGGATAAATTTAGGGATGAACATGAAGAATGTATAAACAAAATGTAA
GCT-002D18	AT1G74710.1	ICS1 (ISOCHORISMATE SYNTHASEI); isochorismate synthase	GGCAATCTCTCTTCTTCAAACAAAAAACAAACCAAAAAATAGTCTCTAGTGTCTTGCTAGTTGCTACAAACAGCTAGCAAATTAAAAAATCCACACAAA AAATATTTTAAAACTCACTCTCACCAAATGGCGTCAATTCAGCTCTCTTCTCGTTTTCTGGGCTCAAATACTAAAAAACACAGCTCCATTTCCATCTCT CGTAACTACTCTCCAACCCCATTCACCAGATTATTCTCCCGCAAGAGGTTTATGTCGTGCTCGATGTCTATGAACGGATGCGAGGGTGATTTCAAGA CGCCACTTGGAACAGTGGAGACGAGGACTACGGCGACTGTTTTGTCGCCGGAAGCCGCCACTGAGAGGTTAATCTCCGCCGTGTCGAAGCTGAAA TCTCAACCTCCGTCGTTTTCCTCAGGCGTCGTCCGGTTACAGGTGCCAATTGACCAGAAAATCGGAGCAATCGATTGGCTTCAGGCACAGAACGAG ATTCAGCCTCGGTGCTTCTTCTCTCGTCGCAGCGACGTTGGTCGTCCCGATCTTCTTCTCGACTTAGCCAGCGACAATGATAACGGAAACGGAGGA GCCTCCTCTGATCGTAACCTGGTTAGCGTCGCCGGTATCGGATCCGCCGTGTTCTTCCGTGACCTTGATCCCTTCTCTCATGATGACTGGAGATCC ATCAGAAGGTTTCTGTCTTCTAAGTCACCTCTGATTCGTGCGTATGGGGGAATGCGATTTGATCCCAATGGAAAGATCTCTGTAGAATGGGAACCTT TTGGTGCATTTTACTTTGCAGTGCCTCAGGTTGAGTTTAATGAGTTTCTAGGAAGCTCAATGTTGGCTGCAACTGTTGCTTGGGACGATGAGCTCTCT TGGACGCTGGAAAACGCCATTGAAGCACTCCAGGAGACGATGCTTCAGGTTTCTTCTCATGTAGTGAAGTTACGGAGGGAATGTTTAGGTGTATCT GTTGTTAGCAAGAATCATGTTCCTACAAAAGGGGCTTATTACCCTGCTGTAGAGAAGGCTTTGGAGATGATAAAGCAAAAGAGTTCATCCCTTAGCA AGGTTGTGCTTGCTCGCAACAGCAGGGTCATCACGGATACCGATATTGATCCCATTGCTTGGCTAGCACAGTTACAGGGTGAAGGGCATGATGCGT ATCAGTTCTGTCTTCAACCACCAGGTGCACCAGCTTTTATAGGAAACACGCCTGAGAGACTTTTCCAAAGGAGTCAGTTAGGTGTCTGCAGTGAAGC TTTGGCTGCAACTAGGCCTAGAGCTGCATCAAGGGCTCGTGATATGGAGATAGAGCGTGACTTACTAACCAATCCCAAAGACGACCTTGAGTTCTCT ATTGTACGAGAGAATATTAGAGAAAAATTAAACGCTATATGTGACAGGGTAGTTGTTAAGCCCCAAAAAACTGTGAGGAAGCTTGCAAGAGTGCAAC ACTTATATTCTCAATTGGCGGGGAACCTTAGGAAGGAAGATGACGAGTTTGACATCTTGGCTGCTCTGCATCCAACTCCAGCTGTTTGTGGGCTTCC AGCCGAAGAAGCCCGGCTTTTGATTAAGGAAATAGAATCATTTGATAGAGGAATGTACGCCGGGCCTATTGGGTTTTTTGGTGGTGATGAGAGTGAA TTTGCAGTCGGAATCAGATCAGCTCTAGTTGAAAAGGGTCTTGGGGCATTGATCTATGCGGGGACAGGGATAGTAGCAGGAAGCAACCCAACCTCA GAGTGGAATGAGCTTGATCTAAAGATTTCTCAGTTCACCAAGTCAATTGAGCATGAGGCAACAACAACTCTGCAGCCGATTAACTGAAGAAGAGTAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002D19	AT4G35090.1	CAT2 (CATALASE 2); catalase	GGTCATCATCTTCATCTCCTCGTTTTGTTAAATCTCTGAATCTCTCCAAACTCTCTCAACTCTCTCAACTCTCTTCTCACCAACTATGGATCCTTACAA GTATCGACCGGCGAGTTCTTACAACTCACCATTCTTCACCACCAACTCTGGTGCTCCTGTATGGAACAACAACTCCTCCATGACCGTCGGACCCAGA GGTCCTATCCTTCTTGAGGATTACCATCTCGTGGAGAAGCTAGCCAATTTCGACAGGGAGCGTATTCCAGAGCGTGTGGTTCATGCCAGGGGAGCC AGTGCAAAGGGGTTCTTTGAGGTCACTCATGATATTTCTAACCTCACTTGTGCCGACTTTCTCAGAGCTCCTGGTGTTCAGACTCCTGTCATTGTTCG TTTCTCCACCGTTATCCACGAGCGTGGAAGTCCCGAGACATTAAGAGACCCTCGTGGTTTTGCTGTCAAGTTCTACACCAGAGAGGGAAACTTTGAT CTCGTTGGAAACAACTTCCCAGTCTTCTTCATCCGCGATGGAATGAAGTTCCCTGACATGGTCCACGCCCTTAAGCCAAACCCGAAATCTCACATCC AGGAGAATTGGAGAGTCCTCGACTTCTTCTCCCACCACCCTGAAAGCTTGAACATGTTCACTTTCCTCTTTGATGATATCGGTATCCCACAAGATTAC AGGCACATGGACGGTTCAGGTGTCAACACTTACGTGTTGATCAACAAAGCTGGCAAAGCTCACTACGTGAAGTTCCACTGGAAGCCAACTTGTGGA GTCAAGTCTCTGTTGGAAGAAGATGCAATCCGCGTTGGAGGAACCAACCACAGTCACGCGACACAGGACTTGTATGACTCGATTGCCGCTGGTAAC TACCCTGAATGGAAGCTCTTTATCCAAATAATTGATCCAGCTGATGAAGACAAGTTCGACTTTGACCCGCTTGATGTCACCAAGACATGGCCTGAGG ACATCTTGCCTCTCCAACCCGTTGGGCGTATGGTGTTGAACAAGAACATTGACAACTTCTTTGCAGAGAATGAGCAACTTGCCTTCTGCCCTGCAAT CATTGTTCCAGGGATACACTACTCAGACGACAAGCTGCTTCAAACCCGTGTCTTCTCCTACGCCGACACACAGAGACATCGTCTTGGACCAAACTAC CTTCAGCTACCAGTGAACGCCCCGAAATGTGCTCACCACAACAACCACCATGACGGCTTCATGAATTTCATGCACAGGGACGAGGAGGTCAACTAC TTCCCATCGAGGTATGACCCTGTTCGTCATGCTGAAAAGTATCCAACTCCACCTGCAGTCTGCTCTGGTAAACGTGAGAGGTGCATTATTGAGAAAG AGAACAACTTCAAGGAGCCTGGAGAGAGATACCGTTCCTTTGCACCAGAGAGGCAAGAACGATTCATCCGTAGATGGATTGAAGCCCTATCCGATC CTCGCATCACACATGAAATCCGCAGCATCTGGATCTCTTACTGGTCTCAGGCTGATAAGTCGCTGGGACAGAAGCTGGCGAGCCGTCTGAACGTGA
GCT-002D20	AT1G73180.1	eukaryotic translation initiation factor-related	GGCTTTAGGGTATCTCATTACACGGTTCAGAGCTAAGCCGGCCACAACAGCGACCGACTTCTCTGCCCGCCGATTGCCGTATCGTTTCAGGTGTCT CAAGTAAAGCAATGAGTTCTTCACCCTCGTTGGAGATTCTAGTTAGAGAAGCTGAAGGTTTCTCTGTGTGGAATGGCCCTCCATTCAGCAATGGTCA ACCCAGTCTCAAGCTTGAACGAGTTTCATGCTCCAACACGAAGTTCAGCTTAGATGGATCGAAGTTTATGGCAATGAAACCAGATGGAATCATCAGT ATCTATGATTCCACTAGCTTGAGAGAAGTGAGGTCATTCACAATAGCAAATGTTACGGCTGCTGAGCTATCTCCGTGCGGGACTTATCTGCAGACCT TTCAGAAACCCTCTACTCCGCAGGAGAAGAACGTCTCTCTTTGGAATACTGAGACAGGAGATCTAGCACACGGTCATTACCAAAAATCCATTACTAA AACTACATGGCCATCAATTCGCTTCTGTCCTGATGAATCTTCCGCGTGCCGTTTAGCTACAAATGATGTCCAATTCTTTGACCCGAAAGATTTCTCAA AAGGAATAACATCTCGGATCAGAGTTCCTGGCGTAGCGGCATTTGAGCTTTCTAAAACCCCAGCTTCCCATGTTGCTGTGTTTGTTCCAGAAGTAAA GGGGAGTCCAGGCAGTGTCCAGATATTTGAATGTGGGAAAGATTCACAGAGTCAGCCACTTGCTCGACGTAGCTTCTTCCGATGTTCCTCTGTGCA GTTTAGTTGGAATCATGGTTCCACTGGACTCTTAGTGGTTGTACAATCAGATGTTGACAAGACCAACCAAAGTTATTATGGGGAAACAAAGCTACACT ACCTTACAGTAGATGGCACACACGAAGGCCTAGTTCCATTACGTAAAGAAGGACCAGTTCATGATGTTCAGTGGTCCTTCTCGGGTTCAGAGTTTGC CGTTGTATATGGCTTTATGCCTGCTTGTGTGACAATCTTTGACAAGAAGTGCAAACCCTTGATGGAACTTGGCGAAGGTCCTTATAACACTCTTCGCT GGAACCCTAAAGGGAGACTTTTATGTGTGGCTGGATTCGGTAACTTACCTGGTGATATGGCGTTTTGGGATATTGCCAACAAGAAGCAGCTAGGAA GTAACAAAGCCGAGTGGTCTGTAACAAGTGAATGGTCTCCAGATGGGCTTTATTTCCTGACTGCCTCAACAGCACCAAGACGTCAAATAGACAACG GGCTTAAAATATTCAACTACGACGGAAAACGTTATTTCAAGAAGAATTTTGAGAGGCTGTACCAGGCTGAATGGAAACCAGAGTCTCCAGACAGGTT CGGTGAGATCAGTGAACTTATCAAGTCAGTTGAATCATTGAAACTCGAAGCGGGCAAATCGCAAGGACAAGGATCAACTCAGAAGAAAGCTGTTGC TCCTACCACTATACAAAAACCCGCTGCATATCGACCTCCGCATGCTAAGCACGCAGCTGCCATTCAAGCCGAGTTGCTCGGAGGAAACCCAGAAGG
GCT-002D21	AT3G23050.1	IAA7 (AUXIN RESISTANT 2); transcription factor	GACCAAATCAGAGAGAGAAATAACATTTCTATTCTTTTACAAGTAACATGATCGGACAGCTTATGAACCTCAAGGCGACGGATCTCTGTCTCGGCCT CCCCGGCGGCGCTGAAGCCGTGGAGAGTCCTGCTAAATCGGCGGTGGGGAACAAGAGAGGCTTCTCCGAGACCGTTGATCTCATGCTCAATCTTC AATCTAACAAAGAAGGAACCGTTGATCTCAACAACGTCTCTGCAGCACCCAAGGAGAAGACCCTCCTCAAAGATCATTCTAAGCCTCCTGCTAAAGC CCAAGTGGTGGGATGGCCACCTGTGAGGAACTACAGGAAGAACATAATGACTCAGCAGAAGACTAGCGGCGTGGAGGAGGCCAGCAGCGAGAAG GCCGGGAGTGGCGGTGGAGCAGCCGCCTTAGTGAAGGTCTCCATGGACGGAGCTCCTTACCTAAGGAAAGTTGACCTCAAGATGTACAAAAGCTA TCAGGATCTCTCTGATGCTTTGGCCAAAATGTTCAGCTCTTTCACTATGGGGAACTATGGAGCACAAGGAATGATTGATTTCATGAACGAAAGCAAG CTCATGAATCTGCTGAACAGTTCTGAGTATGTTCCAAGCTATGAGGACAAAGATGGCGATTGGATGCTCGTCGGCGATGTCCCATGGGAAATGTTTG TCGAGTCATGCAAACGTTTGCGGATTATGAAGGGATCTGAAGCAATTGGACTTGCTCCGAGAGCAATGGAGAAGTACTGCAAGAACAGATCTTGAAT TTAATAATTAAAAGAAAAAATACCAATGATCAACCATATATGACGGGTTCTTGATTTTTATATGTATTTTTTTAATGATTTTATGTGGCTGTCTCCTATAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002D22	AT3G16640.1	TCTP (TRANSLATIONALLY CONTROLLED TUMOR PROTEIN)	GCTCGTCGCTGCGTCTCTCTCCCGCAACCTCAATAATTGTCCCCATCGATCGGAGAGAGAAAAACAAAACAATCAGCGACCATGTTGGTGTACCAG GATCTTCTCACCGGTGATGAGCTTCTGTCTGACTCTTTCCCTTACAAGGAGATTGAGAATGGAATCCTTTGGGAAGTAGAAGGAAAGTGGGTTACCG TGGGAGCTGTTGATGTTAACATTGGTGCCAATCCATCTGCTGAAGAAGGTGGTGAAGACGAGGGTGTTGATGACACTACTCAAAAGGTTGTTGACAT TGTCGACACCTTCAGACTTCAGGAGCAACCAACTTATGACAAGAAGGGATTCATCGCCTACATTAAGAAATACATCAAGCTTTTGACACCCAAGCTC GATGAGGAACAACAAACAGCCTTCAAGAAGGGTATTGAGGGAGCTACCAAGTTCTTGCTCCCCAAGCTCGGTGACTTCCAATTCTTTGTTGGGGAG GGGATGCACGATGACAGCTCATTGGTCTTTGCTTACTACAAGGAGGGTGCAACTAACCCAACATTTTTGTACTTCGCACATGGTTTGAAGGAGGTCA AGTGCTGAGCCAGAACTCTGTCCCGGCTCCAACCCATTGCGCCCTGGGTCCAACACCCTGTTTTTTTTTTATGTTTTAAAATTTGGAAAAAGTTACGC
GCT-002D23	AT1G07040.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT1G27030.1); similar to unknown protein [Oryza sativa (japonica cultivar-group)] (GB:AAN05517.1); similar to Os10g0463800 [Oryza sativa (japonica cultivar-group)] (GB:NP_001064789.1)	GGAGAGAAGAAGACGAATCACGGAACCTCTCTCACTCTCTCTCTCTTTTTCGCAGTCTCAAACGCTTCCCGGCGTAAAAAACAAGAAAAGCTCCTCT ATGATTTCTTTATACTCTTCGTCCTCGGCCATCAAAGCCTTTCTCGACCGCTCTCCGTTCCTTCCTCTCCGATTTCCATCATCGTCACTCTCTGTTTCT GTTTCCTCCTCTGTTGGATCTCCTATTCGGCTTCCCTCCGCCGAAAAGCGCGCTCACTCCATAGTCGCTGCTTCTCGAGGAGGCTCGATGTCATCAA ACGGTGATGATTCTCGCCAGGTTGCTGAATCTTTCTTCAGGAGCGTTTTAGGGCAGATGGAAACGGTTTACCTGAACCGAAACCCGACGCCTAAAT CCGTCTTGGAACTTGTCAAATCCGTTGACGACGTACAACTTTGCTATGATCATCTCGCTTTCAGGACCTTCGGGATTGGTGGTTATGGGATTGATTC GCTTGCAAGCTTTTTCCTTGACTATGGGTATACCCAAATGGATGAGCTGAGATTTCCGGCCAAAAAGCTGAGAGCTTTGTGGTTTGCACCTCCTGAT GTTTCTGCTATTCCTGGTGGAAGTGGCGTAAATGGTCCCTTACCAAGAGTTTTTATCTCAGAGCTTCTCGTGGAGCAGATGAGTTCACAGACTCAGG ATGTGATTAGAAAGTACACCGAAACATGGCCTGGTGGAAAAAAGTATGCTGCTCTTTCTAGTGCCTTGGGTACTTTACCTTGGGAAAAGCCTCTATC TTCCGAGTTTGAGAAATTGGCTAGGGAAAGTGAATACGCAGCATGGACACTTGTCAATGGCTATGCACTTAACCACGTCACCATTTCTGTCCATCGG CTTAAATCTCATCTAAACAAAATTAAGAAGCTCAATCAGTTTCTCGAAGAAAAAGGTTTCAAATTGAACTCAGAAGGAGGAGTCCTTAAAGTTAGCCC TGATGGTGGTTTGCTGCAAAGCTCAACTGTAGCTGATTCGATTTCTTTCAAGTTCTCTGATGGCGTCACCAAATCTATTCCTTGTTCATATATTGAGTT TGCTGAACGCCTTGTGCTTCCCCAGTACCAAAATGTACCTGAAACCGAAATACAAGAGTCTCATCGACGAGATGGATTTGAGGTTGGAAATGCTGAT AAGATCTTCGACAGCAGCAATCAGCGTCAGCTTTCCCGAAGAACTCGCTAATAGTAAATAGTCTCGCCTTTCCCCATTTCTCAATCATCGCTCCTAC
GCT-002D24	AT1G08570.2	thioredoxin family protein	GATCATTTTTGTTTATAAATTTTCTCGTGGAAGAGAAAAAAAAAAGCGAAACTTTGCTGGCGATTATAGATTGCTGAGAGGACACGTCGTCTCTGTGA GACTTTCTTTTCTTCTTCTTCTTTCTGGTAAAATTGGGTCTTTTCTCGTTACCGATTTCATACTTTTCTAATGGCGGAGGTGATTAGCAGAACGAG TTTGTTCTTCGGAGCTTGTGGGAATCACTACGTAGATGATTCCTCTGTGTCACCGGTGAGTTTTGCTGGGTTTGGTTTGAAAAAAAGTTTCTCATCTC TGAAGCAGAAGCCTCTTAGAAGCGAATTCCATGGAAAACAGATCCTTGTCGGAGATGTTCAAAACGAGAGCTTCAAAAAGAGCTTCCGGTCATCATC CATCACAGCTCAGACAACGCTGAGGATTGGGACATCTCAAAAGTGGTGGGAGAAAGGTCTGCAAGAAAACATGAGAGAGATCTCTTCAGCACAAGA ACTCGTTGACTCTCTCACCAACGCTGGAGATAAGCTCGTCGTGGTTGATTTCTTCTCCCCTGGCTGCGGCGGCTGCAAGGCTCTTCATCCTAAGTTA TGTCAGTTGGCAGAGCAGAACCCTGATGTGCAGTTTCTTCAGGTGAATTACGAGGAGCACAAGTCCATGTGTTACAGTCTCGGTGTCCATGTCCTC CCGTTTTTCCGATTCTACCGAGGCGCTCATGGTCGTGTTTGCAGCTTTAGCTGTACCAATGCCACGATCAAGAAATTCAGAGACGCATTGGCAAAGC ATACTCCAGATAGGTGCAGCCTCGGTCCGACCAAAGGCCTTGAAGAGAAAGAGCTTGTGGCACTTGCAGCCAACAAAGAACTCAACTTTAGTTACA CACCAAAGATTGTACCTGTTGAGGAAGAAGCAGCCTCTCCCACTTCAAACCCAAGTCTCCCTGTTCCTCATCCATCGATGAGTGCCAGTGACGAGAA GACATTGGTCTCCGCAGGGAGATGATCTGGCGGTTCTGAGAGCGAATAAACATTTTCTCTGTACAGTTTGCGTGATAATAGTACTAGCAGTTGGATA TATTGCACTACCTAAAGATGTATGTTCTCGGAGCAGCCGGTTTAATGGGGTTTAGTTTTTTTTTTTTGGTGTCCCCGGAGCCGGTTTAATGGGTTTTC CTTCAGCAAGACGACTTTCGATCGTTCTTCAGCTTTCGTCACTTCTTATCGCATCTACAGCGCAAAAGCTCGTCGCGTTCAGCTTATATTTTAATCA
GCT-002E01	AT2G02930.1	ATGSTF3 (GLUTATHIONE S-TRANSFERASE 16); glutathione transferase	GCCATTCAACATCAAACACATCACATCTCTTACTCTTTTGTCTCAGTCTTAATAGAGTGAATATCATAGTAACCAAATCAAATGGCAGGCATCAAAGTT TTCGGACACGCTGCTTCCACTTCCACCAGGAGAGTCCTCCTCGCCCTCCACGAGAAAAACCTCGACTTTGAGCTCGTTCATGTTGATCTCAAAGAC GGTGAGCACAAGAAAGAGCCTTTCCTCTCCCGCAACCCTTTTGGTAAAGTTCCAGCCTTTGAAGATGGAGACCTCAAGCTCTTCGAATCACGAGCAA TTACTCAGTACATAGCTCACCGATACCAAGACCAAGGAACCAACCTTCTCCCAGCCGACCCCAAGAACATAGCTCTCTATGCAATCATGGCCATTGG AACAGAAGTAGAAGCTCACCAGTTCGACCCAGTGGCTTCAAAGCTTGCTTGGGAACAAGTTTTCAAGCTCATGTATGGGTTGACCACAGACCAAGC CGTTGTTGCTGAAGAAGAGGCTAAGTTAGCCAAGGTCCTTGATGTCTACGAGGCTAGGCTCAAGGAGTTCAAGTATTTGGCTGGTGACACTTTTACT TTGACCGATCTTCACCACATTCCTGTGATTCAATACCTTCTCGGTTCACCGTCCAAAAAGCTCTTCACCGAGCGTCCACGTGTCAACGAGTGGGTGG CTGAGATCACCAAGAGGCCGGCTTCCCAGAAGATCCTTCAGTGAGAAATTTCTTAAACGGAAAAAATGGTTCTGCTACAGTCAAAATAATAATGGTC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002E03	AT3G06380.1	ATTLP9/AtTLP9 (TUBBY LIKE PROTEIN 9, TUBBY-LIKE PROTEIN 9); phosphoric diester hydrolase/ protein binding / transcription factor	GGTCCGAATCTTCTTCGCGTCTCTCAACAACAACAACACCACCACCTCTTCCTAACTTCTTCACCTCAACTTTCCCGAAAATGATTCTCCCGTAAAAT TCCTCAAACTCAGATTATGTTCCCATGATCAATTATCTCTTGAACCCTTTAGATCTCACCGGAATCGCATGACGATCCGAAGTCTGATCCAGGAAATG CGGTCCAGGCCGCACCGTGTGGTCCACGACGCAGCCTCCATCGCTCCTGCTTCGGAGCCTTTCCGATGGTCGGAGCTCCCGGAGGAGCTACTTA GAGAAATCCTGATTAAGGTTGAGTCGGCGGACGGCGGCGATTGGCCGTCTCGGCGAAACGTGGTGGCTTGCGCCGGCGTCTGCCGTGCCTGGCG GCTGCTCATGAAGGAGATCGTAGCTGTTCCTGAACTCTCCTCTAAATTGACTTTCCCAATCTCTCTCAAGCAGCCTGGCCCAAGGGATTCTCTGGTT CAATGCTTCATAAAGCGTAACCGAAATACGCAATCGTATCATCTCTATCTGGGGTTAACCAACTCTTTGACGGATAATGGGAAGTTTCTTCTTGCTGC TTGTAAGCTGAAGCGCGCAACTTGCACTGATTACATCATCTCGATGCGCTCAGACGACATGTCAAGGAGAAGCAACGCATATCTCGGCAGAGTAAG ATCAAACTTCCTTGGAACGAAATTCACGGTCTTCGACGGTAATCTGATGCCACAGACCAGAGCAGCGAAGATGCTGAAGAGCCGCTCTTCTAATCTC ATGAAAGTTTCACCTAGAGTTCCTCAGGGAAGTTACCCCGTTGCTCACATTTCATACGAGTTAAACGTCTTAGGCTCCCGGGGACCAAGAAGAATGC GTTGCATAATGGATACAGTACCAATGAGTGTCTTGGAGCCCCGAGGAGCAGCTTCAACACCTATAAGCTCCTTTTCCACTCGATCATCAGCCTTCTT TAGGTCTCACTCGAAACCGATACGCAGCAACAGTGCATCTTGCAGCGACTCAGGCAACAACAACTTGAGAGACCCACCATTGGTCCTGAGCAATAA GACTCCAAGATGGCACGAGCAGCTACGTTGCTGGTGCTTAAATTTCCATGGACGAGTCACAGTGGCTTCGGTTAAGAACTTTCAGCTTGTGGCGGT CAGGGATTGTGAAACAGAGCAGCCATCTGAGAGGATTATACTACAGTTTGGGAAAGTCGGGAAGGACATGTTCACCATGGATTATGGATATCCGATT [illegible]
GCT-002E04	AT4G26640.2	WRKY20 (WRKY DNA-binding protein 20); transcription factor	GAGCGAGAAAGCGAAGAGCAAAAAAGCTCTCAATCCGCCATAGCTGAGCTTCCCTTTTCCTTCCGTCATTCCTTCTACCATTGGAAAATCACCTTTA GATTTCCCTGAAATGAGCTCTGAAGCTAATGACCGGAAGAAGTTTCAAGTCGATTGCCCGGCGACGATAGATCCCACGGCAAGGCACGATTCAGCT GGAGGAGGAGGAGGAGGAGGCAGTGTTGCTGGAGGTGCGAGGTACAAGCTGATGTCACCGGCGAAGCTTCCGATCTCGAGGTCGACTGACATCA CGGTTCCTCCTGGGATGAGTCCGACGTCGTTTTTGGAATCTCCTGTTTTCATAACCAACATCAAGCCAGAACCTTCACCTACTACTGGCTCTTTGTTC AAGCCCCGAGCAGTGCACATTAGCTCAAGTTCTTATACAGGAAGGGCATTCCATCAGAACACCTTCACCGAGCAAAAGTCCAGTGAATTTGAGTTCA GACCACCTGCATCCAATATGGTTTATGCAGAGCTTGACAAGCATAAAAGTGAGCCACCAGTACAATTTCAAGGCCAGGGCCATGGATCCGCACACT CACCTTCTTCAATCAGTGAGGCTACAGCTTCCCCAAGTGATCTAAGCCGGCCAACTCCTCCTCGTCAGACTACACCAACGAACTCTGATATTCCTGC TGGATCTGAGCAAGATGAATCAGTCCAGACATCGCAAAATGACTCCAGAGGAAGTACGCCATCAATCTTGGCTGATGATGGTTACAATTGGAGAAAG TATGGGCAAAAGCATGTCAAAGGGAGTGAATTTCCCCGGAGCTATTACAAATGTACACATCCTAATTGTGAAGTGAAAAAGTTATTTGAAAGGTCTCA TGATGGCCAAATCACTGATATTAGCTACAAGGGTACACATGACCATCCTAAACCTCAACCTGGTCGCCGAAACTCTGGTGGTCTTGGTATGCCTTCG CAAGAAGAAAAGCTAGACAAGTATCCTCCTTTGACTGGCCGAGATGAAAAGGGCGTCTACAACTTGTCTCAAGCGATTGAGCAAACTGGTACCCCT GAAGTACCTCCTATGTCAGCAACTGACGATGGTGCGGAAGTTGCAATGTCTAATAAGAACAAAGATGATCCGGATGACGATGATCCATTTACGAAAC GGAGGAGGTTGGATGGGACCATGGAAATAACTCCACTTGTGAAACCTATCCGGGAGCCTCGGGTTGTTGTTCAAACTCTGAGTGAGGTTGACATAC TGGATGATGGCTATAGGTGGCGTAAATATGGGCAGAAAGTCGTAAGGGGAAACCCAAATCCCAGGAGCTACTACAAATGCACAGCTGCTGGATGCC CAGTGAGAAAACACGTGGAGAGGGCATCACATGATCCAAAAGCTGTAATAACAACATACGAAGGCAAACACAACCACGATGTTCCTACTTCAAAGTC TAGCAGCAATCATGACATCCAGCCTCGGTTCAGACCAGAGGAAACAGACACCATCAGCCTCAATCTTGGTGTTGGAATCTCATCTGATGGACCTGA CCACACTTCCAACGAGCGTCAGCACCAGAATCAACAACTCGTAAGCCAAACTCACCCAAATGGTGTCGGTTTCAGGTTTGCTCATGCAACTCCCATG TCATCCTACTATGCGAGCTTAAACGGTGGTATAAATCATTATGGCCCGAGAGAAACTCAGAACGAGACTCAAAATGGTGACATCTCGTCTTTGAACC ATTCGTCTTACCCATATCCACACAACATAGGGAGAATACAATCGGGTCCTTAGAAGACAATGGAAGCAACAATATTGGATTCTTCTTAGGTTAGGAAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002E05	AT4G02150.1	ATIMPALPHA3/MOS6; protein transporter	GGACACTCATATCCTCTTCGTCTCTCGAGATCAAAATCCACCGATCGAACCCGTGTTCATTTTCCGATCGCTGATTCCTCCGATTTCGATCGATTAAG CGAAGATGTCTCTAAGACCTAGCGCAAAGACGGAGGTCCGACGGAATCGATACAAAGTGGCGGTCGATGCGGAGGAGGGACGACGGAGGCGAGA GGATCACATGGTTGAGATCAGGAAGAATAAGAGGGAGGAGAATCTGCAGAAGAAGAGACGCGAGGGGATCTCAGCCGCCGCACAATCGGGACAG GATCTTTCTTCAGCGAAGAAATTAATAGATACTCTTCCGGATATGGTTGCTGGAATTTGGTCAGAGGATAGCAATTTACAACTTGAGGCAACAAATCT CTTAAGGAAACTGCTTTCGCTCGAACAAAATCCTCCTATCAATGATGTTGTACAGTCTGGTGTTGTTCCTCGCGTCGTGAAGTTTCTTTCAAGGGATG ACTTTCCCAAACTTCAGGTGTGAGGCACTTGCACCTCGTTTTCATCAATGATTGATCTCTATCTTCGAGTTTGATGTATTTGTTGACCTGCTTTTTCTG TTCATTTCTGCTTGTGTTTAGTTTGAGGCAGCTTGGGCTCTCACCAATATTGCTTCAGGGACATCAGAGAACACAAATGTCATCATTGAAAGCGGTGC TGTCCCGATCTTCATCCATCTTCTTAGCTCGGCTAGTGGGGATGTCCGCGAACAGGCTGTTTGGGCATTGGGAAATGTTGCTGGAGACTCGCCAAA ATGCCGCGATCTTGTCCTAAGTCTTGGTGCCATGATGCCTCTTCTGTCTCAATTCAATGAACAAACAAAGCTCTCGATGCTGAGGAATGCTACATGG ACCTTATCAAACTTTTGCAGAGGGAAGCCGCAGCCTTCATTTGAACAGACGAAACCAGCTTTACCAGTTCTTGAGCGCCTTGTGCAATCAACAGATG ATGAAGTTCTCACAGATGCATGCTGGGCTCTGTCATACCTCTCGGATAGCTCAAACGACAAAATACAAGCGGTTATCGCATCAGGCGTTGTCCCTCG TCTCATTGAGCTCTTAAATCATTCGTCACAAACAGTGCTGATTCCTGCGCTTCGTACCATTGGAAATATTGTAACCGGCGATGATGTGCAAACTCAGA CGGTTATCGACTTTCAAGTGCTTCCTAGTCTATTAAACCTTGTAACAAACACTTACAAGAAGAGTATCAAGAAGGAAGCTTGCTGGACTATCTCAAAC ATCACAGCTGGGAGTTCAAATCAGATACAAGCAGTGATTGAAGCAGGTCTAATTCAGCCTCTTGTTTGGCTGCTCCATAACGCAGAATTCGAAGTGA AAAAAGAAGCTGCTTGGGGAATCTCGAATGCTACTTCTGGTGGCACCAAGGATCAAATAAAGTTTCTGGTGGGCCAAGGCTGTATCAAACCGATATG CGATCTTCTTACCTGCCCAGACCCAAGAATTGTATCGGTTTGTTTAGAAGCGCTAGAGAACATTCTCGTGGTTGGAGAAGCAGAGAAAAACTTGGGT AACACAGGAGAGGATAACCTCTACGCTTCAATGATAGATGAAGCCGAAGGACTTGAGAAGATTGAGAATCTTCAGAGCCACGACAACGACGACATA TACCAAAAAGCCGTGAAAATCCTCGAAACCTTTTGGACTGAAGACGATGAAGAAGAAGTAGGCAACGATGAAAATCACGCTCCGCAATCCGGTTTCC
GCT-002E06	AT4G37650.1	SHR (SHORT ROOT); transcription factor	GGTGGATGAAGAAGACCTTTCCTCTTCTTCCTCTCATCACAACCATCACCACAATCCTAATTACTACTCTCCTTTCACTACTCCCATCCAATACCATCC CGCCACGTCATCAACCCCTTCCTCCACCGCCGCAGCCCCCTCCGCCGCCTTAGCCTCACCGTACTCCTCCTCCGGGCACCACAATGACCCTTCCG CTTTCTCCATCCCTCAGACTCCTCCTTCGTTCGACTTCTCAGCCAATGCCAAGTGGGCTGACTCGATCCTCCTCGAAGCCGCACGTGCCTTCTCCGA CAAAGACACCGCACGTGCGCAGCAAATCCTCTGGACGCTCAACGAGCTCTCTTCTCCGTACGGAGACACCGAGCAAAAACTCGCTTCTTACTTCCT CCAAGCTCTCTTCAACCGCATGACCGGCTCTGGCGAACGTTGCTACCGAACCATGGTAACCGCTGCAGCCACAGAGAAGACTTGCTCCTTCGAGTC AACGCGCAAGACTGTCCTCAAGTTCCAAGAAGTTAGCCCGTGGGCCACGTTTGGACACGTGGCGGCAAACGGAGCGATCTTGGAAGCAGTAGACG GAGAGGCAAAGATCCATATCGTTGACATAAGCTCCACGTTTTGCACTCAATGGCCGACTCTTCTAGAAGCCTTAGCCACGAGGTCAGACGACACGC CTCACCTAAGACTAACCACAGTGGTCGTGGCCAACAAATTCGTCAACGATCAAACGGCGTCGCATCGGATGATGAAAGAGATCGGAAACCGAATGG AGAAGTTCGCTAGGCTCATGGGAGTTCCTTTTAAATTCAGCATTATCCATCACGTTGGAGATTTATCCGAGTTTGATCTCAACGAACTCGATATCAAA TCAGACGAGGTCTTAGCGGTCAACTGCGTAGGCACGATGCATGGGATCGCGCCTCGTGGAAACCCTAGAAACGCTGTGATATCGAATTTCCGACG GCTAAGGCCGAGGATTTTCACCGTCGTCGAAGAAGAAGCTGATCTTGCAGGAGAAGAACAAGAAGGTTTTGATGATGATCAGTTCTTGAGAGGGTT TGGAGAATGTTTGCGTTGGTCTAGGGTTTGCTTCGAGTCTTTGGAAGAGAGTTTTCCGAGGACGAGCAACGAGAGGTTGATGCTAGAGCGTGCGGC GGGGCGTGCGATCGTTGATTTGGTGGCTTGTGAGCCGTCGGATTCGACGGAGAGGAGAGAGACGGCGAGGAAGTGGTCGAGGAGGATGAGGAAC GGTGGGTTTGGAGCGGTGGGGTATAGTGATGAGGTGGCGGATGACGTCAGAGCTTTGTTGAGGAGATATAAAGAAGGAGTTTGGTCGATGGTACA GTGCTCTGATGCCGCCGGAATATTCCTTTGTTGGAGAGATCAGCCGGTGGTTTGGGCTAGTGCGTGGCGGCCAACGTAAAAGGATTGTTTTTTTTTT
GCT-002E07	AT3G56090.1	ATFER3 (FERRITIN 3); ferric iron binding	GACAAAAAACCCTTTCTCCTCCCATTTTCGTTGCAGAGAGATAAAGAAAAAATCTGAGAAGCAAAACCAAAAAATTTACAGGAAACAAAAAAAAAAAT GCTTCTCAAAACCGCTTCTGCTTTCTCTCTCTTGAACATTCATGGAGAAAAGAAAGACATCTCTCCTCTCTTCTCTTCCATTTCGTCCCCGACTGATTT CTCCTTGAGTCTTCCCGTTTCTTCGGGAAAATCCGGAAATCTCTCCTTCTCGGTTCGTGCTTCTAAGGCTTCCACCACCCAAACGTTAAGCGGCGTC GTTTTCGAACCGTTTGAGGAGGTGAAGAAGGAACTCGATCTCGTCCCTTCGGCTCCTCAGCACTCGCTTGCTCGACATTTGTACTCCCCTGAGTGC GAAGCCGCCGTGAATGAGCAGATCAACGTGGAATACAATGTGTCTTATGTGTATCACGCGTTGTATGCTTATTTCGACCGTGATAACGTTGCTCTCA AAGGACTTGCCAAGTTTTTCAAGGAATCGAGCGTGGAAGAACGAGACCACGCTGAGATGTTGATGGAGTATCAGAACAAACGTGGTGGGAAGGTTA AGTTACAGCCCATGGTGATGCCTCAATCTGAGTTTGATCACGCTGAGAAAGGAGATGCTCTGTATGCCATGGAGCTGGCTCTATCATTGGAGAAACT GGTCAATGAAAAGCTCCTAAACGTGCACAGCGTGGCTTCGAAGAACGATGATGTCCAGTTGGCAGATTTTATTGAGAGCGAGTTTTTGAACGAACAG GTTGAAGCAATTAAGAAAATCTCAGAATATGTCTCTCAACTCAGAAGACTCGGCAAAGGACATGGAACATGGCATTTCGATCAGGAGCTTCTGGAAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002E08	AT3G11010.1	disease resistance family protein / LRR family protein	GGGACTTGAATGCCATCTTATCATTTTTCAAGTCGCTCGAAGGATTGGATCTCTCAGGCAACCATGTTTCAGCCGAAACCAAGAGCTCAGTTTCAGA TCCTCCTTCGCAAATGATACGAGAATTAAACTTGTCAGGCTGCGGTATTACCGAATTTCCAGAGATCATAAGAACCCTGCAGTCTATGGAGAGACTA GACATTTCCGACAACAAAATCAAAGGTCAAGTGCCTGGCTGGTTATGGACTCCACCAAATCTGACGTACGTGAATCTTTCCAACAACACTTTCGTCA GTTTCGGAAGACCAACGAAACATGGACTATCCTCTGGCTTGTGGTACTTGTCTGGCTCCAGAAACAATTTCACGGGAAAGATTCCCTCCTTCATATG TGCGTTGGGCTCTCTAAGCGTTCTCGATTTATCTGAAAACAACTTCACGGGAAAGATTCCCTCCTTCATATGCGCGTTGGGCTCTCTAAGCGTTCTC GATTTATCTGAAAACAACTTCAATGGTTCAATCCCTCTTTGTATGGAGAATCTCAAGAGTAATCTTTCGGTTCTAAACCTCCGTCAGAATCATCTTAGC GGAGGCCTTCCGGAGAATGTATTTGAAAGTCTAAGGTCCCTTGACGTTGGTCATAACCAACTGGTGGGAAAGCTTCAAAGATCTTTGATCCATTTCT CTGCCCTTGAAGTTCTAAATCTGGAAAGCAACAGATTCAACGACACCTTTCCGTTTTGGTTGAGTTCTCTACAAAACCTGCAAGTTCTTGTCTTACGC TCCAATGCATTCCATGGACCGATTCATCGAGCCTCCTTCCTTCAGCTGAAAATCATGGACATCTCGCATAATCACTTCAACGGAGTTTTACCGTCGG ATTACTTTGTGAACTGGAGTAAAATGTCATCACTTGGGACAGAAAAAGATCGGTCGGATGTAAACTACATGGGAGAAGGTACCTATTACGAAGATTC AATGGTTTTGATGAATAAAGGCTTAGAGATGGAGCTGGTACGTATATTAAAAATCTTCACAGCACTCGACTTCTCCGGAAATAGATTTGAAGGAGAGA TTCCAAGGTCCATCGGCCTATTGAGAGAGCTTCACGTGCTCAACTTGTCAAACAATGCTTTCACTGGCCACATTCCATCATCTATGGGGAACCTGAC AGCTCTCGAGTCACTTGACGTTTCCCAAAACAAGCTTTCAGGTGAGATCCCACAAGAGCTAGGGAATCTCTCGTACCTTTCTTCCATGAACTTCTCTC ATAACCAGCTTGTCGGTCTAGTACCTGGAGGCACTCAGTTTCGAACGCAGTCTTGCTCTTCCTTCGAAGACAACCCTGGACTTTTTGGCCCTTCTCT TGACGAAGTTTGCAAAGATATCCACAAGCCATCATCGCAAGAGTATGAAACACCGGAGGAGGCAGAGGAAGAAGACGAAGAGGTGTTTAGTTGGAT TGCAGCTGCAATAGGATTTGGACCTGGCATTGTATTAGGATTGACGATTGGATACATATTGGCCTTCTACAAACCGAGGTGGTTCACGAGTCCTTTT
GCT-002E09	AT1G54060.1	transcription factor	GGATTTCAAAACCCAATCGGGTCAATAACGGAGATTACCCATCCGGTGACCTTATCCCTTCGCCGGTGAGAGAATCTCAGATCTAAAATTTCGAAAA TTCACCACATCTCACCTTCTCCGATCTGAGCCCTAGGCTAAACGATTTCCCATGGAGGAAGACGACGAGACTCAGTCGCTGCAATCTCCGGGAGAT TCCCTTTCACCAGCTCCTTCCTCTCCTCCGATTTTGCCTACGAGCGACGTCACGGTGGCCTCTGTGACGAAACCGCCTGTTTCTTCTCAATCTCCGT CGGGAAACGCTTTGGCTTTAGTGGTTCATACTCCTTCCGTTACCGGTGTTAGCGGTAACAGAAACGGCCGAAGCGGCGGAGGAAGCGCCGGCGGA GGCGGAGGGAGAGACGATTGCTGGAGCGAAGAAGCGACCAAGGTTCTAATCGATGCGTGGGGGGATCGGTTTTCGGAGCCAGGGAAAGGAACTT TGAAGCAGCAACAATGGAAAGAAGTAGCTGAGATTGTCAACGAAAGTCGTCAATGCAAATATCCCAAAACCGATATTCAGTGTAAGAACAGGATCGA TACGGTGAAGAAGAAGTATAAGCAAGAGAAGGCCAAAATCGCTTCTGGTGATGGACCTAGCAGATGGGTATTCTTCAAGAAGCTCGAGAGTTTGATT GGAGGCAACACCATAACCAAATCCTCCGAAAAGGCTCCTATGGGAGTTCTTGTGAACAGCCGCTTGGATGAGCACAAACGTCAAGCTAAAGGAACA ACGCAGATCCTGCAACAAGGAGACTTGAAAAGAAGCTCTGATTCGATGCGGTGGCATTTCAGGAAACGAAGTGCATCTGAGACTGAATCAGAGTCT GATCCTGAACCTGAGCCTTCTCCTGACTCAGCGGAGAGTCTGCCACCGCCGCAAGCGTCTCAGCCGCTGGCGTTTCAGCTGCCAAAGCGGTTGAA GGTTGATAAGTCAGGAGGGAGTGGAGTTGCAGAGGTGGCTAAGGCGATACTCGGATTCACGGAAGCTTATGAGAAGGCGGAAACTGCGAAGCTTA AGCTGATGATGGAATTGGAAAAAGAGAGGATGAAGTTCGCTAAAGAGATGGAATTGCAGAGGATGCAGTTCTTGAAAACTCAATTGGAGATAACAAA GAACAATCAAGAGGAGGAGAGGAGCAGGCGAGGAGGAGAAAGAAGGATCGTTGATGATGATGATGATGATGATCATCGCAATGTCAAGAATAATG
GCT-002E10	AT1G78200.2	protein phosphatase 2C, putative / PP2C, putative	GAAGGAGAACGAAGGCTTCTTCGCTCAAAGAGTTGGCGAAATTGATCTACAGGCAGATTGTTTGTTTGATATAATTTTTCGCAATTTGCTAATTCGTT CACAACCGCCGAAGAATTTCGTCCAATCAAATGCCCGGGATCTGCTGTTCTCGTTCCGCTACACAGGTTGTGGTAGCACAAAAATCTCACTCGGGTA AAGGAAAAAACAATGAAGGAGGAATCAAGTTTGGATTTAGTTTAGTAAAGGGGAAATCGAAGCGTTCAATGGAGGATTATCATGTCGCTAAGTTTATC AATGTCAAAGGCAATGAATTGGGGCTATTTGCAATCTTTGATGGTCATAAAGGTGATGAAGTAGCTGCATATTTGCAGAAACATCTCTTCTCAAATAT CCTAAACGATGGAGAGTTCTTGGTTGATCCTCGAAGAACAATTGCAAAAGCTTATGAGAATACAGACCAAACGATTCTATCAGATAATAGTTCGGATT TAGGGAGTGGCGGTTCAACTGCCGTGACTGCGATTTTGATCAATGGAGAAACTCTGTGGATAGCTAATGTTGGCGATTCACGAGCAATTGTGTCTC GTCGAGGTAAAGCAAAGCAGATAAGTGTAGATCATGATCCCGATACTGATACTGAAAGGAATTTGATTGAGAGTAAAGGTGGATTTGTAACCAACAG GCCAGGAGATGTTTCTAGAGTGAATGGTTTACTAGCTGTGTCGCGTGTCTTTGGAGACAAAAACCTCAAAGCTTACTTGAATACAGAGCCTGACATT AAGGATGTCACAGTTGATAGTCACACAGATATTCTTATTCTGGCTAGTGACGGTATTTCCAAGGTAATGTCAAACCAAGAAGCTGTTGACATAGCTAA GAAGTTGAGAGATCCAAAGGAAGCGGCAAAGAAACTAGTTACTGAAGCATTGAAAAGAAACAGTAAAGATGACATATCTTGCATTGTTGTCCGGTTT AAATGATAACCAAGATAAATGATTCTTTTTGGTCCCGTTCAGTGTCATCTGGTTCTTGGTTACATCTGCATTTTCAAGAGTAGGAGTTTTATAGGATTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002E11	AT5G61590.1	AP2 domain-containing transcription factor family protein	GAAAATATCACTAGCAGATTTTTCTTCTTCCTGTCTTGTCTGCAAAAGAAAAGAAAAGAAAAAAAATTAAAAATGGCGACTTTTGAGGAAAGCTCTGAT TTGGAGGTTATGCAGAAGCATCTCTTTGAAGACTTGATGATCCCTGATGATTTCATGGAAGATTTTGTCTTTGATGATGCTGCTTTTGTCTCAGGACT CTGGTCTCTAGAACCTTTAAACCCAGTTCCTAAAATGGAACCCAGTTCACCGGTTCTTGATCCAGATTCCTATGTCCGACAATTTCTGCAAACGGAAG CAGAATCATCATCAACAACAACATCTACTGAGTTTGAGACTGTCTCAGACCGGAAAAGACCAAAGAGGTTCGAAGAGACAAGACATTACAGAGGCGT GAGAAGGCGGCCATGGGGGAAATTTGCAGCAGAGATTCGAGATCCGGCGAAGAAAGGATCCAGGATTTGGTTAGGCACTTTTGAGAGTGATATTG ATGCTGCAAGAGCCTATGACTATGCAGCTTTTAAGCTCAGGGGAAGAAAAGCTGTGCTCAACTTTCCTTTGGATGCCGGAAAGTATGATGCTCCGGT CAACTCATGCCGGAAGAGGAGGAGAAGTGATGTACCGGAGCCTCAAGGAACAACTACGAGTAATTCATCATCGTCATCGAACTAATGGGACTAGTA ATGCTTATATCTATTTAGTATAGGTAAAGTATTCAAGTATGTGAAGAATGATGTATAGAGCCAAGAAAATGTTAGATTAGTATAGTGAAAAAGTCTTGC
GCT-002E12	AT2G47770.1	benzodiazepine receptor-related	GAAAGCTTCTTCTCTTTCTCAATTTTCGCATTTCTCATCTCTCATTTCTCAATCCCTCGATCTCAAATATCCTGTGTTGGACGCTGTGATGGACTCTCA GGACATCAGGCACCGTGGCGGAGACGACAGAGACGCCGCTATGGCCGAGACGGAGAGGAAAAACGCTGACGACAAGAGCAAAGGCAAACGCGAT CAAAAGAGGGCGATGGCAAAACGCGGTCTCAAATCGCTGGCGGTAGCGGTTGCGGCTCCTGTGCTCATGACGCTCTTCGCCACGTATTTCCTCGG CACAAGTGGCGGCGGCTACGGGAGTAGAGCTCAGTCCACGTCTTGGATCCCACCTCTGTGGGTCCTACACGCCATACGTCTCGCGTCAAGTGGTC TTATGGGCTTGGCTGCGTGGCTCGTGTGGGTAGACGGTGGGTTCCACAAGAAGCCCAATGCTCTGTATCTTTACTTGGCTCAGTTTATGCTCTGTTT GGCTTGGGGTCCGGTTATTGTTCGGGTCGGGTCGGGAGTGGCCGGGCTTGCGGTGTGGTTGGGTCAATCTGCGGCCTTGTTCGGATGCTACAAG GCCTTTAATGAGATAAGTCCGGTCGCTGGTAATCTGGTAAAGCTGTGTTTGGCTTGTGCTGCGTTTGTAGCCGCCGTTAATGTAAAGCTTGCAATCG
GCT-002E13	AT4G03210.1	XTH9 (XYLOGLUCAN ENDOTRANSGLUCOSYLASE/HYDROLASE 9); hydrolase, acting on glycosyl bonds	GACTGAGTCCTAAGTGTGTGAGACTGTACTAGTGAGGTTTGATTAAGAGAGAAATTGAGAGAGAAAGAGAAAAAAAAATGGTGGGTATGGGTTGGTTC ATGTGTATGATGATGATTGTGTGTGTGATCTCTTGTGGTGCAGCTGTTCCTGCTAAGTTTGAGGAACTTTACCGCTCAAGCTGGGCTATGGATCATT GTGTCAACGACGGAGAAGTCACAAGACTCAAGCTTGACAATTTCTCTGGCGCTGGGTTTGAATCGAGAAGCAAATATTTGTTTGGTAAAGTCTCTAT CCAGATTAAGCTCGTCGAGGGTGACTCAGCAGGAACCGTCACTGCTTTCTACATGTCTTCAGAAGGTTCCAACCACAACGAGTTCGATTACGAGTTC TTAGGTAACAAAACCGGTGAGCCTTACGTAGTCCAGACGAATGTCTATGTGAACGGAGTTGGAAACAGAGAACAAAGACTCAATCTTTGGTTCGATC CCACAACTGAGTTTCACACTTACTCAATCCTCTGGAGTAAACGCAGTGTTGTATTCATGGTAGACGAGACACCAATCCGAGTCCACAAGAATCTTGA AGATAAAGGTATCCCATTTGCTAAAGATCAAGCAATGGGAGTTTACAGTTCGATTTGGAACGCAGATGATTGGGCTACTCAAGGAGGTCTTGTGAAA ACCGATTGGAGCCACGCTCCTTTCGTTGCTTCTTACAAAGGTTTTCAGATTGATGCTTGTGAGGTTCCAACAACTAGTGATCTAAGCAAGTGTAGTG GAGACCAGAGATTCTGGTGGGATGAGCCAACTGTGTCTGAGTTAAACCTTCATCAGAATCATCAGCTTATTTGGGTTCGAGCTAATCATATGATTTAT GATTATTGCTTTGATGCTACTAGGTTTCCTGTTACTCCTCTTGAGTGCCAACATCATCGTCATTTGTAGTTTATAAGTCAAAACTTTCTGTTTAACTTAG
GCT-002E14	AT3G17100.2	transcription factor	GGTTATATTAAAAAAAAAAAAGGATTCGTCTTCCTCTCCACACCCTTTCTGCCACCTCATCTCTCCCACCATCTTCTCCGTTCCGTTCCGTTCTCAAAT CTCTCCTCCAAAAGATAAAAAAAAACTCGCTGAGATTTGACCGGGGATTAATGGAGTCGGTGTCTCCGGTATCGAATCAGTTGCTTCAGCCGACGAC GAGCTCCAGCTCCGATCGCTCTCGCCGGAAACGGAAGAAGAAATCGCCGCCGTCGGTACCTTCGTCTCCGTCTCCATCGGCGTCGTTGCAGAAAT GGAGATCGGAGAAGCAGCAGCAGATCTACTCGACGAAGCTGGTTCGTGCTCTAAGGGAGCTTCGAATCAGTCAACCATCATCATCGTCGTCTTCGA TTCCCGGAGGAGGTCGAGCCGTTCGCGAGGTCGCAGATAGAGCCCTGGCGGTTGCGGCAAGAGGCAAAACACTGTGGAGCCGAGCGATACTATC CAAAGCCGTGAAACTCAAATTCAGGAAACAGAAACGGCAGAGAATCTCGAATCCGGCGACGTCACCGGCAATCACCGGAAGTATCCGGTCAAAGAA ACAGAGAGCGACGGTTATGAGGCTCAAGGCTAAAGGTTTGCCAGCTGTACAGAGGAAGGTGAAAACGCTGAGCCGGTTAGTTCCCGGTTGCCGTA AACAAACTTTACCGGTTGTTTTAGAAGAAACCACTGATTATATAGCTGCGATGGAGATGCAGATTCGCACCATGACTGCGATTCTCTCCGCCGTCAG CTCTCAGCCGCCGCCGCCGCCGCCAGGTCATGAAGGGGGACAAACACACATGCTTGGTTAGTTGGCCAAACTGTCCTTTCTTATTTTTTTATC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002E15	AT3G19860.2	DNA binding	GGGCATAATGCTTGGGAGCAGAGAGCGGGGGATAGAACAAGAATCTTTCTTCGCCGTTGTCTTATCTCATCGAATTTCGCCGTCACCGTCGATTCG TACCGCCGTTTTCACAAGGTCATGGACGTTTCTGCTAGAAAGTCGCAAAAAGCAGGTCGTGAAAAGTTGAGGAGGGAGAAACTGAATGAGCATTTT CTTGAACTTGGAAATATCCAGACAGACCCAAGAATGACAAAGCCACGATTTTAACTGATACTGTTCAGTTGTTGAAAGAGCTGACATCAGAAGTCAAC AAACTCAAGTCTGAGTACACGGCGTTGACAGATGAGTCCCGCGAGTTGACACAGGAGAAAAACGACCTACGAGAAGAGAAAACATCGCTGAAGTCG GATATAGAGAATCTCAATCTCCAATACCAGCAAAGATTAAGGTCAATGTCTCCATGGGGAGCTGCAATGGATCACACCGTCATGATGGCTCCACCAC CATCTTTTCCATACCCGATGCCTATGGCTATGCCTCCCGGGTCAATCCCAATGCATCCGTCAATGCCATCTTACCCATACTTTGGGAACCAGAACCC TAGCATGATGCCAGCTCCATGTACTACTTACATGCCTTATATGCCTCCTAATACCATCGTTGAACAACAATCCGTGCATATACCACAGAATCCAAGTA ACCGTTCACGGGAACCTAGAACAAAGGCTTCAAGAGAGAGCAGATCTGAGAAAGCAGAGGACTCTAATGACGTTGCAACACAACTCGAGTTAAAAA CTCCTGGATCTACTTCTGATAAGGATACATCGTCGCAAAGGCCAGAGAAGACGAAGAGATCTAAGAGAAACAGCAGCAACAACAACAACTCAATAGA AGAAAGCTCTCATTCTAGCAAATGCTCATCTTCTCCTAGCGTCCGAGACAGCAGCTCTTCCAGTAGTGTAGCTGGCGGCCAAAAACCTGATGATGCA AAATGACCAAATGATGATCGCAAACGGCAGCGTGTCGATGAGTATATGATACGAGTACAAAACGCAGTCGCTGTTTTGAACTGCGATTTGATGCAAT
GCT-002E16	AT5G47390.1	myb family transcription factor	GGTCTCTCTCTCTCTCTCAATTAGATTCTGTGCTTGTGCGATCAGCTAAGATCCGATCCGCGACGAAGAAACACGTTTCAGCTCTGATCAGATCCGA TTAAGGGATAAGAAAACCGGGTTCGGGTCATGACGCGTCGATGCTCTCACTGCAATCACAATGGCCACAACTCTCGGACATGTCCCAATCGTGGGG TGAAGCTTTTTGGCGTTAGGCTCACCGAAGGTTCGATCCGGAAAAGTGCTAGTATGGGTAATCTTAGCCATTACACGGGCTCTGGATCGGGTGGGC ATGGAGGAAACGGGTCGAATACTCCTGGTTCTCCCGGTGATAACCCTGACCATGTCGCTGGCGATGGTTACGCTTCTGAGGATTTCGTTGCTGGCT CTTCCTCTAGCCGCGAGAGAAAGAAAGGAACTCCATGGACAGAGGAAGAACACAGGATGTTCTTATTAGGTTTACAGAAGCTGGGAAAAGGAGATT GGCGAGGTATCTCTAGAAACTATGTGACTACAAGGACACCAACACAAGTTGCTAGCCATGCTCAAAAGTACTTCATTAGGCAATCCAATGTGTCTCG TCGCAAAAGACGTTCTAGTCTCTTTGATATGGTTCCTGATGAGGCAGGAGATATTCCAATGGATTTGCAAGAACCAGAAGTAGAGAACATTCCCGGG GAAACAGAAATGCAGAGTGCTGATTCTGTTCATCAGACACTTGCTCCTAACTCCCTTCAAGCACCATCGATCTTGGAAATCGAAGAATGTGAATCCAT GGACTCAACAAACTCTACCATCGGCGAACCAACCGCAACCGCAACCGCTGCTGCTGCTTCTTCTTCTTCTTCCATACTAGAAGAAACCAGACAACTG CAATCACAACCGCAACCGCAACTTCCAGGCTCATTCCCCATTCTATATCCAGCCTACTTCTCACCGTATTACCCGTTTCCATTCCCGATATGGCCTGC TGGTTACGTTCCTGAACCAACCAAGAAAGAGGAAACACATGAGATTCTCCGACCAACTGCTGTTCACTCAAAAGCTCCTATCAATGTTGATGAGCTT CCCGGTATGTCTAAGCTCAGCCTTGGAGAGACCAACAAGAATGGAGAATCCGATCAGTCTCTTTCGCTGAAGCTCGGTGGAGGTTCGTCTACAAGA
GCT-002E17	AT1G58110.2	DNA binding / transcription factor	GAGATTCCTAAAAAGGAAAGATCTCCGGTTTACAGAACGGCGCAGAATCATCATTTCCAAACTTCTGATTTTTCTGATTTATCTTCGATTTGGATCCAA TCTCAATCCTCGATTTCTCCGACTGGTCAAGGGTGGCAATGGCTAATTCCAAGGGATCACAGAGTGTTAAAGACTTGACGTACCCAGGAAAAAACGC TTTGCTCCCTCCAAAGATTCCGTTTCCTAGCGTATCAGCACCGTATTCCGAGTATATTCCCAGTGGTTCGATTGGTTCAAGGCATAATCAGAAGCTTA GTGTAGAGAAAACGCACCACCAGAGGACATCCTCTGAGAGCGATTTGGTAGAAGAGCCTCCCTTTTGGCTTGATGATCTACTCAATGAGCCAGAGA GCCCTGTTCGAAAATGTGGTCACCGGCGTTCATCAAGTGACTCGTACGCGTATCTAGACATGGCTAATGCCAAGAACATAAGCTTGACTCTCCAAAA TGATTTCAGTTATAGGAATGTTGGTTCTTCCAATCAAAGAGGAACTCAGGAGCTTGATTGGAACAAAAATGCTCAGGACGCTGCCTTCTACCCTGAT GCTAATTTTCTAAAACAGACGATTCGACAGCGAGAGTCTTTGGTGGCATCTGGGCCTCGCTCTTCTTGGTTGCCTTTTACTCGAGAGAGTGTGGGTG GAAAACACATGGGACCATCGTATATGTCTCAAGAAGCAACAGTGAAATCAGAAACAAAGAACTACGCCAAAACTCTTTCTCATGAGGCTAAAAAGTT CTCTCCTGAGGAAAAAAACTCCAGTCCTCAGCCCGGGACTTATGATGCTGACAATACTAGACGAGCCAAACAGCAATTTGCGCAACGATCACGGGT CCGTAAGCTCCAGTACATATCTGAGCTAGAAAGGAATGTACAAGCATTGCAGGCAGAAGGCTCCAAAGTTTCAGCTGAGCTTGATTTTCTCAACCAG CGGAATTTAATTCTGAGTATGGAAAATAAAGCTCTTAAGCACCGCCTCGAAAGTATAGCTCAGGAGAAGCTGCTCAAACAATTGGAACAGGAGGTGT TGGAAAAGGAGATTGGAAGACTACGAGCTCTGTATCAGCAACAACAACAAACAAACCAACCATCAGCAAGTCACGGACGGTCTACTAGCAAAGATC TCGACTCTCAGTTCTCAAGTCTTTCACTGAACACCAAGGATTCCAACTGTAGGCGTGACTCTGTGTCTGTGACGGGTCAATTCCACTTTTAGTCAATG AATCTCTCTACCCACTGGTTCATTAGACCTTAAGGACCTGGCGTAGGCTTTTCAAACAAGATCAGACCCTGATCTACTGTCTTGTAATACTCCTTCAC CGCACACGTTTTTAACTCCCCGGCCATTACTTTTTCCATTACCTGAAAACCTATTTTACTTCCAGCAGATGTCTTGCCTGAGGTGGTTTAGTTCGAAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002E18	AT2G39330.1	jacalin lectin family protein	GGGGAATTCATCTCTTTCATTCTCAATCAGAGCTCAAGAACTGACTGGATTTGAAGATTCGAAATGGCAAAGATGTACCAGAAGATGGCAATTCGCG GTGGTGAAGGAGGACGCGAATGGGACGACGATGTATACGAGGGTGTAAGAAAAGTGTATGTAGGGCAAGATCTCTCACGTATCACTTACGTCAAAT TCGAGTACGTGAAGGAAGACGGCGAAGTGGTAACACGTGAATATGGGACAATAAATCAACAACCTAAAGAGTTTGTACTTGAATATCCTGATGAACA CATCATAGCGGTGGAAGGAAGCTACAACAAAGTGGCTCTGTTTGCCACGGAGATGATCACATCCCTCGTCTTCAAGACCTCAAAGGGTAGAACGTC TCCAACGTTTGGGCCAAACTTGTTCGGAGTTGTGAACGGTACAAAGTTTGTTTTGGAGAATCAGAGAAAGAAGATCGTAGGGTTTCATGGACGGTCG GGTAATGCTCTCGACGCTCTTGGAGTATACTTTGCACTGGACTCTCTCAACACGTCGACCCCTCTTTACAAGCTGGAAGCCCAAGGTGGTACAGAA GGGACTGTTTGGGACGATTCTTCTTATGACGGTGTTAAAACGCTGCGCATTGGTAAAGATAATTGCCGTATCACTTATTTAGAGTCCGAGTATGTGAA AGGTGGGAAGTCGGAGACACGTCAACATGGGGTGAAAGGAGAAACACCATCCGAGTTTGTGCTTGATTTCCCGGGTGAATACATCAAATCGGTGGA AGCAACCTATAATCGTCCAATCCTTTTCCGCAACACCGTCATTACATCGCTTAAGTTCGAAACATCAAATGGGAGAACAGCATTCTTTGGGTATGAGG TTGGTAAGAAGTTTGTATTGAAGCAAAATGGTCTTAAGCTTGTAGGGTTCCATGGAAAAGAAGGTGACGCTATTGATGCTCTTGGAGCATATTTTGCA CCTATTCCTGCTCCTACTCCTTTGATTCCAGCCAAGAAACTACCATCAGTAGGTGGCAATGGAGGACTTGCATGGGATGATGGTGTTTACGACGGTG TGAGGAAGATATACGTTGGACAAGGTAACGATGGTGTGTCCTTTGTCAAATTTGAGTACATTAAGGGAACAGACTTGGTACCTGGAGATGACCATGG GAAGCAGACATTACTCGGAGCTGAAGAGTTTCTGCTTGAGGATGGTGAATATCTCACGGCTGTGGAAGGCTACTACGATAAAATCTTTGGAGTCGA GGAACCAATGATTATCTCTCTTATGTTCAAGACGAACAAAAGGGAATCAACTCAGTTTGGAATGGATTCCGGTACGAAGTTCACGCTCGGGGAGAAC GGACACAAGATCGTCGGGTTCTATGGACAAGCTTGTGATGTTATTTACGGTGTCGGAGTCACTGTTGTGCCCATCACCGAGTGAAAAACCCTTTTAT
GCT-002E19	AT5G04720.1	ADR1-L2 (ADR1-LIKE 2); ATP binding / nucleoside-triphosphatase/ nucleotide binding / protein binding	GAGGAACTCTTCTTCCTCCACTCACCAATCATCATTTTCTCTCTGTGTCTCTCATCGGCCTGGCCTAGTCCTAGACATGGCTGAACTTATCGGCGGC GAAGTCGTGACGGAGCTCGTGAGGCAGCTCTTTTCTATATCTGGAAAAGCCTTGAGATGCAGAGGCGTCGCCTTGAACCTCGCCACCATGATCGAG GAATTTCAGCCCACGATCAAGGAGATCCTCTACAGCGGCGTGGAGGTCAGTTCCCATCGCCAGGTCCGGCTTCGTATGTTCTCTGAAACCCTAGAA AAGTGCCGAAAGCTCACCGAGAAGGTTCTCAAATGCAACCGTTGGAACATGATTCGTCAGGTTTACCAAGCCAGGAAATTGGAGGATCTCCAGAAG AAAATCTCTACCTTTATTCAAAGCCTGCCCCTCCACACTCTCGCCGACGTTCATCATCTCCGGGCTAACGCTGAAGTCCGTTTTGATCGGATCGATA GGAGTTTCGATAGCATGAACGAGAAGATGGGTTCTATGAAAATCAGGGGAGGTGGATTGGTGCGGGACGCGATGAAGATTGCCGAACCTACGGTA GCGACGGAGGGTGATTTGGGTAATTTGGGGGTTGGCTTGGATTTGGGAAAGAAGAAGGTCAAGGAGATGCTGTTTCATTCCAAGGACGAGGGAAG AAGGCTTGTTGGGATCTCCGGGATGAGCGGTTCAGGCAAAACCACTCTTGCTAAAGAGCTTGCCCGGGACCTCGAGGTCCTAGGTAATTAAGCTCT GCTTTAGCCTTATGTGCTTGCCTGGACTCTGATTCAATATCGTTTCTTAATTTTTTCATGTTCGTCTAAGGCCACTTCGGGAAACGGGTTTTGTTTCTG ACCGTTTCACAATCTCCTAATCTTGAGGAGCTAAGGGCCCTTATATGGGAATTTCTTACTGGTCATGAGGCTGGCTTTGGTGCAACTCTTCCGAAGC TAGTGATCCTTGATGATGTTTGGACAAGGGAATCCCTGGACCAGCTCATGTTTAACAATCCTGGAACCACAACGCTTGTGGTCTCAAGGTCTAAACT TGCAGATCCGGGAACCACCTACAATGTAGAGTTACTAAATGAAAGTGAAGCAACCTCTCTGTTCTGTCTCTCTGCTTTCAACCAGAAATCAGTCCCTT CCGGGTTCAGCCCAACTTTGGTCAAGCAGGTTGTTGAGGAGTGTAGAGGTCTACCTTTGTCCCTCAAAGTTGTTGGTGCTTCACTGAAAGACCGAC CTGAAAAATATTGGGAAGGTGCAGCGAACAGGTTATCAAGAGGTGAACCTGCTGATGAAACTCATGAGAGCAGAGTATTTTCTCAAATAGAAGCAAC TCTAGAGACTCTGGACCTTAAAACCAGAGAATGTTTCTTGGATATGGGTGCTTTCCCTGAAGACAAGAAGATCCCTCTTGATGTTATCATCAACATGT GGGTTGAGATGCATGATCTCGAGGACGCGACTGCTTTTGCTGTTCTTGTTGATTTATCAAACAGGAATCTCCTTACTCTCGTGAAAGATCCAAGGTTT GGCGCTATGTACACAAGCTACTATGATATTTTTGTGACGCAGCATGATGTTCTAAGAGACCTTGCTCTTCATCTAAGCAATCGTGGAAAAGTAAATAG AAGAGAGCGGCTATTGATGCCGAAAAGAGAGTCCTTACTTCCCAGAGAATGGGAGAGGAGCAATGATGAGCCATACAATGCCCGTGTAGTTTCCAT TCACACAGGAGAAATGAGTGAAATGGAATGGTTTGACATGGAACTCCCAAAGGCAGAGGTTTTGATACTACACTTCACTTCGGACAGCTACGTACTG CCACCTTTCATCGCTAAGATGAGCAAGCTTAGGGCGCTCGTGATTATCAACAGCGGTATGTCTCCTGCGCGTCTACATGACTTCTCCAGCTTTACTA ATTTGGCCAAACTCAGGAGTCTCTGGCTTGAGAGGGTTCATGTCCCTGAACTCTCTACCTGTACGGTTCCCTTGAAGAACCTCCACAAGATGTCTCT GATCCTGTGCAAGATCAATCATAGTTTTGATCAGACAGCAGTAGACATGGCCCAGATCTTTCCAAACCTGTCTGACCTCACGATAGATCACTGTGAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002E20	AT5G35410.1	SOS2 (SALT OVERLY SENSITIVE 2); kinase	GAAGTTCACTCGATTTTCCTCAGCCACCATAGCTTCTTTTTTTTTCCGTCCGTCGCCGTCTTCATTTCCGATCAGAAGTATACCTTCTCTTTCCGATCG GAACCCGCTCACTACACCCATAAGGTGTTGTAATGGATCCGACAAAAAGAAAAAACTGCCAAAGAATGACAAAGAAAATGAGGAGAGTGGGGAAGT ATGAGGTTGGTCGCACGATAGGTGAAGGCACCTTTGCTAAGGTTAAGTTTGCGAGGAACTCAGACACTGGAGAAAATGTAGCCATCAAAATTATGG CTAAGAGTACAATTCTTAAGCACAGGATGGTTGATCAGATAAAAAGAGAGATATCCATAATGAAGATTGTTCGACACCCTAACATAGTGAGGTTGTAT GAGGTTTTGGCAAGTCCTTCAAAAATATATATCGTTTTGGAGTTTGTGACAGGAGGAGAGCTCTTTGATAGAATTGTTCATAATGGGAGGCTTGAAGA AAGTGAGGCACGCAAATACTTTCAACAGCTTGTAGATGCTATTGCTCATTGTCACTGCAAGGGTGTTTACCACCGTGACTTAAAAGTGAAGCCAAAT ATTTCTTCTTTGTTGACTAATTTTCCGTAGAGTTTTCCTCCTTTTTCCATGTGTTGTAATCCAGACTTGATGCCTATGTGTCATTATGATATTCAGCCAG AAAATCTTTTACTCGATATTAATGGAAATCTCAAGGTTTCGGATTTCGGTCTCAGTGCATTGCCTCAGCAAGGAGTAGAACTTCTGCGCACCACATGT GGAACTCCGAACTATGTAGCTCCTGAGGTACTTAGTGGCCAAGGTTACGATGGTTCAGCAGCAGATATTTGGTCTTGTGGAGTTATTCTTTTCGTTAT AATGGCTGGATTTTTACCCTTCTCTGAGACAGATCTTCCATCATTGTACAGAAAAATAAATGCAGCAGAATATTCTTGTCCACCGTGGTTTTCTACAGA AGCGAAGTCTTTGATACATAGGATACTTGACCCCAATCCCAAAACAAGCAGCGTATTCAAATTCAAGGAATTAGGAAAGACCCTTGGTTCAGATTACA TTATGTGCCTACTCGAGCAAAGGAAGAGGAAGAAGTGAATTTGGATGATGTTCGTGCAGTTTTTGATGGAATTGAGGGCAGTTATGTAGCGGAGAAT ATAGAGAGAAAAGAAGAGGGACCCCTGATGATGAACGCCTTTGAGATGATTACCCTATCACAAGGCTTAAACTTATCAGCACTATTTGACCGGCGAC AGGTAGTACCTGATTTTCTATTGTTGCTCAGAGAGATCTCCTTATTGAATAAAAGAATCTAAGTAGCATCTAATCTTCATACTAAATGTTTTGGCGTAC ATATTATGGTGTTAAATTTCGATTCTGTGTTCTAGTTTGTAATAATTATAAGTTCATGAGATCATTAGTTGCATGGCATTATTAAATAGAAATGGAATCC GAAATGTTCCTGCATATTGGTGGCTGATCCGTTGATCTCGCAGGATTTTGTGAAAAGGCAAACCCGTTTTGTTTCTCGAAGGGCGCCTAGTGTGATA ATTGCTAATATTGAGGCTGTTGCGACCTCAATGGGTTTTAAGGCTTATACACGCAACTTCAAGACAAGGCTCGAGGGATTGTCTTCAATCAAGGCCG GACCGTTCGCTGTTGTGATAGAGATTTACGAGGTGGCACCATCTCTTTTCATGGTAGACGTTAGAAAGGCTGCTGGTGAAACTCTTGAATATCACAA GTTCTACAAGAAGTTATGCGCAAAACTGGAAAACATAATATGGAGAGCATCAGAAGGAATGCCAAAATCAGAGCTTTTCAGAACAATCACGTTTTGAT CGATCCTCGGCTTCTCATATCAGTCTTGTAAGTAAATGCATGTGGAGAGTACTAACCAGAGAAGAAGCAAAAGATAATCAAGCAGGTGCTCTAATAC
GCT-002E21	AT3G27000.1	ARP2 (WURM); structural constituent of cytoskeleton	GATTTTCTGAGATCAACGAAATCTGATTCATGTAATTGCTTAAGACAGCTAAAGTTTCTATAGCGAGCATATAAATCGGAGAAGATGGACAACAAAAA CGTCGTCGTTTGCGACAACGGAACCGGCTATGTGAAATGCGGATTTGCTGGAGAGAATTTCCCAACATCTGTTTTCCCTTGTGTCGTGGGAAGACC GTTGCTTCGGTATGAAGAATCACTGATGGAGCAGCAAGTGAAGGATATAGTTGTGGGGGAGTCTTGCGCGGAGCTCCGGCATCAATTGGATATAAA CTATCCTGTACACAACGGCATTGTGCAGAATTGGGAGGATATGGAACATGTCTGGGATCACGCTTTCTACAAAGAACTGAAAATCAATCCATCAGAT TGTAAGATATTGCTCACGGATCCACCTCTTAACCCATCGAAGAATCGCGAAAAAATGATTGAGACAATGTTTGAGAAATACAACTTCGCCGGCGTTTT CATTCAAATCCAAGCGGTTCTGACTCTGTATGCTCAAGGTTTGCTAACTGGTTTGGTTATTGATTCTGGTGATGGTGTTACTCATGTGGTTCCGGTGG TTGACGGCTATTCATTCCCTCATCTTACCAAAAGAATGAATGTTGCTGGCAGACACATTACAGCATATCTTGTTGATCTCCTTTCTCGACGAGGATAT GCGATGAATAAAACGGCTGACTTTGAGACAGTTAGGGAAATCAAAGAGAAACTCTGCTATATAAGTTATGATTATAAGAGAGAGTATCAGCTTGGGC TTGAGACAACCATCCTTGTCAAGAATTATACTCTTCCAGATGGGAGGGTCATTAAGGTAGGCACTGAAAGATTCCAAGCACCTGAAGCGCTTTTTAC ACCGGAACTCATTGATGTTGAAGGTGATGGAATGGCAGACATGGTTTTCCGCTGTATTCAAGAAATGGATATTGATAACCGCATGATGCTCTACCAA CACATAGTTTTAAGCGGAGGAAGCACCATGTACCCTGGACTACCTAGCCGTCTTGAGAAAGAAATCCAGGATCGGTATCTCGATACAGTTCTAAAAG GAAACAAAGATGGCCTCAAGAAACTCAGATTGCGGATCGAGGATCCACCTAGAAGGAAACACATGGTATACCTCGGAGGCGCTGTTCTTGCAGGAA TCATGAAGGACGCACCAGAGTTCTGGATCAATAGAGAAGACTATATGGAAGAAGGAATTGGTTGCTTAAATAAGATGGGCCAAGCTTGATCTTTTCA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002E22	AT2G32410.1	auxin-resistance protein, putative	GATTCTTTTCTCCATAACCTCTCTGCGTCTCTCTGTCTCTGTCTCTCTCTCTCTCTGCAGCTGAGACGCGAACCATTGAAGAACCCATGAAAAGAGTT GAGCAAGAACCAACAATGTCGGAGCCCAAGAAAACCAAGTACGATCGTCAACTCAGGATTTGGGGAGAATTAGGTCAAGCGGCTCTGGAAAACGC GAGCATCTGCTTGCTTAATTGCGGCCCTACTGGCTCAGAAACCCTCAAGAATCTCGTTCTTGGTGGTATCGGAAGCATCACCATTGTCGACGGATCC AAAGTAGAAATTGGAGACCTTGGAAACAATTTCATGGTGGATGAGAAGAGTGTTGGTCACTCAAAAGCCAAGTGTGTCTGTGCATTTCTTCAGGAGC TTAACGATGCTGTTAAAGCCAACTTTATTGAGGAGAATCCAGACACTTTGATAATCACAAACCCGTCTTTCTTCTCTCAGTTCACTCTCGTTGTTGCCA CTCAGGAGCACGCCATTATTGATTCAAAGCCCGATCATTTTCTTGATGATCTCCGCTTGAATAATCCCTGGCCTGAACTCACGAGGTTTGTGGAGAC CGTTGATATAAAAACACCAGATCCGATTGCTCATAAGCACATTCCTTACGTCGTCATTCTTATCAAGATGGCTGATGAATGGGCTCAAACCCATAGCA ACAACCTTCCCTCGACCAGGGAAGAGAAAAAGGAATTTAAGGATTTAGTTAAGTCAAAGATGGTATCGATGGATGAAGATAACTACAAAGAAGCCGT TGAAGCCACTTTCAAAGTTTTTGCTCCTCGAGGAATCAGCCAAGAGATTCAAGATATTATTAATGATAGTTGTGCTGAAGTTGGCTCAAGTTCCTCAG ATTTTTGGGTGATGGTGGCAGCCCTCAAGGAGTTTATTTCAAATGAAGGTGGTGGGGAGGCACCACTTGAAGGTTCCATGCCCGATATGACATCTT CAACAGAACACTACATCAGTTTGCAGAAAATCTACCAAACCAAAGCTGAAGCTGATTGTCTTTCCATGGAGCAAAAGGTGAAAAACATCCTAGTTAAA GTTGGTCGAGATCCAAGTAGCATCTCAAAAGCAACTATCAAGAGCTTCTGCAAGAATGCAAGAAAACTTAAGGTATGCAGATATCGCATGATAGAGG ATGAGTTCAGCAATCCTTCTGTAACAGAACTGCATAAATGTTTGGCTAGTGAGGACTACAGTAGTGCAATTGGATTATATATTCTTCTTAGAGCTGTT GATAGATTTGCTGCGAGCTATAAGAAGTTTCCTGGACAGTTTGATGGTGGAGAAATAGAAGAGGATGCATCTCGATTGAGAACTACTGCCCTGAGTC TTCTTAGCGAAATGGGTTGTGACGGCTATGTACTTCCGGAAGAACTTTGCAATGAGATGTGCAGATTTGGTGCTGCAGAGCTTCATGTGGCTGCTGC TTTCATAGGAGGGATCGCATCTCAAGAAGTAATCAAGCTCATCACGAAGCAGTTTGTTCCAATGTTGGGAACTTTCATCTTCAACGGCATTGATCATA
GCT-002E23	AT1G67920.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT1G24600.1)	GGTCTTCGCTTCTACTTAACACACAACTCGTGTCCTCAACACAAGTTATAAACAACAAGTTCTTTGTTTCAGAGCCGTTTTGTCGCAGGTTTGTGCTG AAATATGGAGAACAAGACCAATAAAGGAAGCGAGGATGGTCCGAAACATAGCCAGGTGGTGAAGATAAAAAGAGAGTTTGAGAAGATAAGTCAACC ATCGCTGCAGCAGCCGGAGATGAGGAGGCTCCTTGGCGAGTTTACGAGGCGTCAACGTTCACGTTCTCCTCTCGGTTTAGGAGAGAGATCTATTTC CGTTGGGAATTGATCTATGTTCGCTTTTGTAATAGAGAGAGAGAGAGAGAGTGAGAGAGAAGAAGAAGAGGAGGTTCCTAATAGATAGTTGCAGGG TTTTGTTGTATATATGCTTTGTTGCATGTAAATAGTCTTTTGCTTTCAATATATATGATGCATGAATGTCAAAAAAAAAAAAAAA
GCT-002E24	AT2G30250.1	WRKY25 (WRKY DNA-binding protein 25); transcription factor	GGTAGATCATTTCTCTGCAAAAAAAGAGTTTGCTTTTTTCTTTCTTTTTTTAGCAAATCCTTTTTTTGTTCTGAGAGCTTGAAAGTTTGTCTCCTTTTATC AAGGCCATGTCGTCGTCTTCTTTCACCGACCTCCTTGCTTCCTCTGGCGTTGACTGCTACCAAGAAGACGAAGACTTTCGTGTTTCCGGGTCGGTAT CGCTATATCAGAGTGATGGGTTTAACCTGGAGAGAACCGGGTCGGGTTTACCCAAGTTCAAGACGGCGCAGCCACCTCCACTTCCGATTTCAAAAT CTTCTCATTTTGCGTTCTCCGATTTGCTTGATTCTCCTCTTCTTCTCTGCTCCTCACATAGTTTGATATCTCCAACGACAGGAGCGTTTCCATGTCAAG GCTTCAATGGAATAAACAATCACTCAGATTTTCCCTGGCAGATACAACCGCAATCGCAATCGCAACTACCAATCGTTTCTTCTGTTTTGCAAGAAACA TATGGTGTTCAAGATCCTCAGAAGAAACAGGTTCCGGTTCATCGTGAGATTGCAACGCAAAGCTTTGGATCGGATCGGCAGAGTAAGATACCATCGT ACATGGTGAGCAGGAACTCTAATGATGGTTATGGTTGGAGAAAATACGGTCAGAAACAAGTGAAGAAGAGCGAAAATCCGAGGAGTTACTTCAAGT GTACGTATCCAAATTGTGTTTCCAAGAAGATTGTTGAGACTGCTTCTGATGGTCAGATCACTGAGATCATCTACAAAGGAGGTCATAACCATCCTAAG CCCGAGTTCACCAAGAGACCATCAGGATCAACGTCAATATCTTCCTCTGCTAATGCGAGACGAGTGTTTAATCCTTCTTCTGTTGTTAGTGAAACACA TGATCAATCAGAGAACTCTTCGATCTCGTTTGACTACAGTGAGAAAAGCTTTAAATCGGAGTATGGTGAGATAGACGGAGAGGAGGACCAACCTCAG ATGAAGAGATTGAAAAGAGAAGGTGAAGATGAAGGAATGTCTGTAGAAGTAAGCAGAGGAGTGAAAGAACCAAGAGTTGTGGTTCAGACAATAAGT GACATTGATGTTCTTATAGATGGCTTTAGATGGAGGAAGTATGGTCAAAAAGTTGTCAAGGGAAATACTAATCCAAGGAGCTACTACAAGTGCACATA CCAAGGTTGTGGAGTGAGGAAGCAAGTAGAAAGATCTGCAGAAGATGAGAGAGCGGTTCTCACTACCTATGAAGGAAGACACAATCACGATATCCC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002F01	AT3G16470.2	JR1 (Jacalin lectin family protein)	GCTGTTATTCATTCTCTAGGAGCCTATATAGCTTCGTCAACCACGCCGGTGACTCCGCCGGAGTCAGGTGGTACGACCAAGTTGGAAGCTCAAGGT GGTCGTGGAGGAGAGATTTGGGACGATGGTGGTGCTTTTGAGAATGTCAAGAAAGTGTATGTTGGACAAGGTGACTCTGGTGTGGTTTATGTCAAG TTTGATTACGAAAAAGATGGAAAAATTGTATCACGTGAACATGGGAAGAAGACATTACTTGGAACAGAGGAGTTTGAGCTTGATTCAGATGATTACAT CACATCTGTGAAAGTTTACTACGAGAAACTCTTTGGAACGCCAACAGAGATCATCACGGCTCTTATCTTCAAGACATTCAAGGGAAAGACTTCTCAAC CGTTTGGAATGACCTCTGGTGAAGAAACTGAGCTAGGAGTCGGAAAAATCGTTGGATTCCATGGAACTGCGAGTGATGTGATCCACTCTCTTGGAG CTTATATTGTCTCATCGTCCACACCAGTGACTCCTTCCAATACTATTCCAGCACAAGGAGGAGACGCAGGAGTTGCTTGGGATGATGGTGTTCACGA CGGTGTGAAGAAGATATATGTAGGACAAGGTGACTCTAGTGTGACTTATTTCAAAGCTGAGTATGAAAAGGCTTCAAAGCCTGTCATTGGAAGCGAT CACGGGAAGAAGTCATTGCTTGGAGCAGAGGAGTTTGTGCTTGAAGCTGGTGAGTATGTCACGGCCGTGACGGGCTACTATGACAAGATTTACGG CGTAGATGCACCGGCAATTATCTCGCTCCAGTTCACAACAAACAAGAAAACGTCTATTCCGTATGGAATGGAGTCAGGAACTAAATTCGTTTTGGAG AAGAAAGACCACAAGATCGTTGGGTTCTATGGACAAGCTGGTGAGTTTCTTTACAAAATCGGAGTCAAAGTGGCGCCCATAGCCAACTGATGCAGA AACAATCTGATATGCCACGAGAGTTTGAATAAGATTTATCCTGTGAGTTTATGGAGTTGTATGGTCTATTGTTGTTTTTGGTTTGTCTCAAGGGTAATA
GCT-002F02	AT2G30020.1	protein phosphatase 2C, putative / PP2C, putative	GAATTATATTTATCATTCAACATTCAATAATCATCACCTTCTCTCTTATATTTAAACCTCTTCTTCTCTCTCTCCTTCCTTTGTCACAACAAAAAAAAAAA ACAGAAATCTCAACGACGAGGTAGAGAAGAAGAAGAAAATACAGATCAATCTTCTTCAACCAAAAACAAAATCTCAATCTTCAAAATTCGAAAACGAT GTCTTGTTCCGTCGCCGTCTGCAATTCTCCGGTGTTTTCTCCGTCGCCGTCTCTCTTCTGCAACAAAGCTTCTATACTCTCTTCGCCGCAGGAAACA ATCTCTCTCACTCTCTCCCATCTCAAACCTTCGACGTCTTCTCCTTCCTCTCCTTCCTCCGCCGCCGCCGCTTCCCCCAAATCCCCGTTCCGTCTCC GTTTCCAGAAACCACCGACCGGTTTCGCTCCTGCGCCGCTTAATTTTGGATCGGACTCTGTTTCCGGCCAATCTCCTCCTGGAGGAGTTTTGAAGA GAAAACGGCCGACGAGGCTTGATATACCGATTGGTACTGCTGGTTTCGGAGCTCCGGCGTCGGAGATCTCGATTGCGACGCCGAGGGAGGAGAG CAGAGAGGTAGAGAGAGAAGGCGATGGTTACTCTGTTTATTGTAAGAGAGGAAGAAGAGAAGCTATGGAAGATCGCTTCTCTGCCATCACCAATCT TCAAGGAGATCACAAACAAGCGATATTTGGAGTCTACGATGGTCACGGAGGAGTCAAAGCGGCTGAGTTTGCGGCTAAGAATTTAGATAAGAACGT TTTAGAAGAGGTAGTTGGTAAGAGAGACGAGTTAGAGATAGCAGACGCGGTGAAACGCGGTTACTTAAACACAGACGTTGCGTTTCTCAGTGAGAA AGACGTTAAAGGCGGTTCCTGCTGCGTCACGGCTATGTTCAGCGATGGGAAACTCGTTGTGGCCAATGCCGGTGATTGTCGCGCCGTCATGAGCG TAGGAGGTGTCGCGGAGGCTCTTTCTTCCGATCACCGCCCCTCAAGAGACGATGAACGGAAAAGAATTGAAACCACGGGTGGATATGTTGATACGT TCCACGGTGTTTGGAGAATCCAGGGATCTTTAGCTGTGTCAAGAGGAATCGGTGATGCTCAGCTCAAGAAATGGGTTATAGCCGAACCAGAGACGA AGATGTTGAGAATCGATCAGGAACACGAGTTCTTGATCTTGGCATCGGATGGTTTATGGGACAAAGTGAGCAACCAAGAAGCAGTAGATATTGCTCG TCCTTTCTACGTAGGAACCGAGAAGAAGCCATTGTTGTTAGCTTGTAAGAAGCTTGTCGATCTCTCGGCTTCACGTGGCTCATCGGATGATATTAGC
GCT-002F03	AT5G35620.1	LSP1 (LOSS OF SUSCEPTIBILITY TO POTYVIRUSES); RNA binding / translation initiation factor	GGAGAGAGAAAGAGAGAGAGAGAAAAAAAAAAAAAAAACACAACTGCAAAGAGTATGGCGACCGAGGATGTTAACGAAGCCCTTGCGGCGGCCGAA CAACCGCCGATAGAGACAACGGAGAAGCAATCTCACAAGCTCGAAAGAAAGTGGAGTTTTTGGTTCGATAACCAATCCAATCCTAAGAAAGGCGCC GTTTGGGGAGCTTCCCTTCGTAAAGCCTATACATTCGACACCGTCGAAGATTTCTGGGGTTTGCACGAGACTATATTTAAACCTAGCAAATTGACAC CGAATGCTGATATTCACTTGTTCAAAGCTGGTGTTGAGCCAAAGTGGGAAGATCCAGAGTGTGCTAATGGCGGAAAGTGGACATATGTTGCTACCAA TGACAGGAAGAGAGATTTGGACAAGGCTTGGCTTGAAACTTTGATGGCTTTAATTGGGGAGCAATTTGATGAGGCGGATGAGATTTGTGGTGTGGT TGCTAGTGTGCGCCAAAAGCAAGACAAGGTCTCTTTGTGGACAAGGACGAAATCAAACGAAGCTGTTCTGATGGGTATTGGGAAGAAGTGGAAGGA GATACTTGACGTCACCGACAAGATAACTTTCACTAACCTTGTGGATGATGCTAGAAGAGTTCGGTTCAGTGTCTGAAGAGAAGGCACAACTGTGTGA GACATGAGTAAGATGCAATATGGCTATTTGTCTTGCAATGATTTGGTCGGTTTACTCAAATAGCTGAGACCTTTAAGGATACTGACTTTGAGTTGTAA CTCTACAAAAGTTTTTTGTTTCGTTAAAATCAATTTTCTTAAAATCAAGTTCAGTTCTATAAATCCTTTTGCAAGCAGCGTCAATTTTTGGACAACTAGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002F04	AT3G10760.1	myb family transcription factor	GACTGAAAAAAAAAAAAAAAAAAAAAAAAAAAAGTAAGAAAGGAAGAAGATCCACCTCGAACTTCTCTCCATCTTTCTCAATCATATCATATGTTCTCAG ATTCCGTCTCTTTCCTTTTTTCTCTTCCTCTTCAAGCCTCTTCAAGTGAATCAAAATATCTAAGCTTGTTTCCTTTTAATCTCATTTTCCTCTGTAATTTT TCCTGGAAAAATTTGTCCTTTTCAGTTTTTTCTTTTTCTTTCTCCAGATCGAATTCGATTTTTCTCGTCTCAGTGAAAGCAAGTTCCTTGGTTGAATTTA TCTCTTGGGTTTTAAAATCAACAGGTGAAAGTTCGAGACTTGCTCTCTATCTTTGAGTATAATGAGAGAAGACGATTCCGACTGGTTCGCAAGATGG GAAGAAGAACTTCCATCTCCGGAGGAGCTCATGCCGTTATCTCAGTCTCTGATTTCTCCCGATCTCGCTCTCGCCTTCGATATCCGAAGCCCCGTTC ACGGAAACGGAAACTCCGGTCAACCCCATCACCACCACCAATCCACGCCTCCAACTCCGTCGCAGCTCCAGCTTCCGTCTTCACAAGCCAATTCCT CCGCCGAATTCGCAGCCGATTCTGCAGATCTAGGCTCCGGAGCCGCCGGAGACGAACCGGCACGGACCCTCAAGCGTCCTCGACTCGTCTGGAC GCCGCAGCTTCACAAACGCTTCGTCGACGCGGTTGCGCATCTCGGGATCAAAAACGCCGTCCCCAAAACGATTATGCAGCTCATGAGCGTCGATG GGTTAACCAGAGAGAACGTCGCGAGCCATTTGCAAAAATACCGACTTTACCTCAAGAGAATGCAAGGGTTGTCTTCCGGCGGCGGAGCTGGATCAG ATCCGGCGACGGATCGTCTTTTCGCAAGCTCTCCGGTGCCAGCTCATTTCCTTCACCCGAATCGAGTTCCGAGCTCAGATCACTTCATGCCGTCTTT TGTCCCAATCGCGACTCTTCAACAGCAGCAGCAAATGGCCGCAGCCGCAGCCGCCGCCGCAGCTGCAGCCGCGAATCCTCATCTGCAACCGCCTC AATTTCACCACCGTCAAATCGCCGCCGCACATTTCGGCTCTCCGACAAACGGTCAATTCAATTCACCGACGAGTAATGGTCAGTTCAATTCACCGAC GACGACGAATGGGAAATTCGATCCGTCGTTCTTGGCGAGGCAAACGCAACCACTTCACAGAATGTCTACACCATCGTTGCATAGTCCGGTCGGTAA TTAGTGTGAGGATTTGGAATGTGGAAATGGGAATGGAGGAAGAAGAGTGTTGAGTTTATTGGGAAGTGGAGAGGATTAAATGTGTGAAATTGAATGTT
GCT-002F05	AT2G43280.1	far-red impaired responsive family protein / FAR1 family protein	GAGGTCACCTCTCTCTTACTCTCTCTGTGCTCGTGCAACCGAAGATCCTGCAGGTCGTCAAATCCATGGAAGATGATTTGACCATAGAACCTCGTGA GGGGATTGAGTTTGAATCCGAGGATGCGGCCAAGATGTTCTACGATGATTACTCTAGACGTTTAGGGTTTGTAATGCGTGTAATGTCTTGCCGGAGA TCCGAGAAAGATGGAAGAATCCTTGCCCGGAGATTCGGCTGTAACAAAGAAGGTCACTGTGTTAGCATCCGAGGTGAGTTTGGATCAGTCAGGAAA CTAAGACCGAGCACAAGAGAAGGTTGCAAGGCCATGATTCATGTCAAGTATGACCGGTCTGGCAAATGGGTCATAACCAAATTCGTCAAAGAACATA ACCATCCGCTCGTGGTTGCACCTCGCGAGGCTCGTCACACTCTGGTGAGTAACTTAACTTATGCCCTTGTGCAATCTAACAAAGTGTTTGAGCACAA AATGTGTGAAACCATTTTGGTGAATTTCGTTGTTCTAGGACGACAAGGACAAGAGAATTCAAGAACTGACGATAGAGCTACGAAACAAGAAGCGGTT ATGTGCAGCGTACAAGGAACAGCTAGATGCGTTCACAAAGATTGTTGAAGAACATAGTAATCGGATAGCAAAGAAAGTGGAGAGTGTGGTGAACAG TTTGAAGGAATTCGAACCTATAGAGCTCGAGCTACTGCGAAGTAAACAAGATGCCCTCTAAGCCATCTATAAATGTGTGCTGCTGTACATTCTTTACT GCCTTTCCCGATCTCAAATGGATCTAGTGTAATGTAGATGTGACTGAATCTTGTAGTTTATGGAATGTAATGGGAGAAACTTTGTAACCATAGATTAG
GCT-002F06	AT5G39660.2	CDF2 (CYCLING DOF FACTOR 2); DNA binding / transcription factor	GACAAGACAGTCGTTTCCTCTCTCTCTCTTTCTCTTTTTTAAAAAAAAAAGATTGTAGCTTTTTTCTCTGTCTTCTCAAAAGTTTCCGCTTTTTTCTC GCTGGTGAGAAAGAAGAAGAACAAGAAGTGAGGCATAACAAAAAACAAAACAAAAAACTTGATGTCTGATCCGGCGATTAAGCTATTTGGGAAGACG ATTCCTTTGCCGGAGCTTGGTGGAGATTCTTCTATCAGCTATACCGGAGTTTCAACCGAACATCAAGACCAGAATCTTGTTCGGTTATCAGATTCGTG TACCGGAGATGATGAAGGGATGGGTGATTCCGGTTTAGCAGGAGGAGGAGGAGATGACGGTGGTTTTCGCGGTAGAGATAGCGAGAGTGAAAAG GAAGAAAAAGATAACGAGTGCCAAGAAGAGCACAGAGAAGAAGAGTCATTGAGGGATGAGTCTAGTAACGTTGCTACAACATCTGGTATTACAGAG AAAACAGAAACAACAAAAGCTGCAAAGACAGAAGAAGAGTCGTCACAGAACGGGACTTGCTCTCAAGAGACGAAGCTAAAGAAACCAGACAAGATT CTCCCTTGCCCGCGATGTAACAGCATGGAGACCAAGTTCTGTTACTACAACAACTACAACGTTAACCAACCTCGCCATTTCTGCAAGAAATGTCAGA GATATTGGACAGCTGGAGGAACCATGAGGAATGTTCCGGTTGGTGCAGGGAGACGCAAGAACAAGAACCCTGCTTCTCATTATAACCGTCACGTAA GCGTAACATCTGCGGAAGCTACTATGCAGAAGGCGGCGATAAGAACCGATCTTCAACATCCTAATGGTACAAATCTCCTCACTTTTGGCTCTGATTC AGTCATATGTGAATCCATGGCTTCAGGATTGAATCTTGCTGACAAGTCAATGATGAAGACACAAACCGTATTGCAAGAACCTAATGAAGGAGGCTTA AAGATTACAGTTCCTATAAACCCATCAAACGAGGAGATTGGAACAATCAGCTCATTGCCAAAAATTCCATGCGTTCCAGGACCACCACCAACTTGGC CTTACGCTTGGAACGGTGTTTCGTGGACGGTTGTACCGTTTTACCCTCCGCCTGCTTACTGGGGAGTTTCACCGGGGACATGGAACAGCTTCACTT GGATGCCACAACCAAATTCACCTTCTTCTGGTTCCGGTCCAAATTCTCCAACGCTTGGTAAACATTCACGAGACGAGAACGCTGCTGAACCAGGAAC CGGTTTTGAAGAAACAGAGTCACCTGGTAGAGAGAAGAGCAAACCGGAGAGATGCCTTTGGGTTCCCAAGACGCTGAGGGTCGATGATCCAGAGG AAGCTGCTAAAAGTTCGATATGGGAAACATTAGGGATCAAAAAGGACGAAAAGGCGGATACTTTTGGAGCTTTCAGATCACCAAACAAAGAAAAAAG CTGTCTTTCTGAAGGGAAACTTCCGGGAAGACGACCGGAGTTGCAAGCGAATCCGGCTGCTCTGTCTAGGTCAGCAAACTTCCATGAAAGCTCATA GAAAACGAAGATGATTTGATTTGTTTTGGGTTCAGTCTTGTGTTCCAAGAAAGCAGGTGAGTCCTTTTTGTACATATTATTAGCTCTATATATATATGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002F07	AT3G54010.1	PAS1 (PASTICCINO 1); FK506 binding / peptidyl-prolyl cis-trans isomerase	GAATATCAAAGGAGAAACCAAACTCAGCCTTTTTTTTTTTTTTTTTTTTTAACCAAACTCAGCCTTGGTTTTTGCTTCAGGCTTCGATATCAATTTGTA GATCTTCTACTCTGGGTTTGCCTTCCACAAAATCCTAATTCGAAAGTCGCTGCGGAACTCCTGATTTGATCGGCGATGGATGCGACGGAGCAGAATT ACTTGCCCAAGAAGAAGAAATCCGAAACGGAAGACGAAAAGAGGAGGAAGAAAATCGTTCCCGGGAGCTTGTTGAAAGCAGTGGTGAGACCTGGA GGAGGCGAGTCGAGCCCCGTGGATGGTGATCAGGTTGTTTATCACTGCACTGTAAGGACACTGGATGGTGTAGTAGTGGAATCTACGAGGTCAGA ATGTGGAGGGAGAGGTGTACCGATAAGAGATGTTTTGGGGAAGAGCAAAATGATACTTGGATTGCTCGAAGGAATTCCCACAATGCACAAGGGTGA AATTGCAATGTTCAAGATGAAACCTGAAATGCACTATGCCGAGAAGGATTGTCCAGTCTCAGCACAAGTCAATTTTCCTAAAGATGATGAGCTTCATT TTGAGATTGAGTTATTAGATTTTGCTAAAGCCAAGATTGCAAGTGATGATCTGGGGGTCGTCAAAAAGATTCTAATTGAAGGTGAGGGCTGGGAATC TCCGAGAGAACCCTATGAAGTAAAAGCCAGGATTTCTGCTAAATCCGGTGATGGACAAGTGATATTCTCTCACACAGAAGAACCTTATTTCTTCACGT TTGGGAAATCTGAGGTGCCTAAAGGTCTTGAAATCGGAATTGGAACAATGGCTCGGAAGGAGAAGGCAGTGATATATGTTCGCAAGCAGTACTTGA CTGAATCTCCTTTGATGCATATAGTTCAAGACCTTGAGGAAGTTCATTTTGAGGTTGAACTGGTCCATTTCATTCAGGTTCGCGATATGCTTGGAGAT GGACGTCTCATAAAACGTCGAATTCGAGATGGAAGAGGCGAGTTTCCAATGGATTGTCCTCTCCAAGACAGTCGGTTAAGCGTTCACTACAAGGGC ATGCTTCTCAATGAAGAGAAGACCGTCTTCTATGACAGCAGGATTGACAATAATGATCAGCCGTTGGAGTTCAGTTCAGGAGAAGGCCTGGTGCCT GAGGGATTTGAGATGTGTACTCGTTTGATGCTACCTGGGGAGCTTGCTCTTGTTTCATGTCCCCCTGATTATGCTTATGACAAATTTCCGAGACCGC CTGGCGTTCCTGAAGGGGCACATATTCAGTGGGAGATCGAACTCCTTGGTTTCGAGACGCCAAGAGACTGGACAGGTTTAAACTTTCAGAGCATCA TGAATGAGGCAGAAAATATCAGAAGCACGGGTAACAGGCTGTTCAAAGAAGGAAAATTTGAGCTCGCTAAAGCAAAGTACGAAAAGGTGCTCCGGG AATTTAATCATGTGAACCCACAAGATGACGAGGAAGGAAAGGTATTTGGTGACGCAAGGAATATGTTACATCTGAATGTTGCGGCTTGCTTGCTTAA AACAGGAGAGTGGAGAAAGTCTGTAGAGACATGTAATAAGGTCCTAGAAGCAAAGCCTGGCCATGTGAAGGGTCTCTACCGCCGCGGAATGGCTT ACATGGCAGGTGCAGAGTATGAAGACGCTAGAAATGACTTCAATATGATGATCAAAGTGGATAAATCATCAGAAAGTGATGCCACAGCCGCACTTTT GAAACTGAAGCAGAAGGAACAGGAAGCAGAGAGCAAAGCTAGAAAACAGTTCAAAGGATTATTCGACAAGAAACCGGGGGAGATAACCGAAGTCG GTTCAGAAATAAGAGAGGAGCCTAAAACTATAGAAGAAGTAGATGAGACAAAAGATAATGATGATGATGATGATGATGAAACAAAGGAAGAAGAAAT AACGACCACGTTGACCACCGAAAGCAAGACGAAATGCTCGCAGAAAGCCTCGCTGATTCTGAAGAATCTGATACTTCAAATCCGAATCGAGCTCGC
GCT-002F08	AT3G45780.2	PHOT1 (phototropin 1); kinase	GACAGCTAAAAGATGGAACAAACAGAGAAACCATCGACCAAACCGTCTTCTCGGACTCTCCCTAGAGACACTCGTGGCTCTCTCGAAGTATTCAACC CGTCAACTGGCTCAACCCGACCCGATAACCCCGTGTTCCGGCCAGAACCACCAACATGGCAAAACTGGAGCGACCCACGTGGCAGTCCCCAACCT CAACCCCAACCACAAACCGAACCAGCTCCCTCTAACCCTGTTCGGTCTGAAGAGATCGCCGTCACAACCTCATGGATGGCTCTAAAAGACCCATCA CCGGAGAAAATCTCCAAGAAGACGATCACAGCCGAGAAACCACAGGTTGCGGCGGTGGCGGCAGAGCAGAGAGCGGCGGAGTGGGGACTTGTTT TGAAGACAGATACAAAGACGGGAAAGCCACAGGGAGTGAGCGTGAGGAACTCGGGTGGTGCTGAGAATGATCCGAACGGGAAAAGGACTTCGCA GAGAAACTCGAGTAATTCTTGCCGGAGCTCCGGTGAGATGTCCGACGGAGATGTCGCCGGCGGGAGAGGTGGGATCCCGAGAGTATCGGAAGAT TTGAAAGATGCTTTGTCCACGTTTCAACAAACGTTTGTGGTTTCGGATGCTACCAAACCCGATTACCCGATTATGTATGCTAGTGCTGGTTTCTTCAA CATGACCGGTTACACTTCCAAAGAAGTCGTCGGCAGAAACTGCCGATTTTTACAGGGATCGGGGACAGATGCGGATGAGTTAGCGAAGATACGAGA GACATTAGCAGCTGGGAATAATTATTGTGGGCGTTTATTGAATTACAAGAAAGATGGGACCTCATTTTGGAATCTTCTCACGATTGCGCCCATTAAAG ACGAGAGTGGCAAAGTCCTCAAATTTATTGGAATGCAAGTGGAGGTGAGCAAGCACACTGAAGGGGCCAAAGAAAAGACTTTAAGGCCCAATGGGC TTCCGGAATCATTAATTCGATATGATGCCCGCCAAAAAGATATAGCGACCAACTCAGTGACTGAGCTAGTGGAGGCGGTGAAGAGACCTAGAGCCT TAAGCGAATCAACCAATCAACATCCCTTCAAGAGAAAATCGGAGACCGATGACCCTCCGGCGAAACCTGCTCGACGAATGTCTGAAAACGTCGTTC CGTCAGGCCGGAGAAATTCAGGCGGCGGGAGAAGAAACTCGATGCAGCGGATCAGCGAAGTTCCCGAGAAGAAACAAACAAAATCTTCCCGCCTT TCTTTCATGGGGATTAAGAAGAAGAGCGCATCTCTGGACGAATCTATCGACGGGTTTATAGAGTATGGTGAAGAAGATGATGAGATTAGTGACAGAG ACGAGAGACCAGAGAGTGTTGATGATAAAGTCAGACAAAAAGAGATGAGAAAGGGTATGGATCTCGCAACCACACTCGAACGTATCGAGAAGAACT TCGTCATCACTGATCCTAGGCTTCCCGACAATCCCATTATTTTTGCGTCCGATAGTTTCTTGGAGCTCACGGAATATAGCCGTGAAGAAATTCTTGGC AGAAATTGCAGGTTTCTGCAAGGTCCAGAGACTGATCCAACAACGGTAAAGAAGATTCGAGCGGCTATTGATAACCAAACCGAAGTGACGGTTCAG CTCATCAACTATACCAAGAGCGGGAAGAAGTTCTGGAACATTTTCCACCTGCAACCTATGCGTGATCAGAAGGGAGAAGTCCAATACTTTATTGGAG TCCAACTAGACGGGAGCAAGCACGTTGAGCCAGTTCGCAATGTCATTGAAGAAGTTGCAGTGAAAGAGGGCGAAGAGCTGGTGAAGAAAACAGCT GTAAATATCGATGAGGCTGTACGAGAACTTCCTGATGCCAACATGACGCCAGAGGATTTATGGGCAAACCACTCAAAGATTGTGCATTCGAAACCTC ACAGGAAAGATTCACCGTCGTGGAAAGCTATCCAAAAGGTATTAGAGAGTGGAGAACAAATTGGGTTGAAGCATTTCCGACCGGTGAAACCTTTGG GTTCTGGTGACACAGGAAGTGTCCATCTAGTGGAACTCAACGGAACAGACCAGTTGTTTGCAATGAAAGCAATGGATAAGACCGTCATGCTTAACC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002F09	AT3G50820.1	PSBO-2/PSBO2 (PHOTOSYSTEM II SUBUNIT O-2); oxygen evolving	GCTGAGAAATTGTCGTCATGGCAACCTCTCTACAAGCCGCCACAACTTTTCTTCAGCCGGCCAAGATCGCCGCTTCTCCTTCTCGCAGCGTTCATCT CCGATCAAACCAAACCGTGGCCAAGTCCTTTGGGCTTGAATCTTCACCAGCTAGACTCACTTGCTCCCTCCACTCTGACTTCAAAGACTTCGCCGGA AAATGCTCCGATGCTGCCAAAGTCGCCGGTTTTGCTCTCGCCACCTCTGCTCTCGTCGTCTCGGGGGCAAGTGCAGAGGGAGCACCAAAGAGGCT AACGTACGACGAGATACAGAGCAAGACTTACATGGAGGTTAAGGGGACTGGTACAGCGAACCAGTGTCCAACTATCGACGGTGGCTCTGAAGCATT CTCATTCAAGCCTGGTAAGTACACTGGCAAGAAATTCTGCTTCGAGCCAACTTCCTTCACCGTCAAGGCAGATAGCGTCAGCAAGAACGCGCCTCC GGATTTCCAAAACACCAAGCTCATGACCCGTCTCACTTACACACTCGACGAGATCGAAGGACCCTTCGAGGTTGGTTCAGATGGAAGCGTGAAGTT CAAGGAAGAAGATGGGATCGATTACGCAGCAGTTACGGTCCAGCTTCCTGGAGGAGAACGCGTGCCGTTTCTCTTCACGGTTAAGCAGCTCGAGG CTTCAGGGAAACCAGATAGCTTTAGTGGCAAATTCTTAGTTCCTTCGTACCGTGGTTCGTCCTTCTTGGACCCTAAGGGTCGTGGTGGATCCACTGG GTATGATAATGCTGTGGCTTTGCCTGCCGGAGGCAGAGGAGACGAGGAAGAGCTGTCGAAAGAAAACGTGAAGAACACGGCGGCTTCCGTCGGA GAGATCACGTTGAAGATCACTAAAAGCAAACCGGAGACAGGAGAAGTGATCGGAGTGTTTGAGAGTCTTCAGCCGTCGGATACTGACTTGGGTGCT
GCT-002F10	AT5G43450.1	2-oxoglutarate-dependent dioxygenase, putative	GAACTATCCGCCATTAACTTTTAAAAATAAAACCTTTAAATTCAGAAGAAAAAAAAAACACATAATCATGTCAGAAAAACCAGGAAAAACAGACCTCCC AGCTTCTGTCTCGATGGAAGCAGGAGTGAAAGGACTCGTAGACGCCGACATAACCGAAGTTCCTCCAATCTTCCATTACCCTTCTTATACTTTATCC AACAACAGACCTTCAAACATCTCCGGCTTAAACCTCGCCGTCCCGATCATCGATCTCGGAGGAATCAACGACACATCCGCAAGAAACGACCTCGTTT CAAAGATTAAAGACGCAGCTGAGAATTGGGGGTTTTTCCAGGTGATCAATCATGGTGTTCCTTTAACTGTTCTTGAAGAAATCAAAAATGGAGTTCGA AAGTTTCACGAGGAAGATCCAGAGGTGAAGAAACTTTACTCTCCTACCGTATCAAACAAGAGATTTGTTTACACTAACAGCTTCGAAGATCCCTATCA ATCTTCTCCTATGAATTGGAGAGACTCTTTCAGTTGTTTTATTGCTCCAGATCCTCCAAATCCAGAGGAAATCCCACTAGCTTGCAGGGATGCTGTGA TCGATTACTCGAAGCATGTAATGGAATTAGGAGGTTTACTGTTCCAACTTCTCTCAGAGGCCTTAAGTTTAGACTCTGAGTTCCTTGAGAAGATGGAT TGTCTTAAGGGTTTGTTTATGCTCTGCCATTACTACCCACCTTGCCCACAACCTGACCTAACTTTGGGCATAAGTAAGCACACCGATAACTCTTTCCT CACGCTTCTTCTTCAAGACCAAATCGGTGGTCTTCAAGTTCTTCATCATGATTATTGGGTCGATATAACTCCTGTTCCTGGAGCTTTTGTAGTCAACAT CGGTGATTTCATGCAGCTGATAACGAATGATAAGTTCTCGAGTGTGGAGCATAGGGTACGAACAAACAGAGATGGACCGCGGATTTCAGTTGCGTG CTTCTTTAGCTCGAGTCTGTCTCCAAATCCCACGGTTTATGGACCGATCAAAGAGCTTCTATCTGATGAAGACCCTGCAAAGTACAAAGGTATCACC ATACCAGAGTACACTGCAGGTTACCTTGCGAGTGGCTACGATGGAAAATCGCATTTGTCCAAATTCAAGGTATGAAAAATCTACTTGTCCGGCTTTAA
GCT-002F11	AT2G35945.1	other RNA	GGCTGTTACCTCGTGAAGCATACTACTAAGCTTTGCTTTCTTCATCTGTATTTCCTGCCTCTCCGCCGTTCCTAGCTCCACCGTACGTTTCCCGGATG CTTCTCCTCCGCCACCGGAACCTTCTCCGGTCGCTCCACCGGCCGAGGATTCTCCGACGGCTTTATCGTTTCCGCTACTCCCTTTCTTCGACGAGA ATAGTTGGGATTTAGTAGTGTTGATGTCATTAGAATCAGCGTTGACTACTTCGTCTAGAAGCTCTTGTGCTGCCTTCAAGTACTTGGAGCTCACGAGA TTCGCTATCCCGTTTGTTACTCCCGATCCTGTAGACCCTGACCCGACCCGTATATCCTCTCCGGGTCCTGACCCGAACCCGACGTGATGGAGAGGC CGGTTTTGGTTGTGATGCTGCTGCTGCTGCTGTTGTTGAGACGAGAGGGTCAAAGATAGGCCTTGTTGCGCGCGTGGCGTCTCACACGCGGCTTG CTGGTGAGTAGGATCCACTTGATGACTATTGTAGAGACTGTACTGCACGCGCGGAGGGTATCCGTGAAGTACGGAGATGTTGTCGGCGGCTGTAAT GGAAGCTGCTTCGTGGCCGGAGAGTGGTATCCCGACGAACTGTTGGCTCGTGTTTTGCGGCGGCGCGTGAGAGTCGAGAAAAACGAAACTGTTGT
GCT-002F12	AT4G27800.1	protein phosphatase 2C PPH1 / PP2C PPH1 (PPH1)	GATAAGACTCTCTTTGTTTTCTTTCTTCTCTTTCTTCTGGTTAACTCGCTTTGCCTGACTCACTGAGTCATGGCGCTTCTTAGGCCACACCTTCATCGC TTCCACTCCAACAGTCTCCGCCAATTTTCGTCTTCCTCTAAAACAACCGCCGACGCTGGCGGTGGCCTTGTTATCTATCCCACGTACGGTCGTCACC GTTGCTCCGCGATTGCGATCGACGCGCCGTCGTCTCTGACGGGCGTGACGCCGATTCGATGGGGATACACGAGCGTTCAAGGGTTCCGGGATGA GATGGAGGATGACATAGTCATCCGCTCGGAAGCTCTCGATAACTTCTCCTTCGCCGCGGTTTTCGACGGCCACGCTGGATCGTCCTCTGTCCAATT CCTCAGGGAGGAGCTGTACAAGGAGTATGTTGGGGCATTGCAAGTTGGATCTTTGTTGAGTGGAGGTGATTTCGCGGCGATCAAGGAAGCTTTGAT TAAGGCCTTTGAAAGCGTGGATCAAAATTTGCTTAAATGGCTAGAAACAAACGGTGAAGAAGACGAATCAGGTTCAACAGCCACTGTGATGCTCATC AGAAATGATATTTCTTTCATTGCACATATCGGCGATTCATGCGCAGTCCTATCTCGATCTGGGAAAATCGAGGAATTGACTGATTCTCATCGTCCATA TGGAAGCAGTAAGGCAGCCATTCAGGAAGTGAAGAGAATCAAAGATGCAGGTGGATGGATTGTTAATGGAAGGATTTGTGGAGATATAGCTGTATC TCGTGCCTTTGGTGACATCCGGTTCAAGACAAAGAAGAATGAGATGTTAAAGAAAGGTGTCAATGAAGGAAGATGGTCCGAGAAGTTTGTTTCCAGA ATCGACTTTAAAGGTGACATGGTTGTCGCAACTCCAGATATATACCAAGTACCTCTTACATCTGATGTGGAATTCATTATATTAGCTTCTGATGGATTG TGGGACTACATGAAGAGCTCAGATGTGGTTAGTTTCGTAAGGGAACAGCTCCGTAAACATGGAAATGTCCAGCTTGCTTGTGATGCTCTTGCGCAA GTAGCTTTGGACCGGAGATCAGAGGACAACATCAGCATCATCATTGCTGATCTAGGAAGAACAGAGTGGAAGAATCTCCCGGTGCAGCGACAAAAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002F13	AT1G78080.1	RAP2.4 (related to AP2 4); DNA binding / transcription factor	GGTCGGTGAGGTGAGAGTAAATTCACTACAAAATAAAAACTGAGTGTCCTCCCAAATTAAAAAAAAATTTGTTATATTATAATTGCAATTGTTTCTCTG ATTTGATATTGAATTTTCGATTTTCTCTTTGCAACCCCCACCAAATCTGTTTTCCCACGCTCTTCGATCCCTTTCTGTTAAACATCTGTCTTTCAAAAAA GAAGAAAAACATAAATCGGTTTCTGGGTTTGGTTTATGTTTGAATGGTTTTGATTGCATATTCATACAGAAATTCAAGCTTATGAAACTGTATTTTTTCG CTTTGTTTTTAGTTGAAAGTAAGGTATTTTCAGAACGAGATATTTTTTCATAACTTCTTCTGAATTTATCTTCTTTTTTTTCATAGATTTAGTCGAGGGTA ATTTTTTGTTCCCTCCTTTTGGATCTACACAAAGGTTGCCTATTTCAAACCTTTTTGATCCACTTTTTTTTTTTCTTGAATTTTCTCGGAAAACCCTGTTCT TTACTTTTGATAAGAATCAGGTGAATTTTTCGGATTCAAATTTCTTTTTCTTTCTTATTTTGTGATGGAAGCTGCTATGAATTTGTACAGTAGCAGAACA GTTCAACAATCAAATTCCTTTGGTGGTGGTGAACTCATGGAAGCGCTTGTACCTTATATCAAAAGCGTTTCCGAATCTTCTTCTTCTTCTTCGGCGTC TGCGTTTCTTCATCCCGCAGCGTCTGCGTTTTCTCTTCCTCCTCCTCCTCTCTCTACCTTCCCCGGATATTACCCGGATGTTGACTGTTCGACGTTCA CGACCCAGCCGTTTTCATACGGGTCGGATCTCCAGCAAACCGGGTCATTAATCGGGCTAAATAACCTATCTTCTTCCCAAATTCACCAGATCCAGTC TCAGATCCAGAAGAACCATGCTCTTCCTCTTCCTCCCACGCACCACCATTCTCAGATCAACTCTTTCTCGAATCTTCTCAGCCCAAAGCCGTTACTGA TGAAGCAATCTGGAGTCGCCGGATCTTGCTTCGCATACGGATCAGGTGTTTCTCCGCCGAAGCCGACGAAGTTATACAGAGGTGTCAGGCAGCGT CACTGGGGAAAATGGGTGGCTGAGATCCGTTTGCCGAGGAACCGAACTCGTCTCTGGCTCGGGACCTTTGACACGGCGGAGGAAGCAGCGTTGG CCTACGATAAGGCGGCGTATAAGCTGCGCGGCGATTTCGCCCGGCTTAACTTCCCTAACCTACGTCACAACGGATCCCACATCGGAGGCGAATTC GGCGAGTACAAACCTCTTCACTCCACAGTCGACGCTAAGCTCGAAGCTATTTGTCAGAGCATGGCGGAGACTCAGAAACAGGACAAATCGACGAAG CCATCGAAGAAACGTGCCTCGACGGTGACGCAGAAGAAAACAGAGACGGTTTCGCCGGCAGATCAACCGGAGAAAGTCAAGACGGAGGAGAATTC GAATTCGATCGCTGGATCTCCACCGTTCGTTGAGTCCGCCGGGTCATCGCCGTTGTCGGATCTGACCTTCGCTGACACGGAGGAGCCGCCGCAGT GGAACGAGACCTTCTCGTTGGAGAAGTATCCGTCGTATGAGATCGATTGGGATTCGATTCTGTCTTCTTCTTGATCCGATTAAGGGTAAAATAGGGA ATTTAGAAGCCGCCTGCAATGGAGTTTTTGGAAATTGCAGCGAGTGGCTACTAGAGTATTTAATTATATTATGATTAGTGGGTAAATTTCGTATGTTAA
GCT-002F14	AT5G60120.1	TOE2 (TARGET OF EAT1 2); DNA binding / transcription factor	GGTGCCGACGATAATCTATTCGTCCGGCGAAGCTATTCCCCTTTCTCTTCAAATCTTTTAGCGAGCAGCTCTCATCGCCATGCCTCTCTGAATCTTGT CTCTCTCCGTCGTGATCGAGCTTGCCTTCTCTATTTTCTCCGATGAAATGTGATTTCTGATCTCCGTTCATTTCAAATCGACGGCGATCGCTGTATTT ATTGGTCGGATTAGTGTGAATTTATTAGGGCCGTGTGGATAGCTTTGATCAATGTGTAAGCGCTTGACGAAATAGTTGGTCTTCGTGTTGAAATCTCA GAAGTTTGTTTGCTTTTGTTGACTTTTGAGATTGATGCTGGATCTCAATCTCGACGTCGACTCGGCTGAGTCTACTCAGAACGGACGAGATTCAGCT GCTGTGAAGCGGGTTTCTGGTGCTATTTTGAATCAGATGGATGAATCGGTGACGTCGAACTCTTCGGTAGTCAATGCCGAGGCGTCCAGCTGCATC GATGGTGAGGAGGAGCTGTGCTCCACACGCGCCGTCAAGTTTCAATTTGAAATACTGAAGGGAGGAGGCGGTAAAGGGGAAGAAGAAGAAGAAGA AGAAGTAGAAGAAAGAAGTGCGGTGATGACCAAGGAGTTTTTCCCTGTTGCTAAAGGCGATGGAGAAGGCATGTATTTTCTGGATTCGAGCGCACA AAGTTCCAGGTGCCCCGTTGATATCTCCTTCCAGAGGGGGAACCTAGGCGGAGACTTTCCCGGCGGCGATTCTGCGCCGGTGATGCAGCCACCTT CGCAGCCGGTGAAGAAAAGCAGGAGAGGACCTAGGTCAAAGAGTTCGCAGTATAGAGGCGTCACTTTCTACCGGAGGACAGGCAGATGGGAATCG CATATCTGGGATTGCGGTAAACAAGTTTATTTAGGTGGATTTGACACTGCCCATGCTGCAGCTAGGGCGTATGATCGAGCTGCTGTCAAGTTCAGG GGTCTGGAGGCTGACATCAATTTCATTATCAGCGATTATGAAGAGGATCTCAAGCAGATGGCAAACCTTTCCAAAGAGGAAGTTGTGCAAGTACTTC GGCGACAGAGCTCTGGTTTCTCAAGGAATAATTCGAGATATCAAGGAGTTGCTTTGCAAAAGATTGGTAATTGGGGAGCTCAAATGGAACAGTTTCA TGGAAATATGGCTTGTGACAAGGCAGCCATAAAATGGAATGGAAGGGAAGCTGCTTCCTTAATTGAGCCTCATGCATCCCGGATGACTCCCGAGGC AGCTAATGTTAAGCTCGACCTCAACTTGGGAATCTCTCTTTCACTGGGAGATGGTCCAAAGCAAAAAGATAGGGGTCTCCGGCTTCACCATGCCCCT AACAGTATCGTATGTGGAAGGAACTCCAAGATGGAGAACCACATGGCTGCAACGACATGTGATACGTCTTTCAATTTCTTGAAGAGAGGTTCTGAGC ATCTTATTAACCGGCATGTCCTTCCTTCTGCGTTCTTTTCACCCATGGAAAGAACACCAGAGAAAGGTTTTATGCCACGTTCTCATCAAAGCTTCCCA GCCAGGACATGGCAAGTGCAAGATCAGTCTAGTAGTGGAACCGCCACAACAGCTACGGCATCGCCTCTGTTCTCAAATGCAGCATCATCAGGATTC TCACTATCAGCTACACGCCCGCCTTCTTCATCCACTGCTACGCTTCATCCTTCTCATCCCTTCCTCAATCTGAATATGCCCGGTCTATATGTCATCCA CCCATCTGATTACGCATCTCAACAACACCATCCCCATCTCATGAACCGCTCACAACCACCACCATAGGCATACCTGCTTCATCCGCCAAATTCAAGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002F15	AT3G18440.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT1G18420.1); similar to Putative expressed protein [Brassica oleracea] (GB:AAW81734.1); contains InterPro domain Protein of unknown function UPF0005; (InterPro:IPR006214)	GAGTTTCGTTTCTCGTCAGTCCAAAATATCTCTGCCATTAAAGTGTACTTTTAATGGAGCCGAAGCAGGGTTCCTTCAGGCATGGAATACTCGAGAAA CGCGAAAAGCTTCTGTCAAATAATGGTTTCTCCGATTTTAGATTCACCGATATCGAGTCGAACGATCTTCTCGAAAGCGAGAATTATGGAAGGACTC GGTTTTGCTGCTGTTCGTGCGGAAACCTATCCGAGAAAATCTCCGGAATGTACCAGGATGCCAAAGATGTGGGGAGGAAGGCCTGGGAGATGGGC GTGTCTGATCCGAGAAAGATCGTCTTCTCCGCGAAGATTGGGCTTGCTCTGACGATTGTCGCGGTTTTGATATTCTTCCAGGAACCTAATCCGGATC TCAGCCGTTACTCTGTCTGGGCTATTCTCACTGTCGTCGTTGTGTTCGAATTCACGATCGGAGCAACTCTAAGCAAAGGTTTTAATCGAGCGCTTGG GACGTTATCAGCTGGAGGTCTTGCCCTTGGAATGGCCGAGCTTTCTACACTAACCGGAGACTGGGAAGAGCTCTTCTGCACCATTAGTATCTTCTG CATTGGGTTCATTGCAACTTTCATGAAGCTATATCCGGCGATGAAAGCATATGAATACGGGTTCCGCGTTTTCTTGCTTACATATTGCTATATTCTGAT TTCCGGGTTCAGAACAGGGCAGTTCATAGAAGTAGCTATCTCCCGGTTTCTGCTTATAGCTCTTGGTGCTGGTGTTAGTTTAGGTGTCAATATGTTTA TCTATCCTATATGGGCTGGAGAGGATCTTCATAACCTTGTTGTGAAGAATTTCATGAATGTCGCGACTTCTCTTGAAGGTTGTGTCAACGGATACTTG CGGTGTGTTGAGTACGAGAGAATCCCATCCAAAATCCTCACTTACCAAGCCTCAGAGGATCCGGTTTACAAGGGTTACAGATCAGCGGTTGAGTCA ACCAGCCAAGAAGAGTCTCTGATGAGTTTCGCAATATGGGAGCCTCCTCACGGACCATACAAATCATTTAACTATCCATGGAAGAACTACGTCAAGC TCAGTGGCGCTCTCAAACATTGTGCATTCACTGTCATGGCATTACACGGCTGCATTCTCTCAGAAATCCAGGCACCAGAGGAACGAAGACAAGTTTT CCGTCAAGAACTTCAGAGAGTGGGCGTAGAAGGAGCCAAATTGTTAAGAGAGCTTGGTGAGAAAGTGAAGAAGATGGAGAAGCTAGGACCACTCG ACCTTCTCTTTGAAGTACATCTAGCTGCAGAAGAGTTACAGCACAAGATCGACAAGAAATCTTACCTTCTCGTCAATTCCGAATACTGGGAGATCGG AAACCGATCCAAGGAACCAAAGTCAGAGCCTCAAGAACTTCTCTCCCTCGAAGATTCAGATACACTAGAAGACAACGAGGCTCCAATCTACGCCTTC AAATCGCAAAGCGAGGCGGTTCTTGAGATACCAAAGAGCTGGGGAGAGAAGAATCACCGTGAGCCGTTGAACAATAGGCCTACTCTCTCGAAGCA GGTGTCGTGGCCTGCAAGACTTGTGCTTCCGCCGCATCTGGAGACGACGAACGGAGATTCGCCGCTGCTTGAAACGACGGAGACGTACGAGAGC GCGAGTGCGTTGTCTCTCGCAACGTTCGCGTCTCTCCTGATAGAGTTCGTGGCTCGGTTGCAGAATGTGGTTGATGCGTTCGAGGAGTTGAGCCAG
GCT-002F16	AT5G05660.1	transcription factor	GGAGGAAGTAAGATGTCTGATATGGCCGGACCCGCTAGTACCGATTTCCGGTGGAAATCACCGCCACAGCCACCTCCACCACCACAACAACAGAT CATATCCGATTCGGATTCGGATTCGGGATCCGATTCAGATAACCATCAGCACCGCCACAATGATCTATCCAACTCCATCTTCAAAGCTTACCTCGATT GCCACTCATCTTCGTCTCCGTCCTCCATTGACCTCGCCAAGATCCAATCGTTTCTCTCCTCGTCTTCCTCTGGTGCTGTCTCTTGCCTTATCTGTCTC GAACGCATCAAACGCACCGATCCCACCTGGTCCTGCACTTCCTTATGCTTCGCCGTCTTTCACCTTTTCTGCATCCAATCATGGGCTCGGCAGTGCT TAGATCTACAAGCCGCACGTGCAGTCACTCGACAGTCTTCCACTCCGACCGAACCGGACGCGGTCTGGAACTGTCCGAAATGTAGATCGTCGTATC AAAAGACCGAGATCCCGAGGCGGTACCTTTGTTACTGCGGAAAGGAGGAGGATCCTCCGGCGGATAACCCATGGATCCTTCCTCATTCTTGCGGC GAGGTCTGCGAGCGGCCGCTGAGCAACAATTGTGGTCACTGCTGCTTGCTATTGTGCCATCCTGGCCCTTGTGCCTCTTGCCCCAAGCTCGTGAAA GCTAATTGCTTCTGCGGCGGTGTCGAAGACGTTCGTCGGTGTGGGCACAAGCTATTCTCTTGCGGAAAAGTCTGCAACAGAGTGTTAGATTGTGAT ATCCATAAGTGCAGAGAGATTTGCCATGATGGTGAGTGCCCACCGTGCAGGGAGCGCGCGGTTTACAGGTGCTGCTGTGGTAAACTGAAGGAAGA AAAGGATTGCTGCGAGAGAGTGTTTAGGTGTGAGGCCTCCTGTGAAAATATGCTGAATTGCGGCAAACATGTATGCGAGAGAGGCTGTCATTCTGG AGAATGTGGGTTGTGTCCATATCAGGGAAAGAGGAGTTGTCCTTGCGGCAAGAAATTCTACCAAGGCTTGTCTTGTGATGTTGCGGCGCCTTTGTG TGGCGGCACATGTGATAAAGTTCTTGGTTGTGGCTACCATAGGTGTCCAGAGAGGTGTCACCGCGGTCCGTGCCTTGAGACTTGCAGGATTGTGGT TACTAAGTCTTGCAGATGCGGAGGAACTAAAAAACAGGTTCCTTGCCATCAAGAGTTGGCGTGTGAGAGGAAATGCCAGAGAATGAGGGATTGTGC ACGTCATGCATGTAGACGCCGTTGTTGTGATGGTGAATGTCCTCCATGTTCAGAGATTTGTGGAAAAAAGCTTCCTTGTAGGAATCATAAATGCCAG TCTCCTTGTCACCAAGGTTTATGTGCTCCTTGTCCAATAATGGTAACAATATCATGTGCTTGTGGTGAGACGCATTTCGAGGTACCCTGTGGCACTG AAACAAATCAGAAACCTCCTAGATGCCGTAAATTATGTCACATAACCCCATTGTGCAGGCATGGGCAAAACCAAAAGCCACATAAATGCCACTATGG TGCTTGTCCTCCATGTCGACTCCTTTGTGATGAAGAATATCCATGTGGGCACAAGTGCAAACTAAGGTGTCATGGTCCTAGACCTCCACCTAACCGA GAATTTATGATTAAACCAACAAAGAAGATGTTGAATTTTCATGCTGAATCTACACCAGGTTCTCCCTGCCCTCGTTGTCCAGAGCTTGTCTGGAGACC CTGTGTAGGCCACCATCTGGCAGCAGAGAAAATGATGGTCTGCTCTGATAGAACTCAATTTGCATGCGATAATTTATGTGGAAATCCTCTTCCATGT GGGAACCATTACTGTTCCTTTACCTGTCATCCCTTGGATATAAGAAGTTCATCATTGGATAAAAGAAGTGAGTCCTGTGAAAAGTGTGATCTCCGCTG TCAAAAGGAGAGAACACCACGATGCCAACATCCGTGTCCTCGACGATGCCATCCCGAAGATTGTCCACCTTGCAAAACTCTAGTAAAGAGATCATG CCACTGTGGCGCGATGGTGCATGCATTCGAGTGCATTTACTACAATACATTGTCCGAGAAGGACCAAACGAAGGCCCGCTCATGCCGTGGACCTTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002F17	AT4G27820.1	glycosyl hydrolase family 1 protein	GGTTCAAACGGGAGGAGGAAATTACCCCCAAAAAAAAAAAAAAATGCAATCATTATCTCTGCTTTCCGTTTCTGTGGTCATTGTTTTGGCAGTAAGCT ACAGTGATGCCTTCACCAGAAACGATTTTCCAAAGGATTTCCTCTTCGGAGCTGCCACTTCTGCTTATCAGTGGGAAGGAGCTGTTGATGAAGACGG AAGGACTCCAAGCGTCTGGGATACTTTCTCCCACTCTGATAACAAAAAAGGCGATGGAAATATAGCTTGTGATGGGTATCACAAATACCAGGAAGAT GTTAAGCTGATGGCAGAAATGGGTTTAGAAGCATTCAGATTCTCTATCTCATGGACGAGGCTCATACCTAATGGAAGAGGACCCGTTAACCCAAAAG GTTTAAAATTTTACAAGAACCTCATAAAAGAACTACGTAGCCATGGAATCGAACCACACGTTACACTTTACCACTATGATCTTCCTCAGGCTCTTGAA GATGAGTATGGAGGATGGATCAACCGCAAAATCATAGAAGACTTCACTTCTTTTGCAGATGTATGCTTCAGAGAGTTTGGGGAGGATGTGAAGTTAT GGACTACAATCAACGAAGCTAACATATTCGCCATTGGTGCTTATAGCGAGGGATTTTTGCCGCCTGGACATTGTTCTACTAACACATTCGTCAATTGC TCAACTGGAAATTCTTCTACTGAACCATATATTGCAGGCCATAACTTATTGCTAGCTCATGCCTCTGCTTCAAAATTGTATAGACTCAAGTACAAGAGT AAGCAGAGAGGATCCATAGGCTTTAGCATATATGCATACGGGTTATCTCCTTATACAAACTCCACGGATGATGAAATCGCCTTTCAGAGAGCTAAAG ATTTCCTCTTTGGCTGGATGCTGAAGCCTTTGGTATATGGGGAGTATCCGGATGTAATGAAGAAAACCTTGGGATCGAGGTTACCGGTTTTCTCAGA GGAAGAAACAGAGCAAGTCAAAGGATCATCTGACTTTTTCGGGATTATCCACTACATGACAGTCTATGTCACAAACAGTAAACCCTCACCTTCCCTTC CTCCCAGCAACCGAGAGTTCTTTACAGACATGGGCGTAGATACGATCTTCATTGGGAATTCTTCATTCTTTGGGTGGGATGCTATTCCATGGGGTTT TGAAGGTGTCTTGGAGTATTTGAAACAGAGCTATAACAATCCTCCACTCTACATTCTTGAAAATGGTTTACCGATGGAACACGATTCAGCGCTACAAG ACACACCAAGAGTTGAATATATTCAAGCTTACATTGGTGCTATGCTCAACGCCATCAAGAATGGATCGGACACGAGAGGTTACTTTGTATGGTCGAT GATTGACTTGTACGAGTTATTGGCTGAATACAAGAACAGCTTTGGATTGTACTATGTGAATTTCAGCGATCCTGGTCTCAAGAGGTCTCCGAAGCTCT
GCT-002F18	AT5G13740.1	ZIF1 (ZINC INDUCED FACILITATOR 1); carbohydrate transporter/ sugar porter	GGTCTTTCTGCTCCAGCGTCGAGAGAGAGAGAGAATCTGTGTGGATTATATTTTGGCTGAATTATATTTTCTGGAGTCGAATCTGAAAGTGGGAAAA TGACGGACGAATACAAGGAGGCGTTGTTGGAGAAGCAGAATTACCACGAAGGATGTCCGGGATGTAAGGTGGAGCAGATGAAGCAGCAACGGCGA GGATATCCTTACCTCGAGCTTTCCTTCGTTTGGATCATCGTCCTCTCCACTTCTCTGCCGATTTCCTCGCTCTATCCCTTCCTCTATTATATGATTGAG GATTTTGGTGTTGCAAAGACGGAGAAAGATATTGGATTTTATGCTGGATTTGTGGGTTGCTCATTTATGCTTGGCAGAGCATTGACGTCAGTGTTCTG GGGAATTGTGGCTGATCGTTATGGAAGAAAACCAATTATACTCTTGGGAACTATCTCAATTGCCATTTTCAATGCTCTTTTTGGCTTAAGCTTAAACTT CTGGATGGCAATTGGCACGAGGTTTCTTCTTGGGAGTTTCAACTGTTTGCTTGGAACAATGAAGGCATATGCGTCAGAGATCTTTCGTGATGAATAT CAAGCTACAGCAATGTCAGCTGTTAGTACTGCTTGGGGCATTGGACTGATCATTGGCCCTGCTCTAGGTGGTTTCTTAGCACAGCCGGCAGACAAA TATCCAAATGTGTTCTCCCAAGAATCCATCTTTGGAAGATTCCGGTACGCGCTGCCTTGCTTTACGATATCAGCTTTTGCATTGGTTGTGACAGTACT ATGCTGCTTCATTCCGGAAACACTGCACAATCATAAGCAGGACAGGACATCACATGATGACTCATACGAAATACTTGAAGCTGCATCTCGTGATTCT GCTGCTTCTGCCGGGAAGGCAGAAAAAGACGAAAGAAAGGGTTCTCAAGGGTCTCTCTTGAAGAATTGGCCACTAATGTCATCTATCATTGTGTATT GTGTTCTGTGTCTACATGATACCGCATACTCTGAGGTAAGTAGTTGACACTTGAATTTTTTGCATACCCTCACCTGGTGTAATCTCATTTAGTTGGGC TCAATTAAAAAGTAGTTTTCTACTGCTGAAATTTCAAGTTTGTTTTCTTGATGATATTGAAGATCTTTAATTGCGGTACGAAGCTTTACATGTGTTTGTG GAAGAATAAAAGTGAAGTGGAGTATCTGTCCTTGTTTTTCTCTAGTGCTGTCTGTTCTATCTAGCCTAGTCATTACTCAGGAATTTGTTGCTGGTTGA CATTCATGGTCCCAGCTGACAGCTATGGGTTAAATAGGGAGTGAGCAGAATGTGGAGGCATTAAGACTTTTCTAGTTGGGTCGCAATCCCTTGGTTG TATATTTTGTACGAGGTTACGTTGAAGATATAGAACAGCATTAAGACTTCATGTTTGTGAAATTAGATCGTTTGCCACTTCATAGTCTTATGCTTTTCG TCTGAACAAAAATCTTCATCCACTTGGAATCTGGCTATGCAGATATTTGCATTATGGGCTAATAGTCCTAGGAAATATGGAGGTCTGAGCTATTCAAC CAATGATGTTGGTACAGTTCTTGCGATCTCAGGTTTTTGTTTATCCTTTGGCCGAGAGACTGCTAGGACCTGTTCTGGTCACCCGTTTTGCTGGGGT CAGTTGATATTTCTTTTGATTCTTCTCCGTAGATTATATGTAGCGTATCAACAAGATAGAAATCGATCTTCTGATAATTTCTTTGATTTCAGGCACTGAT GATACCAATACAAATGAGTTATCCATTTATAGCAAGTTTATCAGGTCTCAGTCTAAGTTTAATGTTGAATTGTGCATCAATCCTCATAAATGTGCTAAG TGTGTCTGCCATAACCGGCTTGTTGATCCTGCAAAACAAAGCTGTGGATCAGAGCCAAAGAGGGGCGGCTAATGGAATTGCTATGACTGCAATGTC TCTCTTTAAGACGCTTGGACGACGTCGACGCCGCGATCTTATTTTCTTGCAGCGAGACGCGACTAGACGCCGCGATTTCTAGGAGCATGCGATATGCT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002F19	AT1G47530.1	ripening-responsive protein, putative	GGATATTTTTCTTCTTCCTTTCTTCTCTTGATTGGCTGATTCTTCATTGTCATCAGATGAATCTCATCCTCTTCTCTTTTGCAGGAACAATAAGGAACAA CGCTCAACACTCCCTTTTGAGCCTTTGATTTGTTCCTGATTCCAACTTAGGGTTTTGAATTTTAATACATTTGATTCTTCTCTGCTTGTCCTGTTATTCT TTGGAGGAGCACTCATCAAGACGTCTGCATAACTCCTAGGTGCTTTGCTGAGGAGTCTCTCTTGCCTTCCTCCTTCTGAGTTATTCTCTGCTTTTCAC AGCTAGTGAGTCTTCTCTGCATCCCCGTCAAGTTTGGCTTGAACTCTCTTTGCGTTTCTGTCGAGAATCTCTCCAATCAGCTTCTTCTCTTTCTCTTTC AAAAGATAAGTTTCTTTTGGTTGAATTCAAACTGTGTCAATTTTGATCACCATCTTATTCAGTTTGGTTCCTTGAACCACTTCCTTGGTTTTCTTAACTT TAATTTCTCTCTTGTCAGACTTGTTTTTCCTGGTTCTCAGTTTGATCACCGGCTTTTTCTTCTTCTCACATTTTGTGGTGTTTTCTTCAGGTTTCCATGG CTGAGACATCTATGAGTTTGAAGCTTCAGCATTTCCAGCTCCTTGATAACTCGTTTCAACCTCTTCCTTTGATAATGGAGTTGTTACTTCTTCACTCAA GGGCATGTGAAGGTGGAAGCTTTTCTTAGCCAATTCCACTTCAGGAATCTTTCTTTCATCTTGATTAAGTATGATGTAGCTTCTTTACTTAAAGTGCCA TTCCATGACAAGCTAGGATTGGAACTTTGAAACTTATGTCAAGTCTGGTGGAAAGCTATTCATTTGGAGTCATGTGATTTGTGCAGCCACTGTCGATG ATCCATGTGTTTTCTTCAAGGAGCTTGTGATCTTCTTGTCTTGCAAAGATCATATGGTTTTTAAACCGAGCATAAAAGGCACCTTCAGCATCTTTCTCA TCATCGTTTGGGAAAAAAATTATCTCATGAGCTTCCAGAGACCCTATCAGCTCTGCATAGAGAGAAGTGCCAGAGAGCAATCAAGGCAAAAGCTTCT CACAAGATCGAACATGGGAAAGGATAAGACTTTGCCTTTGCTTGACCCTCGTGAGCCACCAGAACTTTCCGAAACCAAACCGGCATCGAAAGTATG GGCCAAAGAGTTCGGGGAAGAATCAAGGCGGCTATGGGAGCTTGCTGGACCGGCCATCTTCACGGCCATCAGTCAATACTCTCTCGGTGCACTCA CTCAGACTTTCTCCGGTCGTCTCGGCGAACTCGAGCTCGCCGCCATCTCCGTCGAGAATTCGGTCATCTCCGGTCTCGCCTTTGGTGTCATGGTGC
GCT-002F20	AT3G44290.1	ANAC060 (Arabidopsis NAC domain containing protein 60); transcription factor	GAGCAATTGATCGTCGCCTTCACATGATCTTCACGGGGTCGTGACTCAATTCCCGAGAGAGGAAGAAGATTTTTTTTATTTTTTTTTTTCTAATTTGTC TCTTGCAAATTCCCAGTAGCCAAAAATCTTTTGGATCTGTTCTCGACGGAGGCGGCGGCGGTGATTAATCTTTATATATATGTCAACTGAGGAGGCG GCGGCGGCGGAAATTTCTAGGGATACGGCGATTTCGATGGCTGTTTCGACGTCGTTTCCTGGTTTCAAATTCTCTCCGACGGACATCGAGCTGATT TCTTATTACTTGAGACGGAAGATGGATGACTTGGAGAGGTCCGTCGAGATTATACCTGAGGTCGACATTTACAACTTCGAGCCCTGGGATTTACCTG ACAAGTCCATAGTGAAATCTGACAGCGAGTGGTTCTTCTTCTGTGCTCGTGGTAAGAAGTATCCCCACGGTTCACAGAACAGAAGAGCAACCAAGAT GGGATACTGGAAAGCCACAGGGAAAGAACGTAATGTGAAATCCGGTTCTGATATCATTGGAACAAAGAGAACGCTTGTCTTCCACATTGGTCGTGC GCCAAAAGGGGAAAGGACCGAATGGATTATGCATGAGTACTGCATGATTGGATTATCACTGGATGCTCTGGTTATTTGCCGGCTTAGGAAGAATACC GAACATCGAGGGGCTACAATTCAGAGTTTACCACATCCAAATTTATCAACTGACAAGCACGCGAACTTGCAGAATGAAACTATTTCTGGTTGGGAAA ATATGGTTGATTTCTACTTATCGAATGAATCAGGGCATGAACTACTCAGTGAAATAGCAGAATCTTCACAATCTTCACAAAATCCACAGGTTCCTAGT GAAGAAGATTTCTACGCAGATATTTTGAGGGATGACATAGTGAAGCTAGATGATCCGACAGTCTCCGGTAATACACTGATCGATGTCCCGAGGCTTC AAACAGAGTCCACAAGCACAAGAGTAATGCCTTTACCGAGCATGGTAGACAAACAAATGCAATCACTGCTACAGAAACTGCCATTGCAGAATGACAT TGGTGAAGAAAACAACATATCAATGTCGAGTTGCTTTATCGGTATCTATTCGATTAAGTCGATAAACCGAGCACGGTGGGACGTTGTTGCTTGGGTG CTTGTTATGATAGCTGTGTTGGTGTTTTATCTAGTTTGAGAGCAAAGAAGACATCTTCTAGGCATTTTGCTTGGTTTTGTCTTGATGTTGAAAGAAGAT
GCT-002F21	AT3G21770.1	peroxidase 30 (PER30) (P30) (PRXR9)	GAGTGACACAAAACCAAAAAAAGAATATTGAGAAACAAAACTCAAGCAAGACGATGAAGCAAGGGATTGTTATGGTTGTGGTTGCGGTTGCAGCCAC GGTTCTTATGGGAATGTTAGGATCATCCGAGGCTCAGCTTCAAATGAATTTCTACGCAAAGAGCTGTCCAAATGCCGAGAAAATAATTTCAGATCATA TTGAAAAGCATATCCATAATGGTCCTTCTCTTGCTGCTCCTCTCATCAGGATGCACTTCCACGATTGCTTTGTCAGGGGATGCGATGGATCAGTGTT GATAAATTCGACAACTGGGAACGCAGAGAAAGATGCACCACCGAATCTAACACTAAGAGGATTCGGTTTCGTAGAGAGGATTAAGACTCTTCTTGAA GCAGTGTGTCCTAAGACTGTTTCTTGCGCCGATATCATCGCTTTGACCGCTAGAGATGCAGTTGTTGCCACCGGAGGTCCTTCGTGGAGTGTTCCG ACCGGAAGAAGAGACGGTAGGATCTCAAACTCAACAGAGGCTTTGAACAACATTCCACCTCCGACAAGTAATTTCACGACGTTACAACGACTTTTCG CTAACCAAGGCCTTAATCTCAAAGACCTTGTCCTCCTCTCCGGGGCTCACACGATCGGTGTCTCGCATTGTTCTTCAATGAATTCTCGTCTCTACAAC TTCTCGACGACAGTCAAACAAGATCCAGCTCTGGACAGCGAATACGCAACGAATCTAAAGGCCAACAAATGTAAAAGCCTCAACGACAACACCACC ATCCTCGAGATGGATCCAGGTAGCGCCAGAAGTTTCGATCTTAGTTATTACAGGCTTGTCCTGAAGAGGAGAGGTCTGTTTCAGTCTGATTCTGCAC TGACGACCAACTCAGCGACGTTGAAGATGATCAACGACTTGGTCAACGGTTCCGAAAAGAAGTTTTACAAGGCTTTCGCTAAGTCGATGGAGAAGAT GGGAAGGGTTAAAGTGAAGACGGGCTCAACCGGCGTAATCAGGACAAGATGTTCTGTCGCCGGAAGTTAAGTTAGCCTGATCGGGATAGTGGTGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002F22	AT5G62670.1	AHA11 (ARABIDOPSIS H(+)-ATPASE 11); ATPase	GACTAACCTTTAGCGGTTTCCTCATCTTCTTCTTCTCTACTCTCTTCTTTCATTTCTTCTTTCTCTCAATCTAAGGAAACGAACAATCAATCAATCACAG AAGAATATGGGGGACAAGGAGGAAGTACTGGAGGCCGTCTTGAAAGAAACGGTGGATCTGGAAAATGTGCCTATTGAAGAAGTTTTTGAGAGTCTA AGATGTAGCAGAGAAGGTCTCACCACGGAAGCTGCTGATGAAAGGCTTGCCCTCTTTGGGCATAACAAGCTCGAAGAAAAGAAGGAAAGCAAATTC CTGAAGTTTCTAGGTTTCATGTGGAATCCTCTTTCCTGGGTGATGGAAGCTGCTGCCATCATGGCTATTGCACTTGCTAATGGAGGAGGGAAGCCTC CTGATTGGCAAGACTTTGTTGGTATTATTACTCTGCTTGTGATAAATTCAACCATCAGTTTCATCGAGGAGAACAACGCCGGAAATGCCGCCGCCGC TCTCATGGCACGCCTTGCTCCGAAAGCAAAGGTTCTTCGAGATGGAAGGTGGGGTGAGCAGGATGCTGCAATTCTTGTTCCGGGTGACATAATTAG CATCAAGCTTGGGGATATCGTTCCTGCTGATGCTCGGCTTCTCGAGGGTGATCCCCTTAAGATCGATCAGTCTTCTCTTACTGGTGAATCTCTCCCA GTAACCAAAGGTCCAGGGGATGGTGTGTATTCCGGCTCCACTTGCAAACAGGGAGAGCTTGAAGCAGTTGTTATTGCAACGGGAGTCCATACCTTC TTTGGAAAGGCCGCTCATCTTGTTGACACGACCAACCAAGTTGGCCATTTTCAACAGGTCTTAACTGCCATTGGGAATTTCTGCATCTGCTCTATTGC AGTGGGGATGTTAATTGAGATTGTCGTGATGTATCCCATTCAACACCGAGCATATCGCCCCGGGATTGATAACCTTCTTGTGCTTCTCATTGGTGGT ATCCCAATTGCCATGCCTACTGTTCTGTCTGTGACCATGGCCATTGGCTCTCATAGATTATCTCAGCAGGGAGCAATAACCAAGAGGATGACAGCTA TTGAGGAAATGGCTGGCATGGATGTGCTTTGCAGTGACAAGACTGGAACTTTAACACTGAATAAACTTACAGTCGACAAAAATCTCATCGAGGTTTT CACGAAAGGAGTGGATGCGGATACTGTTGTCCTAATGGCAGCTCAAGCCTCCAGACTTGAAAACCAAGATGCCATAGATGCTGCTATAGTTGGGAT GCTTGCTGACCCTAAAGAGGCACGAGCTGGTGTTCGAGAGATTCACTTTCTTCCATTTAATCCCACTGATAAGAGGACAGCGCTGACATATATTGAT AGTGATGGTAAAATGCATAGGGTCAGCAAAGGTGCACCTGAGCAAATCCTAAATCTCGCGCACAATAAATCAGAGATTGAGCGAAGAGTTCATACTG TAATAGATAAGTTCGCTGAACGGGGTTTGCGATCTCTTGCTGTGGCATACCAGGAAGTTCCGGAAGGTACAAAGGAAAGTGCTGGAGGCCCTTGGC AATTTGTGGGTCTCATGCCTCTTTTTGACCCACCTAGGCATGACAGTGCCGAGACAATTAGAAGAGCTTTAAATCTTGGGGTGAATGTCAAAATGAT CACAGGAGATCAGTTGGCTATCGGAAAAGAGACCGGACGCCGGTTAGGGATGGGAACCAACATGTACCCTTCATCTGCTTTGCTTGGACAGAACAA GGATGAGTCTATAGGTGCCTTACCCATTGATGATCTCATAGAAAAAGCTGATGGCTTTGCTGGCGTCTTCCCTGAGCATAAATATGAGATAGTGAAG CGATTACAAGCAAGGAAGCATATATGTGGAATGACGGGCGATGGAGTAAATGATGCGCCTGCTCTTAAAAAGGCCGATATTGGCATTGCAGTTGCT GATGCAACTGACGCAGCTCGTAGTGCTTCGGATATTGTTCTTACTGAACCTGGTCTTAGTGTCATCATAAGCGCTGTCTTGACCAGTCGTGCTATCT TTCAGAGAATGAAAAATTATACCATCTATGCGGTTTCCATCACAATCCGTATTGTCCTTGGTTTCATGCTGCTGGCTCTCATATGGAAGTTTGACTTCC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002F23	AT5G47250.1	disease resistance protein (CC-NBS-LRR class), putative	GACGCAAGTAATTCAAAGTCAACACAAAGATGCGCTTCCTTCTTCTTACTCCCCAATTAATATCTTTGTTGATTTTTCCATCTTGATTCTATTGCTCTAC TCGAAAATTAAATCCAGGAACACAAAATGGGTGTCTGCTTTTCTATACAGTTGGATAAATCGTTGGATCAGCTTGTTCCACCTTTTCTGCGTTACTTGT GTTGGAATAACCTGGAGAACAATCTAGAGTCTTTGCAGAGATGTATGCAAGATCTCAGCGAGATGAGAGATGATCTGTTGAGATTGGTATCGAAAGA AGAGGACAGAGGTCTACAAATGTTTGCCCAAGTCAAAGTGTGGATATCAAGGGTCGGGACGGTTGAATCGGAGACCAATCGTCTGCTTGATGATAG TATCGTTGAACTTGGGAGATTTTCAATGTATGGCTGTTGTTCCCTGATCTCTGGATCGACCTATCGGTACAGTCAAAAGGTAGATATGACGTTGGAAA AGGTTAATACTCTGATACGGGAGGGACGCTTTGAAGTTGTGACTGAGAGACTTGTGTCTCAGAGAGCTCCTCATAAGCAGCAGCCGACTGATCATC AGCCGACTGGTTCTCGAGCAAACCTGCTTGAGAGTATATGGCGTCGTCTAATGGACGAAAATGTTAGTACTTTGGGTATCTATGGTATGGGAGGTGT AGGCAAAACCACCCTTCTTGTTCATCTCAATAATAAGCTCTCAGAAGTTGGTCATAATTATGGATATGTGATCTTTGTTGTTGTGGCGTCTAAAGAGAT CGAGGATATACAAGATGAAATCGGTAAAAGATTAGGCCTACAGTGGGGACGTGAAACTAAAAAGGAGAAAGCAGCTGAAATATTTCAAGTCTTGAAG ATAGAGAGGTTTATTTTGTTGTTGGACGATATACAGAGGGAAGGAGTGGATCTTCAACGGATTGGAGTTCCGCAGCCGAGCAGAGAGAATGGATGC AAAATTGTATTCACCACTCGTTCTCAGGAAGTATGTAGACGCATCAAGTGGGTTGAGGCTACTCTATACGTTGAATGCTTGCCTCCACAAGAAGCAT GGGACCTGTTTCAGAAGACAGTCGGAGAATACGCGTTGACAAGTCATCCAGACATACCAGGGCTCGCAAGAGTAGTTGCTGAGAAGTGTTTTGGTT TGCCCCTAGCTCTTACGGTCGTCGGCAAGACCATGTCAAGCAAAAGGACAGTACACGAATGGCATCATGCAATTCATCTACTTTTGAGTTCATCTAG TTCCGTGTTTTCAGGTTTAGAAGATATTTTAAGCGCTCTAAAATTTAGCTATGATAGTCTGCCTGATGAGGAAACCAGGTCATGTTTCCTGTACTGTG CTCTATTTCCAGAAGGTGATGATATAAAAAGACAAGATTTGGTAAACTACTGGGTAGGAGAGGGACTGGTTTCACATGATATCAAGAGTTATGAGAT GATCAATGATTTGGTTAGAGCGTCTTTGCTGATGGAAGATGAATCAGGATATGGTGTAAAGATGCATGGTATGTTTCGTGAAATGGCTTTGTGGATAA TAGCATGTGATTACGAGAGACAATATTTTGTGGTGAAAGGGGGAATAAAAAAGATGCCAAGTGTCATCGATTGGAGAAGGGTTAGAAGGATGTCAGT GACAGATACTCAGATTGAGAATATATCGGATTCTCCTGACTGTTCCGAGCTTACAACCCTATTACTGCAACGCAACTACAACTTAGAATGGATCTCAG GTGACTTCTTTCGGAGGATGGCAAGTCTTGTAGTCCTGGATTTGTCGCATAACAGTAATCTTTCTGAGTTGCCAGAGGAAGTTTCATGCCTGGTGTC GCTGCGACTTCTCAACTTATCAGGGACGAATATAAAGGATTTGCCCAAGAGTTTCGGAGAATTGCTGAAACTGATTCACTTGGATTTAGAGTCCACAT CCAATCTCCGAAGTATCAGTCTGATTTCAGGGTTACTGAAGTTGCAGGTTTTGAGATTTTATGGTTCTAAAGCTTCTTTAGATCTCTCCTTACTGAAGC AATTTGAGTGTTTGAAGTATTTAAAACTTTTGACCATTACTGTGAGAGATGTCCATGTTTTGAAAACTTTCTTACGAAGCAGATTAGCTGGGTTTACGC
GCT-002F24	AT2G23620.1	esterase, putative	GAGGAAAATATAAAAAATCAAAAAGTTAGAGAAAAAAAAAATGAGTGAAGAGAATAAGAAGCAGCACTTTGTTCTAGTACATGGTGCATGCCATGGTG CGTGGTGCTGGTACAAGGTTAAACCGCTGCTGGAGGCTTCAGGCCACCTGGTAACCGCCTTAGACCTAGCTGCTTCGGGTATAGACACAACCAGG TCGATCACTGAGATCTCCTCATGCGAACAATACTCTGAGCCATTGATGCAGCTAATGGCCTCATTACCAGTTGATGAAAAGGTTGTGCTCGTTGGTC ACAGCTTTGGAGGATTGAATTTAGCCATGGCCATGGATAAGTTCCCTGACAAAATCTCTGTCTCAGTCTTCGTGACTGCTTTCATGCCCGATACCAAA CACTCGCCTTCGTTCGTCATGGATAAGGAGTTTGGAGGGGACAAGCCACTAGAAATATGGTTAGGCACCGAGTTCGAACCATACGGCTCAGACAGA TCAGGTGTGTCAATGTTCTTCAGCAATGAGTTCATGAAGCAAGCTCTCTACCAACTTTCTCCTATTGAGGATCTTGAGCTTGGATTGCTTCTAAAGAG GCCCGGATCATTGTTCATCAACGAATTATCAAGGGTAAAAAACTTTTCAGACAAAGGGTATGGATCTGTTCCTCGTGCTTACATTGTGTGCAAAAGG GACAAAATCATTAAAGAAGAACATCAACGATGGATGATCGATAATTTTCCGGCTGATTTAGTGAAAGAGATGGACGAGACAGATCATATGCCAATGTT CTGCAAGCCTCAACTACTGAGTGATCATCTCTTGGAAATCGCAGACAAATTCGCTTAAATTTATCTTTTAATGAAAAATGTATTTGAATACAAATAAGT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002G01	AT5G03730.1	CTR1 (CONSTITUTIVE TRIPLE RESPONSE 1); kinase/ protein threonine/tyrosine kinase	GAAAAAGGGAAAAAAATGGAAATCTAGAGAAAGAGAAACAAGTGGCTAGCTCGCCGAACTTCTTCAACAATGGCGGTTTCCTAGGGTTTGAGGTTAT ATTGATCGGAAAGTGTCTCATCTAGATCGCGAAACTTCCATGGAAATGCCCGGTAGAAGATCCAATTACACTCTGCTTAGTCAATTTTCGGATGATCA GGTGTCGGTCTCCGTCACCGGAGCTCCTCCGCCTCACTATGACTCCTTGTCGAGCGAGAACAGGAGCGCGAGCAACAATAACAGCGGGAACAACG GGAAAACCAAGGCGGATAGAGGCGGATTCGATTGGGATCCTAGCGGTGGCGATCACAGGTTGACTGGTCAGCCGAATCGGGCTGGGAATATGTAT TCCTCGTCGCTTGGATTGCAGAAGCAATCGAGCGGGAGCAGTTTCGGTGAAAGCTCCTTGTCCGGGGATTACTACATGCCTACGCTTTCTGCGGCG GCTAACGAGATCGAATCGGTTGGATTTCCTCAAGATGACGGGTTTAGGCTCGGGTTCGGCGCTGGTGGAGGAGATTTAAGGATACAGATGGCGGC GGACTCGGCCGGAGGTTCGTCATCTGGGAAGAGCTGGGCGCAGCAGACGGAAGAGAGTTACCAGCTGCAGCTTGCATTGGCGTTGCGGCTTTCG TCGGAGGCTACTTGCGCTGACGATCCAAACTTTCTGGATCCCGTGCCCGACGAGTCTGCTTTGAGGACTTCGCCAAGTTCAGCCGAAACCGTTTCA CATCGCTTCTGGGTCAATGGATGCTTATCGTACTATGATAAAGTTCCTGATGGGTTTTATATGATTGATGGTCTGGATCCATATATTTGGACCTTATG CATTGATCTACATGAAATTGGCCGCATCCCTTCAATTGAATCATTGAGAGCTGTTGAATCTGGTGTTGACTCTTCGCTTGAAGCTATCTTAGTCGATC GGCGTAGTGATCCAACCTTCAAGGAACTTCACAATAGAGTCCACGACATATCTTGTAGCTGCATAACTACAAAAGAGGTTGTTGATCAGCTGGCAAA ACTTATCTGCAATCGTATGGGAGGTCCAGTTATCATGGGGGAAGATGAGTTGGTTCCCATGTGGAAGGAGTGCATTAATGGTCTAAAAGAATGCTTT AAAGTGGTGGTTCCCATAGGTAGCCTCTCTGTTGGACTCTGCAGACATCGAGCTTTACTCTTCAAAGTGCTGGCTGACATAATTGATTTACCCTGTC GAATTGCAAAGGGGTGCAAATATTGTGATAGAGACGATGCTGCATCGTGCCTTGTCAGGTTTGGGCTTGATAGGGAGTATTTGGTAGATTTAGTAGG AAAACCAGGTCACTTGTGGGAGCCCGATTCCTTGTTAAATGGTCCCTCAACTATCTCAATTTCTTCGCCTTTGCGGTTTCCGCGACCCAGGCCAGTT GAACCCGCAGTTGATTTTAGGGCACTAGCCAAACAGTACTTCACCGACTGTCAATCTCTTAATCTTGTTTTCGATCCTGCATCAGATGATATAGGATT CTCAATGTTTCATAGGGGTGGAGAGAATGACGTTTTGGCAGATAATGGAGGTGGGTCTTTGCCTCCCAGTGGTAATATGCCTCCACAGAACATGAT GCGTGCGTCAAATCAAGTCCAAGAAGCAGTACCTATAAATGTCCCACCAGTAGGTCAGCCGGTTGTGAACAGGGCAAATAGGGAACTTGGACTTGA TGGTGATGATATGGACATCCCATGGTGTGATCTTAATATAAAAGAGAGGATTGGAGCAGGTTCCTTTGGCACTGTTCACCGGGCTGAGTGGCATGG CTCGGATGTTGCTGTGAAAATTCTCATGGAGCAAGACTTCCATGCGGAGCGTGTCAATGAGTTCTTGAGAGAGGTTGCAATAATGAAACGCCTTCGC CACCCTAACATCGTTCTCTTCATGGGTGCTGTCACTCAACCTCCAAATTTGTCAATAGTGACAGAATATTTGTCAAGAGGTAGTTTGTACAGACTTTT GCATAAAAGTGGAGCAAGGGAGCAATTGGATGAGAGACGCCGCTTAAGTATGGCATATGATGTGGCTAAAGGAATGAATTATCTTCATAATCGCAAT
GCT-002G02	AT1G74430.1	MYB95 (myb domain protein 95); DNA binding / transcription factor	GATAAAAGAGTTTTCTACTTCTATTTTTTTCTATGTGAGAGTGTGAGAGAGCCTCAGATAAATGAAAGCCTCTTAATAAAATCATATCCTAAATAATAAA ATATTAACAGTAATCAATAATAATTCACTTGTTCTTAAAGATCACCCTTGATCGATCAATAAGACGACTCGAGTCGACTGGAGAACAAGTGATACGTG GCGAGATCTGATTGGTTCGCCGGAGATAAATGGGGAGGACGACGTGGTTCGACGTCGACGGGATGAAGAAAGGAGAGTGGACGGCGGAGGAAGA CCGTATGCTCGTCGCTTACATCAACGAATACGGTCTCGGCGACTGGCGTTCCCTGCCTTCGAGAGCCGGTCTGCAAAGATGTGGAAAGAGTTGTAG ATTAAGGTGGCTTAATTATTTGAGACCTGGAATCAAAAGAGGCAAATTCACTCCTCAGGAGGAAGAAGACATCATCAAATTTCACTCTCTTGTTGGAA ACAGGTGGGCAGCAATAGCAAAGCAAATGCCGAACCGTACAGACAATGACATAAAGAACCATTGGAACTCATGTCTTAAGAAAAGACTCGCTAGAAA CGGAATCGATCCGATGACCCATGAGCCGATCGTCACAGTTGAAGCCTCCTCCTCCACCACAACGACGTCGTCTCCAACAGTACTGACCCCTTCTTC TTCTTGTTCTTCTTCCTCCGTTTCCTCCACAGGCTCCGCACGTCTACTTAACAAACTCGCTGCCGGAATCTCCTCGAGAAAACATGGACTCGACATG ATCAAGACTGTGATATTGTCGGAACCAAGACAAGCCGTCGAAGAAAAGACGATGATGATGATAAGCAAGGACGAGGAGGAGGAGGAAGTGATTGG TTGTTTCATGGAGATTGATGAGAATATGATTAGTACGACGTCGTTTAATGAGTTACCTTGTGACGACTCTACTACTACGACTGGCTTCGTGGCTGCTT TTGATGACTACTCATCAGTTGAACCTTACGATCTGTACCAATCTGATTTCTATTACGAGACTGATGAACAGCTTGACCTGTTCCTCCTTTAAAATTTCA
GCT-002G04	AT1G50020.1	similar to expressed protein [Oryza sativa (japonica cultivar-group)] (GB:ABA94185.2)	GACTTGAATATTTGTCACATTTCCCCATTTTCCCGAGAAAAATCCAATCAAATAGAATTTTGCCGTCTGAATTTGTGTAAGCTTCCCCTTATTTATTCTG CGGCGGCGTTCTGGATCATGAATCTTTCCGGGAACTGAAGGAAATCGAAAGAAACAAAGAGTATTTTTGAGTGAAGAAAGGGAAACAAAAAAAAATG GCTTCTTCTTCCCTGGAAATTGTTAAACTGTGTGGGTCTCCTGTATCAATTTCCCGCCATCAATCTCCAGTAAAATTGGAACCTAGAAAAAGGGTTTT CAGATTAGCCGATTCTAGGAATTGGCATCGTCTTGGTAGATGTGTTAGGGTTTGTTCATCTGCTCGTGACGGCGATAATCAATCAAAAGGTGATGAA CCTCCAGAGTCTTTATTTATGAAAGAATTGAAGAGACGAGGTATGACTCCTACTTCGTTGCTTCAAGACTATGAAGTGGATGTAGATGAGGTCAAAAC CGGTAAAGAAACCGGAAACAGCACTAAAACAACTGCCACTACTCCCGCATTTGACCAAAGCTTGTTAAACCAGAGAGAGAGATCATTGGCTTTAAAC AGTGAAGGGCTTGAGGGATTGATTCCGCGTGCTAAGATCTTGCTGACGATTGGAGGGACTTTCTTCTTGGGTTTTTGGCCGTTGATAGTCTTAACTC TTGGAGCCTTTTCCGCGCTTTACCTTTACTTTGGAGCAGATTTCGTTCATGATGGAAGCAGAACTCCGGTTTCACCACCACCGTACATCGATCCATAT GCTCTGTTGGAGGACGAGAGGATATCAGGGATCGACCCTCGTGTAAATTAGCCGGACATATACTGTATGTTTCTTTCTGCTCTTCATAAGTAGTGGT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002G05	AT3G28910.1	MYB30 (myb domain protein 30); DNA binding / transcription factor	GATCGCCAAGCTTAGCCATTAGATCCATCCAAAGTTAAGAGTAGTAATTAGTGAGCTTAAGGGTACTGTGACCCATCAACAACTAAAGTTGTTTCAAT TTTCTTCTATTTTCTTGGCAAAGAGTTGTTGTAGTGGGCGATTAAAAAGAGAAAGCAAAAATAAGGAGTGATTATTAGTTGATTGATTAGTTAAGTGAG ATCAAAATAATGGTGAGGCCTCCTTGTTGTGACAAAGGAGGAGTAAAGAAAGGGCCATGGACTCCTGAAGAAGATATCATTTTAGTTACTTACATCC AAGAACATGGTCCTGGTAATTGGAGAGCTGTTCCCACCAATACTGGGTTGCTTAGATGCAGCAAGAGTTGTAGGCTTAGATGGACAAACTATTTAAG GCCAGGAATCAAAAGAGGAAACTTCACAGAACATGAAGAAAAGATGATTGTCCATCTCCAAGCCCTCTTAGGCAATAGATGGGCTGCAATTGCGTCC TATCTTCCACAAAGAACAGACAATGACATTAAGAACTATTGGAACACTCATTTGAAGAAGAAACTCAACAAAGCCAATCAAGATTCTCATCAAGAACTT GATCTATCAAGAGACCGTTCCTCGCTCTCTTCGTCTCCATCGTCCTCTTCTGCAAATTCCAACTCAAACATCTCCAGAGGCCAATGGGAAAGAAGGC TTCAAACAGATATTCACTTGGCGAAAAAGGCTCTATCTGAGGCTTTGTCTCCTGCCGTAGCACCGATCATCCCCTCGACATTCGCTACTACGACAAC AACATCTTCTTCTGCTGAATCAAGACGTTCTACTTCCTCAGCTTGCGGGTTTCTTAGGACGCAAGAAACATCTGCCATTTATGCTTCGAGTACCGAGA ATATAGCAAAATTGCTTAAAGGGTGGGTGAAGAACTCGCCAAAGACACACAACTCCGCGGATCAAATGGTGTCTCCAAATTCTGAGACAAAGGAAGT GATCAAGAGTAATGATGGGAAGGACTGTCCAGGGGCATTTCAGTCATTTTCGGGGTTTGAACACTTGAAAGATTGTGACTCATCATATCATCAGGCT GAAGTTTCACCTGATCATGAGACCAAACCAGACATAACCGGATGCAGTAACCAAAGTCAATGGTCATTGTTCGAGAAGTGGCTGTTTGAGGATTCCG CTCGACACATTCCTCATATTTTATTCCATCAAAGCCCTACTTTCTTCTCAACAATTTCCCTAATCCCATCCTTCTAATTTTAATTACCATCCTCATCTC
GCT-002G06	AT2G43590.1	chitinase, putative	GGCAGACAATAACCAAAACATGGCTTTCACAAAAACTTCCTTAATCCTTTTCCTTTGCCTCCTAGGTTTATACTTTGTAACCGTCAAGTCTCAAAACTG CGGTTGCGCTCCAAACTACTGTTGCAGTCAGTTCGGTTACTGCGGTACCGGCGATACTTACTGCGGTGCTGGATGCCGATCAGGTCCTTGTGGAG GCACTGAAACCCCAACCGGTGGTGGATCGGTTAGTAGCATTGTGACACAACAATTCTTTAACAACATTATCAAAAAAACCGCTAGTGGCTGTGCCGG AAAAAGATTCTACACCCGTGACTCTTTCATTAACGCCGCTAATACTTTTTCCAACTTTGCAAATTCCGTTACTAGACGTGAAATTGCTACCATGTTTGC TCATTTCACTCACGAGACTGGACACTTCTGCTACATAGGAGCAATAATAAACGGAACGTCGTTAGCCAAAAAGAGAAAAAGAAACAGAAGGTCCCGT GACGACTGCGACCAAAACGTTGAGCAAATACCATGTGAACCGGGCAAAGGCTACTTCGGTCATGGTCAGAGTCTCAATCTCCACCTTCGACGTCAG CCCGAGGTTGTGGGTAGCAACCCAACTGTAGGTTTCAAAACAAGTTTGCGGTTTTGGATGAATAGCGTACGGCCAGTACTGAACCAAGGATTTGGA GCCACCATAAGAGCCATCAATGGAATGGAATGTGATGGTGGGAATACAGGTGCGGTCAATGAAAGGATTATGTACTATAGAGACTACTGTGGACAG CTTGGTGTGGACCCTGGTTCTAACCTTAGTTGCTAAAAATTTCTTTGAACGCAAACACGCATACACGTGAACCTGATATCAATAAGTAGTATTATAAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002G07	AT5G01930.1	(1-4)-beta-mannan endohydrolase, putative	GGATCTAATCGACCCGGCGGCGACGATGGATTTACAGCAAGAGCAGGCTTGCTGGAAACTTGAGCTCGATGAGGTCACTAAATTTGATCCTTCCAA AAAGAAGAAGAAGAAGAAGAATAAGAAGTGGAAGCCTTTAATATGCGAAGATGGTACCTACGACATCTTGTTCCATAAAGGACGACACTTTGCCGAG GATAACTCACTACACTGTCGATCTGGAAGACGGCTACTTTTCGGCCACAACTTTGAGCCAGATTATGGCTATGAAGAGCTCTTGACTAGGGTATTTG ATATGCTTCGTGAGGACGATCTTGAGGTTTCTACAGAGAGGCCAAGAACAGCAATGATGCCTCCCCTGCTCCGTGCACAAGGGACACTGATAACAG TTTGTTTAAACTTTGTTCATCTCTGCAGAATGATGCATAGGAAGCCAGGTCATGTTATGAAATTCTTACTTGCCCAAATGGAGACAAAGGGATTGCTC AACAAACAGCAGCAGCTAGAGATGAAGGGTTTAGTGTCTTCTTCGGATTTCCAAGCTGTGTTCCGGCGATACAGTGATGCGTTCGTGATCTGCAGCT GCTGCAAAAGTCCTGACACAGCTCTCGCGGAGGAGAATGGTCTTCTCACTCTCAGATGTGAGATGTGTGGTTTAGTGGCATCGATCAAAGAACCGA ATCCCCTGTGAATATGGAGCTTCAAAAGCTGAGCAAAGTTCCATTGTAAAATTTATTACTATAGTGGTTTCTTCTGATTATGATACAATCTTGAACCAG AATATGTTCTTTACAATACTGATTAAAGTTGCTGGGTCCTTAGAGATGTAGGACCGTGATCTCAGAACCACACTGAGGCAAAACTCTCGAAAAACTTT GTGAGTGCATTCCTAATACAACTTCCTATAATGATAAAGTTTCTGAGAAAACGCAAACGGATGCAAATTTGCAACAGTTAAAAAAAAAAAAAAGTGAC GTTTTTCTGTTATATGCACTTAATGCAAAAGCACGAGTTCCTCATCGCTATATCTGGGAACTGAGAGAGATGTCACACCAAAGAGAGTTTGCTTTATG ATCACATTATGCAATTTCGTGCTCAACTAGAAAACCAGGGGAGAGGGGAGGGGGGAAATGGAAGACAACTGTATTTGCCTTTTTTAATCTCTTTTAC CGTGTGCAGAAGATGTAGTAAGCTTACTGGAGTTAATCATCTTATATGTGAAATGACTTAGAAAGATGGGTTGGTATGAAGCTTGTACGAAAGAGACT GAGTTTGACATGTCAGCTAACTCCACTGTCGAGAAGTGGGTGCTCTCCGAATCTTAGCGTGGCAGTGACACGTTACTTTGGAGTTGTCTCAACTTTC AGTCCTCTGATTGATATACCTAGGAGGAGCGATGTGCTTCAAGTTTCATCTCTCTGGTTATGGAACGAGGAACGTTTCTCGTGCCTTGTGAAGATGA AACTCTACTTTTCCATAAGCCTGCGAAAATGAAGGACCGTCTTGGATTCGGATTCGTGCTCTGCTCTGCGGTTTTCATGATTCTAACACAAGAAAGAG CTCTTGCAAACATTGACAGCGAGTCCCATGGAGTTAACTCAGAATCAGTAGAAGAAGAAGAATGGGAGATGGTGCAGAGGAAAGGGATGCAATTCA CACTAAATGGGCAACCATTCTACGTGAATGGCTTCAACACATACTGGATGATGACTCTTGCAGCTGATAATTCTACGAGAGGCAAAGTGACGGACGT ATTCCAACAAGCCTCTGCAGTTGGATTGACAGTAGGCAGGACATGGGCTTTCAACGACGGCCAATGGAGAGCTCTCCAGAAATCTCCCTCTGTTTA CGATGAAGACGTCTTCAAGGCCCTGGACTTCGTGGTAAGCGAGGCCAGAAAGTACAAGATCAGACTTATACTGTCACTGGTCAACAACTGGAACGA CTATGGAGGCAAAGCTCAGTACGTTAAATGGGGTAACGCCTCCGGCCTTAATCTCACCTCCGATGACGACTTCTTCACCAATCCCACCCTCAGAGA CTTCTACAAAGCTCATGTCCGGACGGTGCTGAATAGAGTGAACACCTTCACAAACATCACTTACAAGAACGACCCCACAATCTTCGCCTGGGAACTC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002G08	AT1G07530.1	scarecrow-like transcription factor 14 (SCL14)	GGGATCAATTAATTATTTCCTCTCTCTCTGCTCTCTCTCTCCACTCTCTCTCTCCACCACGTACACTAGTAACCTTTTCCCCCAACTCAAGGTTCTTCC TTGTCATCTTGTTGCCGAATTCGCTAATCTTTACCCACAAGAGGTATGCTTATGACTTCTCTCAAATCTCCCTGCTTTGTTGTTTTTTTTATTCTCTCGT TTCTGATGGTCTTGTTTTGGTGATTCATCAGCAATAAAGTCTCGACCTTTTTTTATTGACCCTTTCAAGGACTCTGTATTTTCTGAACCACTGCTTCTTT CATATTTCGGATTTTAGGTTTTTCGTTTTTCCGACATCCATGGGTTCTTATTCGGGTGGATTCCATGGATCCTTGGATGGGTTCGATTTCGATAGCGA GTTTGATGATTTGCCTGGCTCAAACCAAACCTTAGGTCTAGCAAATGGCTTCTATCTAGATGACCCTCTCTTAAATTTTGCATCTTTGGATCATTCGTC TGCTCTCTCAGAGACATATCCCCATAACAGCAACAAATCTGCACCAGCAGATCCATTATCTTCCCCATCCGATGATGCTGATTTCTCGGATTCCGTTT TGAAATACATAAGCCAAGTGCTTATGGAGGAGGACATGGAGGAGAAGCCCTGTATGTTTCACGACGCCTTAGCCCTTCAAGCAGCCGAGAAATCTC TCTACGAGGCCCTCGGCGAGAAGTACCCTTCTTCTTCCTCTATGGACCATCGAGCTTACCAAGAGAAATTAGCTGATGATAGTCCTGATGGTTACTG TTCAGCTGGTGGCTTCAGTGATTACGCTAGCACCACCACCGCCACTTCCTCTGATTCACACTGGAGTGTTGATGGTTTGGAGAATAGGCCTTCTTGG TTACAGACTCCCATCCCTAGTAATTTTGTTTTCCAGTCCACTTCTAAGTTGAACAGTGTCACGGGTGGTGGTAATAGTACAGTCTCCGGGTCAGGTTT TGGCGATGATTTGATTTCGAGTATGTTCAAAGATAGTGAATTGGCTATGCAGTTCAAGAGAGGGGTTGAGGAAGCTAGTAAATTCCTTCCTAAATCTT CTCAGCTCTTCATCGACGTGGAGAATTACATTCCGAAGAATCCGGGGTTCAAGGAAAGTGGTTCTGAGGTTTTTGTTAAGACGGAGAAGAAGGAAG AGACAGAGCATCATAACTCTGCTGCTCCTCCTCCTCCTCCCAACAGATTAACTGGAAAGAAGAGCCATTGGCGCGACGAGGATGAAGATTCCGTCC AAGAAAGAAGTACCAAGCAATCTGCCGTGTATGTTGAGGAAACCGAGCTTTCTGAAATGTTTGACAAGATTTTGCTATGTGGCTCTAGACAACCTGT ATGCATTACTGAACAGAAGTTTCCAACAGAACCCGCCAAAGTTGAGACAACACAGCAAACTGTGAATGGAGCAAAGAGCCGTGGAAATAAATCAACT GCTAACACTAATATTAGTATTAATGATTCTAAGAAAGAAACTGCTGATTTGAGGACTCTTTTGGTATTATGTGCACAAGCTGTATCAGTGGATGATCGT AGAACCGCCAATGAAATGTTAAGACAGATACGGGAGCATTCATCGCCTTTGGGCAATGGGTCAGAGAGATTGGCTCATTATTTCGCAAATAGTCTTG AAGCTCGCTTAGCTGGTACTGGTACACAGATCTACACCGCTTTATCTTCGAAGAAAACATCTGCAGCAGACATGTTGAAGGCTTACCAGACATACAT CTCAGTCTGTCCTTTCAAGAAAGCCGCCATCATATTTGCTAACCACAGCATAATGCGTTTGACAGCAAACGCAAACATGATCCACATCATAGATTTTG GAATATCTTACGGTTTTCAGTGGCCTGCTCTGATTCATCGCCTCTCTTTCAGACCTGGTGGTCCGCCTAAGCTCCGTATAACCGGGATAGAGCTTCC TCAGCGAGGTTTTAGACCAGCTGAAGGAGTCCAGGAGACAGGTCATCGCTTGGCTCGATACTGTCAGCGTTACAATGTCCCGTTTGAGTACAACGC GATTGCTCAGAAATGGGAAACGATCAAAGTCGAAGACTTGAAGATTCAACAAGGAGAGTTTGTGGTTGTTAACTCCCTGTTCCGTTTCAAGAACCTTT
GCT-002G09	AT3G61820.1	aspartyl protease family protein	GATATACAGATCCTGTGACAACAGTTAAGAAATTTAAACTTGTTTTAATATTTCCCGATGGGGCAACAAAAAGTCCTAAATACCCTCGTCTTCTCCGTC GCTGTTCTCTTCTTCTCTTTCTCCTCCGCCACTTCTTCTTCCCAATACAACACACTCGTCGTCAACACTCTCCCTTCTTCCCCAATCCTCTCATTTCCC GAATCCGAATCCTTGATCAGTGATTCCGACTCCACAACTTCACTTTCCGTCCACTTATCACACGTCGATGCTCTCTCCTCCTCCTCCGACGCATCTCC GGCGGAGCTCTTCAACCTCCGTCTCCAGCGAGATTCCCTCCGAGTCGAATCTCTAACCAGCCTCGCCGCCGTTTCCGCCGGCCGGAATGTCACGA AAAGACCTCCACGCTCCGCCGGTGGATTTAGCGGCGTTGTTATCTCCGGTCTCTCACAAGGAAGCGGAGAGTATTTCATGAGGTTAGGCGTTGGAA CTCCGGCGACTAACATGTACATGGTCCTCGACACAGGAAGCGACGTCGTTTGGCTCCAGTGCTCTCCTTGCAAAGTTTGTTACAACCAATCCGACC CGGTTTTTAACCCGGCTAAATCTAAAACTTTTGCCACCGTCCCATGTGGATCTCGTCTTTGCCGGAGATTAGACGACTCGTCGGAATGTGTCAGCCG ACGAAGCAAGGCTTGTCTCTATCAAGTATCATACGGTGATGGATCGTTCACCGTCGGAGATTTCTCCACCGAAACGCTGACGTTTCACGGAGCGCG TGTGGATCATGTGGCGTTAGGATGCGGCCACGATAACGAAGGCTTGTTCGTTGGTGCGGCTGGGCTGTTGGGCCTGGGCCGTGGAGGATTATCGT TTCCGTCGCAGACGAAAAACCGGTATAACGGGAAATTCTCTTACTGTTTGGTTGACCGGACGAGTTCCGGTTCATCTTCTAAACCGCCGTCAACTAT TGTATTCGGAAACGGCGCCGTTCCGAAAACCGCCGTTTTCACGCCGTTGCTAACGAACCCGAAGCTAGACACGTTTTATTACTTGCAGCTTTTAGGA ATCAGCGTTGGCGGTTCGCGCGTTCCCGGCGTTTCGGAATCGCAATTCAAGCTTGACGCCACCGGAAACGGCGGGGTTATCATCGATTCCGGTAC ATCGGTTACCCGGCTGACGCAATCTGCTTACGTGGCGCTTAGAGACGCGTTTCGTCTCGGAGCGACAAGGCTGAAACGTGCTCCGTCGTATTCTCT GTTCGATACGTGTTTCGATCTTTCGGGGATGACGACGGTGAAGGTTCCGACGGTGGTGTTTCATTTCACCGGCGGAGAGGTTTCGCTTCCGGCGA GTAATTATCTGATTCCGGTCAACAATCAAGGACGGTTCTGTTTTGCGTTCGCCGGAACAATGGGGAGTTTGTCGATAATCGGGAACATTCAGCAACA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002G10	AT5G67590.1	FRO1 (FROSTBITE1)	GCCCATTTTCCTAAAAATCTACGGAATAGAAACGAAATTAAGAGCTCAGACATTTTCCAGATTTCTCATTTGCGTGAAATGGCGCTTCGTGCTACTCA AGGGACTGGTCGTATCGCGGCGGCGCTCCGGCGTGTCGCTCGGCCTTTCTCGACAGACGCGGTTGTTGAGTCGGATTACAAGCGTGGTGAGATC GGTAAGGTCTCCGGAATCCCAGAGGAGCATCTTACACGAAAGGTGATAATATATTCGCCTGCTAGAACTGCTACCCAGCAAGGATCTGGAAAACTT GGGAAATGGAAGATTAACTTCGTATCCACCTTAAAGTAACAATTTTGTCCATTCAATCTCCCTAATTTCTTAGTTTTTTTGTCTTTTTTTGTATAAAAAAA AAATTGAAGATTGAGAATCGTCTTAGTGTATAGTTTTTGTGGCTCATCTGATGTAACGAACACCTAAAGATACATGTTACATCCTCTTGGATCCTCATA TGAGTCTTATGCTTAACGTCGCTGTTCTTCTGCTTGCCTTGTTCAGACCAATAGCTTCTGGTGTCAGTAAATTTGGCATTTGATATGGTTGTAGGTGG GAGAATCCATTGATGGGATGGACTTCTACAGGTGATCCCTATGCCAATGTGGGTGACTCCGCTCTTGGTTTTGATTCAGAAGAAGCTGCCAAGTCAT TTGCAGAGCGTCATGGCTGGGACTATGTGGTCAAGAAGCCCAAAACACCGTTATTGAAGGTTAGTAAACTATCTATCTTTTCAGCTAGTGCCACTTG TGACTAACGATCTCTCCTCTTCTCATAGGAGGTGCTTAAGCCTACGCTTGGAATCCTTGAATGTTATAAAAAGCTTATGTTTTTATATCTCTAGCTTCT GATTAGTGCCATTAGAGAAAGAACTGCTTATGCTTCATCATAACTGGTTTTGCTGCCTTAAGACATAGAAACGGGTTTCAATAGTGATTTATTTATGAT ATTAACTCATCGTCATACAAGTTAATTAATTTGGAGATGGTGATAGCCTCTTTCTCTCTTTCTTTCATTCTTCAGTTTGAAGTTTTAATAACCTAAATAA CCCCGTTATGATGGTTTAACTACCACATCTGCAGGCAAAGTCTTACTCGGACAACTTCAAGTGGAAAGGCAAACCTCAACCAGAAAATTGATCTTTCA TCTTCTTCTTGCATCACTCCATCAAAGCACAAAGCTCATTTCATTTATATAAAAAGTCTCATCTTTCTTTCTTTCTTACCATCTCTCACCTTTTTCTCT
GCT-002G11	AT2G31380.1	STH (salt tolerance homologue); transcription factor/ zinc ion binding	GAAAATCTTGAACTAGAGAAGACAACAAAAGGCATAGCTTTCTTTTGTAGAATCCTCTGATACTCAGATTCTCTCATCTCAAGAAAAAAACACAAAAAA GGAAAGCTCTGTTTGAGAAAGATGAAGATACAATGTGATGTGTGTGAGAAAGCTCCGGCTACACTAATATGTTGTGCCGATGAGGCTGCTCTGTGC GCTAAATGCGACGTTGAGGTTCACGCCGCTAATAAGCTCGCTAGCAAACACCAACGCCTTTTTCTTAACTCTCTCTCCACCAAGTTCCCTCCCTGCG ACATCTGCCTTGAGAAGGCAGCTTTCATATTCTGTGTTGAGGATAGAGCTCTTCTCTGCAGAGACTGCGACGAGGCGACCCATGCGTCTAATACTC GCTCTGCTAATCACCAGAGGTTCTTGGCCACTGGAATCAGAGTCGCTCTGAGTTCAACTAGTTGCAGTAAAGAAGTGGAGACGAATCATTTCGACCC ATCTAACCAGCAGAATGCAAAGCAGACTCTCCCTAAACCTCTAATTCAACAGTCTGCTGCTCCATCTCCACCATGGGATGGTGATGAATTCTTCCGC TACTCTGATCTTGAGTGCAGTAATAAGAAAGAGCAGCTCGATCTCGGGGAGCTAGACTGGCTTGCAGAGATGGGTTTCCTTGAGGACCAGCCTGAT CAAGAAACTCTACCGGTAGCTGAAGTTCCCGAGCTTTCGTTTTCACATTTGGCTCATGTTCATTCCTACAATAGACCCATGAAGTCCAATGTTTCCAA CAAGAAACCGAGGCTTGAGGTCCGGTATGATGATGAGGAAGAGCATTTCCTTGTCCCTGACCTAGGCTAAGCTTGTATATAGCACTTGCTTCGCCAT ATGTATCTATACGTGCTCATCTATTGTCTTTGTCTTGCTTTCTCTGTGATCTGATTCGAACCAGTAATAGGTTTAAGGAACAATCTTCTCGTTTTATTAG
GCT-002G12	AT1G20030.1	pathogenesis-related thaumatin family protein	GGTTTCGCTCTCAAAAGAAGAAGCAGAAGAAACAGAGCATTCACAATTTTTCCACTACCCAATCATGGCATTGATCTTCTTCTTCTTCTTATCGAGTT GTTTCTTATCCGGAGTTATGTCGCGGAGCTTCATAATCGCGAACAAATGCGACTACACAGTCTGGCCGGAAATTTTATCTAACGCCGGAGTTCCTCC ATTACCGACCACCGGCTTCGTACTCCAGAAAGGCGAGACGCGTACAATCGACGCGCCGTCTTCTTGGGGAGGTCGTTTCTGGGGAAGGACACTCT GCTCAACCGATTCCGATGGAAAATTCACCTGCGCAACCGGAGATTGCGGCTCCGGTAAACTCGAATGTTCCGGCTACAATGTCCAGATGCTGGTCG TCCCTCAAGGCGGCGGGAAGCAGGCGGTTGCGATGGGGTGTAAAAGTGCGTGCGAGGCGTTTCGGCAGCCGGAGTATTGCTGCAGCGGCGCGTT TGGGTCGCCTGACACGTGTAAGCCGTCTTCATACTCGAGGATTTTTAAGAGCGCGTGCCCACGCGCTTATAGCTACGCGTATGATGATAAGACAAG TACTTTCACGTGCGCCAAATCTCCTAACTACGTCATCACTTTCTGTCCTTCTCCCAACACAAGCCTAAAATCATCTGAGGAACAGAGCACAGAGACG ACGACGATGACAACTCCGACCTCCGGCAGTACGGCGACATCACCGATGGTTTACGAAGGTGCTCTGGACGAAAGCAGTGGCTCACCATCCACGTG TAATTTCGGCTCACATGTAATCTCAGTCGCTTTCTCGCTTGGTTTTTGTCGGATGTGGCGTTTCTTCTGACCAGGCTCTATCTGCCACGTATGGGAAG AAACAATGATTTATGGGTCTTAGAAGGCCGTTTTCTCGTCATTAGTAGAACTGTTTTCCGATTGACCGATTGAGTTTGTAGAAATAGATGATATAGTTG
GCT-002G13	AT1G20030.1	pathogenesis-related thaumatin family protein	GGTTTCGCTCTCAAAAGAAGAAGCAGAAGAAACAGAGCATTCACAATTTTTCCACTACCCAATCATGGCATTGATCTTCTTCTTCTTCTTATCGAGTT GTTTCTTATCCGGAGTTATGTCGCGGAGCTTCATAATCGCGAACAAATGCGACTACACAGTCTGGCCGGAAATTTTATCTAACGCCGGAGTTCCTCC ATTACCGACCACCGGCTTCGTACTCCAGAAAGGCGAGACGCGTACAATCGACGCGCCGTCTTCTTGGGGAGGTCGTTTCTGGGGAAGGACACTCT GCTCAACCGATTCCGATGGAAAATTCACCTGCGCAACCGGAGATTGCGGCTCCGGTAAACTCGAATGTTCCGGCTACAATGTCCAGATGCTGGTCG TCCCTCAAGGCGGCGGGAAGCAGGCGGTTGCGATGGGGTGTAAAAGTGCGTGCGAGGCGTTTCGGCAGCCGGAGTATTGCTGCAGCGGCGCGTT TGGGTCGCCTGACACGTGTAAGCCGTCTTCATACTCGAGGATTTTTAAGAGCGCGTGCCCACGCGCTTATAGCTACGCGTATGATGATAAGACAAG TACTTTCACGTGCGCCAAATCTCCTAACTACGTCATCACTTTCTGTCCTTCTCCCAACACAAGCCTAAAATCATCTGAGGAACAGAGCACAGAGACG ACGACGATGACAACTCCGACCTCCGGCAGTACGGCGACATCACCGATGGTTTACGAAGGTGCTCTGGACGAAAGCAGTGGCTCACCATCCACGTG TAATTTCGGCTCACATGTAATCTCAGTCGCTTTCTCGCTTGGTTTTTGTCGGATGTGGCGTTTCTTCTGACCAGGCTCTATCTGCCACGTATGGGAAG AAACAATGATTTATGGGTCTTAGAAGGCCGTTTTCTCGTCATTAGTAGAACTGTTTTCCGATTGACCGATTGAGTTTGTAGAAATAGATGATATAGTTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002G14	AT2G17520.1	IRE1A (Yeast endoribonuclease/protein kinase IRE1-like gene); kinase	GATCTCTCCTTTGTTGACTTCACCGAAAAGTAAACTCGAAAACCCTCCGCTTAATCTCCGATTTCCCGATTCTTCTTAAATCTTATCTCCTCTTTCAAC CATCATCGCACCTTCCTCTGTCACAGATCATCATCTCTCCGATCGGACTCTGTTCCCGGAAGATGCCAAGATGCTCCTTTCTCCGCCATCTATTCTTC TTTCTATTGCTTCTGTCTCCATGGACGTCTTATTGCGGCGGCGCCGCCGCTGAGTCGTCCAATCAGATTTCGCTATACGGAAAACCGGCTGGGAGA TCGCTCTTGTTCTCTCCTGAACGTACAGAGCCAAACACGGAGCTTGTTGTTGATCGTTCTGGGAAAGTGTCCTTGATACTGAAGCATTCAGAGAAAC CAATATGGTCTTTTTCGTCAGGATCACCGATTCATTCGTCATATCAAGCTCCTCTAAGTGCTGTGAACAACACAGAAAATGCTACCGAGATAAGTAAA GCTTTCATAGTCGAATATGTGGATAACTCAGAGGCTACTACGGTTGATGATCGCTACACCAGACGGACTATGGAGGACTTGCTTAAGATGACGCCC CTTGTAACTGATGATGGTGTTACTCTTGGGTCAAAAACATCTATGGCATATTTGCTTGATGGTATGTCCGGGAGGCTAATCCATGTTTATGAATCGAC CCTTTCTTCCGGAGATAGTAGCAAAATCAATGCTATGGTGAAGCCCACTAGCACAGATGATTTCGTGAAGCTACCACTTCTTATCACACGAACAGATT CCAAACTAGAGCATTTTGATAAGATCACTCGAAAGCTTGTGTGGAATGTGACAGTTTCTGACTTCAGAGCTGATTTAATATGCAATAAAGTTTTCAATG CAGACAGTATGCGCGGTCCTGAAATTCTCACTGGGATTTATATGCCATTTCAGTGTGGATCAAATGGTACAGTCCGTGCTCATATTAAATCAGAATTT TTCATTAGGGTGCCTCGTGATCATTATGAAGCGAAAGAGCTACCCTCTAGGAAGTTATGGGAACAAGATGGGCAAAACTATACAGACGTGTTTGGTA AATCTTTCGGATGTCGCCACTAAGATTATTGGTACCTTTGTTCTTTCTTGGTGCTATTGTTACCGTTTTCATAAAAATGTTTTCATCAAGGGGCAGTGA TTTCAATTCAAAATCTGGACCTTCCAAAAAGAAAAGGAACCGTAAATCGGGGAAAGATGGTATTACAAATGGGCAGAGAGATAGCCAGTCAGAATTC GAGCTCATTGAAGGAGGTCAGATGTTATTAGGCTTCAATAACCTTCTAAATGGTGCAGCTGATGGGCGAAAGATTGGTAAGTTATTTGTGTCGAATA AAGAAATTGCAAAGGGAAGCAACGGGACCGTTGTGTTTGAGGGTGTTTATGAAGGCCGGGCCGTAGCTGTAAAACGCCTTGTTCGGTCCCATCATG AAGTTGCTTTCAAGGAGATTCAGAACCTCATTGCATCTGACCAACACTCGAACATAATTCGGTGGTATGGTGTCGAGTATGACCGGGATTTTGTATA CCTTTCTCTGGAGCGTTGCACATGCAGTTTAGATGATCTGATCAAGACCTATTTAGAGTTCTCAATGAAAAAAGTATTGGAAAACAATGAATCTACGG AAGCAGTAAGTACATATAAGATTTCACTGGATTCTTTGGAAGGAATTGTCAAAGGAAACAACTTGTGGAAAGTGGGGGGCCATCCGTCACCTGTCAT GCTGAAACTAATGAGAGATGTAGTGTATGGACTTGCCCACTTGCATAATTTGGGAATAGTTCATCGAGACTTGAAACCACAAAATGTATTAATAACGA GAGGGATGACTTTGAGTGCAAAGCTTTCTGATATGGGCATTAGCAAGCGTCTATCTGGGGATATGTCATCCTTGGGTCATCTTGCCACAGGTTGTGG TAGTTCTGGTTGGCAAGCACCGGAACAGCTTCTTCAGGGTCATCAAACTCGTGCAGTAGACATGTTTAGTCTAGGATGTGTACTATTTTACACCATAA CTGGTTGTAAGCATCCATTTGGAGATGATCTTGAACGTGATGTTAATATTGTGAAGAACAAAGTCGACTTATTTCCGGTAGAGCATGTTCCTGAAGCC
GCT-002G15	AT5G20700.1	senescence-associated protein-related	GGTGGAGGTTTCACAAACACCACCAATCTTCTTCTTCTTCTTCTTCTTCTTCTCTCTTTTCTTTTTATGTTTCTTCTTCTTTTTTAGTTTTTTGGATC AAAACCCTTTCTCTCGATCAAGATCATGCTTAGCAAAAGAACCCATCCCATGATCGGCAAAATATCGGAGCTCCTCGTCGGTGTTAACCGGTCTGCG GCGGCGGCGGCTCCTTTCTTCGACGTCTTGATGACGAGCCCTAAAAGCCCACTCGATTTCAAGATTCTCCCTCAGATATCTCAAAGAAACAGCTCAA AGAGATTCTACGATGAAAATCTTGGTGGGTCCGTTGGTCTAGGGATTGTAGCCGCACTCGAGAACTCAACCACTCGTCGAATCACGAGCGTTTGTA GATCGGAACCGAACCAATCCGGCCGGTCTGATCCGGTTAAGTTCATGAGCCATGGAGGAAGCACGGACGAAGAAGAAGACGAAGAGATGTTCACA ATGGACGAGGAGGATTACACTTTGGTGACGTGTCACCATGGTCCTAGTGGATCTTGTAGTACAAGGGTTTATGACAGAGATGGGTTTGAGTGTTTCG CAAGTGAGATCAACGAAGATCGTCGTGAGAGACTTTTCGTGGTCGATGTAGGTATGGAATCTCCGGAGAATTCGCCGGAGTTTCAGGGTTTGGATT TCCTCAATTCGTGTTACTTATGCAGGAAGAAACTTCATGGTCAAGACATATTTATTTACAGGGGAGAAAAAGCATTTTGCAGCACAGAGTGTCGATCG AGTCATATAGCAAATGATGAAAGGAAAGAGAGATGTAGATCGAAATTCTCAACCTCTCCTTACACCGCCGGCCAAATTTTCTCCGCCGGAGTTCTAG TGACTTAGCCGGAGTTCTTCTACTGAGTATATATACATATATATATATATATATATGGGGGATCGGGGGTAAATAAAATAATTAGGCATAAATAATCGG CGAGAGTAGCATATATATATATATATATATAAAAATGACATGCATGTCCATATAATGATATATGTTATATAATATATGGTGGAAACGAAACAACATCGA GAAATTTTGGCGAGGGGGTTAATGATAGTCAAGAGTGCTAATTCTTGATCGTTAAAATGGCGAGAAATGGAATTCAGCTCTTGTTTTTTTTTTTTTGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002G16	AT5G25220.1	KNAT3 (KNOTTED1-LIKE HOMEOBOX GENE 3); transcription factor	GAGAAACAGGAAATTCGAAACACCAAACAAAAAAACATATTTTTTAAAAAAAAGGAAAAGAAGTCATCGAAACGATGGCGTTTCACCACAACCATCTC TCTCAAGACCTCTCCTTCAATCATTTCACCGACCAACACCAACCTCCTCCTCCGCCGCCTCCGCCTCCGCAACAGCAGCAGCAACAACATTTCCAG GAAGCGGCGCCTCCTAATTGGCTCAACACGGCTCTTCTTCGCTCCGACAACAACTTCCTCAACCTCCACACAGCCACCGCCAACACTACCGCCGCC GCGAGCAGCTCCGATTCTCCTTCCTCCGCCGCTGCCGCCGCAGCTAATCAGTGGCTCTCTCGCTCCTCATCTTCCTTCCTTCAACGAACCGGAAGC AACAACAACAACAACGCCGCAGCCGCCTCCGGTGCTGCCGTTGTCGGAGACGTCATCGACGACGTCACCGGAGGAGCGGAGCCGATGATCGGTG GTGGGGAGATGAAGAGCGGAGACAGCAAGAACGACGGAGGAGCGGCGGCAGAAGGCGTGGTGAGCTGGCAGAATGCGAGACACAAGGCGGAGA TCCTCTCGCATCCGCTCTACGAGCAGCTTTTGTCGGCGCACGTTGCCTGTCTAAGAATCGCCACGCCGGTCGATCAATTGCCGAGGATCGACGCTC AGCTTGCTCAGTCGCAGCACGTCGTCGCTAAATACTCCGCCTTAGGCGCCGGTCAAGGACTCGTCGCCGACGACAAAGAGCTTGACCAGTTCATG ACGCATTATGTGCTGCTTCTGTGCTCTTTCAAAGAGCAATTGCAACAACACGTGCGTGTTCATGCAATGGAAGCTGTGATGGCCTGTTGGGAGATCG AGCAGTCTCTCCAAAGCTTAACAGGAGTGTCTCCAGGTGAAGGCATGGGAGCGACAATGTCGGATGATGAAGATGAACAAGTAGAGAGCGATGCTA ATATGTTTGATGGAGGCTTAGATGTGTTGGGGTTTGGTCCTCTGATTCCTACTGAGAGCGAGAGATCCTTGATGGAACGAGTTAGACAAGAGCTTAA ACATGAACTCAAACAGGGTTACAAGGAGAAAATAGTAGACATAAGAGAGGAGATACTGAGGAAGAGAAGAGCTGGGAAATTACCAGGAGACACCAC CTCTGTTCTCAAGGCATGGTGGCAATCTCATTCGAAATGGCCTTACCCTACTGAGGAAGATAAGGCGAGGTTGGTGCAGGAGACAGGTTTGCAGCT AAAGCAGATAAACAACTGGTTCATCAATCAGAGAAAGAGGAACTGGCACAGCAATCCATCTTCTTCCACTGTCTTGAAGAACAAACGCAAAAGCAAT GCAGGTGACAATAGCGGAAGAGAGCGTTTCACGTAGAAAGACGAAGACATAGATGAAGTGTTTTGGGAGCTGGATTGGATGGGATTCAAAGCAGG GTTTAGGGGATTTTAAAGTTGTGAAAATGAAGAAGAAGAAGAAGAAGAAGAAGTTGGGCTTATACTGAGAGGGGCAGTATTAGAAAGTAACTTTTTG TGCAATTACATAGTACGTAGTTTGGTTATGTGATGCCCATATATTTATTAGCAAGTACACAAACCAAAAACCAAAAACACAAAAAAAAAGATTGAAAAA AAGGAGATTTATTGTTTATTTTAAGGGGATTTTGCTTGTCTGCATGAGTTGTTTATAACGAACCATCAGATAATCATCATCATAATTATATCTTTTGACT
GCT-002G17	AT2G15970.1	COR413-PM1 (cold regulated 413 plasma membrane 1)	GAATCTCTCTACTCCTCTCTGATTCTCAAAGTTCCGAACTTTTCTCTTTCTTCTTCCTCTGTGATCGAAGAGATGACTTTCACGGCTGTGAGGAGGGA CCATGGAACCCTTAAAGCTATGCTCGGATCTGATCTCAACGAACTTGGTATCGCTGCTAAGAACCTCGCTAATCACACTTTCATGCTCACTGGTTTAG GCCTTGGTACCTCTATCCTCGAATGGATTGCTTCAGTCGCCGCCATATACTTGTTGGTCTTGGATCGAACTAACTGGAAGACGAATATGCTCACAGC ACTTTTGATTCCTTACATCTTCTTCAGTCTTCCTTCTCTGATCTTTGGCATCTTCAGAGGAGAAATTGGTAAATGGATTGCGATTGTAGCTGTTGTTGT ACAACTCTTCTTCCCAAAACACTTCCGAGATTGGTTTGAATTACCGGCGGCTGCGATTATACTCATCGTGGTGGCTCCGAATCTAATCGCCTACACA TTCAGAGACAATTGGGTTGGTTCACTTATTTGCTTAGGCATTGGATGTTACTTGCTTCAAGAGCACATTAGAGCTTCAGGTGGATTTAGAAACGCCTT CACTAAAGCTAATGGCATCTCCAACACCCTTGGGATCATTGCTCTCGTCGTCTTCCCCATTTGGGCTCTTATCTTTTAAGCCATGATCATTACTCCAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002G18	AT3G09440.1	heat shock cognate 70 kDa protein 3 (HSC70-3) (HSP70-3)	GAGAAAAAGATAAACCCTAGCCGCATTCTTCTTCTACTTCTACTTTTTGCAATCTCTTAACGTTTTTGTTCCTTCGATTTTGCGTAAAGCTTAACAATG GCGGGTAAAGGAGAAGGTCCAGCTATTGGTATCGATCTCGGTACTACCTACTCTTGCGTCGGAGTTTGGCAACACGACCGTGTTGAGATCATTGCT AATGATCAAGGTAACAGGACGACGCCGTCCTACGTCGCCTTCACAGACAGCGAACGTTTGATTGGTGACGCCGCGAAGAATCAGGTGGCCATGAA TCCCATCAACACTGTTTTCGATGCCAAGAGGTTGATTGGTCGTAGATTCAGTGACAGCTCTGTTCAAAGCGACATGAAATTGTGGCCCTTCAAGATC ATTCCAGGACCGGCCGACAAACCCATGATCGTCGTTAACTACAAGGGAGAAGATAAAGAGTTTGCTGCTGAAGAAATCTCTTCCATGATTCTCATCA AGATGCGCGAGATTGCAGAGGCTTACCTCGGTTCCACAATCAAAAACGCTGTCGTCACTGTTCCAGCTTACTTCAATGACTCTCAGCGTCAGGCAAC AAAAGACGCCGGAGTCATTGCTGGTTTGAACGTTATGCGTATCATCAACGAGCCTACTGCAGCTGCTATTGCTTATGGTCTAGACAAGAAGGCTACA AGTGTTGGGGAGAAGAACGTTTTGATCTTTGACCTTGGTGGTGGTACTTTTGATGTCTCTCTTTTAACCATTGAAGAAGGTATCTTTGAAGTGAAGGC GACCGCAGGAGACACTCATCTTGGTGGTGAGGATTTCGACAACAGAATGGTGAACCACTTTGTTCAAGAGTTCAAGAGGAAGAACAAGAAGGACAT TAGCGGAAACCCAAGAGCTCTTAGGAGATTGAGAACCGCCTGTGAGAGAGCGAAGAGGACTCTCTCCTCTACAGCTCAAACCACCATTGAGATCGA CTCTCTGTACGAGGGTATCGATTTCTACTCCCCAATCACCCGTGCTAGATTCGAAGAACTCAACATGGATCTGTTCAGAAAATGTATGGAGCCTGTT GAGAAGTGTCTTCGTGATGCTAAGATGGACAAAAGCTCGGTCGATGATGTTGTCCTAGTTGGTGGCTCAACCCGTATCCCCAAGGTCCAGCAATTG CTCCTCGACTTCTTCAACGGCAAAGAGCTTTGCAAATCCATCAACCCCGATGAAGCCGTTGCCTATGGTGCTGCTGTTCAGGCAGCTATTCTCAGCG GCGAGGGTAACGAGAAGGTTCAGGATCTGCTCTTGCTCGACGTCACACCACTTTCTCTTGGTCTTGAAACCGCCGGAGGAGTCATGACAGTTTTGA TCCAAAGAAACACAACCATCCCCACAAAGAAGGAACAAGTCTTCTCAACTTACTCAGACAACCAACCAGGTGTCTTGATCCAAGTCTATGAAGGCGA GAGAGCAAGAACCAAAGACAATAACCTTTTGGGAAAGTTCGAGCTCTCCGGTATCCCTCCAGCTCCCAGAGGTGTTCCTCAGATCACCGTCTGTTTT GACATTGATGCGAACGGTATCCTCAACGTTTCGGCCGAGGACAAGACAACAGGACAGAAGAACAAGATCACAATCACCAACGACAAGGGAAGATTG TCAAAAGACGAGATTGAGAGAATGGTTCAAGAAGCAGAGAAGTACAAGTCAGAGGACGAAGATCACAAGAAGAAGGTGGAAGCCAAGAACGCTCTT GAGAACTACGCGTACAACATGAGGAACACAATCCGTGATGAGAAGATTGGCGAGAAGCTTGCAGCTGATGACAAGAAGAAGATTGAAGACTCGATC GAAGCAGCCATTGAATGGCTTGATGCGAATCAGTTAGCAGAGTGTGATGAGTTTGAAGACAAGATGAAGGAGCTCGAGAGTATCTGCAACCCGATC ATACCGAAGATCTACCAACGTGCTGAAGCTGCTGCTCCAGCTGCTGCAGCAGCAATCGACCAGCATATTCGACCTTCTGCTGCAGGTCGCAGCTCC
GCT-002G19	AT3G06420.1	ATG8H (AUTOPHAGY 8H); microtubule binding	GACCGTTTCTTCTCAAACAATCAAAGCGAACCACCCGAAAGGAAAATTCTGAACACATTCTGCTCTCTGCAAAAACCAATCAGCTTCGGTCGGAATC ATTTACCGGAAATCTACAATGGGGATTGTTGTCAAGTCTTTCAAGGATCAATTCTCCTCTGATGAGCGATTGAAGGAGTCGAAGAACATCATTGCGAA ATATCCGGACAGAGTTCCGGTGATTATTGAGAAATATTCAAACGCAGACCTCCCAGACATGGAGAAGAACAAATACTTGGTCCCACGAGACATGACC GTTGGACATTCATTCACATGTTAAGCAATAGGTTACAGTTAGATCCATCCAAAGCTCTGTTTGTTTTTGTACAGAACACACTTCCTCAAACGGCTAGT CGCATGGACTCTTTGTACAATACTTTCAAGGAAGGAGATGGGTTCTTGTACATGACTTACAGCACCGAGAAAACATTCGGCTAACAAAAAAAGATTC GTTGGTTTAATAATCGAATCGGAAAACTCTTTTCTGAATAATCCATTTGTTTGATTCGTATGTTTGTGAATAATGAATGTCAGCTATTGTCGTTGTTAGC
GCT-002G20	AT4G28610.1	PHR1 (PHOSPHATE STARVATION RESPONSE 1); transcription factor	GAAAAAGAGCGAAGAAATCACCGTCAACTTTCCCTTGAGGACAACATACAACGAGCCGATTCTCCGATTTTCCTCAAGCGGGGAATTTTTCATTTATT AATTAATTACCTAAGATTCGATTCGTCGTCTCCTAGGTCCGGACTTTCTTCCATGAATTGATAGATGCGAGATTTGATGATTCGACTTGGGGTGCACC CACTAGAATCTTCAAGAACCAACAATGGAGGCTCGTCCGGTTCAGAGATCAGGCTCCAGGGAGCTCAGTAATTTAGCTCGCACTTCTTCAATACCAT CCACACCAATTCCTTCAGCAACAGAAGATGTTTTCGTGAGATCAGAGAACACTCAGTTAATGTCGAGGCCACAAGGACAAACCTACCATCTGCTTTC CTCCAGCAACGGTGGAGCAGTTGGACATATATGTTCTTCATCATCATCTGGTTTCTCAACCAATCTTCATTACTCATCTATGGTGTCTCATGAGAAAC ACTATGCAGGAAACAGCACTACTAATGCACCGCATCTCGTCTCTCAGGCACCGAGCAACGATGGTTCTTGGTGCCATGATTCACTGCCTGGAGGGT TTCTTGATTTCCCTGTAAACCATCAGGCCATTCAAAACAACAGTCAGATTGAGGATGGTGGCATTGGTGCGGCTTTTGATGACATTCATAAACGAAAT GATTGGCAAGAATGGGCTGACCATTTGATCACCGATGAAGATCCTTTGATATCTGCTAACTGGAATGATATCTTGCTTGACACTAGCTCCAATTCAGA TTCAAAGGACCAAAAATCTCTGCAAATTCAGCCGCAACTCCAGGTTGTTCAGCAGCAACCTTCTCCGTCTGTGTCAGTGGAACTGAGACCTGTCAGC ACAACATCTTCAAACAGTAATAACGGAGCGGGCAAGGCACGTATGCGTTGGACGCCAGAGCTGCATGAGGCTTTTGTTGAGGCTGTCAATAGTCTT GGTGGCAGTGAAAGAGCTACTCCAAAAGGTGTGCTCAAGATTATGAAAGTTGAAGGCTTGACTATATATCATGTCAAAAGCCATTTGCAGAAATATA GGACGGCTAGATATAGGCCAGAACCATCAGAATGTGGTTCGCCAGAGAAGAAGTTGACACCGCTCGAACATATAACATCTCTTGACTTGAAAGGTG GGATAGGTATCACCGAAGCTCTGCGACTTCAGATGGAAGTACAGAAGCAACTCCATGAGCAGCTCGAGATACAAAGAAACCTGCAACTCCGGATAG AAGAACAAGGCAAGTACTTGCAAATGATGTTCGAGAAACAAAACTCGGGTCTCGGCAAAGGGACAGCCTCCACATCAGATTCTCCACCCGAATCCG AACAAGTAGACAAGAAAACCGCTGATTCAGAGGAGCCCGCACTAGAGAAAACCAGGAAAGGCCAAGAGACAGAATCTCCGCAGCCAAAACGCCCC AAAACCGATAATTGAAAGAATCTCTCTGCTAAGAAATAGTGTTTTGGTGGATCATTTCGGTGTTCCAGAGTTTAACAGTGAGAGAGAGAGAGAGAAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002G21	AT5G49810.1	MMT (methionine S-methyltransferase); S-adenosylmethionine-dependent methyltransferase	GGATTTTTAATAATCTGCCTTGATAGTATAGTGAGAGCAGCAGAGAGACTCACAATCACAAAGCTTCCCAAACCCAGATCCAACTCTCAGTTTCTTCT TCTTCTTCTGTGGACGATCAATGGCGGGCGTTTCTGTGGACGAGTTCCTGAATCGGTGCAAAGAATCTGGCGACGCAGCGTATGGCGCCTTACGCT CCTTGTTGGAGCGCCTCGAGGATCCGATTACTCGATCCGACGCTCGGATCTTCTTATCCGATCTCTACAAGCGCATCGGATCCTCCGAGTCCTCTC TCCAGACTTACCACTTCCATATCCAGGACATCTTCCTCGATCAATACCAAGGCTTTCAGACTAGGAAAAAGTTGACCATGATGGTCATTCCAAGTATT TTTATTCCAGAAGACTGGTCATTCACATTTTATGAAGGACTTAACAGACATCCTGACACCATCTTCAAGGATAAGACTATTGCCGAACTTGGCTGTGG TAACGGATGGATATCAATAGCCATTGCTGCTAAGTGGTTGCCTTCAAAGGTATACGGTCTTGATATTAATCCTAGAGCTGTGAAAATTTCTTGGATAA ATCTGTATTTAAACGCTCTTGATGATAATGGCCAACCAGTCTATGATGACGAGAAGAAAACTTTACTGGACAGGGTGGAATTCTATGAATCTGATTTG CTTAGTTATTGTAAAGATAATAAAATTCAGCTCGAGAGAATTGTAGGATGCATACCTCAGATTCTTAATCCAAACCCAGAAGCCATGTCTAAGATGATA GAAGAAAATGCAAGTGAGGAATTTCTCCATTCGCTGAGTAACTATTGCGCCCTTCAGGGTTTTGTTGAGGATCAGTTTGGCTTAGGTTTGATTGCCA GAGCAGTTGAAGAAGGAATATCTGTCATCAAACCTGCAGGGATTATGATATTCAACATGGGTGGTCGTCCTGGGCAAGGTGTCTGTAGACGCTTGTT TGAGCGGCGAGGAGTCCGTGTTACGCAGATGTGGCAGACTAAAATACTTCAGGCTGCAGATACCGATATCTCGGCATTAGTTGAAATTGAGAGGAG CAGCCCGCATCGTTTTGAGTTTTTTATGGGACTTTCTGGAGACCAACCAATTTGTGCTCGAACAGCATGGGCCTATGGGAAGGCTGGTGGACGAAT TTCTCATGCTTTATCGGTTTATAGTTGTCAGCTTCGCCAACCAAATCAGGTTAAGATAATCTTTGACTTCTTGAAAAATGGATTCCAAGAAATCAGCAG TTCACTGGATTTATCTTTTGAAGATGAAGCTGTTGCTGATGAGAAAATTCCGTTCCTCGCTTATCTTGCTAGTGTTCTGAAAGATAGCTCCTATTTCCC CTTTGAACCTCCAGCTGGCAGCAAAAGATTCTGCAGTCTAATTGCAGGCTTTATGAGGACATACCACCGCATTCCAATTAATCAGGATAACATTGTC GTGTTTCCATCAAGGGCTGTGGCAATCGAGAGTGCATTTCGGTTATTTTCCCCTCGACTTGCAATTGTTGATGAGCATTTAACTCGACAACTTCCGA GGAGCTGGTTAACCTCTTTAGCCGTTGAGAACACGAGCAAGGAGGAATCAGATGATCAAATCACAGTAATCGAATCCCCACACCAATCTGATCTGAT GATAGAACTAATTAAGAAACTAAAGCCACAGGTGGTCGTTACTGGAATGGCTCAATTTGAGGTCATTACCAGTTCATCGTTTTTGCATCTGTTGCAAG TGACGAAAGAAATTGGATGTCGACTTTTCTTGGATATATCTGATCACTTTGAGTTGTCTAGCCTCCCTGCATCCAATGGGGTACTGAAATATCTGGCT GAAAACCAACTACCTTCTCATGCAGCAATTATCTGTGGTCTGGTAAAGAATAAGGTTTATTCAGATTTAGAAGTAGCCTATGTCATTTCAGAAGTTGAT GGCATTTCTAAGGCCTTGTCTAAAACGGTGGAAGTATTGGAAGGTCATACTGCTATTATCAGCCAATACTATTATGGTTGCCTATTCCATGAGCTTCT GGCTTTCCAGCTTGCTGATCGCCATGCCCCAGCTGAGAGGGAAAGTGAGAAGACAAAGTCTGAAGATATCATTGAATTTTCAAGCTCAGCCGTCTCT
GCT-002G23	AT1G25440.1	zinc finger (B-box type) family protein	GTGGGGACATGTCCTCTTAATCTCAAACTCTCACTGCCCCAATTTTCTAGGAGTACACTAAAATCTAACTTTTTGCAGAGAGCAATAATTTTGAGAAAA AGAATTCAATTATTGAAGTCAGAACTCGAAATCGAAAGCCCTCGTGCTCTCTCTCGTCTCGTTGTTGATGTTGGTTTATTCGAGTTTATAAGAAGATG AAAAGTGTGGCGAATGCTGTTGGAGCTAAGACGGCGAGAGCCTGCGACAGCTGCGTGAAGAGACGGGCACGGTGGTATTGCGCCGCCGACGATG CTTTTCTTTGCCAATCTTGCGACAGTTTGGTCCACTCTGCGAACCCTCTCGCTCGCCGGCACGAGAGAGTTCGTTTGAAGTCGTCGGCTAGCCCGA AGCATAGCAACCACAACCACAACCACTCAGCTTCTTCTTCTTCTCCTCTGCACGAAGCTGCCACGTGGCATCACGGGTTCACTCGTAAAGCCAGGA CACCGCGTGGCTCTGGCAAGAAGAGCCATCCGTCGATTTTCCACGACTTGGTGCCGGAGATTAGCGTGGAGGACCAGACGGATAGCTACGAGCTA GAAGAGCAGCTGATTTGTCAAGTGCCGGTTCTTGATCCAATGGTGGCCGAGCAATTCTTAAACGACGTCGTCGAGCCGAAGATAGAGTTTCCTACG ATGAGAAGCGGTGTTATGATCCATGAGGATCAGGAGGACGAAGACAACAACGCCGAGAGTTGTCTAAATGGGTTTTTCCCGACAGACATGGAGCTC GAGGAGTTCGCTGCTGACGTGGAGATTCTACTTGGTCGCGGGTTAGACACCGAGTCTTATGCCATTGAGGAGCTAGGTTTATCATCAAACTCAGAG ATGTTCAAAATCGAAAAAGACGAGCTAGAAACAGAAGAAGAAACAAAAGCCATCATGAACATGGGAATTATATGCGATGAGGATCGGGACGACGAC CGGGATGGAATGGTGCCGTTTGAGCTGAGCTTTGATTACGAGTCGCACAAGACGACGACATACGAAGAAGAGGAGGTAATAATAAAGAAGGTTGAA AAAAGTAGTCTTGGTGAGTGTATTAAGGTGGAGGAAGAAGAGCAGAAGAATGTTCTGATGCTGAGATTAAACTATGACTCAGTGATTTCCACTTGGG GAGGCCAAGGTCCACCATGGACATCAGGAGATCCACCTGAACTAGACATAGACATCAGTGGCTGGCCAGCTATTTCCATGGTGGGAAATGGAGGA GAAAGTCATCATCAAAAGCAGTACGTTGGTGGATGTTTACCTTCAAGTGGGTTTGGAGATGGAGGCAGAGAAGCTAGGGTTTCGAGGTACAGAGAG AAGAGGAGGACGAGGTTGTTTTCTAAGAAGATAAGGTACGAGGTTCGTAAATTGAATGCGGAGAAAAGACCTCGAATGAAAGGAAGATTCGTTAAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002G24	AT1G58270.1	ZW9	GGCAATACTCAAAAAGAAGAAAGAAAAAATGTTTACGGAGGAAAAGAAGAAAAACAAAAACTATGGATCAATCTTTATCTACTGCTTCTTCTGTTTCGT ATTCGTCGTGGAAGTCGCAAGGTTCGCAAAACCTTACTACAAAAACCTTGAAAACCTAGTGGAGGAGACAGAAGCACTAGTAGTAGAAGAAGGTTTT GTGGGCTTGGAGAAATCAGGGATACTTCCGCCATGTCCCTTCAAGAGATCTCGCTCTGCCTTATCTGTTCCTGTTCGGAATCACCAGAAACTATCGG GAGCAATAAGGAGAGAAGATAGAACTCGTCCTCCATCTTCGTATTGCGTGAAGTTCACGTCATTTGCCACTTTGCAGCAGCTGGTCAAAGGCAACG GTGACAAGTGGGAGTCACGTCCTTTCTCTGTCGGTGGATACAATTGGACTTTAATAATCTACCCGAACGAGAACAAGCCTCAGGGCTCGGGTGGAT ACGTTTCCATGTACGTAAGAATCGATAACTCAACTCTCATCGCCAATCCAAGAGATGTGTATGCAGAGATCACATTCCTCACCTATAAAAGCACTATA GACAAGTACCATTTTCTTCAGGAGACTGATGCGCAGCGATTTCATTTGTTTAAACAACAGTGGGGGCAGCTAAACTTTCTTGAGATTGGGTATTACAG AGATCCGGGACAAGGTTTCATTTTCGACGGCGGACAAAGTGTGTTTGGCGTTGACATCCTCGTTTCTAATCCTTTTGAGAACTGGGAAGTTTTCTCTT ACGAAGAAAACATTCTTGATCCTGTTTTTAATTGGAAGCTCACCAAATTCTCTACCCGTGATCTTGACTCTTACTCTTCTGATCCTTTTTCTTCCGGTG GACGTAACTGGGTATTGAAAGTGTATCCAAATGGAGTTGGACCTGCAACGGGTAATTCGTTGTCACTCTTTTTGTTGAGTGCGTCAAATGAAAATGG TTACGTGAAAGCCAAGCTACGAGTTCTTGACCAGATCCGATCCACTCATGTGGAGAAACAAGTGGAGGGATGGCCCAACGCAACAGAAAGAGGATG GGGTTTCGAGAAGTTTCTACCTCTTGCAGATATCAAAGACGCATCCAAAGGTTTCCTCGTCAACGATACACTCAAAGTTGAAGTCGAGATCTTGTCCT TCTCTAAATCGCACTCTCTTTAATTAGCGTTTAATTAAGATCATCGATCGCGATCAATCATTCGTCTCTTCTTTTTTCATCTTTTACGAGCAGCTACT
GCT-002H01	AT3G26210.1	CYP71B23 (cytochrome P450, family 71, subfamily B, polypeptide 23); oxygen binding	GATAAAAAGGAAAAAAGCAGAGCAAGAACACAAAAATGTCAATTTTCCTCTGTTTTCTCTGGCTTTTACTACTTCTCTTAGTAACATTAGTCTTCACAC AAAAATTCCAATCCTCAAAACTAAAACTTCTGCCGGGCCCACAAAAACTTCCGATCATCGGAAACTTATACAACCTCGAAGGATTACTACACAAATGT CTCCAAAAACTCTCCGAAATCCACGGACCAGTGATGAAACTCCACTTCGGATTTGTCCCTATGGTCATAGTCTCGTCAAACCAAGCAGCAGAAGAAG TTCTCAAAACCCATGACCTAGATTGTTGCAGCCGACCAGAAACCATAGCGACAAAGAAACTCTCTTACAACTTCAAGGACATCGGATTCGCTCCTTA CGGCGAAGAATGGAGAGCGTTGAGGAAGCTCGCTGTGATCGAGCTATTCAGCTTGAAAAAGCTCAACGCTTTCAGGTATGTTAGAGAAGAAGAGAA TGACTTGTTGGTCAAGAAACTCTCTGAAGCTTCTCAGAAACAATCTCCTGTGAATCTGAAAAAAACCCTTTTCACTTTAACCGCTAGTATCGTGTGTA GACTTGCCTTCGGTCAAAATCTTCACGAATCCGAGTTTATTGACGAAGATGGTATGGAGGAATTAGCGTCTAGGTCGGAGAAGCTTCAGGGGAAATT CGCTTTCTCTAATTTCTTCCCCGGAGGTTGGATTTTCGATAGAATTACTGGTCAAAGCAAGAGCTTGGAAGGACTTTTTTCAGAACTCGACGGTTTTT TTTAACCTAGTGCTCGACGATCATCTAAAGCCAGGAAGAAAAGTATTGGAGAGTCCAGATGTTGTGGATGTGATGATTGATATGATGAATAAACTAG GCCAAGATGGTTCTTTTAAGCTCACTACTGATCATATCAAAGGAGTCATCTCTGATATATTTCTTGCCGGAGTAAACACAAGTGCGACGACCATACTT TGGGCAATGACAGAGCTAATAAGAAATCCAAGTGTGATGAAGAAAGTGCAAGATGAGGTTAGGACAGTACTTGGAGAAAAAAGAGAGAAAATCACA GAACAAGATCTTAACCAACTTAACTACTTCAAGCTAGTGATAAAAGAGACATTCAGATTACACCCAACAGCTCCACTTTTGTTACCAAGAGAGACAAT GTCACCAATCAAGATTCAAGGCTACGACATTCCAAAAAAAACTCAGATCATGATCAACGTTTACGCGATAGCACGCGATCCAAAACTTTGGGAGTAT CCGGAAGAGTTTAAACCGGAAAGATTTGTTGATAGTATTGTTGATTACAGAGGACTTAACTTCGAGCTTTTGCCTTTTGGTTCTGGTCGAAGGATTTG TCCCGGTATGACAATGGGGATCGCAATGGTCGAATTAGGATTGTTGAATTTGCTTTACTTCTTTGATTGGGTATTGCCTAAAGGAACAACAGTGAAAG ATATCGATATGGAAGAAGAAGGTGCGATTATTATTGGCAAGAAAGTTCCTCTTGAGCTTGTGCCAATTCGTCGTCATTGAACAAGTTGAAAAAAAAAA AGAAAAAAGAGAAAATGCTTTCTTTTCTCTGTATGTTTCATTGTGTAGTGAAGTAATTATCTTATATTTCTATGATTCGTACGTTTATATATTTTGCATTG
GCT-002H02	AT3G16500.1	PAP1 (PHYTOCHROME-ASSOCIATED PROTEIN 1); transcription factor	GGTTACATCTCTCTTTCTCTCTCTCGCTCTCAGTTTTATGAGATTGTTTCTTCTTTAAAGGTATCTCAGGTTTTTTTCTTTAAAGTTTTCTTATAGTTTGG TGAATCTCTGTCGTACGTCTCCCCTCGTAAGAAAGATATAAGTTTTTATGAACAAAAATCCTTGAACCTTTTGAAGCCAATTACAAGTTTTTCAAGTTT GGGGTTTGTCGAATTTCATCTCTTTGTAAACGAGATAAGGAATCTTCTTGCGTTGAAGCAAAAAAAAAAAAAAAACTTCAATGGAAGGTTGTCCAAGAA ACAGAGAAATCTGTCCTAAACTTCTTGATTTGATTCCCCAAGGAAGAAAATGGTACCATGAAGAGAAGAACAACACAGATCAGGAAAAGAAACTTGA GCTAAGGCTTGGACCACCGGGTGGTGAGGAAGAGGACCATTCGACGATGAAGAAGAAGAACACAGAATCAAGAAACAACACCAAGAAGGAATCAG AAGACAAATCCATCTTCAGTCTCAGCGGAAACCATTTCTCTCCTTCCAACAAAACCACTTATGCTCCTCACATCTCTCAGAAAAGAACTGCTCCTGGT CCAGTGGTGGGTTGGCCTCCGGTTCGTTCTTTCAGGAAGAATTTAGCAAGCACAAGCTCTTCAAAGCTCGGAAACGAATCCTCTCATGGAGGTCAA ATCAATAAGAGTGGTGATGGTGAAAAGCAAGTCGAACCTAAGAGGGAAGGAATGTTTGTAAAAATCAACATGGATAGTGTTCCGATTGGTCGGAAAG TCGATCTCAATGCTTACAGTAGTTACGAACAGCTCTCTTTTGCCGTTGACAAGCTCTTTAGAGGTCTTCTCGCAGCTCAAAGAGATACCTCTGGTGGT GAAGGAGAAGAGAAACCGATCATTGGTTTACTGGATGGTAAAGGAGAATTTACTTTAACTTATGAGGATAATGAAGGGGACAAGATGCTTGTTGGGG ATGTTCCTTGGCAAATGTTCGTTTCATCTGTGAAGAGACTGCGTGTGATTAAAAGCTCTGAGATTTCATCTGCCTTGAGATTTGGATGCGGTAAGGAA GAAAAGATGAGGAACTGAAGAAGAGACTTTTAGAGACTTCTATTTGAGTCAGAGGGTCTCACAGTTTTTTACTTTTTAATTGTACATCTGTTTTTTGCT ATATATAAGACATAGTCATTCGTTTTCTCCACAGAGACATTTCATCTCATCTCATATATCTTCCCATCTCTCGAAGATACTCAAGCATCACCTTATACA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002H03	AT4G30180.1	transcription factor/ transcription regulator	GGCGAAGCAAAAAAAAAATCTCATATGGAGAGGAAAACTATAAACAAAAGAAAACGAGTCTTTTCTCTCCAACCAAACAAGAACCCTAAGGCGGTCT TCGCGAGAAGATACGCGAGTCACTTGGTTCCAGCTCTCAACAAGATCAACATGAACAAACCCACTTCAAAAAAAGACCACAAAAGTTTCGAACAAAC CGTGAAACATGAAGTAGGCATGGCTTTGGCTCTGTCTGCTCAAGAATTCGCGTGGGGCCGTTTCTTGCAACACAAGCTATTATCGCCCACTCATGAA GATCCTAGTTATTCTTCCAAGATTTTAGAAAGATCTGACTATAAACAAGAAGGTGAAGAAGAAGAAGCTGAGATCAAGAAGAGATTGAAGGAATTGCA AAAGCTTTTGCCAGGTGGAGAAGAGATGAACATGGACGAAATGTTGAGTGAGATTGGAAGCTACATTGTATGTCTTGAGTTGCAGATGATTGTTCTA
GCT-002H04	AT1G75710.1	zinc finger (C2H2 type) family protein	GACACCTACAAAAAAAAAGCTTATGATTAAAGAACCAAAAAGAAACAAAATAAAAAAGCTTACAACAAACTCTCATATTCTCAAGAACTTCTCTTTCAA TTTCAATGGCTTTACTAACTTTCTTGCCGGAAAACGCAGAGCCTCCAAAACAAACCCCACCGCCGAGCAAACGCAAGAAACGCGAGAACCCCACCG ACCAAACGCAGCCGCAAAAACCACGCAAACCGCAGAAACCGAAGAAACCAGCACCTCAGAAGCAACCGTCTTCATGGGACCAAATCAAGAACCTAT TGACTTGCAAGCAAATCGAAGGGTCAAGAGTCCACGATCCATCCAAGAACTCTCAATCTGGCCCGTCCATGACGACTCACTTATCTCCTTCCAAGCT CAGCTCGTCGTGTAGCTCCATCTGTAGTTTCAGAGACGTGGCACACGGAAACACTCGCGTGGTTCATAGAGCCGACCACTCTCCAGACGTAGCTAA CTCGGCTACTCCTGCTGACTCGGAGACTCGTCTTCTGACTCGGAAACCTGGTCAACACGGTTCTTCTTCATCATCTCGGTCTCTTATATCTGGCTCA GCGAGATCGAATGGCAGCGGAAGTTACACGTCATCCTCAACGACGTCGTTTAGAGCCATGCAGTTCCGGAAACTCTCCGGATGTTACGAATGTCAC ATGATCGTTGACCCTAGCAGGTATCCGATTTCGCCTAGGGTTTGTGCTTGTTCCCAATGTGGAGAAGTTTTTCCGAAGCTTGAAAGCTTGGAGCTTC ATCAAGCGGTTCGTCACGCAGTTTCGGAGTTAGGTCCGGAAGATTCGGGTCGAAACATAGTGGAGATCATATTCAAGTCAAGCTGGCTTAAAAAAG ATAGTCCGATCTGCAAGATCGAACGGATATTAAAAGTCCACAACACTCAACGCACGATCCAACGGTTCGAAGACTGCCGAGACGCAGTGAAGGCGC GTGCACTTCAAACAACCAGAAAAGACGCTCGTTGTGCCGCCGACGGCAACGAGCTCCTCCGTTTTCACTGCACCACTCTCACTTGCTCTCTCGGCT CTCGTGGCTCCTCTTCTCTCTGCTCTAATCTCCCTACTTGCGGCGTCTGCAACGTGATTCGTCACGGCTTTCAAGGAAAATCCGGCGCCGGAGGAG CCACCGGCGGCGTGAGGACGACGGCGAGCAGTGGAAGAGCAGATGATTTGCTGAGGTGTAGCGACGATGCGAGGAGAGTGATGCTTGTGTGCCG TGTGATCGCTGGGAGAGTTAAGCGTGTCGATTTACCGGCGGATTCTCCGGCCACGGAACAGAAGTCTCCGGCGGAGGATAATTTAGCGGTTGGAG
GCT-002H05	AT2G43710.1	SSI2 (fatty acid biosynthesis 2); acyl-[acyl-carrier-protein] desaturase	GAAGAAAAACCAAAACCAGAGAGCCAGGGATAGAGAGAGAGATTGAGAAAGAGAGCATTAGTTAAAGAGCTCGTCTTTGAAGAAACACGACCTCCC ATATTCACTAATGGCTCTAAAGCTTAACCCTTTGGCATCTCAGCCCTACAAATTCCCTTCCTCGGCTCGTCCGCCGATTTCTACTTTCAGATCTCCCA AGTTTCTCTCCCTCGCTTCATCCTCTCCGGCTCTCAGCTCCGGCGCCAAGGAGGTTGAGAGTTTGAAGAAGCCATTTACGCCACCTAGGGAAGTGC ACGTTCAAGTCTTGCACTCCATGCCACCCCAAAAAATCGAGATCTTCAAATCTATGGAAGACTGGGCGGAGAAGAACCTTCTAATTCATCTCAAGGA TGTGGAGAAGTCGTGGCAACCCCAGGATTTCTTACCTGACCCTGCATCCGATGGGTTTGAAGATCAGGTAAGAGAGTTAAGAGAGAGGGCAAGAGA GCTCCCGGACGATTACTTTGTTGTTCTGGTGGGAGACATGATCACAGAAGAAGCGCTTCCCACCTATCAAACTATGTTGAACACTCTGGATGGAGTT CGGGATGAAACAGGTGCTAGTCCCACTTCATGGGCTATTTGGACAAGAGCTTGGACTGCAGAAGAAAACCGACATGGCGATCTTCTGAATAAATAC CTTTACTTGTCTGGCCGTGTTGACATGAGGCAGATTGAAAAGACGATTCAGTACTTGATTGGATCTGGAATGGATCCGCGGACAGAGAACAATCCCT ACCTTGGCTTCATCTATACTTCATTCCAAGAAAGAGCAACCTTCATCTCTCACGGAAACACAGCTCGCCAAGCCAAAGAGCATGGGGACTTGAAATT AGCCCAGATATGTGGAACAATAGCTGCAGACGAGAAGCGTCATGAAACCGCGTACACCAAGATAGTTGAAAAGCTCTTTGAGATCGATCCTGATGG TACTGTCATGGCTTTTGCAGACATGATGAGAAAGAAAATCTCAATGCCTGCTCACTTGATGTACGATGGGCGCAACGACAACCTCTTTGACAACTTC TCTTCCGTGGCTCAGAGGCTCGGTGTTTACACTGCCAAAGACTATGCAGACATTCTTGAGTTTTTGGTTGGTAGGTGGAAAATCGGAGACTTAAACG GGCTTTCAGGTGAAGGAAACAAAGCACAAGACTATTTATGCGGGTTGGCTCCAAGAATCAGGAGACTGGATGAGAGAGCTCAAGCAAGAGCCAAGA AAGGACCCAAGATTCCTTTCAGTTGGATACATGACAGAGAAGTGCAGCTCTAAAAGGACAAAGACATAAAAAAACCCATTTGTCTCGGCTCCTCATT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002H06	AT3G01980.4	short-chain dehydrogenase/reductase (SDR) family protein	GGGCAATTAGCTTTGTATCGTCGGCATCATCAGTAAGGGAACACAGTTTCGGTTGTTCGGCCGGACAGATATAGACAACCAGACAGAGACAGAGTC CTTCTTTTTTCTCTTTCTTTCTTACACCAAAAAAAGAAGCCACTAAAAGGGCGAATTTTGTGAATCAGAGATCTGCTCAAGTGATTTGAATTTGAGGGG ATTTGGGAGATGGAAAATCCGTCGAAGAAGGTGTTGATGACATCCGACGGCGACGAGGTTTCGCGAAACATCGCTTTCCATCTTGCCAAACACGGT TGCCGGTTGGTTATGATGGGAAATGAGGCTTCTCTAAAGAGCATTGTAGAGAGCATTCGAGTTTCCATAGAGGGAGCCTTCCCTGTGGAGCTCATT GGAATCGACATGGAAGCTGATAACGAGCAAGCTTTCCGTGTGGCTGTTGACAAGGCTTGGACTTGTTTCGGCAATTTCGATGCTTTTCTCAACTGCT ATACCTACCAAGGGAAGATGCAGGACATTCTCGACGTCTGTGAAGATGAGTTCAAGAGAATCACAAAGATCAACCTCACGGCTCCATGGTTCCTCTT GAAGGCCGTCGCAAGCAGGATGAAACAACATGGATCTGGAGGCTCCATTGTCTTTATGGCCACAATCGCTAGCGGCGAGAGAGGGCTTTACCCAG GAGCTGATGCCTACGCTACAGCCTCTGCTGGAATCCACCAGCTGGTTCGGGCATCAGCCATGAGTCTAGGGAAGCACAAGATACGGGTCAACATG ATCTCTAGAGGGCTGCATCTTGGAGATGAATATATAGCTTCCGTTGGGGGTAGAGATCGAGCGGAGAAGCTGGTCAAGGATGCTGCACCGCTTGG GCAATGGCTTGACCCGGAGAAACATCTCTACTCGACAGTGATTTACTTGATCAGCGACGGCTCATGCTTCATGACAGGCACCACTGTGTTGGTGGA
GCT-002H07	AT4G13980.1	AT-HSFA5 (Arabidopsis thaliana heat shock transcription factor A5); DNA binding / transcription factor	GGAGTCTCGACCATCGGCAATCGCCATCTTCCCTGCTGGTTTCTCATTAGATTGTTAGATGAGCGGCGCATTAGGTTACCCATCCGCCTCCGTCAG CGTCGGCGGCAGCGGCGGCGGAGAAGGAGCTGGAGGACCTGCGCCTTTCTTGGTCAAGACGTACGAGATGGTAGACGATTCGTCGACGGACCAG ATTGTATCGTGGAGCTCCACCAACAACAGCTTCATCGTCTGGAATCACGCAGAATTCTCACGCCTCCTTCTCCCAAAATATTTCAAACACAATAACTT CTCATCCTTCATCCGTCAGCTCAATACCTATGGATTTCGGAAGATTGATCCAGAGAGGTGGGAATTTTCCAATGATGATTTCATCAAAGATCAGAAGC ATCTTCTCAAGAACATACACAGGAGGAAACCTATACACAGCCACACTCACCCACCTGCTTCTTCGTCGGTAGATCAAGAGAGAGCGACGCTGCAAG AGCAAATGGACAAGCTTTCACGCGAGAAAGCAGCCATCGAAGCTAAGCTTCTAAAGTTCAAGCATCAGAAGTCCACGGCGAAGCATCAGTTACATG AGATGACTGAGCATGTCGACGATATGGAGAAGAGGCAGAAGAAGCTGCTTGATTTCTTGGAAACGGCGATTCGGAATCCAATTTTTATCAAGAATTT CGGCCGTAAAATCGAGGAATTAGATGTTTCTGCTTACAACAAGAAGCGGAGGCTACCTCAAGTTCAGCAATCAAAGCCACCTTCAGAAGATTCTCAT TTGGATAATAGCAGTGGTAGCTCCAAACCTGAGTCCGGAAACATTTTCCATCAGAGTTTCTCGAATAAGCTCCGGTTAGAGCTTTCTCCAGCTGTTTC AGATATGAACATGGTTTCACACAGTATACAAAGCTCCAATGAAGAAGGAGTGAGTCCCAAGGGAATACTCTCTGGTGGTGATCCAAAAGCTACACAA ATAAGAAGAGAAGGCTTACCATTTGCACCTGAAGCACTAGAGCTTGCGGATACGGGTTCATGCCCGAGGAGATTACTGTTGAACGACAATACAAGA ACGGAGACCTTGCTAACTTCTTCAGAGGAGACTGATGGTAGCTTTTCATGTCATTTGAATCTAACCCTGGCTTCTGCTCCATTACCGGACAAGACAG CTTCGCAGATAGCTAAGACTGCTCATAAAAGCCAGGAGATTGGTAGATGTACCGAGATAAACTTCAAATCGATAGAAACAAGTGTAAGCGAGAAAAA CCAGGGTAAACAAGAAGAAGCTGTACCTGGAGGTAAACAAGCGAATGCAGCTCCTCCAGCTAGAGTGAATGATGTATTCTGGGAGCACTTCTTAAC AGAGAGGCCAGGACCTTTAGATAATGAGGAGGCGAGCTCAACTTATAGAGGAAACCCATACGAAGAGCAAGAGGAGAGAAGAAACGGGAATATGA TGTCCCGTAATACAACGAATATCGAGCAGCTGACCTTATAAAGTAAATTCAAATGGTTACATCAACGAGTATGGTTCGTGGTTTTGGTATATGTATCG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002H08	AT2G16400.1	BLH7 (BELL1-LIKE HOMEODOMAIN 7); DNA binding / transcription factor	TGGGGTTCAAAACGTGTTATATTTCAAAATTTTGATTTGGAATGATGAGTGTTTGTCGTTAATTTTGTGTTCTTGGGATCATCAAGTCTTAAAAAAATTG TTTTCTTTCTTTTTTCAATTTTAGATTTTCCAGTGTCTCCTTTAACACCCACAGCAAGTAGTAGCCAGCAGATGATTTCCTGATCAATTCTATTTCAGAT AAGTTTGATCTGATCATAAGAAGAAGAAGACTATGGCAACTTATTACAAAAGTAATGGCTCAAGTGACATTTATTCCAGACCAAATCTTGCCGAATTT GTCCCTGGAAACGCAATGATCTACACGAATCCTGTGGTTTCTTACTCAGAGACGTTTCCTGGAGAAGCTAACAATGTCTCAGCTTCAAAAGAGATTC AAGTCTTATCAAGTTTTGGTGGAGCTTCGCAAATGATGGAGATTCAAGATTCTGGTTCTTGGAGAGATCAAGAAGACAATGACAGAAACTCTTTCCC GGTGATGATGCGTCCCACCACGGGACAGAGACTGTCCCTTGGCCTCAGCTCGCAGATTGAGACAACGAGAGGCAATAACAATGAGTATGCAACAC AGGTTGTTTCGGGTTTTACTCGAACCATCCACAACTCAAAGTATCTCAAAGCTGCTCAACAGCTTCTGGATGAAGCTGTTAATGTTAAGAAAGCTCTG AAGCAGTTTCAGCCAGAGGGAGACAAGATTGATGAAGAGAAAGAGAAGACTCTTCAAGAATCTTGCACGAATCCTGATATACCTCAAGGAGAGAGA CAAGAACTGCAGAGCAAGTTGTCGAAGCTCTTATCAATATTAGACGAGGTAGTTAACTTTAAAACATCTCCTCTATGCTCATAATTGATTATTCTCTTG ATTACATAAAAAGCTGTTTTTGTTTCTATGTTGTGTGTAAAGGTGGATAGAAAATACAAGCAGTATTACCATCAGATGCAGATAGTTGTGTCATCTTTC GATGTAATAGCCGGATGTGGAGCAGCTAAACCATACACGGCCCTTGCGCTTCAGACAATCTCGAGGCATTTCCGTTGTTTAAGAGATGCAATATCCG GACAAATATTGGTGATAAGGAAAAGTTTAGGAGGAGAACATGATGGATTAGATGGGAAAGGAGTTGGGATAAGTAGATTAAGGAATGTTGATCAACA GGTAAGGCAACAAAGAGCGTTGCAGAGGTTAGGCATGATGCAACCACACACTTGGCGACCTCAACGTGGTTTACCTGATTCATCTGTTTTGATTCTC CGTGCTTGGCTCTTTGAGCATTTCCTACACCCGTAAGTCTTGTTTACTACACTCTGCGTGAGTTGTTTGATTCATCACAAAAGATTCTGACTTTTGAAA AACCCATGAACTTAGTTATCCAAAAGATTCAGATAAGATCATGCTAGCTAGACAAACAGGCTTGACCCGAGGCCAGGTACTTAACTGTTTAGCTTTAT GTATCTTTTCTCTCATCAACTGCTTTTTTCTGTTTGTTGTGTTCTTTACTCGTTGTATGATTGTTGAAAGGTGTCGAACTGGTTCATAAATGCGCGTGT GCGTCTCTGGAAACCGATGGTGGAGGAGATGTACAAGGAGGAATTCACAGACGCATTGGAAGAGAATGGTCCCAACTTGTCCTCCGGAAACACAC CGGAAACCATCGAGGTTCAAGAACAGCAAATCGAGTCTAGCTCCAATAACGGGCAAGTGTCTGGTGTGGCAATGGGACAGAACGCGGTGGCCTGT GGTGGTGACCGGTTCATGATGGTGCGAAGAAGTGGTAGTGGTGGTGGGATGTCTTTAACGTTGGGGATTCAGAACTCCGACGCTCGTGGCGATGT
GCT-002H09	AT4G31820.1	phototropic-responsive NPH3 family protein	GATCGAGATTTGAGCCATAAAGAGAGAGAAGAAGAAGAAGAATAGAAGAGGGAACGAGAAGATCTCCAGCGGATCAGTCCCGCTTTAAAAGCATTG GCGGCGACTGATTTCCATCTCTCTCCTCTTCCTCCTTAAATATTCTCTCTCCCTCTCTCTCTCTCAATTTTACTCGCTACACAACGCCCCTTTCTTCTC TCTATCTATCTCTCTCTCTCTTACGCAATTTGGGTTTTGCTTTTTTCTTTGTGTGTGATTATGATGATGCGATTTTCCTTTCTGATGCTTTTATTTTCCTG GAAAGTTTAGAGAGAAGTGAGAAAAATAAAATAAAAAAGAAAAGTTTGGAACTTTATATGGTTTTCTCTGTTTGCACAGAGAGACAATAAATGCGTTTG TAATGGTTAGTTGAGATGGGAGGAAAAGAAAATCCCGTAGTCCGAGGAGTTGGGTTATTGCAAAAGGATAGTGAGGCAAAACATGGGTTTGGTTTCT CTTGTCTCTCTTCAAACATCCATTTCCATTAATGGTCTCTCCCCCTCCCAACAGAGCTCAACTTAAAAGAAATCAACATTTTGCTTTTTCTTTCTTTTTC TCTACTCTTCTGGTTCTGGTTTGATTTTGTCTGTTAAGACAAAAAGAAAGAGTAAAGCTTTGAGCTTTTTTAGTATTAAGCTGCTGAAGAGTCAAACAA AAAAGTGTGGTAAAGAAGACGAAGAAATATGAAGTTCATGAAGCTAGGGTCTAAGCCTGATACATTTGAATCTGATGGCCAATTCCACAAGTACGCA GTTTCGGATCTAGACAGTGATGTTACTGTCAATGTTGGGGAGGTTACATTTTACCTCCATAAGTTCCCGCTGCTATCGAAGAGCAATCGGATGCAAA GACTGGTCTTTCAAGCCAGTGAGGAGAAAACCTCTGAGATCACTATATTCGACATCCCAGGAGGACACAAAGCGTTTGAGATCTGTGCTAAGTTTTG CTATGGGATGACTGTTACGCTCAACGCTTACAACATAACAGCTGTTCGATGTGCAGCTGAGTATCTTGAAATGACTGAAGATGTTGATCGTGGTAAC CTCATATACAAGATCGAGGTTTTCCTCAACTCGGGGATATTCAGAAGCTGGAAAGACTCAATCAATGTGCTTCAGACTACAAAATCTCTTCTTCCATG GTCTGAAGATCTGAAACTTGCTGGTAGGTGCATAGACTCTGTTTCAGCTAAGATTTTGGTGAACCCCGAGACTATCACTTGGTCTTATACTCACAACA GGAAGTTATCTGGACCCGATAAGATAATCGAGTATCATCGGGAGAAGAGAGAAGAAAATGTGATTCCGAAAGATTGGTGGGTCGAAGATGTGTGTG AGCTTGAAATCGATATGTTCAAGCGAGTTATGAGCGCTGTGAAATCGAGTGGAAGGATGAACAATGGCGTAATTGGTGAAGCTCTTAGATACTATGT TGCAAGGTGGTTACCTGAATCTATGGAGTCTTTAACATCAGAAGCTTCTTCAAACAAACATCTCGTTGAGACGGTTGTTTTCTTGCTGCCGAGAGTGA ACAGAGCGATGAGCTACTCTACTTGCAGCTTCTTGCTGAAACTCCTTAAAGTTTCGATCTTGGTTGGAGCTGATGAGATGGTTAAAGAAGATTTGGTT GAAAACGTGAGCTTGAAGCTGCACGAGGCCTCGGTTAAGGATCTGTTGATCCATGAAGTTGAGTTGGTTCATCGGATTATGGATCAGTTCATGGCTA ATGAGAAACGTGTCTCGGAAGCTGATCGGTACAAGGAGTTTGTTTTAGGAAACGGGGTTTTGTTGAGCGTAGGAAGATTGATAGATGCGTATCTCG CACTTAACTCTAATCTTACACTCTCTAGCTTCATCGAGTTATCTGAACTTATCCCGGAATCAGCTAGACCTATCCACGACGGTCTATACAAAGCCATT GACACTTTCTTGAAGGAACATCCGGAGCTAATGAAATCGGAAAAGAAGAGACTTTGCGGGTTAATGGATGTGAGGAAACTGACGAGTGAGGCATCA ACGCACGCAGCACAGAACGAGCGACTTCCTTTACGAGTGGTGGTGCAAGTTCTCTACTTTGAGCAGCTCCGAGCTAACCACAGCCCTGTTGGTTCT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002H10	AT2G26250.1	FDH (FIDDLEHEAD); acyltransferase	GGTCAGTCACATAGCTTATCTCAAAAAACTAAAAACAAAAAGAAATGAGTAGATCCAATGAACAAGATCTACTCTCTACGGAGATTGTCAACTGTGGG ATCGAACCTTCTGGCCCTAACGCCGGTTCGCCGACGTTTTCCGTCAGAGTCCGGAGACGTTTGCCTGATTTTCTTCAGTCGGTGAGTTTGAAGTAC GTGAAACTTGGTTACCATTACCTCATCAACCATGCGGTTTACTTGGCGACCATACCGGTTCTTGTGCTTGTGTTTAGTGCCGAGGTTGGGAGTTTAA GCAGAGAAGAGATTTGGAGGAAGCTTTGGGACTATGATCTTGCAACTGTCATCGGATTCTTCGGTGTCTTTGTCTTAACCATTTGTGTCTACTTCATG TCTCGTCCTCGCTCTGTTTATCTCATTGATTTCGCTTGTTATAAGCCTTCCGATGAGCTCAAGGTAACAAAAGAAGAGTTCATAGATCTAGCTCGAAA ATCAGGGAAGTTTGACGAAGAGACACTTGGTTTCAAGAAGAGGATCCTAGAAGCCTCAGGCGTAGGAGACGAGACGTACGTACCAAGATCAATCTC TTCCTCTGAAAACATAACAACGATGAAAGAAGGTCGTGAAGAAGCCTCAATGGTGATATTCGGAGCACTGGACGAGCTTTTCGAGAAGACACGTGT CAAACCGAAAGACGTAGGTGTCCTTGTGGTTAACTGCAGCATCTTTAACCCAACTCCGTCACTATCAGCAATGGTGATTAACCATTACAGGATGAGA GGGAACATACTTAGTTACAATCTTGGAGGAATGGGCTGCTCTGCTGGAATCATAGCCGTTGATCTTGCTCGTGACATGCTTCAGTCTAACCCGAATA GTTACGCGGTGGTTGTGAGTACCGAGATGGTTGGTTATAATTGGTACGTCGGACGTGACAAGTCAATGGTTATACCTAATTGTTTCTTTAGGATGGG TTGCTCCGCCGTTATGCTCTCTAATCGGCGCCGTGACTTCCGCCACGCTAAGTACCGCCTCGAGCACATTGTCCGGACTCATAAAGCTGCCGACGA TCGTAGCTTCAGGAGTGTGTACCAGGAAGAAGATGAACAAGGATTCAAGGGATTGAAGATAAGCAGAGACCTAATGGAAGTTGGAGGTGAAGCTCT TAAGACCAACATCACTACTTTAGGCCCTCTCGTCCTCCCTTTCTCCGAGCAGCTTCTCTTCTTTGCCGCTTTGCTCCGCCGAACTTTCTCACCCGCC GCCAAAACAACCACCTCCTCTTCCTCTGCCACCGCCAAAACTAACGGAGCCAAGTCATCCTCCTCTGATATTTCCAAGCCATACATTCCGGACTACA AGCTTGCCTTCGAGCACTTCTGCTTCCACGCAGCAAGCAAAACAGTGCTTGAGGAGCTTCAGAAGAATCTAGGCTTGAGTGAAGAGAACATGGAGG CTTCTAGGATGACTTTACACAGGTTTGGAAACACTTCTAGCAGTGGAATCTGGTACGAGCTAGCTTACTTGGAGGCCAAGGAAAGTGTTCGTAGAGG TGATAGGGTTTGGCAGATTGCGTTCGGATCGGGTTTTAAGTGTAACAGTGTGGTTTGGAAGGCAATGAGGAAGGTGAAGAAGCCAGCTAGGAACAA
GCT-002H11	AT5G08520.1	myb family transcription factor	GAACAATGGCGTTTTGACCTCTCTCCTCTTTCAGTCTTCTGGGTTTTTTCCATCCCTCTCTCCTTCAACTTGTTGCAATCCCTACCAACCCAATAACCC CCCTAATTTCTCCTTCTTACAAAGTTGCAATCTTTTTTTTCCTGCCAATATCCTCATATTCTGCGTTTCAGTCTCCCTGTTGCTTTAGCTCACGCATATT TCTTCGTGCTTCTATCTCATAAGAGAGAAATTCCCCTCTTTGTGTGCTCTGTCTTTAGTTCCTCATAGAGTACGAGACAGATATATAGAGGGAAAAGA GATTCCCTTTCCGATTCGTCTCCTTATATAATCCCCCGGGATTTTCTCTCGATTTCCGTAGGCAGTTCTAATTTGAAGTCATAGGGTCAGTGATACTT GGAAGATCTGAGTTCTTCGTGTGTTTCTCTCAGCTTTGGTTACTTCGGATTCTATTAAGTTTGTATTTCTGGTGATAGGTGATTAGTTACGAGTTTGTG GAACTCTAAAGGTACGAATTTTGCAGAAATCTGGTTTGGTATCCCAGATTTTTGAGAGAGAATAGGGTCAATTCTATCGAATTTTGGGTGGTTTAAGT TGGAAAAATGACTGTGGAGGAAGCTAGTGATGGTTCTGCGTGGAGTAGAGAGGATGATATTGCGTTCGAGAGAGCTCTTGCGAATTATACCGATGA ATCCGAGCAACGGTGGGAGAAGATTGCTGCAGATGTTCCAGGAAAAAGTGTTGAACAGATTAAAGAACATTACGAGCTTTTAGTTGAAGATGTTAGT AGGATTGAATCAGGATGTGTGCCACTTCCTGCCTATGGTTCTCCTGAAGGATCAAATGGCCATGCTTGTGATGAAGGAGGAAGTAGTAAGAAAGGA GGAAATAGTCACGCGGGCGAGTCTAACCAAGGAAGTAAATCAAAGTCAGATCAAGAACGACGAAAGGGTATTGCGTGGACAGAGGATGAACACAG GTTATTTCTTCTTGGTTTGGATAAGTACGGGAAAGGTGATTGGCGTAGTATCTCTCGTAACTTTGTGGTTACAAGAACTCCTACCCAAGTCGCGAGC CACGCTCAAAAGTATTTCATTCGTCTAAACTCAATGAACAAAGACAGAAGACGATCAAGCATTCACGACATAACTAGTGTTGGCAACGCAGATGTCTC AACACCACAAGGACCAATCACTGGTCAGAACAACAACAACAGCAACAACAACAACAACAACACCACCGGCTCTGCTGCAGTTGCTGGAGGAGGAAA CAAATCAGCCAAGCAAGCCGCCTCTCAACCACCACCAGGACCTCCTATGTATGGCACACCCACCATAGGTCAACCGGTCGGTGGACCATTGGTCTC AGCAGTTGGAACACCAGTGAACCTTCCAGCTCCACCTCACATGGCTTATGGAGTCCATGCTGCTCCAGCCCCTGGCTCAGTGGTTCCTGGTGCACC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002H12	AT4G23100.1	RML1 (PHYTOALEXIN DEFICIENT 2, ROOT MERISTEMLESS 1); glutamate-cysteine ligase	GGAAAAGCTTTCCTTCTTGCTTCAGCTCTTTTCTGTTACGACGCTTTCAATCGCCACCGAGGTTGACGAATTCAGGACCTATACCATGGCGCTCTTGT CTCAGGCAGGAGGATCATACACCGTCCCTTCTGGACCTGTGTGCTCGAAGATTGGAACTAAAGCAGTTTCTGGTAGTGTGAGAAATTTGGATGTGTT GAGAATGAAAGAAGCTTATGTTAGCTCCAACTCTAGGAGTCTACCTACCAAATCAGTGCTCCTCCATTCAAGTCAGTCTGTTAAGAGGAGCAAGCGA GGGCATCAATTGATTGTTGCGGCAAGCCCTCCAACAGAAGAGGCTGTAGTAGCAACTGAGCCGCTTACGAGAGAGGATCTCATCGCCTATCTCGCC TCTGGATGCAAATCAAAAGATAAATGGAGAATAGGTACAGAACATGAGAAATTTGGTTTTGAGGTCAATACTTTGCGCCCTATGAAGTATGATCAAAT AGCCGAGCTACTTAACAGTATCGCTGAAAGATTTGAATGGGAAAAAGTAATGGAAGATGACAAAATCATTGGTCTGAAGCAGGGAAAGCAAAGCATT TCACTAGAACCTGGTGGTCAATTTGAGCTTAGTGGTGCACCTCTTGAGACTTTGCACCAAACTTGTGCTGAAGTTAATTCACACCTGTATCAGGTAAA AGCTGTCGCTGAGGAAATGGGAATCGGCTTCTTAGGAATCGGCTTCCAGCCCAAATGGCGTCGGGAAGACATACCCATCATGCCAAAGGGGAGAT ACGACATTATGAGAAACTATATGCCGAAAGTTGGTTCCCTTGGACTTGATATGATGCTTCGAACGTGTACAGTTCAGGTTAATCTGGATTTTAGCTCA GAAGCTGATATGATCAGAAAGTTTCGTGCTGGTCTTGCTTTGCAACCTATAGCAACGGCTCTATTTGCGAATTCCCCTTTTACTGAAGGAAAGCCAAA CGGGTTTCTCAGCATGAGAAGCCATATATGGACAGACACTGACAAGGACCGCACAGGAATGCTACCGTTCGTTTTCGATGACTCTTTTGGGTTTGAG CAGTATGTTGACTACGCACTCGATGTCCCTATGTACTTTGCCTATCGAAACAAGAAATACGTCGACTGTACTGGAATGACATTTCGGCAATTTTTGGC TGGAAAACTTCCTTGTCTCCCGGGTGAACTGCCTACATATAATGATTGGGAAAATCATCTGACAACAATATTCCCAGAGGTTCGGTTGAAGAGATACT TGGAGATGAGAGGTGCTGATGGAGGTCCCTGGAGGAGGTTGTGTGCCCTACCAGCTTTCTGGGTGGGTTTATTATATGATGAGGATACACTCCAAG CTATCTTGGATCTGACAGCTGACTGGACTCCAGCAGAAAGAGAGATGCTCAGGAACAAAGTTCCAGTAACTGGCTTAAAGACTCCGTTTAGAGATG GTCTGTTGAAGCATGTCGCTGAAGATGTCTTGAAGCTCGCAAAGGATGGTTTAGAGCGCAGAGGGTACAAGGAAGCCGGATTCTTAAACGCTGTTG CTGAAGTGGTCAGAACAGGAGTTACGCCGGCGGAGAATCTCTTGGAAATGTACAATGGAGAGTGGGGACAAAGCGTTGATCCTGTGTTCCAGGAA
GCT-002H13	AT5G14250.1	COP13 (CONSTITUTIVE PHOTOMORPHOGENIC 13)	GGGAAATTACCAGTTGGGAAATTTTTTGAGAGGGAGAGAAAAAGGCGATCGATTAGGGTTTTTGTGTTCGTCTGAATTTGATATATGAGCAGAGTTAT GAGCTCGGTCGAAGCTGTGATAACGTCAATCCAGGGTCTATCGGCGAGTCCCGGGGACTTATCTGCACTTCACGATACTTTGAAAGGAGCTGAGGA GTCGCTTCGAACCGATACGGAGGTTCAACTCTCTACTCTCGACCAGCTCGAACCCTCGAAGCATTCTCTCGGTTACCTGTATATCCTTGACGCTGTT ACGTGTGGTCCAGTGTCCAAGGATAGAGCTTCTGATGTGGTTGTGTTGATTGCACGGTTCATCAACTCTTGCGATGCTGGGCAGATTCGTTTAGCGA GCGAGAAATTTGTATCTCTTTGCAAGAGATTGAAAGACAAAGTTTTGGAGCTCAAAGATCCCATACGAGGGGTGGCGCCACTGCTGACAGCTGTTCA TAAGCTTCAGGTCTCCACCAAACGTTTGACTGCATTGCATCCAGATATTCTTCAACTATGTCTGCTGGCTAAGTGCTATAAAGCTGGTTTCTCCATTC TTAGTGATGATATCTTGGAGGTTGACCAGCCAAGAGATTTTTTTCTCTATTGTTATTATGGGGGAATGATATGCATTGGACGGAAGAGATTCCAGAAA GCATTGGAGCTTCTATTCAATGTTGTCACTGCTCCTATGCATCTTGTCAACGCCATAGCTGTTGAGGCGTACAAAAAGTACATATTGGTGTCTCTCAT TCACAATGGGCAGTTTAGTAACAGTCTCCCCAAGTGCGCTTCTACAGCAGCTCAGAGAAACTTTAAGAACTGGTGCTTACGTTACCTTGAAGTGGGT AATTGTTACAACGAAGGAAAGATCAGTGAACTAGAGGCATTGGTTGTTGCCAATAGCTCAGATTTTGAAAAGGACACGAACCTTGGATTAGTTAAGC AAGCGGTGTCATCCCTTTACAAGCGGAACATTCTGAGATTGACTCAGAAGTACTTGACCTTGTCGCTTCAAGATATAGCCAACATGGTCCAACTTGC TAGTGCTAAGGAGGCGGAAATGCATGTGCTTCAGATGATCCAGGATGGTCAGATACATGCCCTTATCAACCAGAAAGATGGAATGGTCAGATTCTTG GAGGACCCTGAGCAATACAAAACCAGTGAGATGATAGAGATCATGGATTCTGTTATCCAAAGGACTATTGGGCTGTCGAAGAATATCTTAACCATGG ATAAGAGCTTGTCATGTGATCCTTTATACTTGGGAAAGGTTGGAAGGGAAAGACAAAGGTATGACTTCGGAGACGATTTTGATACTGTCCCACAGAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002H14	AT1G76900.2	AtTLP1 (TUBBY LIKE PROTEIN 1); phosphoric diester hydrolase/ transcription factor	TGGTAGCGGAGATAACGTAGTTGGTTTCCGCGTGCTGGAAGAAGACAGATAACTTCTTCTAGAGAGAGAGAGAGAGAGAGAGACAAAAACCCTAAA GGATTTGCACGGAGAAGACGAGGAAAACAAAATTGAAAGACCAAAATTTACCACTGATTAAGAAAGAAAAAAAATGTCGTTCCGTAGCATAGTTCGC GATGTGAGAGACAGTATAGGAAGTCTATCGAGGCGTAGTTTCGACTTCAAGTTAAGCAGCCAGGTCAAAGAAGGTGGGAAATCTCGTGGCTCGGTT CAAGATTGTCACGAGGAACAACCCTTAGTATTGATTCAAGAAACCCCGTGGGCGAATCTGCCTCCTGAGCTGCTGCGTGATGTGATCAAAAGGCTT GAAGAGAGCGAAAGCGTGTGGCCTGCTCGCAAACATGTTGTCGCCTGTGCTTCTGTCTGCAGGTCATGGAGAGATGTGTGCAAAGAGATTGTTCAA AGTCCAGAGCTCTCTGGCAAAATCACATTCCCTGTTTCACTTAAACAGCCGGGACCAAGAGATGCAACAATGCAATGCTTTATCAAAAGGGATAAAT CAAACCTGACTTACCATTTATACCTTTGTCTCAGTCCTGCTTTGTTGGTTGAAAATGGAAAGTTTCTTCTTTCCGCAAAACGCATAAGAAGAACTACAT ACACCGAGTATGTGATCTCAATGCACGCCGACACCATTTCGAGATCAAGCAACACGTACATTGGCAAGATTAGGTCTAATTTTCTTGGAACAAAGTT CATAATATACGACACACAACCACCATACAACAACAAAGCCTCTCAGGCGTCTCAACCGGTAGGACTTAGCCGGAGGTTTTACTCAAAGAGAGTCTCT CCAAAAGTCCCGAGCGGTAGCTACAAGATCGCGCAGGTTTCTTACGAGCTAAACGTTCTTGGTACACGCGGTCCAAGGGGAATGCACTGCGCAAT GCAATCGATTCCTGCTTCTTCTCTTGCTGAAGGCGGAACCGTGCCTGGCCAACCTGAGATCATCGTGCCACGCTCTTTTCTCGACGAATCGTTCCGT AGCATTACTACATCCACCTCGTCGAGAAAATTCACGAGCGATTACTCAACTGAGTTTAGCAGCGCCCGGTTTTCCGACATTCTTGGCCCTTTAGGAG AGGACGAAGAAGGAGAAGGGAAAGAGAGTGTTTCTCCACCGCTTGTGCTGAAAAACAAGCCACCAAGGTGGCACGAACAGCTTCAATGCTGGTGT TTAAACTTCAGGGGACGTGTCACCGTCGCATCGGTTAAGAACTTTCAGCTGATTGCAGCAAACCAGCCTCCGACTCAGACTCAGACTCAGCCGTCG GGGCAGACTCAGAGTGATGGACCGGACAAGATCATATTGCAGTTTGGGAAAGTGGGAAAAGACATGTTCACTATGGATTTCCGGTATCCGCTCTCT
GCT-002H15	AT2G31280.1	basic helix-loop-helix (bHLH) protein-related	GGTCTCGTTCTCTCTCTCTCTCACACACACACTCTCTCTCTTCTCTGTTGTTTCCTTTTCCGGCAGATTTATCGGCTGAGATTGTTAAGTTTTGTCTGA GTGATGCAGATTATGCTGAGATCAGCTCTAAAAGAGAATCAATGTCTTCTGACATAAGCTAAACTCTCTTTCTTACAATCCCTCTCTCTCTCTCTCTCT CTCTGCTTCCTTTTCTACTGACTTCTTCTTCTTTTGCTTCGAATTTCAATTCGTAATTTCTCCGGTGAAAAGTCTATGGCGGCTCAAGGCAGCAGATCT AGCTCGCTGGTCCAGTTTCCAACTGTCTGAAATTCCTAATTCTCCGGTGTTTTGTCTGAGCTAGGGTTAAAAAGTAGTTTCCTTTTTGGGATTTTCTTA ATTCGGATTATTGGGAAAGGGATGGGTAGGAGGCAAATTTCACAGGATGAAGTAGGTCCGCCGATAAAACCAAGAGCTGGATTGCGAAGGGAACAA GCTGGAAGAGGTTCATACAGAGAATCAAGAAAAGAGGTCCCTTTGTCTCTCTTGATTCTTGATTCGGACATTAGAAAGGGGGGCTATTTGATTCTTG CCGTTTAGAATGGGTTCTACTTACCAAGAGATACTGAGGAGCCTTTGCTCTAACACGGACTGGAAGTATGCTGTGTTCTGGAAACTTAATCATCGAT CTCGAATGGTACTTACCTTGGAGGATGCTTACTATGACAACCATGTGGTAAATAACTCACCGGATGCTAAGGATTGCGGCGTTATACCAAATAACAT GCATGGAGGACATCAAGCACATGACCCCCTGGGTTTAGCTGTGGCAAAGATGGCTTATCACGTCTATTCTCTAGGGGAAGGGACTGTAGGACAAGT TGCAGTTTCTGGAGAACATCAATGGGTATTCCCCGAATATTATGAAAACTGCCACTCACCATTTGAGTTTCAAAATGTCTGGAAGGGTCAAATATCTG CTGGAATAAAGACCATTCTTGTAGTAGCTGTTGGCCCCTCTGGAGTTGTGCAGCTAGGCTCTTTGCGTAAAGTTGATGAAGATGTGACTTTGGTGAA TCATATCCGACATATGTTTTTGGCACTAAAGGATCCACTAGCAGATCATGCAGCAAATTTAATGCAATGTTATATGAACAATTCGTTGCGTCTGCCAA ATATACGTTCTGAATGTTCACATGTCAAGGCTTTCCCTGATTGCTTTGGAGAAGTTGACAAAGCTATGGATGTGGAAGAGTCAAATATTCTAACTCAA TACAAACTTAGAAGAAGTGATAGCATGTCTTATAATACCCCTTCCTCATATCTTCTCACGGAGAAGGCAGCTCAAATAATTGGAGATCGTGAAACTGT GAAAGGATCTACTTGTGGGAGCTATAGCGGTGTTACGTTTGGCTTTCCAGTGGACCTGGTTGATGCCAGGCATGAGAATCAAGTAGGTACAAATATA ATCAGTGATGCACCTCACGTGGGGATGACTAGTGGCTGCAAAGATCCAAGAGGATTAGATCCTAATATACATCATCATGTGCTCAACAACACAAGTT CATCTGCTTTAGCAATGGAGGCTGAAAGATTGATTACAAGCCAATCATTTCCAAGCCTGGACTCAACTTTTCATACTTCATCAACAGATAAAGAAAGT CGATTTGATGCGTTGGTCTCATCAAGGTATGCTTTTGCTGGCAGCGAGCTGCTAGAGGCATTAGGCTCCGGTTTCAAGCAAACGAGCAGGGGTCAT GAGGAGCTAGCGACGTCTGAACATGGTTCAACAATAAGACCAACAGATGATATGAGTCATAGCCAGCTTACGTTTGACTCTGGCCCTGAGAATCTTC TAGATGCCGTGGTTGCCAATGTGTGTCATAGCGATGGCAATGCCAGGGATGATATCATGTCGAGCAGATCGGTACAGTCAATGCTTACCAGCATGG AAATTGCAGAACCTTCAGGTCAAAAGAAGCATATTATTGTTAATCCAATTGATAGTGCTATGAATCAGCTGCCACCGGCAGAGGTGGATAGGCAACA GAATCCATCAGATATCTGTGGGGCATTTTCTTCCATTGGGTTCTCATCCACGTGTCCCAGCTCCTCTAGTGATCAGTTTCAGGCATCCCTGGAGATG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002H16	AT4G24960.1	ATHVA22D (Arabidopsis thaliana HVA22 homologue D)	GATGTTCTCTCAGAGAAAAATTAAAGAGCCTCGAAGATTCCACAGAGTTGTCTCTCTCTCTCTCTGTCTCTCACTCTTGCAGATTTTAGCTTCTGAAAA TTTCACAGCCCTAAACAAAGAAAAGATGAGCAAATTCTGGACTTTCCTCACTGCTCTTCATTCAGGCGCTGGGCCCCTGGTGATGCTGCTGTATCCA TTGTACGCATCGGTGGTAGCAATGGAGAGCGCGACGAAAGTAGACGATGAACAGTGGCTAGCGTACTGGATCATATACTCGTTCCTGACACTATCG GAGCTGATTCTGCAATCGCTGCTTGAGTGGATTCCAATCTGGTACTCTGTGAAACTCGTGTTCATCGCTTGGCTTGTTCTTCCTCAGTTCCAAGGAG CCGCTTTTATCTACAACCGTTTGGTCAGAGAACAGTTCAAGAAACACGGCGTCTTCCGCTCCTCTTCCCACCATTCCAAGCACAACAACAAGCCCAG CCTCCTCCAATCCATTTTCCCCCATCGGGAGGGACATGGACACGAGGCTCACTCTCACTGACGCAAAAAAAAATGAGGAGTAAGTTGACGTAAGAAG CTTTGCCGAAGTATTGTAATGGAGTTTGTGGTGGTCCCTGTCATGTCTAAAGTCTAATCTCACTTTTGCTTTTGTTTTATTTTATATTTATAAAAAATGT GTTTGGGAATGATGACTGATGAGGAGTGTAATCGTATTAAATTAGAGATGGGATCTAGACTTGTTGTTGTATCGCTTCGCTTCCACGCGTATTAGGAA
GCT-002H17	AT3G10250.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT5G04090.2); similar to unknown protein [Oryza sativa (japonica cultivar-group)] (GB:BAD10374.1); similar to Os02g0137100 [Oryza sativa (japonica cultivar-group)] (GB:NP_001045827.1); contains InterPro domain Conserved hypothetical protein 1589, plant; (InterPro:IPR006476)	GAAAAGTGAGGTTAGGTTCTCTCTCCCCCTTTATTTCTCCTTTCTCTCCACGATTCATCTCGGATTAGCGACCAAGGAACAAGCTCTGTTTTACAAAA CTCTCAGAGATGTCAAGTGGAACAGTGAGAAGGGTCTCACGCCAAGATATACAACTGGTTCAAAACCTTATAGAACGATGCCTTCAACTTTACATGA ATCAGAAAGAAGTCGTGGAAACTTTACTGGAGCAGGCCAAAATCGAGCCTGGGTTCACAGAACTAGTTTGGCAGAAGCTTGAAGAAGAGAATCGGG AATTTTTCAAGGCTTACTATCTTAGGCTCATGGTGAAACACCAGATTATGGAATTCAACAAGCTACTTGAGCAGCAGGTTCACCACATGCAGCAGATG CATCCAAGTGGTATTAGTTCCGTCCAAAATACAAATGGTTCTCATATTCAATCAATGAATCAGAAACAGTTATGCTATGCCACTGAGCACACTAATCAA TCTTTGAAGTCTGGAGGTGCACATCACCCTATGGCTTCGAGTCTGTCTAATGCATACCTCAATGGCTCTTCAACACTCAATACAAATGTGGCCTCTTC TGTGAACATTTCAACCCATGCTAGGAGAGTTGATGCATCTCCGAATATGCTCTCAGCACAGACCACAAACATACCAATGATGCAAGGAATGAATGGA GGAATGATCAAGTCTGAGACTGCTTTTACAAACCCTGCTTCTTACATTTATGGTGGTGAACGGAATGCCCTCGAAGGACATGCCACAGTTGGAGATA CTTCGATCCCATCTTTCAGCAACGAGTCCAACAACCAGCCCCTCGGTGATCCACTTCTTGATGCAGAAGCTTCTACTTTTGGCTTCTTAGGTCAAATT CCTCGGAACTTCAGCCTCTCTGATTTGACAGCTGATTTTTCCCAGAGCTCAGGTCCTTCTCTATCTCATATACTCCCTTCTGTCTCGGTGTTTGTACG TCTTAGCATGCATATAGAACCAAGTTAATGGTGGTTTACTAGTATAAGAGCCAGCTAACAGCTAATAGGATTCATTGTATGTAATCATAAGCTTCATGT TGATTTCAGAGATTCTGGAGAGCTACGATAAATCACCCTTCCTTGTGCCTGATTCTGAAAATTTCCTGGACTCGTGCGATAGGGGAGAATATCAAGG AGACAACAAGAGATTGGAGACCATATCTGAAGGTTTCAGTTACGACAACCTCGGGAGCGAGTAGTTAGGTAACAGGTTTTGCTGCATCAATCATAAC
GCT-002H18	AT4G01070.1	UDP-glucoronosyl/UDP-glucosyl transferase family protein	GACAAAAAAAAAAAAGAAGAGAAAAGTTCAGCAATCAAAAACCTACTAAAAAGAAAAAAAAAAAGATATATTCTTGAAGCTTTGCATCAATGGAGGAAC AAAAAGCGCCTCACGTTGCGATCATTCCAAGTCCGGGAATGGGTCACCTCATCCCACTCGTCCAGTTCGCTAAACGACTCGTCCACCGCCACGGCT TCACCGTAACATTTCTCGTCGTCGGCGAAGGTCCACCGTCAAAAGCTCAAAGAACTGTCCTCGAATCTCTCCCTTCTTCAATCTCCTCCGTCTTTCTC CCTCCCGCCGATCTCACCGATCTCCCTCAAACGACTCGCATCGAAACTCGGATTTCGCTCACCGTGAGTCGTTCGAACCCGGAGCTCCGACGAGTC TTCGACTCGTTCGCGGCGGAAGGTCGTTTGCCGACGGCCCTCTTCGTTGATCTATTCGGTACGGACGCTTTCGACGTCGCCGTCGAGTTCCACGT GTCGCCGTATATTTTCTACCCATCAACGGCCAACGTCTTGTCGTTTTTTCTCCACTTGCCTAAACTTGACGAAACGGTGTCGTGTGAGTTCACGGAAT TAACCGAACCGGTTATGATCCCTGGATGTGTACCCGTTTCCGGGAAAGATTTGCTTGACCCGGCCCAAGACCGGAAAAACGACGCATACAAATGGC TTCTTCACAACACCAAGAGGTACAAAGAAGCAGAAGGGATTCTTGTGAATAGCTTCCTCGAGCTAGAGCCAAATGCTTTAAAGACCTTGCAAGAACC GGGTCTTGATAAACCACCTGTTTATCCGGTTGGACCGTTGGTGAACATTGGCAAGCAAGAGAGTAACGGGGTGGAAGAGTCCGAATGTTTAAAATG GTTGGATAACCAACCGATCGGTTCGGTTTTGTATGTGTCATTCGGTAGTGGCGGTACACTCACATGTGAGCAGTTCAATGAGCTTGCTCTTGGTCTT GCGGACAGCGAGCAACGGTTTCTTTGGGTCATACGAACTCCAAGTGGGATCGCTAATGCTTCGTATTTCGATTCGCATAGCCAAAACGATCCATTAA CCTTTCTACCACCCGGGTTCTTAGAGCATACCAAAGGTAGAGGTTTTGTGATCCCTTCATGGGCTCCACAAGCTCAAATCCTAGCACATCCATCCAC TGGAGGGTTCTTGACTCATTGTGGATGGAATTCCACTCTAGAAAGTATCGTAAGTGGTGTTCCACTCATAGCATGGCCATTGTACGCTGAGCAGAAG ATGAATGCGGTTTTGTTGACTGAAGATATCCATGTGGCGCTTAAGGTTCGTGCAAGGGAAGATGGGATAGTGGGAAAAGAAGAGGTTGCTAGAGTG GTGAAAGGATTGATGGAAGGTGAAGAAGGTAAAGGTGTGAGGAATAAGATGAAAGAAATGAAGGAAGGAGCTAGTAGGGCGTTGAAGGATGATGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002H19	AT3G10850.1	GLX2-2 (GLYOXALASE 2-2); hydroxyacylglutathione hydrolase	GACCGACTAGCCTACTGATAAATTGATTCAAGTCATACGCCGGAGAAATACAGCGATTGATCGAAGAAAAGGATGGAGATCTTTCACGTTCCTTGTC TGCAAGACAACTACTCCTATCTGATAATCGATGAGAGCACCGGAGACGCGGCGGTTGTGGATCCAGTTGATCCCGAGAAGGTGATCATATCGGCTC AGCAGCACGGTGCCAATATCAAGTTCGTACTCACCACGCATCACCACTGGGATCATGCAGGTGGGAACGAGAAGATGAAGGAGTTGGTGCCTGGA ATCAAAGTATATGGAGGTTCTCTGGATAAGGTGAAGGGATGCACTAATGAAGTCGATAATGGTGACAAGTTGTCTTTGGGTCATGGTGTTAATATATT AGCTCTTCACACCCCTTGTCACACCAAGGGTCACATTAGTTATTATGTGACCTGCAAAGATGGTGAAAACCCAACCGTGTTCACCGGAGATACACTG TTTGTTGCTGGATGTGGAAAGTTTTTTGAAGGGACAGCTGAACAGATGCATCAGTCGTTGTGTGTGACTCTGGCTTCATTGCCAAAACCGACACAGG TTTACTGCGGCCACGAGTACACGGTGAAGAACTTGGAATTTGCTCTAACTGTGGAACCAAACAACGAGAAGATACAGCAGAAGTTATCATGGGCCT GTCAACAACGCCAAGAAAATCTTCCCACAATCCCTTCAACGATAGAGGAAGAGCTCGAAACAAACCCGTTCATGCGCGTTGATAATCCAGAGATACA GGAGAAACTCGGTTGCAAATCGCCGATTGATACACTCAGGGAAATTAGGAACAAGAAGGATCAGTGGAGAGGCTGATAAATGGAGCTTCTTGCCAT ATGCTTTACTGCTTTTTGTATGTTTGTGGCTGAACCTGTGAAAGGTGTTTGAACCGGTGATGTTTATATTCTGTGTGAAACTGGTAACCAGTTTAGTAA
GCT-002H20	AT1G11860.1	aminomethyltransferase, putative	GGTTTTATTAACGAATCATCAGTTAATTGCAAATAAACACACTACAAAGTAGTATCAGGAATCTGGAAGAAGCTCCAGAGGCAAAAAGACTCAATCTT TCTTGAGAAGAAGATGAGAGGTGGGAGTCTATGGCAGCTTGGGCAATCCATAACCCGTCGTCTTGCTCAATCTGACAAGAAAGCTGTGTCACGCCG CTACTTCGCATCTGATGCTGACCTGAAAAAAACCGCTCTTTACGACTTCCATGTCGCACACGGCGGAAAGATGGTTCCTTTTGCTGGTTGGAGTATG CCAATTCAGTACAAAGATTCGATCATGGACTCAACGGTTAACTGCAGGGTCAATGGGAGTTTGTTTGATGTTGCACATATGTGTGGTTTGAGCCTCA AGGGCAAAGACTGTGTTCCTTTTCTCGAGACTCTCGTTGTTGCTGATGTGGCTGGTTTGGCTCCTGGAACCGGGAGCTTGACCGTGTTCACAAACG AGAAAGGAGGTGCCATTGATGACTCGGTGATTACCAAAGTGACAGATGAACATATCTATTTGGTGGTGAATGCTGGTTGTAGGGACAAGGATTTGG CTCACATTGAAGAACACATGAAGGCTTTCAAATCCAAAGGAGGTGATGTCTCGTGGCATATCCATGACGAGAGATCTCTTCTCGCCCTTCAGGGTCC TTTGGCTGCTCCAGTGCTTCAACACCTGACCAAAGAAGACTTGAGCAAGCTTTACTTTGGGCAATTCCAGATTCTGGACATTAATGGTTCCACATGCT TCCTTACCAGGACCGGGTAAAATTTCATCTTTCACTATCCGCTTCGAGTTAGAACGCTATGTTATCTTGTTGTTTCTGCATCTCGAAAGTTTCTCTTGT TCAAGTAGAAATAGCTTCAGAGGAATAATTCTAAAGATCACACAGTTTATGAATCTCTCTGTTTTGTTTTTCAGGTATACCGGGGAAGATGGGTTTGA GATCTCAGTCCCATCGGAGCACGCAGTGGATTTGGCGAAAGCAATCTTGGAGAAATCCGAGGGAAAGGTAAGGCTTACGGGTCTAGGAGCAAGTG ACAGTCTCAGGTTAGAAGCAGGGCTTTGTCTATATGGCAATGACATGGAGCAACACATTTCTCCTGTTGAAGCTGGGCTCACATGGGCCATAGGAA AACGTAGAAGAGCCGAAGGCGGGTTTCTTGGCGCGGATGTGATCCTCAAACAGCTTCAAGATGGACCAACGATCAGAAGGGTCGGGTTTTTCTCTT CGGGACCACCAGCAAGGTCGCATAGCGAGGTCCATGATGAGAGTGGTAACAAGATTGGAGAGATCACGAGTGGTGGGTTTAGCCCGAACCTGAAG AAGAACATAGCCATGGGGTACGTAAAGTCGGGTCAGCACAAGAATGGGACCAAAGTCAAGATCTTGGTCCGTGGGAAACCTTACGAAGGCAACATC
GCT-002H21	AT2G24570.1	WRKY17 (WRKY DNA-binding protein 17); transcription factor	GGCTCTGTCATCCTCCAAAAAAAACTTCCAATTTTCTAGATCTTCGATTTTTTCTTGTTGTTTCACTTTGATTCCTCATTATGACCGTCGATATTATGCG TTTACCCAAGATGGAAGATCAAACGGCTATACAAGAAGCTGCATCGCAAGGCTTAAAAAGCATGGAACACCTGATCCGTGTCCTCTCTAACCGTCCT GAAGACCATAACGTTGACTGCTCCGAGATCACAGATTTCACCGTCGGCAAATTCAAAAAAGTCATCTCTCTTCTTAACCGAACCGGTCATGCCCGGT TTAGACGCGGACCGGTTCATTCCCCTCCTTCATCTTCTTCCTCCTCCGCCGCAACCGCTCCTCCTCCTCCTACACTCGTTTCTCAGCCGCAGCCTCC TTCTCAGATCTCTTCTCCGTCGCTTACTCCGGCGAGCTTCGTTCAGTCACATCAACAGAGCGTGACGCTGGATTTCACAAGACCAAGCGTGTTTGGC GCCAAAACCAAGAGCTCGGAGATTGTGGAGTTCGCTAAGGAGAGTTTTAGCGTATCTTCAAACTCTTCCTTCATGTCTTCGGCGATCACCGGCGAC GGAAGCGTCTCCAAAGGATCTTCGATTTTCCTCGCTCCGGCTCCGGCGGCGCCTGTTGCTTCCTCCGCGAAACCACCGCTTGCTGCTCTTCCTTAC AGGAAAAGATGCTTCGAGCATGGCCACTCCGAGGACTTTTCCGGCAAGATCTCTGGCTCCGGCAACGGAAAATGCCATTGCAAGAAAAGCAGGAAA AATCGGATGAAGAGAACCGTGAGAGTACCGGCGATAAGTGCAAAGATCGCCGATATTCCACCGGACGAGTTTTCATGGAGAAAGTATGGACAAAAA CCGATCAAGGGCTCACCACACCCACGGGGTTATTACAAGTGTAGTACGTTTAGAGGGTGTCCAGCGAGGAAACACGTGGAGCGAGCGATGGATGA TCCAACGATGCTGATTGTGACTTACGAAGGGGAGCACCGTCACCACCAGTCCGCGATGCAGGAGAACATATCTCCCAGTTTGGTGTTTGGCTCGGC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002H22	AT3G05690.1	HAP2B (Heme activator protein (yeast) homolog 2B, unfertilized embryo sac 8); transcription factor	GGGCTCCTAACAATTGGGCTTTTCTCTGCCTCTTCATAGGAATCTGAAGCTCTCTCTCTCTCCCTCACACTCTCTCACACTCTGTGTGTGAACACATC TTTCATCTCGGCAACATCGAATCGTGACTTCCCTTTTTTCCCTCTTCACTTCTTGTATTTGGAGATGGCTATGCAAACTGTGAGAGAAAGTCTTCTCTC TGCTCCGCAGATATCTTGGTGGAATGCTTTTGGATCTCAGCCGCTGGCGCCGGAGAGTCTTGCCGGCGATTCTGACTCGTTCGCTGGAGTTAAGAT CGGATCTGCCCGAGAAACAGAGCACGGTGTGGATAAACAGAGCAACTCTGTATCTCGCTTAGCTTTCTCACTCGGTGATGTAAAGAGTTCGAGTGT TGTGCCAAAGCCTCATGGAGCTGCTTTCTCAATGCAACCGCCTTGCTTGGAACTTGGATTTGCTCAGCCACCGATCTACACAAAGTATCCTTGTGTG GAACAGCAATACTATGGAGTTGTTTCAGCCTACGGATCTCAGAGCAGAGTACTGCTTCCTCTGAACATGGAAACAGAAGATGGAACAATCTATGTCA ACTCAAAGCAATACCATGGAATCATCAGGCGACGCCAATCCCGTGCAAAGGCTGCTGCTGTGCTTCATCAGAACAAACTGAGTAGTAGATGCCGTA AGCCATATATGCATCATTCGCGGCATCTCCATGCATTGCGCCGTCCTAGAGGATCCGGTGGGAGATTCTTGAACACTAAAAGTCAGAACATGGAAAA AAGTGGAACCAATGCAAAGAAATCTGATGGAACTAAGCAGGCTCAGACTCAGTCTCAGCCTCAGCAAAGTAGCTCTCAGAATTCTGAAGTTGTTCAT CCAGAAAGTGGGACCATGAACTTATCTAATGGATTAAGTGTCTCGGGATCAGAAGTAACAAGCATGAACTACTTTCTAAGTTCTTCACTCCATCCCCT TGGCGGCATGGTAATGCCTAGCAAGTGGATTTCAGCAGCAACGATGGATGATGGCTGCTGCAGTTTCAAAACCTGATCCTTTACCGTTGTTTCATAG TCAACGAAGAGAGAGGAGAAAACTCTTTGTCTTGAATAAGGACAATGAGTTTTTTCTTCTTCTTGGTTCAAAGGATTTTCCTTTTTGCCAATCCATTTG
GCT-002H23	AT3G45010.1	SCPL48 (serine carboxypeptidase-like 48); serine carboxypeptidase	GACAGAGAACCCAAAAAAAAACAAAAAAATGGACTCCAGAACATATTTTCTTACATTTCTCCTCTGTATTTTCCTTTTCTCTCAATTTTCACCCTCGATT TCTAAATCTATCAAAAACGACCCTTTATCATTCTCTTCGTCGGCGAGTTTGCCGACTCTCACGGCGGAGAGACTCATCAAAGGTTTCAATTTAATGCC TCAACGTGACGTCAATGTCATCTCTGAAGACGGTTCTGAGGCTCCGAGACTCGTCGAGAGAGAATTCGATTTGCCAGCGGCGCTTGACCGTCGTGA CTCCTCCGGTTTACCGTCGGTTCAGGATTTCGGTCACCGTGCTGGTTACTACAAACTTCCTAATTCAAAAGCAGCCAGGATGTTCTATTTCTTCTTCG AGTCAAGGACCAACAAAGCCGATCCAGTGGTCATTTGGCTAACCGGTGGGCCCGGTTGCAGCAGCGAATTGGCTCTGTTCTACGAGAACGGACCG TTCACAGTCTCCAACAACTCTTCTCTTGCTTGGAACGATTTTGGTTGGGACAAGGCCTCGAATCTAATCTACGTTGACCAACCGGTCGGAACCGGTT TTAGTTACACATCGGACGAAAGTGATCTCCGACATGACGAGGATGGTGTCAGTAATGACCTTTACGACTTCTTACAGGCGTTTTTCAAAGAACATCC GCAATTTGTGAATAATGACTTTTACATCACTGGTGAATCCTACGCCGGACATTACATTCCGGCATTGGCTTCAAGGGTTCACCGTGGAAACAAGAAC AAAGAAGGAACTCATATTAACCTCAAGGGTTTTGCAATCGGAAACGGTTTAACAAACCCGGAGATCCAATATGGCGCGTACGCGGATTATGCGCTTG ACATGAAGTTAATCTCAAAGTCTGATCACGATAACCTCAACCGTAACTACGCAACTTGTCAACAATCCATCAAAGAATGCAGCGCTGATGGTGGTGA AGGTGAAGCATGTGCTACTTCTTACGTTGTCTGCAACAACATATTTCAAAAGATCATGGATATAGCTGGAAACGTAAACTATTACGATGTGAGGAAAC AATGTAAAGGAAGCTTGTGCTATGACTTCTCGAACATGGAGAAGTTCTTGAACCAGAAATCGGTTCGGAAGGCATTAGGTGTGGGAGATATCGAGTT CGTGTCTTGCAGTACTGCGGTGTACGACGCGATGCAGATGGATTGGATGCGGAATCTTGAGGTCGGGATTCCAACTTTGCTCGAAGATGGGATCAA GATGCTTATCTATGCCGGAGAATACGATCTCATCTGCAATTGGCTCGGAAACTCGAAATGGGTTCACGAGATGGAATGGTCAGGCCAAAAAGAATTT GTATCAGCCGCGACAGTTCCATTTCATGTAGACAACAAAGAAGCAGGTTTAATGAAGAACCACGGTTCACTCACTTTCCTCAAGGTCCATGATGCTG GACACATGGTTCCAATGGATCAGCCAAAAGCAGCATTGCAAATGCTTCAGAATTGGATGCAAGGAAAGCTGGGTACACCTACCGGTCGGACCGCTC
GCT-002H24	AT5G41750.2	disease resistance protein (TIR-NBS-LRR class), putative	GGCTGCTATACTTTCTTTAAAAACTCTCTGTTGCTCTTTCTCTCTCATGGCTTCTTCTTCTTCTTCTTCTTCTTTTTCTTCGTCTCAGGTGAAGAGTCTT CATGTATTTCCGAGCTTCCACGGCCCAGATGTTCGTAAACGATTCCTCAGTCATTTACACGATCTCTTTGCAAGGAAAGAGATCACGATTTTCAAGGA TCAGGAGATCGAGAGAGGCCAAACGATCGGATCTGAACTCGTGAAAGCCATTAGAGAAGCGAGACTGTCCATCGTTTTGCTCTCGAAGAACTACGC TTCTTCGAGCTGGTGTTTGGACGAACTGGTGGAAATCTTGAAGTGCAGAGAAGTTCAGGGGCAGATTGTGATGCCCATTTTCTACGATGTTGATCCG TCGCATGTACGTAAACAAAGAGGTGACTTCGGGATCGCTTTTGAGAAAACCTGTGAAGGTGAAACAGAGGAAGTGAAACAGAGATGGGTCGAAGCT TTGACATGTGTAGCAACCATAGCTGGAGAACACTCTCGTAACTGGACTGATGAAGCTGAGATGGTGGAAAAGCTTTCCACAGATGTCTCGAACAAAC TGAGAATGGAAGAGATTAAGAAATTCTTTAGGGAAGCCGATGTGGACCAGAATGGTTTCATAACTGCAGCAGAGCTTCGATATGTGTTGACAAAAGA TGGGAAGGAATTTACCGATGAGAAAGTTCGTCATCTCATTCGAGTAGCTGATGTTGATGGCGATGGTCAGATCAACTATGATGAATTTGCCAAACTC AGCATGGATTTGATGACTGATGAAGATGCTGCGCTCGAAAAGTTTTCAACAGATTTAGTGAATAAACTGAGATTGGAAGAGTTTAGGGAATGCGATG TAGACCAGAATGGTTACATAACTGCAGCAGAGTTTCGATATGTGATGACAAAAGATGGGAAGGAATTTACCGATAAGCAAGTTCGTGATTTCATCCG AGCATTTGATGTTGATGGCGATGGTCAGATCAACTATGATGAATTTGCCAAATTCATGGCTATGGAGGCTGATGAAGAAGCTGCGATGGTTCGAAAG TTTGCCACAGATGTTACACTGTCGAGGGAGGAAGAGAAAGCAATTAAGGAATTATTTACGGGTTTAGATGTAGACCAGAATGGTTTCATAACTGCAG CAGAGTTTCAATATGTGATGAAAAATAGTGGGAGCAAACTAACCGATAAGGAAATTCGTAATTTCTTCCGAAGAGCTGATGTTGATGGCGATGGTCA TCTCAACTACGATGAATTCGTCAAAGTCAAGATGGCTGAAAGGAGGAGGGCTGATGAGGAAGCTGCGAGGGTCGAAAAGACTGCAACAGATGTCTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002I01	AT5G67190.1	AP2 domain-containing transcription factor, putative	GGGCGAGACCCAGACCGAGAAAGAGTTGCTAATTCCTCAAAGCCCACCTCGAAAGTCTTTTTCTTGGGAGGGTTTAAGATCCTCCATGGACGGCGG CGGAGTAGCTGACGTGGCAGTCGCCGGGACGACGAGGAAGAGAGAGAGACCTTACAAAGGAATAAGGATGAGGAAGTGGGGAAAGTGGGTAGCG GAGATTCGAGAGCCTAACAAGCGCTCCAGGTTATGGCTCGGCTCTTACTCCACTCCTGAGGCGACGGCGCGAGCTTACGACACGGCGGTTTTCTA CCTCAGAGGACCTACGGCGAGACTCAACTTCCCGGAGCTTCTTCCCGGAGAGAAATTCTCCGACGAGGACATGTCGGCTGCGACGATTCGGAAAA AAGCGACGGAGGTCGGTGCTCAGGTTGATGCTTTAGGCACGGCGGTGCTAAATAACCGCCACCGTGTTTTTGGTCAGAACCGAGAGATTGATAATA ATAAGAATTTTCATCTTAATTACCAAAACGGTGAGCGAGAAGAAGAAGAAGAAGATGATGACGATGATAAGAGATTGAAGAGTGGCGGCTGGTTATT GGATCGGGTTGACTTGAATAAATTACCCGACCCGGAAAGCTCCGATGAAGATTGGGAAAGCAAATAAAAATATAATATATAAATATAAATATATATATA TATTTTGGAGCGGTGGCTGTTGCTAACGTACGCCTCGGCCGACTTCTGCGAAATCATTAGCGCCGTTTATCCCTTTTTTTTTTTGCATTACTGAAATT
GCT-002I02	AT1G55110.1	ARABIDOPSIS THALIANA INDETERMINATE(ID)-DOMAIN 7/ATIDD7; nucleic acid binding / transcription factor/ zinc ion binding	GAAAAAGTCTGGTTTTTTATGTTCAGGTTTTTATTTACGGATGATGATGAACAAAGATATGTGGCTTCATCATCAACAACAAGTGGAAGAAAACATGTC CAATCTAACATCAGCTTCAGGAGATCAAGCGAGTGTGTCTTCAGGAAATAGAACTGAAACTAGTGGTTCCAACTTCCATTACAACATTAATCCAAATC AGCAGCAAGAACAGTGTTTTGTTCCACAATCATCTCAGAAGAAGAAGAGAAACCAACCAGGCAATCCGGACCCTGAAGCAGAAGTGATGGCTTTAT CACCAAAAACACTAATGGCAACAAACAGATTCATATGCGAGGTCTGCAACAAAGGGTTCCAAAGAGATCAAAACTTGCAACTTCACAAGAGAGGACA CAATCTACCATGGAAGCTTAAACAAAGATCAAACAAAGATGTGATAAGGAAGAAAGTTTATGTGTGTCCAGAGCCAAGCTGTGTCCATCACCACCCA TCACGAGCTCTCGGAGACTTGACCGGAATCAAGAAGCATTTCTTTAGAAAACATGGCGAGAAAAAATGGAAATGTGATAAGTGTTCGAAGAAGTATG CGGTGCAATCAGATTGGAAGGCTCATGCTAAGACTTGTGGCACTAAAGAATACAAATGTGACTGTGGAACTCTCTTTTCTAGGAGGGATAGTTTCAT AACTCATAGAGCATTTTGTGATGCATTAGCAGAAGAGAGTGCAAGAGCCATACCAAATCCTATTCTCATCCAATCTTCTTCTTCTTCCCCTTCTCATCA TCATCAAACACAACAAAACATCAATTTCTCTTCTTCTTCTTCTTCCCAAAACATCATCAGCAACAATAATCTCCATGGTCATGAATTTTCAATGAAGCAA GAAGAATCACATCATCACCACTTCCAAAACATCCCTTCCTGGCTTGCCTCGTCAAACCCTAACCCTAATGTCAACAATGGTAACTTCTTCCCTCTTGC TTCTTCTTCTGCGACCACCGGAATAAGATCCAACTTCAACCACTCCTCATCTCCGGCTATGTCAGCCACAGCTTTGCTCCAGAAAGCAGCTCAAATG GGTCCAAAAAACTCAACAACTACTCCTGAGGAAGAAGAGAGGTCGTCTTCAAGGTCAAGCGCCTATAATAACCTCATCACGACTACAATGGCCGCT GCGATGATGACGTCACCATCAGAACCTGGATTCGGGTTTCAAGACTACTATATGATGAATCCTCCTCCTCATCATCATCATCAAAGCGGAGGAGAAG CTTTTAACGGTGGTTTTATCACCGGAGACGAGAAGGACGACGTCACCGTCGACGGTGGAGGAGAGACGAGGGATTTCTTGGGGCTAAGATCGTTA ATGTCTCATAATGAGATTCTAAGTTTCGCTAATAATCTTGGAAACTGTATCAACAATACTTCTGCTTCAGAGCAACAACAACAACAACATAGCCATCAA
GCT-002I03	AT1G78370.1	ATGSTU20 (Arabidopsis thaliana Glutathione S-transferase (class tau) 20); glutathione transferase	GACACACTTTCTTGTGATCATTTCATTTGTGAGCTTCATCGATCGAAATCAATGGCGAACCAGACGATTCTTCTGGATTACTGGCCGAGCATGTTCGC GATGAGGGCTAGAGTCGCGTTGAGGGAGAAAGGTGTGGAGTTCGAGTCCAGAGAAGAGGACCTCACGAACAAGAGCCCTTTGCTCCTCCAGAGTA ATCCAATTCACAAGAAGGTTCCGGTTTTGATCCACAACGGTAAACCGGTCTGCGAATCTCTAAACGTTGTCCAGTACGTCGACGAGGCTTGGTCCGA CAAGAACCCTTTCTTCCCTGCCGATCCTTACGGCAGAGCTCAGGCTAGGTTCTGGGCCGATTTCGTGGACAAGAAGGTCAGCGAAGCCCAATTCAA GATCTGGGGGAAGAAAGGTGAGGAACAAGAAGCAGGCAAGAAGGAGTTCATTGAGGCAATCAAGACTCTTGAATCTGAGCTCGGAGACAAACCTTA CTTTGGTGGAGATAGCTTTGGCTATGTAGACATTTCCTTGATTACATTCTACAGTTGGTTCGGAGCATACGAGAAGTTTGGTAACTTCAGCATCGAGG CAGAGAGCCCAAAGCTGATTGCTTGGTGCAAGAGGTGCATGGAGAAAGAGAGTGTGTCTAAGTCTCTCCCTGAGTCTCAGAAGATTGTTGCATACG CCGCTGCGTTTAGGAAGAATAATCTCGGATCTGAGTAAAATTCTTGTTGGTCTCTAGCTTGTGCATGCGTTCTGTTTCTGACGAAGCTGTGTGTTCTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002I04	AT4G19230.1	CYP707A1 (cytochrome P450, family 707, subfamily A, polypeptide 1); oxygen binding	GATATAACAATACATCTTTCATTACACAAACAAACAAAAAATCAAAAAATCAAAAAAAAAAATTCTTAATTCAGGTCACAAGTTCTTCGTTGTTCAGCTAC TTCTCCCTTCCCACAAGTCAAAACACGAAGTGGGTTGCTTTGAACAAAGAACTTGAAACTAAGTTTTAAGAAAATGGATTTCTCTGCCTTGTTTCTCAC TCTCTTGGCCGGAAGTCTCTTCCTTTACTTTCTCCGGTGTCTAATCTCTCAGCGCCGCCGTGGATCCTCGACACTCCCACTCCCGCCGGGAACAAT GGGTTGGCCTTACGTCGGCGAGACTTTCCAGCTCTATTCTCAAGACCCAAATGTCTTTTTCGCATCGAAACAGAAAAGGTCGGTGTTTTTGAAAATC GTTGCAACTGCAAAAAATGGGAAAAATCGAAACTTTTGAGAAAAATTGACAAAATTTGTCTTTTAACAACAGGTATGGATCGGTATTTAAGACCCATGT ATTGGGATGTCCATGTGTGATGATCTCGAGTCCTGAGGCGGCCAAATTCGTGCTGGTGACGAAATCTCATCTCTTTAAACCGACTTTTCCGGCGAGT AAAGAGAGGATGCTCGGGAAACAAGCCATCTTCTTCCACCAAGGTGATTATCACGCTAAACTCAGGAAGCTTGTTCTTCGTGCTTTCATGCCGGAAT CTATCAGAGACATGGTTCCCGATATCGAAACAATTGCCCAAGATTCCCTACGAAACTGGGATGGAACAATGATCAACACTTACCAAGAAATGAAAAC ATACACCTTCAACGTCGCGTTGCTCTCGATCTTCGGAAAAGACGAGGTTCTATACAGAGAAGATCTGAAACGATGCTACTACATTCTCGAGAAAGGC TACAATTCGATGCCTATAAATCTCCCTGGAACACTCTTTCACAAAGCCATGAAAGCTCGCAAGGAGCTCTCACAGATCCTCGCTAGAATCTTATCAGA GAGAAGAGAGAACAGTTCCTCACACAACGATCTTCTCGGATCATTCATGGGAGACAAAGAAGAGCTAAGCGACGAACAGATCGCCGATAACATAAT CGGAGTAATCTTCGCCGCTAGAGACACGACGGCGAGTGTGATGACGTGGATCCTCAAGTACTTAGCTGAGAATCCCAACGTTCTAGAAGCCGTTAC CGAAGAGCAAATGGCAATAAGGAAAGGCAAAGAAGAAGGAGAGTCTCTAACTTGGGGTGATGCAAAGAAGATGCCAATAACTTCAAGAGTCCTTCA AGAAACATTAAGAGTCGCTTCAATCTTATCTTTCACATTCAGAGAAGCTGTTGAAGATGTCGAATACGAAGGATACTTGATACCTAAAGGTTGGAAAG TTTTGCCACTTTTCAGAAACATTCATCATAGTGCTGATATATTCTCAAATCCAGGAAAATTTGATCCTTCAAGATTCGAGGTGGCTCCAAAACCCAATA CGTTCATGCCATTTGGCAATGGGACCCACTCATGCCCTGGAAATGAATTAGCCAAACTTGAAATGTCTATCATGATACATCATCTCACCACCAAGTAC AGATGGTCGATAGTTGGAGCAAGCGACGGGATTCAGTATGGGCCCTTCGCGCTTCCCCAAAACGGACTGCCCATTGTGCTGGCCCGGAAGTCGGA GATCGATATGTAGAATCACAGGATTGCCCTTTAGCTTTCTATGATTGGGAAGAGGGACTCGAGAAGAAAATCTAATAATTCTTTCTTTCTTGTTAAAGA
GCT-002I05	AT5G14120.1	nodulin family protein	GAGATAGACAGACAGATAGACCAAAAAAAAAAGAAATAAAGAAATTACTAAGACGACAAATTTCGCTGATCCTCCTTTGATCTGCTTCTTCCCGGATT CTCCCGGTGTCGGAGAGAAATAACGGAGACCCAAAAGTTATTTCTTCAATGGCGTCGACCACGCGAGAAAAGTTTGTGTCTTTCATAAACAATAGAT GGCTCGTCTTCGTGGCTGCCATGTGGATACAGTCTTGTGCTGGCATCGGTTACTTGTTCGGAAGCATTTCTCCGGTGATCAAAAGCTCCCTTAACTA TAACCAGAAGGAGCTTGCCAGACTTGGTGTCGCCAAGGATCTCGGTGATAGTGTCGGCTTCCTCGCCGGGTCTCTCTCCGAGATTTTGCCTCTCTG GGCCGCTCTTCTCGTCGGCGCCGTTCAAAACCTCGTCGGTTACGGATGGGTTTGGCTTATCGTCACCGGTCGAGCTCCGATTCTCCCGCTATGGG CTATGTGTATTCTGATATTCGTTGGGAACAATGGCGAAACCTACTTCAACACTGGATCATTAGTCTCTGGTGTTCATAACTTCCCCAAAAGCCGAGGT CCAGTGGTGGGTATCCTCAAGGGTTTTGCTGGGCTAGGTGGTGCTATCCTCTCTCAGATATATACAACGATGCACTCTCCTGACCCGGCTTCTCTCA TTGTCATGGTCGCTGTTGGGCCTGCGGTTGTCGTTGCTTTCCTCATGTTCTTCATCAGACCCGTTGGTGGTCACAGGCAGATCCGTCCCACCGATG GAGCCAGCTTCACTTTCATCTACGGTGTCTGCATTCTCCTCGCTGCCTATCTCATGGCCGTTATGCTTATAGAAGATCTAGTCGTTGTCAGCCACAA CATCATCACTGTGTTCACCATTGTGCTGTTTGTCATTCTTGTTGTACCAATCTTGGTCCCAATCATGACAAGTTTCTTCACAGAGTCAAACGCTCCTG CTGACACGGTAGAGGAGCCTCTTGTCCCAAAACGGGAAAACCAAGAACCGGGACAGCAGACTCCTGACCTAATCTTGAGTGAAGTGGAAGATGAG AAACCAAAAGAAATGGATTTGCTTCCTGCATCAGAGAGACATAAGAGAATTGCGCATTTGCAAGCACGGCTAATGCAGGCAGCTGCAGAGGGGGCG GTTCGGGTGAAGAGACATAGAGGACCGCACAGAGGAGAAGATTTTACTTTAACGCAGGCACTCGTGAAGGCAGACTTCTGGCTTATATTCTTCTCG CTGTTGCTCGGCTCTGGTTCGGGTTTGACAGTTATTGACAATCTTGGTCAGATGAGCCAGTCTCTTGGTTATGATAACACTCACGTGTTTGTGTCTAT GATTAGCATTTGGAACTTCCTTGGACGTATCGGCGGCGGTTATTTCTCCGAGCTCATTGTCAGGGACTACGCGTACCCAAGGCCGGTAGCAATGGC CGTAGCTCAGTTAGTAATGTCTGTGGGACACGTCTTCTTTGCTTTCGGATGGCCTGGAGCGATGTACATTGGCACGCTATTGATTGGACTCGGGTAC GGTGCTCACTGGGCTATTGTCCCAGCTACTGCCTCGGAGCTCTTTGGTCTGAAAAAGTTTGGAGCTTTATACAATTTCCTGACGCTGGCCAACCCG GCTGGGTCACTCGTCTTCTCGGGTCTGATTGCAAGCACCATATACGACCGGGAAGCAGAAAGACAAGCACACGTGTCCGTTTTTGATCCGGATGAT GCCCTTAGATGCGAAGGTTACATCTGTTACTTCTTGACGTCACTCATAATGTCTGGATTCTGCATCATCGCTTGCATCTTGAGTATGATTCTCGTGCG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002I06	AT4G27430.1	CIP7 (COP1-INTERACTING PROTEIN 7)	GGGGTCTTTTAATGGATCCCAGAACAAGACTTGACTATGCTCTGTTTCAACTCACACCCACCAGGACAAGATGTGAGCTTGTGATTTTCTCCGGTGG CGAGAACGAGAAACTTGCTTCGGGGATTTTTCAGCCGTTCGTTACACATCTCAAGAGCGTTAGAGATCAGATTTCTAAAGGCGGATATTCCGTTACC CTCCGGCCTTCCTCCGTCGCCGGCGCCGGCGTTCCTTGGTTTACCAAAGTGACGCTTCAGAGGTTTGTGCGATTCGTGACCACTCCCGAGGTTCTT GAGAGGTCAGTAACATTGGAGAAGGAGATTGAGCAGATCGAGGATTCGATTCAGTCTAATGCAGCCGCCATTTCCGGCGAAGCAGAAGGAAACGA GTTGGGCAGTACATGGACTTCTCACAAGTCTACGGCTTTATCAAAGGCAAAAGGTGAATCTGATGGAGACAATGGGGAAGAAAATTCTAAGGTTGGT CTTCAGCGTGTTTTGGAGAACCGCAAAGCGGCTTTGTGCAAAGAGCAAGCCATGGCTTACGCTCGAGCTTTGGTTGTTGGGTTTGAATTGGACTAC ATGGATGACCTCTTGTCTTTCGCCGATGCTTTTGGAGCTTCGCGTTTAAGGGAAGCGTGTGTTAACTTTGTGGACTTGTGCAAGAGAAAGAACGAAG ATAGAATGTGGGTGGACCAAATCACGGCTATGCACTGAGAGATCCCCTCATAATTTCCCCAAAGCGTAACCATGTGTGAATAAATTTTGAGCTAGTA GGGTTGCAGCCACGAGTAAGTCTTCCCTTGTTATTGTGTAGCCAGAATGCCGCAAAACTTCCATGCCTAAGCGAACTGTTGAGAGTACGTTTCGATT TCTGACTGTGTTAGCCTGGAAGTGCTTGTCCCAACCTTGTTTCTGAGCATGAACGCCCGCAAGCCAACATGTTAGTTGAAGCATCAGGGCGATTAG CAGCATGATATCAAAACGCTCTGAGCTGCTCGTTCGGCTATGGCGTAGGCCTAGTCCGTAGGCAGGACTTTTCAAGTCTCGGAAGGTTTCTTCAATC TGCATTCGCTTCGAATAGATATTAACAAGTTGTTTGGGTGTTCGAATTTCAACAGGTAAGTTAGTTGCTAGAACCCATGGCTCCTTTGCCGACGCTGA GTAGATTTTAGGTGACGGGTGGTGACAATGAGTCCGTGTCGAGCGCTGATTTTTTCGGCCTTTAGAGCGAGATTTATACAATAGAATTTGGCATGAG ATTGGATTGCTTTTAGTCAGCCTCTTATAGCCTAAAGTCTTTGAGTGACTAGATGACATATCATGTAAGTTGCTGATAGGTTTCCAGTTTTCCGCTCCT AGGTCTGCATATTGTACTTTTCCTCTTACTCGACTTAACCAGTACCAACCCAGCTTCTCAACGGATTTATACCATGGCACTTTAAAGCCAGCATCACT GACAATGAGCGGTGTGGTGTTACTCGGTAGAATGCTCGCAAGGTCGGCTAGAAATTGGTCATGAGCTTTCTTTGAACATTGCTCTGAAAGCGGGAA CGCTTTCTCATAAAGAGTAACAGAACGACCGTGTAGTGCGACTGAAGCTCGCAATACCATAAGTCGTTTTTGCTCACGAATATCAGACCAGTCAACA AGTACAATGGGCATCGTATTGCCCGAACAGATAAAGCTAGCATGCCAACGGTATACAGCGAGTCGCTCTTTGTGGAGGTGACGATTACCTAACAAT CGGTCGATTCGTTTGATGTTATGTTTTGTTCTCGCTTTGGTTGGCAGGTTACGGCCAAGTTCGGTAAGAGTGAGAGTTTTACAGTCAAGTAATGCGT GGCAAGCCAACGTTAAGCTGTTGAGTCGTTTTAAGTGTAATTCGGGGCAGAATTGGTAAAGAGAGTCGTGTAAAATATCGAGTTCGCACATCTTGTT GTCTGATTATTGATTTTTCGCGAAACCATTTGATCATATGACAAGATGTGTATCCACCTTAACTTAATGATTTTTACCAAAATCATTAGGGGATTCATCA GGGCTATGCAAGCATTTCCTAGGCCTGAGTTGTCCTTCATGGGTGACTCTGGGATCATACTTGCTGGTGAAGAGAATGATTTGTTGAATGCTACAAA
GCT-002I07	AT5G05690.3	CPD (CABBAGE 3)	GATCATCATCAACAATGGCCTTCTCCTTCTCCTTCACCGCCTTTCTCCTCCTCCTCTCCTCCATCGCCGCCGCTTTCTTCCTCCTTCTCCGCCGCAC GCGTTACCGTCGGATGGGTCTTCCTCCGGGAAGTCTGGGGCTTCCTCTGATAGGCGAGACTTTGCAGCTGATCGGAGCTTACAAGACGGAGAATC CTGAGCCTTTCATCGACGAGAGAGTGGCCCGGTACGGTTCTGTATTCATGACGCATCTGTTCGGTGAACCGACGGTTTTCTCTGCTGACCCGGAAA CGAACCGGTTCGTGCTACAGAACGAAGGGAAGCTATTCGAGTGCTCTTATCCAGCTTCCATATGTAATCTCTTGGGGAAACACTCTCTGCTTCTTAT GAAAGGTTCTCTCCATAAACGTATGCACTCTCTCACCATGAGCTTCGCTAATTCTTCCATCATCAAAGACCATCTCATGCTCGATATTGACCGGTTAG TCCGGTTTAATCTCGATTCTTGGTCCTCTCGTGTTCTCCTCATGGAAGAAGCCAAAAAGATAACGTTCGAGCTAACAGTGAAGCAGTTGATGAGCTTT GATCCAGGGGAGTGGAGTGAGAGTTTGAGGAAAGAGTATCTCCTTGTCATCGAAGGCTTCTTCTCTCTCCCTCTCCCTCTCTTCTCCACCACTTACC GCAAAGCCATCAAAGCGCGGAGGAAGGTGGCGGAGGCGTTGACGGTGGTGGTGATGAAAAGGAGGGAGGAAGAGGAAGAAGGGGCGGAGAGAA AGAAAGATATGCTCGCGGCGTTGCTTGCGGCGGATGATGGATTTTCCGATGAAGAAATTGTTGATTTCTTGGTGGCTTTACTCGTCGCCGGTTATGA AACAACCTCCACAATCATGACTCTCGCCGTTAAGTTTCTTACCGAAACTCCTCTAGCTCTTGCTCAACTCAAGGAAGAGCATGAAAAGATTAGGACAA GGAAGAGTGATTCGGAGAGTCTTGAATGGAGTGATTACAAGTCAATGCCATTCACACAATGTGTGGTTAACGAGACTCTGCGGATAGCTAACATCAT CGGTGGTGTTTTTAGACGGGCTATGACGGATGTTGAGATCAAAGGTTATAAGATTCCAAAAGGGTGGAAGGTTTTCTCATCATTTAGAGCGGTTCAT TTAGACCCGAACCACTTCAAAGACGCTCGCACTTTCAATCCTTGGAGATGGCAGAACAACTCGGTAACGACAAGCCCTTCTAATGTGTTCACACCGT TTGGTGGAGGACCACGGCTTTGTCCCGGTTATGAGCTGGCTAGGGTTGCACTCTCTGTTTTCCTTCATCGCCTAGTGACTGGCTTCAGTTGGGTTC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002I08	AT4G17260.1	L-lactate dehydrogenase, putative	GGTTGAATGGCCACTTGTTATATGCAGACGCTCGTCTTTGGCAAACGAACCACCGTGGTTTCACCTTCCCGTTCAAAACCAAAATCATCAAATTGCTA CAATTGTTCTTTGATGGAGAATAATAACGCATCGAGTTCATCTCTGGGCCCAGGTGGGCTGGACCTAACCAGCGCCTTTTTCAAGCCCATCCAAAAC TCCGATCCTCCAATCCCCTCCAACCGCTGCACCAAAATCTCCGTCGTCGGCGTCGGAAACGTCGGCATGGCCATCGCTCAAACCATCCTCACTCAG GATCTCGTAGACGAGATCGCCCTCGTCGACGCTAAGCCTGATAAGCTTCGCGGCGAAATGCTCGATCTCCAGCACGCCGCCGCTTTCCTCCCCCG CACCAAAATCACAGCTTCCGTCGACTACGGTGTCACCACCGGCTCCGATCTCTGCATCGTCACCGCCGGTGCAAGACAGAACCCAGGCGAGTCCA GACTCAGTCTGCTTCAGAGGAACGTCGCTCACTTCCGCCACATCATCCCTCCGCTCGCGAAGTCATCTCCTGATTCGATCTTACTCATCGTCTCCAA TCCCGTCGATGTTTTGACCTACGTCGCTTGGAAACTCTCTGGTTTTCCGGTGAATCGAGTGATTGGATCGGGTACCAACCTAGACTCCTCTCGGTTT CGATTCCTAATCGCCGATCATCTCGACGTCAATGCTCAGGATGTACAGGCATTCATCGTAGGAAAGCATGGAGATAGTTCTGTGGCATTGTGGTCGA GCATAAGTGTTGGAGGCATCCCTGTCTTAAGTTTCTTGGAGAAGCAACAGATCGCTTACGAGAAACAAACACTTGAAGACATCCACCAAGACGTTAT TGGCGGCGCCTACGAAGTCATTGGACTCAAGGGCTACACTTCTTGGGCAATTGGCTACTCTGTTGCTAGCCTAGCTCGCACCATCCTCCGTGACCA GCGCAAGATCCACCCTGTTACAGTTCTTGCTCGCGGATTCTATGGTGTTGACGGTGGTGACGTCTTCCTCAGCCTCCCGGTTTTGCTTGGACGCAA TGGCGTGGTCGCTGTGACCAATGTGCATATGAATGATGAAGAGACCGAGAAGCTGCAGAAGTCGGCAAAGACTATATTGGAGATGCAGATCCAATT
GCT-002I09	AT5G51070.1	ERD1 (EARLY RESPONSIVE TO DEHYDRATION 1); ATP binding / ATPase	GGACGTGCCAGCTTACTCCATCCCTTCCTTTACCTTCTTCCCCTTTGCTTCCTTTTTCTTTTTTCATTTTCCCCTAAATTCTCATCACCGGAGATTTTAT TTTTCGCCGACAACGACGACGACGACGATCATGGAGGTTTTAACTACTTCCTCGCCTCTAACGCTTCACTCTCGCCGACTCGCTTCTTCCTCCGCCC ACCGTTTTGATTCTTCTTCTCCCGTTGCTTCCTTCGCCGCTTCTTCTCTCTCTTCCTTCGCTTCTTCGTATCTCGGAATCTCTCTCTCTAACCGGACGA TCCACCGCTTCTCCACTAGTCCATCGAACTTCCGGCGGTTTCCGCCGAAGAGACGGAAGAAATTCACTCCGATTTCGGCGGTTTTCGAGCGGTTCA CCGAACGAGCGATCAGAGCTATAATCTTCTCCCAGAAGGAAGCTAAATCTCTGGGGAAAGACATGGTCTACACTCAGCACCTCCTCCTCGGGCTAA TCGCTGAGGATCGCGACCCTCAAGGTTTCCTTGGATCCGGAATCACCATAGACAAAGCCCGTGAAGCTGTCTGGAGTATCTGGGAGGAAGCTAATT CCGATTCAAATTCCTCGAAACAGCAGGAAGAATCGTCTACTTCGTACTCGAAGTCGACGGATATGCCGTTTTCCATCAGTACGAAACGGGTCTTCGA AGCTGCGGTTGAGTATTCTAGGACTTTGGACTGTCAGTATATAGCTCCAGAGCATATCGCCGTCGGACTATTCACCGTTGATGACGGTAGCGCCGG CAGAGTCCTGAAGAGATTGGGAGCAAATCTGAATTTGCTTACAGCTGCAGCACTGACCAGGATTAAAGGAGAGATGGCCAAAGATGGAAGAGAACT ATCTCAATCATCTAAAGACGCTTCCACTAATGGTCGAATCGCTGGTCCTGGAAGTGCTGGAAGAACGAAAGCCAAAAGTGTATTGGAACAGTTCTGT GTGGATCTTACAGCACGAGCTTCTGAAGGCCTTATTGATCCTGTTATTGGCCGTGAAAAAGAAGTTCAAAGAGTCATCCAGATACTTTGCCGCAGAA CTAAAAACAATCCAATTCTTCTTGGTGAAGCTGGTGTTGGGAAGACCGCCATTGCTGAAGGTCTAGCAATTAGTATTGCAGAAGCAAAGGCTCCTGG ATTTCTCTTGACCAAACGCATCATGTCCCTGGATATAGGACTGCTAATGGCTGGTGCAAAAGAAAGGGGAGAACTGGAGTCACGCGTCACTGCTTT GATAAGCGAAGTAAAAAAATCAGGTAAGGTCATTCTCTTCATAGATGAAGTGCACACACTTATTGGGTCTGGCACCGTCGGAAGAGGAAACAAGGG GTCTGGGCTTGACATTGCAAACCTCTTGAAACCATCACTTGGAAGGGGCGAACTTCAGTGCATTGCATCCACAACCCTGGACGAATTCAGGAGTCA GTTTGAGAAGGACAAAGCATTAGCAAGGAGATTCCAGCCAGTGTTGATTGACGAGCCAAGCGAGGAAGATGCGGTGAAGATTTTGTTGGGTCTTCG TGAAAAATATGAAGCCCATCACCATTGCAAATATACTATGGAAGCCATAGATGCTGCAGTGTACCTTTCATCACGATATATCGCTGATAGGTTTCTTC CAGATAAAGCTATTGATCTCATTGACGAGGCGGGAAGCAGAGCTCGTATTGAAGCTTTTAGAAAGAAAAAGGAGGATGCAACCTGTATCCTTTCGAA ACCACCTAATGATTACTGGCAAGAGATTAAAACTGTTCAGGCCATGCACGAAGTGGTTCTATCAAGCAGGCAGAAGCAAGATGATGGTGATGCCGTT GCAGATGAGTCTGGTGAACTAGCTGAGGAGTCTTCTCTGCCACCTGTAGCAGAAGACGAAGAGCCCATACTGGTGGGGCCTGATGATATTGCAGC CGTTGCATCTGCTTGGTCTGGAATCCCAGTTCAGCAGGTCACTGCAGATGAAAGAATGCTTCTAATGGGTCTAGAAGAGCAGCTTAGAAGCAGAGT TGTTGGTCAAGATGATGCTGTAGTTGCCATATCTAGAGCTGTGAAGAGGTCCCGTGTTGGCTTAAAAGATCCCGACCGTCCAATTGCTGCTATGCTT
GCT-002I11	AT4G15660.1	glutaredoxin family protein	GATCAAACACAGAAACTTAAAGTCACTTCTCATCTTCACCCATAAACAGATATCTCTATAAGTTCTCTTGCTTTTCTTATTTTCATCCCTAATATCTCTC ATTTCTATCAAAAGAAATATAGACACTTTCATCCCCTGAGAATCCCTTTTGAAACACTTTTTCACATCATAACACCAATGGAGAAGCTACAGAAGTTGA TTTCTGAGAAGTCAGTAGTGATCTTCAGCAAGAACTCGTGCTGCATGTCTCACACAGTCAAGACCCTTTTCGTCGACTTTGGCGTGAACCCAACAAT CTATGAGCTAGACGAGATCAACAGAGGACAGGAGATAGAGCAAGCATTGGCTCAGCTTGGCTGCAGCCCGACCGTGCCGGTGGTGTTCATAGGAG GTCAGCTCGTAGGTGGAGCCAGTCAAGTCATGAGTCTTCATCTCAATCGTTCTCTCGTCCCAATGCTTAAGCGCGTTGGGGCTTTATGGCTTTAATA ACGTAATGATCATGATGATACTAATTCAAAGTGACCAAAACAAAAGTTTACACATGAAAGTATGTATGAGTTATTGCTATGTCTATCTAAGTTTTGGAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002I12	AT2G18790.1	PHYB (PHYTOCHROME B); G-protein coupled photoreceptor/ signal transducer	GGATAACTATTTTTTTTTTGGGTCGTCATTTTACCTTTTGATATTTAATTCCTCTTATCTCCGATCCCAAGTTCCCATTTTCTTCCCCTCGAAATCTCAC CCGTTTTCTCGAGAAAATTCAAAGTATATGAGTGGAGAGAACTCTGAATTTAGCTCTGGAAAGTCATGTGCGAGTCCACCAGAACCTCTCGGTTTCA ATTTTCAGCATAATATGGAGAATAATTCTCCCCAAAATTTCTCTTTTTTCTTTCTTTTTATGTAATCTGACATAATCTCGAGAATTCCCCTCCACCATTTT TCTATGTTATGGAGCTGAGAAAATCTTCAATCAACAGCTGCCCGATGAAAAATTCCTCTCCGTTCACTACTTGCCGTCGATGAGGAGCTCCAGATTTC AAATACCCATGATTGAGGCCTAATTACTCTGTCACTCGAGGCAATTAGCTCGAGGCAATTCGGGGAAAATTCTTCTTTTGGAAACTGGAACACGAAC AGGCTCCAAAAAAGGAAAATTTAACATGGTTTCCGGAGGAAACAGCGGCAGTGGTCCTGGCCGTGCTGAAGAAGCAGCGTCCTCAAGTCACCGCA GTCTCCACACAACAACTCATAATAACCGGAGAGAACAAGCTCAATCTTCGGGTACAAAATCTCTTAGGCCGCAAAATCAGCCTCAGAGCCACACAGA TTCAATGAGCAAAGCTATCCAGCAGTACACCGTCGACGCGAGACTCCATGCCGTCTTCGAACAGTCCGGCGAGTCCGGCAAGTCGTTCGACTACTC ACAGTCCCTCAAAACGACGACGTACGGATCCTCTGTACCTGAACAGCAGATCACGGCGTATCTCTCCAGGATCCAGCGAGGAGGCTACATCCAGC CCTTCGGATGTATGATCGCCGTCGACGAATCCACCTTCAGAATCATCGGCTACAGCGAAAACGCGCGGGAAATGCTAGGGCTTACGCCTCAATCCG TTCCTAGCCTCGAGAAGCCGGAGATTCTAGCGATGGGAACGGATGTGCGCTCTCTCTTCACGGCGTCGAGCTCAATTCTCCTCGAGCGTGCGTTC GTGGCTCGAGAAATCACGCTGCTGAATCCGGTTTGGATCCACTCGAAGAACACTGGTAAACCCTTTTACGCAATTCTCCATAGAATCGATGTTGGGG TCGTCATCGATTTAGAGCCAGCTCGAACCGAAGATCCAGCGCTTTCGATTGCCGGAGCAGTCCAATCGCAGAAACTCGCGGTTCGCGCGATTTCAC AGCTACAGTCGCTTCCCGGTGGAGACATTAAGCTTCTCTGTGACACTGTTGTGGAAAGCGTCAGAGACTTAACTGGATACGACCGTGTAATGGTCTA CAAGTTTCATGAAGATGAGCACGGAGAAGTTGTCGCCGAGAGTAGACGAGACGATTTAGAGCCTTACATCGGTCTACATTACCCGGCAACTGATATT CCTCAAGCGTCACGGTTCTTGTTCAAGCAGAACCGTGTCCGTATGATCGTAGATTGCCACGCCACGCCGGTTCTTGTGGTCCAAGACGATAGGCTC ACTCAATCTATGTGTTTGGTTGGTTCTACTCTCAGGGCTCCTCACGGATGTCACTCTCAGTATATGGCTAACATGGGATCGATTGCGTCTTTAGCAAT GGCGGTTATAATAAACGGCAATGAAGATGACGGAAGCAATGTCGCTGGTGGGAGAAACTCGATGAGGCTTTGGGGTTTAGTCGTTTGCCATCACAC CTCTTCTCGCTGCATACCGTTTCCTCTAAGGTATGCTTGCGAGTTTCTAATGCAGGCATTTGGTTTACAGTTAAACATGGAATTGCAATTAGCGTTGC AAATGTCAGAGAAACGTGTTTTGAGAACGCAGACACTGTTATGCGATATGCTTCTTCGTGACTCGCCTGCTGGAATTGTTACACAGAGTCCTAGTAT AATGGACTTAGTGAAATGTGACGGTGCGGCGTTTCTTTACCATGGAAAGTATTACCCGTTGGGTGTTGCTCCGACAGAAGCTCAGATAAAAGACGTT GTGGAGTGGTTGCTTGCGAATCACGCGGATTCAACTGGATTAAGCACAGATAGTTTAGGCGATGCAGGGTATCCCGGTGCAGCTGCGTTAGGGGA
GCT-002I13	AT1G14980.1	CPN10 (CHAPERONIN 10)	CAGAAATCCGATTCGATCCGATAGAAGAATTCAGAAATGATGAAGCGTCTGGTCCCAACGTTCAACCGCATCCTGGTGCAGAGAGTCATCCAGCCT GCAAAAACCGAAAGTGGCATTCTCCTCCCAGAGAAATCCTCCAAGCTCAACTCGGGCAAGGTGATTGCAGTGGGACCTGGTTCAAGGGACAAGGAT GGGAAATTGATTCCGGTTTCGGTTAAGGAAGGCGACACTGTTCTTCTTCCAGAGTATGGCGGCACACAAGTCAAGCTCGGAGAGAACGAGTACCAT CTCTTCCGGGACGAGGACGTCTTGGGAACGTTGCACGAGGATTAAAAATGGCTATAAGTAACTGCGAGTGTTCTTGTTGGCGTTTGTGTTACGGAG
GCT-002I14	AT5G01650.1	macrophage migration inhibitory factor family protein / MIF family protein	GGTGAAAGAAAGAGAGAGCGAGAGTGAAAGAAAAATGCCGTGCCTTAACATCTCCACCAACGTTAGCCTCGACGGCATCGATTCCTCTTCCATTCT CTCCGAAGCTTCCTCCACCGTCGCCAAAATCATCGGCAAGCCTGTGAACTATGTGATGGTTGTGTTGAAAGGCTCAGTGCCCATATCATTTGGTGGA ACCGAGGAGCCTGCAGCTTATGGTGAGCTAGTCTCTATCGGTGGCCTTAATCCGGATGTGAACAAGAAGCTAAGCGCTGCGGTTTCGGCCATTCTT GAGACTAAGCTATCAGTGCCCAAGTCTCGATTCTTCCTCAAGTTTTATGACACCAAGGGATCCTTCTTTGGTTGGAACGGGGCAACTTTCTAGTTCC AAGGCAGTTAAGGGATTAGTGTGATTGCATGCAATTTATAAACGTGTGTGATATTAATATTCTAGCTCTTATGATCCATTCGATCAAGTAACTTTGAAC
GCT-002I16	AT1G49130.1	zinc finger (B-box type) family protein	GATTATTCTCCATCCTTCTTAGCCCTTGTCTTCTTCATTGTCCCCTTTTTCTCTCTCACTTTAAGGTCTTTTCTTAGCTCATGAAAGGTCACCAAAATAT CAAATTCCAGAGAAAAATTATGATTTCAGAGCACCAAGAAGATGTCAAGGCACAACGAGACTGCGAACTGTGTCTGAACAAACACGCGGTTTGGTTT TGTGCGTCCGACGATGCTTTCTTGTGCCATCTTTGTGATGAATCAGTGCATTCTGCAAACCAAGTGGCGACAAAACACGAGAGAGTTTGTCTTAGAA CAAATGAGATATCAATTCGTGTGCTCCAAGGAACAACATCAAAGCCGGTTTGGCACAGCGGGTTCAGAAGAAAAGCGAGAACACCTAGAGCTCGTT GTGAGAAGAAACCACAAGAAAATATAGATGATGAGAGAAGAAGAGAAGACCCTCGTGTTCCCGAGATTGGTGGCCAACGAATGTTTTTCATACCAGA AACAAATGATGATGATGGTGATGAGGATCTGACTTCTCTTGTGCCAGAGTTTCACGGATTCATAGAGATGGAGTTCTTCTTGAGCAACTATGATGGC TCTGAAGAAACAACGAGACCATTCAACTTTGAAGATGAGATTGATGCAATGGAAGATCTATGTTACAATGAAGATGGAGAGGCTAAAACTGATGGAG ATAAAGCATGTCCTGACCAATCTTTGATGAGCTCCAAGAACAATGTCATCGCGATTACAACAAAGAAAGAAGAAATGGAGGATTATGAGAGTAATGC AAAGCAGATGAACATGTTACTTAGGCTTAATTACGAAAATGTTATAGCAGCTTGGGATAAACAAGAATCTCCAAGAGGAGCACCAATAAACGAAACTG AGTTTAACAACATAAGTACCTTCCAGCTAGTTCCTCCAGGGACAGAGGAGAAGAAAATGAGCAGCAAAAGTGAGAGAGAAGCAAGAGTTTGGAGAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002I17	AT5G57655.2	xylose isomerase family protein	GGAAAGTTCTCGGTTACATAAACTGAGTTTCCCATAGATTCCTTCGATTCGTATTTCTTAGCAAATTTTCCAGTTTCATGATTCAGACTATGAAGAAAG TAGAGATTTTGTTGCTCCTTCTCTGCTTAAACGCAGCGTCATTTCTAGTGTCTGCTGATCCACCAACATGTCCTGCGGATTTGGGAGGGAAGTGCAG TGATGGTTCTGATGATTGGGAAGGAGAGTTCTTCCCTGAAATCCCTCAAATTAAGTATGAGGGGCCTTCGAGCAAGAACCCACTTGCTTACAGGTGG TATAACGCTGAAGAGGAGATTCTTGGCAAGAAAATGAAGGACTGGTTTAGATTCAGTGTTGCGTTTTGGCATACTTTCCGTGGGACTGGAGGTGACC CATTTGGTGCGGCTACAAAGTATTGGCCGTGGGAAGATGGTACCAACTCTGTGGCTATGGCTAAGAGAAGAATGAGAGCCAACTTTGAGTTCTTGA AGAAACTTGGAGTTGATTGGTGGTGTTTCCATGACAGAGACATAGCCCCTGATGGCAATACACTTGAGGAATCTAACAAAAATTTGGATGAAGTTATT GAACTTGCCAAAGAACTCCAAAAGGGAAGCAAGATTCGACCGTTGTGGGGAACAGCTCAGCTGTTCTTGCATCCTCGTTACATGCACGGAGGAGCA ACAAGCTCTGAGGTTGGAGTATATGCTTACGCTGCTGCTCAGGTTAAGAAAGCCATGGAGGTGACACATTACTTGGGCGGTGAAAACTATGTTTTCT GGGGTGGTCGTGAAGGTTATCAGACGCTATTGAACACTGATATGGGAAGAGAGCTCGACCATATGGCCAGATTCTTTGAAGCTGCTGTTGCTTACA AGAAGAAGATTGGTTTCAACGGCACGCTTTTAATCGAGCCGAAGCCTCAAGAACCCACCAAGCACCAGTATGACTGGGATGCTGCAACAGCTGCCA ACTTCCTGAGGAAATACGGACTTATTGACGAGTTTAAACTCAACATTGAGTGTAACCACGCCACGCTTTCTGGGCACACCTGTCACCACGAGCTTGA AACTGCAAGACTTAATGGTTTACTTGGGAACATGGATGCAAACACTGGCGATGCTCAAACTGGGTGGGATACAGATCAGTTTCTTACAGATGTTGGA GAAGCAACCATGGTTATGATGAGTGTCATCAGAAATGGTGGGATTGCTCCAGGAGGCTTCAACTTTGACGCCAAACTGCGAAGAGAGAGTACAGAT GTTGAAGACTTGTTCATTGCTCATATTAGTGGAATGGACACAATCGCTCGTGGACTAAGAAATGCAGTCAAGATCTTGGAGGAGGGAAGACTAAGTG AATTGGTACGCAAGAGATATTCAAGTTGGGACTCTGAGATAGGGAAGCAAATAGAAGAAGGAAAAGCAGATTTCGAGTATCTTGAGAAGAAGGCTAA AGAGTTTGGAGAGCCAAAGGTTCCTTCCGCTAAACAGGAACTCGCTGAGATGATTTTCCAGTCAGCAATGTAGAAGAAAAAGAAGGCTTTCCCTCTT ATCTTTGAGAAGTTTGAAAACTGCAGAAAAATAAAGAATCAACAAGCTGTTTAGAGAGGTTGGTTTTAATTAGTTTCAGTTTATGTACTATGCGTTCAC
GCT-002I18	AT4G33490.1	pepsin A	GGTCCTTTTCCACCTTCATCATCACCATCACGTGATTGGCTAATACAAATAATTATTCTCTAATTTTACTATTTCGCCACCAAGCCGTGAAGATGGAAA AAATGAATGTCCGTTTAATAATTGCGTCGATGGTGTTGTCTCTGGTTTTGGGCTTCTCGTCTGCAGTTGATTTCAGATGGAGGAAAGCGGCTGACAG ATTCACCAGAGCTGCCTCTTCAGTCGTGTTCCCAGTCCATGGGAACGTCTATCCTCTTGGGTATTATAATGTTACCATCAACATAGGACAACCACCAA GACCTTACTATCTTGATCTTGACACTGGTAGTGATCTCACTTGGCTCCAATGTGATGCTCCTTGTGTTCATTGCTTGGAGGCACCTCATCCACTTTAT CAGCCTAGCAACGATCTAATTCCTTGCAATGACCCACTTTGTAAGGCGTTGCATTTCAATGGTAACCACAGATGTGAGACTCCAGAGCAATGTGACT ATGAGGTTGAGTATGCTGATGGAGGATCTTCTCTTGGTGTTCTTGTTAGAGATGTCTTCTCTTTGAACTATACAAAAGGCCTCCGGCTCACCCCTCGT CTTGCTCTCGGATGCGGATACGATCAAATCCCAGGGGCTTCGGGTCATCATCCTCTAGATGGAGTATTGGGGCTTGGTAGGGGAAAAGTAAGCATT CTGTCACAGCTTCATAGCCAAGGTTATGTGAAGAATGTAGTCGGTCATTGCTTAAGCAGTCTAGGTGGAGGAATTCTGTTTTTTGGCAACGATCTTTA TGATTCTTCAAGGGTCTCTTGGACACCCATGGCCCGTGAAAACTCAAAACACTACTCTCCTGCGATGGGAGGGGAACTTCTATTCGGGGGAAGAAC AACGGGATTGAAGAATCTATTGACAGTCTTTGATAGTGGCAGTTCTTACACGTATTTCAACTCCAAGGCGTACCAGGCAGTAACATACTTGCTAAAAA GAGAGCTAAGCGGAAAACCGTTGAAAGAAGCAAGGGATGATCACACGCTTCCTCTATGTTGGCAAGGACGTAGACCCTTCATGAGCATTGAAGAAG TGAAGAAGTATTTCAAGCCTCTAGCTTTAAGCTTCAAAACTGGCTGGAGATCCAAAACTCTGTTTGAAATACCCCCAGAAGCTTATCTCATCATTTCTA TGAAGGGGAATGTGTGTTTAGGAATCTTAAATGGCACAGAAATAGGTCTCCAGAACTTAAATCTCATCGGAGATATATCGATGCAAGATCAAATGATA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002I19	AT2G41560.1	ACA4 (AUTO-INHIBITED CA(2+)-ATPASE, ISOFORM 4); calcium-transporting ATPase/ calmodulin binding	TATTGCTAGAGAGAACAAGTGTAAAGAAGGCTCAGTCCTCTGTCTCTCTCTCATCAGCTGCCTTCGCGCCGGCGAAGTTATCCTCTTGTACATAAAC AGCTTTTCTCAGTCGATTTCCGACAGAGTGAGAAACAGAGGAGTGAGATAGATTGAGAAATGTCGAATTTGCTCAAGGATTTCGAGGTTGACCCTAA GAATCCGTCGCTGGAAGCGCGTCAGCGATGGAGGTCCTCAGTCTCTGTTGTGAAGAACCGTGCTCGTCGTTTTCGTAACATCCGCGACCTCGATAA GCTCGTTGAATTCGAGACTAAGAGGCACCAGATCCAGGAAAAGATCCGAGTTGCTTTCTATGTACAAAAGGCTGCTCTTCAATTCATTGATGCTGCT GCTCGGACAGAATACAAACTCACTGATGAGGTTAAAGAAGCAGGATTTTCTATCGAAGCAGATCAACTTGCATCTATGGTTCGCAATCATAACACTAA GAGTCTGTCAAACAATGGTGGAGTTGAAGAACTTGCTAAGAAATTATCTGTATCTCTCACTGAAGGCGTTAGCTCAAGCGAACTCCCCATCAGGGAA AAGATCTTTGGAGAGAATCGTTACGCTGAGAAACCAGCCAGATCGTTCTTAATGTTTGTTTGGGAAGCACTCCAAGACATAACCCTAATCATCCTTAT GGTATGTACTGTAGTATCAATAGGCGTTGGTGTTGCCACAGAAGGATTTCCAAAAGGAATGTATGATGGGACTGGTATTTTGCTGAGTATACTCTTG GTGGTCATGGTTACTGCGATCAGTGACTACAAGCAATCTTTGCAGTTCATGGACTTGGATCGAGAGAAGAAGAAGATTATTGTTCAGGTCACTAGAG ATGGGAACAGACAAGAAATCTCCATTCATGACTTGGTTGTTGGAGATGTGGTTCATCTATCTATTGGTGATCAAGTTCCAGCTGATGGGGTTTTTATA TCTGGATACAACTTGGAGATAGATGAGTCAAGCTTAACGGGAGAGAGTGAACCTTCACGTGTGGAAAAAGAGAAGCCTTTCTTGCTTTCAGGAACTA AAGTTCAAAACGGTTCTGCAAAAATGTTGGTGACAACAGTTGGTATGAGGACTGAGTGGGGGAAATTGATGGAGACGCTAATTGATGGTGGAGAAG ATGAGACTCCTTTGCAGGTGAAGCTAAATGGGGTTGCAACGATCATTGGTAAGATTGGTTTAAGCTTCGCTGTGCTTACATTTGTGGTGTTGTGCAT AAGGTTTGTCTTGGAGAAAGCAACGGCTGGTAGCTTCACCAATTGGTCATCTGAAGATGCACTGACTCTACTTGACTACTTTGCGATTTCTGTAACCA TCATTGTCGTTGCTGTACCAGAAGGTTTGCCACTGGCTGTGACCTTAAGTTTAGCATTTGCTATGAAAAAACTGATGAGTGACAGGGCACTTGTGAG ACATCTCGCTGCATGTGAGACTATGGGTTCCGCTACTTGTATCTGCACTGATAAGACAGGGACCTTAACTACTAACCACATGGTGGTCAACAAAGTA TGGATATGTGATAAGGTTCAGGAGCGTCAAGAAGGAAGTAAAGAACGATTTCATTTGGAACTATCAGAAGAAGTTGAGAGTATTCTTTTGCAGGGCA TATTTCAGAACACTGGTTCTGAAGTTGTTAAAGATAAAGATGGAAACACTCAGATCCTAGGATCCCCGACAGAAAGAGCAATACTCGAGTTCGGTCT GCATTTAGGAGGTGACTTTGTCGCGCAGCGTAAAGAGCATAAGATACTCAAGATCGAGCCGTTCAATTCAGACAAGAAGAGAATGTCTGTTCTTATA GCTCTTCCTGGAGGTGGTGCACGTGCTTTCTGCAAAGGTGCATCTGAAATAGTGTTGAAAATGTGCGAGAATGTTGTGGATTCGAATGGAGAATCC GTTCCACTAACTGAAGAACGTATTTCGAATATCTCTGATGTCATAGAGGGTTTTGCCTCAGAGGCTCTGAGGACTCTCTGCTTGGTTTACAAAGATTT AGATGAAGCTCCCAGTGGAGACCTTCCTGATGGAGGCTACACAATGGTAGCAGTTGTTGGAATCAAGGATCCAGTACGTCCAGCTGTTAGGGAAGC
GCT-002I20	AT1G18450.1	ATARP4 (ACTIN-RELATED PROTEIN 4); structural constituent of cytoskeleton	GACCTTTCTCTACTCTAGACAAAAATCGAGCTCAGTAATCGATTCGACCTGTATCGGTTAACCCCGAGATTGTAGAGAACCCAACCCCGTCCCGTGT TTAAACCCTCCGACGAGCTCTCCGGCAGCCATGTACGGCGGAGATGAAGTGTCAGCTATAGTGGTTGACTTGGGTTCGCACACTTGCAAGGCTGGT TACGCCGGCGAAGATGCTCCCAAAGCCGTTTTCCCTTCCGTTGTTGGGGCAGTAGATGGAATAGAGGCAATGGATGTGGATGTTGATTCTTCTACA AAGACAAATTCAAATTCCGAGGATTCAAAGACCAACGAGCCTGAAAAGGAAAAAGGAAAACGCAAGCTCTATGTAGGATCTCAAGCCTTGAGTTACC GCCGCGATCATATGGAGATATTGTCACCCATCAAAGATGGCATTGTTTCTGATTGGGATTTGGTGGACAATATATGGGAACATGCTTTCAGGAGTTG TCTGATGATTGATCCTAAGGAGCACCCCATGCTGCTAGCTGAGCCTCCTTTAAACACTCAACAGCAGAGAGAGAAGGCGGCAGAGCTAATGTTTGA AAAATACAAAGTTCCAGCATTGTTTATGGCTAAGAATCCTGTTCTCACGTCTTTTGCTACTGGGCGTGCTACTTCGTTGGTTGTTGACTGCGGTGGAG GATCCACAACTATTGCACCGGTGCATGATGGTTATGTCCTTCAAAAGGCGGTTGTATCAGCTCCAATTGGAGGGGAGTTTCTCACTGACTGCTTACT GAAAAGCTTGGAGAGTAAAGGAATTAAAATAAGACCTAGATACTCTTTCAAGAGAAAGGAAGTCCGACCAGGGGAATTCCAGGTTGAAGATGTAGGT CTTCCTGACACCACGGAAAGCTACAAGCTCTTCTGCCAGAGGATGATAGTGGGTGATATCAAGGATTCTATTTGTCGGGTTCCTGACACTCCCTATG ACGACAAATCATATTCAAACATCCCAACTTCGTCGTACGAGCTTCCTGATGGCCAGACACTCGAGATTGGTGCTGATAGGTTTAAAGTTCCTGATGT GATGTTCAACCCGTCCATAGTTCAGACAATTCCAGGAATGGAGAAGTATGCAGACATGATTCCTTCTGTTCGTGGGTTGCCACAGATGGTCATGGAG AGCATCAACAAATGTGATGTAGATATCAGGAGAGAGTTGTATAGTAGCATACTGCTTGCTGGTGGCACATCGTCCATGCAACAGCTGAAAGAGCGTC TCGAAAAGGATTTGATAGAGGAGTCTCCTCACTCGGCTCGAGTTAAAGTGTTGGCAAGCGGTAACACAACAGAAAGACGATTCAGTGTATGGATAG GAGGGAGTATATTGGCATCACTAGGTTCATTTCAACAGATGTGGTTCTCCAAATCTGAGTACGAGGAACATGGCGCTTCTTACATTCAGAGAAAGTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002I21	AT3G23400.1	plastid-lipid associated protein PAP / fibrillin family protein	GCAAAACTCTTCTTCTTCTCTCTGCGATTTTCTCCTATGGCGGCTTCTTCTACTACTTTCTCCTCACTGCTACCTGCACCACCGGCACTCCTTTCCGA CAACCGATCTCCGCCGCCGTGCTGTTCCGTCAGATGCTCTATTTCTTCATCGCCGGTGCTCATTAGCTTCCCCAGATCGTCTCGTTTGAGCTTCGCT TCACCGGAGAGGAGAAATCTCGCCGTGAATTCGACGGTCGGTGAGGTATCCTTTCGCGAACCGTCAACATCTGGATCAGGAGATGTTGAATCGCTG AAACTCAAATTACTGAGTGTGGTTTCGGGATTGAACAGGGGACTTGTGGCAAGTATAGATGATCTACAGAGAGCCGAGGCGGCTGCTAAAGAGCTT GAAACCGCTGGTGGACCGGTGGATTTAACCGATGATCTTGACAAGCTCCAAGGTAAATGGAGGCTCTTGTATAGCAGTGCCTTCTCTTCTCGTTCTT TAGGTGGTAGCCGTCCTGGACTACCCACTGGTCGTTTGATTCCTGTAACTCTTGGCCAGGTGTTTCAAAGGATTGATGTGTTTAGCAAAGATTTCGA TAACATTGCGGAAGTGGAAATAGGAGCTCCTTGGCCATTTCCGCCGTTGGAAGCCACCGCGACACTGGCTCACAAATTCGAACTCTTAGGTACTTG CAAGATCAAGATCACATTTCAGAAAACAACAGTGAAGACATCGGGAAACTTATCGCAGATTCCTCCGTTTGATATCCCGAGGCTTCCCGACAGTTTC CGCCCACCGTCAAACCCTGGAACTGGTGATTTTGAAGTCACATATGTTGATGATAACTTGCGCATCACTCGTGGGGATAGAGGTGAACTTAGGGTAT
GCT-002I22	AT5G06320.1	NHL3 (NDR1/HIN1-like 3)	GAATAATATTATTAATTCCATTCTTTTACTCTTCTTCTCCAAACCAATTACACAAACAGAAACTTTCTTCAGAGGCATTTCATCGAACACATGGGAGAC AGGCAACCGCAACTAAACGGTGCGTATTACGGGCCGTCGATTCCTCCGCCGACGAAAACCTCCCGCAGCCACGGCAGACGCGGCGGTGGATGCG GCTGTTTAGGTGACTGTCTTGGCTGTTGCGGCTGCTGCATCCTAAGCGTCATCTTCAACATCATCATAACCCTTGTCATCATCGTTGGCATAGCCGC CTTGATCATCTGGCTAATTTTCCGACCCAACGCGATCAAATTCCACGTCACCGACGCCAAGCTCACCCAATTCACCCTCGGCGCAGACAACAACCTC CGATACAATCTCGACCTCAATTTCACGATCCGAAACCCTAATCGACGAATCGGTATCTACTATGACCAGATCGAGGTCAGAGGCTACTACGGAGATC AGCGATTCGGCTCCAGCAACGTCTCGCCGTTCTACCAGGGCAAAAAGAACACGACGGAGATCGGAACTAAACTCGCGGGACAGAGCTTGGTGCTG CTTACCGGCGGAGAGCGGCGGGATCTGGACGAGGACTTGAAGTCGGAGATCTATAGGATCGATGCGAAGCTGAGACTTAGGGTTAGGTTTAAGTT CGGGTTGATCAAATCGTGGAAGTTCAAGCCGAAGATCAGGTGCGATCTTAAGGTTCCTCTCGGTAACGCTAATACAACCAGCGGGTTTCAGTTCCA GCCGACCAAGTGTGACGTTGACTTTTGATTCTAGTCAAAGTCAATGCTATTTGTCTCCGCATTTATTCATATACACTGTTATTTTTTTTATTTTAGTTTA
GCT-002I23	AT5G64340.1	SAC51 (SUPPRESSOR OF ACAULIS 51); transcription factor/ transcription regulator	GACTTCTTTAGAAACACACTTCTTACAAAAAAAAATTCTACGGAAAATACACATTATTGCTCGTTTCGTTGGTCACTTTCATCCCTCTTATCCCTTCGC TTTTCCATTGATTCAGCTAACAAAGAAGAGCTCTCATCGTCTTCTCTGGATCTGAGCAAAAGATTATTCCTCCGTTTCGTCATTCTAAGATACTAAATT CTCGAAAGTAGATTGAATACAAGCAGTGGATTTTAAAAATTACATAAGAGGAGAAAGAGAAGCAGCATGTGTTGGTTCACTACTTCTGTTGACGTATA CCGCAAAGTTGTGCGCTTGAATCTGTATTGCCGTGTGATTCTGTAAATCTCTTCTTCCTTTTAACCAACATTCAACTCTTCTCTCTTATTCATCTTCCC TTCTTTATCAATATATTTTAAACCCTTTTTCCTCTAAATGGGATCTCAACATTTCTACGTGTTCCATTGTGAACAAAGAATCAGCTAGACCAAAAAGCTC CTTTCTGTTTTCTTCTTTCTTTCCCAAAAAAAAGCTTTCTTCTTTCGGTAGGTCTCTGTCTGCTTTTCACTCAATATTTCCTCAAAGTTATGGTGTGTCA ATCACCTGGCAAGACAAGATTTCGAGCATTGAAGTACGAGACAGGAGACGCTAACAGACCAACAATTGTAGTGAGAGTTATTGCATGCTTTCAACCG ATGGATAATTGCCAGGCTGAGTACTTTAGACTGCTACTTAAACCAGTCACGTAGTTGGTTTGTGATTTTCCGCTGTATTTTTTCTTCGTTCGTTTGCCT CTTCTTTCTTTCACTACTTACTCGAAAAGGAAACAAGAAGTATTTGCATTCAACCGATTGAGCAACTTGACAATCGTGTTTGTACTCTTTATAGCTCCC TTGAGCTACACTACAAGAGCATGCCTCTTGATACCTGGCAACGGGATTTGCCTCTGGGCTTAAAGCCTCAAGCTTGCTTTGAGGATATAACAGCTCG GTCTATCCATCCTCAAATTCCTCTCCCTGAGGTTGGGAAACTATATGCAGCTGAGCCTCAGGCTCGCTGTTTGCAGCCACCACCATTCCAGTCTCTA CTGCGCAGTCATGATAAGGAGTCTTGTGGAAAACGATTCTCGATGTCTGGCATCCGGTCTTGGTGCGCTGCTGCTACTACTCCACAAAGAGCATTA GAGTCTTCTCAGAAAAGACTTATGATATTCGATCAGTCAGGAAACCAGACTCGTCTATTACGGTGTCCATTTCCTCTACGGTTTCCATCTCCTGCAGT TGCGGAGCCAATGAAATTCTACGGTCTAGCGAAAGCTTTCAAGGAAGATTGTGAAGAGAATGATTTAAGTGGAAAAGAGTCGGAAATGCATGAAGAC ACTGAGGAGATCAATGCATTGCTGTATTCAGATGATGATGATGATGATGATGGTTGTGAGAGTGATGATGAAGTAATGAGCACTGGTCACTCTCCTT ATCCAATTGAACAAGTTTGCAACAAAAGAGAAATGGAAGAAATTGATGGTCCCTGTAAAAGGCAGAAGCTACTGGATAAGGTAAAAAACATCAGCGA CTCATCATCACTTGTGGGCACTAGGAGCTCCACAACGCTCAATGGATCGTCCTTTCTTATGGATAAAAAGCTCCCTGAATCAAAATGCTCGACCAAA GAAGACACTGGTTCTGGTCTGAGCAACGAGCAGTCGAAAAAAGACAAGATCCGTACAGCTTTGAAAATACTCGAGAGCGTAGTTCCGGGTGCCAAA GGAAACGAAGCTCTCTTACTTCTCGACGAAGCCATTGATTACCTAAAGTTACTGAAACGAGACTTAATCTCAAGAACCATTGCTAAACAAAAATCCCC CCACCACTCACTAGTCACAAGTCACCAACCTTGTTTGTAAAAGAGACAACATGGGGAACAAGAAATCTACTGACAGATAAGGCTTGAAGATTCTCAC GAGTGAAAACGTGTGTGAAGTGGTTTTGGGTCCGTATCCTCTGCATCAGCTTTTTAGCTGTATATAGTGGACTACTTTAGGTATATATGCTTCTGCAA TTTCAAAAAGTTAAAGAAGAAAAGAGGTCACTTTCTTCTTCTCTCTGTGCTTGGTGTGGAAAAAAAGCCAAAGTCGTCGTGGTCATTGATCGACAATG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002I24	AT1G06570.1	PDS1 (PHYTOENE DESATURATION 1)	GATTTGTGTCCATAGCTTAACTAAGCACCACACTGAGTGCCGTAGCAGAGTTTAGTTGTAGCATAAGGTGAAAAAAATCTATGGGGCACCAAAACAC CGCAGTTTCAGAGAGTCAGCAGCACGACGGCGCTGCGGCGTCGGAATCGCCGGGATTTAAGCTCGTCGGATTTTCCAAGTTCGTGAGGAAGAATC CGAAGTCCGACAAATTCAAGGTTAAGCGCTTCCACCACATCGAGTTCTGGTGCGGCGACGCCACCAACGTCGCGCGTCGCTTCTCGTGGGGTCTC GGCATGCGATTCTCCGCCAAATCCGATCTCTCCACCGGAAACATGGTTCACGCCTCCTACCTCCTCACCTCCGGCGACCTCCGATTCCTTTTCACT GCTGCCTACTCCCCGTCTCTCGCCGCCGGAGAAATCCGACCGACCGCTACAGCCTCTATCCCATCCTTTGATCACATCTCTTGGCGCTCCTTCTTCT CTTCCCATGGCCTCGGCGTGAGAGCCGTCGCGATTGAAGTAGAAGACGCAGAGTCAGCTTTCTCCATCAGCGTCGCCAACGGTGCCATTCCTTCG TCTCCTCCTATCGTCCTCGACGAAGCCGTTACGATCGCTGAGGTTAAACTATACGGCGATGTCGTCCTCCGATATGTTAGTCACAATGGAGTAAACA CCGATAAATCCGATTTCCTGCCTGGATTCGAGCTGGTGGAAGATACGTCGTCGTTTCCACTCGATTACGGTATACGGCGGCTTGACCACGCCGTGG GAAACGTCCCTGAGCTTGGTCCGGCGTTAACTTACGTCGCAGGGTTCACTGGTTTCCACCAATTCGCAGAGTTCACAGCAGACGACGTTGGAACCG CCGATAGCGGTTTGAATTCGGCGGTCTTAGCCAACAATGATGAAATGGTTCTTTTACCAATAAACGAGCCAGTGCACGGGACGAAGAGGAAGAGTC AGATTCAGACGTATCTGGAACACAACGAAGGTGCAGGGCTACAACATCTGGCTCTGATGAGCGAAGACATATTCAGGACTCTGAGAGAGATGCGGA AGAGAAGCAGTGTTGGAGGATTCGACTTCATGCCTGCTCCGCCGCCTACTTACTACCAGAATCTGAAGAAACGGGTCGGCGACGTGCTTAGCGAC GAGCAGATCAAGGAGTGTGAGGAACTGGGGATTCTTGTGGACAGAGATGATCAAGGGACGTTGCTTCAGATCTTCACAAAACCACTTGGTGACAGG CCGACGATATTTATAGAGATAATCCAGAGAATAGGATGCATGAAGAAGGATGAGGAAGGGAAGGTTTACCAGAGTGGAGGATGTGGTGGCTTTGGC
GCT-002J01	AT4G11650.1	ATOSM34 (OSMOTIN 34)	TGACACACACAAGTAGTAAAACAAAACAAAAAATGGCAAACATTATCTCACTCTCGGCGTTCATCATCTCCATCTTTTTCCTCATCTCCACCGCTAAA GCCGTCAGATTCGACATCCTGAACCAATGTGGTTACACCGTTTGGGCCGCCGCCAGCCCTGGAGGTGGCCGGCGTCTAGATCCTGGCCAGTCATG GCCACTAGATGTTGCGGCTGGCACACGTATGGCACGTATTTGGGGTCGGACAAAATGTAATTTTGACTCTTCGGGACGTGGCCGATGCGAAACCG GTGATTGCACTGGTGGACTTCAATGCACCGGTTGGGGCCAGCCACCAAACACGTTGGCTGAGTACGCTTTGAACCAATTTAACAACATGGACTTCT ACGACATCTCACTTGTTGATGGATTTAACATCCCTATGGAATTTAGCTCGAATTGCAAGCGGATACTATGTAACGCGGACATAAACGGACAGTGTCC AAACGAGTTGAGAGCCACAGGAGGTTGCAACAACCCCTGCACAGTGTTCAAGACGAACCAATACTGTTGTACGAACGGGCAGGGATCATGTGGCG CCACTGAGTTCTCAAGGTTCTTCAAACAGAGGTGTCCAGACGCCTACAGCTATCCACAAGACGACCCGTCCAGCACTTTCACTTGCACTAACACTAA CTACCGGGTCGTGTTTTGTCCTAGATAGGTGCTAGGGCCTAGACTATCTCAACACCAGTGTGTACGTAGGTATGCACGTACGTGTAACGTGTGTATT
GCT-002J02	AT5G20900.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT3G43440.1); similar to ZIM motif family protein, expressed [Oryza sativa (japonica cultivar-group)] (GB:ABF96481.1); similar to OSJNBa0060D06.16 [Oryza sativa (japonica cultivar-group)] (GB:CAE03550.1); similar to Os04g0653000 [Oryza sativa (japonica cultivar-group)] (GB:NP_001054103.1); contains InterPro domain ZIM;	GGAGAGACTAACCATGGTTAAGGTTGAAGATGAACCACGCGTTTCCGTAGAAGGTGGATGTGGTGGTGTTGTCTCCGGTGAAGGCGGCGACGAGC ACCGCGGGGTTGTAATCGCCGGTAACGGCACCGTTCAAGGTGACAACGCCGGATCTGTCGCCGGAGAAGGTGGATTTTCAGCTGAGAAATCGAGT GGCGAAGCTAGGTCCAAGGAGGTCCCGTCCTCTGAGCCAGATGCTTCAGCGATCCTTCCATCTCAACTTACTATTTTCTTTGGTGGGAGTGTTAGTG TGTTTGATGGCATTCCAGCAGAAAAGATTCAAGAAATCCTCCGTATTGCTTCTGCTACTGCCAAATCCATTGAGACAAAGAACTCTACAAGAATCAGC CCTGCTCCTTCTCCAGCACTGAACAGAGCTCCTTCTTTCTCCAGCACATCTACTGGAGCTTCACCAGCTGGACAGTCATTTCCCATTCACCCAATTTC GTTTTGTAGATCTGCGGCTGATCTACCAATTGCAAGGAGGCATTCGCTTCAACGATTCCTTGAGAAAAGACGGGACAGATTGGTCAACAGAAACCCT TACCCTGCTTCTGACATCAAGAAGACAGATGTCCCAACAGACAATGCCTCTGTTAAGGAGGAATATTCAACTGCTTAGCAGAGAAGATCAACCTCCA AGGCTACAATAAGCTTAACGAACATATCATTTTCAAAAGCAAACTAAGTGAAACGTTATGACAGTGTATCATATATATGCTGCTGTGTGTTGTATTGTA GTGTCTGTACAGGTTTGTCTAACAAACCGAAGATTTGTTTATGTCTGGAGTGGTCCGACATGTTTATCATTTTCTCATCTACGGAAGAACAAACTATT GTCTTATTTTAACTTATAACTCTTGATGTATGTTATGTTATTGAACTTGTTATCTCTTCCAGAATACAATTTGTGTGTAATATTATTAATGAACTCTGTCG TTGGTATATAAGCTTTCATATTAAAAAAAAAAAAAAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002J03	AT1G17830.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT1G73210.1); similar to hypothetical protein [Oryza sativa (japonica cultivar-group)] (GB:AAO39871.1); similar to Os10g0494000 [Oryza sativa (japonica cultivar-group)] (GB:NP_001064942.1); similar to hypothetical protein [Oryza sativa (japonica cultivar-group)] (GB:AAP46235.1); contains InterPro domain Protein of unknown function DUF789; (InterPro:IPR008507)	GAATGAAACTCTGCTGCAACTTCTTCTTCCTTTTTTATCCCCAAAATATTCTCAATAGATTTCATCTAAAATTCAGTACACTCAGATACGCTTTATGATT TATCTTTAGTTTTACAAGTGATCATTTTCTTTTTATAAAACCGAAATTCACCCAAAACACAAAATCCACTGTTTCTGTAGCAAGTCTCTGTTTTTCTTTTG TCCCTTCTAGGTCGTTCTTGTATCTAGCTTTTTCAAAATTTCCAGAACAAGTAAATCTCTGGGTGTTGAGGATCATACAGTCGAGAAAAGGTTACCAT ATTGGAAAATTCTGTAAGAAATATTACAAATTTACTTAACTTTCTCTGATTCTGAAAGATTACAAATTACTTAACTTTTTGTGATTTTCTGAGAGAATTAA ATTGTCAATGTAAGAAACCTAAAACAGAGAGGCCGAGACAGAAAATGTGGTGGTGGTCATCACCGTCGACGAAAGTCCGATCAAATCTGGAGAGGT TTCTCAGAGGAATAACTTTAAAGCCTCCTTCTTTCTCTCTATCTCAGAGCTGCGAGAATAATTTGAATAGTCTGTGGATACAACCGAGCAGAGACAAG ATTGAGTTTTACAGGCTTAGTGATCTTTGGGACTGTTTTGATGAGCTAAGCGCGTATGGACTTGGATCAAAAGTCGATTTAAACAATGGCGAATCCGT TATGCAATACTACGTCCCGTATCTATCCGCCATTCAAATATATACTAGTAAATCGACAGCCATTTCCAGTTTTGACAAAATGTGGTAAATCTAGTTTGT AATTGGTGGGGACAAGAGTGTTTTATGTTGTAAGGAGTGAATTTATGGTGCTTGCAGGAACCAGAGTGAGGTGGTTGACTGTGAGAGTGAATGTTG GAGTGATGATAGTGAGATTGAGAAGTTGTCAAGGTCAATGAGCAGTGGTTCTAGCAAAATATGGGATTATGTTTCTGATGATTCCGGTTATGAAATC GATGGCAATCCTTCGTTGATGCGAGATAAGCTCGGTTACATTGAGTTTCAGTACTTTGAGTCAGTTAAACCGCACTTGAGGGTTCCTCTTACCGCCA AGGTAAATGAATTGGCTGAGAAGTATCCGGGACTTTTTACTCTAAGGAGTGTTGATTTGTCTCCCGCAAGTTGGATGGCCATTGCTTGGTATCCGAT ATACCATATTCCATCTTGGAAGACCGATACAGACTTATCAACGTGTTTCTTGAGTTATCATACACTATCTTCGGCCTTCCAAGGTGATTTAGTTGAGG GAGACGATAACAAAATCATGGAAGAAGAAACATTGTGTAGTGATAATGAACCTGTGACCAAGAGACTTCCTCTGGCTCCTTTTGGTTTAGTTACTTAC
GCT-002J04	AT1G48040.1	protein phosphatase type 2C	GGTGTTCTTTATTCTTTCGGGCGAATTTCAATTGCGTCCAAGCAAAGCGCCACTACCCCAAATTTCGCGTATTTATTCCTCGATTTTGCCTTTCGGTG GATTTCGCAATCAGATCTGCTCGATTTTGATTATAAGACGTGTAGAGAAGTCATGATTTTGAGTCAAACGATGGTTGCTGAGTCTGAGATCAGGGTTC TCGACGTTAAGTGCCATATCTCCTCTGCGAAAGAGCAGAAGAATTTTCAGATCGACGAAGTTCGAGTTTCTGAGTCGGTGCGTGCTGAGATTTCGG GTTCCGCTGAAACGCCTCGATTCGGATCGGGCATGAGTTTTGCAAATACTACCATTGAAGAACCCACAAGCGAGTTTTTTCCAACTATACGTTCAGG GAGCTTTGCTGACATTCGAGGCCGAGAAACCATGGAGGATGAACACATTTGCATAGACGACTTGTCAGCTCAGCTTCGATCCTTCAACTTCTCTGTA CCAAGTGCTTTCTACGGAGTCTTTGATGGCCATGGTGGACCTGAGGCATCACTTTACATGAAGGAGAACTTGACAAGATTGTTTTTCCAAGATGCTG TGTTTCCAGAGATGCCCTCCATCGTTGATGCCTTTTTCTTAGAAGAGCTGGAGAACTCTCACCGAAAAGCCTTTGCTTTGGCTGATCTCGCCATGTC TGATGAAAGCATTGTCAGTGGTTCTTGCGGAACAACCGCATTGACCGCTCTCATAATCGGACGACATCTTCTGGTCGCTAACGCTGGAGATTGCCG TGCAGTGCTATGCCGGAAAGGAGTGGCTGTTGATATGTCTTTCGACCACAGATCAACATACGAGCCAGAACGAAGACGGATCGAAGATCTAGGAGG GTACTTTGAGGACGGGTACCTTAACGGGGTCCTCGCTGTCACACGTGCCATTGGTGATTGGGAACTGAAGAACCCTTTCACTGGCTCTTCTTCACC TCTGATCTCAGACCCAGAGATTCAACAGATCATTCTAACAGAGGACGACGAGTTCTTGATTTTGGCTTGTGATGGTATATGGGATGTGTTGTCTAGC CAGAATGCAGTGAGTAACGTAAGGCAAGGACTTAGGAGGCATGGTGACCCGAGACAATGTGCGATGGAGCTTGGAAAAGAAGCAGCGAGGCTTAA CTCATCAGATAATCTTACGGTCGTGGTCATCTGCTTCTCCTCGCTCCCGTCTTTACCTCAGCAATCGCAGAGGAGAAGATTAAGGTTCTGTGTCTCT GATGAAGCTCGAGCTCGGTTACAGGCAATGCTTGGAGGCGACTAAATGCAGCTATTTTGGCGTATATAACAAACAGGGATCGGTATTTAGACCGAT CAAGCGATTTATTTCTCTAATTTGAGATTGGATTGGATGAGAGATAATAAGAGACTTAGGCAGAGATAGAGAGAGGAGAAGACAATGTTTGTAATGTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002J06	AT2G47210.1	myb family transcription factor	GGGGTTTCAACATTCTTTCGCGCTCAAAACCCCCAATTCTCGTCGGAATTGGTTAAGTGTAGGAAACCCTAACTTCTGAATCGAAGTGGATCCTGAT CGAATCGAAGGTTTTACTGATTCTATATTGGATGATAGCTACCCGGTAAATCCGGAACCCTAATTGCAATGGGTGGCACGGACGCGAAGGACATTCT CGGACTGCCCAAGACTCCACTGTCTTTGACTCAGGAGAAGAAATCTCGACCCCAGAAGGAGTCCCACAGAAAACCAGATGGCATTTCTCGCGAGGT TTATGCGCTTACCGGCGGCGTTGCACCTCTTATGCCTTCTATTGATGTTACCCACTTAAAGCGCCGTCCTCCGCCAGATGAGAAGGTCGTTTGGCAA TGGCTTCCCTTCACAAATTCTGCTAGGAAAGATGATTTGCAGCTTTACCATTGGGTTAGAGTGGTTAATGATGTTCCACCAACAGGTGACTATTCGTT TGCCAAATATAACAAGTCAGTTGATATCTTGAAATACACGGACGAAGAGTATGAGAATCATTTGACGGACCCTGTGTGGACCAAGGAAGAGACAGAT CAGTTGTTTGAATTGTGTGAAAGGTTTGATCTCCGTTTCACTGTAATTGCTGATCGCTTTCCATTATTGCGGACTGTAGAAGAATTGAAGGATCGTTA CTATAGTGTAACTCGGGCCCTGCTGCGTGCTAGAGCTCAGTCCCCAGCAGACGTTGCAAACCATCCACTGATGAAGGACCCTTATGATATTACACG CGATAGAGAGCGCAAACGGGCATTATCCATGGTCCTGTCCCAGAGTAGACATCAGGAGAAGAAAGATGCTGAGATTCTTGCTGAGGCTAAAAGAAT CACAGAGATGCGTTTGGCTGCACGCCGTGCGGAAGAACCTGATATGTCTGCGAATGAGAATATTGATGGGGTAGTTCCAGGGCGTAGTGTATCTCC ATCATCTAACTCTCAACTTCCTGCAACTGCCGTGGCTCCATCAACACTAACTATGGCAGATTATGCCTCTACCCTTGCTTCTCTGCGCATGCTTCACG TATACTTGAGAACCTATGGACTTGAACAAATGGTCCAAGCTGCAAGCTCTGCTGTTGGTCTTCGAACGATCAAGCGCGTTGAGCAGACTCTGCAAGA TCTCGGGGTCAATTTAAAGCCAAAAGTTCCTACAAAAACTGTATGTGATGAACATCTTGAATTACGAAAAGAAATTTTAACACTATTGAATCTTCAGAA GCAGCTACAATATAAAGAATCAGAAGGTTCGTCACACCGTGAAGGGCCATATGCCGCAGCGCCAGATACTCCAAAGGATCGTGTTTTCACTACTGA
GCT-002J07	AT3G09180.1	similar to Os01g0263500 [Oryza sativa (japonica cultivar-group)] (GB:NP_001042658.1); contains domain SUBFAMILY NOT NAMED (PTHR13130:SF1); contains domain FAMILY NOT NAMED (PTHR13130)	GGGGGATCACAGTTCAGTGAATTCAAGTTGAAATCGAGAGAGAGAGAGAGAGAGAGATTGATCCTTGAATCACTGCTTATGCAGCCTTTACATCAATCC CAACTTCTCCAGAACTCGGCCGAGGCGGCGAACAATCAGTCGGAATCGGAATTGGACGCGCCGCCGAAGCAGGTGGCTCAGGCCATGGATCGAC TTAACCAAGCGGCTAGAGTTATCGCCGATATCCGCCTCGGCGCCGACCGTATCCTCGAAGCCATGTTCGTCGCTTCGCACCCTCGCCACACCGAC ATGCCCCTTCAGCTCTTCCTCAGAGAAGACGCCTCCATGCGTCAACACCTTCAGGATCTCCGATTAATCGGGAAGAAGCTAGAAGAATCTGGAGTT CTCACTGAATCTCTCCGGTCAAGAAGTAACTCATGGGGTCTTCACATGCCACTGGTCTGTCCAGATGGTGCAGTCGTTGCCTATGCTTGGAAAAGAC AGCTTGCTGGCCAAGCTGGTGCGTCTGCTGTAGATAGAACCAGGTTAGCTCTCAAGGCCTTCACGGATCAGAAAAGACGATTCTTTCCTCACATTGA CGATGGTTCAAAGATGGAACCAAGTTCTAAAAAACATCATGCCTCCCATTCGCCATTTGAACATGGAAGAGAGCAACCGGTTGATAACAAAACTTTG CCAGATATACAATCGAGTTTAGAGAATCTGGTCCCGAATGTGAAGGTGTCTACTTATGGACGGTTGAGCTGGCTGAAAAGAGCTAATTCGTTACCTG TGTCAGGTAGTGATGATCCAACAGAAGCATCGAAACCTTTCTTCCAGAGTTCTAGTAAGCTGAGATCAGGGCTACAGGCTGAAGTTGCTGATAAGGT TGCTGTCATTGAATTATCAGTACCATCTGTATTCAGAGCTATAGTCTCGTTGAATCCACCTGGTTCTGTTGATCCGGATGCAGTTGCATTCTTCTCTC CAGATGAGGGAGGTAGCTACTTGCATGCGAGAGGCTTCTCCGTTTATCATGTTTACAAACACATCACGGAACATGCTGCAACGGCCTTGCAATATTT CCTCGGCTTTGGTACCGGAGGTGGAACTCCTCTCTACTCTCTTCTGCTATGGATATGCAGTTTTGAATCACTATTTAGCAAACCATGCAGTAAATGTG GAAGGCTATTAGCAATGGATCAAAAATCTGCTTTAATCCTACCTCCTCTACACCGGCCTTACCAGGAGTTACCTCATGTGGTCAAAACTGGGGAAGC
GCT-002J08	AT1G76080.1	ATCDSP32/CDSP32 (CHLOROPLASTIC DROUGHT-INDUCED STRESS PROTEIN OF 32 KD); thiol-disulfide exchange intermediate	GGCTAACCAATCCACACACACTCCCACAATGGCCACCGTCGCTAACTTCTTAGCCAAACCAATCGCCACCGTAGTCCCACGGCTATCCTCCGCCGG TGCCTCGACCTCCTCCTTTATATTCTTTGACCCCAAACCCAACTCTCTGCTCCTGAAACAGAGCTTGATAAGAATTCCATCGAGAAGAAGATTATCCG CCGTGAAAGTCAAGGCCGGTGCGGCGTCTCCGGGGAAGGTGGGTTCACCGGCGGCAAAGGACGAGAAAGTTCAAAAGATTCATAGCGGAGAGGA ATTCGACGAGGCGCTTAAAAATGCGAAGAACAAGCTTGTAGTTGCGGAGTTTGCCACGAGTAAGAGTGATCAGAGCAATAAGATTTATCCGTTTATG GTGGATCTGAGCAGGACCTGTAACGATGTCGTTTTCTTGCTCATTATGGGTGATGAGTCAGAAAAGACCAGAGAGCTCTGTCGGAGAGAGAAGATC GAGAAAGTTCCTCACTTTAGCTTTTATAAGAGCATGGAGAAAATACACGAGGAAGAAGGGATTGGACCAGACCAGTTAATGGGAGACGTGTTATACT ACGGCGATAACCACTCGGCGGTGGTGCAGCTGCACGGACGAGCTGACGTGGAGAAGCTGATCGACGAGAACCGAACCGGAGGAAAGCTGATCGT GCTCGACGTGGGACTGAAACATTGTGGCCCCTGCGTAAAGGTTTATCCGACGGTACTGAAGCTGTCCCGGTCGATGTCGGAGACGGTCGTGTTTG CTAGAATGAACGGGGACGAGAACGATAGCTGTATGGAGTTTCTCAAGGACATGAATGTTATCGAAGTCCCAACTTTCTTGTTCATCAGAGACGGCGA CATTTGTGGCCGGTATGTTGGTTCCGGTAAAGGTGAACTCATTGGTGAGATTCTCCGGTACTCCGGCGTTCGTGTCACTTATTAATTTGTATCAAAAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002J09	AT5G66960.1	prolyl oligopeptidase family protein	GACTTGGCTTTTCCTTAACCAAATCGCGTTTCCGATTCAGATTAACCCTCTTGCCACGACGTTCCCGACGTCCCGGATTGGTAGAAATATCCGCCGG TTCAACCGCAACCGGTCCTTTCTCAACCGAAACCCTATTGGTTGATACGACACCGAGATCTTTTTTACATCCTTCTTTAGCGAAAATCGAAACGGAAA ATCTCGAATCGCCGTCGTAGCTAAACACGAGAAAGTCTCCAAATTCAAGAGATTGATCGTTTGCGAATCGTTCCCAACCTTTTTGGAACACAACAAG ACGATTTCTTTCTTCTGCTTTTGTCTCCACACCCCACAACCGTCCGATCTCATCGACTAATAACACTTGCTTAGGTATCGGCTTCTCCAAGATGTCGA TGAATGCTAGAAGAAACAGAGATAGAAACATTACCAGTTCGCGAGCACTGAATTCGGGAAGAAAAACTTTGAAAAATTCCAAGTCTTTAGGCTGAGA AGAAGATGGAGGAGAAACCTTTTCACCACTTTCAACCATTCTTCTAATAGAGGGTTGATTAAACTAAATCTGATAAGTGAGAAGCAGCCAGAGGATCT AATAAGAAAAGACGAGAGGATCTATCTTTTCTGATATTCTCAATCTGACAAGGTTAAAGACGAAACCTTTTTTCAAGGAATATCATAATTTTTACGAAT TTTGCTTTCTCTGCGTAGTTTCTTATTTATTTATGTCTACAGCCTCTTTACTTCTGTTTTTTACAAATTAACGCCTTTAGAATGTTTCAATTTTGAAGCGT TTATGAATATAAATGCAAAACCTCTGTAAACCCCAAATAATAAACGGGCAAGGGGTCGAAATGCTTGCACATCTCTCCAGGACCTTCCGTCATAACTG TCGTTTCCGGCAGCAATGCCGCCGTTACAAGCCTCCGAAGTCTCCGCCTCCTCCTCCACCTCCACCGACATTACCGAAACCGCCGAAGAAGCCTCA GAGTTTCACCTTCCACGACGCGACGTGGGAGGATCCTTACAGCTGGATGTCTAAGCTGGACGATAAAGTGGCGATGCGGCATATGGATATCTATAT GGAGCAAGAAGAGAAGTATACCGAAGCTATCTTGGCCGATACGGATCGAATTCAGACCAAGCTTCAGTCTGAGATGGCTTCTCGCTTGTCTTTTGAG CTCTCTACGCCTCCGCTTCGTTGGGGACCTTGGTTGTATTATAGACGGGTTGAAGAAGGGAAGCAGTATCCAGTGCTTTGTAGGAGGCTAGCGAGC TTGCACGAAGAGTTCATTTCTCATAAATCTCCTGCTGCAGGGTTTGATTTTACATCTGGGAAGAGGATTGAGCAGAAGCTTCTTGATTACAATCAGGA AGCTGAAAGATTTGGAGGTTATGCTTATGAAGAAATGTCGGAGATATCTCCTGACCATAAATTTCTTGCATACACTATGTATGATAAAGATAACGACT ACTTCAAACTGAGTGTGAGAAACTTGAATTCTGGAGCTTTATGTAGTAAGCCTCACGCAGATCGTGTTTCGAACATAGCGTGGGCAAAGAACGGACA GGCTCTGCTCTATGTCGTGACTGATCAGAAAAAACGGCCATTCAGGATATACTGTAGCGCGATCGGGTCAACGGATGAAGATGTTTTGCTTCACGAA GAACTCGAAGGCAATGTTCATGTTAACATAAGACATACAAAAGATTTCCACTTTGTGACTGTGAATACATTCTCCCCTACATTTTCAAAGCACACTGCA TAATCGAGCATCATCAGGGATTACTCTATTTATTTACAGATGCTTCCAAAGACGGTGGAACACTCGACCATCATTATCTTCTTCGAACTCCTGTTCACT CCTCTTCCAGTCCAAGGATCTGGGAGACAGTTTTCATGGACGACCCTGAATTGATCATAGAGGACGTTGATTTCTGCAAAACACATCTCTCCCTCAT TGTGAAGCAAATGCGTAGCTACAAGATTTGTGTGGTTGATCTACCTCTCAAGACAGAGCGAGTACCGGTTCTTCTGAGAGATACCAAACCTCGTTAT CTTCCTCTTCCGAAGCACGTTTCTCAAATATCTCCTGGCACGAACTACGACTATGATTCTCCAACAATGCGGTTCACGATTTCTTCACTGGTGTTTGG
GCT-002J10	AT4G01950.1	ATGPAT3/GPAT3 (GLYCEROL-3-PHOSPHATE ACYLTRANSFERASE 3); acyltransferase	GGTCTAAAACCAAACACACACACAGAAAAAAAAAAGATAAGAAGAAAAGCTTCGCACAAAAATGCCCGTTAAGATTTCAATTTTCCAGTCTCTTGCAT TTCTTTTTAACCGGTTTATCCTCAGGCGATACCGGAATCCTAAACCAAAATACCAAAAATGCCCTTCTTCTCTCCTCCAATCCGACCTATCACGCGAC ACATTGATCTTCAACGTAGAAGGAGCTCTTCTCAAGTCCGACTCTCTCTTCCCTTACTTCATGCTAGTAGCGTTCGAGGCCGGAGGGGTAATAAGGT CATTTCTACTCTTCATTCTCTATCCATTGATAAGTTTGATCATGAGCCGCGAGATGGGTGTTAAAGTGATGGTGATGGTGAGCTTCTTTGGGGTCAAG AAAGATGGTTTTAGAGCGGGAAGAGGAGTTTTGCCTAAGTACTTTCTAGAAGATGTCGGGCTCGATATGTTCAAAGTGTTGAGGAAAGGAGGGAAG AGGATTGGTGTGAGTGACCATCTTCCTCAAGTTATGATCGAAGGATTCTTGAGAGATTACTTGGAGATTGAAGTTGTGGTCGGGAGAGAAATGAAGG TCGTTGGTGGTTATTACTTAGGAATCATGGAGGATAAGACCAAACACGATCTTGTCTTTGATGAGATGGTTCGTAAAGAGAGACTAAACACTGGTCG TGTTATTGGCATCACTTCCTTCAACACATCTCTTCACCGATATCTATACTCTCAGTTTTGCCAGGAGATTTATTTCGTGAAGAAATCCGACAAGAGAAG CTGGCAAACCCTACCACAAAACCAATACTCTAAACCATTGATTTTCCACGATAGCCGTCTCGCAATCAAACCAACACTAATGAACACTCTGGTCTTGT TCATGTGGGGTCCATTCGCAGTTGTAGCCGCAGCAGCCAGACTCTTTGTCTCTCTTTGCATCCCTTACTCCTTCTCAATCCCGATCCTCAGTTTCTCC GGTTGTAAACTAACCGTCAATATCGACGACGTTTCATCTCAAAAGTTATACTCAAGCACACGCAAAGGTTGTCTCTTTGCATGTAACCACAGAACTTT ATTGGACCCTCTCTATGTTGGATTCGCTCTGAAAAAGAAAAACATCTCAACTGTAACGTACAGTTTGAGTAGAGTATCAGAGATCTTGGCCCCGATCA AGACCGTTAGACTGACCCGTGATAGGGTCAGCGATGGTCAAGCCATGGAAAAATTGTTGACGGAAGGAGATCTCGTGGTTTGTCCTGAAGGAACCA CTTGTAGAGAACCTCACTTGCTTAGATTTAGTCCTTTGTTCGCAGAGGTTAGTGACGTCATCATTCCCGTGGCTGTGACGACACACGTGACCTTCTT CCACGGTACTACGGCAAGTGGCCTCAAAGCATTTGACCCGCTTTTCTTCCTCATGGATCCTAATCCTACCTACACCGTCCAATTTCTCGACTCTGTCT CCGGTGTCACGTGTCAAGATCCTGACGGGAAGTTGAAGTTTGAAGTGGCTAATCTTGTTCAGGGCAAGATTGGCAAGGCGTTGGATTTCGAGTGCA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002J11	AT1G54370.1	ATNHX5/NHX5 (NA+/H+ ANTIPORTER 5); sodium:hydrogen antiporter	GAAAGGCGTGTGAAAGGTCGTCCATCTCAATCTGGATGGAGGAACTGCCGATGTCTCCGGCGGGCCACGACCCCCAGGGCCAGGTTAAGCAGCA GCAAGCCGCCGGTGTTGGTATACTTCTTCAGATTATGATGCTCGTCCTTTCCTTCGTTCTCGGCCATGTCCTCCGCCGTCACCGGTTCCACTATCTT CCTGAAGCCAGCGGTTCGCTTCTCATTGGTTTAATCGTCGGTGTACTTGCTAATGTCTCCGACACTGAGACTAGTATTAGGACATGGTTTAATTTCCA CGAGGAGTTCTTCTTCTTGTTTCTGTTGCCTCCCATCATATTCCAGTCAGGTTTCAGTCTTCAACCTAAACCATTCTTTTCCAACTTTGGAGCCATTGT TACCTTTGCTATCATCGGAACTTTTGTCGCTTCAGTTGTGACTGGTGGCCTAGTTTATCTTGGCGGCTCTATGTATCTCATGTATAAACTTCCATTTGT TGAGTGTCTTATGTTTGGTGCACTTATATCAGCTACGGACCCTGTCACTGTACTGTCTATATTCCAGGAACTGGGCACCGACGTCAACCTGTATGCT TTGGTCTTTGGAGAATCAGTTTTGAATGATGCTATGGCAATATCATTGTACAGAACAATGTCCTTAGTAAACCGCCAGTCCTCGACTGGGGAACATTT TCTCATGGTGGTGATCAGGTTTCTTGAGACTTTTGCTGGCTCAATGTCTGCAGGTGTTGGGGTTGGATTCACTTCAGCTTTGATATCCTTCCTCGATT CCTCTTTTTGCTTATAAGATTTTACATGTCTAAATGTATTGTGAAACCTTAACTCAGAACACCTCTTTAAGTACGCAGGATTGGATACGGAGAATCTTC AAAACTTGGAGTGTTGTCTCTTTGTGCTTTTCCCGTATTTTTCATACATGCTTGCAGAAGGTGTTGGTCTCTCCGGCATTGTGTCTATACTCTTCACAG GAATTGTTATGAAGCGATACACTTTCTCTAATCTCTCAGAAGCTTCGCAGAGTTTCGTGTCTGCTTTTTTTCACTTGATATCCTCGCTGGCAGAAACTT TCACGTTCATTTACATGGGATTTGATATTGCCATGGAGCAGCATAGCTGGTCCCATGTTGGGTTTATCCTTTTCTCTATTTTGTTTATTGGCGTGGCTA GGGCTGTCAATGTATTTGGGTGCGCATACTTGGTCAATTTAGTTAGACAGGAGAACCAGAAAATACCTATGAAGCACCAAAAAGCCCTTTGGTATAG TGGACTTCGAGGGGCAATGGCATTTGCGCTTGCACTTCAGTCGCTTCATGACCTACCAGAGGGTCACGGCCAAATCATCTTTACTGCAACCACAAC CATTGTTGTTGTCACGGTTTTACTGATAGGAGGTTCGACAGGTAAAATGTTGGAAGCTTTGGAAGTTGTAGGTGATGATCATGATGACTCCATGTCT GAAGGCTTTGAGGAGAGCAATCCTCGGTACATCCCTCCTCCTTTTAGCATTGGAGCTTCATCTGACGAGGAAACTTCATCTTCAGGAAGCAGGTTCA AGATGAAGCTGAAAGAGTTTCACAAAAGCACTACGTCATTCACCGCGTTAGACAAGAATTTCCTGACACCGTTTTTCACAACTAACAATGGAGATGG AGAGGAAGAGTAGCACGGAAAGGACGGTGTGTATTTGTGATCCAGGCCAAGTTACGATGAATGCTCACAAGCAAATGCCTATGTAAGATAACAAAT GGTTGATTTTACCGCTCGCAAAACGCCCGCTATGAAGTTGAGAATCTTCAAAATATTTCCAATGAGTGAAATATGTATTCTTTGTGGTACAACAAACA CGTGCATGCCAATAACCAGTTACAAGAAGAAGCTGAGCTCATGCTTAGGGGTGAACATAAGCATGCTCTCACCAAAATACTCGAAAAGAGGAAACA GAAAGTTATCTTTGTCAGTGCCCCGAGTAGCTGAAGTCCTTGGAGCAATTTCCCTTCCAACTGGCGACTGTTGAGGGACTGCGGAAAGCCCTACTG TGGTTCCGTGCATCTGCATCTGTGTTGGCATAATTCCCTCCGCTGCTATCTTCTTCAATGGAGGTTGATGGGCTAAGTTGTCACTACTTGCTTTGCGT
GCT-002J12	AT2G31070.1	TCP10 (TCP domain protein 10); transcription factor	GCTTAACTTCTGCCATCCTTTCCACCAACACTACTCTCTCTCTCTCTCTATTATTCTCTCTCTTCTTCTTCTTCTTGCCCTTCAATTTTAGACCAAATAA ACGTATCAACAAAAGTCTTTCTCTTCTTCTTTTTTTCCTATCAATTCTTTTGCTGTGAGGCCTCATCTCTTTTTTTTTTTGGGGTTATTTGGTTATCTTGG TTCATTGAATATGGTGACTGCCATGGCAGATCTTTTGGGGATCTGCATAGAGGAGCTGCTTCTTGTATCAGCTTTCAGGTAGCTGTCTCCAGCCTGC ATCAGATGTTATTAACTCACTACACACCAAACACAACTACAACACAAAAAACGGCAAGCACTCTGAAGATCTTTACAAAAACGGCACGCAAGTTTCCT TCCTAAGCTGTTGAAAACAAATAAAAACCACCGAGAAAAATGTCATTTTGAGTGAGAGGTAAAACAAAAAAAGAAAAAAAAAATGGGACTTAAAGGTT ATAGCGTCGGGGGAGACATAGGAGGAGAGATAGTTGAAGTTCAAGGCGGTCACATAATCCGAGCCACGGGACGCAAAGATCGTCATAGCAAAGTC TTCACATCTAAAGGTCCACGTGACCGGCGCGTGAGACTCTCAGCTCACACGGCGATTCAGTTCTACGATGTTCAAGACCGGTTAGGGTATGACCGG CCAAGTAAAGCCGTGGATTGGCTCATCAAGAAAGCTAAATCCGCCATCGAAAAGCTCGAAGTCACTCAAGAACCGGAGAATAATACTAACACGGGA TCTTCTCCTCCCGAGCCAAACTTGGTTAATAACCAGACGCAGTTCGTGGCGGCGAATCTTGATCCTGAAGACGCAATGAAAACGTTCTTCCCGGCG ACGACGACGACAACAACAACCGGTGGTGGTACAAACATGAATTTTCAAAACTACCCTCATCATGGTGACGACAATATAGTCTCAAGAACAGCAGCAA GAACAACACCGAACCTTAGCCAAGATCTTGGACTCTCTCTTCACACATTTCAAGGAAACAACAACAACAACAACAACACAGTAGTCCCCGAGACCAA CAGTTTCGTCACGACTCCTTTTGAGACATTCGGGAGGATCTCGGGCTGGAATCATCACGACTTAGCGATGACGTCACCTTCATCACCATCGGAACAA GAACAAGAAAGGAGTAATGGTGGTTTCATGGTGAATCACCATCATCATCAACCATCGATGATGACATTGCTTAATAGTCAGCAGCAACAAGTGTTTCT TGGTGGCCAACAACAACAAAGGGGTACCCTTCAGTCCAGTTTATTCCCTCATTCTATTCGTTCTTGGGATCATCATCATCATCATCATCAAACGACGT CGGATCATCATCACAATCAGGCTTCTTCTTCTGTGATGTTTGCTTCTCCATCACAGTTTGGTTCTCATGGGATGATGATGATGCAAGGCCTTAGTTTC CCCATCCATGGAGAAGAAGCTACTCAACCAAACTCTCCTTCTTCTACTCCAAACTCACACCTCTAAACACAGGTTTGCTTACGCAAAGGGTAACAGC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002J13	AT4G22750.1	zinc finger (DHHC type) family protein	GCAAGAAATTGTTCTTTGAAAGGAAAATTATCCAAGAAAATTATGGAGCTTTCAGCTCGAATTTTCCCAAAGTTATAAACTTTCTTCCTCAATTCAATAA GGGTTTGATTCATTTTCCTTCATCGACCAAGAAATCTCGGGTTTTCGAAGAGCCCCCGAACAATGGCGTGGAACGTGTTCAAGTTCTGCACAGCACT TCGCGCCTTGGGTTCGATTATGATCCTGGTCGTAATCGGAATCATCGGATTCACATACTACGCCGTTGTAGTCGCGAATTACGGACCGGCTCTATTG CTCGGTGGTTTCGATTCATTAGTAGCTCTTCTCGTTTTAGGGCTGTTTCACTTTCTGCTTATAATGTTACTGTGGAGTTATTTCTCTGTTGTTGTTACG GACCCTGGTGGTGTTCCACCGGGTTGGAGGCCGGAACTAGACATAGAGAAAAACGAAGGAAACCAACCAGCGATTGCAGACCAATCACTTTCGGT TGGAGGTTCCTCGTCTCATGGTGTAAGATACTGCCGAAAGTGCAATCAGTATAAACCGCCACGTTCTCACCATTGTTCTGTCTGTGGAAGATGCATA CTAAAGATGGACCATCATTGTGTTTGGGTTGTGAATTGTGTTGGGGCAATGAATTACAAGTCTTTTCTCCTATTCTTGTTTTACACATTTCTTGAGACA ACGGTGGTTGCAACATCATTATTTCCAGTTTTCCTTGTGTTCTTTACCGATGAAGAAGCTGATATAACCGTATCACCAGGAAGCCTGGCAGCCACCTT TGTTGCATTTGTATTGAACATAGCATTTGCGCTAAGTGTCCTTGGCTTCCTAATCATGCACATACTGCTGGTCGCGCGTAACAGCACAACTATTGAGG CATATGAGAAGTATACAGCTCCTAACTCGCCTTATAACCTTGGTCGTAAGACAAACTTTGAACAGGTTTTTGGAAGGGATAAAATGTATTGGTTCGTG CCATTGTACACGGAAGACGATATGAAGAGGTTGCCGGCACTTCGAGGGTTAGACTTTACGAGCAGGTCGGAGGAGTCGGAGCCGCTTCAGTCTCT ATGACCTTAAGCTTGTCACTCTTGGAAATGGGTCTGTTTTGTGTATGTATCATCAATATGTCTTGTGTATTAAAGATTAGTGGTTTAGTGGTTTTGAGG
GCT-002J14	AT1G48410.2	AGO1 (ARGONAUTE 1)	GGTTTTGTTATCTCGTTTGGTAGGAGGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGACGAAGTAGGGTTGGTTATCTCGGTC AATCGTATCGTCTCCGGCGTGATTTTCAGTAATAATTATGGTGAGGAAGAAGAGAAATGATGGTCAATCTGAAGGAGGCGAAGGATCTGGTTCCCGT GAAGCTGGTCCAGTTTCTGGTGGTGGACGTGGTGGCTCTCAGCGTGGTGGTTACCAGCAAGGAGGAGGAGGAGGAGGAGGAGGACAGTACC AAGGTGGAAGGGGTTATAATCCTCAGACTCAACAGGGAGGTCGTGGTGGTGGTCGTGGATATGGAGGACCTCCACAAGAGTATGGTGGACCACAA GAGTACCAAGGAAGAGGAAGGGGTGGACCTCCACAAGAGTACGGTGGACCACAAGAGTACCAAGGAAGAGGAAGGGGTGGACCACAAGAGTACC AAGGAAGAGGAAGAGGAGGACCTCCTCATCAAGGAGGTCGAGGAGGGTATGGCGGTGGCCGCGGAGGTGGATCCTCTGGTGGACAGCCGCCGA GACAATCACACCCCGAGCTGCACCAAGCTACCTCACCTGCTTATCAAGCGGTGTCTTCTCAACCTGCATCGTCTGAGGCAAGTCCGATCCAGATGC CGGAACCTCCTGTTCCGGTTCAGCAATTTGAACAGCTCACTATTGAACAAGGAGCTCCCAGTCAGGCAATCCAGCCTATTCCCTCTTCTAGCAAAGC TTACAAGTTTCCGATGAGGCCCGGTAAAGGACAGGTCGGTAAGCGCTGCATTGTAAAGGCTAACCACTTCTTTGCTGAGTTGCCTGACAAGGATTT GCACCAGTATGATGTTACCATTACTCCAGAAGTTACATCAAGGGGTGTTAATCGTGCTGTGATGAAACAGTTAGTTGATTTGTATAGAGTATCACACC TTGGAAAGCGTCTTCCAGCGTATGATGGCCGGAAAAGTCTGTACACTGCTGGACCACTTCCGTTTGTCTCCAAGGAGTTCAGAATCACACTTCTTGA CGAGGAAGAAGGGCCTGGGGGACAAAGACGAGAAAGAGAATTCAAAGTTGTGATCAAGCTAGCTGCACGAGCTGATCTGCATCATCTAGGATTGTT TTTAGAGGGGAAACAAGCTGATGCCCCGCAAGAAGCTCTTCAGGTTCTCGACATTGTTCTTCGTGAGCTGCCTACCTCTAAAGCCAGGTATACTCCT GTGGGCCGGTCATTTTATTCTCCTAATATAGGAACAAAACAACCATTGGGGGATGGCTTGGAGAGCTGGCGTGGATTCTACCAAAGCATTCGTCCTA CACAGATGGGCTTATCACTCAACATTGATATGTCATCTACAGCATTCATAGAGGCACTTCCTGTGACTGAATTTGTTTGCCAGTTGCTGAATCGGGAT ATTAGATCCCGCCCTTTATCTGATGCTGATCGTGTTAAGATAAAAAAGGCTCTTAGAGGTGTCAAAGTTGAAGTGACCCATCGAGGAAATATGCGCC GAAAGTACCGCATTTCTGGCTTGACTGCCGTGGCCACTCGAGAATTAACATTTCCTGTGGATGAAAGAAACACCCAGAAATCTGTAGTAGAATACTT CTACGAAACATATGGTTTTCGCATTCAGCACACGCAGCTACCATGCTTGCAAGTTGGGAATTCTAACAGGCCAAATTACCTCCCGATGGAGGTCTGC AAAATTGTTGAGGGTCAGAGATACTCAAAAAGGTTGAACGAGAGACAGATCACTGCTTTGCTGAAGGTGACTTGTCAGCGCCCCCTTGAACGAGAA AAAGATATCTTACGGACGGTACAACTCAATGCTTATGATAAAGATCCCTATGCTAAGGAGTTTGGTATCAAGATAAGTGCGACCCTTGCTTCTGTTGA GGCTCGAATTCTGCCTCCTCCATGGCTCAAGTATCATGAATCTGGAAGGGAAGGGACTTGTCTGCCACAAGTTGGTCAGTGGAATATGATGAACAA GAAAATGATAAATGGCGGAACAGTCAGTAACTGGATCTGCATCAACTTCTCTAGGCAAGTGCCGGAAAATCTAGCACGTACTTTCTGTCAGGAACTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002J15	AT1G22920.2	AJH1 (COP9-signalosome 5A)	GCGACATTTTGATCGGCTCTTCTTCGTTACTCAAAAAACCCTAAATACCGATTCTCTTGCGATTCAGCAAAACCCTAGATTTCCGCTGCTAAGCTGAG TGAAGAATGGAGGGTTCGTCGACCATCGCGAGGAAGACATGGGAGCTCGAGAACAACATTCTAACCGTGGATCCTCCGGATTCATCCTCCGACGG CATATTCTACTACGACGACACCGCGCAGGCCAAGGTCCAGCAGGATAAGCCATGGGCTTCCGATCCTAACTACTTCAAGCGCGTTCAAATCTCGGC GCTCGCTCTTCTCAAGATGGTTGTACACGCGCGCTCTGGTGGCACAATCGAGATTATGGGTCTTATGCAGGGGAAAACCGATGGTGATACAATCAT CGTTATGGACGCTTTTGCTTTGCCTGTCGAAGGTACCGAGACTAGGGTTAATGCTCAGGCCGATGCGTACGAGTACATGGTTGAATACTCACAGAC CAACAAGCTGGCTGGGCGGTTGGAGAATGTTGTTGGATGGTATCACTCTCATCCTGGGTATGGATGCTGGCTCTCGGGTATCGATGTTTCAACACA GATGCTTAACCAGCAGTATCAGGAACCCTTCTTGGCTGTTGTTATTGATCCAACAAGGACTGTTTCGGCTGGTAAGGTTGAGATCGGAGCATTCAGA ACATATCCAGAGGGACATAAGATCTCAGATGATCATGTTTCAGAGTACCAGACTATCCCTCTAAACAAGATCGAGGACTTTGGTGTTCATTGCAAACA GTACTATTCATTGGACATCACTTACTTCAAGTCATCTCTTGATAGCCACCTTCTGGATCTCCTTTGGAACAAGTACTGGGTGAACACTCTTTCTTCTTC CCCGCTGCTGGGCAATGGAGACTATGTTGCCGGACAAATATCAGATTTGGCTGAGAAGCTTGAGCAAGCCGAGAGTCAACTGGCTCACTCCCGGTT TGGAGGGATACCGGCCACTCTTCAGAGGAAAAAAGAGGACGAGTCTCCACTTGCTAAGATAACTCGAGATAGTGCAAAGATAACTGTCGAGCAGGT CCATGGACTAATGTCACAGGTGATCAAAGACATCTTGTTCAATTCCCCTCGTGAGTCCAACAAACCTCCAAGCGAACCATCGGATCCAGAGCCCATG
GCT-002J16	AT5G60600.1	GcpE (CHLOROPLAST BIOGENESIS 4); 4-hydroxy-3-methylbut-2-en-1-yl diphosphate synthase	GAAACTCTTCTCACCACTAATTTCTTCCTCTGGAACATTCCCTTCTCTATTTTTGATTCCTTGGCTTCAAGAGTGGTTTCTCAATTGCGTGTTCTTGGC TCGCGCCTTCAGCTACTTTGATTCTTTTGAGGAAATGGCTACTGGAGTATTGCCAGCTCCGTTTTCCGGGGTCAAGAGCTCGGGTTCGAAACTCGG GTTTGGTAAAAACATCAACTTTGTGAGAATTTGTGATTTGAGAAGTCAAAGATCTGCTAGAAGAAGAGTTTCCGTTGTTATCCGGAATTCGAATCAAG GCTCCGATTTAGCCGAGCTTCAACCTGCATCAGATGGAAGCCCTCTCTTAGTGCCAAGACAGAAATATTGTGAGTCATTGCATAAGACGGTGAGAAG GAAGACGCGTACTGTAATGGTTGGAAATGTCGCCCTTGGAAGTGAACATCCGATAAGGATTCAAACGATGACTACATCTGATACAAAGGATGTTGCT GGAACCGTGGAAGAGGTTATGAGAATAGCGGATAGAGGAGCAGACATTGTCAGGATAACTGTTCAAGGGAAGAAAGAGGCAGACGCATGCTTTGA AATAAAAGATAAACTTGTTCAGCTTAATTACAATATACCACTGGTGGCGGATATTCATTTTGCTCCTACTGTAGCCTTGCGAGTAGCTGAATGCTTTGA CAAGATCCGCGTCAACCCTGGAAATTTTGCGGACAGACGGGCCCAGTTTGAGACGATAGAATACACAGAAGATGAATACCAGAAAGAACTTCAGCA TATTGAGCAGGTCTTCACTCCTTTAGTTGAGAAATGCAAAAAGTACGGGAGAGCGATGCGTATAGGGACAAATCATGGAAGTCTTTCTGACCGTATC ATGAGCTATTACGGGGATTCTCCACGGGGAATGGTTGAATCTGCGTTTGAGTTTGCAAGGATATGTCGGAAATTAGACTATCACAACTTTGTTTTCTC GATGAAAGCAAGCAACCCGGTGATCATGGTCCAGGCGTACCGTTTGCTCGTGGCTGAGATGTATGTTCATGGATGGGATTATCCTCTGCATTTGGG AGTCACTGAGGCAGGAGAAGGTGAAGATGGAAGGATGAAATCTGCAATTGGAATTGGGACACTTCTTCAGGACGGACTAGGTGACACAATAAGAGT TTCACTGACTGAGCCACCAGAAGAGGAGATAGATCCATGTAGGCGATTGGCCAACCTTGGAACAAAAGCTGCTCAACTTCAACAAGGCGTTGCACC GTTTGAAGAAAAGCACAGACATTACTTTGATTTTCAGCGTAGGACAGGTGATCTACCTGTACAAAAAGAGGGAGAAGAGGTTGATTACAGAAACGTC CTTCACCGTGATGGTTCTGTTCTGATGTCGATTTCACTAGATCAACTAAAGGCACCTGAACTCCTCTACAGATCGCTCGCTACAAAGCTTGTCGTTG GCATGCCATTCAAGGATCTGGCAACAGTGGATTCAATCTTATTAAGAGAGCTACCGCCTGTAGATGATAACGTCGCTCGTTTGGCTCTTAAACGGTT GATCGATGTAAGTATGGGAGTCATAGCACCTTTATCAGAACAACTCACAAAGCCATTGCCCAACGCAATGGTTCTTGTCAACCTCAAAGAACTATCT GGTGGTGCTTACAAGCTTCTCCCTGACGGTACACGCTTGGTTGTCTCTGTTCGAGGTGATGAGCCATACTCGGAACTTGAAGTGCTCAAGAACGTC GATGCTACTATGATCCTCCATGATTTACCCTTCACTGAAGACAAAGTTAGCAGAGTACATGCAGCTCGGAGACTATTCGAGTTCCTATCCGAGAATTC AATCAACTTTCCGGTTATTCACCACATTAACTTCCCGACCGGAATTCACAGAGACGAATTGGTGATTCACGCAGGGACTTACGCTGGAGCACTTCTG GTGGATGGACTTGGCGATGGTGTAATGCTAGAAGCACCTGATCAAGATTTCGATTTCCTTAGGAATACTTCCTTCAACTTATTACAAGGCTGCAGAAT GCGTAACACCAAGACGGAATACGTATCGTGCCCGTCTTGTGGAAGAACGCTGTTCGACTTGCAAGAAATCAGCGCCGAGATTCGAGACAAGACTTC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002J17	AT5G40150.1	peroxidase, putative	GAGCGCCCCCAAAAAACCTCATTTCTACAACAATGGCGGAACAATCGCCACTCAAATCTCTCTCCCTCCTCCTCTTCTTCCTCACTCTACTCGCCTC CACCGCAGAATCTCGCCTATCCACCGATTTCTACTCAAAATCATGCCCTAGATTCCTCGACATAGTCCGCGACACAATCACAAACAAACAAATCACG AACCCAACCACCGCAGCCGCCGTAATCCGCCTCTTCTTCCACGACTGTTTCCCCAACGGCTGCGACGCCTCCGTCCTCGTCTCCTCCACCGCCTTC AACTCCGCCGAACGCGACTCCTCAATCAACCTCTCCCTCCCCGGCGACGGATTCGACGTCATCACCAGAGCCAAAACCGCTCTCGAGCTCGCTTG CCCAAACACCGTCTCTTGCTCCGACATCATCTCCGTCGCGACTCGCGACCTCCTCGTCACCGTCGGTGGTCCTTACTACTCCGTCTTCCTCGGCCG CCGCGACTCGCGAACCTCGAAATCGTCTCTCGTCGACGATCTCCTCCCTGTTCCGTCTTCTCCGATCTCGAAGCTCATTCACCAGTTCGAATCCAGA GGATTCTCCGTTCAGGAAATGGTCGCTCTCAGTGGGGCCCATTCCATTGGATTCTCGCATTGCAAAGAGTTTGCGGGTCGGGTCGCCCGTAATAAC ACCGGGTATAACCCGAGATTCGCGGACGCGTTGAGGAAAGCTTGTGCGAATTACCCGAAAGACCCGACGATATCTGTCTTCAACGATATCATGACT CCGAACAAATTCGACAATATGTATTTCCAGAATATCCCCAAAGGTCTCGGGGTACTCGAGTCGGATCACGGGTTATACTCCGACCCGAGAACCCGG CCTTTTGTTGATCTTTACGCTAGAGATCAAGATCGATTCTTTAAAGATTTCGCTAGAGCTATGCAGAAGCTGAGCCTTTACGGTGTACAGACTGGCCG ACGGGGAGAGATACGGCGAAGGTGCGATGCGATTAACTGAGTTTTTGGTTTCTTATTTATTTATATTTTTTTGGGAGGAAAAATGTGAGATTTGAGAT
GCT-002J18	AT3G50910.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT5G66480.1); similar to hypothetical protein [Thellun (GB:ABB45854.1); contains domain no description (G3D.3.40.50.300)	GCAAAGAAGCAAAGAGAAAAAAAGAGAGCGTTTTCAAAATCAAATATTTGCGGAGAGACAAAGCGGAGGTGTCGTTTGCGATAAAAAGCCTTGGAG AAGAGGTTTTCTTCTTCTTCTTCTTCTTCCCTCCTCCTTCCTCTGCATCTCTTATACGATGCCGTATCGATCCTCTTCTTCTTCTCCCAATCTTCGTCG TCGTCTCGCTTCCGTCTAACCAGGATCTACCGTTAGATTTTTCAGCTTCTTCCGTCGAGATCTCCTTCGCGTGCGAGAGCCATGCCTACTTTTTCTGC AATTGCTTTGGATAGAATGCTAGAGCCAGGGGCTTCCACATCCGTAGAGACTGTTCCAAGCACAAAATCGTTTTATTCGAAGCCACCAATATCAAAA CTGGAGAAAGGTAAAGGTAAATTACCTAATAATGAGAGGACATTTACTCGTCCTCAGATGTCACCGGCTCTCTACGCCACACCTGATGCAATTCCTC TCCCCAATTCGCCATCTTCTTTCCCACCTTCTCCTTATATCATCAACCACAAATCACGCGGGCCGCGTCTTTTGAAAAGCTCCTCCGAGGCTAATGTG GCTTCCCAAAAGAAGACGCTGGAAGATGAAGCTATTACTAGTGGTACAGACGTTAAGGCTTCACCTCGGAGGAAGTCGACCTCGTTCTCATTTCCTG TAAGTGAGGCTACTGAAGAGGATTATACTAATGGTGTTCATGCTCATCAAGTTGGAAACTTTGATTTTGATGGGATTGTTGATGGTCCTGTTGGGAAT TGGAGTCCGCTTGACGGGAAAACTGAGAATGGAAAGTCGGAGTTGGATAGTGCTGCCAATGGTTTAGGACGGGAAAGCAATCTATCAGACCCTGTC ACTGTCAAAGCAGACAAGGAGAGTGAGTCTGAAGATTTCTATGATCCAGGTGAATCAGCAAGTTTCACAAGTAACACGGAGGTAGAGGGTGATGCA GGAGAGGAAGGTTCACAAAGACTTGCTACCCCCGTGGGAGAGTTTTATGATGCTTGGGATGAACTATCAACCGACAGTGGAATGCAGAGTTCAGTG AACAACATCGAAGCTGAACTAAGGGAGATAAGGCTGAGTTTACTAATGGAAATCGAGAAGAGAAAACAAACAGAGGAGGCTCTAGAGCAGATGCAA ATACACTGGCAGAGACTCCGCGAGCAGTTGGCCCAGGTGGGTCTCTTCGTTCCAATCGATCCTACCACCTCAACCAACAACATGAACCTATCAGAA GAACTACGCTGCCAACTCGAGGTTGCTAGGTTTGTCTCCGACTCTCTAGGCAGAGGTATGGCAAAGGCAGAGGTAGAGATGGAGATGGAATCTATG CTCGAAACTAAGAACTTTGAAATCACGCGGTTATCTGATCGTGTCCACTACTACGAAGCCGTGAACCGAGAAATGTCCCAACGAAACCAAGAGGCC ATAGAGGTGGCACGACGAGAGAGGCAGAAGAGGAAGAAGAGGCAGAGATGGATTTGGGGATCGATTGCAGCAACCATTACTCTAGGGAGCGCTG CATTGGCATGGTCTTACATTCCTGCATCCAAACCATCATCCGAAGTATCACCACAAACTCTCAAGGATGATTAAGTAAGCTTCTTGTCTCCGTAACGG
GCT-002J19	AT4G37680.1	HHP4 (heptahelical protein 4); receptor	GGTGGCTTCAGAGCCTCTATCGTCGTCGATTTCATACCGAAACAAGAGGACAACTCTCTGTTGTTGATAAAAGAACGAAGCTTTAAGATCTATTTTGA TCGACTTTTCATCTACCTCGCGGTGATTTAAAGATTTTAAAAGATTTTAGAGTTTTTTTCTCGTCGGCATTGAAATCGAGGGTTTGAGAATTGAGATCC GAAGAAGAACATCTGAAATTCGTATCATTTCTTTGACTTTCCCTTCGAAATTCAGAGAAGATGGATGGTGAGTCAGAGATCAAGGAACATTTACAACC CAAATCTCCATCTGAAACAATGGAGAAGAAGCAAAATCCGAAAGGGAAGAGATTATGGCGGAAAGTGAAGTATCAACTGGTGGAATATCACTCATTG CCTGATTATTTGAGAGACAATGAATACATCATCGGTCATTACCGATCCGAATGGCCAATCAAACAGATCCTTCTCAGCACTTTTACAATCCACAACGA GACCTTGAATGTTTGGACGCACTTGATTGGGTTTTTCCTGTTTCTAGCACTCACCATATACACAGCCACAAAAGTACCAAGCGTCGTGGATCTTCACT CTCTTCAACACCGTTTACCCGATGTGTTGAGGAAAACAGATCTTCACAAACTTCACTCAGAGCTCATGTCTCGCCTTCCTTCTAGTCCATCTAGTTGG CATGTAATGGAGCTTCTTTATAACTGTTTGCCTGAACGATTCTCTCATGGCAACTACACCGACATGTGTGTTCTGCATTCAGTGAAGGAAGATCTTGC AAACATGATAGCTCCTCTAATCTTCAGGCCAATCACTCGATGGCCGTTTTATGCATTTCTAGGCGGCGCGATGTTCTGTCTATTAGCAAGCAGCACG TGCCACCTCCTCTCATGTCACTCAGAGAGAGTCTCCTACATAATGCTTAGGCTTGATTACGCCGGAATCGCAGCTCTGATCGCTACTTCCTTCTACC CTCCGGTGTATTACTCCTTCATGTGTGATCCTTTCTTCTGCAACCTCTACTTAGGATTCATAACGATCCTAGGAATCGCCACTGTTCTTGTCTCGCTC CTCCCCGTTTTCCAAAGCCCGGAGTTTCGGGTCGTGAGGGCCTCTCTGTTTTTCGGGATGGGATTCTCTGGCGCGGCTCCGATTCTGCATAAGCTG ATCATCTTTTGGGATCAGCCAGAAGCGCTTCACACGACAGGTTACGAGATTTTGATGGGTTTGCTTTACGGGTTAGGAGCTTTGATTTATGCGACTA GGATTCCAGAGAGATGGATGCCTGGGAAATTCGATATAGCTGGACATAGCCATCAGTTGTTTCATGTCCTGGTGGTTGCTGGTGCGTTTACACATTA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002J20	AT4G31805.1	WRKY family transcription factor	GAAAAACCCATGATTCGTTTCAATGGAAGGCCATGGACACTCGCGGCGGAGAAGGGGAGATGGGTGCACAGTCGTGGAGTGTTATACGCCTCGTA GGGTCGTCCTTCGGTGGCTTTCTGGCCTGAGAAGTTCCAAGGGGAAGAGAGAGGCAGGGGATGAACAAGACTCGGTAGGGTACCATTTGGCGCC CATAAGGTGCTCGACGAAACGCCTCAACGAGAGTAGGCCGTTGGATGAAAATCTCGAGACTCCTAGTCCTAGATTTGAAACACAAAGCAGGGAAGC ACCTTTGGAGATGGGGATTGGCTCTTTCTTGCTCTATCTTGTTGTTGCAAGTAAAACCGAGCTTGACAAATTGGCAGACCTGCGAATGCAAATGGAG AAGTTTCTTCTAAATGCAAAAGAAGAGTTACAGAAGAGAGAATTACAGGAAAATCCACCTTTGTCTTCCAACGATGAATATGAAATAGAACCAAGCGG TAAAGAGTTTTCTCCTCAAGTCATTTCGAATTTGGCATCATCCATTTTCCAGGGGTCATCAACGAGTGTTCTTCAAGATGAGAACACAGAATGTGAGG TCTCAAAACCAGAGGATTACCATCGAGGAACAGAGCGCAATCCAAAACTCCAGGCTGAAGACAATGAGGGCACGAAGAATCATATACCAGAGATCG TGGAAGACGAAAGATATGGAGTAAGTCCGTACGAACTGGAAAAAAAGCTGCATGAACTACTAGTGACAAGGCAACAAGAAGAGTTACTGAAGCTTG AGACTGCTCTGAGTCGTGTTGAACGAAGGCTACAGGAGAAAGAAACCGAGGTTTCATGGTGGAAAGACGCAGCCCGCCTGCTTGCTCAGCGTGTT CCTGAATCTTCTCGAGCGGGACTAGAATGGTGCAACCCTGAATCTTCTTCTATAACATGTTCGGAACTCTCTGTCTCAAGATCTTTTAAAGCATGTCC AGAACACCGCATCAGTTTCTCTAGATGAAACTGTAAGGGAAACTGGGAAAATGTCTAGCTTTGGAGTTACAGCGCTTGTCTGATAAGTTCTTTAGCAT
GCT-002J21	AT4G24620.1	PGI1 (CHLOROPLASTIC PHOSPHOGLUCOSE ISOMERASE)	GATTGGTTCCTCCAAATATCAAAATCGGAAAAAAAAAAAACACAAACAATACGAATCCTCCTGAATAAAACGCCCGACCCTTTCTCTTTCTCTCTCCATT GTTGACTCTCCTCTCTCGTAAACATCGCTGTCTTCCAAGATGGCTTCCCTCTCCGGCCTCTACTCTTCTTCTTCTTCTCTCAAACCTGCCAAAACCCA TTTCGTTAAAGCATTGACGGCGGCGACCAGAGACTCCTTCTCTTTCCCACATACCTCCAAACCATCCCATCCACCGTTGACTCTCTCCGCGTCTCGC TCCGTGGCTCGCGACATTTCTCACGCTGATGCCAAGAAAGAGCTTATAAAGGATCCCGATGCGCTTTGGAACCGATACCTCGATTGGCTGTATCAG CAGAAAGACCTCGGGCTGTATCTCGATGTCAGTCGCGTCGGATTCACCGATGAGTTTGTGGTCGATATGGAGCAACGATTCAAAGCAGCTTTCAAG GCCATGGATGATCTCGAAAAAGGGTCTATAGCGAATCCAGATGAAGGAAGGATGGTTGGACACTACTGGCTCAGGAACTCTAACCTCGCTCCCAAG CCGACGTTAAAGACCCTGATCGAGAACACACTTGATTCTATCTGTGGTTTCGCCGATGACATTATCTCTGGCAAGATAAAGCCACCATCTTCTCCTG CGGGTCGTTTTACTCAGATACTTTCTGTAGGTATTGGAGGTTCAGCTCTTGGACCTCAATTTGTTGCTGAGGCATTGGCTCCTGATAATCCTCCGTTG AAGATAAGATTCATTGACAATACCGACCCTGCTGGAATCGATCATCAGATCGCACAACTTGGTTCAGAGCTTGCCTCAACTTTAGTAATTGTCATCTC AAAGAGTGGAGGTACTCCTGAAACTAGAAATGGACTGTTAGAAGTGCAGAAAGCATTCCGTGACGCTGGTCTGAATTTCGCAAAACAGGGTGTTGC AATAACACAAGAAAACTCGTTGCTGGATAACACGGCAAGAATTGAAGGTTGGTTAGCTAGATTTCCTATGTACGACTGGGTGGGTGGAAGAACATCA GTAATGTCTGCAGTTGGTCTGCTTCCAGCAGCACTACAGGGGATTGATATTAGAGAGATGCTTGCTGGTGCTGCAATAATGGATGAGGCTACTAGG ACAACTTCACTCAAAAATAACCCTGCAGCACTCTTAGCAATGTGTTGGTACTGGGCTTCCGATGGCGTTGGTTCCAAGGATATGGTTATTCTTCCTTA CAAGGATAGCTTACTACTATTTAGTCGGTATCTGCAGCAGCTGGTCATGGAATCATTAGGAAAGGAGTTTGATCTTGACGGTAACACGGTTAATCAA GGGTTAACTGTATATGGGAATAAAGGGAGCACAGATCAGCATGCCTACATTCAACAGCTGAGAGAGGGTGTGCACAATTTCTTTGCAACCTTCATAG AAGTGCAACGGGACAGACCTCCAGGTCATGATTGGGATCTTGAGCCAGGTGTTACTTGTGGAGACTACCTCTTTGGGATGCTACAGGGAACTAGAT CTGCTTTATATGCAAACGGTAGAGAGTCCATTAGTGTTACTATAGAGGAAGTGACACCAAGATCTGTTGGGGCTCTTATAGCTCTTTACGAAAGAGC GGTCGGGTTATATGCCTTCATTGTCAACATAAACGCTTACCACCAACCCGGTGTGGAAGCCGGTAAAAAGGCAGCAGCAGAGGTTCTGGCCCTGCA AAAGCGTGTATTGTCAGTTCTTAATGAAGCCAGTTGTAAAGATCCGGTAGAGCCATTGACACTGGACGAGATAGCTGATCGTTGCCATTGTCCTGAG GAAATCGAGATGATATACAAGATCATAGCGCACATGTCTGCAAACGACAGAGTTCTGATAGCTGAAGGAAGCTGCGGATCACCACGGAGTGTCAAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002J22	AT3G05360.1	disease resistance family protein / LRR family protein	GATCAATTCCAAACAAACACAAAAGAAAGAAGGAAAAAAAGAAGAGGGTAATGATGATTTCAAACCAATCTTATTGCTTTTCTGGCATTTTTACCTTGT ATTCCTTCTTCTTCTTGGTTTCCCTCGTTCTACACACTCTTGCTTCTCCCATGCTCCACTATTGCCGTCATGACCAGAGGGATGCTCTCCTGGAGTTC AAACACGAGTTTCTGGTAATTAAATCTTATTACTCTTTGGAACATCCATCTATAAGTTTATGGAACAAGAGCACTGATTGCTGTTTTTGGGAGGATGTC ACGTGTGATACTAAATCTGGCGAGGTTATTTCACTTAACCTTAGTCGCATCTCTCTCAACAACTCTTTGAAACCAGATAGTGGTCTTTTCAAACTCCAT CATCTTCGTAACCTAAGTCTTAGTTTTTGCCATCTCTATGGAGAGATTCCTTCTTCGTTAGGAAACCTTTCTCATCTCACACATCTTGACCTTTGGGGA AATCATTTAGTAGGTGAAGTTCTGCCTTTAGTCGGAAACCTAACCCAACTAAGATACCTGAGCCTTGGCAGTAACGAGTTCAGTGGGAACATTCCTG TTTCATTTGCCAACTTAATGAAACTGTCCTATTTAGACATCTCAGGCAACCAGTTCACGTGTGTGGATTTCCCTCTTATACTAGAAAATTTAACCACTT TGTCCTTCTTAGGCATTGCCGATAATCAGTTTGAATCCACGCTTCCACGTGACATGAGTAGATTCCACAAATTGGAGGACTTTGATGTGAGTGGAAA CTCATTTTCCGGGCCTTTTCCTACATCCTTGTTCATGATTCCTTCGTTAAGAGGGGTTAGTTTGAGTGGAAACCAGTTCAAGGGACCTATAGAGTTTA GTAATACATCTTCGTCCTCTAAGCTTTCGGAGCTAGACCTTTCACAAAACAGATTCCATGGCCTTATCCCCAAATCCATATCAAATTTTCCCAATCTTG AAAGTTTACGTCTTGGTAGCAACAATTTCACTGGGTCAATCCCCACATCTATATCCAAGTTAGTCAACCTCGTTAGTCTCAATCTTAGCCACAACAATT TAGTTGGACCAAGCCCCACATCCATATCAAAGTTAGTCAACCTCGAAACTCTCCATCTTAGCCACAACAACTTCACTGGGTCAATCCCCACATCCATA TCAAAGTTAGTCAACCTCAGTGATTTCGATCTTAGCCACAACAATTTCATTGGGCCAATCCCTAGGTTAAATTTACCAAAACTCCAGCATCTGGATATT TCCAACAATAATTTGGAAGGTGAAATACCTGGTTATTTAGCGGGCCTGGGGACGTTGTTTCTTTCTGGCAACTCTTTTAGCGGTTTTGACAAATCATT TGAAGTTTCCGATTTAACACGAACCCAGGGGTTGGATGTGAGTTCAAATTCTTTCCGAGGACCATTACCCTCTTGGATCTGCAAGCTTGTATCGATA GAAGTCTTAGATTTGTCCAGCAATAGCTTCAACGGTTCTATCCCTCAATGTTTGAAGGATAGTTTTTACTGGTCTCATAGAGCTAAATTTGCGTAACAA CACTTTCAGTGGGATTCTTCCTCCAAAGATATTTGGCCGTGCTTTCAACTTACTGTTAGTTGACGTCAGCGATAACCAATTGGAGGGAAAACTTCCAG AATCATTGATCAACTGCTATTTTTTGCAACTTTTGATTGTGAGAGGCAACCGATTCGAGGACAAGTTTCCATCTTGGTTGAGTTCTTTGCCCTCGTTAC ATGTCATGATCCTACGATCAAACAAATTCTACGGGCGGTTGTATGATCGCAACGAGTCCATTGGGTTTCAAAGTTTAAAAGTCATGGATATTTCACAT AACGACTTCACTGGAACTTTGCCACCTTTCTATTTCTCCAACTTGCGTGCTATGACCACATCATCCGAAGAAGTTGGTGTCTTGTACATGGAAGATCA GTTGTATTATCATGATCCCCGTTATCGTGATCGCCACCGTAATTGGATGGAAATGGTGAATAAAGGTGTCGATACGGAATTTAAGCAGATCCTAAAC GATTTCAGAGCTGTTGACTTTTCGGGAAACAATTTTGTTGGAGAGATCCCAAAATCCATTGGATTGCTCAAGGAATTGCGTCTTCTCAACTTGTCAGG
GCT-002J23	AT4G19170.1	NCED4 (NINE-CIS-EPOXYCAROTENOID DIOXYGENASE 4)	GATCTACCTTCACAGGCTTCAACGTGGAGCAAAAGAAAGTAAAAAACAAAGCAGAGCAATGGACTCTGTTTCTTCTTCTTCCTTCATCTCCACATTCT CTCCTAAACCCTCTCTTCTTCGTCACCGATCTTCCTCTCACCTTCTCCTCCGCATCAACTCCGCCGTCATCGAAGAACGTTCTCCGGCGACTAACCC AAGCGAAAACAATGGTCGTCGTCGTCAAACCACTCTTCCTCCTAGAAAACCTAAAAAACTCCACAATCATCGGAATCCTCACACCGCAATCTCATCTC CGGCGAAACTCCGACCAGAAATGAATCTCGCAACAGCTCTCTTCACCACCGTCGAAAACGTCATCAACACGTTTATCGACCCACCGTCACGTCCTTC CGTCGATCCAAAACACGTTCTCTCCGATAACTTCGCTCCTGTTCTCGACGAGCTTCCTCCAACAGACTGCGAGATCATTCACGGCGCTCTTCCTCCG TCTCTTGACGGCGCTTACATCCGTAACGGCCCGAATCCACAGTTCCTCCCTCGTGGTCCTTACCATCTATTCGACGGTGACGGTATGCTCCACGCG ATTCGAATCCGCCGTGGCAAAGCCACGCTCTGTAGCAGATACGTCAAGACTTACAAGTATAACGTGGAGAACAAGACCGGAGCTCCGGTTATGCCT AATGTGTTTTCCGGATTTAACGGCGTACCGGCGTCTATGGCTCGCGGAGCTTTAACGGCGGTTAGGGTTTTAGCTGGACAGTATAATCCAATCAAC GGCATTGGATTGGCTAATACCAGCCTCGCTTTCTTCTGCAACCGTCTCTTCGCTTTGGGAGAATCCGATTTACCCTACGCCGTCCGATTAACTTCCG GTGGAGATATCGAGACGATCGGACGGTGTGATTTCGACGGGAAGTTAGCGATGAGCATGACGGCTCACCCGAAAACCGATCCTGAAACCGGAGAG ACTTTCGCGTTCCGGTACGGTCCGGTTCCGCCATTTCTAACGTTTTTCCGGTTCGATTCCGCCGGTAGGAAACAGAGAGACGTACCGGTTTTCTCG ATGACGTCTCCGTCTTTCTTACACGACTTCGCGATCACGAAACGTCACGCGATTTTCGCGGAGATTCAGCTCGGGATGAGGATGAATCCGATGGAT CTGGTGTTTGAAGGAGGATCTCCGGTTGGTACAGATAACGGAAAAACGCCGAGGATCGGAGTGATTCCGCGCTACGCCGGAGACGAATCGGAGAT GAAATGGTTCGAGGTTCCTGGATTCAACATCATTCACGCCATTAACGCTTGGGACGAAGACGATGGAGATTCGATCGTTTTAATTGCTCCGAATATT ATGTCGATTGAGCATACTCTGGAGAGGATGGATCTGGTTCACGCTTTGGTGGAGAAGGTGAAGATCGATCTCGTCACCGGAATCGTGACACGTCAT CCGATCTCCGCCAGGAACCTCGATTTCGCCGTTGTTAATCCGGATTTTGTCGGGAGACGGAGCCGGTATATTTACGCGGCGATCGGAGATCCGATG CCGAAGATCTCTGGAGTGGTGAAGCTCGACGTGAGCAAAGGAGATCGGGACGATTGCACGGTGGCGCGTAGAATGTACGGGACAGGTTGTTACG GTGGCGAGCCGTTTTTCGTGGCTAGGGATCCTGGTAATCCGGAGGCGGAGGAGGATGATGGTTACGTGGTGACGTATGTTCACGACGAAGTGGCC GGAGAATCGAGGTTTCTGGTCATGGATGCGAAATCGCCGGAGCTTGAAATCGTCGCCGCCGTGAGGTTGCCGCGAAGGGTACCGTACGGATTCCA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002J24	AT5G13330.1	RAP2.6L (related to AP2 6L); DNA binding / transcription factor	GGTAATATCAATATAAGCCTAGAGTCAAGAAAACCCTTATTTGCTCCCAACCTGTTTGTTCATCTTTACGCCAAGCTCCATGCTCTAGTTACTCCTTAG ATTCCCTACTTAATCAAACTTAGTTCTTTTCAAAGTCTTTTACATATATATACACACACTTCTTGTTCCTTTTCTCTGCGTGTGTGTGTGTGCGTGTGTT ACATACTTGTGCATACATAGTTTTTTTTTTGTTGTAAAAGTGGATCAGAGATATGGAAAAGGAGCAATTCCACCGGAAGCGTCGGCGGCTGAGAATC CGACTTGGAACGAGTCTGATGTCACCGCCATGATCTCTTCTCTCAGCCGTGCCATCGAGTATCCGACATCTGACGGACAAGAAAGCTCAGACCCGC CGGTCAAACAAGAGCTTGATAAATCGGATCAACTTCAACAAGACCAAGATCAACCAAGAAGAAGACACTATAGAGGCGTAAGGCAGCGACCATGGG GCAAATGGGCGGCCGAGATTCGTGACCCGAAGAAAGCAGCCCGTGTCTGGCTCGGGACTTTCGAGACAGCAGAGGAAGCCGCTTTAGCCTACGA CCGAGCCGCCCTCAAATTCAAAGGCACCAAGGCTAAGCTCAACTTCCCTGAACGCGTCCAAGGCCCCTCGACCACAACCTACGTTGCATCTCAAAC GGGCTTTGATCATGCACCAAGAGGAGGTAGTGAGTTAATGAATTCACCTCCTCCTCGGCTTGGTCCATCTACTACTACTACGGCTCCTACTTCGTGG CCAACGAATTATAACCAGGACATACTTCAATACGCTCAGTTGCTTACGAGTAACAATGACGTTGATTTATCATACTACACGTCAAGTCTCTTCAGTCA GCAGCAACAGCCTTTCTCAACGCCTTCTTCATCTTCTTCTTCCACGTTCACTTCTCAACAGACGCAGCAGCAACAACAACAACAGCAGCAGCAGCAT GAAGAAGAGAAAAGCTATGGTTACCATTACTATAGCTACCCAAGAGAATAATATAATTTTATTAATGTTGGTCGGATCAGTTTTCTAAATCGCTACCAT
GCT-002K01	AT2G33310.2	IAA13 (indoleacetic acid-induced protein 13); transcription factor	GGAAAACTCTCCTCTCCAGATTTCAAGAAACCCTTAAAATCCTCTCTCTGTCTCTTTCTGTTTGTTTGTTTTCTTGTTTCCTTCTCTCCTCTTTTTTGTC TCCTTTCCATTTTGCACTCCCAGGTTTTTGCTCTTGACTTCCAAAAAGACTCTCTCTTTCGGGTTTTGTTTTGGATTCTTAAGGGCTCTTTCTTAATAGT GCGTGTTTTTGTTGTTGTTTTTGCTCTCTAAATGATTACTGAGCTTGAGATGGGGAAAGCTGAGAGTGAGCTAGAACTGGGTCTAGGGCTCAGTCTT GGCGGTGGAACGGCGTCCAAGATTGGTAAATCAAGCGGTGTCGGCGGCAGCGGCGCGTGGGGAGAGCGTGGAAGGCTTTTGACTGCAAAGGATT TCCCTTCTGTTGGCTCTAAACGAGCTGCTGATTCTGCTTCTCATGCAGGTGCATCTCCTCCTCGTTCAAGTCAAGTTGTGGGATGGCCACCTATTGG ATCTCACAGGATGAACAGTTTGGTTAATAACCAAGCTGCAAAGTCGGCGAGGGAAGAAGAAGAAGCTGGTAAGAAGAAAGTGAAAGATGATGAGAC TAAAGATGTCACGAAGAAAGCGAATGGGAAAGTGCAAGTTGGGTTTATTAAGGTGAACATGGATGGAGTTGCGATAGGAAGGAAAGTGGACTTGAA TGCTCATTCTTCCTATGAGAATTTGGCGCAGACACTGGAAGATATGTTCTTTCGAAATAATCCGGGTACTATCGGGTTAACGGGTCAGTTCACTAAAC CGTTGAGGCTTTTAGATGGATCGTCTGAGTTTGTACTTACTTATGAAGACAAGGAAGGAGATTGGATGCTTGTTGGTGATGTTCCATGGAGAATGTT CATAACGTCGGTGAAAAGGCTTCGAGTGATGAAAACCTCTGAAGCTAATGGACTCGCTGCAAGACATCAAGAACCGAACGAGAGACAAAGAAACCA ACCGGTTTAGCTATCTTTTCGACACTACGTTGTTACAGGTTTTTCTTTTTTTTTTGGGTTTTTGCAAGTCTAAGATACTTCTGAAGCAAGCATAAGGAA GAAACAGAAGCTAGATTGATCTTATCCAGTATGTGTATGTTTCTTGGTTCTTCTAATGGTTTGTCCTGGTTTTTTTCTTTAGGGTTTTTTTTTGGCCTGT
GCT-002K02	AT1G34760.2	GRF11 (General regulatory factor 11)	GATCAGAACGAAGACTAATTTGGAGAGAGAAGAGAGCGAGAAGAGAAATAGAGAGAGAGCTAGAGAAGCTATGGAGAAGGAGAGAGAGAAGCAAG TGTATTTGGCGAAACTAAACGAACAAGCCGAGAGATACGATGAGATGGTTGAAGCAATGAAGAAAGTTGCAGCTCTTGATGTAGAACTCACAATTGA AGAAAGGAACTTGTTATCTGTTGGTTATAAGAACGTGATTGGTGCAAGGAGAGCTTCGTGGAGGATACTCTCTTCTATTGAGCAGAAAGAAGAATCT AGAGGAAACGAACAAAACGCAAAGAGGATCAAAGATTACAGGACAAAGGTTGAAGATGAGCTCTCTAAGATCTGCTACGACATTTTAGCTGTCATCG ATAAGCATCTTGTCCCATCCGCAACTTCAGGCGAATCCACTGTTTTCTACTACAAGATGAAAGGAGACTATTTCAGATACTTGGCTGAGTTTAAGTTT GGTCCTGATCGTGATGAAGCTGCTAATCAATCACTCAAGGCTTATGAAGCTGCAACGAGTACAGCTAGCTCGGAGTTGGGTCCTACTCATCCGATAA GACTCGGTTTAGCTCTCAACTTCTCGGTCTTCTACTACGAGATCTTGAACTCTCCAGAACGGGCGTGTCATTTGGCGAAGCAAGCGTTTGATGAAGC AATCGCTGAGCTGGATAGTCTTAATGAAGACTCTTACAAAGACAGCACACTTATCATGCAGCTTCTCAGAGATAATCTTACTTTATGGACCTCTGATC TAGAGGAAGGAGGTGAACAGTCTAAAGGGGACAAGCCACAAGAGGAGGATTAATGAAGCCATTACACTCCCTTTGGCACCAAACGGTTTAAAGCTT CTGTTCTTGCTAGAGGGTCTTGAGTTGGCGATAATATTCTATCATTTGTTACTCTCTCTTTTCTTTTGGATATTTTTTGTTTTCGACATTGAAACGAAAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002K03	AT4G30190.1	AHA2 (Arabidopsis H(+)-ATPase 2); ATPase	GGGAAAGCTCGCTTCACCTAATCCTCCCTCCTCCTTCTCTCTCGCCGGAATCCTTATGATCGAGTGAAACGGCGGAAATAGCTGTCGTTTTTTGTGC TGATTCGCCGCCGTTTAAGGCCTTTTTTTATCAGTGAAGGAGGGGAGAGATGTCGAGTCTCGAGGATATCAAGAACGAGACTGTTGATCTGGAGAA AATTCCGATTGAGGAAGTTTTCCAGCAGCTAAAATGTTCGAGGGAAGGATTGACGACTCAGGAAGGGGAAGACAGGATTCAGATCTTTGGCCCCAA CAAGCTCGAAGAGAAAAAGGAAAGCAAAATTCTCAAGTTTTTGGGGTTTATGTGGAATCCTCTTTCATGGGTCATGGAAGCTGCTGCAATCATGGCT ATTGCTTTGGCCAACGGTGATGGTAGGCCTCCGGATTGGCAAGATTTTGTCGGTATCATATGTCTTCTGGTTATCAACTCTACCATCAGTTTTATCGA AGAAAACAATGCCGGTAATGCCGCTGCTGCTCTCATGGCTGGTCTTGCTCCTAAAACCAAGGTTCTTAGGGATGGGAAATGGAGTGAACAGGAAGC TGCTATTCTTGTTCCAGGAGATATTGTTAGCATTAAGCTTGGAGACATTATCCCTGCCGATGCTCGTCTTCTTGAAGGTGATCCTTTAAAGGTGGACC AGTCTGCTCTTACCGGAGAGTCCCTTCCTGTGACCAAGCACCCTGGTCAAGAAGTTTTCTCTGGCTCAACCTGCAAACAAGGAGAGATCGAGGCGG TTGTTATTGCCACAGGGGTTCACACCTTCTTTGGTAAAGCTGCTCATCTTGTGGACAGCACAAACCAAGTTGGACATTTCCAGAAGGTTCTTACAGC CATTGGTAACTTCTGTATCTGTTCCATTGCCATTGGTATAGTGATTGAGATTATCGTCATGTACCCGATCCAACGCCGAAAGTACAGAGATGGAATTG ATAATCTCTTGGTCCTCTTGATCGGTGGTATCCCCATTGCTATGCCCACGGTCTTGTCCGTCACCATGGCTATTGGATCTCACAGGTTGTCTCAGCA AGGTGCCATCACCAAGCGTATGACTGCCATTGAAGAAATGGCTGGGATGGATGTCCTGTGCAGTGACAAAACCGGGACACTTACCCTCAATAAATT GAGCGTGGACAAAAACTTGGTGGAGGTTTTCTGCAAGGGTGTGGAGAAAGATCAAGTTTTGTTATTTGCGGCTATGGCTTCAAGAGTTGAGAACCA GGATGCCATTGATGCAGCCATGGTTGGGATGCTTGCTGATCCAAAGGAGGCTCGAGCTGGAATCAGGGAAGTTCACTTCCTTCCATTCAACCCTGT GGATAAGAGAACCGCTTTGACTTACATCGACGGAAGTGGTAACTGGCACAGAGTCAGTAAAGGTGCTCCTGAGCAGATCCTTGAACTTGCCAAAGC CAGCAATGACCTTAGCAAGAAGGTGCTCTCTATTATCGACAAGTATGCCGAGCGTGGTCTTAGGTCGTTGGCTGTTGCTCGCCAGGTGGTGCCAGA GAAAACAAAAGAAAGCCCAGGTGGACCATGGGAATTTGTTGGCTTGTTGCCACTATTTGATCCCCCAAGACATGACAGTGCTGAAACCATTCGAAG GGCTTTGAACCTTGGTGTTAATGTCAAGATGATCACTGGTGACCAACTTGCTATTGGTAAGGAAACTGGTCGCAGACTTGGAATGGGAACAAACATG TACCCGTCCTCGGCTCTTCTTGGTACTCACAAGGACGCAAACCTTGCATCCATTCCCGTTGAGGAGTTGATCGAGAAGGCTGATGGGTTTGCCGGA GTCTTCCCAGAGCACAAATACGAGATCGTGAAGAAGTTGCAGGAGAGGAAGCATATTGTTGGAATGACTGGTGATGGTGTCAATGATGCTCCTGCT TTGAAGAAAGCTGATATCGGTATTGCTGTGGCTGATGCTACGGATGCTGCTCGGGGTGCTTCAGATATCGTTCTCACTGAGCCTGGACTCAGCGTC ATTATCAGTGCAGTTCTCACCAGCAGAGCTATTTTCCAAAGAATGAAGAACTATACTATCTATGCAGTCTCAATCACAATCCGTATTGTATTTGGTTTC
GCT-002K04	AT2G30590.1	WRKY21 (WRKY DNA-binding protein 21); transcription factor	GAACAGCCTCTTTTAAGCTGCAAGCATCCAAGGAAGGTCCGTTTTGCTTTTGCTTCATAATCATTCTCTTCTCTCTCCCTCTCACTCTCACAATTCCTC CTTGGTCTTCCTCCTTTCAGGTCTATCAAGTTTGATTTTCCTTTGATGTGGTGTTATACCCTTTTTTTTAACCTTGATCCTCTGATGAGAAATTAAGCAG CTTTATCATTTTCGTCTTCAAGCTTCTAGAAAGGCAACTTCTTTTTTTGGGTTTGTGGAGATGGGGTTTGTGAAAAATGGAAATTTGACTATCTGGGTC TTTCCCATTTTTGCTTCCAGGATAGATTAGTGGTTTTGTTCTTGAGTCTTGGGACTGATTTTGTCTTTTGAAGGGAGAAAATTAGGGTTCTTATTTAGT AACTTTTGGGTTGTTTAAGACATGGAGGAGATAGAAGGAACCAACAGAGCAGCTGTAGAGAGTTGTCATAGAGTTCTTAACCTCTTATGTAGACCAC AGCAACAAGATCATGGTTACGACAGGAGTTTGGTGTCTGAAACTAGAGAAGCTGTGTTTAGGTTCAAGAGAGTGGCGAGCCTGTTGAACAAAAGTG TGGGTCATGCCAGGTTTAGAAGAGCCAAGAAACTTCAGACCCATTTGTCTCAAAGCATCTTCCTTGATCCTTGTCACCAAAGAACAGAACTTCCATCA CCTCTGAAAACACCCGTACTCCGGTCTGGTTTCCATGAATTGAGCTTGAGACCCACAGATTCCCTCACTTTAGGGACCCGGTCTTTCAGTCTAAACT CAGATTCAAAAGCCCCTCTCCTTCAGCTTAGCCAGCAGGCAATGCCTTCTTCAAATTATCCGAGGCTGTTTCCAGAGCATCAACAGCAACAACAGTT ACATGAAAGGTTACAAGCTCACCATCTCCATCAGCAACAGCAGCAGCAACAACAACAGAAACATCAAGCTGAGTTTATGCTTAGGAAGTGCAACGGT GGGATAAGTTTGAGTTTCGATAACTCGAGCTGTACTCCAACAATGTCATCTACTAGGTCCTTTGTTTCATCGCTTAGCATAGATGGTAGTGTCGCTAA TATAGAAGGAAAGAACTCCTTCCATTTGGTAGGGGTTCCGAGTTCAACGGATCAGAGTTCACAACACTCTAAGAGGAAATGCTTCATGAAAGGAGAC GAACATGGAAGCATCAAATGCGGGAGCTCTAGCAGATGCCACTGCTCTAAGAAAAGGAAACATCGGGTTAGGAGATCGATCAGAGTGCCTGCTATA AGTAACAAGGTCGCAGATATCCCTCCTGATGATTATTCATGGCGAAAATATGGTCAGAAACCCATCAAGGGCTCTCCTTATCCCAGAGGGTATTACA AATGCAGTAGCATGAGAGGTTGTCCAGCAAGGAAGCACGTTGAGAGATGTTTAGAAGATCCGGCAATGCTTATTGTAACATGAAGCAGAGCATAATC ACCCGAAGCTGCCATCTCAAACCGTTACAACTTAACTCTCTCATTTATCTTGTGGTCAAGCAAAAAACTTGTCATGAATGTTCTCTTTTGTGCGCGAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002K05	AT5G05580.1	FAD8 (FATTY ACID DESATURASE 8); omega-3 fatty acid desaturase	GAGAAAGACAGAGAGAGAGAGCTGCTTTCTCTTCTTCTTTTCTTCTTGGGTGAGCTCCAATGGCGAGCTGGGTTTTATCAGAATGTGGTATTAAA CCTCTCTCCAGATTCTACCCTAAACCCACTACCTCTTTCATCTCTAACCCAACACCCACATTCAGATTCAATCCATCGCCTTCTTCTCTCAAGCCCCG AAATGGCTTCTTCCCTAAAGCCAGGAACTGGGCGTTAAATGTGGCCACGCCATTAACAACTCTCGAGCCTCCGTCCGAGGAGGAACACACGAAGAG ATTCGACCCAGGTGCGCCCCCTCCCTTCAACTTGGCCGATATAAGAGCAGCCATACCCAAGCATTGTTGGGTTAAGAATCCATGGAAGTCAATGAG TTATGTTGTCAGAGATGTCGCTATCGTCTTCGGATTGGCTGCTGTAGCTGCTTTCTTCAACAATTGGCTTCTCTGGCCTCTCTACTGGTTCGCTCAAG GAACCATGTTCTGGGCTCTCTTTGTTCTTGGCCATGACTGGTAACAACTAATCCTCTCTGCTTACTTCCTGAGTAAGACACAACTCTGTGTTTGTGTC TGGACATAACTGTATTCTTGATGCATGGACCAACCAAAGTGGCAACTTGTTATTGGGTTTTAGTTGCAGAGATACTCAATACAATTTCCTTCTATAATG TTAACCAAATCATTCCTGTTGATTACTTTGCAGTGGACATGGTAGCTTCTCGAATGATCCGAGGTTGAACAGTGTGGCCGGTCATCTTCTTCATTCCT CAATTCTGGTCCCTTACCATGGCTGGTCAGTTTTGCTTCCAAACCCCTTTCTATAAAATACAAACCTTTTTCCTCTCACATTCTTCATGAAATATGGAA CCTGTTTTCCTTGTAGGAGAATAAGCCACAGAACTCACCACCAGAACCATGGGCATGTTGAGAATGACGAATCTTGGCATCCTGTAAGTTGCCTTCT CCATAACCAAAAACACAGATGTTATCATAAGCTGGTCTCAGTTTATATCAGTGTGCTTAGATAGAGCTTAATGTTTCTGTAACTGCAGTTGCCTGAAA GCCTCTACAAGAACTTGGAAAAAACTACTCAAATTTTTAGGTTCAAATTGCCGTTCCCAATGCTCGCATACCCTTTCTACTTGGTAATCCTTCTCCATC TTACCATAACCAATCCACCTGGTTTCACCTCTGATACATTGTCTTCTTGATGCAGTGGGGAAGAAGTCCAGGGAAAAATGGTTCTCATTTTGATCCAG ACAGTGACTTGTTTCTTCCCAAAGAGAAGAAAGATGTTCTGACATCAACCGCATGTTGGACTGCAATGGCTGCTTTGCTTGTTTGTCTCAATTTTGTT ATGGGCCCAATTCAAATGCTCAAACTTTATGGCATTCCTTACTGGGTATCTGATGCTGTAACGATTCTTGTATTCCTCTGTTTTCTATTATGTGGAAGG TATTTACTGGGATTTCAATCACAATTGTTGCAGATATTTGTAATGTGGTTGGACTTCGTGACTTACTTGCATCACCATGGCCATGAAGACAAGCTCCC CTGGTACCGTGGAAAGGTGTGCACAATCTACTTCAACATTTTTTAATCGCTTCTCACTTTAAGATTGAGATATTCTCAAAGCTTCAATGTACTTTTCCC AAACACAGGAGTGGAGTTACCTGAGAGGAGGGCTCACAACATTGGATCGTGATTATGGATGGATCAATAACATCCACCATGACATTGGAACTCATGT GATACATCATCTTTTCCCACAGATCCCACATTATCATCTAGTAGAAGCAGTAAGTGTTTCCTTGATGATGTTAACTAAAGACTATTCTGGCATGGACTT GCTTTGATATGATGATAAAGTGCATAACTTTCCATTTTTTCCTCTTTCCCCTTTTTCTAGACAGAAGCAGCTAAACCAGTACTAGGAAAGTACTACAGA
GCT-002K06	AT5G04340.1	C2H2; nucleic acid binding / transcription factor/ zinc ion binding	GACACTTCCTCATCTCTTCTTCACACGCAACTTCCTCTCCTCCGGCTTCTCTACTCTTTTATTATATATACGCACACCTTCATTTCTTCTTTCTTCAACT TTAACACTCTTTCACAAATCGACTAGTCTTGAAAATTTTAATAATAATAATGGCGCTCGAAGCTCTTACTTCGCCAAGATTAGCTTCTCCGATTCCGAC TCTGTTTCAAGATTCTGCAGTTGGCTTCCATGGTAGCAAAGGCAAGCGTTCTAAGCGATCAAGATCCGAATTCGACCGCCACAGTAGTCTCACTGAG GATGAATATATCGCTTTATGTCTCATGCTCCTTGCTCGCGACGGAGATCGAAACCGTGACCTTGACCTGCCTTCTTCTTCATCGCCGCCTCTGCTTC CTCCTCCTACTCCGATCCACAAGTGCAGCGTCTGCGACAAGGCGTTTTCTTCTTACCAGGCTCTTGGTGGACACAAGGCGAGTCACCGGAAAAACG TATCCTTTACTCAAACCACCGGAGGAGATGAGCAATCGACTTCTTCGGCGATAACCACCGTGAGTCACGGCAGCGGCGGAGGGAGTGTGAAATCG CACGTTTGCTCGATTTGTAACAAATCCTTCGCCACTGGTCAAGCTCTCGGCGGCCATAAACGGTGCCACTACGAAGGAAAGAACAACAACGGCGGA GGCGGCGGCGGCGGAAGCAGTAGCGTGTCGAATTCTGAAAGCCACGTCAGCAGCAGCAGCCATCAAAACCACCGTGGGTTTGACCTAAACATCCC GCCGATACCGGAATTCTCGATGGTCGACGGAGACGAAGAGGTGATGAGTCCCATGCCGGTGAAGAAACTCCGACTCGACTTGCAGTAGAAAGAAA CTATACTTAAAACATTCAGATTCTTGATTTGTTTTGCTGTACATACCAATTTCGATTTTGATTTGATTCCAATTCTTGTTCTTCTTCTTCTTCTTCTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002K07	AT3G47500.1	CDF3 (CYCLING DOF FACTOR 3); DNA binding / protein binding / transcription factor	GAAATTCCCCAAATCTCCCCCAAAAAAATATTTTTCTTAAAAAAAAAAACAATTTCACAGAGTGGGAAAGAGAAGAAGAGGAAACACAGAGACTTGCA CGAGCTTCCTCGCTTCTGTTTTTTTACTAATCGAGGAAAAAAAAATGATGATGGAAAGTAGAGATCCAGCTATTAAGCTATTCGGTATGAAAATCCCT TTTCCGGCGGTTTTTGAGTCGACGGTGGCAGTTGAGGAGGAGGAAGAGGAGGAGTTTAGCGGCGGAGATGGTGGAGAGGTTAAATCAGCAGGGA AGTTAACTCCAGAGTTATCAGACAAATGTAACGACAACAGTCATGACAAAGAGGAGGCGACATCAACAGATCAGATAGAGATTAGCGACTCGCCTGA GGATAATCATCAGCAGCAGACAACAACCGACGGTAAAATCCTGAAGAAACCAACCAAGATTCTGCCATGTCCGAGATGCAAAAGCATGGAAACCAA GTTCTGTTATTACAACAACTACAACATAAACCAGCCTCGTCACTTCTGCAAAGCCTGTCAGAGATACTGGACTGCTGGAGGCACCATGAGAAACGTC CCAGTCGGTGCAGGACGACGCAAGAACAAAAGCTCCTCCTCCTCTCATTACCGTCACATCACCATCTCCGAGGCTCTCGAAGCTGCAAGGCTCGAT CCGGGCTTACAGGCAAACACACGGGTCCTGAGTTTTGGCCTGGAAGCTCCCGTGAAGCTACAAGGAGACCAGAAGGTCTCGAACGGAGTTAGAAA CGGGCTCGTGGCTCGGGTAGAGAATGGAGATGATTGCTCAACTGGTTCTTCTGTGACTACCTCTAACAATAATCATCACTCCGTGGATGAAACAAGA GCACAAAGCTGCAGAGTTGTTGAGCCACAAACGAACAACAACAACAATAACATGAGTGGTTATGCTTGTATCCCGGGCGTTCCGTGGCCTTACACG TGGAATCCGCCGATGCCTCCACCTGGTTTTTACCCTCCACCGGGTTATCCAATGCCCTTTTACCCTTACTGGACCATCCCAATGCTCTCATCACCTA TGAGCCAAAAGGGTTCAAGTCCAACTCTCGGAAAGCATTCGAGAGATGAAGAATCAGCGAGAGAGGAGAATGAGACAGAGAGGAAACAACAGAGG AACGGGTGCGTTCTTGTGCCGAAAACGCTGAGAATTGATGATCCTAACGAAGCAGCAAAGAGCTCGATATGGACAACGTTAGGAATCAAGAACGAA GCGATGAGCAAGGGAGGTATGTTCAAAGGGTTTGATCAGAAGACCAAGAAGAATCACAACAACAACGATAAAGCCGAGAACTCTCCTGTTCTTTCTG CTAACCCTGCTGCTCTATCAAGATCACTCAATTTCCAAGAAGGGATTTAGAGTTATATATTCGTGAGTGTATATATATGTATGATTTGATGTATAGATG TTGGAGAATGGTGAGGTTTTTTGAGAATCAACTCTTTTCTTCTTCCTCGGTGACCTTCTTCCTTTTAGTCCCTCAGTAATCAAAATCCATCCAGATATT
GCT-002K08	AT4G23600.1	CORI3 (CORONATINE INDUCED 1, JASMONIC ACID RESPONSIVE 2); transaminase	GGCCCAAAAACAAAATCTTAAAAGAGAGAACTAAGTAAGAAATGATGAACCAAAAGTGCATTGAGTGGCAGTTCAGCGGGAGCGAGGCGGCCAAAG AAGCTGCCGCAGCTTCCCTAGGCACCTACACCTCTGAACTCTACGCTATGTGTGATCCTAATGGCAAGCCCATTTTGCCCCCAAGAAGCGAGTCAC CAGAGACCAGCCCTGCAGCTGAAAAAGCTGTTGTTAAAGCCGTTCTATGCGGCACGGGAAACGCCTACGCTCCTAGCATTGGCCTTCCGGTCGCC AAACGTGCCGTAGCAGAATATCTAAACCAAAATCTTCCGAAGAAGCTAACAGCAGATGACGTGTTTATGACTGTGGGATGCAAACAAGCGATCGAGC TCGCTGTGGACATTCTTGCTAAACCGAAAGCCAACGTTTTGCTTCCTAGGCCAGGCTTCCCTTGGGACGTAGTCCGCTCCATCTACAAGCACCTTGA GGTCCGCTACTATGACTTCATCCCTGAAAAAGACTTTGAGATCGACTTCGATAGCGTGAGAAAGATGGTAGACAAGAACACGTTTGCCATATTTATAA TAAACCCCCACAATCCCAAAGGGAACACCTACTCCGAGTGTCATCTCAAGCAGCTTGCTGAGTTGGCTAAGGAACTCTCGATAATGGTGGTTTCTGA TGAAGTTTATAGATGGACAGTCTTTGGGAGTAACCCTTTTGTTCCGATGGGAAAATTCTCGTCAATCGTACCAGTGGTTACACTCGGATCCATATCTA AGGGTTGGAGTGTCCCTGGATGGCGAACTGGCTGGCTCGCGCTGCATGATCTAGATGGCGTCTTCAAAAGCACCAAGATCTTACAAGCTGCCAAA GAATTTCTCGAGATAAACTCTAAACCTCCAACTGTTATTCAGGCGGCTATTCCTGATATTTTGGAGAGAACTCCTAAAGAGTTCTTCGATAAGAGGGG GAGTTTTCTGAAAGATAAAGTAGATTTTGGATATTCTAAGCTCAAGCACATACCTAACCTCACCTGCTACATGAAACCTGAAGCTTGCACCTTCTTAT GGACCGAGCTGGATTTATCGTGCTTTGTGAGCATTGAAGACGATCAAGACTTCTGCAAGAAGCTTGCTATGGAAGAAAACCTTGTTGTTTTACCAGG GATTGCATTCAGTCAGAAGAATTGGCTGAGGCATTCTATTGACATGGACACTCCAACTTTGGAGGATGCGTTTGAAAGATTGAAGAGTTTCTGTGAA CGCCATTCCATTACAGGTGAAGCTTCACTTAAAAACGTCAATGGCGTCAACTAAATGACCCGTATGTCTCTTCGCCCAAGTCTTTTTACACATGCTCT
GCT-002K09	AT5G61210.1	SNAP33 (synaptosomal-associated protein 33); t-SNARE	GAAACTCAAATTCGTGGGTCGTTCCTAGTCGTTTCCGCGTTAAATCCTTTTGCCCTTTCTCTGATCTCTTCTTCTTCGCATTGATTTGGTCCTCTTCTG CAATTCATTAAGAACCCAATCTTCATTTCTTCTTTTTCTCTCTACTCCACTTCTTCGCTCATCCAGGAACGTTTATTAATTAGTTAGCAATCCTCCAAGT GTTCGTTTTTCCGAAGCAACAAGTTCTGTGATATTACTTTGAAAGAGAATGTTTGGTTTGAGGAAATCACCGGCAAAGCTTCCCAAGCATAACTCGGT TGATCCTGGATTTCAAAAGTTTTCCAAGCCGAATCCGTTTGATTCAGATGATGAACTGGACAACAAACACACCCTTAACCCTTCGAAGAGGACGTCC TCTGAACCCTCTTTGGCTGAAATGACAAACCCTTTTGATGCTGAGGAGGTTGAGAAAGGATATAGCTCATCGAAACAGTCGTTGACTTCCAACTCCA GATATCAGTACAAGAACAATTTCCGAGATTCAGGAGGTATTGAAAACCAGTCGGTTCAGGAGCTTGAGGGTTACGCTGTGTACAAGGCTGAAGAGA CGACGAAATCTGTACAGGGTTGTCTCAAGGTAGCAGAAGATATAAGGTCAGATGCTACCAGAACTTTGGTCATGTTGCACGAGCAGGGCGAGCAAA TCACAAGGACGCACCATAAAGCTGTTGAAATAGATCATGATCTCAGTCGAGGTGAGAAGCTTCTTGGAAGCCTTGGAGGTATGTTTTCAAAGACTTG GAAGCCAAAGAAGACTCGCTCTATAGATGGTCCAATCATAACTAGAGATCACTCACCAACGAGAAGAGTTAACCACTTGGAGAAAAGGGAAAAACTG GGACTGAACCCGGCACCGAAAGCACAATCAAGAACCCGAGAACCGCTCCCTGAATCAGCTGATGCCTATCAGAAAGTGGAGATGGAGAAAGCTAA GCAAGACGATGGGCTTTCGGATTTGAGTGATCTACTGGGCGAGCTAAAGAACATGGCAGTTGACATGGGAAGTGAAATCGAAAAGCAGAACAAAGG ACTTGATCATCTTCATGATGATGTTGACGAACTCAACTTCAGAGTCCAACAATCTAACCAACGGGGCCGCCGTTTGCTCGGGAAGTAGATGAACAGA GATATTATGTTCGAGTCTCTAGCTCTTTCGTTTCATCTTCTTCGTTAAAAAGCGAAAGCGTTCTTATCATCTTATATAGCTTTTTACTCTATCTTCTATTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002K10	AT3G05800.1	transcription factor	GATCTAAACACGAAAGAACCCGACTTGTTTCTCCGACCATTCGATAAGATAATTTCGAAGAGAACAAAAACAAAACAAAAAATAAAAAACGTTTCTCC TTGAGTGGTTTTTCTTGTTGAATGTCTTCTGAACAAGAAAATGGATCGAATCCTTCGACGTCGCCGGAGGTAGAAGGGACTGAAACAATCCCTTTTG GCCGGAGATTGCAAAGAGGGCAAAGGGTTTTCGCTCCCAAGCTTTTGGAGGCTCTCCGTCGATCACGGAGAAGTTCGGAAGCTCCGGCGATCCAT CATAGTCGGAGATGGAGAGCCACGGCGGCGCAGAAAGTTTATTCCTTAAAGCTCTACGACGCTCTCCGGCGATCACGGCGGAGCACAACAGTCCG GGACACGGCCGACAAAGTGCTCGCGGCCACTGCACATGGTACGACTCGGTGGAGCCGAGCCATTTTGGTGAGTCGACTCGGAACGAGTCTGAGC CGTCATAGGAATGCAAAGCCGGCGTCGGCGGTTAGAAGAGGTGGTGGGAGGAGGAGAAAGTTGTCGGCGGTGGGAAACCGGGTCCGGGTTTTGG GTGGGTTGGTGCCGGGTTGCCGGAGAACGGCGTTACCGGAGCTTTTGGACGAGACGGCGGATTACATAGCGGCGTTGGAAATGCAAGTCCGAGC CATGACGGCTCTATCAAAGATTCTGGCTGAGTTTCAGCCGTCCGATAAACTCGGATCGGCTTTATAGCCGAGTGTATAAGCCGATGGTGGTGTAATA TTTGTTTTGATTAAATTCTTTTACGATTTTATTATCCGAAATTGTCTTATTTGTGTTTAATGAATTGTTTGCCATTGAAAAAATATGTCAAAATTTATCAC
GCT-002K11	AT4G31640.1	transcriptional factor B3 family protein	GCGTCCACACCTAAGAACACCGGCAGCTACTACCAGCGAAGATCATTGCATTGCAACCATAGGAAGGCAAGGTCTAAATTTCATTCAAAACCCAGAA ACCATTCCATCTCCATCGTTTAGAGCTTCAATATACACTAAACCAAAAGAAAATTTAAAATCCCAAGTGAATCGGAAATGGCGAATGCATCACTCTTCT CTCCTGCAAACCCGCATTTCTTCCAGCCTCTTCTTTCCCGTTTCCAGAGCCACCTCAAAATTCCTGTGAAGTTCTTCTCCAAGCACATAGAGGGAAAA CACGAGGGCAAGACTGTAACTTTGACGTCAGATTCGTCAAAGAGAACTTGGAAAGTGAAGATGGAAGGCCATAGGCTCACCGACGGTTGGAAAGA GTTCGTCAAGGCACATGATCTCCGAATCGGTGACTTTGTCGTCTTCAGACACGAAGGAGACATGTTGTTCCATGTCACTGCTTTAGGAACCGGTTGC TGTGAGATCCAATACGCACCGTCTCTTAGCCACGACAAAGACGAAGAGAGTGATAAAACTGGAGAATCTTCAAGAAAGGAGAATGATTTGAAAAGAG AATCTGATCAGTCTTCATCAGATCTAACATGTTTTAGCCAAATTGTGACTGCTTCAAATCTATCAAGGGCAGTAGTGGGTGTGCCCATAGATTTCGCA AGACGAAACGGTTTGGACAAAGGTAGGCAAAAGATTGTTTTGATGAACAAGAAAGGAATGTCATGGAAATCAGAAGTGAAGACCTCGACGGCTGGT CAGGTTTTCATATGCCGAAACTGGAGAAGTTTTTGCACCGCAAATAAACTAGAAGTTGGAGATTCGTTCAAGTTTCAACTGCTCCAAAACACGGAAAC GCCCGTGTTTCAGCTCTGCTCCCTCGCAGAGGTGAAGCGGAAGAAGAAGATTCGATATGCACAGTCTTGCGACAACGACGATGATCTTGACGATGA TAAGAACAACATCAGAAACTTAAAAGATGATGACGTGGCAAAGCTACCGGGAAAGAAACAAGTCAAGAAGAGGATTCTTGAAGCAGAGACAGAGTC TTTTTCATCAGATCCGTCTTGTTTTGTAGCACCGATCACAGTTTCGAACCTAAGAGAGAATAGACTGTTTCTTCCAAGGAAGTTTGTTAGGCCCGATG GTCTGAATAAAAGTAGCAAGAAGATTAGTCTAATTAATGAAGATGCAAGGATATGGACGCTTATTCTGAAGTTTAGAGAATCAACTAGAACGTTTACA TGAGGTCTGGCTGGAGAAGTTTCTGCCGCGAGAATGGGCTTAAACCAGGAGACTCCGCCACGTTTAAACTAGAGAGTAACAGCACGGGAAGGCCT CTTCTCAGTTTCTCCTCTTCAGAATCAAAGTGTGTTTCCAAAAAACATATCAATAAATGGAAGAGAATTGAAACTGGTGAGAGTAGCCAAAGAGTGTC ACCACCATCATCATCATCATCATCATCATCATCATCTTCATCATCATCATCATCTTCATCATCATCATCATCTTCATCATCATCATCATGTTCACAA AGTGAAAGCCGATTTGTAACACTAAATGTTACACCAGGCACTTTCAAACATTGTAGGATTTATCTTCCAAAGAGCTTCACTAGGAATAATGGAATGGA AAATGCACAAGGGAAGAACGTTACACTGTTGGACAACCATAGAGTAGAGTGGCCAGTGAATTTAGTGATGCTAAAAGGAAGTAGGAGGATGCACTT GGGTTCAGGGTTAATAGAATTCTTAAGGGCTATTGGCGTTGAGGCATACAAATCGTTTGTGTTGGAGTTGGTTTGGGAAGACAAAACATCTCCTCCT
GCT-002K12	AT4G23570.3	SGT1A (Suppressor of G2 (Two) 1A); binding	GGATCTAAGTAATTTCTAAAGGTTACCCAATCGATATGGCTCAAGAACTTGCAGCTAAGGCTAAAGAGGCCTTCGTAGACGACGACTTCGATGTTGC TGTTGACTTGTACTCCAAAGCCATAGACTTGGATCCCAATTGCGCCGAATTCTTCGCCGATCGTGCCCAGGCCAACATCAAACTCGAAAACTTCACC GAAGCCGTGGCAGATGCAAGCAAAGCAATTGAGTTGGATTCTTCATTGACCAAAGCTTACCTAAGAAAAGGAACTGCTTGTATGAAACTTGAAGAAT ATCGGACAGCTAAAATAGCTCTTGAAAAGGGTGCTTCCATTGCGCCGAGTGAATCCAAATTTAAGAAGCTGTTGGATGAATGTGATCTTCGAATCGC AGAAGAAGAGAAAGATTTGGTTCAACCGGTACCAACGGCTTTGCCTTCACCGATATCGGAAGTTGATGTTAGCCCTGCCCCTGCAGCACCAGCCAA GGCGAAGTACAGACACGAGTACTACCAAAAGCCAGAAGAAGTTGTGGTAACTATTTTCGCAAAAGGGATACCGAAGCAGAACGTTAACATCGACTTT GGTGAACAAATTCTGAGTGTTGTGATTGATGTTCCTGGAGAGGAGGAGGCGTATCATCTCCAGCCGAGATTGTTTGGAAAGATAGTACCAGATAAGT GCAGATATGAAGTCTTGTCAACCAAGATTGAGATCCGTCTTGCAAAAGCCGATATAATCACATGGGCCTCCCTTGAACATGGCAAAGGGCCAGCTGT TTTGCCAAAGCCAAATGTCTCATCAGAGGTTTCACAGAGACCGGCGTATCCTTCTTCGAAGAAAGTAAAGGACTGGGACAAGCTGGAAGCTGAAGT GAAGAAACAGGAGAAGGATGAGAAGCTGGAAGGAGACGCAGCTTTGAACAAATTCTTCCGTGAGATATACCAGAATGCGGATGAGGATATGAGGC GAGCGATGAGCAAATCATTTGTGGAATCGAATGGGACAGTTCTGTCTACAAATTGGAAAGAGGTTGGGACTAAGACAATCGAGAGCACTCCTCCGG ATGGTATGGAGCTCAAGAAATGGGAGATCTGATCTGATTTGGTCCTTCCTTTGATGCATTTGTGGGTTTTGCCTAAATCTTGGACAAATTTTAAAACC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002K13	AT3G12610.1	DRT100 (DNA-DAMAGE REPAIR/TOLERATION 100); protein binding	GCTGATACCATGCACATGCAATGTCTCTCTTCTCTTGCCTCATCATTTCTATATAATCCAATTTTCACACAACATCACTCTCTTCACTTTCAAAAATTTA TTTCAAAAATGACAAAGTTGTTGGCATCACCGTTTAGCTCATTACTCGCCGTCGTTTTCATCTCCGTCATATCCGTCGTCCGATGCTGCTCTCCTTCC GATCAGACGGCTCTAAATGCTTTCAAGTCTTCACTGAGCGAGCCCAACCTCGGCATCTTCAACACTTGGTCCGAAAACACCGACTGTTGCAAGGAAT GGTACGGTATTAGCTGTGATCCAGACTCGGGTCGGGTCACTGATATTTCTCTCCGGGGCGAATCCGAAGACGCAATTTTCCAAAAGGCAGGCCGGT CATCAGGTTATATGTCCGGTTCGATTGACCCGGCGGTTTGTGACTTAACCATACTCACTTCCCTCGTCCTCGCCGACTGGAAAGGAATCTCCGGCG AGATTCCGCCATGCATAACATCCTTAGCCTCGCTCCGTGTCCTCGACCTTGCCGGAAACAGAATCACCGGCGAGATTCCCGCGGAGATCGGTAAAC TCTCCAAACTCGTTGTTCTAAACCTCGCGGAGAATCGGATGTCCGGCGAGATCCCACCGTCGCTGACGTCACTCACCGAATTAAAGCATCTTGAGC TAACGGAAAACGGTATCTCCGGCGAGATCCCGGCCGATTTCGGATCGTTGAAGATGTTGAGCAGGGCGTTACTGGGCCGTAATGAGCTAACCGGG TCACTTCCAGAGTCGATCTCGGGTATGAAACGGTTAGCGGATCTGGATCTATCCAATAACCATATCGAGGGTCCGATACCCGATTGGGTGGGTAAT ATGAAGGTACTCTCTCTTCTGAATCTCGATTGCAACTCATTGTCGGGTCCAATCCCGGGTTCGCTTCTCAGCAATTCGGGTTTTGGTGTTATGAATTT GAGCCGAAATGCGTTGGGAGGATCCATACCAGATGTTTTCGGGTCTACAACATATTTCGTGGCGCTTGATTTGTCCCACAATAGCTTGTCGGGTCG GATCCCCGATTCACTGACATCAGCTAAGTTCGTGGGCCATCTCGATATTAGCCACAACAAGCTTTGTGGGCCTATTCCAATGGGTTCTCCTTTTGAT CACCTTGAAGCGTCGTCGTTTAGTGACAACGAGTGTTTGTGCGGTGGCCCTTTGATGAAGTCATGTTAATAATAAAATAAGGGATATGGCTCCGGTT TTTCGTGAAGGAGGGGATGAAGTTTCGTGTTCGTGTTGTTGGTGTATGGAATGTGTCATTTTTGTTTTAGTGTTTTCTATTATTGTTGTTTCAAAATTTTA
GCT-002K14	AT2G37678.1	similar to phytochrome A specific signal transduction component-related [Arabidopsis thaliana] (TAIR:AT5G02200.2)	GGCCGAAAAGGGAAAGAGCATTTTTTCTCGTCATTTAAAAATTAACGAAGAAAAGAACAATATATCTTTGAACTCTCTATAAGCGATCTATGCCTGAA GTGGAAGTGGATAACAAGAAGCCATCTGAGATTAACAGTTTCCATCACATGATCAGTAGTAAAAATGTGTTGAAAATGGAAGCAGTGGAGATGAGCA AGAAGAGGAAATTTCAGACAGATCAATCAGAGTTATCATTACTACCTCTGTCGAAGCATGCTTGTTTTGACAATGCCACTTGTTCTGACAATACCAAC GGCAGATCAGAGCTTGCTTCAGAGTGTTCAACGTCTTATGTGAACTCAAGTTCAATGGAATGTGACAATGCGATTGTGATGAAAGAAGAATCATCTG GATCATGTAGTGAAGACAAGATGATCACTTTCGAAAGCCATCTTGATTTCATCTATAGCACCCAAAAACTTGAGGATTTTTCAGAGAAAGACATTAAA AACATTCTCTACCTCGATGAAGAAGATGAAGAAGAAGCTAATGGATGTAGTAATGCTGCTAATTATGTTCTGTCCTCTGGGAGATGGACTGTTAACCA AGATTCTACTCGGCAGGGCACAAAGAAGCCTACGATTGATCAAGAATTTGAGCAATATTTCTCAACGCTAATGTTGTGACGAAATGATATTAGGCACA
GCT-002K15	AT4G34460.1	AGB1 (GTP BINDING PROTEIN BETA 1); nucleotide binding	GAGGTCAAGAGTCCATCAAATTAGCGTGTCTGACTGCTTCAGCTTTCATCATCTGCTCCTCCCTCTTTTCCCACGTAATTTCCCCAAATCCACTCTCT CTCGGGTTCGATCTCCCTCTCAATCATGAACCTTCTTCTCTTCTAGACATTTCTCCTGCCCCCTTAATTTCTTTGATCGGCGACGGAGAACTCCAAGT CTGAAGCGGGAATGTCTGTCTCTGAGCTCAAAGAACGTCACGCCGTCGCTACGGACACCGTCAATAACCTCCGCGATAGGCTTAGACAGAGACGC CTCCAGCTGCTCGACACCGATGTGGCGAAGTATTCAGTCGCGCAAGGACGTACTCCGGTCAAGTTCGGAGCTACGGATCTGGTTTGCTGTCGTACT CTTCAGGGACACACGGGAAAGGTTTATTCGTTGGACTGGACTCCGGAGAGGAATCGTATTGTGAGTGCATCTCAAGATGGGAGATTAATCGTGTGG AATGCTCTAACGAGTCAGAAAACTCATGCTATAAAACTCCCTTGTGCATGGGTTATGACATGTGCCTTCTCTCCAAATGGTCAGACGGTTGCGTGTG GTGGATTAGACAGTGTATGTTCTATCTTCAGTCTTAGCTCAACCGCAGACAAGGACGGAACTGTACCGGTTTCAAGAATGCTCAGTGGTCACAGGG GCTATGTTTCTTGCTGTCAGTATGTCCCAAATGAGGATGCTCATCTAATCACCAGCTCAGGTGATCAAACATGCGTCTTATGGGATGTAACCACTGG CCTTAAAACTTCTGTTTTTGGTGGCGAGTTTCAGTCTGGACATACTGCTGACGTCCTAAGTGTCTCAATCAGCGGATCAAACCCAAATTGGTTTATAT CTGGTTCATGCGATACCACTGCACGCTTGTGGGACACTCGCGCTGCAAGCCGAGCAGTGCGAACATTTCATGGGCATGAGGGAGATGTTAATACTG TCAAGTTTTTCCCGGATGGGAATAGATTTGGGACTGGATCAGACGATGGAACATGCAGGTTGTGTGACATTAGGACCGGTCATCAACTCCAGGTGT ATCAGCCACATGGGGATGGTGAGAACCTCCCTGTAACCTCCATCGCGTTCTCTGTCTCGGGGAGACTTCTTTTCGCTGGCTACGCAAACAACAACA CCTGCTACGTCTGGGATACTCTCTTGGGAGAGGTTGTATTGGATCTTGGGAAACTTCAGGATTCACACAAGAATCGGATCAGCTGTATGGGGATGT CAGCAGATGGAAGTGCCTTGTGTACAGGAAGTTGGGATTCAAATCTAAAGATATGGGCGTTTGGAGGGCACCGGAGAGTGGTTTGAAGAAGATAAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002K16	AT5G04150.1	basic helix-loop-helix (bHLH) family protein	GATGTAGATTCCATCTCAAATTCGGTCTTATCATCTTCCCCCTTCTTCTTCATCATCATCATCATCATCAAAGTCTCTCTCTCTCCCTCTCTCATCTACT TTCTCTCTCTAGTTATTCTTTTTGTTTTTTCTAAGATCTCTCTAGTTATTCTTCTGATTATTGAGAGGACAATAATGTATGCCTTAGCACCATTGTTTCCA AATAAGCAACAAGAATGGTGTCCTGCTTCAACAATGGAGTATCCATGGCTGTCTCAAGCTGATTCCTTCTCTCCTACTTTGCATCTTCCTTCTTTCCTT TATCCTTCTTTGGATCAATCAGATGATTCCAAGAGCTATAGTATCAATCATCATCATCATATGAGTCTTAGTCATAGCTATGGTACTAATAGTAACAGT AACAATGGTCAAGAGAAGGAAGAAGAAGAAGATCGAGGAACGGTTTTTGAGAAGAAACTGAATCACAATGCAAGCGAACGCGACCGCCGTAGAAAG CTAAACGCCTTATACTCTTCACTTCGTGCCCTCTTGCCTCCTTCTGACCAAAAGAGGAAGCTGAGCATTCCAATGACGGTATCAGGTGTGGTTAAGT ATATACCAGAGCAGAAGCAAGAGCTTCAACGTTTGTCTAGGAGGAAAGAAGAGCTCCTGAAGAGAATCTCCAGAAAAACAGCGACTTTGAATCATCA GCAAGAACAGCTGGGAAATAGAGCAAAGATGGACTCGATAGATTCTTCCTCCCAAACGTTCGCAGCAAATTGGATCACCGACACAGAGATAGCTGT CCAGATTGCTACATCAAAATGGGCATCTATCTCTGACATGTTGCTTAGGTTGGAACAAAACGGGCTTGATGTCATAAGCGTTTCTTCTTCGGTTTCTT CCACTGCAAGGATCTTCTACACTCTGCATCTTCAGATGAGAGGAGATTGCAAAGTGAGATTGGAGGAACTCGATGGTATGCTTTTCTTCGGATTACG TCAATCATATTGAGAGATGAGAGTTTCAAGAAGTGAATCTTGGTAGTTACTGTTAGACTTATATCAGATTTTAGAACTGTACTCTTCTGTAACATTTTCT
GCT-002K17	AT2G39770.1	CYT1 (CYTOKINESIS DEFECTIVE 1); nucleotidyltransferase	GACCTTCAATTCGCCAACAGAAGCTCTTTCCTCATCACAGCTCAGCCTGACCCAAATCTCAGGCTGTTCTCTCTTTCCATTGAAGCCAAGACTTTACA GCTCCGATCTCTCGATCCGGTGAGATCTCTTCCAAAGGAAAAAGAGTTAGTAGATCAAGATGAAGGCACTCATTCTTGTTGGAGGCTTCGGGACTC GGTTGAGGCCATTGACTCTCAGTTTCCCAAAGCCGCTTGTTGATTTTGCTAATAAACCCATGATCCTTCATCAGATAGAGGCACTTAAGGCAGTTGG AGTTGATGAAGTGGTCTTGGCCATCAATTACCAGCCAGAGGTGATGCTTAACTTCTTGAAGGACTTTGAGGCAAAGCTTGAAATCAAAATCACTTGC TCACAAGAGACTGAGCCTATGGGTACAGCTGGTCCTCTGGCTCTAGCGAGAGACAAATTAATTGACGGTTCTGGAGAGCCCTTCTTTGTCCTCAACA GTGATGTGATTAGTGAGTACCCACTCAAAGAGATGATTGAGTTTCACAAAGCTCACGGTGGAGAAGCCTCCATAATGGTGACAAAGGTGGATGAAC CGTCGAAATATGGAGTTGTGGTTATGGAAGAAACTACAGGAAAAGTGGAGAAGTTTGTGGAAAAGCCAAAACTGTACGTAGGTAACAAGATCAACG CTGGGATTTATCTTCTAAACCCATCGGTTCTTGACAAGATTGAGCTTAGACCGACTTCAATCGAGAAAGAGACATTCCCCAAGATTGCAGCAGCTCA GGGACTCTATGCGATGGTGCTACCAGGATTTTGGATGGACATTGGGCAACCCCGTGATTACATAACGGGCCTGAGACTCTACTTAGACTCTCTGAG AAAGAAATCTCCTGCCAAGTTAACCACTGGTCCACACATTGTCGGGAATGTTCTTGTGGATGAAACAGCTAAGATCGGGGAAGGATGTTTGATAGGA CCGGATGTAGCCATTGGTCCAGGCTGCGTTGTTGAGTCAGGTGTTAGACTGTCACGCTGCACGGTCATGCGTGGGGCACGTATCAAGAAGCACGC ATGTATCTCGAGCAGTATCATCGGGTGGCACTCAACGGTTGGACAGTGGGCTAGGATTGAGAACATGACGATCCTTGGAGAAGATGTTCATGTGAG CGATGAGATTTATAGCAATGGAGGAGTTGTTTTGCCACACAAGGAGATCAAATCCAACATCTTGAAGCCAGAGATTGTGATGTGAGTGATACTACGT
GCT-002K18	AT3G04730.1	IAA16 (indoleacetic acid-induced protein 16); transcription factor	GAAGCCCTTTGTTTCTTCTACACATATTTCACATCTCTCTCTCTCGCTCTCGTTAGACGTATAAGTTTAAGGAAAAAAAAAAAACTTAAAAGAAAAAGC CCTAGAAGTCTCTATTACTCGTGGTTGCTAATCATTATCAAGCAATATGATTAATTTTGAGGCGACGGAGCTGAGGTTAGGGCTGCCGGGTGGGAAT CACGGAGGAGACATTGCCGCGAAAAATAATGGGAAAAGAGGGTTTTCTGAGACCGTTGATCTCAAGCTGAATCTTTCATCGACGGCTCTGGATTCG GTTTCCGAAGTTGATATACAGAATTTGAAGGGGAAAGTCGTAAAACCACCTGCCAAGACACAAGTTGTAGGATGGCCACCGGTACGATCTTTCCGG AAGAACGTCATGTCCGGCCAAAAGCAAACCACCGAAGTTGCAGCTGAAGGCACCGAGAAGACTTGCGGCAGTAGCGGAGCCACCTCCTCCGCCAA TGCCGCCGTGGCTTACGTGAAGGTTAGCATGGACGGCGCACCATACCTAAGAAAAATTGACTTGAAACTGTACAAAACATACCAAGATCTCTCCGAC GCCTTAAGCAAAATGTTCAGCTCCTTTACCATAGGCAACTATGGACCACAAGGAATGAAGGATTTTATGAATGAGAGTAAATTGATCGATCTTTTGAA CGGATCAGATTATGTTCCAACGTATGAAGATAAAGATGGTGACTGGATGCTTGTAGGAGACGTACCTTGGAAGATGTTTGTTGATTCATGCAAACGT ATAAGGATAATGAAGGGATCAGAAGCAATCGGACTTGCTCCAAGGGCATTAGAAAAGTGCAAGAACAGAAGCTAAGAGTTCTTAACGACATTTCTTG AAATTACCAACAAATGAAGGAAAACCGGTTCGATCGGTTCGATATCTCAAACCGAGAAAAGCCAAACCGGCTCGAAACTATTGTTCCGAGCAGGGA GTTTGCGTATTGTATTAATCTATAATAATATTGTGATGTATTACATTTTATAATATAAACCTTTTTTGTTATATGATGTATTATAATATATACATTTATAAA TATAAAAATGTATATTTTATTAGGTTGCATCTATTTCCGCATTAGTTTAATTTTTAAACAACGTCTGTTTACGCATTATTGTATTGTCTATATGGAAGTGT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002K19	AT1G03850.2	glutaredoxin family protein	GAACGCAACCAAAAAAGTCTAAGTCTCTCTCTCTCTCTGATTTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTC TCTCTCTCTCTCTCTCTCTCATACATCAATAATGCAAAAAGCAATAAGACCATACGACTCATCGTGGACGAAGACAATACCGGGCAATAGCATTTT CCGTCCAAAGAATGAAGATAAACGACCATCATCATCGTTATCATGGTTAACATCATCATCATCATCAACACCACAAAAGCCATCATCTTTAAGCACTA AGAAATCAAGCAACCTGCTCGTGATGGAGAATGCTGTGGTGGTGTTTGCGAGGAGAGGTTGTTGTATGGGACACGTGGCCAAGCGGCTGCTACTA ACACATGGCGTGAACCCATTGGTAGTTGAGATTGATGACGAAGACAACAACGACGACAGTATCATATTTGATTTGGGTGAAACCGTGATTAATAAAG CGAAATTACCAGTCATGTACATAGGAGGGAAGTTATTTGGAGGATTGGAAAATCTGATGGCTGCTCATATTAATGGTGATTTAGTGCCTACTCTCAGA CAAGCTGGGGCTTTATGGCTTTGATATATGATTTAAATCCTCTTAATATCTTGTTTTACTGTCTTCTCTCCATTTTTTTACCCCTTTTTTACATTATTTGT
GCT-002K20	AT1G05710.3	ethylene-responsive protein, putative	GACAGACACAGTTTCTTCTTCCTTTTTTCTTTTTGGTTTTAGACAGTTTCTTCTTATTGTCCCTCTCTTTCTCTCCTTTTCTCACGCCGAGATTTCTGCG TCTGCTCTTATTTCTCACAACCTTTAAAGAAACGACGCCATTTTCACTCAGCCTGAGCTCTTCACCATGACATGATTTCGCGTTACAGCACGATCTTG GACGCCGTCTAAGTGTCAAACAAAAGGAAAAGACTGATGTATATACGGATTTGGAGTTTTGCCTTTTAGACTGAGAAAACTCAAGAGAGAGAGAGAG AGAGAGAGAGAGAAACATTTATGTGTCTTATCGGGTTTTGTGTTGTCAGAAGCTGAAGGACAAAAAAAAACAATTATTTTTAGGGTTTAGACGAAGAA AACTGGGAGCTTTGAGAAGTTGTGGGTTGCGGCTTCTTAAAGAACAAAGCTTTTTCTTAGATTCTTCTGCCAATTTGAATGGAATTCTCTAGATACGC CGGAATGATGATGGAGAATAAGCGGAATGTTTGCTCTCTCGAAGAAAGCAGCATCAAACGCCATAAGTCCGATCTCTCTTTCAATTCCAAGGAGAGG AAGGACAAAGTTGGAGAACGTATTTCAGCTCTTCAACAGATAGTTTCCCCTTATGGGAAGACCGACACTGCATCAGTGCTTCTAGACGCGATGCACT ACATAGAGTTCCTTCACGAACAAGTGAAGGTGCTAAGCGCTCCGTATCTGCAAACAATGTCCGCCGCTACGCAGGTGGAGCTGGAGCAGTCCAGC CTGAGAAACAGAGGATTATGTCTCGTTCCGATGGAGTATACAGTAGGAGTTGCTCAAAGCAACGGGGCTGATATATGGGCTCCCGTGAAGACTCCT CCATCTCCAGCGTTGAATGTCATGTCTCAATCACCCTTTAGATGACCGATTCGACTCTTCACAACCTACTAAGATCTTTGTCTTCTGCCTAAAGAAGA TGACCAATTGTTATTTATGATGTTCCCTCTGTAACATATACAGACAGAGAGACACATGAAGATGTTTTAAAGACAACGTTGGCAATGTCTGTTATTATT
GCT-002K21	AT3G19850.1	phototropic-responsive NPH3 family protein	GAAGGCTCTCTGAACAATACAAAAAGAGAAACAAAAGAAGAAGAACAAGAAAGCTCACAAGAGTCACTAAGCTTCATTCACCATCAAATGCAAAAGA AATTCACGCAATGTCTTTCCTCTGTGATCTTGAAATCATTCTCAATCACGAATTCACTTTCTTCGTCAATCAGGATTTGATCTCAGAGTACTCAGGGTT CTTGAGGAAGATGATAAAACAGAGCAACAAGAAGAAGAAGAATCAAAAGAACAGTAGAATCATCCTCCATGTCGAAGATTTTCCAGGTGGGTCAGAT GGTTTCGAGCTGGTTTTTAGGTTCTGTTACAGTAATGGAGAAGGAATCTCGATCGATGTCTCAAATGTCTCCATCTTGTATTGTTCTTCTGTCTTCCTT GAGATGTCAGAGAAACTCTGTTCCTCGAATCTCTTGCATCAAACAGAGAAGTTTCTTGAAGGAATGTTCTATTGGTCATGGAACGACATCATTTCTTG CCTCAAGAACTGCGAACAAGTGTTCCTACACGCAGATTCATACGGTCTTGTTGATAAGCTCGTTTTCGGAGTTTTAGCCAAAATCGCTCAGAATTCG GACATGAGTCAAGTATTTGCATCATCCTCGACGTCTTCCTCTGCTTCCGCCTCTTCTATGTCGCCGGAGACGGCAAAGAATAGGTCTGAATCAGAGA AACGGTCAACTCCAAAATCGTTTTCTTGTAAGACAAGCAATGAGTGGTGGTTCGACGATATGTCAATTCTTGGACCACAGGTTATCGGAAAGTTGATT AAGAGCCTTGGAGGTTATGATAAAGACAACAATAGCTTAGTCATAACAAGGTTTCTTCTCCATTACCTCAAGACAAAGCTCCATAACAAATCACACAA CAAGCTCGAGTATGCAGGTTTAGCTGATACAGCGGTTCAAGGAGTGATTTTCGCTGGGAAAACCACGTTTTCTTGCAGGAAAATCTTCTGGGTTCTT AGGGTTTTATCGGGATATAGCATCAGCAAAGAATCAAGAATTGGCTTAGAGAGAGTTATAGGAGAAACGCTGGATCAAGCAACACTTGATGATCTTC TGATACCTGCAGGAGGCAAAAGAGAAAAAGGGTTTTACGATGTGGATTTGGTGATAAGATTACTCAAAGTGTTCGTGAGAAATTGCAACGCAGAAGA AGATCAGAATTTGAAAATACAGAGTATAGGGAAGTTGATTGATAAGTATTTGAGAGAGATATCTCCAGACCAGAATCTTAAAGTGTCAAAGTTTCTTG AAGTTGCAGAGAGTTTGCCAGATTCAGCTAGAGATTGGTTTGATGGAGTATTCAGAGCCATTGATATCTATCTTGAGTCTCATCCGAATCTAGCATCT GACGATAGAACAAAACTATGTCGATGTCTAAACTACAAGAAACTAACATTGGAGACATGTAAACAACTTGCAAAAAATCCCAAGATCCCTCCAAATAT TGCAGTTCAAGCACTCAAGTCACAACAATTATCCAACGAAATTCTACCACACTCAAGAGAAGACAAGATAAAACTAAACAAGAACAGGAATTCGCGC AAGTACTTAGAAGAAAAACCAATATTGGTGCGTCTGAAAGGATTTGAGATATCAGAGAAATTAGTTGATGGGTTTGACGACGATCTAAGGATGAATTT AGAGAGGAAGCATTGGAATAAAGAGACGGATCATTCTGAAAAAGTTTGCACGGAAAAGAAGAGTGAAGTAGTCTCAAGATTGGTGAGACATGGACA
GCT-002K22	AT1G19730.1	ATTRX4 (thioredoxin H-type 4); thiol-disulfide exchange intermediate	GGAAGAAAAAAAAATACTGTTGGGAGATTTTGTCATTTTGGTTTCTCATTTTCTCAGATTCGAAGAAATGGCGGCAGAGGAGGGACAAGTGATCGGT TGCCACACGAACGATGTGTGGACTGTGCAGCTCGACAAAGCCAAAGAATCCAACAAGCTGATTGTGATCGATTTCACTGCTTCATGGTGTCCACCAT GCCGCATAATTGCTCCAATTTTCGCCGATTTGGCCAAGAAGTTCATGTCAAGTGCCATCTTCTTCAAGGTGGATGTCGACGAACTGCAGAGTGTTGC TAAAGAGTTTGGTGTGGAGGCAATGCCGACCTTTGTGTTCATCAAAGACGGAAATGTTGTGGATAAGCTCGTCGGTGCAAGGAAGGAAGATCTTCA GGCAACAATTGTGAAGCATACCGGTGTTGCCACTGCTTAAATCGGTTTTTGAGGCATAGTAATAAGGTCCAGTTAGTATTCTGGAGTCTCGCTAATC GATAATGGTGGATATTGTAGATGGAGATGAATAATGTAGATGTTAAGTGATCTCTGACTGTTTCTTCTATTCTGCACCATGATATACATAAGACCATCC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002K23	AT2G04880.2	ZAP1 (WRKY FAMILY TRANSCRIPTION FACTOR 1); transcription factor/ transcriptional activator	GGTCCAACCAATCTGATTTTTGGACACGACCTTTTGTCTTCTTTCTTCTCTCTCTCTCTGTTGATTTTAGTGTTAACCCAATTTTGAGGTTGTTCGATTC CGATCTACGGATTTTTGTACTTGAGAAGCTTTTTCAGTTTTGTGTAATTTGGTCGGATGATGATCTTCTCGATGCTTGCGCTAGGATTTGGAAACTAAA TGGACTTTGGCGTAAAGCTCGATTTTTTCCGTTTTTGAATTCAGTTGAATTTCTTCTTCTGCTGCTGGTTAGACGTTGTGTTGGTCTCTATGGCTGAG GTGGGAAAAGTTTTGGCTAGTGACATGGAACTAGCCAATTCAAGCGAGACTAAACCAGCTGATGTTGTTGCCACTGATAAAATGGAGGCTGCACCG GTTTCTACAACTGAAACCGTTGTTGAAAGCTCTGAAACTGAGCAATCTTCAGGCGAGATTCCAGAATCTACAGACTGCAAGAAGCTACTAGAACTTG TTCCTGATACTACCGCGGCTTCACAGTCAGAAGTAGATGTTGCTTCGGAGAAAGCGCCAAAGATTCCTGAGAGTAGTACCGTCTTGTCTTTGCAGTC TGGTTCAGAAGGGAGTAGCCCTTTTATCAGGGAGAAAGTTATGGAAGACGGATACAACTGGAGGAAATATGGACAGAAACTCGTTAAAGGGAATGA ATTTGTGAGGAGCTATTACAGGTGCACGCACCCAAACTGCAAAGCCAAGAAGCAATTGGAACGGTCTCCAGGTGGACAAATCGTGGACACTGTTTA CTTTGGCGAGCATGATCATCCAAAGCCTCTTGGCGGTGCTGTCCCTATCAATCAAGATAAACGAAGCGATGTCATCACAACTGCCAGTAAAGAGAAA TCATCTGGACCCAGTGTTCAGACATATAGCCAAAGCCAAACCGAACCACCTAAGATCCATGGAGGCTTGCATGTTTCTGTTATTCCATCGGCCGATG ATGTGAAAGTATTACAAACTAGCAGGACAAAGGGTGACAACGTTCACAAGGATAGTACTAGTCCTGCCTCAAAGAGAAGGAAGAAAGGAGGGAACA TGGAGCACATTCCAATGGAGAGGTCAAACAATGAATCACGTAATGTGGTTCAGACTCAGACTCTGTTTGATATTGTGAATGATGGGTACCGATGGCG TAAATATGGTCAGAAATCAGTGAAAGGGAGCCCATATCCAAGGAGCTACTATCGATGTTCAAGCTCTGGATGCCCGGTCAAGAAACACGTAGAGAG GTCATCTCATGACACAAAGTTGCTTATAACGACGTACGAGGGAAAACACGACCATGATATGCCACCAGGAAGGATTGTTACTCATAATAATACGCTG GACTCTGAAGTTGATGACAAGGAACTGAGTCCTAAAGACACAGAAGCAAACAAAACTCCACAGAGCTCAGCTCTTCAAACCATTACAAAAGACCAGC ACGTTGTGGATTACTCAAGAAAGAAAGCTAAGACTAATGGCTTTGAGAAAAGTCTTGATCAAGGTCCAGTCTTGGATGCAAAGCCAAAGGAGCAAAT AAAAGAAAGATCAGAGGTAACTAAAGACCAAGCAGCCAATCACAAAAAGTCAGATGATAAAACCACTGCTTGTCATGAGAATACGGCAAGAACTCTG GAGAGTCAGGAACAGAAACCCAAAGCAGAGTCTGGTCAAAGCTAAGCATTTGACGTGTATCCTGTGGTGAATTATATACGGCTGTTTAACATAGATT
GCT-002K24	AT2G28350.1	ARF10 (AUXIN RESPONSE FACTOR 10); miRNA binding / transcription factor	GGAAAGAAAGAAGCTTTACTGTTTCTCTGCAAATTTATCACTAAAACCATTAATCTCTATCTCTCTCTGTCTCTTTCACTTCCCTCTTTTTTCCCCTGGA ACGGTTTTTTTGTCTTCCTCTTCTCTCTCATCTTCTTCTTCTTCTTCTTGTGTTTGCTTCTTCTCTGGTTTCAGTATCTTCATGCATTGAAGAAACTTTAA ATTCTCTTGTCCGAAAAAAGAAGACGAAAGGATTAATTTTTTTTTTAATCATAAAGAAAAAAAGAAAATGGAGCAAGAGAAAAGCTTGGATCCACAACTA TGGCATGCTTGTGCAGGATCAATGGTACAAATCCCTTCAGTGAATTCAACGGTCTTCTACTTCGCTCAAGGCCACACCGAACACGCTCACGCGCCT CCCGATTTCCACGCGCCGCGCGTCCCTCCTTTGATCCTCTGCCGCGTCGTCGCCGTTAAGTTCCTCGCCGACGCAGAAACGGACGAGGTCTTCTC CAAAATTACGCTCCTGCCACTCCCGGGAAACGACCTGGATCTAGAAAACGACGCCGTTCTCGGTCTAACTCCGTCTCCTGACGGTAACGGACCTAA CGGTAACGAGAAACCGGCGTCTTTCGCCAAAACGCTGACGCAATCCGACGCTAATAACGGCGGCGGTTTCTCCGTCCCGCGTTACTGCGCCGAGA CGATTTTCCCGCGGCTTGATTACACGGCGGAGCCACCGGTACAGACCGTAATCGCCAAAGATATCCACGGCGAGACATGGAAATTCCGGCATATCT ACAGAGGAACGCCTCGCCGTCATCTCTTGACCACCGGTTGGAGCACTTTCGTCAACCAGAAGAAATTAATCGCCGGCGACTCAATCGTCTTCCTCC GCTCCGAATCCGGCGACCTCTGCGTCGGGATCCGCCGCGCTAAACGCGGAGGTCTCGGATCTAACGGCGTAGGATCCGACAACAATAACATTCCT TACCCTGGATTCTCCGGTTTCCTCCGCGACGACGAGACAACAACCTCGAAGCTGATGATGATGAAACGCAGCGGCGGAAACGGGAACGACGCGAA CGCGGCGGCGGGAGGAGGGAGGGTTAGAGTCGAGGCAGTGGCGGAAGCGGTGGCGCGTGCGGCGCGTGGACAAGCTTTCGAGGTGGTTTACTA CCCTAGAGCTAGCACGCCGGAGTTTTGCGTGAAAGCTTCCGATGTGAGATCAGCAATGAGGATAAGATGGTGTAGTGGCATGCGTTTTAAAATGGC GTTTGAAACAGAGGATTCTTCAAGAATCAGTTGGTTCATGGGAACCGTCTCCGCCGTTCAAGTCGCTGATCCAATTCGTTGGCCTAATTCCCCTTGG CGTCTCCTTCAGGTAGCTTGGGACGAACCGGATTTGTTGCAAAACGTGAAACGCGTAAGCCCATGGCTAGTGGAATTGGTATCGAACATGCCAACA ATCCATCTCTCTCCTTTCTCACCAAGAAAGAAGCTGAGGATTCCACAGCCTTTCGAGTTCCCATTCGACGGTACAAAGTTCCCGTTTTTCGCCAATAA CAATGGCGAATCAATGTGTTATCTGTCAAACGACAACAACAACAATGCTCCTGCAGGGATACAGGGAGCCAGGCAAGCTCAACAACTCTTCGGATC ACCATCTCCGTCTTTGTTGTCTGATCTCAACAATCTCAATAGTTACTCTGCTGTTAACAAGTTACACCAATCTTCTTCTCCGGCGATGTTTCTCTCCGG TTTTAACCCGAGGCATCATCATTACGATAACATTGTTTTGTCTCGTCAGGGTCGGGATACAGAGTTTAACAACAACAACAACATTTCTTGTTCTTTGAC GATGGGGAATCCTGGTTTAGTTCATGACAAGAAGAAGTCCGGTTCGGTTAAGACTCATCAGTTCTTGCTGTTTGGTCAACCTATTTTGACTGAACAG CAAGTTATGAACCGGAAACGGTCTTTGGAAGAAGAGGCGGAAGCGGCGCAGGAGGAGAAAACTGGTTCATGGAATTACGGTTTGCAAGGACTCGA GACCGGTCATTGTAAAGTTTTCATGGAATCTGAGGATGTTGGACGCACGCTTGATCTCTCGGTTATTGGTTCGTACCAAGAGCTATACCGGAAATTA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002L01	AT3G10980.2	SAG20 (WOUND-INDUCED PROTEIN 12)	GAGCTTCTTCTTCCTCAACGACCAGTCAGTCTTGTTCATCAATTTCACACCATAAGCCTTTACCTTTTGATCCCGCGCTTATTGCTTCTTCTTCAAAGT TTCCATTTTGAAAATTCGTCGTCTGAGTAACCTTCTCTTTCTTTTTTCTTCAAAGTTTCCATTTTTGCTTTCCCTGTAAATTGCATCTGATTCGAATTTTG GGCATTTATTAATTCGATCCAGCGAGTTTCCCAATTAGGGTTTGATTCCCTTTCCTTTTCATCTTTTCTAGTCAAATCTGAAGACTTGGTTGGTTTTAAT GTGCTGAGAGAAGCTTCGTCGGCAAGTAGAATCTCGTCTCCTTTGAGTCAATTTTAAAAATATATTTCTTCTTCTTTCTGGGTTTTATATTCTTTGCCA ACAATGTTTAAGCTTGCATAGCATATATGCTTCTGAGTAGCTTTTTGCACGATATTTGAAGAGATAAAAAGAAATGGGATCGAACTGCGATGGGAATT TGAAAGGTGAGATTGAAGAATCTAATGGTTCTGGGAAAAGTAAGGCTCTTTGCCCTCTCGATGTTTCAACATCTCGAAGAACTCTGATCGGTGTTGG TAAACCAAAGAGCTGGTCGATTACTGCTTTGCCTGATGCATCTAGTAGAACCAAGCTTCTGAAATTCGGTTCCCCTTCAGCTAAATTCATGAAAATGG CGGAGGAAAGAGACGAGGTTTCAAGGTCAGTGACGAGCTCATCAAGCAGCCATAACTTCCGGGAAAGAATCAGTGGTGTGCTTCACCGGAAAATTG ACTGGACTTCTCTGATGAATATGGGGAAAGAATGGATTAAGAACCCAATCAACATGGCTCTCTTCGTGTGGATACTCGTTGTTGCAGTCTCTGGTGC GATTCTCTTCATGGTGATGACTGGTATGTTGAATCATGCTTTGCCTAAGAAGTCACAGAGAGACGCTTGGTTTGAAGTTAACAACCAAATCCTTAATG GGTTGTTTACTTTGATGTGTCTTTATCAGCATCCGAAACGGTTTTATCACTTGGTTCTTCTTTGTAGATGGAAGCATGACGATATTACCAAGCTTAGGA AAGTGTATTGCAAGAACGGGACTTATAAGCCGCACGAGTGGATGCACATTATGGTTGTTGTCATTTTGCTTCACTTGAATTGTTTTGCTCAATACGCG CTTTGTGGTCTTAATGTTGGATTCAGAAGATCAGAGAGGCCTCCCATTGGAGTAGCCATATGCATCTCCGCTGCGATTGGAGCTCCTGCAGCTGCG GGTTTGTACACTATGCTTAGTCCACTAGGGAAAGATTATGATGATGATTCGAGTGTAGATGAGGAGAATCAACTGCAGCGTGAAGAAGGGTCTGTGA GTCGCAGGGTTACTTTAGAGAGGAGGTATTCGTTTGCTTCTACTTCTGCTTCTGCTGGTGATGGGATGGTTCCGGTGAGTGATCCTCAGTGGAGTG GTGGAATTATGGATATTTGGCATGATATTTCATTAGCTTACCTCTCACTTTTCTGCACTTTCTGTGTGTTTGGATGGAACATGGAGAGAGTTGGGTTT GGGAACATGTATGTGCACATAGCGACGTTTATCCTCTTCTGTTTGGCACCTTTCTTTATATTCAACTTAGCTGCGGTTAATATAGATAACGAGACGGT CAGGGAGGCGCTTGGGATATCTGGAATCCTTCTTTGTTTGTTTGGTTTACTCTACGGTGGATTCTGGAGAATCCAGATGAGGAAAAGATACAAGTTG CCGAGCTACAAGTTCTGTTTCGGAAGAGCAGCGGTTGCTGATTGTACGCTTTGGTTGTTCTGTTGCTGGTGCTCTTTAGCTCAAGAAGTTAGGACTG CAAACTCTTATGAGATAGTGGAAGACAAATTCTGCCAAAGAAGTGCAGAGGAGAAGAGTTTGGTGTCTCCTTTGCCTCGTGAAGAAGGTGTGTTTGA TCCTAGCTTTCGTCTTCGCAGCTCACGAAAAACATCACCCGCGCTAACTCTCGAAGCCCAAGCAGCTTTTGCGAAGACGTCGATAGTCCAGATGT
GCT-002L02	AT3G11540.1	SPY (SPINDLY); transferase, transferring glycosyl groups	GGTCAGCTGGTTCGGACCGACGTCGTACCTTTCGCTTGTCTTGTCCCCGAACACACAGAGGCTACGCCGCCTCTCGCCTCCGGTCCGTCCAATTCA CGGCCAAGCGAACGACTTCGCCGCTTGGGCTTGGGCTTGGCTTGTGAGAGGTATAATAAATCCCTAAGTTGCTACTTACTGATCAACGCTTTCTGTT TTCGGAGGAGCGAGGCGGAGATCAGCATCTCTTATATGTCTACTCGCTGTTATCATCATTCCTCCTTTTCTTCTTCTTTAGCCGCTCGATTTCCTCTC TAGCGGCTGCTTGCTTTCATCGCTGCACAGACAAGTTCCTCCTCTTTCAGTCTCTGCGGTGGATCAGCTTTTCGACTCAAGAAATGGTTGGGCTTGG AGATAATGCTGAGAGAGAGAGGTCACCAGTAGTAGAGAATGGTTTTTCCAATGGATCTCGATCTTCTCCTACCACAGATGTTTTGTCTCCATCACGA AAGGCCACTCAAGGGAATGATACGCTTTCTTATGCCAATATTCTTCGGGCAAGAAACAAGTTTGCTGATGCGCTTGCTCTCTATGAGACTATGCTCG AGAAAGATAGCAAGAATGTTGAAGCTCACATTGGCAAAGGGATATGCTTGCAGACGCAAAACAAAGGGAATTTAGCTTTCGATTGTTTTTCCGAAGC AATCAGGTTGGATCCGCATAATGCTTGTGCACTCACGCACTGTGGTATACTTCATAAAGAAGAAGGGCGCCTCGTAGAAGCTGCGGAGGTGTGACA TTACCTTCCCCTCTACCTGTGCTGATTAGTTTGTTAACTCGATGATACGCGATAGATAGCGTTTTCTAGCAGGCCAATTTCTAACTTACAATCGTCATA CTTTGCACAGTCCTACCAGAAAGCACTGATGGCAGATGCATCATACAAGCCAGCAGCAGAGTGTTTAGCTATTGTTCTGACCGACCTTGGAACTAGC CTGAAGCTGGCTGGGAATACTCAGGAGGGAATTCAAAAGTATTACGAAGCCCTTAAGATTGACCCGCACTATGCTCCTGCGTATTACAACTTAGGTG TTGTGTACTCCGAAATGATGCAATATGACAGTGCCTTGAGCTGCTACGAGAAGGCTGCACTTGAGAGGCCTATGTATGCCGAAGCATATTGTAATAT GGGTGTCATCTATAAGAACCGTGGTGACTTGGAGATGGCAATCACTTGTTATGAGAGATGTCTAGCTGTATCTCCAAATTTTGAGATTGCGAAGAAT AATATGGCAATAGCTCTGACAGATTTGGGAACAAAGGTTAAACTTGAAGGCGATGTGAGCCAAGGAGTGGCATATTACAAGAAGGCTCTCTATTATA ACTGGCACTATGCAGATGCTATGTATAATCTTGGGGTGGCTTATGGTGAAATGCTGAAGTTTGACATGGCAATTGTCTTCTATGAGCTTGCTTTCCAT TTCAATCCACATTGTGCTGAGGCTTGCAACAATTTGGGAGTACTTTACAAAGACCGTGACAACCTTGATAAAGCTGTGGAGTGTTATCAGATGGCTC TATCAATCAAACCAAATTTTGCACAGTCGCTGAATAACCTTGGTGTCGTCTACACGGTCCAGGGAAAAATGGATGCTGCTGCCAGCATGATCGAGAA GGCCATCCTTGCAAATCCCACTTATGCAGAAGCTTTTAACAACTTAGGTGTTCTTTATAGAGATGCTGGAAATATAACTATGGCTATTGATGCTTATGA GGAATGCCTTAAGATAGATCCAGATTCTCGCAATGCTGGCCAGAACCGATTGCTTGCCATGAACTACATAAATGAAGGACTCGATGACAAACTATTT GAGGCTCACAGAGACTGGGGCTGGCGCTTCACAAGATTACACCCACAATACACTTCATGGGACAATCTGAAAGATCCAGAGCGACCTATCACCATC GGATATATCTCCCCAGATTTCTTCACTCATTCAGTATCTTATTTCATTGAAGCGCCCCTCACGCATCATGATTACACAAAGTATAAAGTGGTGGTCTAT TCAGCGGTAGTTAAGGCAGATGCAAAAACATATAGGTTTAGGGATAAAGTGTTGAAGAAAGGTGGAGTTTGGAAAGATGTATACGGGATAGATGAGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002L04	AT3G54620.1	BZO2H4 (basic leucine zipper O2 homolog 4); transcription factor	GGACACATAGAGAGAGAAAGACAAAAAACAAAATCAAGGAGAGAGATAGAGAGAGAAAAGAGGAATCTGAGGCGATTGGGTAAGCGATGCACATC GTCTTCTCTGTCGATGATTTGACCGAGTCCTTCTGGCCAGCTTCCGCTCCGGTACCGGAACCGCCGCAGAACATGGCGGACGGGATGACTCGGAG TCAATCGGAGTGGGCGTTTCAGAGGCTTATCCAGGAGATGTCCGGTTCCGATGCGAGCCCTACGACCAACGTAATCGACCGGTCACCTCCACAGG TTCAGTCTGAGCAGTCCCTTTCAACCATTGACGAAACCTCCGATGTTGTCGAGATACAGAAGCCGCCGCAGAATCACCGTCTTCCTCCTGGGGATG ATCAAAGGGATCGGAATCGTGCACGGTCGTCTGATCCGTTGGATTCAGCTGGTGTTGATCCTAATCAATATCACGCGATTCTCAAGAGCAGACTCGA TCTTGCTTGCGCTGCTGTTGCGCGTCGTGTTGGAACCGTGAAACCTGAAGATTCAAGTTCCTCAGCTGGGAATCAAAAGCAATCTCTTCCGACGAG ACCTCAAGCTCAAGGCTCCATTGTGGCACAAACCTCACCAGGTGCGTCATCTGTTGGATTCGTTCCCTCAATAAGCACGCAAAAGAAAGCAGATGTT CCGGCCAGGCAAACTACCAGTATTTCATCACGAGATGATTCTGATGATGATGATCTTGATGGAGACACGGAAACAGCAGATAATGGAGATCCTACTG ATGTGAAGCGTGCTAGGAGGATGCTCTCAAACCGAGAATCCGCTAGGCGCTCAAGGAGAAGGAAGCAAGAACAAATGAATGAATTTGATACACAGG TAAGCCAATTAAGAGTTGAGCATTCAACTTTACTAAGTCGTCTTAGTGACATGAATCATAAGTATGATGCAGCTGCGGTTGACAACAGAATTCTAAGA GCTGATATCGAAACTTTGAGAACAAAGGTTAAAATGGCAGAAGAAACGGTGAAAAGAGTGACAGGAGTGAACCCTTTGCATTGGGCGGCAAGACCA AACATGGGCATACCATTGAACAACACTCCGACCGATTCCTCTAGAATTCAGCCAAACTCTAACCACATTCTCAAACCAGCAATCCCAAGTACCACCG GTGCCGGTTTAGCACCTAATCAGAGAGTAGAGAGAGGGAATTTCTTGGGCGAACAGGTGAACCGTGAAGGCATTCAGAATCCATTTGCTCCTGATT
GCT-002L05	AT3G62410.1	CP12-2	GATATATCTCCTTTCACAAAAAAAAAAAAAAAAAAAATCCGACGCCTAAAGGTATTTTCTGCATCCAACGATGGCAGCTATAGCTACTAGTGTTAACATT GCAACCCAACGAGGCGTCGTCACCAGCGAGAATCGTCCGGTTCGTCTCATCGGTCCGGTCCGTTTGAACAATCCGTGGAATCTTGGTTCAAGAACA ACGAACCGGATGGTGAAAATTAGACCGGTTAAAGCAACGCCAGAAGGAGGGATAACAGATAAAGTGGAGAAGAGCATTAAGGAAGCAGAGGAGAC TTGTGCAGGCGACCCAGTGAGCGGAGAGTGTGTAGCTGCGTGGGACGAGGTGGAGGAGCTTAGCGCAGCTGCTAGCCACGCTAGAGACAAGAAG AAAGCTGGTGGCTCGGACCCTCTGGAGGAATACTGCAAAGATAATCCCGAGACTAACGAGTGTCGTACTTACGACAACTGAATCATGTTCCCCATTT CCCGCATATTCCAAATCTTTTGTTCTTGTCAATTTGGTATTCAGATACGATATGAATGCTGTCTTTGAGACTTAAAATAGCTCCTAAAAACACATTGTA
GCT-002L06	AT3G26650.1	GAPA (GLYCERALDEHYDE 3-PHOSPHATE DEHYDROGENASE A SUBUNIT); glyceraldehyde-3-phosphate dehydrogenase	GACCCTCTGCTGCTGAAACCTTAACTTTTGGATCGTTTCTGGTTACCATGGCTTCGGCTACTTTCTCTGTCCCCAAACCATCTCTTCAGGGTTTCACT GAATTCTCAGGATTGCGAAGCTCATCTGCTTCTCTTCCCTTTGGCAAGAAACTTTCTTCCGATGAGTTTGTTTCCGTCGTCACTTTCCAAACTTCTGC AATGGGAAGCAGTGGTGGATACAGGAAAGGTGTGACTGAGGCTAAGCTTAAGGTGGCCATTAGCGGGTTTGGTCGGATCGGGAGAAACTTCTTGA GATGCTGGCATGGCCGCAAGGACTCTCCTCTTGACGTCATTGCCATAAACGACACCGGAGGCGTCAAGCAGGCTTCGCATCTCCTTAAATACGACT CTACTCTTGGAATCTTTGACGCCGATGTGAAACCTTCTGGAGACGCTGCTCTCTCTGTTGATGGAAAGATTATCCAGGTTGTGTCTAACCGCAACCC GTCTAATCTCCCCTGGAAGGAGTTAGGCATCGACATTGTCATCGAAGGAACCGGAGTGTTTGTGGATAGAGAAGGTGCAGGGAAACACATTGAAGC TGGAGCCAAGAAAGTTATCATTACCGCTCCAGGCAAAGGAGACATTCCAACTTACGTTGTTGGTGTCAATGCCGATGCTTACAATCCCGATGAACCG ATCATCAGCAATGCATCTTGCACTACTAACTGTCTTGCTCCCTTTGTCAAAGTTCTTGACCAGAAATTCGGTATCATAAAGGGTACAATGACAACTAC TCCCTCTTACACTGGTGACCAGAGGTTGCTAGACGCGAGCCACCGTGATCTAAGGAGAGCAAGAGCAGCTGCGTTGAACATTGTTCCCACATCTAC AGGAGCGGCTAAAGCTGTGGCTCTTGTGCTTCCTAACCTCAAGGGAAAACTCAATGGAATCGCTCTCCGTGTACCAACACCAAACGTATCAGTGGT TGATCTCGTTGTGCAGGTCTCAAAGAAGACTTTCGCAGAGGAAGTTAACGCTGCTTTCAGAGATGCTGCAGAGAAAGAGCTTAAAGGTATACTCGAA GTCTGCGATGAGCCGCTAGTTTCCGTTGATTTCAGATGCTCAGATGTGTCCTCGACCATTGATTCTTCACTCACTATGGTTATGGGAGACGATATGG TTAAGGTGATTGCTTGGTATGATAATGAATGGGGTTACTCACAGAGAGTTGTTGATTTGGCTGACATTGTTGCCAACAACTGGAAGTGATTTGTAACT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002L07	AT4G21960.1	PRXR1 (peroxidase 42); peroxidase	GGAGAGTGGTGTTGTGTGAGAGAGAAGAAGAAGGAGAAAGATAAAAAAAAATGGGAGGAAAAGGTGCGATGATGGTGGCGATACTCTGCCTTT GGGCACTCTCTGCAACATCAGAAGCAGTTGTAACAGAGGAGGAGCCCGGCTTGATGATGAACTTCTACAAGGACACGTGTCCTCAGGCCGAAGAC ATCATCCGTGAACAAGTCAAACTCCTCTACAAACGCCACAAGAACACCGCTTTTTCTTGGCTCCGTAACATCTTCCACGACTGCGCCGTGGAGTCAT GCGATGCGTCGCTTTTGCTTGATTCCACAAGAAGAGAGCTAGGAGAGAAAGAACACGACAGGAGCTTCGGTCTGAGAAACTTCAGGTACATAGAGG AGATCAAGGAAGCTCTTGAGAGGGAGTGCCCTGGTGTTGTCTCTTGTTCCGACATTCTCGTCTTGTCCGCAAGAGAAGGCATTGAAGCAGTGGGAG GACCGCATATTCCGATGAAGACAGGAAGGAGAGATGGACGTAAAAGCAGGACTGATATGCTTGAGTCTTATCTTCCCGACCACAACGAGAGTATCT CTGTAGTTCTTGAAAAGTTCAAATCCATCGGAATCGACACTCCCGGCCTCGTCGCTCTCCTCGGATCTCACAGCGTGGGAAGAACTCATTGTGTTAA GCTGGTGCACCGTTTGTACCCTGAGGTTGATCCGTCTTTGAACCCGGACCACGTTCCTCACATGCTTCACAAGTGTCCTGACTCGATCCCTGACCC AAAAGCGGTCCAGTACGTGCGTAACGACCGTGGTACGCCCATGGTGCTAGACAACAACTACTACCGTAACATCCTGGACAACAAGGGTTTGCTCCT TGTGGACCACCAGCTCGCACACGACAAACGGACCAGACCAATTGTTAAGAAGATGGCTAAGGACCAGGCTTACTTCTTCAAGGAGTTCACTAGAGC GATCCAGATCTTGTCTGAGAACAATCCTTTGACTGGTTCCAAGGGTGAGATCAGGAAACAGTGTAATCTGGCCAACAAGATCCACTGAGGTTGGAAA GAGTGAGAAAAGAGAGAGCGCCTCTTTGTGTTTGGGGTTTTCTCTGCACTTACTTGGCATTGAGCTAAGATGAATAAATAAATGTTTTAAGAAGTTGA AATCAAATCAAGCGTCATCATCAATCGATCATCGTCGTCAGCAGATCGACTCTTCTTTTTCTCTCTTCTTTTAGCGTTAATCGTTTAATTATCATC
GCT-002L08	AT1G28310.2	DNA binding	GGGGCGAGTATGCAGAGCAAGAACATGATCGTGGCTTCGTCTCATCAGCAGCAGCAACCGCAGCAACCGCAACCGCAACTTAAATGCCCTCGTTG CGATTCCTCGAACACAAAGTTCTGTTACTACAACAATTACAGTCTCTCTCAGCCGCGGCACTTTTGCAAGGCTTGCAAGAGGTACTGGACGCGAGGT GGTACCCTCCGGAACGTTCCCGTAGGTGGTAGCTACCGGAAGAATAAACGGGTGAAGCGGCCAGCAACCGCAACCGCAGCCTCCACGGCCTCGA CGACGACGACGACAAATTCTTCATCCCCTAACAATCCTCATCAGATCTCCCATTTCTCCTCCATGAATCATCATCCCTTGTTCTATGGTTTATCAGATC ATGTGAGCAGTCGTAAGAATCCTCCAATGATTCCTAGCCGTTTCAGTGATTCTTCAAAGACTTCTTCATTAAGTGGTTTAGAGAGTGAATTTCTCTCAT CTGGTTTTAGTGGTCTTAGTTCTCTTGGATTAGGGCTCCCACATCATATGAGTCATGACCACACCATTAATGGTAGCTTCATCAACAACTCTACAACA AACAAACCCTTTCTTCTATCGGGTCTATTTGGGTCTTCGATGTCTTCTTCGTCCTCTACCCTTCTCCAGCATCAACATAGGCCCATGAACAATGGTGG CGACATATTTGGACAATCTCATCTCCAAACCCTAGCATCACTTCAAGACCTGCATGTTGGAGTTAATAATGAAGATATGAACAAAGAAGGAAAGCTTG ATCAGATCTCTGGGAACACTAATGAGTTCATGTCATCATCATCTTTAGATCCTTCAAACTACAATAGCATATGGAATAATGCAAGTGCTGTAAATGGA GCATGGCTTGATCCAACAAATAATAACGTTGGATCCTCCCTCACCTCCTTGATATAAACCAACACTTTGGTTATAGGATCGATCTATAACTAGCTAGA GTTTATCTTCATCATCACCTTTTTCTTCCTTTGTTTTTTTGAGATGAGAGAAGAAGCTTGGATCAGAGAGATCATATCAGCGGCAATGTTGATCTTGGC CACTAGCTCCCTCGGATCCTCTTCATCTCACCATCTCCATCATCTTCATTCTCGTTGTTCAAGAAAAAACAAAAGGGGTTCAAGATTGGTTCAAGGTT TACTATGTTCTACTGTTTAGTTCACTCAAGGTAAATTATATGTGTATGTACATAATATGATCCTGACTTTCATCTTCTTCTTTTTTTATCATCCATGTAAT
GCT-002L09	AT4G28640.1	IAA11 (indoleacetic acid-induced protein 11); transcription factor	GGGCTTACTTAAAGTCGCAAACTTTGCTTCAAATTCAACCCACCTCTCTTCTCCCTCCTCTGCAGATTCTCTTCCCTTAGAACCAAATCTCCCCCCCA AATTCTCAGTCTTCTGGGTTTCGGATTCAAATGGAAGGCGGTTCCGCGAGTGGCTCGGCTTCGACTTTGTCAAACGATGAAAATCTCGTTGTCTCTT GCGAGGATTCTTCTTCCCCGGCAGAGAATGAGCTCGAGCTCGGTCTTACGTTGAGCATCGGTCCAAAGGGTAATCGAGATTGCAGGGTTTCTTACG CTGATGATTCTTCATCTTCGTCATCTTCTTCCCTGAGCAGAGCTAGCGTAACTGCTGGGATCAAGAGAACAGCTGATTCCATGGCTGCAACTAGTGG GCAAGTTGTGGGATGGCCACCAATAAGGACTTACAGGATGAACAGTATGGCTAACCAAGCCAAGACATTGGCTATGGAAGATTCGAACACAGAGAC TCGTCAAGAAGTAAACAAGAATATAACTGATGCGACAAAGATGAGAAATTCGATGTTTGTGAAGGTGACTATGGATGGCATTCCAATCGGAAGAAAA ATCGATCTGAATGCTCATAAATGCTATGAATCGTTGTCCAGCACTCTGGAAGAAATGTTTTTGAAACCCAAAACAGGTTCAAGCACACGAGAAACCG ATGGTCACGTTGAAAAACAGCTCAAGATACTACCAGATGGGTCTTCTGGATTAGTACTTACATACGAAGACAAGGAAGGAGATTGGATGCTTGTCGG CGATGTTCCGTGGGGGATGTTTATTGGTTCTGTGAAAAGGCTCCGGATAATGAAAACATCAGAAGCTACTGGTACAGCTCAAATGTTCTTATGAAGC GAATAATAATCTACAAGAACCCTTTATATTTGAAGCAATAATAATACAGATCACAGATCAAAGGGAAGACAAAAACAGTGTAAGAAACCTTCTTCTTCT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002L10	AT3G12480.1	transcription factor, putative	GATCGGGGAGATTGTAACAAGGAAACCGCCGTCGCCGGATCTGGTAGTGTGCGTATCCGTGAAGTAGCCGAAGAATTACTTTCCGATCTTAGAAAG GAGCTTCTGTACATAAGAGTTGGCCTCGATTTTTATCAGAAGGGTCTGTTTACTTTTTTGTTTTTTCTTTTGTGTGGTGGTTTTGCGTTTTCTCCTTGG ACGGTTTCTGGATTGGGATTTCAAACCATGAGGAAGAAGCTCGATACTCGGTTCCCAGCTGCTCGTATTAAAAAGATTATGCAAGCTGATGAAGATG TTGGCAAGATAGCTTTGGCAGTGCCTGTCTTAGTTTCGAAATCTTTGGAATTGTTCTTGCAAGACCTTTGCGATCGTACATATGAGATTACCCTCGAA AGAGGAGCCAAGACCGTGAGCTCACTGCACCTAAAACATTGTGTGGAAAGATATAACGTGTTTGATTTTCTGAGGGAAGTTGTGAGTAAGGTGCCT GACTATGGCCATGCGCAAGGGCAAGGCCATGGGCAAGGTGATGTTACAATGGATGATCGCAGCATCTCCAAGAGAAGGAAGCCGATCAGTGACGA AGTGAATGACAGCGACGAGGAATATAAGAAAAGCAAAACGCAAGAGGTTGGTAATGCTAAGCCCAGTGGCAGGGGTGGTAGAGGGAGAGGACGA GGAAGAGGTCGTGGTGGACGAGCTGCCAGAGCGCTCGAACGAGAGAATCTGAATCGTGAGATGGAACTTGGGACCAACATGGCGGAACAGCCAC CTCCTCAAGACAGTATCCAGATGCATGTGTCAGAGTCATCACCCCAAGAGAATGAGAAGAAGGATGTCGATGGTGGCATTGCAGCATCAAACGAAG ACACCAAGCAACAACTTCAATGTCCAAAAGAAGGCATTGACTTTGACCTCAATGCTGAAACTCTCGACCTAAATGAGACCAAACTGGCACCAGTCGG AGGCACAGAGACTGCCACAGCGACGGCCTCAGAGGAATATCCGGGCTGGCCTATGATGGAGTTGGGCAAAATAGATCCAGCACAGCTTGCAAGTT TGGGTAAGAGGATAGACGAGGACGATGAAGATTATGACGAAGAAGGCTAAGGCAAAGCAGAACAATAGGACATAAATAGAGTAGCAGCATTTAGCG
GCT-002L11	AT5G55850.1	NOI	GACCCAGATTCTCTTTCTTCTGCGATCAAATATTTTCTCTCTCACTTTCCTTGGTTTTCTCGGCGGCTTTCATCTCCATTTTCCCGAATCGTTTTTCCAT TTTTCTTGGGATAAATCTTCCTCCTTTCTGCAGACGCTATGTCGGACAAAGGTCGTCCCTTGCCAAAGTTTGGGGAATGGGATGTGAATGATCCAGC ATCAGCAGAAGGTTTCACAGTGATATTCAACAAAGCTAGGGATGAGAAGAAGACCGGTGGCAAACCCGGATCACCCGGTAAATCCTCTGAGGGTCA TGTTAAGTCTGGAGGAGGAGATCCTAGTAAACCTCAGCCTAAGTGGCTCTGCTGCATGCAATCTCCGGCTGTGGACTCTTGACAAACACAAATATG GATTTGCTTGCTGTTCCCAAAGAAAAAAAAAGTCGCATTGCTTTACGCATCTGAAGCAATGTTCTTTTATGTTTTATTGTCTTTCTTGAAATTTACCCC CACACAAAAAAAAGTTCTGAAGATGATGATTTGGAGCTGTCCTTTAGTATCACGATTATGATTCCTTCTTCTTTGAAGTTGTTTTTTCTTCTAAAAATGC
GCT-002L12	AT5G08100.1	L-asparaginase / L-asparagine amidohydrolase	GGCGAGTAAACCATTTTAAGAGATTCTCCGGCGACTAGCGATGGTTGGGTGGGCGATAGCGCTACACGGCGGAGCCGGAGATATTCCGATTGACC TTCCGGACGAGCGGCGTATCCCTCGCGAGAACGCTCTTCGTTACTGTCTCGATCTCGGCGTTTCCGCCCTCAAATCCGGCAAGCCTCCCTTGGAC GTCGCCGAACTCGTCGTTCGTGAATTAGAGAACCACCCAGACTTCAATGCGGGTAAAGGATCAGTGTTAACAACGCAAGGCACTGTTGAAATGGAA GCTTCCATTATGGACGGGAAAACGAAAAGATGTGGAGCGGTCTCAGGCTTGACCACTGTCCTCAATCCCATCTCCTTAGCTCGACTCGTCATGGAA AAAACTCCTCACATCTATCTTGCCTTCGATGCTGCAGAAGCTTTCGCTAGAGCTCACGGCATTGAGACGGTCGAATCGAGCCATTTCATAACTCCTC AAAACATTGCAAGGCTAAAACAGGCCAAAGAGTTTAATCGAGTCCAGTTGGATTACACAAACCCCACCACGAAAGAAGCGGAAAATTGTGGTGACA GTCAAATAGGAACGGTCGGATGTGTAGCCGTGGACAGCTCCGGAAATCTGGCTTCAGCTACATCAACGGGCGGTTATGTCAACAAAATGGTTGGCA GAATCGGGGATACACCGGTGATTGGTGCAGGAACATACGCTAACCACCTTTGTGCCGTCTCAGCCACGGGTAAAGGAGAAGAGATTATCCGTGGA ACCGTGGCTAGAGACGTTGCTGCACTCATGGAGTATAAAGGCTTGTCTTTGACCGAGGCTGCAGCTTATGCCGTTGACCAATCCGGACCCAGAGGA ACCTGTGGACTCGTTGCTGTCTCGGCCAATGGTGAAGTCGCAATGCCGTTTAACACCACCGGTATGTTCAGGGCTTGTGCCATGGAAGATGGTTAC ACTGAGATCGCAATCTGGCCAAAGAACTGAAATCACTTGACGGACCTTTGGAACTGAATGTGAAAATTATTAGTGTTTTCTAGTTTAATTTTCGATTTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002L13	AT3G28890.1	leucine-rich repeat family protein	GGGGTCAAGCTGAGTGGATTTGGAGCACTGACTATAATTAAGAGATGGCATGTAACCATTTTATCATCACAAATTCCAATTCTATCATTTCCTTTTCAT TACTGATTTTTAAGAAAGTTAAAATTTGTTCAAAAGAAGAACGAAAGGCTTTTGAAACTCAATGAGTATCATTCACATTACTCTTTCTTTTCTCTTCTTG TTTGTTTTTGATTCTCATGACGTGTTTGCGGCTACTACTAGACATTTGTGTCGTCCGGAACAAAGGAATGCACTTCTCCAGTTGAAGAACGAGTTTAA AATTTGGGTAAGTAATGGGAAGACGGAGTCATGGGCAAATGACACTGATTGTTGTTATTGGGATGGTATCAAGTGCGATGCCAAGTCTGGGGAAGT GATCGAGCTAGACCTTAGTAACAGTTATCTCTACGGTCAGTTTCATTCCAATACCAGTCTTCAAAGCTTTCGTTTTCTCACCACTCTAAAGCTTTATTA TAATGATTTATACGGTGAAATTCCGTCTTCAATTGGAAATCTTTCACTTCTTACCTCTCTTGATCTTTCTTCCAATCAGTTTTCGGGTCAGATTCCATCT TCAATTGGAAATCTTTCACTGCTTACCTCTCTTGATCTTTCTTCCAATCAGTTTTCAGGTCAGATTCCATCTTCAATTAAAAAGCTCTCTCATCTCGAAA CTCTTGACCTCGGTCGAAACAGACTCACGGGTGAAATCCCAGATTCTTTTGCTAGTTTGAAAAATTTGACGAGGTTAGATGTTAGTGCCAATAAGCTT AGTGGTAACTTTCCAATTTCCCTTCTAAATTTGACAGAGTTGTCGTATTTATCACTCACTTCCAATCAACTCACAGGAACGCTTCCTCCAAACATTAGC TCACTCTCCAACTTGCGATATTTTTGGGCAAGTGACAATGATTTCGTTGGAACCATTCCTTCTTCTCTCTTCACCATTCCTTCTTTGACAGATATCATT TTGTCAAATAACCAACTCGACAGCCTTCTTGAGTTTGGGAATATATCTTCACCATCGAAGCTAAAGTGGTTAGTGCTTGGCCGTAACAACTTGAGAG GGCCAATACCGAGATCTGTTTCCAAATTAGTCAAGCTCAGGGTACTTGACCTTTCCAACTGGAACACCCAATTAGGCCCAATTGACTTGAGTATCTTC TCGCATCTAAAGTCACTCCGAGATCTTACCTTATCCCATTTGAACACCACCACTACGATTGACTTGAATGCCATCTTATCATGTTCTCAGAGGCTGGA AACATTGGATCTCTCAGGGAGCCATGTTTCAGCCAAAACCAAGAGCTCAGTTTCAGATCCTCCTTCGCAAATGTTAGGTTATTTAACCTTGTCAGGCT GCGGTGTTACCGAATTTCCAGAGATCATAAGAACACTGCATTCAATGAGTTATCTAGACATTTCCAACAACAACATCAAAGGTCAAGTGCCTGGCTG GTTATGGACACTACCAAATCTGACATACGTGAATCTTTCCAACAACACTTTCGTCAGTTTCGAAAGTCCAACGAAACAAGGACTATCCTCTGCCATGC GGTTCTTGTTTGGCTCCAAAAACAATTTCACAGGAAAGATTCCCTCCTTCATATGCGCTTTGGACTCTCTAAGGGTTCTCGATTTATCTAGCAACAAG TTGAATGGTTCAATCCCTCTTTGTATTGGAAATCTCAAGAGTAATCTTTGGGTTCTAAACCTCCGTCATAATCGTCTTAGTGGAGGCCCTCCCGAGAA TGTATTTGAACGTCTACGGTCGCTTGACGTTGGTTATAACCAACTGGTGGGAAAGCTTCCAAGATCTTTGATCCATTTCTCTGCCCTTGAAGTTCTTA ATCTGGAAAGCAATAGAATCAACGACACGTTTCCGTTTTGGTTGAGTTCTCTACAAAATCTGCAAGTTATTGTCTTACGCTCCAATGCATTCCATGGA CCGATACATCGAGCCTCCTTCCTTCAGCTGAAAATCATGGACATCTCGCATAATCACTTCAATGGAATTTTGCCATCAGATTATTTTGTGAACTGGAG TAAAATGTCATCACTTGGGACAGAGGAAGATCGGTCGAATGAAAACTACATGGGAGATAGAAATTACGAAGACTCAATGGTTTTGATGAATAAAGGA
GCT-002L14	AT3G28930.1	AIG2 (AVRRPT2-INDUCED GENE 2)	GATCTAGCTCCCACAATTTTTTTCAAACTAAAAATCAAATCATTATTCAGAGGAAAACGATGACTAGTTCTGATCAATCTCCGTCGCACAACGTCTTCG TCTACGGCAGTTTCCAGGAACCAGCCGTCGTCGGTTTGATCCTTGAATGCACTCCGGTCATCGTCTCAGCTCAACTCCAAGGCTTTCATCTGTATAG ACTCAAAGGACGTTTGCATCCATGTATTTCTCCTTCTGAGAACGGAGTTATCAACGGAAAGGTACTAACAGGATTGACAGATGCTCAGCTAGAGAAT TTAGATATGATCGAAGGAGATGAATACGTGAGGAAGACTGTTGATGTTGTATTGACTGGCACTTCTGAGAAGATGAAAGTGGAAGCCTTTATATGGG CTAACAAGGATGATCCTGACATGTATGGAGAATGGGATTTCGAGGAATGGAAGCGGCTTCATATGGAGAAATTCATAGAGGCATCAAAGAAGTTCAT CGAATGGAAGAAGAATCCTGATGGGAGAACAAGAGAAGAGTTTGCCAAATTTGTGAACGAAGACCCTCCCGTGGCATGAACAATTTTTGTCTTGCCT TTTTATCTATCTTTTTAATTCAAAATAAAAGGGGTCTCACTTTAGACGAAATAAGAGGCTTTGTAAGTTTGGAACACAAAGAACATGTTGAATCTGTATT
GCT-002L15	AT3G28920.1	ATHB34 (ARABIDOPSIS THALIANA HOMEOBOX PROTEIN 34); DNA binding / transcription factor	GATTGTCTTAAACACATTAAAATAACACAAATCAAATGATCTCCAAAAGTTGATTATCTCTCTTTATCCATCTTCTTCGTTTCTGAATATCAAACTTTGTT TTCGAGCTTAACCTAAACCCCCGAGTTTTCTCGCAAGATTATCTTGATAAAAAAAAACCAACCATAGATGCTTGAATTTTGAGCAATGGATATGACTCCT AAATCTCCTGAACCCGAATCCGAAACTCCGACCAGGATCCAACCAGCGAAACCAATCTCCTTCAGCAACGGCATCATCAAACGCCACCACCACCAC CACCACCCAATAATCGCCGTCACATACAAAGAATGCCTCAAGAACCACGCGGCGGCGATTGGCGGTCACGCGCTCGACGGTTGCGGCGAATTCAT GCCTTCTCCTTCCTCCACGCCTTCCGATCCAACTTCCCTCAAGTGTGCCGCCTGCGGTTGCCACCGTAACTTCCACCGCCGTGACCCCGACGATTC ATCCCTCTCTTCCGCCGTTCCGCCACCGTCTCTCCCTCCATCCTCCACCACCGCCGCCATCGAGTACCAGCCTCACCACCGTCACCACCCGCCTCC ACCAGCTCCTCCTCTCCCTCGCAGCCCTAATTCCTCTTCTCCGCCGCCTATCTCCTCCTCTTACATGCTCCTCGCTCTCTCCGGCACCAATAAATCC GCCGGAAACAACTTACCGTTCTCAGATCTCAACTTCGCCGCCAACAATCTCTCCACTCACCACCACACCCCAGGTTCTAGGAAGCGATTCAGGACG AAATTTAGCCCAATTCAGAAGGAGAAGATGCACGAATTCGCCGATCGAATCGGGTGGAAGATTCAGAAGCGCGACGAGGAGGAAGTTCGCGATTTC TGCCGCGAGATCGGAGTCGATAAAGGAGTCCTCAAGGTCTGGATGCATAATAACAAAAACACCTTCAACAACCGCCGCGACCACCAATTTTCCGGC GGAACCGCCGTTCAGAGGATCGATAATAACGGCGTCGCGGTTTCCGGCGTCGAGAACGCTAATAACAACGTTGAAGATGATGGCGTTCGAGGTGG AAGCGGTTTAGAACACGACCTACATCGCGGCGGTGGTGGGAGGTTCGAGAGTGATAGCGGCGGAAACGCGAACGGCTCGTCGTCTTCGTCGTGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002L16	AT1G72430.1	auxin-responsive protein-related	GAAGAACATCTCAAAACATTTCTCTTTTCTTCATTCAATTTTTTGACCCACACACACTCACATAAACACATAAATTTCCTCATAAAACCCTAAACCCTAC CTAGTTCCAACAACTACTTATATATTCCAAACCAATAAAATCTCATTAGCAATGGCCAAAGTTGGGAAGCTGACAAAACTCAAGTCGGCGATGAAGAA ATGGCCTTCCTTTGCCAAGAACCACCACCACTCATCCTCCTCTGCCGCTGTCTCAGATGAGCTCTCAGAGGATAACAATCTCCATGTTGTTTATGTT GGTCAAACTCGAAGACCTTACATGCTTAGGCCAGACATCATCTCGCACCCACTCTTTCAAGAACTAGTGGATCGGTCTTCTAGATCCGTCGAACAAG ATCGGGAGATCGTTGTAGCTTGTGAAGTTGTTTTGTTCGAGCACTTGTTGTGGATGCTCAAGACTGGTCAAGAAGGAGGATCCGTTGAAGAATTGGC TGAGTTCTATACTTATTGACATCGACCGATTGATTTTTATACATTTATTGCGTTTAATACATACTTCTTTTTGTTATTGTTTTTGTTGTTGTTGCTGATAT
GCT-002L17	AT1G05200.2	ATGLR3.4 (Arabidopsis thaliana glutamate receptor 3.4)	GAGAAGAAAAAGAGAGAATATTATGAAAATTCTTTGCTTGAGCCTGAGAAACAGTTCCTCTGCTTCTACTTCTTCATCCTCTTTTCTATGTCTCTCTTT TTTGTTTGCTCAATCACTCGTTTACCCACAGAAGAATATGGATCTCTGATTAAAGCTTTTTGCTCGTATTTATTCCAAGGTGTCAGTTCAAATAATCAA ATGGTTACATAGGCCCAGGAAACAAAATAGCTTTTTTTGCTGGTTGCAAAAAAGATGGTATTTTTCGTGATGGTAAGAGGAGTTTCCATGGTGAAAGC AATGAGAATTGTGTTGCTATGCGTTTCTGTTTTGTGGTTCGTTCCAAAGGAATGTACTTGTAATAGGGATTTCTCAAGAAACTCGTCTTCTTCACCGC CATTATCACCGAGGCCAAGCTTAGTGAATGTTGGAGCTCTGTTTACTTATGATTCTTATATCGGAAGAGCGGCTAAACCAGCGCTTAAAGCGGCTAT GGATGATGTTAATGCTGACCAAACTGTACTTAATGGCATCAAGCTTAATATTGTCTTTCAAGACACTAACTGCAGTGGATTTATTGGCACCATGGGAG CTTTGCAGCTGATGGAAAACCAAGTGGTTGCAGCCATTGGTCCACAATCTTCAGGGATTGCTCACATGATCTCCTATGTGGCTAATGAGCTTCATGT ACCTCTCTTGTCATTCGGAGCAACGGATCCGACTCTTTCCTCTCTCCAATACCTTTATTTTCTGCGAACCACACAGAACGATTACTTCCAGATGTATG CAATCACAGATTTTGTATTATATTCCGGATGGAGACAAGTCATTGCGATATTCGTCGATGATGAGTGTGGTAGGAACGGGATATCTGTTCTAGGCGA TGCATTAGCCAAGAAACGCGCGAGGATCTCTTACAAGGCTGCAATCACACCTGGTGCAGATTCTAGTTCCATCGAAGACTTGTTGGTTTCTGTTAAT CTGATGGCATCTCGGGTTTACGTTGTTCATGTAAATCCTGACTCTGGTTTAAACATTTTCTCTGTGGCCAAGTCTCTTGGAATGATGGGAAGCGGTTA TGTTTGGATCGCAACAGACTGGCTTTCTACAGCTTTGGATTCAATGGAGCCCGTGGATTCGGACACGATGGATCTCTTGCAAGGAGTGGTTGCTTTC CGCCACTACACAACCGAGACTAGTATGAAGAAGCAGTTTGTGGCGAGATGGAAGAATCTTAGACCCAAAGATGCCTTCAACACATATGCATTGTATG CTTATGACTCTGTTTGGTTAGTTGCTCGTGCCCTCGATGTTTTCTTCAGAGAACACAATGCCATAACATTCTCCCACGATCCGAATCTGCACAAAACA AACGGTAGCAGTGTTCAGTTATCAGCACTAAGTGTGTTCAATGAAGGAGACAAGTTTCTTGAGATCATTCTTGGGATGAATCATACTGGTGTGACGG GGCCAATCCAGTTTGACTCAGAGAGAAACCGGGTTAACCCGGCTTACGAAGTTCTAAACATAGAAGGTACAGGTCCACGCAGAGTCGGGTACTGGT CAAATCATTCGGGTCTCTCAGTGGTGCCTCCAGAGACATTGTACTCTAAGCCTCCAAACACATCTACAGCAAACCAACGTCTTTATGGAATCATATG GCCAGGTGAGGTTACTAAGCCTCCTCGTGGATGGGTGTTTCCTAATAATGGAAAGTCGCTCAAGATCGCAGTGCCTAACCGTGTGAGCTATAAAGA TTATGTCTCTGAGGACAAGAACCCGCCTGGTGTTAGAGGCTATTGCATAGATGTCTTTGAAGCTGCCATTGAGTTGCTTCCGTATCCTGTTCCACGT ACTTATATCCTATATGGAGACGGGAAGAGAAATCCTTCTTACGACCATCTAATCAATGAAGTTGTTGCAAATAATTTCGATGTAGCTGTAGGAGATAT CACGATTGTAACAAACAGAACAAGATTCGTAGACTTCACACAGCCGTTTATAGAATCAGGGCTTGTGGTGGTGGCTCCGGTTAAGGAGGCTAAATC GAGTCCTTGGTCATTCCTGAAACCGTTCACTATAGAGATGTGGGCTGTCACTGGAGCCTTCTTTCTCTTTGTGGGAGCCATCGTTTGGATTCTCGAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002L18	AT4G26850.1	VTC2 (VITAMIN C DEFECTIVE 2)	GATCAGCACCAAAACACCTCAAACCCCAAAAAAAAAAAAAAAGGAAACTCTAATTGAAACCCACATCTAAAGATCTCTCCTTCTCCGTTTTCTATTTCG TTTTCTCCGTAGATTCTGCTGTTTTGAGTGTCGGGTTCGTTTTCACTTCCATCTTCTCCGGCTTCCGATTTCCAAAAAAACTCCGGGGAATAGGTGGT CGGCATCACGGCTATACACGGGATATCTCGGGGTGTTAGCTCTCATGTCCATATAGTCCGACGCAAGGGTTGCTTAATCGAGACTAATCCTTTGCC GCACGGAGGACGTGGAGCTCTGCCGTCTGAAGGCGGCAGCCCTTCCGATCTCCTCTTTCTAGCCGGAGGCGGTCTTTTCTTTTCCATTAGTTTTTA GGATTTAGGGTCGTAGAGCCTTTTTATTTCTTTTTCCTTTTTTGTTGTTAAATCGCGCTTGGGGGAGAGAAAAATTTGGTCTTTTGCTATTCGAATTCT TCTTTTGAGAATGTTATCAATCAAGAGGGTTCCGACCGTCGTGTCGAATTACCAGAAGGATGAGGCGGCGGATGAATCCGTCGGCTGTGGCCGGAA TTGCCTCGGAGCTTGTTGCATTAACGGGGCAAGGCTTCCGTTGTATGCCTGCAAAAAACTGGAAAAATCCGGCGCCGGAGAGAAGCTGGTCATCAG CCATGAAGCTAGAGAGCCTCCGGTGGCTTTTCTCGAGTCCCTCGTTCTCGGAGAGTGGGAGGATAGGTTCCAAAGAGGACTCTTTCGCTATGATGT CACCGCTTGTGAAACCAAAGTCATCCCGGGGAAGTATGGTTTCGTTGCTCAGCTAAACGAGGGTCGTCACCTTAAGAAGAGGCCAACCGAGTTCCG TGTAGATAAGGTTTTGCAGTCCTTTGATGGCAACAAATTCAACTTCACTAAAGTTGGCCAAGAAGAGCTCCTCTTCCAGTTTGAAGCTGGCGAAGAT GGCGAGGTTCAGTTCTTCCCATGCATGCCTCTTGACGCTGAGAATTCTCCCAGTGTTGTTGCCATCAATGTTAGTCCGATCGAGTACGGGCATGTG CTGCTGATACCTCGTGTTCTTGACTGCTTGCCTCAGAGGATCGATCACAAAAGCCTTTTGCTTGCAGTTCACATGGCTGCTGAGGCCGCTAATCCTT ACTTCAGACTCGGTTACAACAGCTTGGGTGCTTTTGCCACTATCAACCATCTTCACTTTCAGGCATATTACTTGGCCATGCCTTTCCCATTAGAGAAA GCTCTTTCCAAGAAGATGATTACCACTGTTAGTGGTGTGAAAATCTCCGAGCTTCTGAATTACCCTGTCAGAAGTCTTCTCTTTGAAGGTGGAAACTC TATGCAAGACCTATCGGATACTGTATCAGATGCCTGCGTCTGCCTCCAGAACAACAACATTCCTTTCAACATTCTCATCTCTGATTGTGGAAGGCAGA TCTTCTTGATGCCACAGTGTTACGCAGAGAAACAGGCTCTAGGTGAAGTAAGCCCGGAGGTGTTGGAAACGCAAGTGAACCCAGCTGTGTGGGAG ATAAGTGGTCACATGGTGCTGAAGAGGAAAGAGGATTACGAAGGAGCTTCAGAGGAGAACGCATGGAGGCTCCTTGCAGAAGCTTCTCTGTCAGA GGAAAGGTTTAAGGAGGTTAATGATCTCATCTTTGAAGCCATAGGTTGTAGTAACCAAGAGGAGGAGCTTGAAGGAACCATAGTCCACCAGCAAAG CCCAAGTGGTAGTGTTAACCAGAAAAGCAACCGAACCCATGGAGGTCCCATCACGAACGGGACTGCCTCTGAGTGCCTTGTCCTTCAGTGAACAAC
GCT-002L19	AT5G66900.1	disease resistance protein (CC-NBS-LRR class), putative	GAAATTAAGCTAAAGCTTTTGACTTCGCCTACCTTGTTAATCGTTTTTTCTCTAAAGCGTTGCAATTAAGCTAAGCTTTTCGAATTCTACTATCGTTTTC CAAATTTGGTTTTCTCCTTTGGGGTTTTCTCTCTGTTTGGCTAAATTTTGTGAGGAAGTGAAGGAAGAAAAACCAAGAAATGACCGATTGGGTTGATT TGGGAGTAGGTTCTGTTGGGGGAGCTTTGGTCTCTGAGGCTCTAAAATTAGTGATCGAAGAGGCAAAGAAGTTCAAATCTTTCAAACCCTTGTCCAA GGATCTCGTATCGACGATGGAGAGATTGGTTCCGTTGACCGAAAAGATCGATTCGATGCAAAACGAGCTAGACCTTCGCGTGGGTGAGCTAAAGGA ACTGAGGGATACGATCGAAAGAGCTCGCGTACTGGTTCTCAAGTTTCCAGGGGTCCGATGGTACCAGAAAACTATATATGCCAGAAAAATTGAGGG AATCAATGAGGAGATGGTCAAGTTTTGTGACATTGATCTACAGCTTCTTCAGTATAGGAACCAGTTGTCACTGCTGGAAAAGGTGGACGGTCTAAGT AGGAGAATGGATGGCTTGAGTGTTCCTGTGCCCGTTTTTAGGGATCTTTGTTCTGTTCCCAAGCTTGACAAGGTACTCGTCGGTTTGGATTGGCCAT TGATGGAGCTAAAGAAGAGACTCCTTGACAGTGCCGTGGTTAATCTTGTGGTGTCTGCTCCTCCCGGCTGCGGGAAGACCACGCTCGTTACTCAGC TTTGCCACGACCAAGAGATTAAAGGAAAGTTCAAGCATATCTTCTTTAATGTTGTGTCAAGTACTCCTAACTTTAAGGTCATAGTACAGAATCTACTCC AGCACAACGGTTACCCTCCACATACATTTGAGAACGATTCTCAAGCAGCTGTTGGCTTAAGAAAACTTCTTGAGGAACTCATAAAAGGTGGTCCTGT ATTGTTGGTTTTGGATGATGTGTGGAGTGGAGCGGAGTTCTCGCTTCTTAAGGAATTTCGGATTACGTTACCAGGTTATAAGATTTTGGTGACTTCTC GGTTTGAATTTCCGAGCTTTGGTTCCAGTCATCATTTGAAACCTTTAGAAGATGAAGATGCCAGAGCCCTTCTCATTCAATGGGCATCGCGGCCTTAT AATGCGTCTCCAGCTGAGTACGAAGATCTTCTCCAAAAGATATTGAAACGTTGCAGTGGATTCCCAATCGTAATTGAAGTAGTCGGCGTTTCACTTAA AGGACAACCTTTACATATATGGAAAGGCCAGGTGGAAAGCTGGTCTCAAGGGAAAACAATTCTTGATAATCCTCATTCTACTGTGCTAGATCGTCTG CAGCCTAGCTTCAGTGCCCTGGAACCCCATCTCAAAGAGTGCTTCTTGGACATGGGCTTGTTTCTCGAGGACCAAAAGATACGTGCTTCTGTCATAA TTGACATGTGGATGGAACTATACGGTAAAGGTAGCACTAATAGTAGTTACGTGTACATGAAGTACCTCAGTGACCTTGCTTCCCAGCATCTGCTTAAA CATATTCCTCTCGGAAATGAGCACGAAGACGGTTTCTACAATGATCTATTAGTCACTCAACATGATCTCCTGAGGGAGCTGTCTATTTATCAAAGCGA ATTGGAAGCAATCTTGGAAAGGAAAAGACTAAATTTGGAGATAAGAGAGGACAAATTTTCAGACTGGTTTTTGAACCTAAAGCAGCCTATAATTAATG GCTCTTTATTGTCTATCACTACGGATGATTTTTTCTCATCGAAGTGGGTTGAAATGGACTGCCCCAATGTCGAAGCTTTAGTTCTTAATCTCTCTTCAC CAGACTATGCATTACCAAGCTTCATTGCTGGGATGATGAAGCTAAAGGTTCTGATAATCATAAATCACGGTTTTTATCCAGCAAGATTGAGAAATTTC TCGTGTCTCAGCTCATTACCACACCTGAATCGTATCAGATTAGAGAAAGTTTCAATCACTTTGCTAAACATTCTCCAATTGCAACTCGGCAGTCTCAA GAAGCTGTCTTTGGTCATGTGTAGTTTCGGTGAAGTTTTCTACGACATAGAAGAAATAAATGTCTCTAAAGCTCTGCCGAGTTTACAGGAGATTGACA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002L20	AT1G13260.1	RAV1 (Related to ABI3/VP1 1); DNA binding / transcription factor	GGCACAACAACAGACTCTCTCTGAAAATACATTCCTGATTTCTCCGTTGTTTCAAAATTCGAATCAAAGAAATTTTTCAAAAAAAATCATTTAAAAAAAG AATTCAAATTAATGGAAGTGAGCAGCGTAGACGAGAGTACGACGAGTACAGGCTCGATTTGTGAAGCTCCGGCGAAGAAATCGTCGGTAAATTTGT ACAGGATGGGAAGCGGATCTAGCGTGGTGCTAGATTCAGAGAACGGCGTGGAGGCGGAATCGAGGAAGTTACCGTCGTCAAAGTACAAAGGCGTC GTTCCTCAGCCGAACGGAAGGTGGGGAGCTCAGATTTACGAGAAGCACCAGCGCGTGTGGCTCGGGACTTTCAACGAGGAAGACGAGGCGGCGC GTGCTTACGACGTGGCGGTTCATCGATTCCGCGGCCGAGACGCCGTAACGAACTTCAAAGACGCGAGGCTCGACGACGGAGAGATCGATTTTTTG AATTCGCATTCGAAATCTGAGATCGTCGATATGCTGAGGAAGCATACGTATAAGGAGGAGCTCGAGCAGAGTAAACGGCGTCGTAATGGTAACGGA AACACGGTTAGGACGTCGATGACGGCGGCGTTAGATAACGATGACGGCGTTTCGACGATGGAGTTCAGATCGGCGGAGCCTCTGTTCGAGAAAGC GGTTACGCCAAGCGACGTTGGGAAGCTAAACCGACTTGTGATACCGAAACATCACGCGGAGAAACATTTTCCGTTGCCGTCAAGTAACGTCTCCGT TAAAGGAGTGCTGTTGAACTTCGAGGACGTGACGGGGAAAGTGTGGAGGTTCCGTTACTCGTATTGGAACAGTAGTCAAAGCTATGTGTTGACCAA AGGTTGGAGCCGGTTCGTTAAGGAGAAGAATCTACGTGCTGGTGATGTGGTTAGTTTCAGCAGATCCGACGGTCAGGATCAACAGCTATACATTGG GTGGAAATCGAGATCCGGATCGGATTCGGAAACGGGTCGGGTTTTGAGATTGTTCGGAGTTAACATTTCACCGGAGAGTTCGAGAAACGACGTCGT AGGGAGCAAGAGAGTGAACGATACTGAGATGTTATCGTTGGTGTGTAGTAAGAAGCAACGCATCTTTCACGCCTCGTAACAACTCTCCTTTTTTTGC TTCGATATATATATTTATATTTTTTTTTATTCGACTTTCGATTTTCTTTTTCAGTTGTATCAGTTTCTTCATATTACGAAAGCTTCATCAGTTGTTTTC
GCT-002L21	AT1G19000.2	myb family transcription factor	GAGATCCACTCACACCTCGTCTCCTTATTTGTACGGTTCTAAAAGGATTTGAAAGGGTAAAAAAAAAAACCAAAACAGACGCAAAGGGCAATATCGG AAAATAGTATTCTATGGCCGCCGTTAGTAGTTCGTCGGAGACCGGAGGCGGTGAAGCAGCTGAAAACAGAGAGATCATGTTGTTCGGAGTCAGGGT TGTGGTTGACCCGATGAGAAAGTGTGTCAGTTTGAACAACCTGTCTGATTACGAGAAGTCTTCGCCGGAGGAGGAGATCCCTAAGATCGGAGACGG AGATGGAGAAGATAAGAACGAACCGGATTTAATAGCCGGCGCCGCCGTCGCCGGTTACGCATCCGCCAATGAAGCTGTCCAGATTTCGTCGTCTTC CGGCGGAAATCGCGAGAGGAAACGAGGGATTCCATGGACAGAGAACGAGCACAAGAGGTTCTTGCTTGGGCTGCAGAAAGTAGGGAAAGGAGATT GGAAAGGAATATCAAGAAACTTTGTGAAGAGCAGGACGCCTACTCAAGTAGCTAGTCACGCTCAGAAATACTTCCTCCGACGAACCAACCTCAACC GTCGCCGGCGAAGATCTAGCCTTTTCGACATCACAACTGAGACCGTCACGGGAATGCCCATGGAGCAAGATCAGGTTCACCATGCTCAAGACAACT TATCACTGCCTGAAACTAACATCAGCTCTGGACATCAAGTTATGCAAGTTTTTCCTGAAGTCGCAAGAACTGATAAGGCACCACAGAGTCCATTTCAT TCCAACGATTCATCCTCAAATCTTGTTCATCCGGTCCCAGTAACCTTCCAATCAAATCCTGCATTCAATCTAAACACAGATGCTGCAATTCCTGCTCA GCTTTCTCTCAACCTTTCTTTGTCCTTTAACCTCAACGAACAATCCAACTCAAGACATCCGGCTTTCACGATGATGCCAAGCTTCAGCGATGGAGATA GCAATAGCAGCATCATCAGAGTTGCTTAGACCTATAAGCCAAGGTGAATCTACAAGACCTTGCTTCTTTCTATGTTTCTCTGTTGTAGTACTAGTACA TATTAGGTTCAAACAGATAACCAAAAAAACCGTTTTGTCAAAGTCTCAGTCTTGTTTTTTGATCTTTCTTTAGGCCTTACTTTATCAAACTTTTATGTATT TTGTCTGAAAAAAAAATCAGGGGAAAAAAAGAACAATAACAGAGGAAGGGCTTTAGAGATGGACGAACTGTGTTTAGGGTTCTTCATCGTCTTTGTTT
GCT-002L22	AT5G18240.2	MYR1 (MYB-RELATED PROTEIN 1); transcription factor	TGGAGAAAATAAAAAGAAGAGCATAAATAAGGAAAACAGCATAGACATCTTCCCAAGTTGGTGGAGTTGCAGACAATAGTGTATCTTTGAACTGAGA AGCAGCAAGCTGCATTTAGAAACTAAGATTTGTGTGTCAGGTTTTCGAAGACAGAATTATGTATTACCACAACCAGCACCAAGGGAAAAGCATCCTC TCTTCATCGAGAATGCCCATTTCTTCTGAAAGGCATCCCTTCCTTCGAGGAAATGACACAGGAGATTCTGGACTGATCCTATCAACCGATGCGAAGC CACGACTAAAATGGACTCCAGATCTTCACGAGAGATTCGTTGAAGCAGTGAACCAGCTTGGAGGAGGAGATAAGGCTACTCCTAAGACAATCATGA AAGTCATGGGTATTCCAGGTCTTACTTTATACCATCTCAAGAGTCATCTTCAGAAATATAGGCTGAGCAAAAATCTTAATGGACAAGCTAACAGCAGC TTAAACAAGACAAGTGTGATGACCATGGTAGAAGAAAACACACCTGAAGCAGACGAAAGCCACGGCGAGAGTTTAAGCATTGGACCGCAGCCGAG CATAAACTTGCCCATAAGTGACGCACTTCAAATGCAAATAGAGGTTCAAAGAAGGCTACACGAGCAACTTGAGCTCAGGATCGAAGCTCAAGGAAAA TACCTGCAAGCGATTCTGCTGAAAGCACAAGAGACTCTTGGAAGACAGAACCTAGGACCAGAAGCAACTAAAGCTCAACTCTCAGAGCTAGTATCTA AAGCATCAGCCGAATATCCAGACACTAGCTTCCTAGAACCTAAACAAGTGCAGACTCTAGGCCATCAACAGATGCAAACAACCTATCCACAAAACTC CTCTCTGGAAAGTTGCTTAACCTCAAGTGAAGGAGCCCTTAAACCCCCAAAGATGCTCGAGAACGGACTAGGATTAAGAACATACATTGGAGATTCA ACTTCAGAGCAGAAAGAGATAATGGAAGAACCGTTCTTCCAAAGAATGGAGCTCACATGGGGAGAAGAAGAAGGCCATAACAGGTCATATCTTTCC ACAATAGGCCATAACAACAACGCAGAACAGAGAACATTGTCTTCAAGAAGAAGAAGCCCTGGAAGATTGTCAATAGGAGTGGGATTACATGAACAAA ACAGAGGAGGAGGGAGTGGCAACAGTGGTTACACTGAGGAAAGATTCAACGAGAATGGCGAAGATTGCAAGCTTGAAACACGCACCAGAACTGCG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002L23	AT4G04770.1	ATABC1 (ARABIDOPSIS THALIANA NUCLEOSOME ASSEMBLY PROTEIN 1)	GACTTTTGTTATGCCTATCCTCTGTTTTCATTTTTTAACAGACGCGACTCGAAAAACAATCTTCTTCTACTTCTCCTTAGAGCCACAACAATGGCGTCT CTTCTCGCGAACGGTATTTCCGGATTTTCTCCGCAACCCACACCCGATTCCTCAAAATTACCAAAAGGGTTTCATCCTAAACCCGAATCCTTGAAATT TCCGTCTCCAAAAACCCTAAATCCGTCCTCCGCCGCGACGACGACGACGACAACGACGAGGCTTTTCAAAGTCAGAGCCGATTTTGAAATCGATCC ACGCCCAATCGGAGCCGAATCAGGTATTCCCTCTGCGAAACCAACTGTTAGCTCCACTGATAAACTTAAGCAGTATTTCCAGAATCAAGATTACGAT AAGAAGTACGGATTCGTCGAGGAAATCGATTCGTTCACAATCCCTAAAGGTTTATCTGAAGAAACAATCCGATCGATTTCTAAGTTGAAAAACGAACC AGATTGGATGCTTGAGTTTAGGTTCAAAGCTTACGCCAAGTTTCTGAAATTGGAAGAACCTAAATGGTCAGATAATAGGTATCCTTCGATCAATTTCC AGGATATGTGTTATTACTCAGCTCCCAAAAAGAAACCAACTTTGAACAGTTTAGATGAAGCTAATCCTCAGCTTCTAGAGTATTTCGATAAATTGGGT GTCCCTTTAACAGAGCAGAAGCGTTTGGCTAACGTTGCGGTTGATGCGGTTCTAGATAGCGTTTCCATAGCAACCACTCATAGGAAGACACTTGAGA AATCCGGTGTCATCTTCTGTCCGATCTCTGAAGCCATTAGAGAGTACCCGGATTTGATCAAGAAGTATCTAGGAAGAGTTGTGCCTAGTGACGATAA CTACTACGCTGCTTTGAACTCAGCTGTTTTCAGTGATGGATCCTTTTGTTACATACCGAAAAACACAAGATGTCCGATGCCGATTTCGACTTATTTCC GGATCAACGCCATGGAAACTGGTCAGTTCGAGAGGACTTTGATCGTTGCAGAGGAAGGAAGCTTTGTTGAGTATTTAGAGGGATGCACTGCTCCTT CTTACGACACGAACCAGCTTCACGCTGCTGTGGTTGAGCTCTATTGTGGGGAAGGAGCTGAGATTAAGTACTCCACGGTGCAGAACTGGTACGCTG GTGACGAAGAAGGTAAAGGAGGGATTTACAATTTCGTCACAAAGCGTGGTCTTTGCGCAGGAGATCGTTCCAAAATCTCGTGGACGCAGGTCGAAA CCGGGTCTGCGATAACTTGGAAGTACCCGAGTGTGGTTTTAGAAGGTGATGATTCAGTGGGAGAGTTTTACTCTGTGGCATTGACTAATAACTATCA GCAAGCTGATACAGGGACCAAGATGATTCACAAAGGAAAGAATACAAAAAGTAGAATCATTTCAAAGGGTATTTCGGCAGGGCATTCGAGAAACTGT TACCGTGGTCTTGTTCAGGTTCAGTCCAAAGCTGAAAATGCTAAAAACACTTCGACTTGCGACTCAATGCTTATCGGTGACAAAGCAGCTGCTAATA CCTATCCTTACATCCAGGTAAAGAATCCATCAGCGAAAGTAGAGCATGAAGCGAGTACCTCAAAGATTGGAGAGGATCAGCTTTTCTATTTCCAGCA GAGAGGAATCGATCACGAGAGAGCATTAGCGGCAATGATCTCTGGATTCTGCAGAGATGTCTTCAACAAGCTGCCTGATGAATTTGGAGCTGAAGT
GCT-002L24	AT5G04410.1	NAC2 (Arabidopsis NAC domain containing protein 78); transcription factor	GACGGTTGCTTAATTCCAATGGCATCGTGATCGTCTTTCTCTCTCTCCTCCGTCTTTTCAGTTTTCCCAATTCTTCTTAAAACCCTAATTTCTTAAATCT AATTTGTCTGTTATTTTTATCTCGAATCGGCAAATTCCGCTCGCCCAAAAAACTTCTTCAAGCTCGAGTTTGCGTTCTGGTTCATCGATTGATGGGTC GCGGCTCAGTGACGTCGCTCGCTCCTGGGTTCCGTTTCCACCCTACGGATGAGGAACTCGTTCGCTACTATCTGAAGCGTAAGGTCTGCAATAGAC CCTTCAAGTTCGATGCTATTTCCGTCACCGATATTTATAAATCCGAGCCGTGGGATCTACCAGGTTACTTTTCCAATCTCCCTTCTTTTTGTTTTTCCC TTTAATCTCGGTGGCTAGATCGAATTCCGTAGCTCGATTGTGACCTAGAATTCAGCTTGATTCGATTGATTTTGTCTTTGTTATGGGTTTGGATATTAG ATAAGTCGAAGCTGAAAAGTAGAGACTTGGAGTGGTACTTCTTTAGTATGCTGGATAAGAAATACAGTAATGGTTCGAAGACGAATCGGGCGACGGA GAAAGGCTACTGGAAGACGACGGGGAAGGATCGGGAAATTCGTAATGGTGTAAGGGTCGTTGGGATGAAGAAGACGCTTGTCTATCACAAGGGTC GAGCTCCTCGTGGTGAAAGGACCAACTGGGTTATGCACGAGTATCGGCTTTCTGATGAGGAACTGAAGAAAGCTGGCGTGTCACAGGATGCATTTG TACTATGTAGGATATTCCAGAAAAGCGGCACGGGGCCTAAGAATGGGGAGCAGTACGGTGCTCCATTTCTTGAGGAGGAGTGGGAAGAGGATAAA ATGACATTTGTACCAGATCAAGATGCTTTCAGTGAAGGATTGGCTGTTGATGATGATGTTTATGTTGATATTGACGACATTGCCGAGAATCCTGAAAA TCTGGTGGTCTATGATGCCATTCCTGTTCCACCTAATTACTGTCATGGAGAAACAAGCAATAATGTTGAATCAGAAAACTACTCAGACTCTGGAAATT ACATTCAACCAGGAAACTATGCTGTTGACTCTGGTGGCTACTTTGAACAACCAATTGAAAATTTTGAGGAGGATCAGAAGCCTATCATTCGGGATGG TAGCATTCAGCCTTGTTCTCTGTTTCCGGATGAACAAATTGATTGTGGTGTGCAAGATGAGAACGCGGTGAAGCTGGAAACTTCCAACAGTAATGTC TTTGTGGCTGATACTTGCTACAGTGACATTCCTATTGATACCAACTATCTGCCTGACGAGCCATTCATTGATCCTAACAACAATCTTCCACTCAGTGA TGGTCTATACCTGGAAACGAATGATCTCAGCAGTGGTTTACAAGATGGTTTTAACTTTGAAGATTATCTCAACTTCTTTGACGATGAGGATACTCAGA ATTTGACTCTTGATGTTTCTCAATTGATGGGATCTGAAGATGCTCTTCCTGACCAAGAAGGACTCGACCAGAATCCTTCCCCTGAAGAAGTGGAGAA GGAGGTCGCAGAAGGCAAAGAGGCGGTGGAGAAAACGGAAAATGGCGAAGGATCTTCCTCAAAACAAGAGGCAGATGTCACGGATTTCGAATCAG CTTCAAAGTACCCTTTCCTCAAAAAGGCGAGCCACATGTTTGGGGCCATTCCTGCTCCACCTTCATTTGCTTCCCAGTTCCAATCAAAGGATGCTGC AATCCGGCTACACTCAGCACAATCTTCAGGTTCAGTTCACGTTACTGCAGGTATGATCAGAATATCAAACATGACTCTAGCAGCTGATAGCGGTATG GGCTGGTCGTATGACAAGAACGGTAACCTCAACGTAGTCCTTTCTTTCGGCTTGGTCCAACGGGATGATGAGATGGGTTCCTCTGGAAGCAAGACT GGAGGAAGTACAGCGACAAGAGGTATGTTGATCTTTATGTCTTTATGGCTTCTCTTACTCTCCGTTAGCTTCAAAATAGGAACGATGCTCTCTCCTCC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002M01	AT1G74050.1	60S ribosomal protein L6 (RPL6C)	GATCGCCTCTACTATCATCCGTCAATTCTCTCCCGGAAAATTTTTCCTGATTCTCTTTTGAGGGTTTGCGACAGAGAGAAAGCAACCATGCCGGCGA AACAGAGGATGCCTAAGGTCAGCAGGAACCCTGATCTGATCAGGGGTGTTGGTAAATACTCGAGGTCGCAGATGTACCATAAGAGGGGTTTGTGG GCTATCAAGGCCAAAAACGGCGGCGTTTTCCCCCGCCACGACGCTAAATCTAAGGTTGATGCTGCGGCGGAGAAGCCACCGAAGTTCTATCCGGC TGAAGATGTTAAGAAACCTCTCGCCAACAGGCGGAAGCCAAAACCCACCAAGCTCAGAGCAAGCATCACCCCAGGGACAGTGTTGATTATCCTTGC TGGTAGGTTCAAGGGCAAGAGAGTTGTCTTTTTGAAGCAACTTCCCTCTGGCTTGCTTCTCGTTACTGGACCCTTCAAGATCAATGGTGTTCCTTTGA GACGTGTTAACCAGTCCTATGTGATCGGCACTTCCACGAAGGTTGACATTTCTGGAGTGAGCCTCGATAAATTCGATGATAAGTATTTTGGAAAGGT TGCCGAGAAGAAGAAAAAGAAGGGAGAAGGAGAGTTCTTTGAGGCAGAGAAAGAGGAGAAGAAGGAGATTCCACAAGGGAAGAAGGATGACCAGA AGGCAGTGGACGCAGCTTTGATCAAAGCCATTGAAGCAGTTCCAGAGCTGAAGACTTACCTTGGCGCAAGGTTTTCATTGAAACAAGGAATGAAGC CCCATGAGCTTGTTTTCTAGATTTCATAACCTTTTTCTGAGTTTTCTAGAGTATCTGTGTCCTGAATTTTTTACCCTCTAAAATGGTTGTTTTGTTCATG
GCT-002M02	AT1G09970.2	leucine-rich repeat transmembrane protein kinase, putative	GGCTTCAAAGCGGCAAAGCAAAATCGATTGCTGAAGGTTTTCTCGCGCCCGCCATTATCGAAACCTCTCTCCTCCTCTTAAGCCAAATTTCCCGATG TGAACAAACAACCTTCAGATTAATCCAACCACCGTCACGCATCCTCTCTCTTTCTCTGTCGCCGACATGTCTCCGTCGTCGCGGACTTTTGGCTTCTT CTCCTTCCTCGTGTTCTCTCTGTTCTCCTTCGTTTCTTCCGACGATCTCCAACTCTTACTCAAGCTCAAATCATCCCTCGTGAATTCGAACCCCGGCG TTTTAGATTCCTGGAAGCTGAACTCCGGCGCCGGACCCTGCGGCTTCACCGGAGTAACCTGCGATTCTAGAGGCTCCGTTACGGAGATTGATCTCT CGCATCGAGGTTTATCTGGGAAGTTTTCATTCGATTCGGTTTGTGAGATCAAGAGCCTCGAGAAACTCTCACTCGGATTCAACTCACTCTCTGGAAT AATCCCCAGCGATTTGAAAAACTGCACGAGTCTCAAGTATTTGGATCTCGGGAACAATTTGTTCTCTGGTCCTTTCCCTGAGTTCTCTTCTCTGAATC AGTTACAGTACCTGTATTTAAACAACAGCGCGTTTTCCGGCGTCTTTCCGTGGAATTCGCTGCGAAACGCGACGGGACTCGTCGTTTTGAGCCTCG GCGACAATCCGTTCGATCCGGCGTCGTTTCCCGAAGAGGTCGTTTCTCTGACCAAACTCTCGTGGCTCTATTTGTCAAACTGCAGCATCACCGGGA AAATCCCTCCGGGGATCGGAGACTTGACGGAGCTTCAGAACTTGGAGATTTCCGATAGCGCTCTCACCGGAGAGATTCCGCCGGAGATCGTGAAA CTCAGCAAACTCCGGCAGCTAGAGCTTTACAACAACAACTTAACCGGAAAATTCCCTACCGGGTTCGGAAGCTTGAAGAATCTGACTTACTTGGATA CATCCACAAATCGTTTAGAAGGCGATTTATCGGAGCTCAGATCTCTCACCAATCTCGTTTCTCTTCAACTATTCGAAAACGAATTCTCCGGTGAGATT CCGCCGGAGTTCGGCGAATTCAAGTATCTCGTCAATCTCTCTTTGTACACAAACAAGTTAACCGGCCCTCTCCCTCAGGGACTCGGTTCTCTCGCC GATTTTGATTTCATCGACGCGTCTGAGAATCATCTAACCGGACCGATTCCTCCGGATATGTGCAAAAGAGGAAAGATGAAAGCTCTTCTTCTCCTGC AAAACAACCTCACTGGCTCCATCCCGGAGTCGTACACCACCTGTTTGACTATGCAACGGTTCAGAGTTGCCGATAACTCGCTCAACGGTTCAGTTCC CGCCGGAATTTGGGGCTTACCGAAGCTCGAGATCATTGACTTAGCCATGAACAACTTCCAAGGTCCGATCACCACCGATATAAAGAAGGCGAAAAT GCTCGGAACGTTGGATCTAGGGTTCAACAGGTTTTCCGATGAGCTGCCTGAGGATATAGGTGGCGCGGGTTCTCTGACTAAGGTTGTGCTCAACGA TAACCGGTTTTCCGGGAAGATTCCAAGCTCCTTTGGGAAACTGAAGGGACTTAGTAGTCTTAAGATGCAGAGCAACGGCTTCTCCGGTAACATACC GGACTCGATTGGATCGTGTTCGATGCTCAGCGATCTGAACATGGCTCAAAACTCGTTATCCGGCGAGATCCCGCACAGTCTTGGATCTCTTCCGAC TCTCAACGCTTTGAATCTTTCGGACAATAAGCTTTCTGGGAGAATCCCAGAGAGCTTGTCGTCTCTAAGGCTTAGCCTACTTGATCTGTCAAACAACA GATTAACAGGTCGTGTCCCTCTGAGTTTGTCGTCATATAACGGTAGCTTCAACGGCAATCCTGGACTCTGCAGCATGACGATCAAATCGTTTAACCG GTGCATTAATTCTTCAGGAGCGCATCGAGACACTCGCATCTTCGTGATGTGTATAGTTTTTGGTTCACTGATCTTGCTTGCGTCTCTTGTGTTTTTCTT GTACCTAAAGAAAACCGAGAAGAAGGAAAGGCGAACTCTGAAACACGAATCTTGGAGTATCAAGTCGTTCAGAAGGATGAGTTTCACTGAAGATGAT
GCT-002M03	AT1G43900.1	protein phosphatase 2C, putative / PP2C, putative	GGAGGTTTTTTCTTCTTCTCCGAAACAATTCCTTCATTAATTGTCTTCTACTTTTCACTCTGTTTACTCTTTTCGATCTCCCAAACACCAAACCTGACAG ACCCATCTTCTCCAAAACCCTCTTCCTCCGTCGCTCCCCTTCGTGGGGATGCCGAATCTTCTTCACCTGCGTCCTCCGATCCTCCGCCTCTTGCCAT GATTTCTTCCAGAGATCCCGATGCTCTCTTCAGTGGCGGCGGAATCAGCTTTCTAGCGGGAAATCTGCCTGTGAAGTTTAGTTATGGGTACTCTAGT CTCAAGGGTAAACGAGCAACAATGGAGGATTTCTTCGAAACTCGAATATCTGATGTTGATGGACAAATGGTTGCTTTCTTCGGTGTCTTCGATGGTC ACGGTGGTGCAAGAACTGCAGAGTATCTTAAAAACAATCTTTTCAAGAATTTAGTTACTCATGATGAGTTTATCTCAGACACTAAGAAAGCCATTGTC GAAGGGTTTAAGCAGACGGATGAGGAGTATCTCATTGAAGAGAGAGGACAGCCGAAGAATGCTGGCTCAACCGCATCAACTGCTTTGCTTGTAGGG AATAAGTTGATTGTTGCCAATGTCGGTGATTCTAGAGTTGTAGCCTCTAGAAATGGTTCAGCTGTTCCACTCTCTAATGATCATAAACCTGATAGATC AGATGAGCGACAAAGGATTGAAGATGCTGGTGGCTTTATAATCTGGGCTGGAACGTGGCGGGTTGGTGGAATTCTTGCGGTCTCTCGGGCATTTGG GGATAAGCAACTTAAGCCATATGTTATTGCGGAGCCAGAGATTCAGGAGGAGGATATAGGCACGTTGGACTTTATTGTTATTGCTAGCGATGGGTTG TGGAATGTCTTGTCAAACAAGGATGCTGTGGCAATTGCACGTGACATTTCAGATGCGGAAACAGCATCAAGAAAGCTCGTGCAAGAAGCTTACGCA AGGGGTAGCTGTGACAATATCACTTGCATTGTTGTTCGATTTGAGGTTTCTTGAGAAAGAACCAAAGTGGTGTCAAAAAGAGAGAGAACCAAAGTCG TATATGGTTCTGCTGTGAGTGTATCATCTTCAGCTGTTGCCTTCCCCCTTCCATGGGCAATTAAAAACAAGATATAATTATGAGACAGTGCCCCCTAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002M04	AT2G37060.1	CCAAT-box binding transcription factor, putative	GAGATGTTCTCCCCTCTCTTGTTTTCTCCAGCGTCCGATTAATCTCTCTGGCTTCCCTCCTACGTCCTCCTCCTCCAATCAAACAACCTCTCTCCACC TGTTTCACTCCCGCCTTTTTTTTTTGTTTTTTTTATTGCTCTGGGTTTATCTGATGTCGGAGTCGCAGGCCAAAAGTCCCGGAGGCTGTGGAAGCCAT GAAAGCGGCGGAGATCAAAGCCCAAGGTCGTTGCACGTTCGTGAGCAAGACAGGTTCCTTCCAATCGCTAACATAAGCCGTATCATGAAAAGAGGT CTCCCTCCTAATGGTAAGATCGCTAAAGATGCCAAGGAGATTGTTCAGGAATGTGTCTCCGAATTCATCAGCTTCATCACCAGCGAAGCGAGTGATA AGTGCCAAAGAGAGAAAAGGAAGACCATTAATGGAGACGATTTGCTTTGGGCAATGGCAACTTTAGGATTTGAAGACTACATCGACCCACTGAAAAT TTACCTAACGAGATATAGGGAGATGGAGGGTGACACAAAGGGATCAGCAAAAGGTGGGGATGCAAATGCAAAGAAAGATGCCCAATCAAGCCAAAA TGGCCAGTTCTCACAGCTTTCTCACCAAGGCTCTTTCTCACAAGGTCCTTATGGGAACTCTCAGTCTCAGGCTCAGCATATGATGGTTCCAATGCCC GGCACAGACTAGTATGATGGTTCCAAAAGGGTTATCTGTATATTATTTGTGTTGTAAGCAAGTTTTGCTATGCACAACTGTGACAATAGTCTCTCTTTG TTTTCTTTTTTTCCTTTGTTTTGTTCTGGAGAAGTCAAGAAATTCGTTTTAACATTTGGTTTGTTGGTTTGTGGATTACTTCATGCAAAAGACTAGAAAT
GCT-002M05	AT5G42980.1	ATTRX3 (thioredoxin H-type 3); thiol-disulfide exchange intermediate	GAAGAACCGACCCAAAGACAAAGATTTTTTTCATCAAATCAAAAATCGAAACACACAGAAGAAAACGAGAAAGCAAATTCTGAAAAAAAAAATGGCCG GAGAAGGAGAAGTCATCGCTTGCCAGACCGTCGAGGACTGGAACGAGAAGCTCAAGGCCGCCCAAGAATCCAAGAAACTGATTGTGATTGACTTC ACTGCGGTATGGTGCCCACCTTGCCGTTTCATTGCACCAATCTTCGAAGAATATGCCAAGAAGTTCCTCAACGTTGTTTTCTTCAAGGTCGATGTTGA CAAATTGAGTGATGTTGCTAAGGCATTTGAAGTCGAGGCAATGCCGACGTTTATCTTCATGAGGGAAGAAGCGATCCTGGATAAGATTGTTGGTGCT GCGAAAGATGAAATCCATGCCAAGCTCGAAAAGCACAGTCAAGCTGTTGCTGCAGCTTGATTTAAGCATATCCACCCTATGTGTGTGCTGCTTTTCT CTCTGTCTATCTATTTGCTAATATGTTTGGTGTTTAATAAGAATCCTTTGTTGCCTTATTGAAAACTTTTACTTTGAGTCATCTTTTTAAAGACATGTGA
GCT-002M06	AT3G17800.1	mRNA level of the MEB5.2 gene (At3g17800) remains unchanged after cutting the inflorescence stem	GCGTAAAACATAGATCGCTCTCCATTCTCGAAAGTTCCTCTCTGTATCGCTCTTCTAGAGTTTCTTCTTTTCTTCTTTCTCCGACCAAAATTTCCTCTTT CTATTCCCAGAGGGTTAACATGGACGCCGCCACCGCGAGTTTGATTCTTCAGTCTCCAGTCTTACCGCGTAAAACTTCCGACAACGGTGCTGGATC TATGTTCCTTACGGCCAGTGGCCCTGGGTTCACGCGTTCTGGCTCCGGACTTCAACTTCGTTTAAGGCAAAACGCGTTTGGTAGATTCTCGAGACC GTTGCAAAGCTCAACAAGAGCTGCTAAAACTCGGAAGAGTTTTGCGATTAGAGCTTCAGCATCATCCGATGATGCCTCCTCTGGTTCGTCATCCAAA CCGATTGCGCCGCTGCAGCTAGAGTCTCCTGCTGGTCAGTTTCTGTCTCAGATTTTGGTGAGCCACCCTCATCTTGTGCCTGCAGCTGTTGAACAG CAGCTTGAGCAGCTCCAAACTGATCGGGACTCTGAGGGACAGAACAAGGATGCAACGTCTTCACCTGGAACCGACATCGTTCTCTACAGGAGAATC GCAGAGTTGAAGGAAAATGAGAGACGAAGGACTTTGGAAGAGATTTTGTACGCATTGGTGGTTCAGAAGTTCATGGAAGCTAACGTATCACTGATTC CATCAATAAGCCCATCAGATCCGTCTGGTCGTGTTGATACCTGGCCGACCAAAGTAGAGAAACTTGAGCGGCTTCACTCGCCCGAGATGTACGAGA TGATTCACAACCATCTAGCACTAATTCTCGGAAGCAGAATGGGTGACCTGAGTTCTGTTGCACAGATAAGCAAACTCAGAGTTGGACAAGTTTACGC TGCTTCTGTGATGTACGGATATTTCTTGAAGCGAGTGGACCAAAGGTTTCAGCTTGAGAAGACAATGAAGATTCTTCCAGGTGGGTCGTCGGACGAA AGCAAAACAAGCGTTGAACAACCAGAAGACATGACATACAAGGCTGTATCGTCTCACCCAGAGGTCGGTTCATTTGCTGGTGGAGTTAGTGCTAAG GGGTTTGGCAGCGAGATCAAACCGTCCCGGTTAAGGACATACGTGATGTCATTTGATAGTGAGACGCTTCAGAGATACGCTACCATAAGATCAAGA GAAGCAGTTGGGATCATCGAGAAGCACACCGAAGCATTGTTTGGTAAGCCTGAGATTGTAATTACACCGCAAGGCACGGTTGATTCATCGAAAGAC GAACAGATAAAGATCAGCTTTGGTGGAATGAAGAGGCTCGTCTTGGAGGCTGTGACTTTCGGATCGTTCCTCTGGGACGTTGAGAGCCATGTAGAT

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GCT-002M07	AT5G10030.1	TGA4 (TGACG MOTIF-BINDING FACTOR 4); DNA binding / calmodulin binding / transcription factor	GATTCTTCTTCAAGATGACAAGACCAGAGAAAGAGAGTTTTTCATCCCTTCTGTTGTCCGACCGATTTGAACAGCGGATTTCTGGGCTTTGCGTCTG ATTTCGTCACTGAAAGTGAAAAAAGTCTCTTTGCTTTTCATGGTTTCCGCGCGCCCTTTTGAAGCCCTTTTGACGCTAAAGACGAGAAGAAGTTGAG GAAACATGAATACAACTTCAACACATTTTGTTACACCGAGAAGGTTTGAAATCTACGAGCCCCTCAACCAAATCGGTATGTGGGAAGAAAGCTTCAA GAACAATGGAGGCATGTATACGCCTAACTCTATCATAATCCCAACAAATGAGAAACCAGACAGCTTGTCAGAGGATACTTCTCATGGAACAGAAGGA ACTACTCCTCACAAGTTTGACCAAGAGGCTTCAACATCTAGACATCCTGATAAGGTACAGAGACGGCTTGCACAGAATCGCGAGGCAGCTAGGAAA AGTCGTTTGCGCAAGAAAGCTTATGTTCAGCAGCTAGAGACAAGCCGGTTGAAGTTAATTCAATTAGAGCAAGAACTCGATCGTGCTAGACAACAGG GTTTCTATGTGGGAAACGGAGTAGATACTAATGCTCTTGGTTTCTCAGATAACATAAGCTCAGGGATTGTTGCATTTGAGATGGAATATGGACATTGG GTGGAAGAACAGAACAGGCAAATATCCGAACTAAGAACGGTTTTACACGGACAAGTTAGTGATGTAGAGCTTCGTTCGCTAGTTGAAACTGCCATGA AACATTACGTTCAACTCTTCCGAATGAAATCAGCCGCTGCAAAAATCGATGTCTTTTACATCATGTCTGGAATGTGGAAAACTTCAGCAGAGCGGTTT TTCTTGTGGATAGGCGGATTTAGACCCTCTGAGCTTCTCAAGGTTCTGTTGCCGCATTTTGATCCTTTGACGGATCAACAAGTATTAAATGTATGTAA TTTGAGGAAATCATGTCAACAAGCGGAAGATGCGGTATCTCAAGGTATGGAGAAACTGCAACATACATTAACAGAGAGTGTAGCAGCCGGGAAACT CGGTGAAGGAAGTTATATTCCTCAAATAACTTGTGCTATGGAGAGGTTGGAGGCTTTGGTCAGCTTTGTAAATCATGCTGATCATCTGAGACATGAG ACACTGCAACAGATGCATCGGATCTTAACCACGAGACAAGCGGCTAGGGGATTGTTAGCGTTAGGTGAGTATTTCCAACGGCTCAGAGCTTTAAGT TCGAGTTGGGCGACTCGGCAACGTGAACCAACGTAATTAAGGAGATTAATTATTTCAAGAAAGGATTGAGACTGTTAAGAAATCAAGAATAGAATAA
GCT-002M08	AT5G06600.1	UBP12 (UBIQUITIN-SPECIFIC PROTEASE 12); ubiquitin-specific protease	GCTAGTCACTTTGCCTTCTCTTTTTTCCCCTTCTCTTTGATTTTTTCTCTGTTTCTCGGTCTCTCGATCCCCCACCGTCAATTCTTCTCCGGCCAATGA CTATGATGACCCCGCCTCCGGTTGATCAGCAAGAGGATGAGGAGATGCTCGTGCCACATTCAGATTTGGTCGACGGCCCTACTCAGCCCATGGAA GTCACCCAACCTGAGACTCCTGCGAGTACCGTGGAGAACCAGCCAGCTGAGGATCCTCCCACTCTGAAATTCACGTGGACTATCCCAAACTTCTCT AGGCAAAACACCAGGAAGCATTACTCCGATGTATTTGTCGTTGGAGGTTACAAATGGCGCATATTGATCTTCCCGAAAGGGAACAATGTCGACCATT TGTCCATGTACTTGGATGTTTCTGATGCTGCGAGTTTGCCGTACGGTTGGAGCAGATATGCTCAGTTCAGTCTGGCTGTTGTCAATCAAATCCACAC CAGATATACCATTAGAAAAGAAACGCAACATCAATTCAATGCAAGAGAAAGTGATTGGGGATTTACATCATTCATGCCTCTCAGCGAACTCTATGATC CTAGTAGAGGATATTTAGTGAATGATACTGTGTTCGTTGAAGCTGAAGTCGCTGTACGTAAGGTTCTTGATTACTGGTCATACGACTCTAAAAAAGAG ACTGGTTTTGTTGGTCTCAAGAACCAAGGTGCAACTTGTTACATGAACTCTCTCCTACAGACACTATACCACATACCTTACTTCAGAAAGGCTGTATA CCACATGCCGACAACTGAGAATGATGCGCCCACAGCAAGTATACCTTTGGCTCTCCAAAGTTTGTTTTACAAGCTCCAATATAACGACACTAGTGTT GCGACAAAAGAGCTGACAAAGTCGTTTGGTTGGGATACATATGACTCTTTCATGCAACATGATGTCCAAGAACTCAATCGAGTTCTCTGCGAAAAAC TTGAGGACAAAATGAAGGGAACTGTTGTGGAAGGAACGATACAACGGCTATTTGAGGGTCACCATATGAACTATATTGAGTGCATAAATGTTGATTA TAAATCTACACGGAAAGAATCATTTTATGACCTTCAGCTGGATGTTAAAGGCTGCAAGGATGTTTATGCTTCTTTTGACAAGTATGTTGAAGTTGAAC GCCTTGAAGGAGACAACAAATATCATGCAGAAGGACAAGGTTTACAGGATGCAAAAAAAGGTGTTCTTTTCATCGACTTTCCACCGGTTCTTCAGCT CCAGCTCAAGAGGTTTGAATATGACTTTATGAGGGACACTATGGTGAAGATAAATGATCGGTATGAATTTCCTCTTCAACTGGATCTTGATAGAGAGA ATGGAAAGTACTTATCCCCTGATGCTGACCGGAGTGTCCGCAACCTTTACACACTTCACAGTGTCTTAGTTCATAGTGGAGGAGTACATGGTGGGCA CTATTACGCTTTTATAAGGCCTACGCTCTCAGATCAGTGGTATAAATTTGATGATGAACGAGTAACCAAGGAAGATTTGAAAAGGGCATTGGAGGAG CAATATGGTGGTGAAGAGGAGCTACCACAGACTAATCCTGGTTTCAATAACCCTCCTTTCAAATTCACAAAGTACTCGAATGCGTACATGCTTGTATA TATCCGGGAAAGTGACAAAGATAAAATAATCTGCAACGTTGATGAGAAAGACATTGCTGAACATTTAAGGGTGAGGCTGAAGAAAGAACAAGAAGAA AAGGAAGATAAAAGAAGATACAAGGCACAAGCTCACCTGTTTACGATAATTAAGGTTGCAAGAGATCAAGACCTCAAGGAACAAATTGGGAAGGATA TATATTTTGATCTAGTTGATCATGACAAAGTTCGTAGTTTCCGGATCCAGAAACAGACACCATTTCAACAATTTAAGGAGGAGGTGGCCAAAGAATTT GGTGTACCTGTTCAGTTACAGAGGTTCTGGATTTGGGCAAAGCGACAAAACCATACTTATCGTCCCAATCGCCCCCTTACGCCCCAGGAGGAATTA CAACCGGTTGGACAAATAAGAGAAGCATCTAACAAGGCAAACACTGCAGAACTTAAGCTGTTTTTGGAAGTAGAGCTTCTGGATGAACGTCCTATTC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002M09	AT2G25140.1	CLPB-M/CLPB4/HSP98.7 (HEAT SHOCK PROTEIN 98.7); ATP binding / ATPase	GACACACTTCTTTTGCCTCTTCTCCAAGCATCCTAAATCCTACACATCGCTTCTGGTAAAACCTCCGTCGTCTTTCCTCTTCTTTCAAAACCTCTCAAA CCCAGAATCCCACACATTTCCTTCGCCTCTGCTTCGAATTCAAAGCTCACATGGCGTCCAGGAGATTATCCAAGCCTGTTTCGCTAGCCATCAAGTC ACACAATGCTTTTTCGAGACCCTCTCTCCTCCGTTCTCGCGCTATCTCTGCCTCTGCTCACTTCAGCTCGTCTTCCTCGCCAATTTCATCTCTTTTCC GGCCAAACTCCTTCATAGGAGTTTCGGGAAACGTCACGCAGGCCGCTTCTCGTGGCCAACTGTTACCTCTTTCTTTCCAATTTCCTTCTCCCCGACG CTTCTCGGTTTCCGCAGCTCAGACTAATCAAAATTCTTATACGGAGATGGCTTGGGAAGGGATTATCAATGCTTATGATGCAGCTCGTGTTTCAAAAC AACAAATTGTCGAATCCGAACATTTGATGAAAGCTCTTCTGGAGCAGAAAGATGGTCTTGCCAGGAGAATATTTGCAAAGGCTGGAATAGACAATAG CTCTGTTTTGCAGGCTACAGACGCCTTCATTTCTACACAACCGAAGGTTACTGGTGATACCAGTGGACAGATACTAGGGCCATCTCTTAGCACTATC TTACAAAACGCAGAGAGGTATAAGAAAGAGTTTCAAGATGATTACGTGTCGGTTGAACACCTTCTGTTGGCCTTTTATTCAGACAAAAGGTTTGGACA ACAATTTTTCAAGGACCTGAAACTTACTGAGGAAGCCCTGAAGGAAGTTATTAAAGCTGTTCGCGGTAGTCAACGAGTTACTGATCAAAATCCTGAA GGAAAATATGATGCACTTGAAAAGTATGGAAATGATTTAACTGAGATGGCCAGACAAGGAAAACTTGATCCTGTCATTGGAAGAGATGATGAAATTC GGCGTTGCATCCAGATTTTATGCAGGAGGACAAAAAACAATCCTGTTATCATCGGTGAACCTGGTGTAGGGAAAACTGCAATTGCAGAGGGGTTGG CTCAGCGAATTGTACGAGGGGATGTCCCTGAGCCTCTCTTGAATCGGAAGTTGATATCTCTCGACATGGGTTCACTGCTAGCTGGTGCCAAATTTCG AGGGGATTTTGAGGAAAGGTTGAAAGCAGTACTGAAGGAAGTAACTGCTTCCAATGGGCAGACAATCTTGTTCATTGATGAAATCCACACTGTTGTT GGTGCTGGAGCTACTGGTGGAGCAATGGATGCGAGCAACCTCTTGAAACCAATGCTTGGACGAGGTGAACTGCGATGCATTGGTGCAACGACACT TACTGAATACCGCAAGTACGTAGAGAAGGATCCAGCTTTGGAACGTAGGTTTCAGCAAGTGTTCTGTGGTCAGCCATCTGTTGAAGATACCATCTCG ATTCTTCGTGGGTTAAGAGAGCGGTACGAGTTACATCATGGTGTTAAGATATCAGATGGTTCCCTTGTTTCAGCAGCGGTTCTTGCAGACCGCTACA TCACTGAACGCTTTCTGCCAGACAAAGCTATTGATCTTGTCGACGAAGCTGCTGCAAAGCTGAAGATGGAGATCACTTCTAAACCAACTGAACTCGA TGAAATTGACAGAGCTGTGATCAAACTGGAGATGGAGAAGCTTTCTTTGAAAAACGATACTGATAAAGCTTCTAAAGAACGGCTACAGAAGATCGAG AATGATTTGACCATGCTCAAAGAAAAACAGAAAGAATTCAGTGAGCAATGGGAGGAAGAAAAGTCTCTCATGACCAAAATACGTTCATTTAAAGAAGA GATTGATCGAGTGAACCTGGAAATTGAATCAGCTGAACGTGATTATGATCTAGAACGTGCTGCTGAACTCAAGTATGGAACACTTATGTCCCTCCAA CGTCAATTAGAAGAAGCTGAGAAGAATCTCACAAAATTCCGAGAGACAGGACAGTCACTACTCCGAGAAGAGGTAACCGATCTCGACATTGCAGAG ATAGTAAGCAAGTGGACCGGTATTCCACTATCAAATCTTCAGCAATCAGAGAGAGAAAAGCTGGTCATGTTGGAACAAGTGCTCCACAAGAGAGTTG
GCT-002M10	AT1G66760.2	MATE efflux family protein	GATTGAAGCTCCATTACTGGTGAAGAACAAACAATCAGAAGAAGAAGAGAAAGATAAAATAAGATGGGAGAAGATGAAGAAGGTTGCTTCAATGGCT GCTCCAATGATCGCCGTGAACATGTCTCAGTATCTTCTTCAGGCAACTTCAATGATGATCGTTGGTCACCGGAGTGAACTCTACCTTGCCGGAATCG CCCTTGGAAGCTCCTTCGCTAGCGTCACTGGTTTTGGTATCCTCTTTGGACTTTCAGGTGCTTTGGAAACACTGTGTGGCCAAGCATTTGGAGCAGA ACAATATCACAAGCTTGGATCCTACACTTTTACTTCCATGATTTTTCTCTTGATCATCGCTCTTCCGATTTCTATTCTCTGGATGTTCATGAACCAGAT CCTGATTTTGCTTCACCAAGACCCTCAAATCGCTGAGTTAGCAGCTGTTTACTGCCTCTGGCTCATACCGGCATTATTCGGTTACTCGGTTCTCGAAT CGCTGGTTCGATATTTTCAGTCACAAAGATTGATCTTTCCAATGGTCTTGAGCTCTCTAGCCGCTCTGGCTTTCCATGTTCCTCTCTGTTGGCTAATG GTTCACAGATTCGAGTTTGGAGTCAAAGGAGCGGCTGTGTCTATAGGTATCTCCTACTGGCTTAACGCGATTTTCCTTTGGGTTTACATGAAACGCT CTCGAGCTTGTGTCCAAACGCGGATTTATATGTCCAAAGATGTGTTTCTTCACACAAGAATCTTCTTTCAGTTTGCGGTTCCTTCTGCAATGATGTGT TGCCTTGAGTGGTTAGCGTTCGAGGTGATTACTTTGCTATCTGGTCTTCTACCCAACTCAAAGCTCGAGACTTCGGTTATTTCGATTTGTCTTACTAC CTCTTCATTGCATTACAATCTAGTAAATGGAATCGGTGATGCAGCAAGTACCAATGTGGCGAATGAGCTAGGAGCTGGGAATCCTCGAGGTGCTTGT GATTCCGCATCAGCTGCGATAATAATTGCAGCTGTTGAGTCAGTTGTTGTAAGCTCTACTCTCTTCTTATCTCGTAATGTATGGCCTTATGCTTATAG CAATGTGGAGGAAGTAACTCGCTATGTGACCGAGATCACTCCCATTCTTTGCATTTCAATCCTAATGGACAGCTTCTTGACCGTCCTCTCAGGAATT GTGAGAGGAACAGGGTGGCAGAAAATTGGAGCGTATGTGAACATAGCTTCTTATTATATCATTGGTATTCCAATTGGACTTCTATTGTGTTTTCATCT TCACTTCAATGGGAAAGGACTTTGGGTTGGTTTAGTCTCAGGATCAACGCTACAAACGCTAATTCTCTCTCTTGTAGTTGGATTCACCAATTGGTCCA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002M11	AT4G05320.2	UBQ10 (POLYUBIQUITIN 10); protein binding	GACAATTCACAATTCAGTTTCCGAAACTTAAAATCAACTTCTCAATCCTCTCGTAATCGCGAGTTATCATCAAGATGCAGATCTTCGTTAAGACTCTCA CCGGAAAGACTATCACCCTTGAGGTGGAAAGCTCCGACACGATCGATAACGTTAAAGCAAAGATTCAGGATAAGGAGGGAATCCCACCGGATCAGC AAAGGCTTATCTTCGCCGGAAAGCAGCTGGAAGATGGCCGGACCTTGGCCGATTACAACATCCAGAAGGAATCCACCCTCCACTTGGTCCTCAGGC TCCGTGGTGGTATGCAGATCTTCGTCAAAACCCTAACGGGAAAGACGATCACACTCGAGGTGGAGAGTTCTGATACCATCGACAATGTCAAGGCTA AGATCCAAGACAAGGAGGGAATCCCACCGGACCAGCAAAGGTTGATCTTTGCCGGAAAGCAGCTCGAGGACGGTAGAACTCTCGCTGACTACAAC ATACAGAAGGAGTCGACCCTTCATCTAGTCCTCAGGCTCCGTGGTGGTATGCAGATCTTCGTTAAAACTTTGACTGGAAAAACCATCACTTTGGAGG TCGAGAGTTCGGACACTATTGACAACGTTAAGGCTAAGATCCAGGACAAGGAGGGAATCCCACCGGACCAGCAAAGGTTGATCTTTGCCGGAAAGC AGCTCGAGGATGGTCGTACACTAGCTGATTACAACATTCAGAAAGAGTCGACCCTTCACTTGGTTCTTCGTCTCCGTGGTGGTATGCAGATCTTCGT GAAGACTCTTACCGGCAAGACAATTACCCTCGAGGTTGAAAGCTCTGACACCATTGACAACGTCAAGGCCAAGATTCAGGATAAGGAAGGCATCCC TCCGGACCAGCAGAGGTTGATCTTCGCCGGAAAGCAGCTTGAGGATGGTCGTACCTTGGCAGATTACAATATTCAGAAGGAGTCGACCCTTCATTT GGTGTTGCGTCTGCGTGGTGGCATGCAGATATTCGTGAAGACCCTTACAGGCAAGACGATTACTCTTGAAGTCGAGAGCTCCGACACCATTGACAA TGTCAAGGCTAAGATCCAGGACAAAGAAGGCATCCCTCCGGACCAGCAACGTCTCATCTTCGCTGGAAAGCAGCTCGAGGATGGTCGTACCTTGG CGGATTACAACATTCAGAAGGAATCGACCCTTCACTTGGTTCTGCGTCTGCGTGGTGGTATGCAGATCTTTGTGAAGACACTCACCGGAAAGACAAT TACCCTCGAGGTGGAGAGCTCTGACACCATTGACAACGTCAAGGCCAAGATCCAAGACAAGGAAGGCATCCCTCCGGACCAGCAGCGTCTCATCT
GCT-002M12	AT4G38500.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT1G28240.1); similar to Os06g0724300 [Oryza sativa (japonica cultivar-group)] (GB:NP_001058611.1); similar to Protein of unknown function DUF616 [Medicago truncatula] (GB:ABE79297.1); contains InterPro domain Protein of unknown function DUF616; (InterPro:IPR006852)	GGTAGATCCATCCATCCATATGCGTTGATTGATGATTCTAAGGGAGAATCTCTTCGTCTTCTTCTTCAGGATTTCAATTTTTCTTTTCTCGTAAGTTGA TCAAAATCTGATCTGAGATCTGTTGGGATTTCCTCCTACTTTTCAAAATCAAAGCTGGCCTCTTTCTTTCGCTTTGGTTTTGCCTGCAAAGTAGCTCTC TATGTGTTCTAGAGATGGTATCTATGTGTTGGTAGTGATGAGAAGCCAAAGACAGCAGCGATGATGAGTGATTTTCAGCGATCACTTTCTGTGCGGT TGAGCCGCCGGGGAGAAAGGAGCACTCAAAACGCACAATCTAAAAAAGATGCTGAGGCTGGCTTCTTCTCTCCCACTAGACTGCATACTGATTTCA CTATGAACAAACTTTGGAAGGCCGGATTCCTTCGGTTGCTTCTTGTTGGAGGCATTGTGTGGATGCTTCTCATTCTTGTTGCGCTGCTCTTTCATGTT TGGTCCTGTCAGTCTTCACTTTCATTCTTCTCAGCCATATGCAACAAAGAAGGCAGACTTTATCTCATGTTAGACACGATTGGATTTGTAGCAAAACC GCAGCACCGATGCCCCATTCCAGTAGCCTATGACCCTGATCAGGTGCTCCTTCCGAGTGGAAAAACCGCAGATACAATAGTCAGGAATCTGACCTA CATAACAGAGGACGAATCTTCTAAGTCTCAGTTTCCTCTATTTGGCGGCAACATAAGCTGGTCTGAACGAGAAGAAAGCTTTAAACTGAAACCCGAG ATGAAGGTCCATTGTGGATTCATGCCCCGTGGTGGTGCAGAAATGTCATCTCTGGATAAAGAATACGTAAAGAAATGTAGATTCGTGGTTGCAACAG GGATTTTCGATGCATATGATGAACCCCACCAGCCATCAAACATAAGCGAGCGTTCCAAGAGTCTCTTCTGTTTCCTTATGGTAGTAGACGAGGTCTC TCTCGATTTTTTAAGAAAAAACTCTACTCTGAGGAAAGATGTTAAAGGAGGCAAATGGGTTGGCATTTGGCGTCTCATTCTACTGAAAACTCCTCCAT ATGACGAACCTAGGAGGAACGGTAAAGTCCCGAAAATCTTAACTCACAGGTTATTCCCTGAAGCACAGTACAGCATTTGGATTGATGGGAAAATGGA GCTTATTGTTGATCCCTTGCTTATTTTAGAAAGGTATTTGTGGCGCGGGAAACAAACCTTTGCCATTGCTCAACACAAACACCACCGAAACATATATG AGGAAGCTGATGCGTGCAAGAGGAGAAAGCGATATGCCCGACCTCTGGTTGATCTTCACATGAAAATATATCGGTATGAAGGATTGGAACCATGGA GCATCAAGAAGAACACTGTTAGTGATGTTCCAGAGGGAGCGGTGATAATAAGAGAGCACACTGCAATGAACAATCTGTTCAGCTGCCTGTGGTTCA ACGAGGTACACCTGTTAACACCGAGGGACCAGCTAAGCTTTGGGTACGTAGTGGACAGACTAAAAGGAGCCTTCAAGCTGTTCATGTTTCAGAACT GTGAGTACAACTCACTATTTGAACTGCACCCTCACATCCGAGAACATTCCTCGAAGATCGAGTGGGTCAAGTCTCTTAAGGAACTCAAAGGGAAAGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002M13	AT5G62100.2	ATBAG2 (ARABIDOPSIS THALIANA BCL-2-ASSOCIATED ATHANOGENE 2); protein binding	GGGGATAGGAGATTTAATTATTAAGAAACAAAGTAAATTTACTTCCCTTTGTTCAGACGTTTCTTTATTATTCATTCTTCTTTCTTCTTTGATCGTGTTC AGAAATCAAGTTCATCTCATCATTTCACTCTTCTCTTTTCTCTCTTTCTCTAGCTTCTTTTTCTTCTTTATTTAAGATCTTTGATTTTGGAGTTTTTTCTAT CAGACAAATAGAAAATGTTGCAAATGAGAATTGGAACAACCGCGAGCACTTCCGGTGGCGGCGACGGTGAGCTGGAGCTCCGGCCTGGGGGAATG GTTGTACAGAGACGAACGGATCATACCTCCAACGTGACACGTGTCATTCGGGTCCGGGTCAGATACGGGTCGGTCCAACACGAGATCAGTATCAAC TCTCAATCTACTTTTGGGGAATTGAAGGAGATATTATCTGGTGAGACAGGAATCCATCAGCAAGACATGATGATTCTATACAAAGACAAAGAAAGAGA TTCGAAGATGTTTCTTGATCTTTCTGGTGTCAAAGATCGTTCGAAACTTATTCTCAAAGAAGATCCTATTTCTCAGGAGAAACGTCTCCTAGAGTTGA GGAAAATCGCCGCCAAACAGAAAGCCATTAAAGCAATCTCCGAAATTAGCTTCGAAGTCGATAGACTTGCCGGAAAACTGTCGGCTTTTGATACAGT GATTGGTAAAGGAGGCAAGGTTGAAGAAAAGAATGTGGAGAATTTGATGGAGACGATGATGAATCAGTTGGTGAAGCTCGATGCGATCTTAGGCGA TGGAGACGTTAGATTGAAGAAGAAGATTCAGGAGGAAAGATTACAGAAGTACGTTGAGGCACTCGACATGTTGAAGATCAAGAATTCAACGCAGCC GCAAACGCAACTGAAACCGCAAACACAACCACAATACAAAGAACAAGATTTGGTGACGTTTGAGGAGGAAACGTCGAGGAAACGCATAGCCTCCTT CCCAGCTCCTCCGGTGATCATAACGACGACATGGGAAAACTTTGACTCCAATTCCACTTCCACCACCGAGGCTAAAACGGTTAAACCTGCCCATCCA AAATTCAAATGGGAATTATTTGATTAAGCTATATATTATATACTTACACGATAGTATTAAGTATGTTTTTCAGATATCTATGATATACATATGTGGAGTCT
GCT-002M14	AT1G68190.1	zinc finger (B-box type) family protein	GGAGGAAGTTCCTAAAAACAGAGAAAGCTGTGTCACGAATCTCTCTGATTTTAGCTTTCTCACATAACTCTCTTCAGGGACGAATCTTCTCATAAGTA ATGGATATTTTCTCGAATCCAAAGGATTTTGGGTTAAAAAAAAAAAATAATTGAGAAAATGGAAAGATTATGTGAGTTTTGCAAAGCATATAGAGCGGT GGTTTATTGTATAGCCGATGCAGCAAATCTTTGTCTAACATGTGATGCAAAGGTTCATTCAGCTAATGCACTCTCAGGGAGACATTTACGCACGCTTT TATGCGATTTTTGTAAAAAACAGCCTTGTGTTGTTCGATGTTTGGGTCACAAAATGTTTTTCTGTAAAGGATGCAACGACAAGGTCCATGGTAGTGTC ACGTCTAAGCATCATAGACGTGAAGTGAGCTGTTATACGAGTTGCCCTTCTGCTAAAGATTTCGCTGTTATGTGGGGTTTTCGAGTTACAGATGATG ATGATGCTTCGTTAGAGAAATCTTTTTCAATGGTTAAACCTAAGATGCAAAGAGAAGCTGGTTATATCTTGGAACAGATTCTTGAACTGGAGAAGATT CAGCTCAAGAAAGAGAATGGTGGTTATTCATTGACAGAACAAGCTGAGCCTTCTCCATTGGAGCTTCCACAACAATCTGAAGATCGATTAATCGATC TTTCACAGACTGGGAAAGAGCTGATTGTTGACTTTTCACACTTGTCTTCATCTTCCACACTTGGTGATTCCTTTTGGGAATGCAAAAGTCCATTTAACA AGAACAGTCAGTTGTGGTATCAAAACCTACAAGACATTGGAGTTTGTGAAGAGACAGTTTGCGATGACGATGACTTCCATATACCTGACATTGATCTC ACTTTCCGAAACTTTGAAGAGCTTTTTGGAGCTGAACCTGATCCAACTGCAGACAGTAACAACGTCTTATTTGTGGGAACACCAGCTCGCAAACCGC GTGAGCTTCCTCATCTCGTTCATTCTCAAGTTCCAACGAAGGAGGAAGCAGTCACAATCACTCAGAGGAAGTAATCTCTTTTTGTTCCCCTCTCTCTA ACAATGCACGTTCAAACGCCATCTCAAGGCTCAAGGAGAAGAAGAGGGCAAGAACAGAGGAGAAACAAGCTTAGTATTGTCCCAAGAAAGCACAAA
GCT-002M15	AT1G06680.1	PSBP-1 (OXYGEN-EVOLVING ENHANCER PROTEIN 2); calcium ion binding	GATCATAACTTAACCAGAGAGAAAGAGAGAGAGACAACAAGAGAGAGAGAGCAAGAATGGCGTACAGCGCGTGTTTCCTGCACCAGAGTGCACTG GCCTCCTCCGCCGCACGATCATCATCTTCCTCCTCATCCCAACGCTACGTGTCACTCTCCAAACCCGTCCAGATAGTGTGTAAAGCCCAACAGCCT CATGAAGACGATAACTCCGCCGTCTCTCGCCGTCTCGCTCTCACACTCCTCGTCGGCGCCGCCGCCGTTGGTTCCAAAGTTTCTCCCGCCGATGC CGCCTACGGTGAAGCTGCAAATGTGTTTGGAAAGCCAAAGGCGAACACAGACTTCACGGCATACAGTGGAGATGGATTCAAAGTGCAGGTGCCAG CAAAATGGAACCCAAGCAGAGAGATTGAGTATCCAGGACAAGTCCTTAGGTACGAAGACAACTTCGACGCCACTAGCAATCTCAATGTCATGGTCA CTCCTACCGACAAGAAGTCCATCACTGATTACGGTTCTCCCGAAGAGTTCCTCTCTCAGGTCAATTATCTCCTAGGGAAACAGGCTTACTTCGGTGA GACTGCCTCTGAGGGAGGCTTTGACGCTAATGCAGTGGCAACAGCAAACATTCTTGAGACAAATGTTCAGGAAGTTGGTGGGAAACCCTACTATTA CTTGTCGGTGCTGACAAGAACGGCTGATGGAGACGAAGGAGGCAAGCATCAGCTGATCACAGCCACTGTGAATGGAGGGAAGCTTTATATCTGCA AAGCACAAGCTGGAGACAAGAGGTGGTTCAAGGGAGCCAACAAATTTGTCGAGAAAGCAGCCACTTCTTTCAGTGTTGCTTGAATGAAAGCAACAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002M16	AT3G02060.1	DEAD/DEAH box helicase, putative	GGAGCCAATAAGCATCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTTCATTATCCCCTTGTCTTTCATAAAAACATAAACCCCCTCTAGGATTCTTGT TAAAAATGACATCTTTGCTCCCAAATCCCGACCTGGTGTCTACTACACCCCTCGTCTTCAAGCTCTACTCCTTTCCTCCGCCACGGAGACTCTTCACT CTCAGGCGCTCCTCCTTCGCCCGAAACTCATCATCTCTTCCATTAGTCGCTGTTTCCTCTCTCTCCGCAACTGCCGCAAAACCTACCAGATGGAGAG AGAAGCAGGAGTTTGCGGAAAACGATTCAATTTCCCTCCTCAACGAGAGGATTCGGCGGGACCTCGGCAAGAGAGAGACCTCTCGGCCGGCCATG GACTCCGAGGAGGCCGACAAGTACATTCAGATGGTCAAGGAACAACAAGAGAGGGGTCTGCAGAAGCTCAAGGGCGTTAGGCAAGGTACAGAGAC CGGTTCCGGCGGTGGTTTTAGCTACAAGGTTGACCCTTACAGTCTCCTTTCCGGTGATTATGTGGTGCACAAGAAAGTTGGGATTGGGCGTTTTGTT GGGATAAAGTTTGACGTCCCCAAGGATTCTTCAGAGCCCCTCGAATATGTCTTTATCGAGTATGCAGACGGCATGGCCAAGCTTCCCCTCAAGCAG GCCTCGCGTCTGCTCTACCGATACAATCTTCCAAATGAGACCAAACGGCCTCGGACTTTGAGTCGGCTGAGTGACACTAGTGTTTGGGAAAGAAGA AAGACCAAAGGAAAAGTCGCAATTCAGAAAATGGTCGTTGACTTGATGGAGCTATATCTTCATAGGCTTAGACAGAAGAGATATCCCTATCCCAAAA ACCCCATCATGGCTGATTTTGCGGCTCAATTTCCTTATAACGCTACACCTGACCAGAAGCAGGCTTTCCTTGATGTCGACAAGGATTTGACAGAGAG AGAAACACCAATGGACCGATTGATCTGTGGAGACGTTGGTTTCGGTAAAACAGAGGTTGCTCTACGGGCCATCTTTTGTGTGGTCTCAGCTGGAAA ACAAGCTATGGTTTTAGCACCGACAATTGTATTGGCGAAGCAACATTACGATGTAATCTCAGAGCGGTTTTCCTTGTATCCACAAATTAAAGTCGGCC TTTTAAGTCGGTTTCAGACCAAAGCCGAGAAGGAGGAGTATTTGGAAATGATAAAAAACGGAGATCTCAATATCATTGTAGGTACTCACTCACTTCTC GGAAGCCGTGTTGTGTACAGTAATCTAGGCCTCCTTGTGGTCGATGAGGAACAGAGATTTGGGGTCAAGCAGAAAGAAAAGATTGCATCTTTCAAAA CATCAGTTGATGTTCTTACTCTATCCGCTACACCCATACCAAGGACACTATACTTAGCTTTGACTGGATTCCGGGATGCCAGTTTAATCTCCACACCG CCTCCGGAGAGGATTCCAATAAAAACACATCTTTCATCATTCCGTAAGGAAAAGGTGATCGAAGCGATAAAAAATGAGCTAGATCGTGGTGGCCAAG TTTTCTACGTCCTGCCTCGGATTAAAGGGCTAGAGGAAGTGATGAATTTTCTTGAAGAAGCATTTCCAGATATTGACATTGCTATGGCACATGGAAAG CGATACTCAAAACAACTAGAGGAAACCATGGAGAGATTTGCGCAAGGAAAGATCAAAATCCTCATATGCACTAATATTGTTGAAAGCGGACTTGATAT TCAAAATGCAAATACCATAATCATTCAGGATGTTCAACAATTTGGGCTCGCTCAGTTGTACCAGTTGCGTGGAAGGGTTGGCCGGGCTGATAAGGAA GCTCATGCCTACCTGTTTTATCCTGATAAATCGCTGCTCTCTGATCAAGCACTGGAAAGGCTTAGTGCTCTTGAAGAGTGCCGTGAGCTTGGACAAG GTTTCCAACTTGCGGAGAGGGATATGGGTATAAGAGGTTTTGGGACAATCTTTGGTGAACAACAGACTGGGGATGTTGGTAACGTCGGCATCGATC TCTTCTTTGAAATGCTTTTTGAGAGTCTGTCCAAGGTTGAGGAACTCCGTATATTTTCGGTTCCATATAACCTGGTGAAGATTGACATAGATATAAATC
GCT-002M17	AT5G13490.1	AAC2 (ADP/ATP CARRIER 2); ATP:ADP antiporter/ binding	GACCAAGAAATTTCTCTCATTCTTCTTCTTCGCTCAGCTCCTAGAAGAAAGGGCGAAGAATCTCGCTCCTTGAATTTCGCTTTGCCATCGATTCCTTG TGAGGTCAAAATGGTTGATCAGACTCAGCACCCCACGATTCTGCAGAAGGCTTCTGGCCAATTCTTGCGTTCGAGTGTTTCTCAGGACCTTGTTGGT TATTCGTCGGCTTTCCAGAGGCCCGCTACATACCAAAGGCATGCAACATACGGAAACTACTCCAATGCTGCGTTTCAGTATCCTCTTGCAGCTGCAT CCAGGATTGCAACACCTGCTTCCCCTGTGTTTGTCCAAGCTCCAGGAGAGAAAGGTTTCTCTAGCTTTGCTATTGATTTCCTGATGGGTGGTGTTTC CGCTGCTGTGTCAAAGACTGCTGCTGCTCCCATTGAGCGTGTCAAGCTCTTGATTCAAAACCAGGATGAGATGCTCAAGGCTGGTAGGCTCTCTGA GCCCTACAAGGGTATCGGTGACTGTTTCGGCAGGACAGTTAAGGATGAGGGATTTGGTTCTTTGTGGAGAGGAAACACAGCTAATGTCATCCGTTA TTTCCCCACTCAGGCATTGAACTTTGCATTCAAAGATTACTTCAAGAGGCTTTTCAACTTCAAGAAAGACAGGGATGGATACTGGAAGTGGTTTGCC GGTAACTTGGCATCTGGAGGTGCTGCTGGTGCCTCATCCCTTCTCTTTGTGTACTCTCTTGACTACGCACGTACCCGTCTTGCCAATGACTCTAAGG CCGCCAAGAAGGGAGGTGAAAGGCAGTTCAATGGTCTTGTTGATGTCTACAAGAAGACCCTCAAGTCGGATGGTATTGCTGGACTTTACCGTGGAT TCAACATCTCTTGTGTTGGTATCATTGTCTACCGTGGTCTCTACTTCGGACTGTACGACTCTTTGAAGCCACTTCTCCCTGGTGACATGCAGGACAG CTTCTTCGCTAGTTTTGCCCTTGGATGGCTCATCACCAATGGTGCAGGTCTTGCATCCTACCCGATTGACACAGTCCGTAGAAGAATGATGATGACG TCTGGTGAAGCCGTCAAGTACAAGAGTTCGATGGATGCCTTCCAACAGATCCTGAAGAAGGAAGGAGCCAAGTCTCTGTTCAAGGGTGCTGGTGCC AACATCCTCCGTGCCATTGCAGGTGCTGGTGTGCTTTCTGGTTACGATAAGCTGCAGTTACTTCTTCTCGGAAAGAAGTACGGATCTGGAGGTGCCT AAGTACTAATCCGCCACTCACCACCATAAAGCCTTCGGCTTTTTTTTTCTTTTTCTTGATTTATTGCTGTTTCAGACTTATTAAAAAATCAAAGATGTTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002M18	AT4G25050.1	ACP4 (ACYL CARRIER PROTEIN 4)	GGCCATTGGAGAGATTGGCCCTTTTTCCAACTCCACCTCTCTCTCTCTTCTTCCTTTTGCTATACCTGTAAAGCATCAGCATCAGCACAAATCTAC ATTCTCTTCTTTGAATCAATGTTCATATAACATCACTGCTGATTATTCTCACACATTTCTTCTTCTTCTTTCTTCGTTTTGTTTTCTTATCATTTTTGGATT CCACCGCTTTGATCACTGCAATTTTGGGAACAGCAAACTCAATTGTGATTTCAAAACTCCGATAACGGAATTTGAGAAATTCTCTCGACGTTACGGGT TTAAATGGTGAGCGTTTTTGGAGATTGTTGTAGATCGGATTCATTATACATCTCTTGTAGATCTGAATAAAGGAGAGGATTATGATTACCGACCCAGA AAACGCAATTTGATTTCGTCAATTCCCTCGATTTCGATTCCGATCATGTCGAGTCATCACGGCGTTGAGCATGTTGGTTTACCGACGAAAATCGAAG CTAAGAAATGTTGCAACCCGGTTAAGAAACCCGGACCCGTTTCCATGGATCACGTTCTTCTAGCTCTCCGTGAGACGAGAGAGGAGCGAGATGTAC GAATCAGAAGCTTATTCAACTTCTTCGATTCTGAGAATGTTGGGTATCTGGACTGCGCCCAAATCGAGAAGGGATTGATCGCGCTTCAAATCCCTAG TGGCTACAAATACGCCAAGGAGTTGTTTAGGGTTTGTGATGCGAACCGAGATGGACGTGTCGATTATCACGAGTTTCGTCGATACATGGATGATAAG GAGCTCGAGCTCTACAGGATATTTCAAGCTATTGATGTTGAGCATAATGGTTGCATTTCTCCTGGGGCCAAATCGGCCATCACGGCATTAGGAGAAG CCATTTTTTCTTTGTGACTCGGAACTTTCATCTCTTTCAATGGCTTCCCTATCTACCACTTCCCTAAGCTTCAAAGCTCCGTCCATACAATCAACCAGA ATTTCTCAGGTGTTGAGGAAAGCCTCGAGTTTTCAATCTATCTCCTTTGGTCGTTTCCATTCGTCAAAGAGCCTTCGTCTTCAAATCAGTTGTGCAGC AAAACCAGAGACAGTGCAGAAAGTGAGTGACATTGTAAAGGAACAATTGGCTTTGTCCGCCGACACTGCGCTCACTGCCGAGTCCAAGTTCTCTGC TCTTGGCGCCGATTCTCTCGACACCGTGGAGATAGTGATGGCTTTGGAGGAAAAGTTCAACATAAGTGTGGAGGAATCTGATGCTCAGAACATTAC GACGATTCAAGAGGCGGCTGATTTGATCGAGGATCTTGTTCAAAAGAAACCGGCAACTTCCGAAGCTTCCTAAACTCTCCCGGTTTAACACCAACCG
GCT-002M19	AT1G45249.2	ABF2 (ABSCISIC ACID RESPONSIVE ELEMENTS-BINDING FACTOR 2); transcription factor	GACTTGGCTGAGGAGACAAAAGAACGAACTAGAGACATTTTTGGGCAACGGATTAAGCCAAAAAACTAAGGTCATTTCCAGATACATAAGAACCTAG TGGAAACAGATTCTGCAGAACATCATTTTCAAGAACAACAGTATGGGAAATGAGCCACCAGGAGATGGTGGTGGAGGAGGAGCGTTGACCAGACC GGCGTTGACCAGACAAGGTTCGATATACTCGTTGACATTCGATGAGTTTCAGAGCAGTTTAGGTAAAGATTTTGGGTCAATGAACATGGATGAGTTG TTAAAGAACATATGGAGTGCTGAAGAAACACAAGCCATGGCTATGGCTGCTTCAACTAGTAGTATGATTCCAGTTCCTGGAGGCCAAGAGGGTTTGC AGTTGCAGAGGCAAGGCTCGTTGACTCTGCCTCGAACGCTAAGCACGAAAACAGTTGATCAAGTGTGGAAAGATCTCTCCAAAGATTGGAACAGTG TAGGAGGAACAAGCTTGTCTCAGTCTCAGAGTCAGAATCAGAGTCAGAGTCAGAGTCAGAGTCAGAGTCAGAGGCAGCAAACTTTAGGTGAAGTAA CTCTTGAGGAGTTCTTGGTACGTGCTGGTGTTGTGAGAGAGGAAGCTCAGGTTGCTGCAAAAGATAAAGATGGTTACTTTGGTAACGATGCTAACG CTGGTTTCTCTGTCCAGGCTTCTCCGCGGGTTGTTCCCGGTTTAATGGAGAATCTTGGTGTAGAGACTGCAAATCATTTGCAGGTTCAAGGTTCTAG TTTGCCTCTGAATGTAAATGGAGCTAGATCAACATACCAGCAACAACCAATCTTGCCTAAGCAACCTGGTTTTGGTTACGGAACACAAATTGCTCAGC TTAATAGTCCTGTGGTAAGAGGTGGTCTTATGGGACTTGGAGATCAGCCTCTAACGAATAATATGGGCTTTGTCCAAGGTGTTGGTGCTGTGTCTCC TGTTACGCCATTGTCATCAGACGGGATAGGGAAGAATAACGGTGATTCTTCATCGCTCTCTCCGTCTCCTTACATGTTTAATGGTGGTGTGAGAGGT AGAAAGAGTGGTGGCACTGTGGAGAAAGTTGTTGAGAGAAGGCAAAGGAGAATGATAAAGAACCGAGAATCAGCTGCGAGGTCACGGGCCAGGAA ACAGATGTTCACGGCAGACCAGACCATATACTGGAATGTAATTTGCTAAAGTCTCGAGGTGGCTCAGAGGTTGTATTGACTCCATTTCATCAAGAAG TTGTAGTGACTCTATTTACTGTGACCGACCTGTTGAGTTCTACATGTTTTGAATGGCACTCTAGTATATCTCATTACCTTCTCAGTAGTGCTTATTTTG GTTTCTAGGCTTATACCGTGGAGCTTGAAGCTGAAATTGCAAAGTTAAAGGAAGAGAATGATGAGTTGCAACGAAAACAGGCAAAGATTATAGAAAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002M20	AT3G58750.1	CSY2 (CITRATE SYNTHASE 2); citrate (SI)-synthase	GATTTCTTCTTCGCTTCCTTTCTTTGATTTCTAATATTTTGTTTGTTCGACGTGAAAATGGAGATTTCGGAGAGAGTAAAAGCTCGATTAGCGGTGCTT ACTGCGCACTTGGCGGTGTCTGATCCCGTCGGATTGGAACAGGTGTTGCCGGCGATCGAGCCATGGTGCACATCGAGTGCAGCACCGCATGGATC CCTGAAGGGAAGCTTGACGATCGTCGATGAGCGTACAGGAAAGAAATATCAGGTCCCAGTCTCAGAAGATGGCACAGTCAAAGCCGTTGATCTCAA GAAGATAACGACGGGGAAGGATGACAAGGGGCTTAAATTATATGATCCAGGTTACTTGAACACGGCTCCTGTTAGGTCTTCGATTTCTTACATCGAC GGAGATGAAGGAATCCTACGTTATCGGGGATACCCAATCGAAGAGTTGGCTGAGAGTAGCACTTTTATTGAAGTTGCTTATCTCCTCATGTATGGGA ATCTGCCTTCTCAAAGTCAGTTAGCTGATTGGGAGTTTGCAGTTTCTCAGCATTCAGCTGTGCCACAAGGAGTATTGGATATCATACAGTCCATGCCT CATGATGCACATCCAATGGGAGTTCTTGTGAGCGCGATGAGTGCTCTTTCCATCTTTCACCCTGATGCAAATCCTGCTCTTAGGGGCCAAGATATTT ACAAGTCAAAACAAGTTCGTGATAAACAGATTGTTCGTATTCTTGGAAAGGCACCAACTATTGCCGCAGCTGCTTATTTGAGGATGGCAGGCAGGCC CCCTGTTCTTCCTTCAGGCAACCTTTCTTATGCAGAGAATTTTCTCTATATGTTGGATTCAATGGGCAATAGGTCTTACAAGCCTAATCCTCGTCTGG CTCGAGTGCTGGACATCCTCTTCATACTGCATGCTGAACATGAGATGAACTGTTCTACTGCTGCTGCTCGGCATCTTGCCTCTAGTGGTGTGGATGT GTACACTGCTGTTGCTGGAGCTGTTGGAGCGCTTTATGGTCCACTTCATGGTGGTGCGAACGAGGCTGTTCTTAAGATGCTATCAGAGATTGGGAC TGTTGAAAATATTCCAGAGTTCATCGAAGGAGTGAAGAACAGAAAGAGGAAGATGTCAGGTTTTGGACATCGTGTTTACAAAAACTACGACCCAAGA GCAACAGTCATCAAGAAGCTGGCGGATGAAGTGTTCTCTATTGTTGGAAGGGATCCTCTGATCGAGGTAGCAGTTGCTCTAGAGAAGGCGGCACTC TCTGATGAATACTTTGTTAAGAGAAAGCTATACCCAAATGTTGATTTTTACTCGGGATTAATCTATAGGGCAATGGGATTCCCACCAGAATTCTTCAC GGTCCTCTTCGCAATCCCACGTATGGCTGGATACTTGTCACACTGGCGTGAGTCGTTGGATGATCCTGACACTAAGATCATGAGACCCCAACAGGC CTACACTGGGGTGTGGCTAAGGCATTACGAGCCAGTGAGAGAAAGAACGTTATCAAGTGATTCGGACAAGTTGGGTCAAGTTTCCATTTCGAATGC
GCT-002M21	AT5G43960.1	nuclear transport factor 2 (NTF2) family protein / RNA recognition motif (RRM)-containing protein	GGGATCTAAAAAACACCATTTCTTTTTGTCTGTAAACCCTATATAAATCTCATTTCTTCTTCTTCTTCACCCTTCTCAGATCTGTTCTACTTCAATT GAATAGACCACCTTTCCTTTTCTCTTCTCGTCATCGCTTTCTCAAAACCAGTTAAACTTGGGGAAAGTATACTTCGACTTGACGGGTTTCCTTTTCGTT TCGATTTCCTTCAAATCTTAGGGTTTGGTATAAAACCAGATCTTGGTTTGTTCATCTCGATCGTATTTTGAGCTCTAGTAGTGTTAATAATGGCGACTC CTTATCCTGGAGCGATGCAGGTGGGTTCGTACTTTGTGGGTCAATACTATCAAGTGTTGCAGCAGCAGCCAGATCTTATTCATCAGTTTTATTCCGAT AACAGTAAAGCGATTCGTGTTGATGGTGACTCGACTGAGACTGCGAACACTTTGCTGCATATTCACAACATGGTCATGTCACTGAATTTCACCGCGA TAGAAGTGAAGACGATCAATTCAATTGAATCGTGGGAAGGTGGTATTCTTGTGGGGGTTACAGGCTCTGTGAAAACCAGAGAATTCAGCAACAGAA GGAGTTTCACGCAGACTTTCTTCCTTGCTCCTCAGGAGAAAGGTTATTTTGTTCTCAGTGATATGTTCCACTTCGTTGATGAAGGAACTGCCTTCTAT CATCAACCTTCTTATTTACCCGAAACCAAGCACGAGGCTCAGCTTAATCCTCCTAGCCCTCATCCAGAACCACAAGTTCCTGACTATGTTCTGGAGC AAGAGGCAAGAGATTACGTGAATGCAGTCCAAATCAAAGATGATCTTGTCGATAAGTACAGTCTGCAAGAGGACCAGCATCAACCTCAACATGAAGA TTATGAGGATGAAGTTGCCGTTGAGGAAACACCTAGGGAGGAAGTTGTGGTTGACGCGGTACATGAACCTTGGGCTGCCCCAGCTGAGGAACCCG TTGGTGAAAAATCAAAGATGAGTTATGCTTCCATTTTACGGGTTGTAAAGGAAGCAGCTTCTGTGCCTGTAGCTGCTACACAACCAACGCATAACAA GAACTCCCAAGATGTTAATGAGTGGGATCAACCACTGCGGACTCCTTCCCCTCAAGTGGCTGCGCCTCTTGCCCCTGCTCAGCAATCAAACGCTTC TTCTCCATATGTTACTGACTATGGAGCAGAGGCAGAAGATGGCTTCGGATTTGAAGACTTTGAGATCAAATCAGTGTACGTTAGGAATTTGCCATCC AACATATCTGCTTCTGAAATCGAGGAAGAGTTTAAAAACTTTGGTACTATCAAGCCTGATGGTGTTTTCCTCAGAACCCGCAAGGATGTTATTGGCGT TTGCTATGCTTTTGTTGAGTATGAAGACATGACTTCCGTCGAAAATGCTATTAAGGCTTCTCCTATATACTTGGGTGGAAGGCAAGTATACATTGAGG AACGAAGACCCAATCCCGCTGGTGTTCGTGGAGCAAGACGAGGAGGACGTGGAAGGGGTGGTTACCCAACAGAAGCACAAAGAGGAGGCCGGTT TGGTTCTCGTGGTGTGTCCGGGAGAGGAAACCAGGAGGGAGGTGACTACAGGCCAAGAGGCAATGGTTACTACCGTGGTGGCCGCTAAGGAACA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002M22	AT5G62000.3	ARF2 (AUXIN RESPONSE FACTOR 2)	GATCGCTAAATCGAGCTAAATTTGAGGTGAAATTGGTGGTTTCTCGTATGATTCTAGGGTTTATCTCTCTGGTAGCTGTATCGAGTAATGTTAAGGAG CTAAACCGGTGGTGATTGTTTTTGCGACAGAGATAGAGACATTCAAAGGAATCAAGTGTAGTACCGAGGCGAGCTTTGAGGTTTTTTGGGCGAGGTT TTTGAAAGAGAAGAGGTGGATTTGGAGATTTTCTTGTTGATTTCGTCTGCTTAGAGGATTCTTTGATACCAGATGAAACAGATCTGAGCTTTGAGTTT ACCGAGGTATGGCGAGTTCAGAGGTTTCAGTGAAAGGAAGTCGTGGAGGAGAAAACTTCTCCTCCGCCGGTTACAGTGACCCAAAGGAGACAAGA AATGTCTCCGTCGTCGGAGAGGGGCAAAAAAGTAATTCCAACCGATCTGTCGTCGCTGAGCGTGCTGTGGACCCTGAGGCTGCTCTCTACAGGGA GCTGTGGCACGCTTGTGCTGGTCCGCTTGTGACGGTCCCTCGACAAGATGACCGAGTCTTCTATTTCCCTCAGGGACACATCGAGCAGGTGGAGG CATCAACAAACCAGGCGGCAGAACAGCAGATGCCTCTCTATGATCTTCCATCGAAGCTCCTTTGTCGAGTCATTAATGTAGATTTAAAGGCAGAGGC AGACACCGACGAAGTTTATGCGCAGATTACTCTTCTTCCTGAGCCTAATCAAGACGAGAATGTAATTGAGAAAGAGACGCCTCCTCCTCCGCCCCCT AGGTTTCAGGTGCATTCGTTCTGCAAAACCTTGACTGCATCGGACACAAGTACCCATGGTGGATTTTCTGTTCTTAGGCGGCATGCGGATGAATGTC TCCCTCCTCTGGATATGTCACGTCAGCCTCCTACTCAGGAGTTGGTTGCAAAAGATCTGCATGCAAACGAGTGGCGTTTCAGACATATCTTCCGAGG TCAACCACGAAGGCATTTGCTTCAGAGTGGATGGAGCGTGTTTGTTAGCTCTAAAAGGCTGGTTGCAGGCGATGCATTTATTTTTCTCAGGGGGGA GAATGGAGAATTACGTGTGGGTGTAAGGCGTGCAATGCGACAACAGGGAAATGTGCCATCTTCTGTTATATCGAGCCACAGCATGCATCTTGGAGT ACTGGCCACCGCATGGCACGCCATTTCAACGGGAACTATGTTTACAGTCTACTACAAACCAAGGACAAGTCCATCTGAGTTTATTGTTCCGTTTGAT CAGTATATGGAGTCTGTTAAGAATAACTACTCCATAGGCATGAGATTTAAAATGAGATTTGAAGGCGAAGAGGCTCCTGAGCAGAGGTTTACTGGCA CAATCGTCGGGATAGAAGACTCTGACCCCACGAGATGGGCAAAATCAAAGTGGAGATCCCTCAAGGTGAGATGGGATGAGACCTCTAGTATTCCTC GACCTGATAGAGTATCTCCTTGGAAGATAGAGCCTGCTCTTGCTCCTCCTGCGCTGAGTCCTGTTCCCATGCCTAGGCCTAAAAGGCCCAGATCTA ATATAGCTCCTTCGTCTCCCGACTCTTCCATGCTCCAGAGAGAAGGCTCAACTAAAGCAAACATGGACCCTTTACCGGCAAGTGGACTTTCAAGGGT CTTGCAAGGTCAAGAATATTCGACCTTGAGAACGAAACATACTGAGAGTGTAGAGTGCGATGTTCCAGAGAATTCTGTTGTGTGGCAATCCTCAGCG GATGATGATAAGGTTGATGTTGTTTCGGCTTCTAGAAGATGTGAGAACTGGATGTCCTCAGGCAGGCATGAACCTGCTCCCTTCACGGATTTGCTTT CTGGGTTTGGGGCTAACATAAATCCATCCTTCGGTCAGCGAATACCTTTTTACGACCATTCATCATCACCTTCTGTGCCCGCGAAGAAAATCTTAAGT GATCACGATGGCAAATTTGATTTTTTTGCTAACCAGTGGCAGATGATGCACTCTGGTCTTTCCCTAAAGTTACATGAATCTCCTAAGGTCTCTGCACC ATCCGATGCCTCTTTTCAAGGGCGAGGCAATGTCAAATATGGCGAATATCCGGTGCTTCATGATCTGACGACTGAGAATACTGGTGGTAACTGGCC
GCT-002M23	AT2G28550.2	TOE1 (TARGET OF EAT1 1); DNA binding / transcription factor	GGAAATGTTCCCTCACACGTCTCCCTCCTCTCTCTCTTTCTTTATCTTCTCCAATACAGAAGAACAATCCGTTAACAATCCCTCGCCGCCGGTGACAT TTTCCGGCGATGAAACTTCTCTTTCTCACTCCTCGCCGTAGTATTCACAAAATTCGCCGTCCAATGTCGCTAGACCGCCTATACCTTTGAAATCTACT TTCCTCTTCTTCTTCCTCTTCCTCTCTCTCTCTCTCTCTCTGTCTCTTTTGTTGCCTCTTCTCTCGAGCTTCCTTAATCTTATCATGTGATTATGTAATC GTGTTTGTGTATAAGACGATCGCTGATACTGATTCTACTCGGTGGCTACTTTTTTTTCGTCTTTTAAAATTTGGTGAAATCAACAGATTATTTGAAATTT ATTTTGCCGGAGAAGAGATGCTGGATCTTAACCTAGACGCAGACTCTCCCGAGTCGACTCAGTACGGTGACTCATACTTAGATCGGCAGACATCGG AGGGGTCAGGTAATCGAGCGGAGGAGTCAGGGACGTCGACGTCGTCGGTAATCAATGCCGACGCAGACGACGACTCTTGCTCGGCTCGCGCTTT CACTCTCAGCTTCGACATATTAAAAGTCGGAAGCAGCGGCGGAGACGAAAGCGCCGCCGCCTCTATCTCCGGCGTGACTAAGGAGTTTTTCCCGG TGGCTGGAGACTGTGGTCACTTGCGAGATGTCGAGGGATCGAGCTCTAGAAGCTGGATCGATCTCTCTTTCGATGGCTCCGGCCACCACGGAGAG ATGAAATCGATGGCTCCGGCTCCGGCGCCGGCTCCGGTACCGGTGAAAAAGAGTCGGAGAGGACCAAGGTCAAGGAGCTCTCAGTATAGAGGAG TCACTTTCTACAGAAGAACTGGCCGATGGGAATCGCATATTTGGTAAAATCCAAATTTGCTGATTATTCAACTTCATCGATTTTGCTTTTTCACTATTG AAGTTGATCAAATCAAAACTCTCTCTGTTTGGTTTCTACTTTCTTGCAGGGATTGTGGGAAACAAGTCTATTTAGGTGGTTTTGACACTGCTCATGCC GCAGCTAGAGCTTATGATCGAGCTGCTATCAAATTCAGAGGCGTTGATGCTGATATCAACTTCACTCTCGCCGATTACGAGGAAGATATGAAACAGG TACAAAACCTGAGCAAGGAAGAGTTTGTGCACATACTCCGACGTCAAAGCACGGGTTTCTCGCGTGGAAGCTCAAAGTATCGAGGAGTCACATTAC ACAAATGTGGGAGATGGGAAGCTAGGATGGGGCAGTTTCTTGGTAAAAAGGCTTATGACAAAGCTGCAATCAACTCCAATGGTCGAGAAGCAGTCA CCAATTTCGAGCTGAGTTCATACCAAAACGAGATAAACTCTAACGAAGGTGGTCATGACAAACTTGATCTCAACTTGGGAATCTCTCTTTCTCCCGGA AATGCACCAAAGCAAAGGCTCTTTCATTACCCTTCTAACACTTATGAAACTCAGCGTGGAGTTAGCTTGACAATAGATAACGAGTTCATAGGAAAGCC AGTGAATACACCTCTTCCTTATGGATCATCAGACCATCGTTCTTACTGGAACGGAGCATGCCCGAGTTATCATAACTCCGTCGAGGGAAGAGTGGCT TCTGAGAAGAAAAGTGAAGGTGAAGGAGGGATGATGAGTAGTAGTAGTAACTGGGGATGGCAAAGACCACAACCATCGTTGGCCGGCGGAGCACA ACCACCGTTGTTCTCAGTTGCAGCAGCAGCATCATCAGGATTCTCTCATTTCCGGCAACAACCACCTCCCAGTGACAATGCCTCCTCTCGTGGTTAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002M24	AT4G09760.1	choline kinase, putative	GACCATGCAATTTGTCTTTCCTTGACACCAAGACTTCTCTCCAAGAATATCTCTCTTTTCAAAGTCCTTTTTCTGAATTTTCAAGATTCTTTGCAACTTT CTTGATGGCAATAGGAATCTTCGGATTGATCCCAAGCTCATCACCAGACGAGCTAAGGAAGATTCTACAAACACTTTCGGCGAAATGGGGAGACGT AACTGAGGATCTAGAGAGCCTTGAAGTGAAACCAATGAAAGGAGCGATGACGAACGAAGTGTTTATGGTGAGTTGGCCTAGAAAAGAAACGAATCT TTGTTGCAGGAAACTTCTTGTTCGTGTCTATGGTGAAGGTGTTGACCTTTTCTTCAACAGAGACGATGAGATTCGTACTTTTGAGTTCGTGGCTCGCC ATGGCCATGGACCTAGACTTCTTGGCCGATTTTCCGGCGGCAGAGTCGAGGAATTTATCCATGCGCGGACCCTATCCGCAACCGATCTTCGTGACC CGAACATATCAGCTCTGGTTGCATCTAAGCTAAGAAGATTTCACAGCATATACATTCCAGGAGATAAAACTGTTCTCATCTGGGACAGAATGAGGACT TGGGTAGGACAAGCCAAGAATCTATGTTCAACTGAAGATTCAACAGAGTTTGGTCTAGACAACATTGAAGATGAAATCAACTTGTTAGAACAAGATAT GAACAATGAGCAAGAAATTGGTTTTTGTCACAATGATTTGCAGTATGGTAACATCATGATTGATGAAGAGACAAATGCCATTACTATCATTGATTATGA GTATGCAAGTTATAATCCAATTGCTTATGACATAGCAAATCACTTCTGTGAGATGGTAGCAAACTACCATTCTGACACTCCTCATATCTTGGACTATAC TCTATACCCAGGAGAAGAAGATAGGAGGAGATTTATCTGCAACTATTTCAGCTCTTCAGATGAAGAAGCAAGAGAAGAAGACATAAAACAGCTTTTG GATGATATTGAGAAATATACATTGGCAAGCCATCTCTTCTGGGGCTTATGGGGAATAATCTCTGGCTATGTGAACAAGATTGAGTTTGATTATATCGA GTATTCGAGGCAGAGATTCAAACAGTATTGGCTTCGAAAGCCCCAGCTTTTGTCATTCAACCCATCTCCAAAGTAAAATATTCTACAAAAACGATAAT GGACGCATAATATCTATAACTATAATGCTTGCTTCTGTTCTGATACTATTGAACGAGTAAAAGCTATAAATAATCAGTACAATAAATAATAACTCCACA
GCT-002N01	AT2G35680.1	dual specificity protein phosphatase family protein	GGAGTAGAGATTAGGCAAATTCTCGATCCCCAAATTTGAAAAAGCTGAAAGTTGTTCTTAGGGTTCTTTTGTTCACTTTGCGATTCTTCTCAATTTCTC TTCGATCCTAGGAGAATCGATTATTCATCAGTTAGTCGCTGATCTGTTTTCAGAGTCCTCTCCGTCTCGTCGTAGCCGGCGCCTGATCGGATCAAAT TGTTCAGGCGAAATATGGTGGTGATCTCCCTGAAGATTTTGAATTCAACTTTTCTCCGATCGCTTCCGCTTGAATTTCTCAGGATTTCGATTTCGTGT AGACTTTCTTCTTGGCTTTGTCTGCGAATCCTGTAATACCATTAGGGTTTTCATTTGTGTTTGATGATCACTCTGTTCAGCCGATCGTTATTGTGAATA ATCTTTTCTGTGTATATAAGACTGGTGATTAGAGGGTATCGGTTGGGAGGATTAGATTGCTTGTGTGTTTTGATCTCTAGATCTTTGACTGAGGATAT GTATATCGAAGAACTGACGGAAAAGGAAGACAAGGTGGAGAGACTGGTGGTGGAGGATAGCGTCGCTGATGGAGATAAAGCGATATTGGTGAGCA GAGGAAACGTGATTGTGTTGACGACAAAGAGGGCACTGGTTGGTGTTGGTGCTCGTGCGTTGTTCTACCCAACCCTGATCTACAACGTTGTTAGGA ATAAGCTCGAGGCTGAGTTTCATTGGTGGGATAGGGTCGCGGAGTTTATATTGCTGGGAGCCGTTCCATTCCAATCTGATGTTCCACGGCTGAAAG AGCTTGGTGTTTGTGGAGTGATCACTCTGAATGAGCCATATGAAACTTTGGTTCCATCATCCCTCTACAAATCTTACTGCATTGACCACCTGGTGATT GCCACGAGAGATTATTGTTTTGCTCCTTCCATGGAAGCAATATGCCGAGCTGTAGATTTTATCCATCGAAATGCTTCGCTTGGGAAGACGACCTATG TACACTGCAAGGCGGGTCGGGGCCGCAGCACAACTATTGTCATATGCTACTTGGTGCAACACAAAAACATGACACCCGAAGCAGCATATGCATACG TGAGGTCAATCAGGCCTAGAGTTCTTTTAGCTGCCACCCAATGGAAGGCCGTTCTTGAGTACTACCATGTCAGGGTGCTGAATACTCAACGTGCCTT AACTGATGCAACTTCAGCTTTGATCCCGAGAGATGTGAAGCAGGTTTGCTCTGGCAATGTTGTTGTGTTCGATGATGGGTCGATGGTGGTAGTGAC CCACTCGGATGTAGAGGGGTATGATGATAACTCACAGAGGTCAATGAATGTTGCGGGAAGCGAGTTATGGGCGGCAGCTGCAGATCTGAGCATGG TGTATCGGGTGAAAGTTGTGGGACAGGCTGCATTGGCGAGAATCTCGTGCCTGTGGCTTGGCTTGCGTGAGGACCACAAGCTTTCTGGGAAAAAC
GCT-002N02	AT4G01680.1	MYB55 (myb domain protein 55); DNA binding / transcription factor	GAGATAATGAACTAAAGATTTCTCTGAAAGCTGACTTCAAAAGCTTTTTCTGAAGAAAGAAGAAAACAAGCTGATCTTTAATTGATATTTTATTTATTTA TATGTAAATTTAAAGGATGGGGAGACATTCATGCTGTTATAAACAGAAGCTGAGGAAAGGACTTTGGTCTCCTGAAGAAGACGAGAAGCTTCTTAGG TACATCACCAAGTACGGCCATGGCTGTTGGAGCTCTGTCCCTAAACAAGCTGGTTTGCAGAGATGTGGAAAGAGCTGTAGATTAAGATGGATAAATT ATCTACGACCAGATTTGAAGCGAGGAGCATTTTCACCGGATGAAGAAAATCTCATTATTGAACTCCATGCCGTTCTTGGAAATAGGTGGTCTCAGATT GCTGCACAGCTTCCTGGTAGAACCGACAATGAAATCAAGAACCTGTGGAATTCTTGCTTGAAGAAGAAACTCAGGCTGAGAGGGATTGACCCGGTT ACACACAAGCTCTTAACCGAAATCGAGACCGGTACAGATGACAAAACCAACCCGGTTGAGAAGAGTCAGCAGAGCTACCTCGCTGAGACAGAAGG CTCCTCTAGTACTACCACTGGCAGTACTAACCAAAACAACAACAACACTGATCATCTTTATACCGGAAATTTCGGTTTCCAACGGTTAAGTTTAGACA CCGGCTCAAGAATACCGACCGGTTCAGACCTCGGCATATGGATTCCCCGAACCGGAAGAAATCATCATCATCATGTTGATATCAGCGCTGATACCG TCCCTAGTGCAGTGGTGCTACCCGGTTCAATGTTCTCGTCCGGTTTAATCGGTTCGACAACCACTTACAGATCCTCCAATCTCGGTTTAATCGAATT GGAAAACTCATTCTCAACCGGGCCAATGATTACAGAGCAGCAACTTCAAGAGAGTAATTACAACAATTCGACATTCTTTGGAACTGGAAATCTGAATT GGGGATTAACAATGGAGGAACATCCATTCACAATAGCGAATAATTCTTTACAGAATCATTCAAATTCGTCGTTATACAGTGAAATCAAATCGGAGACC AATTTTTTTGGTACGGAGGCTACAAATGTTGGTATGTGGCCATGTAACCAGCTTCAGCCTCAGCAACATGCATATGGCCATATATAATCCTCGTGTAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002N03	AT4G01460.1	basic helix-loop-helix (bHLH) family protein	GAAAATATGCACCGAACCTCTTCTTCTTCTCCTCTCCTTTGTTCTCTTCTCTCTCCTTTTATATATGTGGAAGCTGCATTTATCAAGAACCCTTTAGGA AGTGTTAGCCCCAAAGGAATGTTTTTGGTTGAGAGAATACAGAGAAGGAGAAGAAGAGATTGTTAAATTGAGGGAAAGGCGCCTATATAAACCCAAA TTTGAAAAGTATTACTTTGGAAGAAGTTCCATTAGAGCTTGAATTGATTCTCATCTAATTATGGAGCGAGTAATGAGTTTTGGAGGATTAGAAGATCAA TTTGCTCAGATCTCAGAAACCGAAATTGACGAGAAGATCCCATTTCTGCAAATGCTTCAATGCATAGAACCAATTGCTTTTAGTACTACAGAACCAAA TCAGATTCTCCAATCACTTCTCCAGATCCAAACCCTAGAACCAGAGAGTTGCCTCACCCACGAAACCATCAAAAGAGATCCGGGTCAAACAGATGAC CCGGTTAAGGATCCGAAAACAGAAAACGGAGCAGCAACGGTAAAAGAAAAACGGAAACGAAAACGGACAAGAGCTCCGAAGAACAAAGACGAAGT TGAGAACCAAAGGATGACTCACATTGCGGTCGAACGTAACCGGAGACGACAAATGAACGAACACTTAAACTCTCTCCGTTCTCTCATGCCTCCTTCG TTTCTTCAACGGGGTGACCAAGCTTCGATCGTAGGAGGCGCTATAGATTTCATCAAGGAGCTCGAGCAGCTTTCGCAAACTCTAGAGGCCGAGAAA CAGAACGAGGGAGCTAGTGAAAACCCGAAAACGGCATCGTCTTCTTCCTCATCGTCTCGTGCATGCACTAACTCTTCTGTTTCGAGCGTCTCGACG ACGTCGGAAGATGGATTTACGGCAAGATTCGGCGGCGGAGAGACCGCGGAAGTGGAAGCTACGGTGATACAGAATCATGTGAGCTTGAAGGTTCG GTGTAAGAGAAGAAAAGGACAGATCTTGAGAGCTATTGTCTCCATTGAAGACCTTAAGCTCTCGATTTTGCATCTCACTATCTCTTCTTCCTTTGACT ACGTCTTCTACTCTTTCAATCTCAAGATAGAAGATGAGTGTAAGATAGGAGGATCAGCTGATGAGATAGCAACAGCCGTTCATCAGATCTTCGAGCA
GCT-002N04	AT5G64290.1	DCT/DIT2.1 (DICARBOXYLATE TRANSPORT); oxoglutarate:malate antiporter	GATCATCATTTCTCTCCGGCGAGTAGACACAGCGACTGACGAAAATTAAAACTCTTCTCCGTCTCTCTCTCTCTCTAATCGCCGGCGATGGAGAGCT TCGCACTTCACTCTCTCTCCACCACCGCCACTTCCGCCTCCTTCTCCCATCATCCCTCACGCCTCTCTCTTCTCCGCCGTATCTCATCGAGATCTCC GCCTTCAACCATTTCTCTCCCATCTCTCCGATCTCACACCGTTCAACCTCTCAATTTCCCTCTCCTCAAACCAATTCCCAGTTTCTCCACACGAATCG CCGCCGCACCACGAGACGACGCCCCTCCTCCTCCTTCCGAATCTCCGTCTCCTCAACCGCTGCAAGGGGCGAAACTAGTACCTCTTCTTCTTTCCG TCTCTGTCGGTCTGATCCTCCGATTCGCTGTCTCTGTACCGGAAGGAGTCACTCCTCAAGGCTGGCAACTTCTCTCGATCTTCCTCTCCACAATCGC TGGTCTCGTCCTTAGTCCTCTCCCAGTTGGAGCTTGGGCTTTTATCGGACTCACTGCTTCGATTGTCACGAGAACGCTTTCGTTCTCCGCCGCTTTC TCAGCCTTCACGAGCGAGGTTATCTGGCTCATAGTCATCTCCTTCTTCTTTGCTCGTGGATTCGTCAAGACAGGCCTCGGCGATAGAATCGCCACTT ACTTTGTGAAATGGCTTGGGAAGAGCACTTTAGGTCTGTCTTACGGGCTCACACTCAGCGAGGCCTTGATTGCTCCTGCAATGCCCAGCACGACGG CTAGAGCCGGCGGCATTTTCTTGCCGATCATCAAATCGCTGTCGCTCTCTGCGGGAAGTAAACCAGGAGATTCGTCTTCGAGGAAACTAGGGTCTT ACCTGATCCAATCCCAGTTCCAGTGCGCCGGAAACTCTAGTGCTCTTTTCTTGACTGCTGCAGCTCAAAATCTGCTGTGCCTCAAGTTAGCCGAGGA GCTTGGAGTAGTGATCGCAAACCCATGGGTTTCTTGGTTTAAGGCCGCTAGTCTACCGGCTATTATATCACTTCTTTGTACTCCACTTATCCTCTATA AGCTTTATCCTCCAGAAACAAAGGACACGCCTGATGCTCCGGGTATTGCTGCATTGAAACTCAAGCAGATGGGCCCTGTCACTAAAAACGAATGGAT CATGGTCGGTACAATGCTTCTTGCTGTCACTCTTTGGATCTGCGGAGAGACTCTTGGAATACCAAGTGTCGTAGCTGCTATGATCGGTCTCTCCATA CTTCTTCTGCTTGGTGTCCTTAATTGGGACGATTGCCTAAGCGAAAAGTCGGCTTGGGACACATTAGCTTGGTTTGCTGTGTTGGTGGGGATGGCA GGACAGCTCACAAACCTCGGCGTTGTAACATGGATGTCTGATTGTGTAGCCAAAGTTCTTCAATCTCTCTCCTTGAGCTGGCCTGCTGCGTTCGGAC TTCTCCAAGCGGCTTACTTCTTCATCCACTACCTTTTCGCAAGCCAAACAGGTCACGTTGGAGCTCTCTTCTCAGCTTTCTTAGCTATGAATATAGCA GCAGGTGTTCCAGGCATATTAGCTGCACTTGCTTTAGCTTACAACACCAATCTTTTTGGTGCTTTGACTCATTACAGCAGCGGTCAAGCCGCTGTCT ACTATGGAGCGGGTTATGTTGATTTGCCTGATGTATTCAAGATTGGATTCGTGATGGCTACGATAAATGCGGTCATCTGGGGAGTAGTTGGAACTTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002N05	AT1G18890.1	ATCDPK1; calcium- and calmodulin-dependent protein kinase/ kinase/ protein kinase	GAGACCGACTTTTCTTCACCTGAACCCGCGTTTTCTCTCTCGACGCAAACTCACCAATTCGCCGGAAATTTCCGCCACCGCCACATCCATCTCCTTC GCCAGCGTCGATATGAACTAAGACAAAAAGCTTTTTCTTTGTTGGCTTCCCCTTCTTTTTGATCCCCTTTCTCTGAGTTGCTGAGCTCCTAACTCGGC CATGGGTAACTGTAACGTCTGTGTGAGGCCTGACTCGGAAGACTCGAAACCGACTCAGAAGCCGAAGAAGAACAATCGGGATCGGAAATTAAACCC ATTCGCCGGCGATTTCGTCAGATCCCCCGCGCCGATACGAGTTGCCAAGGATGTAATCCCTACGAGCCATCGGACTCAGATCAGCGACAAATACAT CCTAGGGCGAGAATTAGGCCGCGGCGAATTCGGAATCACTTACCTCTGCACTGATCGAGAGACCCACGAAGCCCTAGCCTGCAAATCGATTTCGAA GCGGAAGCTCCGAACAGCCGTCGATATCGAGGACGTCCGTCGCGAGGTCGCGATTATGTCCACTTTACCCGAGCACCCAAACGTGGTGAAGCTCA AGGCGACTTACGAGGACAACGAGAACGTGCATCTGGTGATGGAGCTCTGCGAGGGCGGCGAGCTTTTCGATCGGATCGTCGCGAGAGGACATTAC ACGGAGCGTGCGGCTGCAGCCGTCGCGAGAACCATCGCCGAGGTCGTGATGATGTGTCACTCCAATGGAGTTATGCACAGAGATTTGAAACCCGA GAATTTCTTGTTCGCTAACAAAAAGGAGAATTCTCCCTTAAAGGCCATTGATTTCGGCTTGTCTGTGTTCTTCAAACCTGGAGATAAGTTTACAGAGA TTGTAGGAAGTCCATATTATATGGCTCCTGAAGTGTTGAAAAGAGATTATGGACCGGAGGTTGATGTTTGGAGCGCCGGAGTTATCATCTACATTTT GCTCTGTGGTGTTCCTCCATTTTGGGCTGAGACTGAACAAGGTGTTGCTCTTGCGATCTTGCGGGGAATTATTGATTTTAAGAGAGACCCTTGGCCT CAGATATCAGAGAGCGCCAAGAGTCTTGTGAAGCAGATGTTGGATCCTGATCCGACTAAGCGCTTAAATGCTCAGCAGTTGCTAGCTCACCCTTGG ATACAGAATGCAAAGAAAGCTCCAAATGTTCCTTTAGGGGATATAGTCAGATCGAGGTTGAAGCAGTTCTCTATGATGAATAGATTCAAAAAGAAAGT TCTTCGTGTAATCGCGGAGCACTTGTCTATTCAAGAGGTTGAAGTGATCAAGGACATGTTCTCACTGATGGATGACGACAACGATGGTAAAATAACT TACCCGGAACTCAAAGCTGGACTTCAGAAGGTTGGCTCACAACTTGGTGAACCAGAGATCAAAATGTTGATGGAAGTGGCGGATGTTGATGGGAAT GGGTTTCTGGATTATGGAGAGTTTGTAGCTGTGATAATTCACTTGCAGAAGATAGAGAATGATGAGCTTTTCAAACTAGCTTTTATGTTCTTCGACAA AGATGGAAGTACATACATCGAGCTTGATGAGCTACGGGAAGCTTTAACTGACGAATTAGGTGAACCAGATGTCAGTGTTCTAAACGACATCATGCGT GAAGTTGACGCTGACAAGGACGGACGAATAAACTATGATGAGTTTGTGGCGATGATGAAAGCAGGAACAGATTGGAGAAAGGCGTCGAGACAATAC TCAAGAGAGAGGTTCAAAAGCTTAAGCATTAACTTGATGAAAGATGGTTCATTGCATCTCCATGACGCTCTCACTGGACAATCTGTTCCTGTTTGATT
GCT-002N06	AT3G11670.1	DGD1 (DIGALACTOSYL DIACYLGLYCEROL DEFICIENT 1); galactolipid galactosyltransferase/ transferase, transferring glycosyl groups	GAGATAGAAACCCCCAACACTTTCACGAAATCGTCGTGACGAAACGAAAAACCCTCAAGTTATGGTAAATGAGAGTGAAAATCCTCCGGCGAATACC GGGATTGCGTCTTCTTCTTCGTCTCTGTCGATGACGATGTCCTCGACGAACGCGTTATCGTTCTTGTCGAAAGGATGGAGGGAGGTATGGGACTCA GCGGATGCGGATTTGCAGCTGATGAGGGATCGAGCTAACTCTGTTAAGAATCTAGCATCGACGTTCGACCGTGAGATCGAGAATTTCCTTAATAATT CGGCGAGGTCTGCGTTTTCCGTTGGGCCGCCATCGGCGTCGTCCTTCTCCAGTGAAATTGGAATCATGAAGAAGCTTCAGCCGAAGATATCGGAGT TCCGTAGGGTTTATTCGGCGCCGGAAATTAGCCGGAAGGTCATGGAGAGGTGGGGACCAGCGAGGGCGAAGCTGGGAATCGATCTATCGGCGAT TAAGAACGCGATTGTGTCTGAGATGGATCCGGATGAGCGTCAGGGCGTTTTAGAGATGGGTAGGATGAGGAGACGGCGTAATAGTGATAGGGTTA GGTTTACAGAGTTTTTCGCGGAGCCTGAGAGAGAGGGAGAAGCTCATTTCGGAGATTGGGAACCGATTAGGTCTTTGAAAACTAGATTTAAAGAGTT TGAGAAACGGAGCTCATTAGAAATATTGAGTGGATTCAAGAACAGCGAATTTGTGGAGAAGCTCAAAACCAGCTTTAAATCAATTTACAAGGAAACTG ATGAGGCCAAGGATGTGCCCCCTTTGGATGTACCTGAACTTTTGGCATGTTTGGTTAGGCAGTCTGAACCCTTTCTTGATCAGATTGGTGTAAGAAA AGACATGTGCGACCGAATAGTAGAAAACCTTTGCAAATGCAAGAGTCAACACCTTTGGCGTCTGCCATCTGCACAAGCAGCCGATTTAATGGAACAT GATAACCATGTTGATGATTTGGATATGAGGATAGCCAGTGTTCTTCAGAGCACAGGACACCATTATGATGGTGGCTTTTGGACTGATTTTCTGAAGC CTGAGACGTCAGAAAGCAAAAGACACGTGGCAATCGTTACAACAGCTAGTCTTCCTTGGATGACTGGAACAGCTGTAAATCCGCTATTCCGAGCTG CCTATTTGGCAAAATCTGCAAAACAGAGTGTTACACTCGTGGTTCCTTGGCTTTGTGAATCTGATCAAGAACTAGTTTATCCAAACAATCTCACCTTC AGTTCACCTGAAGAACAGGAGAGTTACATACGTAAATGGTTGGAGGAAAGGATTGGTTTCAAGGCTGATTTTAAAATCTCGTTTTACCCGGGAAAGT TTTCAAAAGAAAGGCGCAGCATATTCCCAGCTGGTGACACCTCTCAGTTCATACCGTCAAAAGATGCTGACATCGCTATTCTTGAAGAGCCCGAACA TCTCAACTGGTATCATCACGGCAAGCGTTGGACCGATAAATTCAACCATGTTGTTGGAATTGTCCACACAAACTACTTAGAGTACATCAAGAGGGAA AAACATGGTGCGCTTCAAGCATTTTTTGTGAACCATGTAAACAATTGGGTCACACGAGCATATTGCGACAAGGTTCTTCGCCTCTCTGGGGCAACAC AAGATTTGCCAAAATCTGTTGTGTGCAATGTCCATGGTGTGAATCCCAAGTTCCTTATGATTGGAGAGAAAATTGCTGAAGAAAGATCCCGTGGGGA ACAAGCTTTTTCAAAAGGCGCATATTTCTTAGGCAAAATGGTGTGGGCTAAAGGATACAGAGAACTAATAGACCTCATGGCTAAACACAAAAGCGAC CTGGGGAGCTTCAATTTAGATGTGTATGGAAACGGTGAAGATGCAATCGAGGTCCAGCGTGCAGCACAGAAACTCGATTTGAATCTCAATTTCCTCA AAGGAAGGGACCACGCGGACGATTCTCTTCACACGTACAAAGTGTTCATAAACCCTAGCATCAGCGATGTTCTATGCACAGCAACCGCAGAAGCAC TGGCCATGGGGAAATTCGTGGTGTGTGCAGATCATCCTTCGAACGAGTTTTTTAGAACATTCCCAAACTGTCTAACTTACAAAACATCCGAAGACTTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002N07	AT4G39140.5	protein binding / zinc ion binding	GGAAGTGCTTGTTTCTCTTTCCTTCCTTTCTCGCTCTAACAGACCCTCCTCTCTCTCTCCCTCTTCCTCTCTCTCTCAAACTGTCATCTTTCTCTTCTC CGTCGACGTTCTGGGACTTCGGGAGCAGGTTCGAGTCTAAGGTAAACGGGATTGTTGTCCGTGTTCTACTGACTATTCATTCGCCAAGAAATTTCTG CACTGTCTTGCTTACTAGTTGCGAGTTCACACGTTTCGGATATGGGGAATGCTTGTTGTGTCGCTGCTCGAGACAAAATGGTCGTGCCTAATTCATC AGTTGGTGAGAATCTGCAGAGGAGCAATGTCAGGCATTCTCCAACTTGGAGTTTCCGGTGGGATAATAGAGGACGTGTAGCTGGTGAAGAAACCTC TCTCAGCTGGTTATCTGATGGGATTAGTCGGAACGATGGTTCTGAGATCAAATTTGAATCCGCATTTGTATCATCTGAAGGCTCCCCTTTGGACAGTT TTCGGACACAGACAATGCAGAAATCTCCGGCCTCAGATCAATCATTTCCAAGAAATTCTTTCATGGATACAGTCCTCGAACAGAAAGAAAATGATTCA ACAGAGTCTGCAGCACCACCGTATCGATCTCCTGCACAATTGTCTCTTTCACTGGCTTCACAACCATCTTCTTTTCCAGCGTCACCGCTTTCGTCACA GAGCTCTTTGCATCCTGCAAGTTCATCGACCGTTAAACTGACACAGCGCCCTCGTCTATCAAGGCAAGTCTCAGATGGTCAAATCTATGGAGTGAAC TCACTAAGTAGAAGCTCAGCAACTAAAGAGAGGCAGGGGACTCCTGTGAGGTATGATTCTTTTCAGAGTGGACCATCTGAAGGTTTGTCACTGCAA GCCTTTTCTGAAATGATGTCATCTTCTCGCGGCGAAGAGCCTTTGTCTTATGATAATGGTTGCTTTGGGCTTCAACGTGACAAGTTAGACCATCATTT CAACCGAATCTCCAGTCATCAGCAGCAAACCTGTGGTGCTTGCTCTAGATCCTTGTCTGAGAAATCCTTGTGGAGCAGCCAAAAGATTTTTATGACC AACGAGCTCTCTGTTTCTGCAATTCTAGCTTGTGGGCATGTCTATCATGGTGAGTGTTTAGAACAGATGACGCCGGAGATCGATAAATTCGACCCTT CATGCCCAATATGTACATTGGGTGAGAAGAAAACGGCGAAGCTGTCAGAGAAAGCGTTAAAAGTGGAGATGGATTTGAAAGCTAGACACAACAAAA GACTCAGAAACCGAGTTTTGGACAGTGATTTTGATTGCGATGATTTTGTAATGTTTGATCACAGCTACAGGGCAGCAGCAGCAGGAGGCAAGAGCC CGAAACTGGTCTCGAGTTCGAGTGTCAAAAGCTATTCCGCAAAGCCTTTCTTGGCTCGGCATTTCTCTTTTGGGTCCAGAGGTAACAGTAAATGCAC
GCT-002N08	AT1G01250.1	AP2 domain-containing transcription factor, putative	GAACAAACTCCTTTTAATGTTACCCAAAAAAAAAAAAAAAAAAAGAATGAAGCTATCACCACCACCGCTAACCAACAACGAATCAACCGCCGCCGCTT CCGCCGTTAAATCTTGCGGCGGAGGAGGCCGTAGAGAAACTTCCTCGACGACTAGGCATCCAGTGTACCACGGAGTTCGCAAACGGCGATGGGGA AAATGGGTTTCCGAGATCAGAGAGCCCCGGAAAAAATCTCGGATATGGCTCGGATCTTTTCCGGTGCCGGAGATGGCGGCTAAAGCTTACGACGT GGCGGCGCTTTGTCTGAAAGGAAGAAAAGCTCAGCTCAATTTCCCCGAAGAAATCGACGATCTACCTCGACCGTCCACGTGTACGGCCAGAGATAT CCAAGTCGCAGCGGCCAAAGCGGCCAACGCCGTCAAGATCATTAAAACGGGAGATGATGACGTGGCAGATATAGACAACGGAGATGATTTTTGGG AAGGCATTGAGCTGCCGGAGCTTATGATGACCGGAGGTGGGTGGTCACCGGAGCCTTTTGTGGCCGGAGAAGATCCCACGTGGATGGTAGACGG AGACTCGTATCAGTACCAGTTCATGGCGTGTCTGTGAGTGTAGTTGTCCATTGTGTCGTATTCGTTATACGTGTGCGTTGGATCGTTACTGTGTTGG
GCT-002N09	AT5G08330.1	TCP family transcription factor, putative	GCTCCTCCTCCTCCTCTCCCTCTGTATCTGCTTCAGAGTATACTAGTCAAGACACTGAGCAACAAGTTTATCTCTTCCAAAAATCAACACAAAAACCA GATCGTCTCATGTCGAATAACACCGAAGGAGTTATGATCTCGAACGGAGCAGCTATACAGAGACAACAACAGCAACAGCAGCAATCCTCCGACGGA GCTCTTGTCGTGAAGAAACCTCCGGCGAAGGATCGACACAGCAAAGTCGACGGAAGAGGGAGGAGGATCCGTATGCCAATCATATGCGCAGCTCG TGTTTTCCAGCTAACCAGAGAGCTTGGCCACAAATCCGATGGCCAAACTATCGAGTGGCTACTCCGTCAAGCCGAGCCTTCTATCATAGCCGCCAC AGGAACCGGCACAACGCCGGCGAGTTTCTCCACCGCATCTGTCTCAATCCGCGGCAACTCCACCACCAATTCGACTTCTTCAACCTGCACTTTGTC CTCTTCTCTTCTTGATCATAAACCTTTGCTTGGATCCTCGCCGTTTATACTCGGAAAACGTGTGAGAGCCGATGAGGATACCGGAGGAGGTAAAGAC GAGACAATGGGATCTTTTGCTACGCCGGCTGGGTTCTGGGCGGTTCCGGCGAGGCCAGATTTCGGACAAGTTTGGAGCTTTGCCACTGGAGCTCC ACAAGAGATGTTCTTACAACAACATCAACAACAACAACAACCAGGAGCTGCGCTTTTCGTCCACCAGCAGCAACAGCAACAAGCTGCGATGGGTGA AGCTTCTGCAGCTAGAGTCGGGAATTATCTTCCGGGTCATCTTAATTTGCTTGCTTCTTTATCCGGTGGACCTCCCGGGTCGGGTCGGAGAGAGGA TGACCCACGTTAATGGTGAATATTAAGACCCTTTTATTAGTTTGGTATATATTATTATATATCTCTCTGTTTCTCTCTATTGTCATTGATCAATCTCCTG CCTTTTTTTTTCTTCTTTACTTGAGTGGCTTCTCTCTCTCTATGTGTGCGTTTTAGTTTTCAGAGATTGATTGGTTCCAGAAGTGATTTGAGAGAGTAT CCTTAGTGTTTAAGTTAAGATTAGGGTTAGGGTTTAAGAATCTGGTTTTTGGTTTTTGTGGGAGATCGATTTCTCATCGGATCCAAGACTACTTTAGTA CTAAAGCTGATGTTTTTTCTTTGTTTAGGAAAAGGCTAATTGAGAAAGCGGCGAGGCTTGCGCGTTTTTGTCTGGTTTTTGGGGGGACAGAGAGGGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002N10	AT4G20380.7	LSD1 (LESION SIMULATING DISEASE)	GTGAAGTTAAGGTTTGCATCTCTGTAGATTAAAGAACAAAATTCTCTCAGTTTATCTGCGGAATTTGTGATTTCGATTATTAGTTTCACCAATTTGGCT TCGATTTTTTATTTGGTTGCAGAAGTTTCTGGAATTCGATTCAAAAAGGTTGCTTTTTGTCGTCTCTCTCTGTTCCAAACTTTATCAGAGAAAATGCAG GACCAGTTGGTATGTCATGGATGTAGAAATGTGTTAATGTATCCACGAGGAGCATCAAATGTGCGTTGTGCTTTGTGTAGCACAATCAGTTTGGTTC CTCATTCTTCTCCTCAAGGTATGGACATGGCTCACATTATATGTGGAGGTTGCGGAATCATGCTTATGTATACACGTGGTGCGAGTAGCGTTAGGTG TTCTTGTTGTCAGACTTTGAATCTTGTACCAGGTAAAAACATTATCTGGAGATCTGAAAGAATCGTTTCTAGTTTCCTCTCAAAGTTGTTGTTGAAAGT TTTTGTTCTTAAGAACTTAATCAGCATTGTTCTCTCTGGAGATGCCCATACGAATATGAGATTGTGGCTTACGGATAAGAGAGTTCAAGTGTGGCTAT TTTGTTAACCATTATGCTAACCTCTGAGATATAGTTCTACTTAATTTAGTTTTGAAACTGTAGTCATTTGAAATGTTTTTACTCTGTGTAATCTCATTGTC TGAAACCACTCTTATCTCTTTAGCTCCACACGCAGCACCACCGAATCAAACCGCGCATATCAATTGTGGGCATTGTCGAACAGTACTCATGTATCCTT ATGGAGCATCATCTGTTAAATGCGCTGTTTGCCAATTCGTTACTAATGTTAACATGAGCAATGGAAGGGCTCCTCTCTCGATGAACCGGCCTAATGG AGCAGTTTCTCCACCAACAATGCCCTCTACATCAACTACTCAGACACAAACCGTTGTTGTAGAGAATCCAATGTCCGTTAATGAAAGTGGAAAATTGG TGAGCAATGTCGTGGTTGGAGTAACAACAAACCATAAAAGTTAATCAAAGAGGAGACTCATTTTCTTCCTTCTCTGCGTTTGTTTTTGTGCATATATGA TTTACATAGCACTCGGAAACCTTTGGTTTCTTTTTCTTTTAACCCCCAAAAATCGGTATTTCTTTATCTCTGTTTTAACGAGTTTGAGAACAAATGGGTT
GCT-002N11	AT4G33010.1	glycine dehydrogenase (decarboxylating), putative / glycine decarboxylase, putative / glycine cleavage system P-protein, putative	GATACACATTTTTCATTACAACGGTCAGTGGTATATATACATTCATATATACTCCCTCAAGGTTCCCTCCTCCACCATCTCCAAATCCATGGCGAAATA CTAGAAAGACGTCACCTTTCTGCGTTTTCTGATTGCATCCCATTTTCAATTTCCCATTTTTTCCTCCCTTTCTATATATCCATGGAGCGCGCAAGGAGG ATTGCTTACAGAGGAATCGTCAGACGTCTCGTTAACGACGCAAAACGACACCGTAACGTCGAAACCCCTCACGTTCCCTCCGCTGTTCCTCACGCT CCGGCGACGAGGTATCTCTCTTCTCTTTCCCCTTTCCTCTCGACCCGTGGATCCATCAATCCGTCGACATTCGGCAATCTAGCTAGGCAGCAGCAAA CCCGTCCGATCTCCGTCGAGGCTCTTAAACCCGGCGATACTTTCCCGCGTCGCCACAACTCGGCAACACCAGATGAGCAAACCCACATGGCCAAAT ACTGTGGCTTCGACCACATCGATTCCCTCATCGACGCCACCGTTCCCAAATCCATCCGATTGGATTCGATGAAGTTCTCCAAATTCGACGGAGGGTT AACCGAGAGCCAGATGATTGAGCACATGGTCGATTTAGCTTCCAAGAACAAGGTTTTCAAGTCGTTTATTGGGATGGGATACTACAACACACACGTC CCTACTGTGATTCTCCGTAACATCATGGAGAATCCGGCTTGGTACACTCAATACACTCCTTACCAAGCTGAGATCTCTCAGGGTCGTCTCGAATCGC TGCTCAATTTCCAGACTATGATTACCGACCTCACTGGCCTTCCCATGTCTAACGCGTCGCTGCTAGACGAAGGGACTGCAGCTGCGGAGGCTATGG CCATGTGTAACAACATTCAAAAGGGTAAAAAGAAGACCTTTTTGATTGCTAGTAACTGTCACCCTCAGACGATTGATGTTTGTAAGACTAGAGCTGAT GGGTTTGATCTCAAAGTCGTCACGGCTGAGCTCAAGGAGATAGATTATAGTTCCGGTGATGTCTGTGGGGTTCTTGTTCAGTATCCTGGAACTGAAG GTGAAGTCTTGGATTATGCTGAGTTTGTCAAGAACGCTCATGCTAATGGTGTTAAGGTTGTGATGGCGACGGATTTGCTGGCCTTGACGATGTTGAA ACCTCCTGGGGAGTTTGGGGCTGATATTGTGGTTGGTTCCGCTCAGAGGTTTGGTGTTCCAATGGGTTATGGTGGTCCTCACGCTGCTTTCTTGGC TACTTCACAAGAGTATAAGAGAATGATGCCAGGGAGGATTATTGGTATCAGTGTTGATTCTTCGGGAAAGCAAGCTCTGCGTATGGCGATGCAGACT AGGGAACAGCACATTAGGAGGGACAAAGCCACTAGCAACATCTGTACTGCTCAAGCACTGCTTGCCAACATGGCGGCCATGTATGCTGTTTACCAT GGACCTGCTGGTCTAAAAGCTATTGCTCAACGGGTTCATGGTCTTGCTGGCATATTTTCCTTAGGGTTGAAGAAGCTTGGGGTTGCAGAAGTCCAAG AACTTCCCTACTTTGACACTGTAAAAGTCAAGTGTTCGGACGCACATGCAATTGCTGATGCAGCTACCAAGAGTGAAATTAATCTGCGTGTTGTGGA CTCAAACACTATTACTGCTTCTTTTGACGAAACAACCACCTTGGATGATGTCGATAAACTTTTCAAAGTTTTTGCTTCTGGCAAGCCTGTTCAATTCAC GGCTGAATCTCTTGCCCCTGAGGTTCAGAATTCCATTCCTTCTAGTCTAACAAGAGATAGCCCTTATCTTACCCACCCAATCTTCAACATGTACCACA CAGAGCATGAGTTGCTCAGGTACATCCACAAGTTACAGTCTAAGGATCTCTCGCTTTGCCACAGCATGATTCCATTGGGATCTTGTACGATGAAGTT AAATGCAACAACTGAAATGATGCCAGTAACATGGCCAAGTTTCACTGACATTCACCCTTTTGCTCCTGTTGAACAAGCACAGGGTTATCAGGAAATGT TCGACAATTTGGGTGATCTCTTGTGTAAAATCACTGGGTTTGACTCATTCTCATTGCAACCTAATGCTGGTGCTGCTGGAGAGTATGCCGGGCTCAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002N12	AT2G24270.1	ALDH11A3 (Aldehyde dehydrogenase 11A3); 3-chloroallyl aldehyde dehydrogenase/ glyceraldehyde-3-phosphate dehydrogenase (NADP+)	GATCATTAATCAATTCATCTCTCTCTCTCTCTCTCTCAACACTCAAGAAGCGAGACACAGAGGAGAGTCTTCTTCTCTGTTTTGTCTCTCTGGCTATAT ATTCACACAATTTGTGAACGGACACAAAACAACACAAACACAATTTGTGTTCTTTTTGATCTTCTTCCTCTTTTGAAGCTTTGTTTCAGGCGTCAATGG CGGGGACTGGAATTTTCACAGAGATTCTAGACGGAGATGTCTACAAATACTACTCTGATGGAGAGTGGAAAAATTCTTCCTCCGGTAAGAGTGTCGC CATCGTGAATCCATCCACGAGGAAGACACAGTACAAGGTCCAAGCATGCACGCAAGAAGAAGTGAACAAGGTGATGGAGATGGCGAAATCGGCTC AGAAATCGTGGGCAAAGACTCCTCTTTGGAAAAGAGCTGAGCTTCTTCACAAAGCTGCTGCAATCCTCAAGGACAACAAAGCTCCCATTGCTGAGTC TCTTGTCAAGGAAATCGCTAAACCCGCCAAAGACTCTGTTACTGAGGTTGTGAGGTCTGGAGATTTGATCTCTTATTGTGCTGAAGAAGGTGTTAGG ATCTTAGGTGAAGGGAAGTTTCTGCTCTCTGATAGCTTCCCTGGTAATGAACGTACTAAGTACTGTCTCACTTCCAAGATTCCACTTGGTGTGGTTTT GGCTATTCCTCCATTCAATTATCCAGTCAATCTCGCTGTATCCAAGATTGCTCCTGCTTTGATCGCTGGAAACTCACTTGTCCTCAAACCTCCAACTC AAGGAGCTGTTTCTTGCCTTCATATGGTGCATTGCTTTCACTTAGCTGGTTTCCCAAAAGGTCTCATTAGCTGCATTACCGGAAAAGGCTCTGAGATC GGAGATTTCCTCACGATGCACCCTGCTGTGAACTGCATTAGTTTCACTGGTGGTGATACCGGAATCTCAATCTCCAAGAAAGCTGGTATGATTCCTC TTCAAATGGAACTTGGAGGAAAAGATGCATGCATTGTCTTGGAAGATGCTGATCTTGATTTAGTCGCTTCCAACATCATCAAAGGAGGATTCTCCTAC AGTGGGCAGAGATGCACTGCGGTTAAGGTAGTGCTAGTGATGGAATCAGTGGCCGATGAGCTAGTTGAGAAAGTGAAAGCTAAAGTGGCCAAACT CACGGTGGGACCTCCTGAAGAGAACTGTGATATAACGGCTGTGGTGTCAGAATCTTCAGCCAATTTCATTGAAGGATTGGTGATGGATGCTAAGGA GAAAGGAGCAACGTTTTGCCAAGAGTATAAAAGAGAAGGTAACTTGATTTGGCCTTTGCTTTTGGACAATGTTAGACCGGACATGAGGATCGCGTGG GAGGAACCGTTTGGTCCTGTCTTGCCTGTCTTGAGGATCAATTCTGTTGAAGAAGGCATTAATCATTGCAATGCTAGTAACTTTGGCCTCCAGGGAT GTGTATTCACAAAAGACATCAACAAGGCAATGATGATCAGTGATGCAATGGAGACAGGAACCGTTCAGATTAACTCTGCTCCAGCTCGTGGACCAGA CCACTTCCCTTTCCAGGGACTAAAGGACAGTGGAATAGGATCACAAGGAGTGACGAATAGCATCAATTTGATGACTAAAGTGAAGACCACTGTCATT AACTTGCCTACACCTTCTTACTCTATGGGTTAGTTTCCCTCTATGTTTTTCATCTTAGAATCAAATCAATCGGTCTTGTTTCTATCGGATTGAATCGAAT
GCT-002N13	AT5G17300.1	myb family transcription factor	GAGCTCCTTCCTTCTTCCGGCGAATCAGGACCGTCAAAGCCTCTTTTTTTTAACTCCGGCGATCATAGTTTTCTGAGAGTTTCATTTCCAACATTACA TCTTCTTTTTTCTCTGCGCCAAGATTTACAGCGAGAGTTTTTCTGTTTCCCTTCTATATAACCCCAAAAATCTCCGGTTTGCTGGAAATTTTCCGGAAG GTTATAGATTGTTCCTAATTTCAGAAGCAAATCGTTTGTCTTTTTCTAACTGGAGCAGAGAGGAATCAAATCATTTTCTGGGATCTATAGAAACGGAC GGAGAAAGGAAGATATTAAGCTGATTCGAAGTCCAGATTCGCGAATTTAACATCTTTAGTTTGCTTTTCCTTTTTTTTCCCGATCCACACCTTCAAGTT TTTTTTCCCCTCCGGCGAGATCTTAACTCGGGAAGCTATGGTGTCGTCTTCGTTGACTGCAAATGTTCAGGCTACCAAAACTCCTTCGAGGAATAGA GTTGAGGAAACTGGAGACAAGCAGATACAATTCAATGAACAAGTTTTTGAGGGAAATGACTATGCACCCAAGGCACGAAAACCATACACGATAACAA AAGAAAGAGAGAGATGGACAGATGAAGAGCATAACAAGTTTGTTGAAGCCTTGAAACTATACGGACGAGCATGGAGACGAATAGAAGAACATGTGG GTACAAAGACTGCTGTTCAGATTCGAAGCCATGCTCAGAAGTTTTTCTCTAAGGTTGCTCGAGAAGCAACTGGAGGTAATGGGAGCTCGCTGGAGC CAATTGTGATACCGCCTCCTCGTCCCAAGAGAAAACCAATGCATCCTTACCCACGTAAGTTTGGGAACGAGGCAGATCAAACAAGTAGATCGGTTTC TCCTTCAGAACGAGACAACCGATCTCCAACCTCTGTCTTGTCCACTGTTGGATCAGAAGCCTTGGGTTCCTCTGATTCGAATTCACCCGATCGAAGC TTGTCCCCGGTTTCTTCTGCATCACCTCCAGCTGCTCTTACAACCACTGCAAATGCACCTGAAGAGCTTGAGACTCTGAAGCTGGAGTTGTTTCCAA GAGAGAGACTCTTATACAGAGAGAGCTTGGTCAAGGAACCGACTAAGCAAAGCCTTAAACTATTTGGGAAGACAGTTTTGGTATCTGATTCAGGCAT GTCGTCTTCTCTAACAACTTCAACTTGTTGTAAATCTCCTATTCAGCCATTACCACGGAAACTCTCCCGATCCGAAACATTCCCCATGATTATAAACCC ACAAAAAGAAGAAGAAGTGGAAAACAGATGTTTAGTAGATTCAGGGAAGGCTGTCCAAAATGAAGGATCATCGACTGGATCAAACACTGGTTCGGT GGATGATACAGGACATACGGACAAGAACTCAGAACCCGAAACAATGGTATGTCAATGGGAATTTAAACCTAGCGAGAGGTCTGCATTTTCTGAGCTC AGAAGAACAAACTCTGAGTCAAATTCAAGAGGATTTGGTCCGTACAAGAAGAGAAAGATGGTTATAGAAGAAGGACAAGAACAAGAACAACAAGAGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002N14	AT5G52300.1	RD29B (RESPONSIVE TO DESSICATION 29B)	AGAGAGATAGACAAAACAAAACAGAGAAACAGAGAGAGTTTAATTGATTGGTTGATTTTGATTCCCTTGGTAAAGAGAGAAAACACAGAGCTTTGAAA AATGGAGTCGCAGATGACACGTCCTTATGGTCAAGATCAAGCAGAGGATCCAATCAGAATTCACCATCCAGAGGAAGAAGAGCATCAAGAGAAAGG AGCATCTAAAGTGATGAAGAAAGTGAAGGAAAAAGCTAAGAAGATCAAGAACAGTCTTACTAAACATGGCAATGGTCATGAGCATGATCATGATGTG GAGGAAGAGGATGATGAATATGACGAGCAAAACCCAGAAGTGCACGGCGCACCAGTGTATGAATCATCTGCCGTGAGAGGCGGTGTAACGGGTCA GCCTGAGTCACAGAGTCACACCGGAGAAACTAAGGTTCCGGCACCGGAAGAGATCATTCCACCAGGAACAAAGTTTTTTCCGGTTGTATCTTCCGA TCAGACCAAACCCGTTGAGCCTGAGCCATTACAAGAAGCCTCTTACAGACATGAGGCACCGTCTCATCCTGTAAGAATGTCAGATAGGGAGGAGAG AAGAGAGGCAACGGCTCATAACACTCCTGCGTCTCTGCTCTCATCAACAGAGGATGTGACGAGGACGTTTGCTCCTGGCGAAGATGAATACCTCGG TGGTCAACGGAGAGTCAACGTCGAGAGGCCTAAAGGGTTGGAGAAAGATCCGTCTAGTCCAGGAGGAGGGTCTGATTATCTTAGTGGTGTACCTAA TTATCAGTCCAAAGTTACTGATCCAACCCATAAAGGTGGAGAAGCTGGAGTACCAGAGATTGCTGATTCTCTGGGTAGGATGAAAGTGACAGATGAG AAACCAGGACGAGGATTTGAGAGAGACTTGCCGACGAGAAGCCATGAAAACGAATCTAAATGCGGAGAGGGTTTTCCGGCGGGATTTGGAGGGGA ATCAGGAGCTGGAGTAGGGAAAGATTTTCCGACGAGAAGTGATGATGTGAAAGCAGAGACTGGGCTGGGAAAGAACTTACCGACGGGGACTCATG ATCAGTTCTCACCGGAACTTTCTCGTCCCAAAAGAGAGAAACGATTTCGATTCAAAAGATGAGTCAAAACCAAGCACCTATACAGAGAAGATCGGTT CAGCGACGTCGTTCGTAACCGGAAAAGCCATAGCTGCTAAGAACGCCGTAGCTTCAAAGCTAGGCTACTCCGGTGAAACCACCGGCGGAGGCGGG CAACACGAGAGCCCTTTGGGGGGAGATGAGAAAATGAGATCCTCTGGACAACACGAGACCCCTGTCGGAGAGGAAACTCCGAGATCCGCCACGG GTTATGGACAGAAAATGGCCGGAACCGTTGCGGAGAAGTTGACTCCGGTCTACGAGAAGGTCAAAGAAACAGGATCAGCCGTGATGACGAAACTG CCTCTTTCCGGAGGTGGAAGTGGAGCGGAGGAGAAACAGCAAGTGGGAGACAAAGGTGTGGCCGGTAAAGGTTATCTGGCGGAGAAATTTAGCCC TGGAGAAGACGACAAAGCTTTGTCTGAGGTGATCGCCGAGAAACTTCATCTCGGAGGAGGAGAGAAGAAGACGACGACGACTAAGGAGGTGGAAG TGACAGTGGAGAAGATCCCTTCCGACAAGATATCGGAGGAGAGAGTGCACGGTGATGTGACTGCAGAGGAAGGAAAAGGAGGAGGAGGAATGGT GGGGAAAGTTAAAGGAGCGGTTACTTCTTGGCTCGGTGGTTCGACGGAGAAGGAGGTGAAACCAAAGTCTGTAGATTCTGGTGAAGAGTCTTCTCA
GCT-002N15	AT3G19580.1	AZF2 (ARABIDOPSIS ZINC-FINGER PROTEIN 2); nucleic acid binding / transcription factor/ zinc ion binding	GACACCATATTTGCGATAGACTCTGAAATTTCTCAAATTTCTGAATCTTAAACCGAAGAAGAAAAGACACAGAGAGATTCGTCTGATTATGGCTCTCG AAGCGATGAATTCTCCGTCGTTCACAATCCGCAAACACAAAATCGACTCCACAGAGGATTTGATGAACGACGCCGTTTTCATGGAGCCTTGGCTGAA ACGCAAACGCTCGAAACGCCAGCGTTCTCATAGCCCTACTTCGTCGTCTTCCTCGCCGCCTCGATCTCGCCCAAAATCTCAGAACCACCAGGATCT TACGGAGGAAGAGTATCTCGCTCTCTGTCTCCTCATGCTCGCCAATGACCAGCCCTCTGATCACCAGCCGCAAACGCGATTTCAGCCGTCACCGCC GCCACAAGAATCGACAAGGCTTTCGTACAAGTGTAGCGTTTGCGGGAAAGCGTTTCCTTCGTATCAAGCTTTAGGCGGCCACAAAGCCAGTCACCG AATCAAACCTCCAACCGCAACCACCACCGATGATTCAACAGCTCCGAGCATCTCCGTCGCCGGAGACAAACCTACCAATTCCAACGCCGTCGCTCC CTCCGGGAAGATCCACGAGTGCTCTATCTGCCATAAAGTTTTTCCGACGGGTCAAGCTCTCGGCGGTCACAAACGTTGTCACTACGAAGGCAACCT CGGCGGCGGAGGCGGAGGAAGCAAATCAGTTAGTCACAGTGGAAGCGTGTCAAGTACGGTTTCGGAAGAACGGAGCCACCGTGGATTCATCGAT CTAAACCTCCCGGCTTTACCGGAGCTTAGCCTTCATCATAACCCGATCGTCGACGAAGAGATTCTCAGTCCGTTGACCGGTAAAAAACCGCTTTTGT TGACCGATCACGACCAAGTCATCAAGAAAGAAGATTTCTCTCTAGGAATCTAATAATTCGTCTATTATACATATAATTCTTCTGTAATTTTCCGTTAAAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002N16	AT3G51770.2	ETO1 (ETHYLENE OVERPRODUCER 1)	GAGGGAACAATAACAAAAAAACAAAAAACGAACCGGATCGATGAAACTTACACTGCAAAAACACGATTTCTGAGAAGAAGAAGAAGAAGGAGACGC AAGCGAGCTTCGTTAAGTTTTCGTGACGAAAGCAAACATTTTTAATAAATTTTATTATTTTAATTTCGATTAGAGGTTTCACCCGATTTTGGCTCCTTAA TCTAATCTTCTAGATTTCCATTAGTTTCCGAGATTGTCTAAGATGACGGCGAAATTGTAAATCTTCTGATTTATTGCTTGCTGTTTTAGCCCAATCCCA TTTTGTCAGATCTTCGCAATTTGGGGATTATGAATCTGAAATTTTGTTTATTTCTCAAACATTCGATTTCGGGTTTTGCTTGATTGAAGATGCAGCATA ATCTATTCACGACAATGCGAAGTTTGAAGCTTGCAGAAGGTTGTAAAGGGACGCAAGTATACGCTCTTAATGCATCAGCTCCTCCTCCGCCTCCTCC ACCTGGTAACGGCGGCGGTGGCGGAACCGGAGGAGGAGGAGTCGGCGACAAGTTCCTTCAACACCTTCAAGATCACCTCCGTGTCAATTCGGTCC GATCCAAATCAAGCCGCACATATCCGCCTCCGAATCAATCAAACGCCGTCGTGTCGCCTGAGTCTCTCCTCCCTTGCGGGCTCCCAGATACCGATC TGCTTGAACCACAGATCGACCCATGCTTGAAATTCGTCGACTTGGTCGAGAAGATGGCCGAAGTCTACCGTCGGATCGACAATTGCTCTCAATTCGA GAAATCTGGGGCTTATTTAGAACAATGCGCTATATTCCGGGGATTATCTGATCCGAAACTTTTCCGGCGGAGTCTCCGGTCGTCTAGGCAGCACGC CGTGGATGTTCACTCGAAACTCGTCTTAGCGTCGTGGCTCCGATTCGAGAGGAGGGAGGACGAGCTGATCGGAACAAGCTCTATGGATTGTTGCG GCAGAAACTTGGAATGCCCAAAGGCGACCCTTGTTTCTCGGTATGACCCGGAAACCGTCTACGATCCATGTGTCTGCTCCGGAGCTTCCAAATCGG AGATGATGAACGTTGATGATGTTCCCGAATGTTCGACTTCCGAGGAAGAGTTAGACTACGATATGTCCTTTTGTATCGGCGACGAAGAGGTTCGTTG CGTAAGGTACAAAATCGCGTCTTTGTCGAGACCTTTCAAGGCGATGTTATACGGAGGGTTTAGAGAAATGAAACGAGGGACGATCAATTTCACACAC AATGGGATCTCTGTTGAAGGGATGAGAGCTGCAGAGGTATTCAGCAGGACCAAGAGGTTAGATAACTTCTCTCCTAATGTTGTCTTGGAGCTTCTGA AGCTGGCGAATCGTTTCTGCTGCGATGAATTGAAATCCGCTTGCGACTCGCATTTGGCTTATCTTGTTAATAATCTTGACGAGGCAATGTTGTTGATC GAGTATGGATTAGAAGAGGCTGCGTATCTTCTTGTGGCAGCTTGTCTCCAGGTTTTCCTAAGGGAATTGCCGAGTTCTATGCATAATCCGAATGTTA TAAAGATCTTTTGCAGCGTCGAGGGACGGGAAAGATTGGCGTCTCTTGGCCATGCTTCTTTTGCGTTATACTTCTTCTTAAGCCAGATTGCTATGGA AGATGATATGAAATCTAACACGACTGTGATGGTCTTAGAACGTTTGGTTGAATGCGCGGTGGAAAATTGGGAGAAACAGCTTGCGTACCACCAACTA GGGGTTGTGATGCTGGAGAGGAAAGAATATAAGGATGCTCAGAGATGGTTTAACACGGCGGTTGAGGTTGGTCATCTTTACTCCCTCGTGGGTGTT GCTAGGTCTAAGTTCAAGCGTGACCATAGGTACTCGGCTTATAAGATCATCAATTCGTTGATCTCGGATCACACGGCTACTGGGTGGATGCACCAG GAGAGGTCTTTGTATTGCAGTGGTAAAGAAAAGCTGCTTGATTTGGATACAGCTACCGAGTTAGACCCGACTTTGACATTCCCCTACAAATTCAGGG CAGTAGCATTGGTGGAGGAGAACCAGTTTGGGGCTGCCATCTCGGAACTGAACAAGATTCTTGGATTCAAGGCTTCTCCTGACTGTCTGGAGATGA
GCT-002N17	AT4G32930.1	similar to unknown protein [Oryza sativa (japonica cultivar-group)] (GB:BAD45078.1); similar to Os01g0565600 [Oryza sativa (japonica cultivar-group)] (GB:NP_001043357.1); contains InterPro domain Protein of unknown function DUF866, eukaryotic; (InterPro:IPR008584)	GCGACGGAGGGAGAATCTTCGAATCTTGGTGTGGGAGAGAAGGAAATGGTGAACTATGTGCTTAAAATCACCGCTGATCTCGAGAATCTCACAAAT CTCCAGCCCTCCGGTGGCTGCGACGACTCCAACTTCCCTTACCTCTTCAAGTTAAAATGTGAAAGATGCGGAGAGGTGACTCAGAAAGAAACATGT GTGACTTTGAATGAGACATTTACTCCTCCAGGAGGAAGGGGTACTTGTCATCTTGTTCAGAAGTGTAAGTTCTGTGGAAGGGAAGGGAATGTGACAA TGATTCCGGGAAAAGGTCGACCTTTGACTCTGGAAGATTCTGAAGCTGGAGTACATGCTCCTCTTATGATGTTTGACTGTCGAGGCTATGAACCCAT CGATTTCGGGTTTGGTGGATTTTGGAAAGCTGAAGCTGAATCTGGAACCAAATTTGATGACATTGATTTGTCGAGCGGAGAGGAATTCACAGAGTAC GATGAGAAGGGCGAGTGCCCGGTTATGATATCAAACTTCCGTGCAAGCTTCAGCGTCACCAAGTAAAGTCGGCGTTTGTTGTTCTATTTTCTGATTC TCTACACACTTGGTGTATGTAAAAACCATGAGAAGATCATTACTCTAGTTCTAATAAAGCTCCTATGTTCTGAAAAAAAAAAAAAAAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002N18	AT4G37370.1	CYP81D8 (cytochrome P450, family 81, subfamily D, polypeptide 8); oxygen binding	GAATAATCGAATATGGAAGCCAAAACCCTAATTTCTTCAGTTCTATTCATTGTTCTTACTCTCAGATTCTTGATCGGAAGAATCAAGCGAAAGCCCAAC CTCCCTCCGTGTCCGGCATGGTCGTTACCGGTGATCGGTCACCTCCGCCTCCTCAAACCACCGATCCATCGCACTTTCCTCTCCCTCTCCCATTCC CTAGGCGATGCTCCGATCTTCTCCCTCCGCCTTGGAAACCGACTCGTTTTCGTGAACTCGTCACACTCGATCGCCGAGGAGTGCTTCACTAAAAAC GACGTCGTACTCGCGAACCGGCCAAAGTTCATCCTCGCCAAGCACGTCGCGTACGATTACACAACAGTGATCGCAGCTTCGTACGGAGACCACTG GCGGAACCTCCGCCGCATCGGCTCCGTCGAGATCTTCTCCAATCACCGGCTCAATGGCTACCTCTCTATCCGTCAGGACGAGATCCGACGGCTCA TATTACGTCTCTCACGGAACTTTTCACAGGAATTTGCCAAGGTGGAGATGAAATCAATGTTATCTAACTTAACATTCAACAACATAATCAGAATGTTGG CCGGAAAACGTTACTACGGTGACGGCACAGAGAACGATCCGGAGGCTAAACGGTTCCGACAACTCATTGCAGATGTGGTGGCTCTTGCTGGCGCC GGAAACGTTGTTGATTATTTACCGGTCTTGCGTTGGGTTTCAGATTACGAGACACGTGTCAAGAAGCTGGCGGGTCGGCTCGACGAGCTCTTGCAG GGATTGGTTGATGAGAAACGAGAAGCTAAAGAGAAAGGCAACACCATGATCGATCACTTGCTCTCTCTGCAAGAATCGCAGCCGGATTACTTCACA GATCGCATCATCAAAGGAAACATGGTTGCTTTGATATTGGCCGGGACCGACACATCAGCGGTGACATTGGAATGGGCATTGTCGAACCTGTTGAAC CATCCTGAGATATTGAACAAGGCGAGAGAAGAAATCGATAGAAAGGTTGGTTTGGACAGGCTTGTGGACGAATCAGACATCTCAAATCTGCCATATC TCCAAAACGTTGTGTCAGAAACGTTACGCATGTACCCGGCGGTCCCAATGCTGCTTCCTCACGTTGCCTCAGAAGATTGTAAAGTTGCGGGTTACG ATATGCCACGAGGCACGATACTATTGACCAATGCGTGGGCTATACACAGAGATCCTCAGCTGTGGGATGATCCAACGAGCTTCAAGCCAGAGAGGT TTGAGAAAGAAGGAGAGGCTCAGAAGCTGATGCCTTTTGGGTTAGGAAGAAGGGCGTGTCCTGGTTCTGGACTGGCTCATCGTCTAATAAACCTGA CTCTTGGGTCATTGATTCAGTGTTTGGAATGGGAGAGGACCGGAGAAGAAGAAGTGGACATGAGTGAAGGCAGAGGAGGCACAATGCCTAAAGCT
GCT-002N19	AT2G36990.1	SIGF (RNA POLYMERASE SIGMA-70 FACTOR); DNA binding / DNA-directed RNA polymerase/ transcription factor	GATTGCGCCTTATCTGCTCGTCATGAGTAGCCTCATGTTATGATTCGTCTTCCTCCTTAGCCATTCGCAGTAGCAAAAGGAGAGTCTGTTTTGTTGGT GATTTTTGTGAAATGGAAGCTACGAGGAACTTGGTTTCTTCATCTCCTTCGTTTCAGACGAAGACCCATCTCAAGAGCGGCTTCTCTTCTCCTTCCTC TGTAGTGATGCTCCATGAGCAAACAGCAACTCCTGTAGTTAACTCACGTCATCTCACTTCTCTATCTCGACATTTTCCTGCGTCGGTTCTCTCGCAGG AGCTACGGGAAGAATCTAAGCCTCTGTCACATGCGTTAAGAGAAGACAGAACATCTCAGTTGACTCTGGAAAGGAGGCAGTTTGATGAGTTGGTAT CCTCTCGAGAGGATGAGAAATTTGAACAGCAACTGCTTCACTCTGCTGGCTTATGGAATTTGTTGATATCTCCTTTAACAACAGAAAAGCAATTGCCA GCAGTTGTATCGCCTTCAGCAGATGCGGACCTTTGTGATTTGGTTGCACTAGCTCAGAAGGCTTTATCAGCTTCTAAACAAGCTGCATTGTTAGTTG AAAACTCTGAAGCAGATCCACCTGACAACCCCAGGGATTCGCTCTCCACTAGCTCTTCCATGTCCTTACCGGAAAAGGGAACCATAGTAAGATCGAA GCGGCAGCTGGAGAGACGAGCGAAAAACAGAAGGGCTCCAAAATCAAATAATATGGACAGTGAAGGTTATGTTCCCCAGAAAATTAACGCCAAGAA AAAAATGAAACAAGGGTTTGATACAGATGATGCGCTCCAGCTCTTCTTGTGGGGACCTGAGACAAAACAACTTCTGACTGCTAAAGAAGAAGCTGAA CTAATAGCACATATACAGCATTTGATAAAGTTAGAGAAGGTAAAGACTAAACTTGAATCTCAAAACGGCTGTGAACCAACAATAGGCGAGTGGGCTG AAGCTATGGGGCTAAGTAGCCCTGTCTTGAAATCTGAAATCCACCGAGGCAGAAGCAGCCGGGAAAAGCTGATTACAGCTAACCTACGTCTGGTAG TCCATATCGCTAAACAATATCAGAATCGCGGACTCAACTTTCAGGACTTATTGCAGGAAGGAAGCATGGGGCTAATGAAGAGTGTAGAGAAGTTTAA ACCGCAATCCGGATGCAGATTCGCTACTTACGCCTACTGGTGGATTCGACAATCCATTAGAAAGTCGATTTTTCAAAACTCGAGGACAATCCGTTTG CCGGAGAACGTGTACATGCTTCTGGGCAAAGTATCCGAAGCCAGAAAAACGTGTATTCAGGATGGAAATTACCGTCCGAGTAAAGAACAGCTCGCA AGCCACGTTGGGGTTTCAACAGAGAAGCTCGATAAACTTCTATACAATACAAGAACACCTCTTTCAATGCAACAGCCCATTTGGTCTGATCAAGACA CCACCTTTCAGGAAGTAACACCAGACAGTGGGATTGAGACACCGTCGATGAGCGTGGGGAAGCAGTTGATGAGGAACCATGTACGGAATCTCCTC AATGTACTAAGCCCGAAGGAGAAAAGGATCATCAAGCTGAGATTTGGGATTGATGGCGGGAAACAGAGATCATTGTCGGAGATAGGAGAGATTTAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002N20	AT1G30970.1	SUF4 (SUPPRESSOR OF FRIGIDA4); transcription factor	GATCGCAGAAGAAATTGAGAAAACGCTTTGTGCGAATACAAAAAACCCTAGCAAGCGGAAGGAGACAAAGAACGAGAATTGGAGAGGGAAAGTTTT CAATAGATTTTTGAGAGACTTACGCTGATCAATCGTGAATTAAACACAGAGTGAGGAGAAAGGTCTAGTGATGGGGAAGAAGAAGAAGAGAGCGAC GGAGAAGGTTTGGTGCTATTACTGCGACAGAGAGTTCGACGACGAGAAGATTCTTGTGCAGCACCAGAAAGCCAAACACTTCAAATGCCATGTCTG CCACAAGAAGCTGTCTACAGCTAGCGGCATGGTGATTCATGTCCTCCAGGTTCATAAAGAGAATGTTACAAAGGTTCCTAATGCTAAGGATGGTCGA GATTCAACTGATATTGAAATATACGGAATGCAAGGGATTCCACCCGATGTCTTGGCTGCTCACTACGGAGAAGATGAGGAAGAATCTCCAGCCAAAG TTGCAAAAATTGAAATTCCTTCCGCCCCTCTTGGTGGTGCAGTTCCTAGACCATATGGAATGGTATATCAACCTCAACAAGTACCTGGTGCTGTGCG ACCTATGTATTATCCCGGTGCTCCTATGCGTCCTCCTGGTCCTGGATGGCCTATGCCTCCTCCCCGTCCACAACAATGGTATCCACAAAATCCTGCA GTTCCTCCAGCTGCCCATGTAGGCTATCGACCACAACCACTTTTTCCTGTTCATGGTATGGGGATGACTATGCCAACGTCATCTCCTGTAGTCAGTG GAGTTACTCCTCCTGGAATTCCTTCATCATCACCTGCAATGTCGGTTCCTCAACCTCTGTTCCCTGTTGTGAATAGCAGCACTCCTTCTCAACCTTCA CCATTTTCTGCTTCTCTTCCCGTTGGCGTGGCTCAGCAACCGTCTCCTGCGGATGCCACCGTAGGATCAGTTAATGCATATCCGCCTAACAATTCTT TTCCAGCGGGTGGGACGCATACTCATTCGTATGCCTCTGGTCCAAACACCAGCGTTCCTTCAATTGGTCCACCTCCTGTAATTGCAAATAAAGCTCC TAGCTCTCAGCCTAATGAGGTCTATCTTGTATGGGATGATGAAGCGATGTCTATGGAGGAAAGAAGAATGTCCTTACCGAAATACAAGGTGCATGAT GAAACCAGCCAGATGAACTCGATAAATGCAGCCATAGACAGACGAATCTCAGAGAGTAGGCTCGCTGGGCGGATGGCATTTTAGAGTTTGGCACG GCACCAAACGTGTCTCGAAGAAAGCTTTCAAGAATCATCTATAAGATAGGCGATGATGATGATGATGAGCTTTTGTTCCAACTCTTCACTCACATTTA
GCT-002N21	AT5G54610.1	ANK (ANKYRIN); protein binding	GGGCTAGTTTCTTCTTAAATTGGTCCTTCAAATTATTTTTTCTTTGTTTGCAAGAATGGATCCAAGATTGGTTTTGGTTACTCGATCGGGTAGTGTTGA TTCTTTATATTCTCTTCTTCAAAAGGATCCATGCATTCTTCAAAACGTCGCTGTTTTACCTTTCATCCACACACCTCTCCATGAAGCTTCGTCTATTGG GGATAGATTTGGCGATGGAACTGATGATTCTAATGCCATCTTTTGCTAAGAAACTAAACGCGGATGGGTTTACTCCATTGCATCTCGCTGTAGAAAAT CACCAAGTTGAGTTAGCACTAGAGTTAGTCAGGTTTGATCCCAGTCTTGTTCGTATTTGTGGTAGAGGAGGTATTTGCTTCAAATTCTTAGTTCTTGT TTGTTCTCTGAATTTTTGTTTTTTATTAGGTTTAGAACAAATTTTTTTTGAAACATATAACATAAAATTAGTTACTTCTTATTGAGATATTTAAATATTTTTT GTTTTTTTTTTTAACTCGTAAGGACAGGTATGACACCATTGCATCTTGTGGCAAAAAAAGGTGATGTCGATCTTCTTACAGAGTTTCTCCTGGTATGTC CTGAGAGCATTGGAGATGCGAATGTAAATGGAGAAACTGCTTTACACATCGTTGTTATGAACGATAGATATGAAGAGCTCAAAGTTCTGAGAGGGTG GATGCAAAGAATGCGCAAAAGTGATGCTTCATCCACCGAGATTCACGTCCTGAACAAACGTGACCGTGAAGGCAACACGGCCTTGCACTTAGCGGC ATACAAGAATGATCACCAGGCATGTTCTTACCCTTTCTATAGACTTTTATCCTATAGGGTATTTAAGCGGTTGATCCGAAACCATTGTTACTATCATAC TAGTATATTTGCTATGTAATCCGAGGTAGTCAGATACTATTAGACCTTAAAATTCACACACTCGTCTTCTTTGAATTATGTTGTTCTGCATATCTGTATA TTATACAGGCAGTAAAACAGCTGTTGAAATGCATGTCACTGAACCGCAACATCCAGAACAAAGGTGGTATGACAGCTCTTGATCTCTTACGAGCCAA TGGACGTCACATGAACATAGATACGGAGAAAATCATACAGAAAGCGGGTGGTAGGAGCGCGGTTTCTCTATCCAAAGTTAAGAAAACGTCTGTCTTC CTAAGAAAACCGGTCACTTTCAAGGAATATTGCTCCACGGGAATGGCACGCTACAGGAGTCGCATGTCAGATGGAACAAGGAACGCTCTTCTAGTA ATAACAGCTTTGATAATCACAGCTACTTATCAGACCGCAGCCCAACCACAAGAAGATCAAGACATAGAAGACAAACTATCTTTCATAGAAATCATATT AAAGATAGTGCTACTATGGGGACTCAATACTATAGCCTTTCTCTTGGCTATTGCCTTGACGTTTATACTCTTACCAGTTGGTAGAGCATACACTTGGT GGTATATCTTCATCTCGGCGCCTCTCGTTTGCTCTTACGCAATTTCGGTGTATCTGAAGTATATGCTCCCACTACCATTCTTATTAGCATTCTTAATCA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002N22	AT3G10800.1	bZIP transcription factor family protein	GAGAGAAAATTCAACCCTCGGTGATGACGGAATCAACGTCCGTGATTGCTCACCCGCCGGAGATGCCTGATCTGAACCCTAATATGCAATCGAATC CCGATATGATCCCTATTCCGCCGCTAGATCCTCTTTTCCTATCTGCTTCCGATCCGATTTCGATGGAGCACCCGATCTCCGATCTCGACTTCTTACTC GACGATGAGAACGGAGATTTTGCGGATTTCGATTTCCCATTTGATGATTCCGATGATTTCTTTAACTTTACCTTCGACGCGGCGGAGGAGCTTGGGA GCTCTGGAGATCAGAGCCCAGAAGCGATCGGGAACCATGCGAGTTTGGATTCATCGGAAAACAGGAACGGCGATAGAGGCTCAGAAGGGAGATCT GATTCTGTTCATTCTCAGGTGTCATCTCAAGGCTCCAAGACTTTTGTTTCCGGTGCTTGCGACACCGTCGACGTGTTATCCTCCCCTGATTCGAGCA ATCTAGGGATTCACCAGAAATCCTCTGTCAGCAAGAGGAAGAAGGAAAAGGGAGACTCCGGAGGCGAATACAGGAGCTCCAAGTACCAAAAGTCA GATGGTAAATCAACCGCTGCAATTGAAGAGGATGATGACAAGAAGAAGACGAAGATGATTAGGAACCGTGAAAGCGCTCAGCTTTCGAGGTTGAGG AAGAAGCAATACCTTGAGGAGCTTCAAGGAAGAGTGAAGAGTATGAATTCCACCATTGCCGAATTGAATGGTAAGATTTCATTTGTTATGGCCGAGA ATGCAGCGCTAAGGCAGCAGATGGCTGCTGCTTCTGGTGCTCCTCCTATGAATCCTTATATGGCTGCACCACCATTACCTTATCAATGGATGCCGTA TCCGCCGTATCCAGTTAGAGCTTATGGATCACAGACTCCATTGGTTCCCATTCCTAAACTGAATCCTAAGCCTGTCTCGGGTTGTAGGCCTAAGAAG GCAGAGAGTAAGAAGATTGAGGGCAAAAGCAAGCTCAAGAAAGTTGCTAGTATTAGTTTTATTGGAATTTTGTTCTTCATCTTCTTGTTTGGTACGTT GGTTCCGTTTATGAATGTAAACAATGGTGGAGATAGCGGAAGCTTTGGCGGTTTGACTAATTATGAGGGTCGTCGGTATTATGAAGAACATAAGGGG AAGGTTCTAATGGTAGGAGATGGATCTGAAGGAAATATCCATTCTAGTAGGAGGAGTCATGGTGAGAGAGAGAGTTGTGGAGGAGTAGATTATAGT GCTCATCCCAAAGTAGAAGGACGACCAAGTTCATTGTGCAATGCCAGTGAGCCTCTTTTTGCTTCTCTCTATGTCCCAAGAAACGATGGGCTTGTGA AGATCGACGGGAACTTAATAATTCATTCTGTTTTGGCGAGCGAGAAAGCTACGGCTTTCGCGAAGATGAACAACTCTGAAACCATAAAAAGCAAAGA ACACGAATTGACAATTCCGGGTGTCCTGTCTTCTGCATTAGCTGTCCCTGAAGTTAGAGGAAATGGGGCAATGCTTCCACATTCCAAGGCCCTCTCT TCTGGCTCGGCCGAGGGGAAAAGACTTCACCAGTGGTTTCATGAAGGTGGCTCAGGGACGCTAATGGATTACAGCATGTGCACCGAGGTTTTCCA GTTTGATATTGCTCCTGGTGCTATAGTCCCATCATCAGTCTCCAACATTACACGGGAGCATCTTCAAAATGTCACCACCCACGACAAGAGAATGAAG AACAGGAGAATTCTCGAGGGGCTTCCGGTTTCACTTGTGGCTTCTGAGCTGAACATCACCGAAGCCCAGCCGACCAAAGACGCTCAAAACAAGAGC TTCCATGGGAACACTAACAACAAACCCAAGTCATCATCCTCCATGGTTGTCTCCGTGTTGCTTGATCCAAGAGAGATCGTTGACTCTGAAACCGACA
GCT-002N23	AT1G48030.2	dihydrolipoamide dehydrogenase 1, mitochondrial / lipoamide dehydrogenase 1 (MTLPD1)	GAAGGAGCCAAGTTTCTCTCTTTCTCTCTCTAACAACAACAATGGCGATGGCGAGTTTAGCTAGGAGGAAGGCGTATTTTCTCACCAGAAACGTATC CAACTCTCCCACCGACGCTCTTAGATTCTCCTTCTCCCTCTCCCGTGGATTCGCGTCATCGGGATCTGACGAGAACGACGTGGTCGTCATCGGCGG CGGTCCCGGCGGTTACGTGGCGGCGATCAAGGCGGCGCAGCTTGGTCTCAAAACAACCTGTATCGAGAAACGCGGCGCTCTCGGTGGTACTTGT CTCAACGTCGGGTGCATTCCCTCGAAGGCTCTTCTTCACTCGTCACATATGTACCATGAGGCGAAACACGCTTTTGCCAACCACGGTATCAAGTTGA CTTCAGTTGAGGTAGATCTTCCTGCTATGTTGGCTCAGAAAGACAATGCAGTCAAGAACCTTACTCGTGGTATTGAGGGTTTGTTCAAGAAGAACAA AGTAACCTATGTCAAGGGATATGGTAAGTTTCTTTCCCCCAATGAAGTCTCTGTGGACACAATCGATGGAGGAAACACCGTTGTGAAAGGCAAACAC ATCATTGTTGCTACTGGCTCAGACGTGAAATCTTTGCCTGGTATTACGATCGATGAAAAGAAGATTGTTTCCTCCACTGGTGCGTTGTCTTTGTCTGA AGTCCCGAAGAAACTGATTGTGATTGGTGCGGGATATATCGGGCTAGAGATGGGTTCTGTTTGGGGTCGGCTTGGAGCTGAGGTCACTGTGGTTGA GTTTGCTGGAGATATTGTTCCTTCTATGGATGGAGAAATCCGCAAGCAGTTTCAGCGTTCACTTGAGAAGCAAAAGATGAAGTTCATGCTCAAGACG AAAGTTGTATCCGTGGATGCCTCTGGAGACGGTGTGAAGCTCACAGTGGAACCAGCTGAAGGTGGAGACCAGACCACACTCGAAGCCGATGTTGT CCTTGTCTCAGCAGGAAGAACACCATTCACGTCTGGACTTGATCTGGAGAAAATCGGAGTGGAAACTGACAAAGGCGGGAGGATTCTGGTGAACGA GAGGTTCTTGACCAATGTCTCAGGCGTGTATGCGATCGGAGACGTGATTCCAGGTCCAATGCTTGCTCACAAAGCCGAAGAAGACGGTGTTGCTTG TGTGGAGTTCATAGCAGGCAAACACGGGCATGTGGATTATGACAAGGTTCCTGGTGTTGTCTACACGCATCCCGAGGTTGCTTCGGTTGGGAAAAC AGAAGAACAGTTGAAGAAAGACGGTGTGAGCTATCGTGTTGGGAAATTCCCGTTTATGGCTAATAGTAGAGCCAAGGCCATTGATAATGCTGAAGG ATTGGTTAAGATTTTGGCTGATAAGGAGACTGATAAGATCTTGGGAGTTCACATTATGTCTCCAAACGCTGGAGAGCTGATTCATGAGGCGGTTCTT GCGATTAACTACGATGCTTCGAGTGAAGACATTGCTCGAGTCTGTCACGCTCATCCAACTATGAGCGAGGCTCTCAAGGAAGCTGCCATGGCCACT TATGACAAGCCTATTCACATCTAAAGGCAACAAGGACTTCAAAGAAGAGAGCCACCTATGTCAAGCCAAAATCTTTACCGGGTTTGATTTTGGTTACA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002N24	AT5G24120.1	SIGE (RNA polymerase sigma subunit E); DNA binding / DNA-directed RNA polymerase/ sigma factor/ transcription factor	GAAACGAAGAATCTCTCGCTCGAAGAAAAATTCTCTCTCTCCGTTACAGCAAAGCAAAATCTGACCAGAAGTGAGCTTCGAAAGATTCATTTTCAGAC TTAGATTGTGATGGGAGTTGTGTTTATCTCAAGTTCAGCTGCAAGATCTCCGCTTGGGTTAAGCAGCGATCTTTTGACACATCGGTCTTCTCTTAAAA AGCCATCCATTGTTGCGTTTAAAGCTGATGATTCCACCAATTCAGCTTTGATCATTCCTAGTGAACAAATTTTGATTCCCGCGGAAAAGCAGAAGGAG AAGAGAGTAGTAACAAAGAGGAAACCCTGTAAAACCCCGAAAAAACCGAGTTCCTTGGATCACAATTTGGCTCCTTCTTGCTCATTAGGAGTGGACT ACAACGAAGCTGCTGCTAGACTAGAAAGCATATACAAGCTTAGTCCTGCAACATCAGTCGAGGATGATATTGATGGCTCCAAAGTGAAAGTTTCACG GAGGAGAAGGAGGAAAGAAGGTGGGGAAGAAAAGAAAGTTGTTGTAAGGAATAATGGGATGAAGGAAAAGCGACTGAGTCTTGATAAACGGATTG CTTTGAAGAGAAACATTCAAGAGAAACCACTTGTTCCTTCTGCTCAGAAAAAAGTAACAAAGAAGCAGCAAGAGGAAGAGAAGATAGAGAGGCTCGT GAGGGACTATTCAGCGTCTCATGATATAGTCAGCTTGGACTGGAAAAAAATGAAGATACCTCCTGTTCTTCCATCCACTGAACATGCTTGGTTGTTTA AGTTGATGCAACCTATGAAGGCTCTTCTTCAAGTGAAAGATGAATTGCAAAAGAGTTTGGGAAGAGAGCCAAGGGAAACTGAAATAGCTGGGGAGA TCAATATGAGCGCGGCTGAAGTGAAAAGGAAAATCGAAATTGGTAGAGCTGCAAGAAACAAGCTTATTAAGCACAATCTCCGGCTTGTATTGTTTGT GATGAACAAATATTTTCAAGATTTTACCAACGGACCGAAATTTCAAGACCTGTGCCAAGCCGGTATGAGAGGGCTTATCACAGCAATCGACCGCTTT GAGCCGAAAAGGAAGTTCCGTCTTTCGACTTATGGTTTGTTTTGGATAAGACATGCCATCATACGGTCTATGACAACCTCAAACTTTACTCGTGTCCC ATTTGGACTTGAATCAGTGAGAGTGGAGATCTACAAAACAAAGATGGAACTATTGTTTGAGCTGGGAAGGCTCCCGACAGAGGACGAGGTAGTTGA GAGACTCAAGATTTCACCTGAGAGATACCGTGAAGTATTGAGGGCCGCAAAACCGGTTTTCTCACTAAATTCAAAACATTCGGTTACTCAAGAAGAA TTCATCAACGGAATCACAGATGTTGATGGCGTAGGAGCTGATAACCGGAGACAACCTGCTATTCTCAGGCTTGCTCTTGATGACGTGCTCGATTCAT TGAAGCCGAAAGAGAGTTTAGTTATTCGACAAAGGTACGGTCTTGACGGGAAAGGCGACAGGACTCTAGGAGAGATAGCTGGGAATCTCAACATCT CCAGAGAAATGGTGAGGAAACATGAAGTCAAGGCCTTGATGAAACTCAAGCATCAGGCCCGAGTTGATTACCTCCGTCAATACATCGTCTGAAACC AAAGTGAACCGCCCCACTCAATTGTTCGAGCATACTTGGTACGATTCCCCGAATATATGAGATACTTATAACCGTTGGTATAGTTGTGTATGTATGTA
GCT-002O01	AT5G50850.1	pyruvate dehydrogenase E1 component beta subunit, mitochondrial / PDHE1-B (PDH2)	GGGTTGTTGTTGTTGTTACAAAAAAAAAACAGTGCCCTTTCGCTCAAGCTTTGAGTCGTCTCTTCCTCTCAATCGAATCCGCCGTCTCCGATCGCTAT TTTCGCAGGCGCGGTAGATCGTATCAAGCTCAGTTAGAGAAAATGTGGGGAATCTTGAGACAGAGAGCCGTCGATGGAGGCTTTTCTGCGTCGTCT CTGAGAAGGACGCGATCGGCTTTGGTTTCCGCAAGGAGCTACGCTGCTGGTGCTAAAGAGATGACAGTCAGAGATGCTCTAAATTCTGCAATTGAT GAGGAAATGTCTGCAGATCCTAAAGTATTTGTCATGGGTGAAGAGGTTGGCCAATATCAAGGTGCCTACAAGATCACTAAAGGCCTTTTGGAGAAAT ATGGTCCTGAGAGAGTTTACGATACCCCTATTACCGAGGCTGGATTTACTGGAATTGGAGTTGGTGCCGCCTATGCTGGATTAAAACCTGTTGTAGA ATTCATGACGTTTAACTTCTCTATGCAGGCAATTGATCATATCATCAATTCTGCTGCAAAGTCAAATTACATGTCTGCTGGACAGATAAATGTACCTAT CGTCTTTAGAGGACCCAATGGTGCTGCTGCTGGTGTTGGGGCTCAGCATTCTCAGTGCTATGCTGCATGGTACGCCTCAGTTCCTGGTTTGAAAGT TCTCGCTCCATATTCAGCCGAAGATGCTCGTGGTCTTCTTAAAGCTGCCATTAGAGACCCTGACCCTGTTGTCTTCCTCGAAAACGAGTTACTATAC GGTGAGTCATTTCCAATTTCGGAAGAAGCACTTGATTCAAGTTTCTGTCTCCCCATAGGCAAAGCCAAGATTGAACGAGAAGGAAAGGATGTAACTA TCACAACTTTCTCGAAGATGGTCGGTTTCGCCCTCAAGGCAGCTGAGAAGCTCGCAGAAGAGGGTATAAGTGCTGAGGTGATAAATCTTCGATCAA TCCGTCCGCTAGACAGAGCGACCATCAATGCTTCAGTGAGAAAAACAAGTAGATTGGTAACAGTTGAAGAAGGTTTCCCTCAACATGGAGTCTGTGC AGAGATCTGTGCTTCGGTTGTAGAGGAGAGCTTTTCATACTTGGATGCACCGGTCGAGAGGATCGCAGGAGCTGATGTTCCAATGCCTTATGCAGC TAACTTAGAGAGATTGGCTCTTCCTCAGGTAGAGGATATCGTTCGAGCAGCAAAGAGAGCTTGTTACAGATCCAAATAAGATGATGATCATTTCAAG
GCT-002O02	AT4G39260.3	ATGRP8/GR-RBP8 (COLD, CIRCADIAN RHYTHM, AND RNA BINDING 1, GLYCINE-RICH PROTEIN 8); RNA binding	GAAGTCTCTCTCTCACACACACATCTTTGAAACCCTAATTTCTCCCCTTTAGTAAAGTAATGTCTACAGACGTTGAGTACCGGTGTTTCGTCGGCGGC CTTGCCTGGGCCACCGCAGATGCGGATCTAGAAAGGACCTTCTCACAGTTCGGCGAAGTTATCGATTCTAAGATCATTAACGATCGCGAGACTGGA AGATCAAGGGGATTCGGATTCGTCACCTTCAAGGACGAGAAATCCATGAGGGATGCCATTGAAGAGATGAATGGCAAAGAGCTCGATGGCCGTAG CATCACCGTGAACGAGGCTCAGTCAAGAGGAAGCGGCGGTGGAGGAGGCCGTGGTGGTGGTGGTGGTTACCGTGGCGGCGGTGGAGGTGGATA CGGAGGAGGCGGTGGTGGATACGGAGGTGGCGGTGGTGGTTACGAAAGACGTAGCGGAGGTTATGGATCTGGTGGAGGCGGCCGTGGTGGAGG CGGATACGGTGGAGGTGGCCGCCGGGAAGGTGGTTACGGAGGAGGTGATGGTGGTTACGGTGGAAGCGGTGGCGGTGGCTGGTAATCGAAGAT GAATCGATTCTGTGCTGCTCTGTTTTCGGTTTAGATTTGGTTTCGCATCCTTTGTCCCTCCGGTTTGGTTCTGGTTCTGGTTATTGTGGTTTACTTTTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002O03	AT2G22170.1	lipid-associated family protein	GGGATGCAGTTTATACTAAAAGATCAAATCTAAATTTCTTACATTCATATCACCAACTATGGCTCGCTGTGACGTTCTCCTCCTCTGTATCCTCCTTAT CGCCACCGTCTCTGTCGTTGCATTCGCCGATCGTGAACCACAATGCGTCTACACATTCTACATCCAAACAGGATCGGTGAAAAGCGCTGGCACAGA TTCGATCATAAGCGCTATACTCACCGACAAATCCGAACAAGAGATCGTGATAAAAAACCTAGTGACATGGGGTGGGTTAATGGGACCAGGTTACGA CTACTTCGAGAACAGCAATGTGGACATTTTCAGTGCGAAGGAGAAGTGTCTTCCGAGCCCAATATGTTCATTGAATCTGACCTCTGACGGCACCGGA CAATACCCAGCCTGGTTTGTAAACTACGTGGAGCTCACGACGGTCGGACTTCACACTGACAGCAAGCGTCAATACTTTGATTTTGAGCAATGGCTTG AGTCCGATACGTCGCTAACTGCCGTACGCAATAACTGTCCCGTTTCGCTGAGGGAGAGTGTTGGTCGGGTCGTGCCTGAGGTCCAGAAAACTCTCT CTTAATGAATGAAAAAAAATGAATGTGTGTTTTGGAGACTTGTTATTACTCCTACTGTGAACTTATGTCGGCAATAATGTAAGCTCTCAGTTAAAAAAA
GCT-002O04	AT5G41550.1	disease resistance protein (TIR-NBS-LRR class), putative	GACTGCTATACTTTCTTCAAACTCTCTTTTGCTCTATCTCTCTCATGGCTTCTTCTTCTCCTGCTTCTCCTTGTGCTTATATTAAGAGATACGATGTCTT TCCAAGCTTCAACGGGCCAGATGTTCGTAAAGGACTCCTCAGTCATTTACACGATCACTTTTTAAGGAAGGAAATCAAAATGTACAAGGATGATAAGA TGGAGAGATGCAATACGATCAAACATGAACTCGTGAAAGCGATTAGAGAATCGAGGGTCTTGATGGTTTTGCTCTCGAAGAACTACGCTTCTTCCAT CTGGTGTTTGGACGAACTGGTGGAAATCTTGAAGTGCAGAAAAGATAAGGAACAGATTGTGATGCCTATTTTCTACGACGTTGATCCGTTCCATGTA CGCACACAGAGCGGTGACTTCGGGAGCGCTTTCGAGAAAACCTGCGAAAACCAAACAGAGGAAGTGAAGCAGAGATGGGTCGAAGCTTTGAAATG TGTAACGACCATAGCTGGAGAACACTCTTGTAACTGGCCTGATGAAGCTGCGATGGTCCAAAAGCTTTGCACAGATGTCTTGTACAAACTGAGAGTG GAAGCTATTAAGGACGAATTTAGGAAGTACGATGTAGACAAGAATGGTTTCATAACTGTAGCAGAGCTTCGACGATATGTGTTGATAAAAGATGGTG AGGAATCTACCGATAAGAAAGCTCGTAGTATCATCCGAGTAGCTGATGTTGATGGCGATGGTCAGCTCAACTGTGATGAATTTGTCGAACTCATGAC TCTTAGGATGACTAGTGAAGAGCTTTACACGGACCAAGTGAAAGCGGAAATGATGAAGGAAGGCTTTAGGGAATGCGATGTAGACCAGAATGGTTA CATAACTGCACCAGAGCTTAAATACGCGTTGACAAAAGATGGGAAGGAAATTACCGATAAGCAAGTTCGTAAGATCATTCGGGTAGCTGATGTTAAT GGCGATGGTCAGCTCAACTGTGATGAATTCTTCAAATTCATGAATCTCATGATGGATGCAAAGAGGAGGACTGATGAAAGAGCTGCGACGATCGAA AAGATTACCACATATGTCTCCACCAAAAAGGATAAATTTAGTCATATGCATGGTAAAATAAGCTTTATCCTGAAGAAGAAAAGAAAAACGATTTATGAA TGTCTTACAGAGTGAATTTTCATCATGACTTGGTCCTGGTTGCCTTCTTTAGGACATGTTTTTTACTTCTTTCCACTTTTGATTTAGTGGTTTTGTTAAT
GCT-002O05	AT3G02170.1	LNG2 (LONGIFOLIA2)	GATCGTTGCCTTTAAAGATAGAAACCTCTTTCTCAAAGAACAAAAAACAAAACTTTTTTTTTTCTCCTTCTCTTCTTTCTCCTTCAAGGTAGCCTCCAAG CAAAACACAGAGAAACCTAATCTGTTGTCTGGTCATAACCTCACAAGAAGCTATAGCCTGTCGTTAATGTTGGCTTCTTCTTGTCCATTTCTTCTTTCC TTTTTCCTCTGAAACACTATAAAAATCGTTAAAACTAGAACAGAGAAAGAAGACGAAGAAATTGGTAATTTCATAAACAGAGTATATGAAAGAGATCTT GAAGTTTTGAAAGTCTTATCGAGATAAGAGTTAAGAAGAAGATATGTCGGCAAAACTTCTGTATAACTTGTCAGACGAGAACCCAAATCTGAACAAAC AGTTTGGATGCATGAATGGGATCTTTCAAGTCTTTTACCGGCAACATTATCCGGCGAGACCAGTCGCCGGCGATGTAGAAAAGTCTTCGGCTCTAG GGGAAAGAAAAGATCTTGTCGGTGAAATTAGCATAGAAAGTGATAAAGAAACGGAGAGAAGTACCAAGAAGAAGAAGAAGAAGTGTGGAGTAAAGG AGAAGCATAGAGTCTCCTCTGAATCCTCTTCAAGGCCTTCGTTTTCGTCTTCTCCACGGTCCTCGAGCTTCTCGTCTGCAGAAGTCAGCACAACAGC ATCTCAATTCGACCAGGCTGGTGAGAATATGATCAGAGAACAGCACAACACTGGACCGGTGATGCCATTTGATCTAAAGGAGCTTGTGAAAGGCTC TATTAACAGAGAAATGAGAGCCGGAGGCGAAGAAACAGGAGCCTTCACTCAGCAGCCGAATTCAGCTAGAAGTAGCATGTTGCTTGTCAAAGAATC ATCATTGCGTTCGCCATCTCGGAGTTGTAGTGAGTGGAATGAGGGAAGAGGAATGGCTGTAAAGTTTAAGGAAAGTCATCGGCTTTCTTATGATGAG AGGGAGATGAGAAACAACGGATACAAGCCGGGCTCGAAGCTGAAAGAGACACCTAGGTTGTCGTTGGATAGTAGATCTAACTCCTTTAGGAGTCCG AGAACTGAAGCAGGGAGATCAAGTTGTCCACCAGAAGAACCCGTAACGATGAGTCACAGAAGATCGAATTCGAGTGTTGTTGCCAAGCTGATGGGT CTTGAAGTCATTGCGGACAATTTTGATACAGAGCAGAGAAAACAGAACCGGTTTTGTGACTCACCAAGGCCGATGACCCGAGTGGAACCTACGGCT TTACAGAGATCTAGGAGCGTTGATTCGATCAAGAAGATACCTTCTTCTAAGTTTCCAATGGAACCAGCTCCATGGAAGCAAATGAAAGCAGGCGACG CTGCACTGACGGTTTATGGGGAAATTCAGAAGCGGCTTACGCAGTTGGAGTTCAAAAAGTCGGGAAAAGATCTCAGGGCTCTTAAGCAAATACTTG AGGCTATGGAGAAGACGCAGCAGTTGATAGACGGAAGCAGAGATGAAAAAACTCACCAGCCAGTTCTTATGCAGAGTACTCACCAGCCAGTTCCAG CTGGAACAAGTCCAGCCATGAACTTGAGATCTTCATCGATCGTTGTCATGAAACCGGGGGCTACAGTTTCTACCTCTTCGCTGCCACACAATGCCGC CTTGCCAAATGTCAATGTTGGCAACCCCAAACAAACTCGAAAAGTCACCTCGGGGAAGCAGAGCGCGATGGATTTAACCCCAAGGCCAGGCCTTTA CAAGGGCCAACTCGATTCGACCAGGAGCAATAGCTCAAAAACATTAAGGTCGAGGCAAGCTTTGGCGAGGGATTCTTGTTCAGTGACCAAGTCAGG TAGGAGCCAACAGCAAAGTGTTAGCCCAAGAACGCAGCACAAAAATCTCGGGCATTCCCGGCCCACAACTCCAAAATCAGAGCCAGGCAAGATCCA AAGGCAGCAAACGGAGTCAGCCTCACCGAGAAGAAAACAGGGGATAAAACCTCGCACTACTCTTCGGCAACCTGATGACCGGTTAAGCGATTCAAG CAGTGACTTGAGAAGTTTAAGATCAGACAGCAACATAAGCTTGCAATCGAATATTGACATCGAGGTTACAAGCAGACATCGGTTGGAGAGAAACTGT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002O06	AT3G10740.1	ASD1 (ALPHA-L-ARABINOFURANOSIDASE); hydrolase, acting on glycosyl bonds	GGGAGGGTTCAGTAGTCGTCGCTTCTAATCAACATCCACTTCTTCCACGAGAACAAGCAATTCAAACAAACGTGAAAGCAAGATTTCCTTAGATTTTG CCTACTAAGCAAAATCAACCCAACCTCAACAAACATTTTTATACTGCAATCTCTCTTCTGTCTGATCCTACACTCAATTTTCTTGTCTCGTCTCGATCA ATCCGTTGTCTTTATTGATTTTCCAGGGTCTTGGTTTATTTGGATGTGGTGATTATGGATACGGAGTCTTGGAAGTTTCTCAGAAGTGTTTGCATACTT TCTTTCCTCCTTGGCTCTTGCTTTGTGTATCAAAGCCTTCGTGTTGTTGTTGCTCAAGAAGATACAAAACCATCCGTGACTTTGCAAGTAGATGCTTC TTATGGAGCTGGACGACCCATTCCTGAAACGCTTTTCGGGATATTCTTCGAGGAGATAAATCATGCTGGTGCTGGTGGATTATGGGCTGAACTTGTT AGCAATAGAGGGTTTGAAGCTGGTGGGCAAAACACGCCGTCTAATATTTGGCCTTGGTCCATTGTTGGTGATCAGTCATCCATATATGTAGCTACAG ACCGGTCATCGTTGTTTGAACGGAATAAAATTGCACTGAGAATGGATGTGCTCTGCGATAGCAATGGTTGTCCATCAGGAGGTGTCGGAGTTTATAA CCCCGGTTACTGGGGCATGAATATTGAAGAAGGAAAGAAGTACAAGGTGGCTTTTTATGTGCGTTCGACTGGTGATATCGACCTGTCTGTGTCGTTG ACGAGCTCGAATGGATCGCTGACTCTTGCTTCTGAAAATATCATAGCTTCTGCTTCCGATGTTTCGAAATGGACCAAAAAGGAGGTTCTTTTGGTGG CAAAAGGGACAGATCATGGTGCAAGACTTCAGTTAACAACAAGCAAGAAAGGGTCAATATGGATTGACCAAATCTCGGCCATGCCGGTGGATACTT ACAAGGGACATGGCTTCAGAAACGATCTTTTCCAAATGATGGTTGACATAAAACCCCGTTTCATCCGTTTCCCTGGTGGTTGTTTTGTCGAGGGTGA ATGGTTAAGTAATGCATTCCGGTGGAAAGAAACCGTAGGACCTTGGGAAGAGAGACCAGGACATTTTGGTGATGTTTGGAAGTATTGGACTGATGAT GGCCTTGGCCACTTTGAGTTCTTTCAATTGGCAGAAGACATTGGCGCAGCCCCGATATGGGTGTTTAACAACGGGATTAGTCACAATGATGAAGTTG AAACTGCCAGTGTCATGCCCTTTGTTCAAGAAGCACTCGACGGTATAGAGTTTGCTCGGGGAGATGCTAATTCTACATGGGGATCGGTACGAGCTG CAATGGGACGCCAAGAACCTTTCGAACTGAAGTATGTTGCTATTGGGAATGAGGATTGTGGAAAGACTTACTACAAAGGAAACTATATTGTGTTCTAT AATGCTATCAAAAAGGCCTATCCAGATATCAAAATCATCTCCAACTGTGATGGATCATCACGTCCTCTCGACCACCCCGCTGATTACTATGATTATCA CATATACACTTCTGCTAGCAGTTTATTTTCCATGTATCATCAGTTTGACCGCACTTCACGCAATGGTCCAAAGGCTTTTGTCAGTGAATACGCTGTGA CTGGGAAAGATGCTGGTACAGGAAGCCTTCTCGCCGCTCTTGCAGAAGCTGCATTTCTCATTGGTCTTGAAAAGAACAGTGACATTGTGGAAATGG CAAGCTATGCACCACTCTTTGTGAACACAAACGATAGACGGTGGAATCCAGATGCAATAGTCTTCAATTCCTCTCATCTATATGGAACTCCTAGCTAT TGGGTTCAACGGTTCTTTGCGGAGTCAAGCGGATCAACTCTTCTCGCTTCAACACTCAAGGGAAACTCTTCTTCTCTTGTCGCATCCGCAATCACCT GGCAAAACAATGGCAAAGATTACATACGCATTAAGGCTGTAAACTTTGGAGCTAGCTCAGTGAACTTGAAGGTGTTGGTTACTGGATTGGACCCGAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002O08	AT1G59870.1	PDR8/PEN3 (PLEIOTROPIC DRUG RESISTANCE8); ATPase, coupled to transmembrane movement of substances	GGGGTTAAAAAGACAAGATCAAATTGACTTTCTGGCAAGAAAAAAGAGAGAATGGATTACAACCCAAATCTTCCGTTAAGCAGCGGAGGTGGGAGTA TGCGGCGAAGCATAAGCCGGAGCGTGAGCAGAGCCAGCAGAAACCTCGAAGACATCTTCTCCGCCGGCGGTTCGAGACGCACGCAGTCGGTCAA CGACGACGAAGAGGCTCTCAAATGGGCTGCCATCGAGAAACTGCCCACCTACAGCCGCCTCCGCACCACCCTCATGACCGCCGTTGTGGAGGAC GACGTCTACGGCAATCAGCTCCTCAGCAAGGAGGTCGACGTCACCAAGCTCGACGGCGAGGACCGCCAGAAGTTCATCGACATGGTCTTCAAGGT CGCCGAGCAAGACAACGAGCGGATCTTGACCAAGCTCAGGAACAGGATCGACAGGGTCGGTATCAAGCTCCCAACGGTCGAGGTCAGGTACGAG CACTTGACCATCAAAGCCGACTGCTACACCGGAAACAGATCTCTCCCAACGCTTCTCAACGTCGTCAGGAACATGGCAGAGTCTGCTCTGGGAATG GTCGGCCTTGAGTTTGCCAAGAAAGCTCAGCTCACCATCCTCAAAGACATCTCTGGCAGCGTCAAGCCCTCCAGGATGACCCTCTTGTTGGGTCCC CCTTCTTCCGGTAAGACCACTCTTCTCCTGGCTCTCGCCGGCAAACTCGACAAAGCCCTCCAGGTCTCTGGTGATATCACCTACAACGGTTACCGC CTCGACGAGTTTGTTCCCCGGAAAACCTCTGCCTACATTAGCCAGAACGATCTCCACGTCGGCATCATGACCGTTAAGGAGACTCTTGATTTCTCCG CCAGGTGCCAAGGCGTTGGTACCCGTTACGATCTGTTGAACGAGCTCGCAAGGAGAGAAAAAGACGCTGGGATATTCCCTGAAGCCGATGTTGAT CTCTTCATGAAAGCCTCCGCTGCTCAAGGTGTTAAGAGCAGTCTCATCACTGATTACACTCTCAAAATTCTTGGGCTTGACATATGCAAGGACACCG TAGTTGGAGACGACATGATGAGAGGTATCTCCGGAGGACAGAAGAAACGTGTCACCACCGGTGAGATGATTGTGGGGCCTACTAAAACGCTGTTCA TGGACGAGATATCCACAGGTCTGGACAGCTCCACCACTTTCCAAATCGTCAAGTGCCTTCAGCAGATCGTTCACCTCACAGACGCCACCGTGCTCA TGTCTCTCCTCCAGCCTGCTCCTGAGACCTTTGACTTATTCGATGATATCATCTTGCTGTCCGAGGGTCAGATCGTGTACCAAGGCCCCAGAGACCA CATTCTCGACTTCTTTGAGAGTTTTGGCTTCAAGTGTCCCGAGAGAAAAGGAACCGCTGATTTTTTGCAAGAGGTCACCTCCAAAAAAGATCAGGAA CAATACTGGGTGGACCGGAACAGACCTTACCGCTACATTCCAGTTTCAGAGTTTGCCAGCAGATTCAAGGGCTTCCACGTCGGAAAGCAGCTTTCC AACGAGCTCTCAGTACCGTACGAAAAGTCTCGCGGCCACAAAGCAGCTCTTGTGTTCGACAAGTACTCAGTCTCTAAGAGGGAGCTTCTCAAGAGC TGCTGGGACAAAGAGTGGCTGCTCATGCAGCGGAACGCCTTTTTCTACGTCTTCAAGACCGTGCAGATCATCATCATCGCAGCAATCACGTCTACC CTCTTCCTCAGAACCGAAATGAACACGAATAACGAGGCTGATGCCAACCTCTACATCGGAGCATTGCTGTTTGGAATGATCATCAACATGTTTAATG GGTTTGCGGAGATGGCTATGATGGTCTCGAGACTTCCGGTGTTCTACAAACAGAGGGACCTCCTGTTTTATCCGTCCTGGACGTTCACCCTTCCCA CCTTCTTGCTCGGGATTCCAACCTCGATCTTCGAATCCACAGCATGGATGGTGGTGACTTATTATTCCATCGGTTTTGCACCTGACGCAGGCCGCTT CTTCAAGCAGTTTCTCTTGGTGTTTTTGATTCAACAAATGGCTGCTGCACTCTTTAGGTTGATTGCTTCTGTGTGCAGAACCATGATGATAGCTAATA
GCT-002O09	AT5G06950.4	AHBP-1B (bZIP transcription factor HBP-1b homolog)	GGTTATCCATTGCCGTTTTGCATTAAATCCTTTTTTTTTTCTTTTTATTCTTTTTCTGGGTCGAAGCAAGCTATTCGCATTTTGGCATCCATGGCCTTGT CTTCATGGTTGGGTCGCTCTCGTTTCTCCTCCAAAACTGTTTCCGCCTTTCTCCGGCCTTGTCGCCGGAAGTTACAGTCGACGGCGAAGACAGCTG ATGAGTTGACCGCAGTTTCTACGGAGAAAGGTCGCCGGAATTGGTGGTCGAGCTCTGCTCTTGTCCCGTTGGCGATTGCAGCTTCCGCCACCACTT TCGCGTTCCTGAACCAGTCACAGCCTTCTATCAGCGAATCATCAGCTTATTACCGAATTGAAAATAATCCTCGATGTGCTGCAAAAAAATTTGGAATT TGTTTTCTCTATTCATGTTTTGGGCAATTTCTATCTTGAAATTTCTGATTTTTCTGCTGTGGAGAGCATATTTCTGCAAAACTGCATTGTCATCATTAGG AAATGGATTTTTAATCTGTAGCAGTGTTTCTGAATTCAGCTGCCTGACTATTTCCTTGTGTGTTAAGGTTAACTTGACAACGGACTACGATGAGAGGT ACTTCCATGGAAAGCCTCAGAACAGTTTTCACAAGTCAGTAAACATTCCTGATGTTGTTGTTTTCCCGAGGTCCGAAGAAGAAGTCTCCAAGATTCTT AAATCCTGCAACAAATATAAGAGGGTGAAAGCATTACATGTGGAGGATATGGACGTTGTAGTTGAGCCTGGAATTGGTTGGCTCGAGCTTAACGACC ATTATAGAACAGTACGGTGTGTTCTTTCTTCTTGATCCAGAATCTTGGCAGTCACTTCTTCGTATAGTTAAAATCTGTGCACGCAAAAGAAAATCTTAA GAAGTTGCTTCTAGAGGAGAGGCCAGAAGTAAATATTGTCTCTGCGCTCAAAAGTGTTAGTGCAGAAAGTTGGTGAGAAAGTAATATGGCTGATACC AGTCCAAGAACTGATGTCTCAACAGATGGAGACACAGATCATAGAGATCTTGGGTCTGAAGGAGCACTGCTAAATACTGCTGCTTCTGATTCTAGTG ACCGATCGAAGGACAAGTTGGATCAAAAGACCCTTCGTCGGCTTGCTCAAAACCGCGAGGCTGCAAGGAAAAGCAGATTGAGGAAGAAGGCGTAT GTTCAACAGCTGGAGAACAGCCGGTTGAAGCTAACCCAGCTTGAGCAGGAGCTGCAAAGAGCAAGACAGCAGGGCGTCTTCATTTCAAGCACAGG AGACCAGGCCCATTCTACTGGTGGAAATGGCGCTTTGGCGTTTGATGCTGAACATTCACGATGGCTGGAAGAAAAGAACAAGCAAATGAACGAGCT GAGGTCAGCTCTGAATGCCCATGCAGGTGATGCTGAGCTTCGAACAATAATCGATGGTGTGATGGCTCACTATGAGGAGCTTTTCAGGATAAAGAG CAATGCAGCTAAGAATGATGTATTTCACTTGCTATCCGGCATGTGGAAAACACCAGCTGAGAGATGTTTCTTATGGCTTGGTGGCTTCCGTTCATCC GAACTTCTCAAGCTTCTGGCGAATCAGTTGGAGCCAATGACAGAGAGACAGATGATGGGCATAAATAGCTTGCAACAGACATCGCAGCAGGCAGAA GATGCTTTGTCTCAAGGGATGGAGAGCTTACAACAGTCACTAGCTGATACTTTATCTAGCGGGAGTCTTGGTTCAAGTTCATCAGGGAATGTCGCTA GCTACATGGGCCAGATGGCCATGGCAATGGGAAAGTTAGGTACCCTCGAAGGATTCATCCGCCAGGCTGATAATTTGAGACTACAAACATTGCAAC AGATGATAAGAGTATTGACAACGCGACAGTCAGCGCGTGCTATACTTGCAATTCATGATTACTTCTCGCGGCTACGAGCTCTTAGCTCCTTATGGCT TGCTCGACGAAGAGAGTGAAAAATTGTATTTTGCTCACTCAGCTCTACAAAATCGATATCGACAGAAACGAGCAGAGACTATTTATTAACTTGTCAGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002O10	AT5G57110.2	ACA8 (AUTOINHIBITED CA2+ - ATPASE, ISOFORM 8); calmodulin binding	GAACTTTATTTTCCCCAACTTCTTCTTCTCTCCACCGAGAAAGTTGAATACGGCGAGAACAAGTAGCGTTTTCCGGCGAACTAACAGGCATTTTCTCT CTAGTGGGTTTCGTTTTAGGGATTGAGTGGTTTCTTCACTTTGTGGCGTTTTCTCTCCTGCGACTACGATGACGAGTCTCTTCAAGTCATCGCCGGG AAGGCGCCGGGGAAGCGATTTGGAGTCCGGCAAGAGTGACAACGCCGACTCCGACTCCGACACTTTCTACATCCCTTCCAAGAATGCTTCCATCG AGCGACTTCAACAGTGGAGAAAAGCTGCGCTTGTGCTCAATGCCTCACGGAGATTCCGTTACACCTTGGACTTGAAGAAGGAGCAAGAAACGAGAG AAATGAGACACAAGATCAGAAGTCACGCTCATGCTCTCTTGGCTGCGAATCGTTTCTTGGATATGGGGCGTGAGCAAGGTGCTGAAAAACCAACAG CTGCTGCAACTCCAGCTGGTGAATTTGGAATTGGACCTGAACAGCTTGTGTTGATGTCGAAGGATCATAACGTTGCTTCCCTGCAGCAATATGGAGG GGCTCAAGGATTGTCAGATTTGCTCAAGACAAATACTGAGAAAGGTATCAGTGGGGATGATGATGACTTGCTAAAGCGCAAGACCACTTTCGGTTCA AACACCTATCCTCGCAAGAAAGGGAAAGGGTTTCTGAGGTTTCTCTGGGATGCTTGCCATGATCTCACTTTGATCATTTTGATGGTGGCTGCAGTAG CGTCTTTAGCGCTTGGGATAAAAACAGAGGGTATCAAAGAAGGATGGTATGATGGAGGAAGCATTGCATTTGCAGTGATACTTGTGGTTGTCGTGAC AGCTGTCAGTGACTACAAACAGTCGCTCCAGTTTCAGAACTTGAATGATGAAAAGAGAAACATACATCTGGAGGTGATAAGAGGTGGAAGACGTGT GGACGTTTCAATCTACGACCTTGTGGTTGGTGATGTCATACCCTTAAACATTGGCAATCAGGTTCCTGCAGATGGAGTGCTGATAGCTGGCCACTCT CTTGCCCTTGATGAGTCTAGCATGACTGGAGAGAGTAAAATCGTTAACAAAGACGCTAACAAGGACCCGTTTCTAATGTCTGGCTGTAAAGTGGCAG ATGGAAATGGTGTTATGCTGGTTACTGGTGTTGGAGTCAACACTGAATGGGGATTGCTGATGGCCAGTATTTCTGAAGACAATGGTGAAGAAACTCC CTTGCAGGTGCGCTTAAATGGGGTGGCTACTTTTATTGGTTCCATTGGCTTAGCGGTTGCTGCTGCTGTGCTAGTGATTCTTCTGGTTCGATATTTTA CCGGTCACACCAGAGACATTCGTGGGGGTCCTCAATTTGTTAAAGGAAAGACAAAAATCGGCCATGTAGTTGATGATGTGATCAAAGTTATTACTGT AGCGGTTACAATTGTCGTAGTGGCAGTGCCTGAGGGTCTTCCATTGGCTGTTACTTTAACCCTTGCCTACTCAATGAGGAAAATGATGGCAGACAAG GCTTTGGTGCGGAGGCTATCTGCTTGTGAGACAATGGGTTCTGCCACCACTATTTGCAGCGATAAAACTGGAACACTAACTTTGAATCAGATGACAG TGGTTGAGTCTTATGCCGGGGGCAAGAAAACAGATACTGAACAATTGCCAGCCACTATCACTTCGTTATGCGTTGAAGGAATAGCTCAAAACACGAC TGGTAGTATTTTCGTCCCAGAGGGCGGTGGTGATTTAGAGTTCTCTGGTTCACCAACCGAAAAAGCCATTCTTGGCTGGGGAATTAAGCTGGGAAT GAATTTCGACACAGCCAGGTCGCAGTCTTCTATTCTTCATGCTTTTCCGTTTAACTCGGAGAAGAAACGTGGTGGTGTCGCAGTAAAAACGGCTGAT GGCGAAGTTCATGTTCACTGGAAAGGAGCTTCTGAAATCGTCCTGGCATCATGCAGAAGCTACATCGATGAGGATGGTAATGTGGCACCAATGACT GAAGACAAGGAATTGTATTTCAAGAAAGGTATTGAAGAGATGGCTAAAAGAACCTTACGATGTGTCGCACTGGCCTTTAGAACCTTTGAGGCTGAAA
GCT-002O11	AT5G43330.1	malate dehydrogenase, cytosolic, putative	GAGGCTCTCTTTCTCTGTTAAACTGATAAATCACGATCCCTTTTAGTTTTTTTCGCCGGCGATATTTCTCGATCCGATCAGATGGCAAAGGATCCAGT TCGTGTTCTCGTCACTGGAGCTGCAGGACAAATCGGATATGCTCTTGTTCCTATGATTGCGAGGGGAATAATGCTTGGTGCGGACCAGCCTGTGAT CCTCCACATGCTTGATATCCCTCCTGCAGCAGAAGCATTGAACGGTGTGAAAATGGAGTTGGTCGATGCTGCTTTCCCTCTTCTTAAAGGTGTGGTT GCTACAACTGATGCCGTTGAAGGGTGTACTGGTGTCAATGTTGCTGTCATGGTTGGTGGTTTCCCGAGGAAAGAAGGAATGGAGAGGAAAGATGTC ATGTCCAAGAACGTTTCCATTTACAAGTCTCAGGCTGCTGCCTTGGAGAAGCATGCCGCACCAAACTGCAAGGTTCTGGTTGTTGCAAACCCTGCAA ACACCAACGCATTGATCCTTAAGGAATTTGCACCTTCAATCCCGGAGAAGAACATCACTTGCTTGACCAGGCTTGACCACAACAGGGCATTGGGACA GGTCTCTGAGAGGCTAAGCGTGCCAGTTTCTGATGTTAAGAACGTGATTATCTGGGGAAACCACTCATCTACCCAATACCCAGATGTCAACCACGCT ACAGTCAAAACTTCTTCTGGAGAAAAGCCTGTGCGTGAGCTAGTCAAGAACGACGAGTGGTTGAATGGAGAGTTCATCTCTACCGTTCAACAACGTG GAGCTGCCATTATCAAGGCCAGGAAGCTTTCTAGTGCACTCTCTGCAGCTAGCTCAGCTTGTGACCATATCCGTGATTGGGTCCTTGGAACCCCCG AGGGCACATTTGTTTCAATGGGAGTATACTCAGATGGATCATACAACGTTCCATCTGGACTAATCTACTCTTTCCCTGTAACCTGCCGTAACGGAGA GTGGTCTATTGTACAAGGTTTACCGATTGATGAAGTATCGAGGAAGAAGATGGATTTGACAGCCGAGGAGTTGAAGGAAGAGAAGGACCTTGCTTA CTCATGCCTCTCTTAGATGGACCGGTTTTTATCAAACCGGTTTAATCAGTGGGAGATTGTAAGAGCTTTGTTTTCGAATAAAGAACTTTGTTATAAAAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002O12	AT1G64280.1	NPR1 (NONEXPRESSER OF PR GENES 1); protein binding	GGTGAAACGACCGTCGAAGCTTTATCGCTCTCATTGACTTGACTCTCTCTCTTGTGTTCGTCAATGTTTAAACTCGTTGATAAATTTTTCTTCTTTGTT GATTGGAGTGTAAATTTTGTTTCAGCGGATCTCTAATTTGTGATTGATGGACACCATTGCTGGATTCGCCGACTCGTATGAAATCAGCAACACAAGCA GCACAAGCTTCTTCGCCGCCGCTCCGGCACCGACCGATAACACCGAGTCATCTACTGTTTGTCCTGCCGAATTTCTCACCGGACCCGATGTATCGG CGCTTCAGCTACTCTCCAACAGCCTCGAATCCGTCTTCGACTCGCCGGAAGATTTCTACAGCGACGCCAAGCTGATTCTCGCCGGCGGACGGGAA GTACCCTTCCACCGTTGCCTTCTGGCAGCGAGAAGCCCCTTCTTCAGAAACGCTTTAGCCGCCGTGAAGAATTCCGCCGCCGTGAAGCTCGAGCT GAAGGAGATTGCCAAGGATCACCAAGTGGGTTTCGACTCGGTGGTTGCTGTTTTGTCGTACATTTACAGCGGCAGAGTGAAGCCGCCGCCGAAGG GTGTTTCCGATTGCGCTTACGAGAACTGCTGCCACGTGGCTTGCCGGCCGGCGGTGGATTTCATGGTGGAGGTTCTCTATTTGGCTTTCGTCTTCG AGATTCCGGAGCTAGTTACGCTCTATCAGAGGCATTTACTGGATGTTGTAGACAAAGCTTTCGTAGAGGACACATTGGTCATACTCAAGCTTGCTAA CATCTGTGGTAAAGCATGCGAGAAGCTAACTGATAGATGCAAAGAGATTATTGTCAAGTCTGATGTCGATTTAGTTACTCTTGACAAGTCCTTGCCGC AACACATTGTCAAAGAGATAACTAAGATCCGTAAAGAGCTCGGCTTTGAGGTACCTGAGCTAGAGAAACATGTCTCGAACATATACAAGGCGCTTGA CTCGGATGATGTTGAGCTTGTCAAGATGCTTTTGAAAGAAGGCCACACCAATCTTGATGATGCGTATGCTCTTCATTTCGCTGTTGCGTACTGCGAT GTGAAGACCGCGACGGATCTCTTAGACCTGGAGCTTGCAGATGTTAATTGTAGAAATCCGAGGGGTTACACGGTGCTTCATGTTGCTGCGATGCGT AAGGAGCCAAAACTGATAGCGTCTCTGTTGACAAAAGGAGCAAATGCATCAGACACGTCTTTGGAAGGTAGAACCGCTCTCTTGATCGCGAAACAA GTCACTATGGCGGCTGAGTATAACAATGTAACGGAGCGATGCAAGCCTTCTCTCAAAGGCCGGCTGTGCGTAGAGATATTAGAGCAAGCAGACAAA GGAGATCCGTTTCCTAGAGATGTTTCTCCATCTCTTGCAATGGCTGGACATGAACTGAAGTCGAGGCTGCTCGATCTTGAAAACAGAGTTGCACTGG CTCGACGTCTCTTTCCAATGGAAGCACAAGTTGCAATGGACATCGCCCAAATGAAGGGAACATGCGAGTTCATAGGGACTAACCACGAACATGAAC GTCTCACTGGTGCAAAGAGGACATCACCGGACGTAAAGATTGCACCTTTCGAAATCCTAGAAGAGCATCAAAGTAGACTAAAAGCGCTTTCTAAAAC CGTGGAACTCGGGAAACGCTTCTTCCCACGCTGTTCGGCAGTTCTGGATTCGATTATGGACTGTGAGGACTTGACTCAACTGGCTTGCGAAGGAGA AGACACTCCTGAAAAACGAATACAAAAGAAGCAAAGGTACATGGAAATACAAGAGACTGTGAAGAAGGCCTTTAGTGAGGATAAGGAGGAATTTGG AAATTCGTCTCTCTCAGCTTCTTCTTCTTCCACGTCGAAATCCACCGCTGGAAAGAAGAGATCTAATGGTAAACTCTCTCATCGGCGTAGGTGAGAC TCTGGAGGGAAATTTTTGTTGTACCATATATATTTGTTCTTCACTTTACGTCCACTGAATTGCAGCTGCAGGTGTGTTTCAGACAAATGTTATAACTTT GAATATCAGCCATATACAGATTTGTGATATATCAATAATAAGTCACAGATTGATCGAGAATCAAAGTGACAAAAATGACAAATGGTATGCTGTACTAAG
GCT-002O13	AT5G23570.1	SGS3 (SUPPRESSOR OF GENE SILENCING 3)	TGTCCTCATTTGTTATTTCGTCTTCACTCTCTTCTTTCTCCCCACACTTACCTTCGCAGTACTCTCACTCTCCGGCGCTTAATCTCGCAATTTCCGTCG TTTTCTCTGTTCGAAATGAGTGCTTGGGCTGATCCAAAGTCTAAGGGAAAGAACGTCGCTCAGGGTGGTTCTAACCCAGAGGTCGAACAGTTGGTG CAAGGTTTTGCTGGGACGAATCTGGCTCCTTCGCAAGATGATGGAGGAGAATGGGAGTTCATCTCCAAAAAGAACAAGAACAAAGCTGAAAAAGCT TGGGCTTCTCATAACCAGAACCCTCCTAGAGCTTGGAGCGGTCAGCAACAAGGGAGGGGCAATCAGCAACAAGGGAGAGGCAATCAGCAACAAGG GAGAGGCAATCATGTGACTGGGAGAGGTAACGCCAATGGTCGGGGAACTCAAGCTACTGATTCGAGGGTCTCTACCGGTCGAGGAACTGGTCGGG GACAAGCACTGAACAGAGGGTATGGTAACAACTATGTCGCTCCGCCACCTGTAGTTCGCCCTCCTTTAGAAGGAGGATGGAATTGGCAGTCTAGAG CAGGTGCTGCTCGGCACACTGTTCCGCAGGAGATCCCGGACGAGGATGATGATGTGGAGAATGTTTCTGAGGAAGAGGAGGATGATTGCGATGGT TTGGATGATTCTGATGAAGACCTTGTGAGTGATGAGTATGACTCGGATGTGAGTCAACAGAGCCATGAGACACGGAAGCAGAACAAATGGTTCAAA AAGTTTTTCGACAGCTTGGATAGCTTGTCTATCGAGCAGATAAATGAACCACAGAGGCAGTGGCATTGTCCAGCTTGTCAGGGCGGGCCTGGTGCT ATTGACTGGTACAACCTGCAGCCACTTCTAGCTCATGCGAGGACAAAGGGAGCTAGAAGAGTTAAGCTCCATAGGGAACTGGCTGAAGTCCTAGAC AAGGATCTGCAGATGAGAGGAGCAACTGTCATTCCGTCTGGTGAAATTTTCGGGCAGTGGAAGGGTTTGGGTGCGGATGAAAAGGATCATGAGATT GTCTGGCCGCCAATGGTAATCATTATGAACACCAGACTGGACAAGGACGATAATGATAAGTGGCTAGGTATGGGCAACCAAGAGCTACTGGAGTAC TTCAACGAGTATCCTGCTATTAGAGCACGTCATTCCTATGGTCCACAGGGCCACCGTGGGATGAGTGTTCTGATCTTTGAGAACAGTGCCACTGGCT ATTTTGAGGCTGACCGCCTGCACAGGGACTTAGTTGAGCAAGGGTTAGATAGAAACGCCTGGGACCGTCGGCGCAATTTGTTTACTGGAGGAGTTC GCCAACTATATGGCTTCCTTGCAACCAAGCAAGATCTGGACGTATTCAATCAGCACTGTCGAGGCAAAACGATGCTGAAATTCGAGATGAAGTCATA CCAGGAGAATGTTGTGAAGGAGCTGAGGCAGATCGCTGAGGACAATCAGCAGCTAAACTGGTACAAGAACAAGGTTACTAAACAAATGAACCACAA AAAGGTGCTTGAGGAGTCTCTGGGAATCTTAAGCGAGAAGCTGCGTAAATCAGCAGAGGATTATCGTATCGTGAGACAGAGAACAAAGATGCAGCA TGAGCATAACAGAGAGGAGATGGATTTGCAAGACAAGTTTTTCAAAGAAGCATTCAAACGGATACATGAGGAGAGAGATGCAAAGGAGGAGATTTTC GAGAAGTTGCAGCAGCAGGAACGTGCTAAGGTTGTAGAGCAGCAGCAAAAGAACGCAAATCCCTCCAGCAAAGATGAATTACGAAAGAGAGCTGA GGAGGTTTCTAGCTTCATAGCGTTTCAAGAGAAAGAGATGAAGGAGTTTGTGGAGGAGAGGGAGAAGCTCATAGAGGAGCAAGAGAAGAAGATGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002O14	AT5G67385.1	signal transducer	GGCTCTTATTCTTTCTTCTTATTACGTTACGGCACATCATCTTCATGAGAAGGACTTGAAATAGTGTTCCATGGTGGATTTCTTGAGTGAGAAGAAACT ACGAGCTTAGTGTTCGTAATATGTCAGCAAAGAAGAAAGATCATTTTTCCTCAGCTATGAAGAGAACCAGTGAATGGATTTCTTCTCAGGAAGTCTCC AGTGATGTCACCGTTCATGTAGGAGAAGCTTCGTTTTCACTGCACAAGTTCCCACTCTTGTCAAAATGTGGGTTTATCAAAAAACTTGTGTCTGAATC AAAAAGCGATTCAGATGCTACTGTTATCAAATTACCAGATATCCCTGGAGGCTCTGAAGCATTCGAGCTAACGGCTAAGTTCTGCTACGGTATCAATT TTGATATGAGCACAGAGAACATTGCCATGCTGCGATGTGCAGCAGAGTATCTAGAGATGACAGAGGAACACTCTGTAGAAAATCTCGTCGTAAGAG CCGAAGCTTACTTGAACGAAGTAGCTCTCAAGAGCTTATCGAGTTCGATCACAGTCTTGCACAAATCAGAGGAACTGTTGCCAGTTGCTGAAAGAGT GAAACTTGTGAGCCGTTGCATCGATGCAATTGCTTATATGACTTGTCAAGAGAGCTTATTTTGCAGTCCTTCTTCTTCGAGTAATAACAGTAACAATG AGGTTGTGGTTCAGCAGCAGAGCAAGCAGCCTGTGGTTGATTGGTGGGCTGAAGACTTAACCGTTCTTAGGATTGATTTGTTTCAACGTGTTCTGAT CGCAATGATGGCCAGAGGGTTTAAGCAGTATGGACTTGGTCCAGTGCTTATGCTCTATGCTCAGAAATCTCTTCGAGGGTTGGAGATTTTCGGGAAA GGAATGAAGAAGATTGAACCAAAACAAGAACACGAGAAAAGAGTGATTCTGGAAACAATCGTAAGCCTTCTTCCTCGGGAGAAAAACCCAATGTCAG TTAGTTTTCTCTCGATGCTTCTACGGGCAGCAATATACCTCGAAACAACGGTTGCTTGTAGGCTTGACTTGGAGAAGAGAATGGGACTACAATTGGC ACAAGCCGTACTTGATGATCTCTTGATTCCTTCTTATTCTTTCACTGGAGAACACTCACTGTTTGATACCGACACTGTTCAACGCATTCTCATGAACTA TCTTGAGTTTGAAGTCGAAGGAGTCCGGTTAAGCAACAATGGTGTAGATCTTGCTGGTGATATGGAACGTGTTGGTAAATTGATGGAGAATTATTTG GCTGAAATTGCTTCTGATAGAAATGTGAGCTTGCAGAAATTCATCGGTTTAGCTGAACTTATTCCTGAACAGTCTAGAATTACTGAAGATGGGATGTA TCGAGCCGTCGACATCTACTTGAAGGCGCATCCGAATATGAGTGATGTAGAGAGGAAGAAAGTATGCAGCTTAATGGATTGCCAGAAACTATCACG AGAAGCCTGCGCTCACGCAGCTCAGAACGATCGTCTTCCCGTTCAGACCATTGTTCAAGTCCTTTACTACGAGCAACAACGTCTACGAGGTGAAGT CACTAACGATTCAGATTCTCCACCACCACCACCACCTCCAGCAACTGTTCTTCCTCCTAAACTCAGCTCCTACAACGACGAACTCTCCAAGCTAAAA CGCGAAAACCAGGACTTGAAACTTGAACTTCTCAAAATGAAGATGAAGCTTAAAGAGTTTGAGAAAGAGAGCGAGAAGAAATCATCAACAACCATGA GCAGCAATCCCAGTTCTCCAATCTCAACTGCTTCCATGGATAAGCCTCCATTGCCAAGAAAGACATTCATAAACTCTGTTTCAAGAAAACTCGGAAAG
GCT-002O15	AT4G12000.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT4G22850.1); similar to At1g12450-related [Medicago truncatula] (GB:ABE81486.1); contains domain UNCHARACTERIZED (PTHR12677)	GGAGCAAATGTCATAAACAACCAAAAGAGAAAGCTCCAATCTGTTTCACTTTGATTGTCAAATCAAATCACACTAAAAAATCTTCTCTATTTGTTTTCG ATTCTTCTTCACGCTCAGGTCTCTTTCGATTCGTTGATTAATTCTATTTTTCCATCACTGGGTTTTCCTCCCGTCTTCTCAGAAAAACGATCGGAGAAT CCAGTCGATTAGTAATCTGAGGTCTTTTTTTTGGTTGCCGTCTCTGTTCCGATGACTTATTTCGAGGAGGACGATACGGTTTCTGAGCTGCGAGTGA GAGTTGAAGAAGACGAAATTGAGAAATCAGGGCATTATGCTAAACTCAGTGACGAGTTTGAAGAACAGGGGCGACAAGAAGCAGAACAGGAAGAG GAAGAAGATTCATCTCCGTGTTCTTCTTCTTCTTGTGGTCGGAAAAGATCTGTTTGGTTCTGGATCAAGCTTGCTCTTTTATTCACGTTTCTAGCTGCT TTGGCACTCGTTGCTTACAAATGGATCGCTCCTTTAATCATGGATAAGGAGCTTATCCCTCTCATAAAATGGGAGATGAGGACATTTACACACCCTGT TCTCGGTCTTTTTGTTTTCGCATCTGTCGCACTATTCCCTATAATACTTCTTCCGTCTACACCGTCAATGTGGGTGGCTGGGATCACATTTGGTTATG TCTATGGCTTCCTCCTCACTTTTCCAGCTATAGCTATTGGTGTGTCTCTTCCTTATTTCATCAGCTATCTCTTCTGCCACAAAATCCAAGGTTGGTTAG AAAGATATCCGGATCAAGCTGCAATGTTGAGAGCTGCTGGTGGAGGTAACTGGTTTCACCAGTTTCGAGCTGTAACCTTAATCCGGATTTCACCGTT CCCTTACGTTGTTTATAACTACTGCGCTGTTGCTACTCGTGTAAAGTACGGTCCTTACATCGCAGGCTCTATCTTAGGCATGGTGCCAGAGAACTTT GTCGCAATCTATACAGGGATTCTTATAAGGAAATTGGCAGATGCATCAACTGAGGAACAAAAGGGAATGTCGATTCTTCAGATTGTCCTCAACATTCT TGGTTTTGTAGCAACTGTTTTGACAACTGTTCTCATCATGAAGTATGCAAAAAGACAGCTCGAAGTTATGAAGAAGGAAGAGGAAGCTTTGTTGCTGC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002O16	AT1G11910.1	aspartyl protease family protein	GATACTTGCCTCATTTTCCTCAGAATCTGGTGCCTAGCTTCGGTGAAATGGGAATATACTCTAGGACGGTTGCTGTGTCACTCATTGTGTCGTTCCT GCTGTTTTTTTCTGCCTCTTCTGAGCGCAACGATGGGACCGTTAGAGTTGGCCTGAAAAAACTCAAGTTGGATCCCAAAAACCGTCTTGCAGCACGC ATTAGTTCCGAGCAAGAAAAGCCCCTGAGAGCTTTTAGTCTTGGAGATTCTGGAGATGCTGACATTGTCGCGCTGAAGAATTACCTAGATGCCCAGT ACTACGGTGAGATCGCTATTGGTACTCCACCACAGAAGTTCACCGTGGTTTTTGATACTGGAAGCTCTAACCTCTGGGTGCCATCATCAAAATGCTA TTTCTCAATTGCATGTCTCCTCCATCCCAAATACAAGTCATCACGTTCAAGCACATATGAGAAGAATGGAAAATCCGCCGCAATTCATTATGGAACTG GGGCAATTGCTGGGTTCTTTAGTAATGATGCCGTCACGGTTGGCGACTTAGTTGTCAAGGATCAGGAGTTTATCGAGGCAACCAAGGAGCCTGGTA TAACATTTGTTTTAGCAAAATTTGATGGTATCCTTGGTCTTGGATTCAAAGAAATCTCTGTTGGAAATGCCGCTCCTGTTTGGTACAACATGCTCAAGC AAGGCCTCATCAAGGAACCGGTGTTTTCATTTTGGCTTAACCGTAATGCTGAGGATGACGAAGGCGGTGAACTTGTATTTGGAGGTGTTGATCCAAA TCATTTCAAGGGAAAACATACTTATGTCCCTGTGACACAAAAGGGTTACTGGCAGTTTGACATGGGTGATGTCCTCATTGGCAATGCACCCACTGGA TTCTGCGAAAGTGGCTGTTCGGCGATAGCTGATTCTGGAACATCTTTGCTTGCGGGTCCAACAACTATAATCACCATGATAAACCATGCTATTGGAG CAGCTGGAGTTGTTAGCCAGCAGTGCAAGACTGTTGTGGATCAGTACGGGCGGACCATTTTGGAATTGCTTTTGTCTGAGACCCAACCAAAGAAAA TCTGCTCGCAGATTGGTCTGTGCACTTTCAACGGTAAACGGGGTGTCAGCATGGGCATTGAGTCTGTTGTCGACAAGGAAAACGCCAAATTGTCCA ACGGTGTTGGGGATGCCGCGTGTTCTGCATGTGAGATGGCAGTTGTTTGGATACAGAGCCAGTTGAGGCAGAACATGACTCAGGAGCGCATATTG GACTACGCCAACGAGCTATGCGAACGTCTTCCCAGCCCGATGGGAGAGTCTGCAGTGGACTGTGCACAACTCTCGACCATGCCCACTGTTTCGCTT ACCATTGGAGGCAAAGTCTTTGATCTTGCTCCAGAGGAGTATGTTCTGAAGGTTGGTGAGGGCCCTGCGGCACAGTGCATCAGTGGCTTTATTGCA CTCGACGTTGCTCCACCCCGTGGACCTCTCTGGATCCTTGGGGATGTGTTCATGGGAAAATACCACACCGTGTTTGACTTTGGAAAAGAGCAGGTC
GCT-002O17	AT5G24590.2	TIP (TCV-INTERACTING PROTEIN); transcription factor	GATCCTCTCTTTGATTGATATCTCTCTGCTCTGACCAAATCGTGTCACTTCTTCATCTTCTCCACTTTACCAAATCGCATCGATTCTAGCTAGGTTTTA TTTTCGTATTTGTCAAATTCTGGAATCTGGGTTTTTTGTTTCCTTCTCGATACCTTTGAATCGCATCTCTGATCCAGTTCTGGGATACTAGCCCCTTGT TCGTTTTACCTGTGAACTCGAATTCTCTCAAAGTCGCATACCTGTGAAAGAAGACATGGAAGTCTTATCGCTGGCCTCACTACCGGTGGGGTTCAGA TTTAGTCCGACGGACGAGGAGTTAGTCAAATACTATCTCCGGCTTAAGATCAACGGCCACGATGACGACGTCAGAGTAATCCGTGAGGTCGATATC TGCAAATGGGAGCCATGGGATTTGCCCGATTTTTCTGTTGTGAAGACAACAGACTCAGAGTGGCTCTTCTTCTGTCCATTGGACCGGAAGTATCCGA GCGGAAGTAGAATGAATCGGGCCACTGTGGCTGGCTACTGGAAAGCTACTGGGAAAGATCGCAAGGTCAAATCAGGCAACACCAAGATTATAGGC GTTAAGAGGACTCTAGTCTTCTACACAGGTCGTGCTCCTAAGGGCTCACGAACCTGTTGGATTATGCACGAGTACCGTGCAACCGAGAAGGATCTT GATGGAACAAAGTCTGGCCAGAACCCATTTGTCATATGCAAATTGTTTAAGAAGCAAGATGTTGTGAATGGAGCAGCGCCAGAGGATTTAAAGTCGA GTGAAGTCGAACCAGCAGTCTCGTCTCCAGCTGTTGTGGACGAGATGAAGTCCGAGGTTGAACTGTCTGAGGTATCTCTGGTTTTCCCTAAAACCG ACGACGACGATGCAAAGCCTTCAGACAACGGGGAATCTTCTCTTGTAGTCTCCGGTGAATGTCATAGTGAAAACTCTGCCCCTGAAGTTACAACCAC CGAGCAGCTTGACCATATCGATTGGCAGTCATATCTGGAGTTGGAGTCCCTGGATTGCAATCTGTACTCTCCGTTGCACTCTCAGGTGCAATCAGAG CTTGGTTTTCAGTCTGGTTCAAACGACTTGTTCAGTAACCAGAGTGTGGCTCACATTCAGACTCAGTACGGCACAAACGACGCCGACGAAATGATGT TCGAGCTCTTGGAATCGGCTCTTGAGATTCCCTATGAGTTTCCAGAGACGAAACATTTAGCTCTACCGACGCTTGAACAAAGTACATATGAGCCACA GAATCCTGTCAACATATGCAACATGATCAATGATGTATCTGGAACAGGAATCAAGATTAGGGCACGACGGACACAGGCCCCGGGTTGTGCTGAGCA GTTTGTAATGCAGGGAGATGCCTCAAGAAGGCTGCGTCTTCAGGTTAACCATAACAGTCAGAAGCCAGAAACTGTCAAGAAAGAGGTGATGGACAC AGCAAGAGAAACTATAACGAAAGGGTGTGGAAATTTCATGAGATGGAATAGCAGGAGCGGTTTCATATTCAAGAAGATTGCAGCTATGGGATGTTCA TACAAAGGGCTTTTCAGCGCGGGCGTTGTAGCGGTTGTCTTTGCAATGTCGGTTTGCTGTCTAACCGCAAAATTCCGCTGAAGCTTTGTGTTTTTCA GTCAAATTCATGGTGATGAGAATAAAGGAAGAAGGTGGTTTTACGGGTTGAGAGCACGGATTTGTGTATAAAATAGGGGTTTGGCCGGGTTCTTCAT
GCT-002O18	AT4G17810.1	nucleic acid binding / transcription factor/ zinc ion binding	GACGGTGGTGCATGGATGTGGAACCCTAACAAAGTTGAAGAATTAATGGAGGATGATGATGAATCTTGGGAAGTGAAAGCCTTCGAGCAAGACACT AAAGGCAATATCTCTGGTACCACTTGGCCTCCAAGATCTTACACTTGCAATTTCTGCCGCCGTGAGTTCCGTTCTGCTCAAGCCTTAGGCGGACACA TGAATGTCCACCGCCGTGACCGCGCCTCATCTAGGGCTCATCAGAGTCACACCGCTGCGGCTAGAGGAGGCGGCACAGTGGGTGGCACGACGTT ACTCAACTCTTGTGTTCCGCCAACGACGACGCTTATAATACAATCCACGGCGACTAACATTGAAGGTTTGTCCCATTTCTACCAATTGCAAAACCCTA ATGGCATGTTTGGTAATTCCAGTGATATGGTGAATTTCTATGGTGCGACGTCGATTCCTTCGAGCAACCTTGCGTTTTCGGTGTTGAATTCGCCCGT AGAGGTTCCTCCTCGGCTTATAGAATATTCGACAGGAGACGATGAGAGCATTGGCTCGATGAAAGAGACGACAGGGGCATCAGTGGATGAGCCTG ATCTTGAACTTCGACTAGGGCACTATCCACCGTGACATTTCATTTTCATGATTCACTTGAGCCATTTCACATTCATATCTATTCATACAGGTTCTTTAAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002O19	AT2G29660.1	zinc finger (C2H2 type) family protein	GAAACTGCTAAACACTAACTCTCTCTCTCTCTCTCTCTCTCTCTCAAAGTCTAGCGATAACTACTCTCGTGAATGGCGGCGCGAAAACTCGGGTCGT TGATACGTCAACATTTTCTCTCTCTTATCTTCCTCTTCCTCGGCTGTTTCTTCTTCTCACGAGGAGGAGACTGTAGACATAAGAGGAGGAAGAAGAAG CTTAGAACAGTATCTTCTTCATCACCTTCTGCTTCCGGTTTATCCTCTTCTTGGTCCTACTTAAAACGGGTTTTCTTATCCACGACGAGGATATCCAAA TCCCGTAACCAAACGCACCCTAACGGTCCTACTCTCACATCCGCTAGATCTTCTCAGAACTCTCTCGTCACTCTCGTCCAACCAGATACGACGAATC AACCCGACCCGGAAACCCGTATCGAAACCGGGTTCTCGGATTCGGATTCTCTGTTTCTCCCTCTGCGCAGCGAGATTTACTCCTGCACGTCGTGCG GCGAGGTTTTCCCCAAAATCAACCTCCTCGAGCACCACATCGCGGTTAAGCACGCCGTATCGGAGCTAATCGACGGCGAATCGAGCACGAACATC GTGAAGATCATATTCAAATCGGGTTGGCCCGAACAGGGGAACAAAATCCCGGAGATCCATCGGATCCTGAAAGTCCACAACAGCCAAAAGATTCTC ACGAGATTCGAGGAGTATCGAGAGTTCGTCAAGGCGAAAGCCGCTCGTAGCGGCGGAGGAAGACGGTGGGACGACGAACGGTGCGTCGCCGAC GGGAACGAGCTCCTGAGATTCTACTGCTCGACGTTCATGTGTGACCTAGGGCAAAACGGTAATTCCAGTCTCTGCGGACATCAGTACTGCAGCATC TGCGGGATAATCGGATCCGGGTTCTCGCCGAAGCTCGACGGGATCGCGACGCTTGCGACGGGGTGGAGAGGACACGTGGCGGTTCCTGAGGAG GTGGAGGAAGAGTTTGGGTTTATGAACGTGAAACGGGCGATGCTGGTTTGTCGGGTCGTAGCGGGTCGGGTCGGGTGTGATTTGATTCCGGATGA TGATGACGTGGATAAGAGCGATGGAGGGTTTGATTCTCTGGTTGGGCAAGGGACGAGGAGCAAGAGTGGGGCCCTTTTGAGGATCGACGATGAGG ACGTTCTCGTCTTTAATCGAACGCCTCTCCTTCGTTCTTTTCTCATACTCTATACTCTCTAACGCCAATTCCATTCTTATAATCGCCTCTCTCTCTCT
GCT-002O20	AT1G13450.2	DNA binding protein GT-1	GAAGCAAAAGCCTTATTGCTGCGGTCGCCACATTTCTTCTCTGTGCTCGCTCGGGGCTTGTGTTGGTGTAAACAAAATTGTCTCGCCGGCAAGACG GCAATGTTTGTTTCCGACAAGCCTCGTCCTAATGATTTCTACAAAGACAATAATACAAATCCCTCAACCACCGCACGCGACATGATTATCGATGTCAC TGCCAACGGAGCAGGAGATCTACAGCCGCACAATCACCACCACAATCACAATCACAATCACAATCATCATCATCTCCAGCCGCAACAGATTCTCCTC GGAGAAAGCAGCGGTGAGGATCACGAAGTTAAAGCACCGAAGAAACGAGCGGAGACATGGGTTCAAGACGAGACTCGTAGCCTAATTATGTTCCG TAGAGGTATGGACGGTCTCTTCAACACCTCCAAATCCAATAAACATCTCTGGGAACAGATTTCAGCGAAGATGAGAGACAAAGGGTTCGATCGATCT CCGACTATGTGTACCGATAAGTGGAGGAATCTGTTGAAGGAGTTTAAGAAGGCCAAGCATCATGATAGAGGAAATGGATCGGCGAAGATGTCTTATT ACAAGGAGATTGAAGACATTCTTAGAGAGAGGAGCAAGAAAGCGTCGTCGACGACGCAGTTTAGCAAGAGTCCTAATACACCCTCTGCTAAAGTTG ATTCCTTTATGCAATTTACTGATAAAGGTAAAACAATTGGCAGGCTTCTTAATTTCCTTGTTTGGTATAAACTGCAGGGTTCCTTGATTCTTTTTTGAG GAAATTCAACTGTAATAAGAGTTTATAGGGATTTTATCTGTAGCTTAGGCTGAAAAGATACTAATTGGAGTGCCATTATAGAGTAGCTTTCTTAATTTA GCTTCGTTATTCTGTTAAGAAGATAACACTTATGGTACTTCATCTGTTTTTTTTTTTTTTGTGGCTTTTGGCTTTGTGCTTTTAGTTCATTTTGGTTTTAA GTGGTGACTTTATCTTTCATCGTAGGTTTTGATGATACGAGCATTTCATTTGGATCTGTTGAAGGTATTGATCTATCTATCACTTTTGTGTGCTGACTA TATCTTTCTATGTACAAAGGGGCAAGCTTTTGTTCGTCCATTACCTCTTGAAGCTTGTCTTTTAAGTTGGTGTAAAAATCCTCCTTTAGTAAGTAGTAA GTACTAGAGGTTTTAACTTGCTTTACGAGCATTTGGGACTGGAAAGAATGAGTTTCACTCGCGAGAGGAAAGTTATCTGTAATCTGATTTCTCTGTAG TCTGAACATCAGGTCGTTAATTTTATCATTTTAAGAGATGGACATGACTGTGCCGAGGGATTCACAGACAGTTTCTATGTTAGCTTGTTATATGGTTTT AGTTTAGTTTCTAGAGGATGTGTGTGTATTGATTAGAGTTTTTATATATGTTCCAGCGAATGGCAGGCCAGCGTTAAACCTTGAAAGGCGTCTTGATC ATGATGGTCATCCTCTTGCAATTACTACAGTTGATGCTGTTGCAGCAAATGGAGTTCCTCCTTGGAATTGGAGAGAGACTCCTGGAAACGGCAAGTC TCAGAAAAAAAGCTTAGAATAACTTAAGCCTCAAAGTTAATTTGCCAAAGATTTGATTTTGAACTCTGTGTTCCAAGCATGTTGTAGTATAAGTAAAAG TCTGCGTTTTCTGGCTCTAATTTTGAAACCAAAATCACGTCAATTTTGAGGTTGCTTCACAGCCTCTGTTCCTCTGCTTGACTGATTTTTTCTGTCTCC TGCAACGAATTAGAATGTTTCACGTTTATACAAGCAGGTGGTGATGCTCAACCTTTTGGTGGGAGGGTCATAACAGTGAAATTTGGCGACTATACAA GAAGAATCGGCGTTGATGGTAGCTCTGAAGCAATCAAAGAGACAATCAGATCTGCTTTTGGGTTAAGAACCAGACGGGCTTTTTGGTTAGAAGATGA AGATCAAGTTGTTCGTTGTCTTGATCGAGACATGCCTTTAGGGAACTATCTACTCCATGTCGATAATGGATTGGCCATTAGAGTTTGCCATTATGATG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002O21	AT3G21670.1	nitrate transporter (NTP3)	GGTCTCTCAATATCCTCACTGCTCAATAAGCAATGGTTCATGTGTCATCGCATGGAGCTAAGGATGGTTCGGAAGAAGCCGTCGATTACAGAGGAAA TCCACCGGATAAGTCCAAAACCGGTGGCTGGTTAGGCGCCGGTTTAATCTTAGGTAGTGAGCTATCGGAGAGAATATGCGTGATGGGCATATCAAT GAATCTAGTGACGTACCTTGTCGGAGATTTACACATCTCATCGGCGAAATCAGCGACCATAGTCACCAATTTCATGGGAACACTCAACCTCTTAGGA CTTCTCGGTGGATTCTTGGCTGACGCCAAACTTGGCCGCTACAGGATGGTCGCAATCTCAGCCTCTGTCACAGCTCTGGGAGTGTTACTATTGACG GTGGCTACAACCATCACGAGCATGAGACCACCACCATGTAACGATTACAGGAGGCTTCACCATCAGTGCGTAGAAGCAAACGGACACCAGTTAGCT CTTCTCTACGTCGCTCTCTACACCATAGCTCTAGGCGGAGGAGGAATCAAATCCAACGTCTCTGGTTTCGGGTCTGACCAATTCGACACGAGTGATC CAAAAGAAGAGAAACAGATGATTTTCTTCTTCAACAGATTCTATTTCTCAATCAGTGTCGGATCTCTCTTCGCCGTGATTGCTCTGGTTTACGTTCAG GACAACGTCGGGAGAGGCTGGGGTTGCGGGATCTCAGCCGCGACTATGGTGGTTGCGGCCGTGGTTTTGCTCCTCGGAACCAAACGGTACCGTT CAAGAAACCTAAAGGAAGCCCTTTTACGATTATATGGAGGGTTGGTTTCTTGGCTTGGAAGAAAAGAAAGCAGAGTTACCCTGCACATCCGAGTCTT TTGAACGGTTTTGACAACACAACGGTTCCACATACAGAGAGGCTAAAGTGTTTAGACAAAGCAGCGATTGTCGTAGACGAGAGCTCTCCTAGTTCGA AAGAGTTCAAAGAGAAGGATCCGTGGAACGTTTCCACGGTTACACAAGTCGAAGAGGTGAAGCTAGTTGTGAAGTTGATCCCTATTTGGGCAACAA ACATTCTCTTCTGGACGATTTACTCCCAAATGACGACTTTCACGGTCGAACAAGCCACTTTTATGGATCGAAAACTCGGGTCTTTCACTGTTCCTTCA GGGTCCTACTCTGCTTTCCTCATCCTCACAATCCTTCTCTTCACTTCACTTAACGAGAGAGTCTTTGTGCCTTTAGCAAGAAAGCTCACAAAAAACCC TCAAGGACTCACCAGTCTTCAGAGAATCGGAGTAGGGCTTGTGTTCTCAATGGCTGCGATGGCGGTAGCTGCGGTTATAGAGAACGGTAGACGCG AGGCAGCGGTTTCAAACGGTAGAAATATAAGCGCGTTTTGGTTGGTTCCACAGTATTTCTTGGTTGGTGCGGGTGAAGCGTTTGCTTACGTTGGACA GCTTGAGTTCTTCATAAGGGAAGCACCAGAGAGGATGAAATCGATGAGCACGGGGTTGTTTCTAAGCACGATTTCGATGGGATTCTTTGTGAGTAG CTTGCTTGTCTCGCTTGTGGATAAGGTCACGCACAGAGGATGGCTAAGAAGCAACCTTAACAAAGCGAGATTGAACTACTTCTACTGGTTACTTGTT GTCTTGGGAGCATTTAATTTCTTGGTCTTTCTTGTGTTTGCAATGAAGCATCAGTATAAAGGTGAAGTGATTAGTTTTGGAATTGATGATTCAGTGGAC
GCT-002O22	AT5G53550.1	YSL3 (YELLOW STRIPE LIKE 3); oligopeptide transporter	GGTGTAAAAACTTACGTCTTTCTTTCTTTCTATTTCCATTTTCTTGTTTTCTACAATGACAACACAAATCCAGTTTGGTGCTTAGACATTGGCAGATTTA GCTGTTTAATTTCAAAAATAAAAAAATGGATATTTAGCTTGGGCGTGGAAAGAGAGATTCTATCTAAAATTCCCTGAATCGGATTGATCCAAAAGAGA GTTTTGCAACAACAACAAAAAAAAAAACAAAGAAGAAGAAACTCAGTTTTTTTTTCCTGGAGAAAAAAAAAATGAGGAGCTCGTTGATGATGGAGAGA GAGACAAGAAATGAGACAGAGAGAGAAGAAAGAGATGACTTGGAAGAGACGCAAAACGAAGCAGATGATTTCAAGTCAATTCCTCCATGGAAAAGT CAAATCACTTTCAGAGGAATCGTTGCAAGCTTGTTCATTGGTATTATCTACAGTGTGATCGTGATGAAGCTAAACCTAACCACAGGCTTGGTCCCGAA CCTAAACGTCTCTGCAGCACTTTTAGCCTTTGTGTTCCTCAGAAGCTGGACTAAGCTACTCACCAAAGCCGGGATTGTGACTAAACCGTTCACTAAA CAAGAAAACACTGTGGTCCAAACATGTGCTGTTGCTTGTTACAGCATTTCAGTTGGAGGTGGGTTTGGTTCTTACCTTCTTGGTTTGAACAGAAACAC TTATGAACAGTCAGGAACTCACACTGAAGGGAATAATCCGGGAAGCACGAAAGAACCTGGGATCGGTTGGATGACCGGTTTCTTGTTCTTTACATGC TTTGTTGGCCTTTTGGCACTGGTTCCTCTAAGAAAGATCATGATCATAGACTACAAGCTAACATATCCTAGTGGAACAGCTACAGCGGTTTTAATCAA CGGTTTCCACACTTCTAAAGGCAATAAAATGGCAAAGAAACAAGTGTTTGGGTTTGTAAAGTACTTCTCATTCAGCTTCATTTGGTCTTTCTTTCAATG GTTCTTCTCTGGTGGTTCAGATTGCGGATTCATTCAGTTTCCAACTTTCGGATTAGAAGCTTGGAAGAACTCATTCTACTTCGACTTTAGCATGACAT ATATTGGAGCAGGAATGATCTGTTCCCACATTGTAAACTTATCTTTGCTTTTTGGCGCGATTCTGTCTTGGGGAATCATGTGGCCTCTCATCAAAGGT CTTAAAGGAGATTGGTACCCATCAACTCTGCCTCAAAGCAGCATGAAGAGTCTCAATGGTTACAAGGTGTTTGTATCAATCTCATTGATTCTCGGAGA CGGGCTTTACCATTTTATCAAGATTCTTCTTGACATAGCAAGAAACATATACTCCAAGTTAAAGAATCGTCACTCTGGGAAATCTAATTCGGAGAAAG ATAAACAATCTATAGCAGATATTAAAAGAGATGAGATCTTCGTAAGAGACAGCATTCCTCTATGGGTTGCAGCAGTTGGATACGCAGCTTTCTCTGTC GTATCGATCATCGCGATACCTCTAATGTTCCCAGAGCTCAAATGGTACTTCATAGTCGTAGCTTACATGTTAGCTCCATCGCTAGGTTTCAGCAACGC TTATGGAGCAGGGCTCACAGATATGAACATGGCTTATAACTATGGTAAAGTCGCTCTGTTCATCTTAGCCGCTATGGCCGGGAAAAAAGACGGTGTA GTCGCCGGTTTAGTCGGTTGTGGACTGATAAAATCGATCGTGTCGATTTCCTCTGACCTAATGCACGATTTCAAGACCGGACATTTGACTCTGACTT CACCGAGGTCGATGCTTGTGAGCCAAGCAATCGGGACAGGGATCGGTTGCGTCGTGGCTCCTCTCACTTTCTTTTTGTTTTACAAAGCTTTCGATGT GGGAAACCCTGAAGGAGAGTATAAAGCTCCTTACGCTTTGATTTACAGAAACATGGCGATTCTTGGAGTGGAAGGTTTCTCTGCTTTGCCTCACCAT TGTCTTCAGCTTTGCTATGGGTTTTTCGCCTTCGCCGTGGCGGCGAATCTCGTTAGGGATTTGTCGCCGGAGAAGATTGGGAAGTGGGTCCCACTT CCGATGGCTATGGCGGTTCCGTTTCTTGTCGGAGGGTATTTTGCTATTGATATGTGTGTTGGGAGTTTGATTGTGTTTGTGTGGAATATGAGGGATC

#Thalophila	AGI_CODE	Description	Sequence
GCT-002O23	AT4G34710.2	ADC2 (ARGININE DECARBOXYLASE 2)	GACGCTTCTCTTCTTCAATTCCGTTTAGCCTCCCCTCTTTTTCCGCTAGGTTGACGTTTCTGTTTTTCTTTGCATTTTCCCGAGAAACTTCACATTCTC ATTCCCCTTTTACTCGTTTTCCCTTCTCCATATAAATTCAGGCTCTGCATGGTAGGGGAATAAAATTCGTTGTTGGTTTCAGATTTGGAAAATTCCCTA TTTCGTTCTCTTACCCATAAATTTTTGAGCTTCTCCTGAACGGCCATCGTGGAGATTCTCGGATCAGGTCGGGCTGCGAGAGGGGGGTTTCACGGC GGCGATAGATTCATCTTCTGCCTTCTTTTGAGGGGGTAGCCGGGGCTCCGGCCTCGGCGGTTTTTAAACCCCTACCTTCACAAAATCTGGGAAAATT TTAGATTTACAAAAGTTTCGATTCCTCCGTCTCTCGAAAGTGTTTTCTTTTTTTCGTTTTCGAGATTTTTTTTCTGTAAAGTAAATTGGGATCGTTGCTG AAAGAGAGTGAAGAAGAAGATGCCTGCCTTAGCTTGCGTTGATACTGCCTTTGTGCCTCCAGGCTACGCTTTCTCCGGTGATAGCTCTCTTCCCACC GCCGGTGACGTCTTTATGCCGGCTTCTCCAAATTCCGCCGCCGCTTCCGTTGTTGACAGCTCTTGCCGTTGGTCCTCGTCGCTCTCCGCCTCGCTT TACAGGATCGACGGATGGGGAGCTCCTTATTTCGTCGCCAACTCGTCCGGTAATATCTCTGTTCGTCCACATGGGTCTGATACTATGCCTCACCAAG ATATCGATCTGCTGAAAATCGTCAAGAAGGTGACGGATCCGAAATCCTCCGGTGGTTTAGGATTGCAGCTTCCGCTTATCGTCCGGTTCCCGGATG TATTGAAGAACAGGCTCGAGTGCCTCCAATCTGCGTTTGATTTCGCGATTCAGAGCCAGGGATACGATTCGCATTACCAAGGTGTTTATCCTGTGAA ATGCAATCAGGATCGATTCGTCGTCGAGGACATCGTCAGGTTTGGATCTCCTTTCCGGTTTGGATTGGAAGCTGGTTCTAAACCGGAGATCCTTCTC GCCATGAGCTGCTTGTGCAAAGGTAATCCCGATGCCTTTCTTGTGTGTAATGGATTCAAAGATGCTGAGTATATATCCTTGGCTCTGCTCGGGAGGA AACTGGCGTTGAACACTTTGATTGTGCTCGAGCAAGAAGAAGAACTCGATCTGGTTATCGATCTGAGCCAGAAGATGAATGTGAGGCCTGTGATTG GGTTACGAGCCAAGCTGAGAACCAAACACTCGGGTCATTTCGGATCAACGTCAGGTGAAAAAGGCAAATTTGGATTGACCACTAGTCAGATTGTTC GTGTCATGAGGAAGCTGAGCCAGTCTGGTATGCTGGATTGCCTCCAGCTCCTGCATTTTCACATTGGGTCACAGATTCCATCGACGCCTTTGCTCAC TGATGGAGTCGCCGAGGCTGCTCAGCTTTACTGTGAACTCGTGCGTCTCGGTGCGAATATAAAGGTTATCGATATCGGTGGTGGTTTGGGGATTGA CTACGACGGGTCTAAATCCGGAGAATCTGATCTCTCTGTTGCGTATACTCTCGAGGAGTATGCAGAAGCTGTTGTAGCTTCTATACGGTTTGTATGC GACCGGAGATCAGTGAAACATCCGGCGATATGCAGCGAAAGCGGAAGAGCGATAGTCTCTCATCACTCCGTGCTGATCTTCGAAGCTGTCTCTGCT TCGTCGAACGTTAAACCAATGGCTCATCGTGCGAATCCCGATGATATTCAGTTCCTGCTCGAAAGTGAGGAAGCTCGAGCCAATTACGAGGATCTCT ACGCGGCTGTGATGCGTGGAGACCACAAAAGCTGCCTCCTTTACGTAGATGAGCTGAAGCAGAGATGTGTTGAAGGTTTCAAAGATGGTGTTTTGA GCATCGAGCAGTTAGCTTCTGTTGATGGGTTATGCGAGTGGGTGTTGAAGGCTATAGGCGCATCGGATCCGGTTCAGACTTACAATATCAACCTTTC GCTTTTCACTTCGATTCCTGATCTCTGGGGGATTGATCAGCTCTTTCCAATAGTTCCTATCCACAAGCTCGATCAAAGGCCAGGAGCTCGAGGGATC
GCT-002O24	AT1G71230.1	AJH2 (COP9-signalosome 5B); protein binding	GGGTATGTAATGGAATCATCCCACACGAATCAATTTCGCGAAATTAAAACCATAGATTTCTGCAAAATTGATTCATTTCTGTAAAAAATGGAGGGTTC GTCGACGATCGCAAGGAGGACATGGGAGCTCGAGAACAACATTCCACCTGATTCATCCTCCGATTGCATCTTCTACTACGACGACACTGCGCAGAG TAAGTTCCAGCAGGAGAAACCATGGGCGAACGATCCTCACTACTTCAAGCGAGTCAAGATCTCAGCGCTTGCTCTCCTTAAGATGGTGGTCCACGC TCGCTCCGGTGGCACCATCGAAATCATGGGTCTTATGCAGGGGAAGACCGATGGTGATGCAATCATCGTTATGGACGCTTTCGCTTTGCCAGTGGA AGGAACCGAGACAAGGGTTAATGCTCAAGCCGACGCCTACGAGTACATGGTCGAGTATTCGCAGACCAACAAGCTCGCTGGGAGGTTGGAGAATG TTGTTGGATGGTATCACTCCCACCCTGGATATGGATGCTGGCTCTCGGGTATTGACGTTTCTACTCAGAGGCTTAACCAACAGTATCAGGAGCCATT TTTAGCTGTTGTTATTGATCCCACAAGGACTGTTTCAGCTGGTAAGGTTGAGATTGGAGCATTTAGAACATATTCAGAAGGATATAAGCCTCCAGATG AACCTGCTTCTGAGTATCAGACTATCCCTCTTAATAAGATCGAGGACTTTGGTGTTCACTGCAAACAGTATTATTCATTGGATGTCACTTATTTCAAGT CATCTCTTGATAGTCACCTTCTGGATCTCCTATGGAGCAAGTACTGGGTGAACACTCTTTCATCTTCCCCACTGCTGGGCAATGGAGACTATGTTGC CTGACAAATATTAGACTTGGCTGAGAAGCTTGAGCAAGCAGAGAGTCATCTGGCTCATTCTCGCTTTGGAGGAAGTGTGCCATCATCCCTTCATAGG AAAAAAGAGGATGAGTCTCAACTAACTAAGATAACTCGGGATAGCTCAAAGATAACTGTGGAACAGGTCCATGGACTAATGTCACAGGTTATCAAAG ACGTATTATTCAACTCTGTGAGCCAATCCAGCGAGTCTCCCTCTGACTCGTCGGATCTCGAGCCTATGGTTACACCTTGAAGTTGCTAGTGTTTTGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002P01	AT5G60850.1	OBP4 (OBF BINDING PROTEIN 4); DNA binding / transcription factor	GGTGCTTACTACTTCCCTCTTCTCTCTCTCTCTCTTTCCTTCTCCATCTCCACTCTAACTTCCCAATTTCTAATTCTTCCTCACACAAGAATTTTCCTTA TCCTCTCTTGGAAATGCAAGATATTCATGATTACTCGATGACCGGAGGCGTCGGAGGAGGAGGAAGTACAGGGAGGTTTTTCGGTGGAGGAATAAG CGGCGGAGGAGGCGGAGATCGGAGGATGAGAGCGCATCAGAACAACATCCTAAACCATCACCAATCTCTCAAGTGTCCTCGTTGCAATTCTCTTAA CACAAAGTTCTGTTACTACAACAATTACAATCTCTCTCAGCCTCGACACTTTTGCAAGAACTGTCGTCGTTACTGGACCAAAGGCGGCGTCCTCCGT AACGTCCCCGTCGGAGGCGGCTGCCGGAAAGCCAAACGATCTAAGTCTAAGCAGCATCCGTCGTCGCCGTCGCCGCCGTCCGACGAAAAACCAA CGACGCAAGACGTCGAGGAGAAATCCAGTAGCAGCGAGAGCTCTTCTCTAACCGCCTCTAACTCCAACGTCGCCGCCGTCGCCGCAACCGCCGCC GCAACCGCCGCCGCCGTGAAGGCTGCGTCTTCGGGTTTTACGGGTACTGATATGCCTAATCTGAAACTGTACGGAAACGGGATCGAATGGTCGAC GTTGATCGGACAGGGTTCATCGGACGGTGGAGTTTTCTCCGAAATCGGCGGTTTTACTGCTGCGCCGTCGATTGAAACGACTCCGTTTGGATTTGG GGGCAATTCCGTAAATCAACAGTGCATAGCTGATCATCTGAAGTTGGAAGGTGATACTGTGCAGCAGCAGTTTGGGGATCGAACGGATCAGGTTGA TCCGAATATGGGATTTGAACCGTTGGATTGGGGAAGTGGCGGAGGAGATCAAACACTCTTTGATCTAACCAGTACCGTTGATCATGCATACTGGAGT CAAAGTCAATGGACGTCGTCTGACCAAGATCAGAATGGTCTCTACCTTCCTTAATTCTCACAGCTTCTTCTCCTTCTTCTTCTTAACCCCAAAAAAAAA TATTTTATACAACATAAGGTAAAGTTTGATGAAGTGTTTTATTTTATTTTATTTTTATGGGTTGAAAACGGGATTTATTATATAATATATGACTGCTTGTA
GCT-002P02	AT5G57360.1	ZTL (ZEITLUPE); ubiquitin-protein ligase	GACGGTTACCACTCGTTCTTTCCACCATCTTCCCTCTCTCTCTCTCTCTCTCAAGCTCTTTTCACAGTTTTAACGCCGGTTGTTTTCAATCGCCGTTTT CATTATCTCCGGCGAACCGATTTTCTCTATACTTCCTCTTGTTGTACCCTTAGAGGTTCATGGAGTGGGACAGTAGCTCCGATCTGAGCGCCGATGA CGCTTCATCAGCGGCGGATGATGATGAGGGAGGTCTTTTTCCCGGCGGTGGACCAATTCCATTTCCGGTTGGGAATCTTCTTCACACGGCGCCTTG TGGATTCGTTGTAACTGATGCCGTTGAGCCTGACCAGCCTATCATCTATGTCAACACCGTCTTCGAAATGGTTACTGGGTATCGAGCTGAGGAGGTT CTCGGAGGAAATTGTCGCTTCTTGCAATGTAGAGGGCCGTTTGCTAAAAGAAGGCATCCTTTAGTTGATTCTATGGTTGTTTCCGAGATAAGGAAAT GTATTGATGAGGGTATTGAGTTCCAAGGCGAGTTATTGAACTTTAGTAAAGATGGATCTCCGCTGATGAATAGATTGCGGCTGACCCCAATTTATGG AGACGATGATACCATCACCCATATAATTGGAATCCAGTTCTTCATCGAAACAGACATTGACCTTGGACCAGTTCAAGGTTCTTCAACAAAAGAAAAAT CAATCGATGGTATATACTCAGCTTTAGCCGCTGCGGAGCGGAATGTTAGCAGAGGGATGTGCGGGTTATTCCAGCTGAGTGACGAGGTTGTGTCTA TGAAGATATTGTCACGCCTGACACCAAGAGACGTTGCATCTGTTAGCTCGGTATGTCGCAGGCTATATGTGTTGACAAAGAACGAGGATCTTTGGCG AAGAGTTTGTCAGAATGCTTGGGGCAGCGAGACAACACGCGTATTAGAGACTGTTCCTGGCGCAAAAAGACTCGGTTGGGGCCGCCTAGCCAGAG AACTGACTACCCTTGAAGCTGCAGCTTGGAGAAAACTTACTGTTGGAGGTGCTGTTGAGCCGTCTCGATGTAATTTTAGTGCATGTGCTGTCGGGAA CAGGGTCGTGCTCTTTGGAGGAGAAGGTGTGAATATGCAGCCTATGAACGATACCTTTGTTTTAGATCTGAATTCGGATTTCCCTGAATGGCAACAT GTCAAAGTGAGCTCCCCTCCTCCAGGACGCTGGGGACACACGCTCACTTGCGTTAATGGCTCCAATCTGGTTGTATTCGGTGGTTGTGGACAGCAA GGTTTGTTAAACGATGTGTTTGTCTTGAATCTGGATGCGAAGCCGCCTTCTTGGAGGGAGATTTCGGGTCTGGCTCCGCCTTTACCAAGATCATGGC ACAGCTCGTGCACCCTTGACGGAAGCAAACTGATTGTCTCCGGAGGTTGTGCAGACTCTGGTGTTCTTCTCAGTGATACGTTTCTCCTCGACCTCTC AATGGAGAAACCAGTGTGGAGGGAGATCCCAGCTGCCTGGACTCCGCCTTCCCGGTTAGGCCATACGTTATCGGTTTACGGAGGGAGAAAGATCT TGATGTTTGGTGGTCTGGCCAAAAGCGGGCCTTTGAGATTCCGTTCAAGCGATGTCTTCACAATGGATCTAAGCGAAGAAGAGCCTTGTTGGAGGT GTGTGACCGGTAGCGGAATGCCCGGAGCAGGAAACCCAGGAGGAGTAGCACCACCGCCGAGGCTGGACCACGTAGCGGTTAACCTCCCGGGAG GCAGAATATTGATCTTTGGTGGTTCGGTGGCTGGGCTTCACTCAGCGTCTCAGCTATATCTACTTGACCCAACGGAAGAGAAGCCCACTTGGAGAA TACTAAACATTCCGGGGAGACCACCGCGGTTTGCTTGGGGACATGGCACTTGTGTTGTGGGAGGAACACGAGCTATAGTGCTGGGTGGTCAGACC GGAGAAGAGTGGATGCTAAGTGAGCTAGACGAGTTATCACTAGCGAGCTATCTCACGTAGAAGAACGAAAGAGGAGGAGCCTATGAATTTAAGAGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002P03	AT2G29630.1	Encodes ThiC involved in thiamine biosynthesis. Translation of ThiC is regulated by a riboswitch in the 3' of untranslated region of the messenger RNA	GAGAGCTGTGAGTGACTCACTGTGCGCGGATCGAGTTCTATAACAGAGTCATCTTCTTCACTCTTCACTTTCCAGCTATGGCTTCAGTACACAGTAC CTTGATGTCGGTCGTGTGCAACAACAAAAACCACTCAGCTTGGCCCAAACTTCCAAACTCCTCCTTATTACCTGGATTCGATGTGTCTGTTGTTCAAG CTGCTGCAGTTCGGTCCAAGAAGGAGACAACAAGCACACGAGCCACGTTGACGTTTGATCCCCCAACGACTAACTCAGAGAGAGCCAAGCAGAGA AAACACACCATCGATCCTTCTTCTCCTGATTTTCAGCCAATCCCATCTTTTGAGGAATGCTTTCCTAAGAGCACTAAAGAACACAGTGAAATCGTTCA TGAAGAAACTGGCCATGTCCTTAAAGTTCCTTTTAGACGTGTGCATTTGTCTGGTGGTGAGCCAGCTTTTGACGCATATGACACTAGTGGTCCTCAA AACGTTAACCCACACGTTGGACTTGCTAAGCTAAGGAAGGAGTGGATTGATCGCCGTGAAAAGCTGGGAACACCAAGATGCACACAAATGTACTAT GCTAAACAAGGAATCATAACCGAGGAAATGCTATATTGTGCTGCAAGGGAGAAAATGGACCCTGAGTTTGTAAGATCAGAAGTTGCTCGAGGCAGG GCCATTATCCCTTCCAACAAGAAGCATTTGGAGCTGGAGCCGATGATTGTTGGTAGGAAGTTCTTGGTCAAGGTCAATGCGAACATCGGAAACTCA GCTGTGGCAAGCTCCATTGAAGAAGAAGTCTACAAGGTTCAGTGGGCAACAATGTGGGGAGCTGATACAATCATGGATCTCTCAACTGGTCGTCAC ATCCACGAGACACGCGAGTGGATCCTAAGGAACTCAGCTGTTCCTGTTGGTACGGTCCCCATTTATCAAGCGCTTGAGAAAGTGGATGGAATCGCT GAGAATCTTAGCTGGGAAGTGTTCAGAGAGACTCTGATTGAACAAGCTGAGCAAGGTGTTGACTACTTCACAATCCATGCTGGAGTTTTGCTGCGTT ACATTCCTTTAACAGCCAAGCGTATGACCGGGATCGTTTCTCGTGGAGGATCCATCCATGCTAAATGGTGCTTGGCTTACCACAAGGAGAACTTTGC TTACGAGCACTGGGATGATATTCTAGACATCTGTAACCAGTATGATGTGGCTCTTTCGATTGGGGATGGTTTGAGACCTGGCTCGATCTATGATGCT AACGACACTGCTCAGTTTGCAGAGCTCCTTACTCAAGGTGAACTTACTCGCCGAGCATGGGAAAAAGATGTCCAGGTGATGAATGAAGGTCCAGGG CATGTCCCAATGCACAAGATTCCAGAGAATATGCAGAAGCAATTGGAATGGTGTAACGAGGCACCATTCTACACACTTGGTCCTTTAACTACTGATAT TGCTCCTGGATATGATCACATTACCTCTGCCATTGGAGCTGCCAATATTGGAGCCTTGGGAACAGCTCTTCTTTGCTATGTAACACCAAAAGAGCAC CTTGGTTTACCAAACAGGGACGATGTGAAGGCCGGGGTTATAGCGTACAAGATCGCTGCTCATGCAGCTGATCTAGCCAAACAGCATCCACATGCT CAGGCATGGGATGATGCGCTGAGCAAAGCGAGGTTTGAGTTTAGATGGATGGATCAGTTTGCTCTGTCGTTGGACCCAATGACAGCTATGTCTTTC CATGATGAAACTCTTCCAGCTGATGGAGCCAAGGTTGCACACTTTTGCTCCATGTGTGGACCAAAGTTCTGCTCCATGAAGATAACCGAAGACATCC GAAAGTATGCAGAGGAGAATGGTTATGGCACTGCTGAAGAAGCCGTCAGACGAGGAATGGAGGCTATGAGTGAAGAGTTCAATGTCGCAAAGAAAA CCATTAGCCGACAGCAGCATGCTGAACTACCCCAGAAATCTATTTGCCAGAGAACTATCTCAAGCCTCCTCTGAAATAAATCCGACCGAATCCCT
GCT-002P04	AT2G43400.1	ETFQO (ELECTRON-TRANSFER FLAVOPROTEIN:UBIQUINONE OXIDOREDUCTASE); catalytic/ electron acceptor	GAATCCTCTTTCGATCATCTTCCAGTGATCATGCATAAGCTCCTTGTAAAGCTCTCTTCTTCTTCTTCATCTTTTTCTTCTAATCCGTTGAGACACTCG AAGAATCAGCGTTTCATTCTCCCTCTATTGCCTTCATCAATCACGTCAAATCCTTTTACCGCCTCTGGGTCTCCTCCAAGGCCCTCGATCCCTGCTAA TCGATTCATTTCTCGATTTGGGTATCCTTGTTCCGCCGATTTGTTTCGAAAGTCGCCAACCTTATGCTCAAATTCGACGACTTTTGGAGTAATTTGGA GTAGTAGATGTATCAGCAGTGAAGCGGGAAGAGAGTCGATAGAGTACGATGTTCTGATTGTCGGAGCTGGACCGGCCGGTCTATCTGCTGCTATAC GATTGAAACAACTGTGTCAGCAGAATAACATCGATCTCTCAGTGTGTGTCGTTGAGAAAGGAGCAGAAGTAGGAGCACACATAATCTCTGGAAATGT TTTTGAACCTCTGGCACTGGATGAACTTCTTCCACATTGGAGGCAACAACAGGCACCCATTGAGATCCCTGCCTCTTCCGATAAATTCTGGTTTCTG ACGAAAGACCGTGCCATTTCACTTCCTTCTCCGTTTGATAACAAGGGAAACTACGTTATTAGTTTGAGCCAACTGGTGCGTTGGCTAGGAGGAAAAG CGGAGGAGCTTGGAACAGAGATATATCCTGGCTTTTCTGCTAGTGAGGTGTTGTACGATGCAAGCGATAAAGTTGTTGGGATTGCAACCAGAGATAT GGGAATATCCAAAGATGGTTCCAAGAAGGAGAATTTCCAACCAGGCGTAGACATAAAAGGACGAGTGACACTATTTGCAGAAGGATGCAGAGGATC ATTGTCTGAGAAAATAATCAAAAAGTATAAATTAAGAGAAGAGGTTAATGCACAACATCAGACATATGCTTTAGGAATTAAGGAGGTTTGGGAGATAG ACGAAAGCAAGCATAACCCCGGAGAAGTTGTTCACACATTGGGTTGGCCCTTGGATCCCAAGACATATGGAGGTTCCTTCTTGTACCACATGAACG ATAGACAGATTGCGCTTGGCTTGGTTGTTGCCTTGAATTACAAAAACCCTTTCTTGAATCCGTATGAGGAGTTTCAGAAACTAAAACACCATCCTGCC ATTAAACGCGTCTTGGAAGGTGGTACTGTGCTTCAGTATGGAGCTCGTACTCTAAATGAAGGTGGTTTTCAGTAAAATTTCAGTCCATTCCCTATCCA GTTTTTCCTGGAGGAGCAATAATTGGATGTTCAGCTGGTTTTCTCAATGTACCCAAGATTAAGGGGACACATACCGCAATGAAATCAGGAATGTTAG CAGCAGAGGCTGCATTTGGTGCACTTCATGAAGGTTTAAACATGAACACATACTGGGACAACCTGAGGGATTCTTGGGTGTGGAAGGAGCTCTACG CAGCTCGAAACTACCGCCCTGCGTTTGAGTATGGGCTACTCCCTGGGTTGGCCGTAAGTGCTATGGAACACTATGTACTGAAAGGAAAGGTACCTT TCACGCTTAAGCACGGGAAAGCAGACCACGAAGCAACAGATCTTGCTCGGAAATGCACGCCAATTGAGTATCCAAAGCCAGATGGTGTTTTGTCGT TTGATGTGCCAACTTCTTTATACAGGAGTAATACTAATCATGATCATGATCAACCATCTCATCTGCGCTTGAAGGATCCCAAAATTCCAGAAAAGTTAA ACTTTCCAGAGTATGCTGCACCAGAGTCACGTTACTGCCCAGCCCGTGTGTACGAGTATGTGGAAGATGAAGAGGGTAAGCCAAAACTACAGATCA ACGCTCAAAACTGTTTGCACTGCAAGGCATGTGACATTAAAGATCCAAAGCAGAACATAGAGTGGACAGTGCCTGAAGGTGGTGGAGGCCCTGCGT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002P05	AT5G03760.1	ATCSLA09 (RESISTANT TO AGROBACTERIUM TRANSFORMATION 4); transferase, transferring glycosyl groups	GACACTGTCTCTTCTCTCTCTCTGTTTCTGTTTTTAGATCTCTCTCCTCTCTTCTTCCTTTCCAAAAATCAATCTTCTCCTTCTCCACCTTTCGTTGTTA TCTTTCCTCTCTTACCAAACCATAAAAACAAGAAAACAAACCCACAAAAACAAAAAATAAAATTGAATTCTCCTTTTTTCCGACAATCTGAGTTTCTCAG GCAGAGAAGACAGAGATTTTTCACCGCAAGGAAAACAAAGGAAAAACTCTGTCTCTCTGTTTCGTACTTCTCTTTGATTTCTTACGCCAAAAAGAGAC TTCTTTAAAGAATCACATTGTACCCTATTGCGTGTCTCACAAGAAAATCCCTCAGACACATACTCCTATTTCCTCATACGGATTTAGGGTTCTTGCTTA GTCCTCTGTTTTTTTTTTCTCGCTCGCGGCCGGAGTAAAAAGAAATGGAGTTGGGGGACTCGGCGGCAGTGATTCCGGACTCGTTCATGGGATACA GAGACGACATCACAATGCAAATGTCAATGATTCTGGATCAGATTCGAGCTCCATTGATTGTGCCAGTCCTTAGGCTCGGAGTTTATATCTGTTTGACA ATGTCGGTGATGCTCTTTGTCGAAAGGGTATACATGGGAATTGTAATCTCTCTTGTGAAGCTCTTTGGTCGAAAACCAGAGAAACGTTTCAAATGGG AACCAATGAAAGACGACATCGAGCATGGGAACTCTGTATATCCTATGGTTCTAGTTCAAATCCCAATGTACAACGAACGAGAGGTTTATCAGCTATCT ATCGGAGCTGCTTGTGGGCTCTCATGGCCGTCTGATCGAATCGTCATTCAAGTTCTTGATGATTCCACTGATCAAACGATCAAAGATCTAGTGGAGA TGGAGTGTAGCAGATGGGCGAGTAAGGGAGTAAACATAAAGTATGAGATCAGAGACAACAGAAACGGTTACAAAGCTGGAGCTTTGAAAGAAGGAA TGAAGAAGAGTTATGTCAAAAGCTGCGATTACGTCGCAATCTTCGACGCCGATTTTCAGCCTGAATCGGATTTTCTCTGGAAAACCGTACCGTTTCT CCTCCATAACCCAAAGCTTGCTCTCGTTCAAGCTCGCTGGAAATTCGTAAATTCGGATGAATGTTTGATGACAAGGATGCAAGAAATGTCTTTGGATT ATCATTTTACGGTAGAACAAGAAGTTGGATCTTCTACTTACGCCTTCTTCGGATTCAACGGGACGGCGGGAATATGGAGGATATCGGCATTAAACGA AGCTGGTGGTTGGAAAGATAGAACGACCGTGGAAGACATGGATTTGGCTGTTCGAGCTAGTCTCAAGGGCTGGAAATTTTTGTACCTCGGTTCTTT GAAGGTTAAAAACGAGTTGCCAAGTACATTCAAAGCATATAGGTATCAACAGCACAGGTGGTCATGTGGTCCAGCAAATCTTTTCAGGAAAATGGCA TTCGAAATCATGACTAATAAGAACGTGACTCTATGGAAGAAAGTTCATGTGATATATAGCTTCTTCGTGGTGAGAAAGCTCGTGGCACACATTGTTAC CTTTATCTTCTATTGTGTGATCTTACCGGCCACGGTTCTTGTACCGGAAGTTTCCGTACCGAAATGGGGAGCGGTTTACATTCCTTCGGTTATTACTC TGCTCAATGCCGTCGGTACACCGAGGTCACTGCATCTTATGGTGTTTTGGATTCTGTTCGAGAACGTGATGTCTCTTCACAGAACAAAAGCTACCTT CATCGGTTTACTCGAAGGCGGAAGAGTTAACGAGTGGATTGTTACTGAGAAGCTCGGAGATCTTAAGGCTAAATCAGCCACCAAGACTCCCAAGAA GCTTCGTTTTAGATTTGGAGATAGAATTCATGTGTTGGAACTCGGCGTAGGAATGTATCTGTTCTTTGTGGGATGTTATGACGCATTTTTTGGGAAGA
GCT-002P06	AT2G19810.1	zinc finger (CCCH-type) family protein	GGAACACATCGGAGAAGACGAATGTGATTTTCTCTTTCACTTAAATAAATGATGATCGGAGAAACTCATCGTGCTTATCCAACGGTTCATATTCCTCC ATGGCCATTTTTCGACGATCTAACGGCGGCAGCTTTTAATGGAAGTCCTGACGGCGGAAATAGCATGATCGAGGCTTTGGCTGCGTTGCAGCATTA TCTTCCGTCGAACGAGCCGGATCCGGATTCGGATCCTGATTTATCGGGTCCGGATTCACCAATCGATGCTTACTCCTGCGATCATTTCCGGATGTTC GAGTTTAAAGTCCGGCGATGTGCCCGTGGCCGGAGCCATGACTGGACGGAGTGTCCGTACGCTCATCCCGGAGAAAAAGCTCGCCGTCGAGATC CGAGGAAGTATCATTACTCAGGTACGGCGTGTCCTGATTTTCGAAAAGGCAATTGCCCAAAAGGCGACACGTGTGAGTTTTCTCATGGAGTCTTCGA GTGTTGGCTTCATCCGGCGCGTTACCGGACTCAGCCGTGTAAAGACGGTGGTCACTGTCGCCGTCGTGTTTGTTTCTTCGCTCATTCGCCGGATCA GCTTAGGGTTTTGCCGAATCAAAGCCCCGATCGAGTCGATTCGTTCGACGGTGTGTCTCCGATACGTAGGGCGTTTCAGTTTTCAATTTCTCCGGC GTCTGGTTCGCCGCCGGTGAGTCCACGAGCTGACTCGGAGTCTTCTGCTTTACTGAGTCGTTCACTCGGGTCTGGTTCTGTGAACGACGTCGTTGC GTCTCTGAGGAACTTGCAGCTTAATAAAGTGAAATCTCTTCCTTCGTCTTGCAACAATCATCAAATCGGATGCTACGGATCCGGGTTCGGGTCTCCT CGTGGATCAGTCTTGGGTCCCGGGTTTCGGAGTTTACCAAATACCCCGACCCGACTCGACACTGGGTATACGGACATTTGGGATAATGGTTTGGAG GAAGAACCGGCGATGGAACGGGTTGAGTCGGGTCGTGAACTGCGAGCGAAGATGTTCGAGAAGCTGAGCAAGGAAAATTGTATGGATCGGGTTGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002P07	AT4G34610.1	BLH6 (BELL1-LIKE HOMEODOMAIN 5); DNA binding / transcription factor	GAGGATTAGGTTTAGGATTAGGAGAAAGATGAAGAGAGGGGTTTAGGTCGACCAACTGGTTGTTAAGGATAGAAACTCCTTAACCATACATTTATAA CATTTTCGCAACAATTTTCTTCTCATTACCAATTACAACTTGATTCCAAGTTTCAACAAGCAAGAAACAGGAAGTTCAAGCATCAACTATATCATGGCT TGCTGAAGCAAGATTCTTCAGAAAACAAAGTTTTTATTTTGATATATTTTTCTTCCTCTAATTTTTATTAAATAAGAAAAAAAAGGTTTTTATTTGCTTTC TTTCTTCTGGGGGAGGGAGAGAATGATATGGGTCTTTCACGTGTGACATTGATGAGATGATGACTACAAATTATATACCACTAGAAGAAGAAAAATAT AACAAGAGAAAAATGCGTAACCTTTGATTTCTTTCTCTGAAAATTTGGGAGAAAGCAACAGGATCTTCCACATTTTGTATTTTGGGATCATCAATTTTA TTTTTTTATAATTCCTTTTAAGACTTGGCTTGTCTTCTTCAACAAAGCAGCAGAGTATATCCAGGTTCCTGGCTGCTGCTGCTGCTTCTATGACCTGAT CACAAGAAAAGGGACTATGGAACTCAACTGATCCAAGAATAACACTCCATTGATACATTTCGATGGAGAATTATCCGGAAACTCCGTTTCTTCCCGGT AATGCAATCATCCACATGAATCCTACAGTTTCTTACTCTGACGAATTAGCCGGTAGAGAAAGAACTGAAGCTAGCAATGTATCAGCTTCACAAGAGA GGCAAGTGTTGTCCAGATTTGGCGGAATTTCGCAAATGCAGGACATTCAAGATTTCGGTTCTTGAGAGACCAAGCGATGGCAGGAACTACTGGAGT TCTTCAGACCGGTCAGGGACTGTCCCTTAGTCTCGGTTCACAGATTCTCCCTGGAATTCATCAGATGAGCCATCAAAGTATGGAGCCAAGAGCCGA AAATTTTAGAGGCAATGAATATACAACGCAGAGCTTTCCCGGTGGGAATCAGAACTTGGATGCAGTGAGAACAATTCCCAATTCAAAGTATCTCAAG GCGGCTCAACAGCTTCTAGATGAGGCTGTTAATGTAAAGAAAGCTCTGAAGCAGTTTCAGGCAGAGGGAGATAAGAACAACGAGAACCCTCAAAAA CCGGATCAGAACCTTCAAGACTCGAGCACGAATCCTCCCCCTGAAATCTCTCAATCGGAGAGACAAGAAATGCAGAGCAAGTTAACAAAACTCTTGT CAATGTTGGATGAGGTGGATAGAAGATATAAGCAATATTACCAGCAGATGCAGATAGTAGTATCCTCTTTCGATGTAATAGCAGGTTCTGGAGCTGC TAAGCCATACACGGCACTCGCGCTTCAAACCATTTCACGCCATTTCCGTAGCCTAAGAGATGCAATATCAGGACAAATCCTCGAGACAAGAAAATGC CTCGGTGAACAAGATGGATCAGATGGGAACAGAGTTGGGATAATAAGCCGACTTAAGTACGTTGATCAACATTTAAGACAACAAAGAGGTTTTATGC AACCTCAAGCTTGGAGGCCTCAACGTGGTTTACCTGAAAACTCTGTTTTGATTCTCCGTGCTTGGCTCTTCGAGCATTTTCTTCACCCGTACCCAAAG GATTCGGACAAGATCATGCTAGCAAGACAAACAGGGCTTAGCCGTGGTCAGGTCTCAAACTGGTTTATAAATGCTCGTGTGCGTTTATGGAAGCCG ATGGTTGAGGAAATATATAAGGAGGAATTCACAGAGAATGATTCCAACTCGTCCTCTGAAAATACACCAAAAATGTCTGAGATAGGACCTGGTGCTG CTGATGATGAAGATCGAACTCAAGATTTTGCACAAGACCGGAACAAACCGGATCATGGACATGGTTATGGTGTGGAAACTTGTGGCATGGTTCAGG GCGATCAAATGGATGGTCGGCGGTTCGTGACGGTTGAGCCTACGTATCATGTGGCTGAGATGTCAAGATTTGGTGGTGGTAGTGGTGTGTCTTTGA GGATAGAGAGAGCGAATTATCTTCTGCTTTCATCCATTGGACCAAAAAGAAGATAAAAAAAAGAAATCAAAGGTGAGGAAGCTCTGCAGCTCATCCA
GCT-002P08	AT5G13730.1	SIG4 (SIGMA FACTOR 4); DNA binding / DNA-directed RNA polymerase/ transcription factor	TGGCGAGGATACCGACCACAGCCACCGCCACCATGTGTCCGTCTCCTCCTATCCCAACAATTTCTCCCTTACTCAGAACAACTCACCAATGTCAACC ATCTTCTTCGTCAACATCTCCATCTTCCATAAAGCTTGGTGCGGCTTTGGTTTCCGGTGAGACCACGGTGGACAGAGCGGCTGAGAGCTCCGTGAT GATCAAACCTGAGAAATGGGCATTTCAATTAGAGAAGAGGAGGAAGAGGAGAAGGAGAAGAAGAGTAGGTTTCGAGCGTTTGGAGCCGGAAGAAG ATGAAAATGTTGGCCCAGAAGTAGAAGCTGAAGCAGAGGCAGAAGCAATCAGTGTTCCTGTTGCAGCTTCACGATCTGGGTTTTTGAGTCGTTTAGA AGAGGTTCAGCTTTGCTTGTACCTCAAGGAAGGAGCAAAACTTGAAAATGTGGGAACAAGTGTTGAAGAGAATGAAATTGTATCAGTTTTGTTGTCC AGTGGCAAAGGGAAGAAGAAGCGTAGTGCTAATGAAATATTATGCCGAAGAAGAGAAGCCAGAGAAAAGATTACTCGTTGTTACCGGAGGCTCGTT GTCTCCATTGCAACAGGCTACCAAGGCAAAGGTTTGAATTTGCAAGACCTTATTCAGGAAGGAAGCATAGGGCTTCTCCGAGGAGCTGAGAGATTT GATCCAGAACGAGGCTACAAACTATCAACTTACGTATACTGGTGGATCAAACAAGCCATCCTAAGGGCTATTGCGCACAAGTCTAGACTAGTCAAAT TGCCGCTTGTTGTGTGTAGGGAAGCATGTGGGAGTTGACGGCAAAAGTTGCAGAGGCTAGTAATGTGTTGACCAGGAAACTTAAACGGATACCGAG CTGTGAAGAGATTGCAGAGCACCTCAACATCCACGTATCAGCGGTTAGACTTGCTGTGGAGCGGGGAAGATCCCCTGTTTCGTTGGACCGAGTCG CGTCTCTTAATGGCCGCATGACATTGCAGGAGATTGTACGGGGACCTGATGAAACAAGGCCAGAGGAGATGGTGAAAAGGGAACACATGAAGCAT GAGATTGAGCAGCTTTTGGGGAGTCTTACGGCGAGAGAATCTCGAGTATTGGGACTCTACTTTGGGCTCAACGGAGAGACTCCTATGTCGTTTGAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002P09	AT1G76590.1	zinc-binding family protein	GAAACACAAAAACCTCAATTTCTTATTTTCAGCTATAGCAGTCGCCTCCTCCCACTAACTCAAATCCTCTCTTCTTAGTCTTCTCAATCAAATCTGTTT CTTTCTTCATTATTGAAGCTGGCTATCGAAAACCACAAGAACTTTGGGTCCAATAAGCCCAATCACAAGAAACTAATGAGAACAATGATGATAGCTGA AGAAGACAATTATCTAAGTCCACCATGGCTAATCCCAATGCTAAGAGCAGACTACTTCGTCCCTTGTTCGATCCACGCCGATTCCAACAAAAGCGAA TGCAACATGTTCTGTCTTGACTGCACTTCCAATGCCTTTTGTCCTTACTGTTTGATCGATCACAAAAACCATCGTGTCCTTCAGATACGGAGATCATC GTACCACAACGTTGTGAGGGTTAACGAGATTCAGAAGTACATAGACATATCCTGTGTTCAGACATATATAATCAACAGTGCAAGGATCGTGTTCTTGA ACGAACGTCCTCAGCCCAGAATCGGCAAAGGCGTTACAAATACTTGTGAGATCTGTTGCAGAAGCCTCCTTGATTCTTTCCGTTTCTGCTCTCTCGG TTGCAAACTTGGAGGGATGAAGAGAGGGAATCAAAGCCTAACCTTCTCTTTGAAAGGGAAGCATGGGAGGGAGTATCAAGGTGGGTCGGAATCTGA TGAGGCGACCACACCAACTAAGATACGCAAGACGTGTGCTTTCAACCGTCTGATGAGCGGTCTCTCCATCTCCACCGTTAAGTCAGATTACTTTTCA GGGTCTTCGAGCTCCGGTGATGATAGCGGTTTTAATCTTTCCCCCGGGACGCCGCCGATATATAATCACCGGAATTCAAGCAGACGGAAGGGCGTA CCACACCGTGCTCCGTTCTGAAATCAACTAACTATACACTATGCAGAAAATGCCCATATATATTAGAATATGAGGTCATTATTATATTGTAAATGGTTA GTATTCGGTTTTTGTTTTTTTTTTTAACTTCTGAAGCTAGGTATAGTCTATAGATAATATAAGAAAGGATATATACTTAATACTTGCATGTTTTTCTTTTG TTATAAATATAGAATATAGGTTATAGTACTCAAGGGGTTGAAATATGTTTTTTATGTAGATTTTGCTGTAAAAAGGAAGGACATATGGTTCGTGGTGTG
GCT-002P10	AT4G36040.1	DNAJ heat shock N-terminal domain-containing protein (J11)	GGTCTTTCCCTCTCTCCAAGAACAAAAAAAAAACGCAGAGAAAATTAGAACTTAGCAAACGACACGACACCGTTTCATAGCAAAAATGCTTTCTTCTTC TCCAACGTCCTTCGCTCATCCATTCCTCTCCTCTTCTCCGCCTCTCTCCCCAATATCTCCTCCGTCTCGTTCTGCTCGGATCTCTCCTCCTCTCGTCT CCGCATCTTGCTCCTACACCTGCGCGGAGGACTCGCCGAGACTGCATCAGATCCCGCGGCGATTGAAGACGGCGACCGCCTCGCTTTACGATATT CTGGAGGTTCCTCTCGGCGCCACGAGCCAAGATATCAAATCGGCTTACCGGAGATTGGCCAGGACCTGCCATCCCGACGTGGCGGCAACCGATCG GACGAATTCGTCTTCTTCGGCTGATGAATTCATGAAGATCCACGCGGCGTACTGTACGCTCTCTGATCCTGAGAAACGATCTGTTTACGATCGGAGG ATGCTGCGTCGGAGTCGTCCTTTGACCGTCGGTACCTCCGGGCTGGGCAGTTACGTCGGGCGGAACTGGGAAACAGATCAGTGCTGGTAGCGAG TTGGCTCGGTCCCCGAGTTAGCCCGAGTTAATTCCAATATTAAAACAAAAAAAAAGTAAATCGATTGTAAATAGGAAAGCGATAAGTGTCTGGGCTTT GACGTTGTAATTAATATTAGTAAGCTAACACGGACGATGATTAGTGTGCTAACGTACGCTTCCTCACTCTCTCCCCACGAGCGATCGGCACCGTTTG
GCT-002P11	AT2G17480.1	MLO8 (MILDEW RESISTANCE LOCUS O 8); calmodulin binding	GACAAGAAAAAAACTAATCTAAACTTCCTCGATTTAAGGGAATCTATAATCTCCGGAGACAGATTTCATTTCTGCATCCTCCATTCATCCATTGATTTG AAGGGTTTCTCGAAATAGGTAACAAGTTCGAGACTTTTGCAACCGCGTGAAAACACCAAAACCAAAGTGTGTAGCTTCCGAAAATGTGATTTTTGAA GACAGCTCATTACTCTGTCAACTTCAACAATTTACTTGTTGTGTTTAAGTATCGAAGCCGAAGCAGGTACACCCAATAACTTGGTCTGAAAAAAAAAA CACGGAGGTATGTTTGGAATCAATGGTACTTTGCTTCATCGGCTGATTTGTCTCGGCCTCTGGTGGTCTTTGTTCGGCGGAGGAGAGACGGTGGTA ATGGCGGAGGATGAGGCTAAAGACAGAGCGCTTAATCAGACACCGACTTGGGCTGTTGCAGCCGTCTGCACTTTCTTCATCGTTGTCTCCGTTGTT CTTGAGAAGCTGATTCACAAAGTTGGAACGGTTCTATCGGACCGGCACAAGAAAGCTCTTCTCGATGCCTTGGAGAAGATCAAATCAGAGCTGATG ATTCTTGGATTCATCTCTTTGCTTCTGACATTTGGACAAAACTACATTTTGAAGATTTGTATCCCTTCACATGTTGCTCATACGATGCTCCCGTGCCCT GCTCCTACTGCATGGAAAGAGGAGGGGGATGAGAAAGGGGAAGGTCACAGGAGACTCTTGTGGTTTGAGCACAGATTCCTATCAGGAGATGAACC ACCTTCCAAAAGATGCGAAGAGGGTTATGAACAGCTTATCTCTGCCAAGGCGCTTCATCAGCTGCACATCCTCATATTCTTCTTAGCCATTTTACACG TTCTCTACAGCTTCTTAACCATGATGCTTGGGAGGCTAAAGATGCGTGGATGGAAGCATTGGGAGAAAGAGACATCTTCCCACGATTACGAGTTTTC AACAGATACTTCCAGATTTAGGCTAACTCATGAAACGTCTTTTGTAAGAGCGCACACTAGTTTCTGGACTCGGATTCCATTCTTTTTCTGTATTGGATG TTTCTTCAGACAGTTTTTCAGATCTGTTGGGAAAACTGACTATTTGACATTGCGAAATGGATTCATCACTGTTCATTTTGGTCCAGGAGCTCAATTTAA CTTCCAAAAATACATAAAAAGATCGTTGGAGGAGGATTTCAAGCTGGTTGTTGGAGTCAGCCCGGTCTTGTGGGCATCGTTTGTGCTATTCCTACTC CTAAATGTTGAAGGCTTCAAGGCATTGTATTTCGGAACTGCATTGCCGGTTATTATAATTCTAGCTGTGGGGACGAAACTTCAAGCGATCATGGCAA GGATGGCTATGGGGATCACCGATAAACATGCAGTTGTTCAGGGAATGCCGCTTGTACAAGGCAACGATGAGTATTTCTGGTTCCATCGTCCCCAAC TGATTCTCCATCTCATCCATTTCGCCTTGTTTCAGAACGCTTTTCAGATTACATATTTCTTCTGGATATGGTATTCTTTTGGAAAAGATTCATGCTACCA TCCTAACTTCAAGATTGCCCTTGTAAAAGTAGCAATAGCTGTAGGAGTATTATGCCTTTGCAGCTACATCACACTCCCTCTTTATGCACTCGTTACTC AGATGGGTTCGCGGATGAAGAAATCGGTTTTCGATGAACAAACATCGAAAGCGCTCAAGAAATGGAGAATGGCTGTGAAGAAGAAGAAAGGAGGGA AAGCGAGGACCACCAAGAGACTAGGTGGAGATGGAAGCGTGAGCCCTACGGCATCAACGGTTAGGTCTTCTTTGTCCGTACGGTCATTGCAGCGT TATAAAACCACAGGACATTCGATGAGATACGAAGGGCTTGAACCTGAGACATCATCGGATCTAGACACTGACAACGAGGCTTTGACTCCACCTATGT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002P12	AT1G75980.1	similar to Os02g0120400 [Oryza sativa (japonica cultivar-group)] (GB:NP_001045709.1); similar to ENSANGP00000021928 [Anopheles gambiae str. PEST] (GB:XP_312490.2); contains InterPro domain Single hybrid motif; (InterPro:IPR011053)	GGGGAAGAAAACGATTTCTTCTGTATTCTTACGCTGTTTGAAACTATCGAAGAAGGAATGGAGATTCATAAGACTGATGAGGCTGCGAAGAATCCAG AAATCGAGGATATAGTCGAATTAACTAAGCAAAAGCAATCCGAAGAATTAGAACACTGCGACGAGCAACAGCAGCAGCAGCAAGCCGAAGAAGATG AGAAAAAACGAGATGAAGACGAAGACGAATTGCGAAATCTGCTGCTTTCAGATATCGGAGATCTTCCGCTTTCTCCTCCATCAGCTACACAAGTCAA TTTCGTTTCTTACTTCATCACAGATTTTACGAAATCGGGTCATGATCAGTATATCTACCGTCACGCCAATGGTTTGTGTGTAATTGGATTGGCTCCTAC GCATATAGCTTTTAAGGACGAAGGTGGGATCACCAACATCGATTTCAATGTTGGTAAGTCTGATCGTAGCGTCTTGAAAGTCTCCGGCAAGCGTAAA AAGAATGCTATGCGCTCTGAATCGAATACAGCATTGTGCAAAGTTTCTACTGCAAATGATTCTTATATTGTGAGGTGTTGCGTTAAAGGCTCTCTCTT GGAGGTGAACGAGAGATTAATCAAGCAACCACAGCTTCTTAATTCATCGGCTGATCGCGAAGGCTATATTGCGATAATCATGCCAAGACCTGCAGAT TGGACCAAAAACAAGGAATCACTAATAACCTTGGAGGAATATAAAGAAAAGAAAGAAGTGTCTCTATGAGACAGTTTGCCGAAACCACGGTTGATTT CTTTGGAAACCGTGTTTGCTCTGAAGCTGATGATAAAGCTTAAGTCAGATTATATTGAAGGTTTATGGCTGTCTTGTTCTACAATATTCGTAAAGCTG
GCT-002P13	AT4G17090.1	CT-BMY (BETA-AMYLASE 8); beta-amylase	GAAAAACATAAACAGCATCTTCTGCTCTCAACACAAACACCTATTCTCTCTCTGTCCTCATTTCTCAACAGAGCAAAGAGACAGAGAGATATGGAGTT AACACTAAATTCCTCGAGCTCTCTCATCAAACGTAAAGATACCAAAAGTTCAAGGAACCAAGACAATTCCTCCAACATGTCCTTTGCGATGATGAAGC CACCAACATATCAATTCCAAGCAAAGAACTCAGTCAAGGAGATGAAGTTCACTCATGAGAAGACCTTTACTCCAGAAGGTGAAACCACTGAGAGATG GGAGAAGCTCCACGTTCTCTCATACCCACACCCGAAGAGCGACGCTAGTGTTCCTGTGTTTGTCATGTTACCGCTCGACACGGTCACAATGTCAGG GCACTTGAACAAACCAAGAGCCATGAACGCTAGTTTGATGGCTCTCAAAGGAGCTGGTGTGGAAGGTGTAATGGTGGATGCTTGGTGGGGATTGGT GGAGAAAGATGGACCTATGAAGTATAACTGGGAAGGCTATGCAGAGCTTATACAGATGGTTCAAAAGCACGGTCTCAAGCTCCAGGTCGTTATGTC TTTCCATCAATGTGGAGGAAACGTAGGAGACTCTTGCAGTATTCCCTTGCCTCCATGGGTGCTTGAAGAAATCAGCAAGAACCCTGATCTTGTCTAC ACAGACAAATCTGGAAGAAGAAATCCTGAGTATATCTCCTTGGGATGTGATTCTGTGCCTGTGCTTAGAGGAAGAACACCTATCCAGGTCTACTCAG ATTTTATGAGGAGCTTCCGTGAAAGATTCGACAGTTGCATAGGAGGAGTTATTGCGGAAATACAAGTGGGAATGGGACCTTGTGGAGAATTGAGATA CCCATCATACCCTGAGAGCAACGGGACATGGAGTTTCCCCGGAATCGGAGAGTTCCAGTGCTACGACAAGTATATGAGATCGTCGCTTCAAGCATA TGCTGAATCAATCGGAAAAACAAACTGGGGAACAAGTGGACCTCACGACGCCGGAGAGTACAAGAACCTCCCAGAAGACACAGAGTTTTTCCGGAG AGACGGAACATGGAACAGCGAGTACGGAAAGTTCTTCATGGAATGGTATTCCGAGAAGCTACTAGAACATGGAGACAGACTCTTAGCTTCAGCCAA AGGAATCTTCCAAGGAACCGGAGCAAAGCTATCCGGTAAAGTAGCAGGGATTCACTGGCACTACAACACCAGGTCACACGCTGCTGAGCTAACCG CTGGATACTACAACACAAGAAACCACGACGGGTACTTACCAATAGCCAAGATGTTCAACAAACATGGCGTTGTGCTTAACTTCACCTGCATGGAGAT GAAAGACGGTGAACAACCAGAGCACGCGAACTGCTCACCGGAAGGTCTGGTTAAGCAAGTGCAGAACGCGACGAGGCAGGCAGGAACAGAGCTA GCTGGTGAGAACGCGTTAGAGAGATACGACTCGAGCGCGTTTGGACAAGTGGTTGCAACGAATAGGTCAGATTCTGGAAACGGGTTAACCGCATTT ACTTACCTGAGAATGAACAAGAGGTTATTTGAGGGTCAAAATTGGCAGCAGTTAGTGGAGTTTGTTAAGAACATGAAGGAAGGTGGTCATGGCAAGA AACTCTCGGAGGAAGACACGACAGGAAGTGATCTCTATGTTGGATTTGTCAGAGGCAAGAAGATCACTGAGAAAGTTGAGGAAGCTTCACTAGTGT

#Thalophila	AGI_CODE	Description	Sequence
GCT-002P14	AT3G46590.2	TRFL1 (TRF-LIKE 1); DNA binding	GGCTTGAATTTGATTTGATTATCTTTTGTGGTGGTGAGAGAAAAATTAAAATCCTATGGGTAGCGTTTGAAACAAGTAAAATTTTTCCTTCACTTTCTT GGGGAAAAACATGGGTTAGAGGAAAGATTTTGGTTGAGTGTGTAAAGAATTCTGATTCCTTCTTTTTGCGTTTTGTGATTACTTTGTCTCCGATCTCG CATTTTCTGGAGATTTCGTTCGAAATTGTTGAACTTTTCTCTTTACTGTTTTGGAAACTGAAGATTCAGAAAAAGATCGCTAAGTTTCATCGATTTCCTT CACGCGCGTGGCGATCACATCATCGTGTTATGCATCCAAAGTAATGGTGTCACATAAAGTCTTAGAATTTGGAGACGATGGCTACAAATTGCCTGCA AAGGCACGAGCTTCAAGATCAGTCCGGAAAAGACGCATATACGAGAAGAAAATGTCAGGAGAGGAGAAAATGTGCGCCATTGACTTATTGGCCACC GTAGCTGGAAGCTTGCTGCTCGAGAGCAAAGAAAGCTCGGCAAATTCTGGTGAAGATATCTGTGTAGTTGTACAAAACACTGTAAAGAAGGAGATC CCGGCTGAAGAAAACCCTGTGAATCGTAGTAATCACTTGTTGGTAGGTGACAAAGTAGAGAATGAGGTGAAGGGTTTTAGTGATTCTTGTGAAGTTG AAAACTTTACTCAGGAACTTAATCCGGGTGTGAATGGTGACGTGAAGCCTGATGTTGTAGTTAGTATAGGTAGTAACAGTAGTACCGAGTTGGGAGG AGCATGTGGGATCATCGATGGTCCCCATGGCTCTCAAGATGATGTACATTTGTTTAGTAGAGATAATGATGATGATGAAAACTTCTCTGGGTATATTC GCCCTCGTATGAATAGGACTGTTCCTCGTATTGGAGACAGAAGAATCAGGAAGATATTGGCATCTAGACATTGGAAAGGAGGTTCCAGGAACAACA ACGCAGATGCAAAGCCGTGGTATTGCTCTAAGAGGAGTTATTACTTGCAACATCATCAGAGGAATTATCCCATCAAGAAAAGGAAATACTTTGACAG CATTTCCGATTCGAATTCTGATGATTACCATTTGAAAGCAAAGACACATAAAGGAAGCAGAACAGTATCTTCCATGAAAAGTCGAAATGCGTCCTTTG TGTCAAGAGACCATCATGTGAGGCTGCGGATCAAATCCTTTAGGGTGCCTGAGCTTTTCATAGAAATTCCAGAGACTGCTACTGTTGGCTCCTTGAA GCGGATGGTGATGGAAGCAGTGACCACCATACTCGGTGATGGACTCCGAGTGGGGCTGATGGTTCAAGGGAAGAAAGTCAGAGACGATAGCAAAA CCCTTCTCCAGACTGGTATCTCTGAGGAGAACACTCACTTGGACTCTCTTGGTTTCAGCCTTGAGCCCAGCTTAGAAACTACCTCTCAACCTTTGTTA TCCAGTTACCTCTCAGAGCATGCCTTTGATGATTTGACGTTATGCCCCGGCAATGTATTGGACTCTAATCATAACTCAGCACCATCACCAGCAGATG ATTCTAGAGCTTTGGTTCCCATTGCGTCAGCAGCATTGTTGGCACCTCAGGCTCCTAACCGTAAGTTTAAAAGGACTGAGCAGCAGCATGCTGCACA TCGCAGAATTCGTCGACCTTTCTCAGTTACTGAAGTAGAAGCACTTGTCCTAGCCGTTGAGAAACTCGGAACCGGAAGGTGGAGAGACGTTAAGGT TCGTGCTTTTGAGGATGCAGACCACCGTACCTATGTTGATCTCAAGGATAAATGGAAGACGCTGGTCCACACAGCGAGGATATCGCCACAGCAGAG GAGAGGAGAGCCTGTGCCGCAGGTTCTATTGGACCGTGTTCTCAAGGCACACGCTTACTGGTCACAACACCAAATGTATCAACTCCAGACCGAGCC
GCT-002P15	AT1G23200.1	pectinesterase family protein	GAATATATCTCTCCTCATCCAAAATTAAAAAAAAAAAAAAAAAACTCTATTGATACTTTTCAAACCCACAAATGGATCACAAACTCCTACTTACACCTCC CAAATGTTTATACACCAAATATATTATAACAATCATTTACTTCTTATCAATCTCTCAGCACAATGCCCATTACATAACTTCATGCAAACAAACACCATAC CCTAACGTATGCGCCCACCACATGTCCAATTCACCTCTCAAAACTTTAGACGACCAAACCGATGGGCTCACTTTCCACGACCTTGTGGTTAGCTCCA CCATGGACCAAGCCATGCACCTCCACCGCCTCGTCTCCACGGTGAAACGACGCCGTCGTTATCTCCACAAACACGCCACGTCAGCTTTGCTCGATT GCTTGGAGCTCTACGAGGACACCATAGACCAACTCAACTACTCTCGGCGATCCTACGATCAAAATTCTTCGGCGCATGATAGACAAACCTCGTTAAG CGCCGCCATAGCTAATCAAGACACTTGCAAAAACGGATTTAAAGACTTTAATTTAACCTCATCATATTCAAAATACTTTCCTATACACTCTCACCGGAA TCTCACTAAGTCTATAAGCAACTCTTTGGCGGTTGCTAAGGCTGCGGCTACGGCTGAGAAATATCCAGCGACAACGTTTACAAAGTTTAGCAAACAA GGAAGTCGTGGCGGAGGTGGTGGTAGTCGGAGACTGATGTTTTCCGACGAGAAATTTCCTTCGTGGATACCTTTTTCCGACCGTAAACTTCTGCAA GATTCGGGAACTACGACCAAAGCCAAAGCCGATCTTGTGGTAGCTAAAGACGGTTCGGGTCGTTACACAAGTATTCAACAAGCGGTAAACGCAGCA GCCAAATTTTCTCGGAGAAACAAGAGGCTTGTGATATACGTTAAAGCCGGCGTTTACCAAGAAAACGTGGAGATCAAGAAATCGATCAAGAATTTGA TGGTTATCGGAGACGGCATCGACTCTACCATTGTCACCGGAAATAGGAACGTTAAAGATGGCACGACGACGTTTCGATCCGCAACTTTTGCTGTTTC CGGCAGCGGTTTTATCGGACGAGACATAACATTCGAGAACACGGCGGGTCCACAGAAACACCAAGCGGTGGCTCTCCGATCAGGTTCAGATTTCG CCGTCTTCTACGGCTGTTCTTTCAAAGGCTATCAAGACACTCTCTACCTTCACTCTCGCCGTCAGTTCTTGAGAGACTGCGACGTTCACGGCACCGT CGACTTCATCTTCGGAGACGCAACCGCAAATCTCCAAAACTGCAACATCTACGCTCGTAAACCGATGAGCGGCCAGAAAAACACTGTCACTGCTCA ATCACGCAAAGACCCTAACGAGAACACTGGCTTCGTCATCCAGAGCTCTACGGTGGCTACGGCGTCGGAGACTTACTTAGGCCGGCTGTGGAAAT CGTACTCGAGGACGGTTTTCATGAAATGTGATCTCGGAGGGCTTGTGAATCCGGCGGGATGGTTGCCTTGGAGCGGCGACTTTGCTCTGAAGACT CTTTATTACGGCGAGTATGCTAATACCGGCGCCGGAGCAAGTCTGTCTCGTAGAGTTACGTGGCCGGGATATCATGTTATAAAGACGGCGACGGAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-002P16	AT1G03040.1	basic helix-loop-helix (bHLH) family protein	GGTTTCTGTTTGAGTAGATTCGCATGGAGATTGTTCTTCAAGGTGTCTAACTCGCTATCCTCAACTCACCCAACTCGACTGAGTCATAGTTTTTTTAA CCTAACTCGTTTCCATGGCTAATAACAACAACCCACATGATAACCTCTCCGATCAATCTCCTTCCGACGATTTCTTCGAGCAGATCCTCGGGATTTCT AACTTCTCTGCATCTTCCGGTTCTGGACTTTCTGGACTAGCCGGAGGGTTAAGCGGCGTCGGTCCACCGCCGATGATGCTTCAGCTCGGTTCCGGC GACGAGGGGAATCATAATCACATGGGCGCCATTGGAGCAGGTGGACCTTTAGGGTTTCATAACCAGATGTTTCCGTTGGGCTTAAGCCTGGATCAA GGCAAAGGACATGGCTTTCTTAAACCAGAAGGTGTTCATGGAAGTGGGAAACGTTTCCAAGATGATGTTGTTGATAATCGATGTTCCTCCATGAAAC CTGTTTTCCATGGGCAGCCAATGTCACAGCCAGCTCCACCAATGCCGCATCAACAATCTTCAATCCGACCTAGAGTTAGGGCTAGGCGAGGTCAGG CCACCGATCCACATAGCATTGCTGAGCGGCTGCGTAGGGAAAGAATAGCCGAACGGATCAGGGCGTTACAGGAACTCGTACCTACTGTCAGCAAG ACAGATAGGGCTGCTATGATTGATGAGATTGTCGATTATGTAAAGTTTCTCAGGCTCCAAGTTAAGGTCTTGAGCATGAGCCGTCTTGGTGGAGCCG GTGCTGTTGCTCCACTAGTCACTGAAATGCCATTGTCTTCATCGATTGAGGATGAGACGCAAGGCGTGTGGGAGAAATGGTCAAACGATGGGACAG AACTGCAAGTGGCTAAGTTGATGGAAGAAAACGTTGGAGCAGCGATGCAGCTTTTGCAATCAAAGGCTCTTTGCATAATGCCGATCTCATTGGCGAT GGCGATTTACCATTCTCAGCCACAAGACACATCCTCTTCAATCATCAAACCAGAGATGAATCCTCCACCGTAGATCTTAACGGTCCTCGGCATTTTG CTCTTTTTTTCCCCACTACTACCACTTTTGTGACTGATAAAAGGTAAAAAAAAAAAAGACTTTGAAGATGGAACCAAAGTAGGATTTGTGCAGTAAGAA
GCT-002P17	AT2G41110.1	ATCAL4 (calmodulin-related protein 4); calcium ion binding	GACTCTCATTTCTCTTTTGTATTTTTTTTTTTTTGCTCTCATCTCTCCTTCCTCCATTACAGAGAGGAACCCAAAAAGAAAAGGTATTTAGTAAGTTTTA CGAAAGGTAATACAGAAAAAACTATGGCGGATCAGCTCACTGACGATCAGATCTCTGAGTTCAAGGAAGCCTTCAGCTTATTCGACAAGGATGGTGA TGGTTGCATTACAACAAAGGAGCTTGGAACCGTGATGCGATCCCTTGGTCAAAACCCGACAGAAGCTGAGCTTCAGGACATGATCAACGAAGTGGA TGCAGATGGTAACGGCACCATCGATTTCCCAGAGTTCTTGAACCTAATGGCTCGCAAAATGAAGGACACAGACTCTGAGGAAGAACTCAAGGAAGC TTTCAGAGTCTTCGACAAAGACCAGAACGGTTTCATCTCGGCTGCTGAGTTGAGACACGTCATGACTAACCTCGGCGAGAAGCTAACTGATGAAGA AGTCGATGAGATGATTAAGGAAGCTGATGTTGATGGTGATGGTCAGATCAACTATGAGGAGTTCGTCAAAGTTATGATGGCCAAGTGAGCCTCAACA
GCT-002P18	AT2G33050.1	leucine-rich repeat family protein	GGTAATAATTTCAATCACAAACAATGTCGCTGTCGCGTCTGCGTTTGCGTTTTCTCTCTATACTCTTACTCTTCGCTTCAAGCTTCTTGATGATCAATG CTCTTCCTTGTCGTCCCGACCAGATCCAAGCTCTAATGCAATTCAAGAATGAGTTTGAATCCAACGGTTGCAACCGCAGTTACTATCTCGAGGGAGT CCGGTGCGATAACAAGACTGGTGCGGTCACAAAGCTACAGCTCCCAAGTGGCTGCTTCACTGGAACTCTCAAACCAAACAGTAGCCTCTTTGGATT TCATCATCTTCGTTACCTTAATCTCTCTCACAACAACTTCACATCATCTTCACTTCCTTCTGAATTCAGCAATCTCAACAGATTAGAGGTTTTGTCTCTT GCCTCTAATAGCTTCGTTGGTCAAGTTCCTTCCTCATTTAGTAACCTTATTTTACTTACACATTTAAACCTTTCACACAACGAGCTCATTGGTAGTTTC CCACCTTTAAGAAATCTCACCAAGCTCTCTTTTTTAGACCTTTCTTATAATCAATTCTCAGGAACCATACCTTCTGATTTACTACTCACTATGCCCTTCT TGTCTTTTCTTGATCTGAAAAAGAATATTCTCACTGGCACAATTCAAGTTCGCAACTCTTCTTCTTCTTCATCTAGGCTAGTGTATTTATCCCTTGGGC AAAACCAATTCGAAGGGCAAATCCTTAAGCCTATTTCAAAGCTCATCAACCTAAACCATCTTGACGTTTCTTCCCTAAACACAAGCTACCCTATTGACT TAAACATCTTCTCTCCTCTCAAATCTTTGTTGGTGCTTTATCTTTCTAAAAATAGGTTATTACCAGCCAGTCTAAATTCTTCAGACATCCCATTGAGCTT AGAAAGCCTGGTTATGGCACGATGTAACATTACTGAGTTCCCAAACATCTTAAAGACTCTTCAAAACTTGCAGCATATAGACATTTCCAGCAATAGAA TCAAAGGGAAAATCCCTGAGTGGCTCTGGAAACTTCCTCGTCTTTACCTAGTGAATCTTGTTAACAATTTTTTCACCGGTTTCGAAGGTTCTTCAGAA GTTCTACTTAACTCATCAGTGCAGTTACTCGACTTTGCCTATAACTCCATGACAGGAGCATTTCCTCTTCCACCACCTAACATCATCTACTTGTCTGCT TGGAACAATAGTTTCACAGGGAACATACCTCCATCAGTTTGCAACCGAAGCTCTCTCATTGTTCTTGATCTATCCTACAATAACTTCACCGGTCCAAT TCCTAAATGTTTGAGTAACTTAAAGATAGTGAATCTCAGGAAGAACAGCTTGGAAGGAAGTATCCCTGACGAGTTCTATAGCGGCGCTTTGACACAG ACGCTTGACGTTGGCTACAATCAGCTAACCGGGAAGCTTCCAAGATCGCTTTTAAACTGCTCCTTTCTGAAGTTTCTAAGTGTTGATCACAACAGAAT TGATGACACATTTCCTTTCTGGCTCAAGGCTCTACCCAATCTGCAAGTCTTTACTCTCCGTTCAAACAGATTCTTTGGCCATCTCTCTCCACCTGATC AAGGTCCTCTTGCGTTTCCTGAGCTGCGGATACTTGAACTGTCGAATAACAGCTTCACCGGAAGCTTGCCTCCAAGTTACTTTGTGAACTGGCAAGC ATCATCATTCAAGATAGATGAAGATGGGCGTATTTATATGGGAGACTACAAGCATGCTTATTATGTCTATGAAGACACCACAGACTTGCAATACAAAG GTCTATTCATGGAGCAAGGAAAGGTCCTTACTTCTTACAGCACCATTGATTTCTCTGGTAACAAACTTCAAGGACAGATTCCTGAGTCCATTGGTCTC TTGAAGGCATTGATTGCGCTCAACTTATCGAACAACGCCTTCACAGGCCAGATTCCTCTGTCTTTGGCAAATGTTACGGAGCTCGAGTCACTAGACC TGTCAAGAAACCAACTATCAGGGAATATTCCAAGAGAACTCGGGAGTCTCTCGTTTTTGGCGTACATAAGTGTAGCTCATAACCAGCTCAAAGGAGA AATACCACAAGGACCACAGTTTAGTGGGCAAGCTGAATCATCGTTTGAAGGGAATGCAGGTCTTTGTGGTCTCCCTCTACAAGAAAGTTGCTTTGCA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002P19	AT1G55870.2	AHG2/ATPARN	GAAAGTAAAGGAAGTGCCACTGCCATTTCCGGGTTCGAAAATATGCGCCGGCACAAGCGATGGCCTTTGAGGCCTCTCGCCAGTGCTTTGGCTCGT TCGCGGTTCTGCTCCTCGGCGGCGGCGGCGGGGGCTTTCCCGTTGAAGCACGTGACGAGGTCGAACTTCGAGATGACGCTGAATGATCTGCGTT CGCACGTGAAGGCTGCTGATTTCGTGGCGATCGACCTCGAGATGACTGGCGTGACGAGCGCTCCGTGGCGAGACTCCTTGGAGTTCGATCGCTAC GACGTCCGATACCTCAAAGTCAAAGACTCCGCTGAGAAATTCGCCGTCGTTCAGTTCGGCGTCTGTCCCTTTCGCTGGGATTCTCGCACTCAGTCA TTCGTTTCTCACCCGCACAATTTCTTTGTATTTCCTCGTCAAGAGCTCACATTTGATCCACCAGCTCATGAATTTCTCTGCCAGACGACATCCATGGA TTTCCTTGCAATTATCAATTTGATTTCAACGCCTGCATACACGAAGGAATATCTTATTTGTCCAGAAGACAAGAGGAAGAAGCGAGTAAGCGTTACGA CGAGGAGAGTGTTGATTCAGTGGTTGAAACAGAGGATTTAAAGCTGGTGCGATTGGCGGATCTTCTTTTCTCTGAAAGGATGAAGAAAAGGTTTAAT GAATGGCGGTCTGCCCTTTTACACGGTTCCTCTGAGTCTCCGGGGATCTCAAGTGGATCGACCGAGAGTGCTGAAACTGTCTTCTACCACATGCGT CCAGCTCTCAGTCTGCAGGGTTTCACTTCTCATCAGCTCAGGGTTATCAAATTGGTTTTAAGGAAGCATTTTGGAGATCTTGTGTACATACATACGAA TGATAAAAGTTCCTGTTCAAAAGACTTTGTTGTGTACACTGATTCAGAATCCGACAAGGAAAATCTCATGAAGGAGGCAAAGGATGAACGCAAGAGA GTGGCGGAAAGAAAAATACAATCTGCAATCGGGTTCCGTCAAGTAATTGATCTGCTTTCTTCAGAGAAAAAGTTGATTGTTGGTCACAATTGTTTCCT GGATATTGCACATGTATACAGTAAGTTTGTGGGTCCTCTTCCTTCAACAGCTGAGAAATTCGTGGCCTCCATTCACGACCACTTTCCTTACATTGTTG ACACCAAAATACTCTTAAACGTGAACCCAATGTTGCATCAGAGGATGAAGAAGTCCAGTACGTCACTATCCTCGGCGTTCTCCTTGTTATGTCCACAA ATCGAGTTATCTTCACGAAGCTCTGACTCGATTCTTCAGCAGCGTGTCAAGATTGACGTCGAAGTAGACAATGTTAGGTGTTCTAACTGGAATGCAG GAGGAAAACACGAAGCCGGTTATGATGCTTTCATGACAGGTTGCATCTTTGCACAGGCATGCAGTCATCTAGGGTTCGACTTCAAACATCATTCGGA ATCAGAGAACCTTGCCCAGAACGAGAAACTTGACAAGTACATCAATCGTCTTTATCTCAGCTGGACTAGAGGCGACATCATCGACCTTCGAACAAGC AATAGTAATGCAGAGAACTGGCGAGTCTCAAACTCTAAATACGAGAACATTGTTCTCATCTGGAACTTCCCACAAAAACTTAAGGCTAGAGAGATCAA AGAATGCATCTGCAAAGCCTTGGGCTCGACTTCCGTCACTTCTGTCTACCACTTGGACAACACTGCGGTTTTTGTCTTGTTCAAGAACTCGGAACTC GTTTCGAACTTCCTAAAGCTCAAGCAGCAGCTGGAGTCAGACGATGGTCCTGTCAGGATCCTTCATCCTCTCTCGAAGATCCTGAAAGGAGGGAAC ACTGGCGCTGCAGACTATGATGCCTATAAAGAGATTTGCAGCTCACACATCTCAAAGATCCTATTCGCTGACCAAGCTGAAACGGTTGGTGTCAAAT
GCT-002P20	AT1G30210.2	TCP24; transcription factor	GGTCCGAAGGCAACTGTGGATATTTTTCTCTAACAGATCTGTGGATCTTTACACTCTATGCTTGTTATGATGAGATCTAAGCATGAGAACAATAATAA AGGGAGAGAGAAGAAGCTCTTGACAAGAATCTGAGGAAATTCATTTCTTATTTTCGTTTATTTCTTCATCGCCGCCATTGTTGCTCTACAGTGAGCTT GGACAGTTGACACCTGTTATTCAAATTCAGAAGTCATCACTGCAAACATACTCAGGCTTTTGCTCTATCATAGCTCTGCAACAATTTCGCTTCAGAAA CCAAAAAAGAAAGAGAAAGGTGAATGCTTGATTAGAGCTTAGCTGGCTTCACCTGTACACTCTCTCTCCGGCGACTATCTTTTCTTCTCCGGTAGATT CTTCGACCTTTGAGCTAAACCGGAAAAGTATCATGAGAGTAGCGTTACAATGGAGGTTGACGACGACATTGACGCACAGCAAAAACAACAACAACAA CCACAAAGCAGAAAGCAGCAGAGAATCTCCGACGAAGACATTACCGGAATGAGGAACTGGAACAACCCATCTTCTCGAATCATTAGGGTTTCTCGA GCTTCCGGTGGCAAAGACAGACACAGCAAAGTCTTGACCTCGAAAGGTTTAAGAGACCGGAGAATCCGTCTCTCAGTCACTACAGCGATCCAATTC TACGACCTACAAGACCGTCTCGGATTCGATCAGCCAAGCAAAGCCGTTGAGTGGCTAATCAACGCAGCTTCTGATTCAATCTCCGATTTGCCATCGA TCAACACGAATTTCGACCAAGCACTCTCGCTGTCCAAATCCGCTTGTAGTAGCGGCACATCTGAGAGTTCGTTGTTGTCTTTGTCGAGGACAGAGAT TCGTGGGAAAGCGAGAGAGAGAGCTAGAGAGAGAACAGCTAAAGAGAAAGACAAAGACTTGCAAAACGCACAAAGCTCCTTCACTCAGCTTCTCAC CGGCGGTTTCGACGAACCTAACCGAAATTGGACCGGTGGTGGTGGTTCTGATTGTTTCAACAACCCGGTTCAGCTCATACCAAACTCGTCTTCTTCT TCTCTTCCTCATTTCAACAACAATCATCATCGTCAAGAGACGTCGATGAATCAGTTCTCGTTTGTGCCGGATTACAACTTTGGAATCTCTTCTTCTGAT TCTCCCGGAGCAGCCGCCATTAATGGAGGTTGTTACAGCAGTAGGGGGACCCTTCAGTCCAATTCACAATCTCTCAGCTTTCTCAACAACAACAACA TTAATCAAAGGTCGATTTCTTCGTCTTCTTCTTCGTCTTCTCCAATGGACAGTCAAAGCATTTCCTTTTTCATGGCTACACCTCCGCCTCTTGATCACC ATAGCCACCAGCTTCCGGCTGCTTTTGACGGCCGGTTATATCTCTACTACGGTGAAGGAAACCGGAGCTCCGAGGATAAAGGAAAGGATCGGAGAT AGGAAAAAGCTTCAGAAGTCTCCATCTTGGAGAGGAAGTGAGAGAAGACGTTGGATGCGCAGCCTAAAGCTTATCTTTTGATCCTCCATCACGATCA

#Thalophila	AGI_CODE	Description	Sequence
GCT-002P21	AT3G04120.1	GAPC (GLYCERALDEHYDE-3-PHOSPHATE DEHYDROGENASE C SUBUNIT); glyceraldehyde-3-phosphate dehydrogenase	AATGTTGAGCTCGTCGCCGTTAACGATCCTTTCATCACCACCGAGTACATGACATACATGTTTAAGTATGACAGTGTTCACGGCCAGTGGAAGCACC ATGAGCTTAAGGTGAAGGATGAGAAGACCCTTCTCTTTGGTGAGAAGCCAGTCACTGTTTTCGGCTTAAGAAACCCTGAAGATATCCCATGGGGTGA GGCTGGAGCTGACTTTGTTGTTGAGTCTACTGGTGTCTTCACTGACAAGGACAAGGCTGCTGCTCACTTGAAGGGTGGTGCCAAGAAGGTTGTCAT CTCTGCCCCAAGCAAAGATGCTCCCATGTTCGTTGTTGGTGTCAACGAGCACGAATACAAGTCTAACCTTGACATTGTTTCCAACGCTAGCTGCACC ACTAACTGCCTTGCTCCACTTGCCAAGGTTATCAACGACAGGTTCGGAATTGTTGAGGGACTCATGACTACCGTCCACTCTATCACTGCTACTCAGA AGACTGTCGATGGTCCATCAATGAAGGACTGGAGAGGTGGAAGAGCTGCTTCCTTCAACATCATTCCCAGTAGCACCGGAGCTGCCAAGGCTGTC GGAAAGGTGCTTCCACAGCTCAACGGAAAGTTGACCGGAATGTCCTTCCGTGTTCCCACCGTTGATGTTTCAGTTGTTGACCTCACTGTCAGACTCG AGAAAGCTGCCACCTACGACGAAATCAAGAAGGCTATCAAGGAGGAATCTGAAGGCAAACTAAAGGGAATCCTTGGTTACACCGAGGACGATGTTG TTTCAACCGACTTCGTTGGTGATAGCAGGTCGAGCATATTTGACGCAAAGGCTGGAATTGCATTGAGTGAGAACTTCGTGAAACTGGTGTCGTGGTA TGACAACGAATGGGGTTACAGTACCCGTGTGGTCGACTTGATCGTTCACATGTCCAAGGCCTAATTCTGAAAAGAAGACCTCGTCGAGTGTTGGGG AGGAAGAAGTCATATTTTTCATCCCCTTTTTAATGGTGTAGTTTCTTTCGATAAGTTTTCTTGAGATTTGAAAACTCTTTTTTTTTGGGTTTTGGCAAGA
GCT-002P22	AT4G27710.1	CYP709B3 (cytochrome P450, family 709, subfamily B, polypeptide 3); oxygen binding	GAGTCTTTGTTATTGTTAGTTGAAACGCTAACCTAGGTTATCCTCTCTGATTTTGTCTGCCATGTGAGTTTTCTTCAACTTCTTTACTTTCTATTCTTTG CTCTTCTAATCCTCAACAGACAAGATTTCCCCCTTGTTAATTCTTTTGATAGTCCATCTCATATATTATTGGTAACATATTCTCACCACAAGTCCATAGT TACTTTTATAGATGTGCTCTAAATTATTCATATCGGGAAGATAAGTCACTAACTAGTTGTGGTCTTTGAATGGAACTCCTGAGCACGATAAATCTCTTA GCACTTGTTCTTCTGCCCTTTGTTGTTCCCAAGATATGGGAAGCTTGTTGGATCATCGTTTTGCGGCCATTGATGCTATCAAGAAAGTTCAAGAAACA AGGAATCACAGGCCCAAAGTACAGATTCTTGTACGGGAACCTCCAGGAGATGAAGAAGATGAAGAAAGAAGCTAATCTTCGAGTTCTCGATCCAAA CAACAACAATATCTTCCCTCATGTGTATCCACATTATCACCAATGGATATCTCAATACGGAGAAACGTTTCTATACTGGAATGGAACAAAAGCGACAA TATTCATCTCAGATCCTGAGCTAGGGAAACAGATCTTGTCGAGCAAGTTTGGTTTCGCTGTAATAGCAAAGACAAGACCCGAGGTCTTCATAGTTTTC GGTAAAGGACTCCCTTTTATAGAGGGTGATGACTGGATTCGCCATAGACGAATCTTGAACCCTGCTTACTCCATGGACCGGCTCAAGGTCATGACG AAACTGGTAGTGGGTTGTACCTTGAGGATGTTGGAGGAGTGGAGAAAACAGAGGAATGGTGAAGAAGAAGTTGTGATGAAGATGGAGATTAAGAAA GAGTTCCATAGATTAACCGGCGATTTTATAGCGACCACTGCGTTTGGAAGCAGTTACGCGGAAGGAATCGAATTGTTTAGAGCACAGGCTGAGCTT GGGGAATATTATGTTACTTCACTCACTAACGTCTTCATCCCCGGAACACAATACCTTCCAACGCCGACCAACCTTCAACTAAGGAAGCTCGATAAGA AAGTGAGGGACTCAATCAAAAGAATTATAGCTGCAAGGCTAAAATCGAATTCCAACAACTATGGAGACGATCTTCTTGGGATCATGTTGAAAGCTAC AAGATCTGAAGACGCTGAGAAAAAGATGAGTATGGATGAGATCATAGAAGAATGCAAGACTTTCTACATCTCAGGGCAAGGAAATAGTTCTCTTCTG TTGACATGGACTACGATGTTGCTGTGCTTGCACCAAGACTGGCAAGAGAAACTCAGAGAAGAGGTTTTCATTGAATGTGGTCAAGATAAGATCCCTG ATTCAGACACCATCTCCAAACTCAAACTGATGAACATGGTGTTGATGGAGTCGCTGCGTCTGTACGGACCCGTGATTAAAATGGTCAGAGAAGCAAC ACAAGATATGAAGATAGGACACTTGGAGATCCCCAAGGGCACGAGCATAGTCGTCCCGTTTCTGAAGCTGCACACCGACAAGGCCATATGGGGAG AAGACGCCCATCAATTCAATCCATTGCGGTTCCAAAACGGCGTTTCTCAAGCAGCCAACAACCCAAACGCTCTACTTCCTTTCTCGATCGGACCAAG AGCTTGCATTGCCCAAAACTTAGTCATGATCCAGACCAAGACTGTGCTCACTTTGATCCTTCAGCGGTTTAGGGTTAGCCTCTCACCCGAGTATAAG
GCT-002P24	AT1G67360.1	rubber elongation factor (REF) family protein	CAGAGCACCAGTGACAGGCAAGAAGCGAAGAACTCAATACAAAGAAGAAAAAAAATTAGAGATGGAGACGGAGACGAGTAGCAAGGAGCTAGGGC TTAAACACCTAGGTTTCGTGAGAATCGCAGCGATCCACGTTCTCGTTAGCTTCACGAGTCTCTACGATTACGCTAAGCAAAACTCCGGTCCTCTTAA ATCCGCCGTCGGTAAAGTAGAAGGAGCCGTCACCGCCGTCGTTACCCCTGTCTACAACAAATTCAAGGATGTTCCAGATACTCTCCTCGTCTTTCTC GATCACAAGGTCGGTGAAGTTTCGGTCAAGTTTGATAAGCATGCTCCTCCAATGGCTAAGCAAGTGGTAACTCAAGCGAGTGTGTTGATGAGCAAG GCAACAGAGAAGGCTCAAGGGTTTGTGAAAGAGGCTCGTACCGGTGGTCCTAAAGCTGCCTTTAACTATGCTGCAACCGAGTACAAGTGTTTCCTT GTGACCAACTCAGTCAAAGCCTGGGCTAAACTCAACCAGTACAAACCAATCCATGCAGTGGGAGGCAAAGCTTTGCCCGTGGCTGCTCACTTCTCC GGAATGTATAACGATTTGGTGACGGATATGACCCAGATGGGTTACCCTGTGGTTGGTTATTTTCCTTTGGTTCCTGTTGATGACATTGTTAAGGCTTA TGAAAAGGAAGACGCTGCAGGAAAGAAAGAAGATGCTACTACTACTACCACTGATGGGAATAAATCATCGTCTGATTCGGATTCAGATTAAAACGTT TGTTTGCGTTTGGATTGTTGGGGTTTGGTAAATGATCTTAGGCCCTCTTTTTTATTTTCTTGTACCGTTCTTAGTACGTGGACCATAAGTGTTTTCGTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003A01	AT2G13540.1	ABH1 (ABA HYPERSENSITIVE 1)	GGAAATCTCAAACTGGAAGAAGATGAGTAATTGGAAGACTCTTCTCCTTCGAATCGGCGAAAAGGGCCCCGAGTACGGCACTTCCTCCGACTACAA AGAACATATTGAGACTTGTTTTGGTGTTATTCGGAGAGAACTCGAGCGTTCTGGGGACCAAGTTTCGCCTTATCTACTGCAATGTGCTGAACAATTG CCTCATAAGATTCCCTTGTATGGGACTTTGATTGGTTTGTTGAACTTGGAGAATGAAGACTTTGTCCAGAAGACAGTAGAAAGTGTCCAAGCTGATTT ACAGGTCGCTTTAGATTCTGGCAACTGCAACAATATCCGTATATTGCTACGCTTTTTGACTTCCCTGCTGTGCAGTAAGGTTATTCAACCTGCTTATTT GATTGTCGTGTTCGAAACATTGTTATCTTCTGCTGCCACCACTGTGGATGAAGAGAAGGGAAATCCATCATGGCAGGCACAAGCTGACTTTTACGTA ATATGCATCTTGTCAAGCCTCCCATGGGGAGGAGCAGAACTCGCTGAGCAAGTTCCTGATGAGATTGAAAGAGTCTTAGTTGGGATACAAGCTTATT TGAGCATCCGAAAGCATTCTTCCACCTCTGGTTTAAACATTTTTCACAATGGCGAATCTGAAAGCAGTCCTGCAGAGAAGGATTTGGTGGAGGATCT ATGGGATCGAATACAGTCTCTGGCCTCTAATGGATGGAAACTTGATAGTGTTCCGAGGCCTCATCTCTCGTTCGAAGCTCAGCTTGTTGCTGGAAAA TTTCATGAGCTACGCCCCATTAAATGTATGGAACCACCGAGTCCACCTTCTGATCTTTCGAGAGCACACATTGGCAAGCAAAAGCATGATGCTTTGA TGAGATATCCTCAGAGGACTCGCAGATTGAATATATTTCCAGCTAATAAGACTGAGGATGTACAACCTATCGATCGCTTTGTCGTGGAGGAGTATTT GCTGGATGTGCTCCTCTATTTAAATGGATGTCGGAAGGAGTGCGCGTCCTACATGGCGAATCTTCCTGTTCCTTTTCGGTATGAGTATCTTATGGCA GAGACATTATTTTCTCAGATACTTTTGCTACCACAGCCACCGTTTAAGACTCTTTATTATACACTCGTGATTATGGATCTTTGTAAGGCTCTTCCGGGT GCTTTTCCTGCTGTTGTTGCTGGCGCTGTCCGTGCACTCTTTGAGAAAATTTCCGAGTTAGACATGGAATCTAGGACACGCCTTATCCTATGGTTCT CTCACCACTTATCCAACTTCCAATTCATCTGGCCATGGGAAGAGTGGGCTTATGTGTTGGACCTTCCCAAATGGGCCCCTAAGCGTGTATTTGTTCA GGAGGTTTTGCAAAGAGAAGTACGCTTGTCTTACTGGGACAAAATTAAGCAGAGCATCGAGAGTGCGAGTGCCCTAGAAGAATTGCTTCCTGCAAA GGCTGGTCCGGCTTATATGTATTCCTTGGAAGAGGGTAAAGAGAAAACAGAGGAACAGCAATTGTCAGCTGAATTGAACAAGAAGGTCAAGGAAAA ACAATCTGCACGTGACATGATGTCGTGGATTGAAGAAACTATATATCCAGTTCATGGTTTTGAGATCACTCTCACAGTAGTTGTACAGAGCTTACTTG ACATCGGTTCAAAAAGTTTCACTCATTTGGTCACTGTCCTGGAGCGATACGGCCAAGTATTTGCGAAACTTTGTCCCGATAATGATAAACAGGTGAT GCTATTATCTCAAGTGAGTACATACTGGAAAAATAATGTACAAATGACGGCGGTGGCAATCGATAGGATGATGGGTTATAGACTCGTATCTAATCTG GCAATTGTTAGATGGGTCTTCTCCCCGGAAAATGTTGATCAATTTCATGTGTCTGATCAGCCATGGGAGATACTTGGGAATGCTCTTAACAAGACTTA TAACCGTCTCTCTGATTTGAGGAAAGAAATATCAAACATTACTAAAAACCTTTTGGTTGCTGAGAAAGCATCATCAAACGCACGAATAGAGTTGGAGG CTGCTGAGAGCAAACTCTCCCTAGTGGATGGTGTGCCCGTTCTTGGTGAGAATCCAGCGAAGATGAAGCGTTTAAAATCAACGGTGGAGAAGACAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003A02	AT2G28890.1	PLL4 (POLTERGEIST LIKE 4); protein phosphatase type 2C	GGTCAACTCTTTCTCTCTCTCTCTCATCTTCTTCAACCTCTGCCTCTACCATGGATGAACAACTTCAATTGTAATCTAAACCTTCAAAATTTCTCTAA ACTCGTCACTGTTATTCTGAAATCCTCAGATTTTTCAAAAGAAACAAAAAAGTATTGGTTTTTAAGATGGGTAACGGAATTACGAAGCTGAGTAAATGT TTCACCGGCGAAGGAGAAACTCGCCGGAGAAAAGAGATGAAGATTATGGAACCGGATCCTCTCGACGAAGGTTTAGGCCACTCCTTCTGTTACGTC CGACCCGACCCGACCCGGATTTCGTCTTCTAAAGTTCACTCAGAGGAAGATACGACGACGACGACGTTTCGTACGATCTCCGGTGCATCAGTGAGC GCAAACGCCGCCACTCCGCTCTCTACCTCTCTCTACGATCCGTACGGACACATCGACAGAGCCGCCGCGTTCGATTGCACGACGTCGTTTTCGTCG ATCCCTTTGCAGCCGATCCCGAGGAGCTCCGGTCCGATTGTTCCCGGGTCGGGTCCGTTAGAAAGAGGATTTCTCTCCGGTCCGATTGAGAGAGG ATTCATGTCCGGTCCGCTTGATGGTTTAGGTTTATTCTCCGGTCCGCTTGATAAAATCGGTCCTGAATCCGATCAATTCCAGCGTAGCTTCTCTCATG GTTTAGCCACTCGGGTCGGGTCAAGAAAAGAAGCTTTAGTCCGGGTTCTCCGTCGAGCGATCTCGAAGACGATTAACCGAGGACAGAACTCGATCG TGGCTCCGATTAAAACGGTTAAAGAACCCGATTGGGTATTCGGGTCGGATAAAACCCGGAATCAGCAGCACCAGCACCACAACCACAACGAGAATC TCACCGTGAATAGCTTGAATTTCAGTAGCGAAGGAAGCCTAGACGACGACGTTTCGCTCGAAAGCCAGAATCTTCAGTGGGCCCAAGGGAAAGCCG GTGAGGATCGTGTACACGTCGTCGTATCGGAAGAACACGGATGGCTCTTCGTCGGGATCTACGATGGATTCAACGGTCCAGATGCGCCGGATTATC TCCTCTCACATTTATACCCAGCTGTTCATCGTGAGCTCAAGGGATTGCTATGGGACGATCCCAAAATCGAATCAAATCCTCAAGACTCTTCCTTTGGC TGCGTTGATCAAGACAGTAACAACAATCCTTGTCCGAGCGGAAACTGCGATTCGAGCTCGGAGAAAAAGTCAAAGAACGACGATCGGAAGTCAAGG AAATGGGAGGAAAGTCAACGACGGTGGAGATGCGAATGGGATCGAGAAAGGCTCGATCTTGACCGTTTATTAAAGGATAAGATCCATCGGAGAAGT ACCGGGTCGTCGGATCCGGACTCTTCGGACGTTTTAACGGCTTTATCAGAAGCTCTAAGGAAGACGGAGGAAGCTTATCTGGAGAATGCAGATATG ATGCTCGACGAAAATCCTGAACTAGCTTTGATGGGTTCTTGTGTTCTGGTGATGTTGATGAAAGGTGAAGATGTTTACTTGATGAATGTGGGAGATA GTAGAGCAGTGCTTGGGCAAAAAGGAGAGACGGATTATTGGTTAGGGAAGATAAGACAAGATTTGGAACGAATCAACGAAGAAACGATGAATGATT TCGATGGTGGTTGCGAAGGAGAACGAGCTAGTTTGGTTCCGAATTTATCGGCTTTTCAACTTACTGTTGATCATAGCACAAACGTAGAAGAGGAAGT TGATAGAATAAGAAAGGAGCATCCAGATGATGCTAGTGCAGTGTCTAATGAACGAGTTAAAGGTTCATTGAAGGTCACAAGAGCTTTTGGCGCCGGT TTCCTCAAGCAGCCTAGATGGAATAATGCGCTTCTTGAAATGTTTCAAATCGATTACAAAGGGACGTCTCCTTACATCAATTGTTTGCCATCGCTTTA CCATCATAGATTAGGATCAAAAGACAGGTTTCTGATTCTATCATCTGATGGTCTCTACCAATACTTTACAAATGAAGAAGCGGTTTCAGAGGTCGAGC TATTCATGAGCTTAGAGCGGGAAGCTGAGCGGCGTGAAGAGTTGCTTGAAGAAGTTGTTTTGCGTGCTGCGAAGAAAGCTGCTATGCATTTTGATGA
GCT-003A03	AT1G29960.1	peptidase	GGTAGACTTTCTGAGAGATGGAGTGAGTTTAGGCTAAGTTAAGTGGTTCTCGAGTCTCGACTCGTTCGATTCAGTTGCTGCAGAGATCTGCAATGGG GTCTTCGTCGTCGTTCTGGAACAGAGCTTCACGAGAAGCCATGAAAAGCGGTGTGTTTGTCGCGAAAATCTACTGCTTCCTCCATGTAACCACCAAC TATTTCGGCTTCGCTGGTTATTCTTATGGTCCGAGCATGATCCCAACGTTTCGTCCTTCGGGCAATATCTATTTGGCGGAACGAATCTCCAAGCGGT CTCAGGAACCGATTCGTGGAGATGTAGTTGTGTTACGATCTCCAGAAGACCCTAATAAGACTCCGATCAAGAGGGTGATTGGAATTGAGGGAGATT GTATAAGCTTTGTGACTGATCCCAGGAATAACGATACATCAAAAACCGTCGTGGTTCCTAAAGGACATGTCTTTGTTCAAGGTGACTACACTCATAAC TCGAGAGACTCAAGAACCTTTGGTACTATACCGTACGGCCTTATTCAAGGCAGAGTGTTTTGGAGGGTTTGGCCATTTGAAGATTTTGGACCGCTTG GACCGACCCCAACTTGAGAATTATGGTTAGCGCAGGAGTGAGCTTGGTCCTGTAGCTCGATGACTTAGGCAGTTTTGTTAGTGTGGTTTCTCGTTGT TAAGCACGACTGAGTCCGTTTAATAACGACTGATGGAGAAATTTGAAAGAGGCAAATTCCATGTGAGATTCGTGTAAGAATAGTGGTGGTGACTCCC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003A04	AT2G17760.1	aspartyl protease family protein	GACCCTCCACTTCTCTCTCAACTCACGATTCCTTCTCGCCTAATTTCTCGGTTGCGTATCAAAATTCTCATCACCCCATAGCTAAAAGAAGAATCAGG CTAGTCTTTTGGATACCTTTAACTCTCGAATTCTCGGAAAATTCGACTTTTTTCATAGAAAGTTTCCGAGATCTCGGCGGGGTTACTTTTTGACGACG AACCGCCATGGTTTGGTACTCGAGCTGTAGAATTATGTTTATGGGTCTGATTCTTATGCTGGTTTCGAGCTGGGTATTGGATAGATGCGAAGGATTA GGCGAATTCGGGTTTGAATTTCACCACCGTTTCTCCGATCAAGTCGTTGGGGTTTTGCCCGGAGATGGGTTGCCTAATCGGGACTCTTCCAAGTATT ACAGAGTTATGGCTCATCGAGATCGTTTGATCAGAGGCCGTAGACTCGCATCGGAAGATCAATCGCTCGTCACTTTCGCTGACGGCAATGAAACTAT TCGTGTGAACGCCCTAGGATTTTTGCATTACGCGAATGTGACGGTAGGGACTCCGTCTGATTGGTTTCTGGTGGCTCTAGACACTGGAAGTGACTT GTTTTGGTTGCCCTGTGACTGCAGTACCAACTGTGTTCGTGAGTTGAAAGCACCTGGAGGCTCGAGTTTGGACCTCAATATTTATAGCCCTAATGCA TCATCGACAAGTTCTAAAGTTCCTTGTAATAGCACGTTATGTACAAGAGTTGATCGATGCGCTTCACCTCTTAGTGATTGCCCATACCAGATCCGGTA TCTTTCTAATGGTACATCCTCTACTGGAGTCTTGGTTGAGGATGTGCTTCACTTAGTTTCAATGGAGAAAAACTCCAAACCTATTCGCGCTCGGATTA CCTTGGGATGTGGTCTAGTTCAGACCGGTGTATTCCATGATGGTGCAGCTCCAAATGGTCTTTTCGGGCTTGGCTTGGAAGATATATCGGTTCCGA GCGTATTAGCTAAGGAAGGAATTGCAGCAAACTCATTCTCAATGTGTTTTGGAGACGATGGAGCTGGTAGAATCAGTTTTGGAGATAAAGGCAGCGT AGACCAACGAGAAACGCCATTGAACATAAGACAACCACATCCTACTTACAATGTCACCGTCACTCAAATAAGTGTTGGAGGAAATACAGGAGATCTT GAATTTGATGCTGTTTTCGACACTGGAACCTCGTTCACTTATCTGACTGATGCACCTTACACCCTTATTTCAGAAAGTTTTAATTCTCTAGCTCTAGAC AAACGTTATCAAACTGATTCCGAGTTGCCTTTCGAGTACTGTTATGCAGTGAGCCCAAACAAAAAAAGCTTTGAGTATCCAGATGTGAATCTGACAAT GAAAGGCGGGAGCTCATATCCTGTTTATCACCCGTTAATAGTAGTCCCCATAGAGGACACAGTTGTCTACTGTTTAGCCATCATGAAGAGCGAAGAC ATTAGCATCATTGGACAAAACTTCATGACTGGCTATCGCGTTGTCTTTGATCGTGAGAAACTGATTCTGGGCTGGAAAGAATCCGATTGTTCCACTG GTGAGACCTCAGCTCGGACGCAGCCATCGAACCGTTCCTCTTCCTCGGCTAGACCACCAGCTTCTTCATTTGACCCAGAGGCCACAAACATTCCAT
GCT-003A05	AT2G42280.2	basic helix-loop-helix (bHLH) family protein	GGTTTCTTCTTCTTCTTCACACGAAACTTCCTTTGCTTCCTCTTGAAGCTCTTATCTCTTTCAACTTCTTCACCTGCTTAAATCTCAAGCTCAAGTTTGA TTTTTTCCGGGAAAAGTGTCACAACAATAACACGATTAAATTCTGGAGAATCCATAGCGAACAGTTGGAGTTGAAGAGCTACTGAGATATCTTGACGC TACGAAACAGAGCACTATTGTTGTAGGAGAGACAGGGGAAAAAATTCGTCGCATTTTGATTTGATTCATGGATTCTAATTCTCACAATCATCACTACG ACCCGAATCACATATCTTCTTCCGGGTCGGGTCTTCTTCGTTTTCGATCAGCTCCAAGCTCCGTTCTTGCCGCTTTTGTTGACGACGAGAAGAGTGG GTTCGACTCCGATAGGTTGCTCTCCAGATTCGCGAGCTCTAATGGTGGAAACGACGATCTGGACTTGCCGAATCCGAGTGAATTCGAGGATAAGTC TCCGGTTTCTTTGACGAACACCTCTGTATCATACGCCGCCACTCTTCCGCCGCCGCCGCGGCAGACTGAGCCGTCGAGCTTTCTGGGTTTGCCGC CGCATTACCCGAGACAGAGTAAAGGGATGATGAATACGATTGGCTTGGATCAGTTTCTGGGTATGAATAATCATCACACTAAACCAGCTGAATCCAA TCTTCTCCGGCAAAGCAGCTCGCCGGCCGGGATGTTCACGAACCTCTCAGATCAGAACGGTTATGGTTCGATGAGGAGTTTGATGAATTACGGTGG TGAAGAAGAAGATGAAGACAGACCATCTAATTCCAACGGATTAAGACGCCATTGCAGCCTCTCTTCAAGGCCACTTTCTTCTCTGGGAATGCTCTCT CAGATCCCTGAAATCGCCACGAACTTTCAATATAACCATTGGAATGATCCGTCCAGCTTCATTGATAACTTATCCTCTCTCAAAAGAGAAACAGAGGA CGACGCAAAATTGTTTAACGGAGCTCAGAACGGAGAGTCGGGAAATCGAATGCAGTTACTGTCGCATCACTTGAGTCTACCAAAGTCATCAGACAT GGCTTCAGTGGATAAGTTTATGCAGCTACAAGATTCTGTACCTTGTAAAGTTAGAGCCAAACGTGGTTGCGCCACACATCCTCGAAGCATCGCTGAA CGGGTAAGAAGAACGCGGATAAGCGAACGAATGAGGAAATTACAAGAGCTTGTTCCTAATATGGACAAGCAAACGAACACTTCGGATATGTTGGATT TAGCTGTGGACTACATTAAAGATTTACAAAGACAATATAAGATTTTAAACGACAATAGAGCTAACTGCAAGTGTAAGGAGAAGAAGCCCGTATAGAAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003A06	AT2G35530.1	bZIP transcription factor family protein	GTAGACATAGATTCCCTAAATCTCTGCAAACTTAAGTTTACAGATTCATACCTGCATCTCCAGTTGTGCTCAAAGTTTCAAACATAACCGGTCGTTTG GAAGCTCTCGCGGGGTTGTTTAAAAATCGGTGAATGTGATAATGGCTAGCAGCGAGATGGACAAATCAAGTAAAGAGAAGGAACCTAAAACTCCGC CTTCTTCTTCTTCTGCTCCTCCCTCTTCACAGGAACCTTCATCGGCTGTGAGTGCTGGCATGGCTACTCCAGATTGGTCTGGTTTTCAGGCATATTCT CCTATGCCGCCACATGGTTATGTGGCATCAAGTCCCCAACCTCACCCTTATATGTGGGGGGTACAGCATATGATGCCTCCTTATGGAACTCCGCCT CATCCGTATGTTGCAATGTATCCCCCAGGTGGCATGTACGCGCATCCTTCAATGCCTCCGGGTTCTTATCCATATAGTCCGTATGCTATGCCTTCTC CAAATGGAATGACAGAAGCTTCTGGCAATACTACAGGCGGCACTGAAGGTGAAGCTAAGCAATCTGATGTTAAGGAAAAATTGCCTATCAAAAGATC AAGAGGAAGCTTGGGAAGTTTGAACATGATTACAGGAAAAAACAATGAGCCTGGAAAAAACTCGGGAGGATCAGCTAATGGAGCTTACTCTAAAAGT GGGGAGAGTGCGTCTGATGGTTCAAGTGAAGGAAGTGATGCAAACTCTCAAAATGACTCTGGATCAGGACAAGACGGGAAGGATGCATCAGAGAA TGGTGGTTCTGCTAATGGTCCCAGAAATGGAAGTGTTGGTACACCTCTTCTACCGGTGAGTCAGACCGTGCCAATCATGCCAATGACAGCTGCAGG TGTTCCAGGCCCACCAACAAATTTAAATATTGGAATGGATTATTGGGGTGCTCCTACTTCATCCGCTATTCCTGGAATGCATGGAAAAGTATCTACAC CAGTTCCTGGAGTTGTTGCACCAGGCTCGCGAGATGGTGGCCATTCACAACCCTGGTTACAGGACGATAGAGAACTTAAGCGACAGAGACGGAAG CAGTCCAATAGAGAGTCTGCTCGAAGATCCAGGTTGCGTAAACAGGCCGAATGTGATGAGCTGGCACAACGAGCTGAGGTGTTGAGTGAAGAAAAT ACTAGCCTAAGAGCAGAAATCAACAAGCTCAAGAGCCAGTGCGAAGAGCTCAGCGCTGAGAATACCTCTCTCAAGGACCAACTATTATCATTCCCTC CACTTGAAGGGATAAACATGGATAAGGACGACGGAGAACCAGACTCCAATCAAACAGGTGTCGCAGAGACAAAGGTTGATGCCTACAAAGAGTCAA TGTGAAAAGAAATACAGCAAAACCAATTCCTAACACAGTTATAAAAAGTAGCAGCTACAACAACACTCCGCGGTTCTTTGCTAACAGTTGGTTGTAGG
GCT-003A07	AT5G07360.1	amidase family protein	GGGTTGGACCCACTTAGTTGCATCCACTTCTCCAAATTTCCTAATATTCGACTTGAGTTCCTCACCGGAGCAGAGTCAGAGTCAACGGCCGTCTCGT TCCGTTAATCTCCTCAGTACGCACAAGTACAAAAGGGAGCGATTCTCCGTCACTGTCACCGTTATCAAGCCCGATTCACCAGCCGATTCGATGGTAG CACCACCGATCGCCACGTGTGCTCCAGCCATACGGCCTTGCTTAGCGACGCGTGGCTCACCTCCTCGTAGCCGTTCATGTGCGCCACTCCTACTC CTCTTCCTCCTCCTAGGTTTAACGGTCTTTTGTACGGACGCTGTTTCTTCTGAGTCGAACCTTCTCTGCTCCAATTTAGTCTCTTCTCGTCTTCCATGC CAGCCCTCTATTTCAATGGTGAGAAATTGCAAGTCACTGTGGAAAATCTTGGACCGGAAAGTGGGTGTTCCGTGCCGTAGGATTACAACTTCGCCG AGCAACATCACTTTAACTGAACTACCAGATAAGACTATGGAAGCTAAGTTTCTGCAGAGCATGTTTGAGTTGATTGATTCTGGATTCTTCAATGAAAC TAAGATTCAGGAGATTGCAAAGGGAGCCACTGAAATGAACGTTCCTATATATCGAACCAACAGGAAACTAGTCGCTACTAAGAATGGCGGGCTTGAA AATCCATCTCCTCTGGTGTTTAATCCATCTTGGAACAGAGAAGCTCCGAGTGTACAAGGCAAAAGATTCAAATATCCTTCGGTATCTGGAGTAAGACT CCCTAGAGATGAAGAAGATATCGCCTTTATGAGCGTTCTTGAACTCGGAGAACTTATAAAGACGAGACAAATTACTTCCGAGGAACTCGTTAGGATT TATCTCAAGCAGTTAAAACGGTACAATCAAGTTCTTGAAGCGGTGGTTACTTATACTGAAGAATTGGCATACAAACAAGCCAAAGAAGCTGATGATTT GCTCTCTAAAGGAACTTATCTCGGACCTCTTCACGGGATCCCATATGGTTTGAAAGATATAGTTGCTGTTCCCGGATACAAAACAACGTGGGGTTCA ACTTCTTTCAAAGACCAAGTTCTTGATATTGAAGCATGGGTTTACAAAAGATTAAAAGCTTCAGGTGCAGTTTTAGTAGCAAAGCTTGTTTCCGGTTCT CTGGCTTATGATGACATCTGGTTCGGGGGACGGACTAGGAACCCGTGGAATATCGAGGAATTCTCTACCGGGTCATCAGCTGGACCCGCTGCTTC CACATCAGCTGGTATGGTTCCGTTTGCCATAGGCTCGGAGACAGCAGGCTCAATGACATATCCTGCAGCTCGGTGTGGCGTAACAGCATTGCGTCC CACATTTGGGAGCGTTGGTAGAACCGGAGTGATGAGCATATCCGAGTCTCTGGATAAGCTTGGACCATTCTGTAGAACAGCAGCGGATTGCGCTGT AGTCCTTGACGCCATCAAAGGGAAAGATCCAGAGGATCTCTCATCAAGAGAGCTCGCTTTTGAAGATCCCTTCTCTGTGGATATCACTAAACTCACT GTTGGGTATACAAAAGATGCTGACATGGAGGTCGTGGAAGTTCTTGGGTCGAAAGGTGTCAATATGGTTCCTTTCGAACTAAATTATACAGTGGATG CGGTTCAAGGGATATTGAATTTCACAATGGACGTAGACATGTTAGCTCATTTCGATGAATGGCAAAGAACCGGTCAAGATGATCTCTATGAAGCACA AGATCAATGGCCGGTTGAGTTACGCCGTGCTCGTTTAATTACAGCCGTCGATTACATTCAGGCGCAGAGAGCTCGTGGTAAGTTGATTCGAGAAGT GGAGAAGAGCTTCACAGTGGATGCTTTTATTGGAAACGTGACAGATTGGGAGAAAGTCTGTATGGGAAACCTTGTCGGTTTACCGGTTCTAGTGATT CCGACCGGTTTCAAGAACATATCGGCACCACCAACCAGCGATTGTAGGAGAAGGACAACGATCAATGCCGGAATTTATGCTCCGCCGGAACGTGAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003A08	AT3G02150.2	PTF1 (PLASTID TRANSCRIPTION FACTOR 1); transcription factor	GATCGTCGTCTTATTCCTCACTTTATTGAACAAGAAAGCCCTAGATTTTATCTGTTCAAGTTCAAGACCGTACATGCTTATTAGAAGCTCAGTAAATTA TAAAGATCCCGTAAATAGCATTATGAATATCGTCCATTGGAAATATCTGAACGACGACGTTTCCGGCGGGACTACGAAGAGACGTGAAGGAGAAGG AGAAGGAGAAGAAGATGCAGACGAAACCACCGTCCTCGTAGCCACCAGTGGCAAAACCGTAAATACGAAGCCACCAACCTTGATTTCTTCTTCAAC TTCATCCTCGTCGTCGTGGATGAAATCGAAGGATCCGAGGATTGTTAGGGTTTCACGCGCCTTTGGAGGCAAAGACCGTCACAGCAAAGTGAGTAC GTTGCGTGGTCTACGCGACAGACGAGTGAGATTATCAGTCCCAACTGCTATTCAGCTCTATGATCTTCAAGAACGGCTCGGCGTTGACCAGCCTAG CAAAGCCGTTGACTGGTTGCTCGATGCAGCTAAAGAGGAGATCGACGAGCTTCCTCCGTTGCCCGTCTCGCCAGAAAATTTCAGCCTCTTCAACCA TCACCAGTCGTTCTTGAATCTTGGTCAGCGGCCGGGCCAAGATCCGACCCAACTCGGGTTTAAAATCAATGGAGAGTCTACTACAACTACTACTAAT TCTAGCCGTGAAGAAAACAACAAAGAGAGGGGAGAAAACGATGTCGTTTTCACAAACAATCATCATATCGGGTCTTATGGAACCTATCACAACATGG AACATCATCATCATCAGCATTCGATTTTTCAGGCAGATTATCACAATCATCAACATCAACTACATAGTCTTGTCCCATTTCCATCACAAATCTTGGTGT GCCCAATGACGACAACAACAACTATACAATCTTTGTTTCCATCATCGTCTTCAGCTGATTCCGAGACTATGGAGACAACAGATCCAAGGCATATGGTA AGTCATTTTCAAATGCCATTAATGGGTAGCTCTTCATCTTCAACATCCCAAAACATTTCGACTTTATATTCATTGTTACATGGTAGTACTAGTAGCAAC AATGGTAATAACCGGATGTCGTCGGTCCAATTAAACCGGACAAGTAGAGGAAGTGAACATCACCCGATGTAAAATTAGATTATGGAAACAATTAGTG
GCT-003A09	AT2G37280.1	ATPDR5/PDR5 (PLEIOTROPIC DRUG RESISTANCE 5); ATPase, coupled to transmembrane movement of substances	GATAACTGATTTCTGAGCATCTCATCAGCCAAGAACCTAAAGCCTCGTTTGAGGCATGGCTCCTCAGATGGGTGGAGATGAACTGAGACTGGAGCT TGCAGAGATTGGAAAAAGCACTGGATCGAGTTTCAGGAGCAGCTCTTCAAGAAATGAGCTTGAGGATGAGGCAGAGTATGCTCTGCAATGGGCTGA GCTCCAGAGATTGCCTACTTTTAAACGGCTGAGATCGTCTCTGCTTGACGAAGAAGGCGACGAGGCTGTGGAGAAAGGGAAAAGGGTCGCTGATG TCACCAAACTTGGAGCCACGGAACGTCATCTCCTGATTGAGAAGCTGATTAAACACATTGAGAATGATAATCTCAAGCTGCTCAATAAAATCAGAAGA AGACTAGAAAGGGTCGGTGTGGAGTTTCCGAGCATAGAAGTGAGGTATGAGCATTTAGGAGTTGAAGCAGAGTGTGAGGTCGTTGAAGGCAAGGC GCTTCCAACTTTATGGAACTCCTTGACGCACGTTTTCTTTGAGTTGGTGAAGCTGAGTGGTGTAAGAACACGCGAAGCCAAGATAAACATACTTCAC AATGTTAGCGGCATAATTAACCCGGGAAGGTTAACATTGCTGCTTGGTCCTCCTGGATGTGGAAAAACTACTCTGCTTAAGGCTTTGTCCGGAAATT TGGCCAAGAATCTGAAGCGTTCTGGTGAAATCTTTTACAACGGACACGGACTGAACGAAATTGTTCCTCAGAAAACATCGGCGTATATAAGTCAACA CGATCTGCATATTGCAGAGATGACAGTGAGGGAGACAATAGACTTCTCAGCTCGTTGTCTAGGTGTCGGTAGCCGAACAGATATTATGATGGAGGT CACCAAAAGAGAAAAGGATGGTGGAATCATTCCCGACCCAGAAGTAGATGCTTACATGAAGGCAATATCGGTTAAAGGGCTTAAAAGAAGTCTGCAA ACAGATTACATCTTGAAGATTCTGGGGCTTGACATTTGTGCAGAAACATTGATTGGAAATGCGATGAGACGAGGAATTTCCGGGGGGCAAAAGAAG CGACTTACCACAGCTGAGATGATCGTTGGTCCAACAAAATCTCTGTTCATGGATGAAATAACAAATGGCTTAGACAGTTCCACGGCCTTTCAGATTGT CAAGTCTCTTCAGCAACTGGCTCACATTACCAATGCAACTGTGTTTGTTTCCCTTCTCCAACCTGCTCCAGAATCATATGACCTTTTCGACGATATTG TCCTGATGGCTGAAGGAAAGATTGTGTATCACGGTCCACGCGACGAAGTCTTGAAATTCTTCGAGGAGTGTGGATTTCGATGCCCAGAAAGGAAAG GTGTAGCAGACTTTCTCCAAGAGGTTCTATCTATAAAGGACCAAGGACAGTACTGGCTGCACCAAGATGTACCCCATAAATTTGTCTCAGTAGAAAC ATTTTCAAAGAGATTCAAGGACTTAGAGATTGGGAGAAAGATTGAGGAAGCCCTCTCAAAGCCATATGATAGATCAAAAACCCATAAGGATGCTCTTT CTTTCGATGTGTATTCTCTGCCAAACTGGGAGCTGTTCAGAGCATGCATCTCAAGAGAGTTTCTTCTCATGAAGAGAAACTATTTCGTCTACCTCTTC AAGACGTTTCAGCTTGTTTTGCTCGCAATCATCACTATGACTGTGTTTATTCGTACACGGATGGGCATAGATATCATTCATGGAAATTCGTACATGGG TTGTCTCTTTTTTGCAATCATCGTACTTCTGGTTGATGGTCTTCCAGAGTTGTCTATGACTGTTCAACGCCTTGCCGTGTTCTACAAGCAGAAGCAAC TATGTTTATATCCAGCTTGGGCTTATGCAATCCCTGCAACGGTGTTAAAGGTCCCTCTATCCTTACTTGAATCTCTGGTTTGGACCTGCCTTACTTAC TATGTCATCGGATACGCTCCTGAAGCCTCCCGGTTCTTCCGACAACTCATCATGCTCTTTGCTGTTCACTTCACATCCATATCCATGTTCCGGTGTAT AGCTGCAGTCTTTCAGACTGGAGTTGCTTCAATGGAAGCTGGTACTATTGCCGTATTAGTCACTTTTGTATTCGCCGGTTTCGTCATCCCATACACTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003A10	AT5G62470.2	MYB96 (myb domain protein 96); DNA binding / transcription factor	GAGACAAAACCAAACCCATTTGGACTTTCTTTGTCTTAACTCTCAAATTTCCAAAAGCTTTTTTAAAAACCTCAATTTTTTGTTCTAAAATTTCATTAAAA CCCTTCCAAACAGGTCGAATTTGTTCACTAACAGTATATTTTCATATTGAAACCATAAAAAATGGGAAGACCACCTTGTTGTGAAAAGACTGGAGTGA AGAAAGGGCCATGGACACCAGAGGAAGACATCATCTTGGTTTCTTACATTCAAGAACATGGTCCTGGAAACTGGAGATCTGTCCCAACTAACACAG GTCTGAAGAGATGTAGCAAGAGCTGCAGATTGAGATGGACTAATTATCTTCGACCCGGTATTAAGCGCGGAAATTTTACTGAGCATGAAGAGAAGAT GATTGTTCATCTGCAAGCCCTTTTAGGCAACAGATGGGCAGCCATAGCATCATACCTTCCAGAAAGGACAGACAATGATATAAAGAACTACTGGAAC ACTCACTTGAAGAAGAAGCTCAAAAAGATTAATGAATTTGGTGAAGAAGATAATGATGGCTTCTCTTCATCAAACACTAGTTCACAAAAGCAACATCA AAGCTCCAACAAAGGTCAGTGGGAGAGAAGACTTCAGACAGATATCAACATGGCAAAACAAGCTCTTTGTGAGGCCTTATCTTTAGACAAGCCATCA TCATCAACACTCTCTCCATCGTCATCACCATTGTCACCAGTAATCGTACCACAAAACATACCTAGCTTCTCATCAGCTTTACTTGACCGTTGTTATGAT CTATCCTCTTCTTCCTCCTCTACCACAACAACAACCACAACCACCATCACAAGTAACACTACTACTAATCCATACCCATCAGGGGTATATGCGTCAAG TGCTGAGAACATCGCTCGCTTGCTTCAAGATTTCATGAAAGATACACCAAAGGCATTAACTTTAACATCATCATCGCCGGTTTCAGAGACCGGACCG CTTTCTGCAGCAGCATGCGAAGAAGGTGGAGAAGGGTTTGAACAATCTTTCTTCAGCTTCAATTCCATGGAAGAAACTCAGAATTTGACTCAGGAGA CAAGGTTCTTCCATGACCAAGAGAGCAAACCGGTAATATCAATGGACCAAGATCATGGTTTGATATCGCAAGGATCTCTGTCTCTGTTGGAGAAATG GTTATTTCATCAGAAGATCGTTGCTATCGCATTGCAACGACAAGAACGCATCTTCTAGAACTAAATCAACTGCAATTCTTTTAAAATTTCAGTCGCTTA
GCT-003A11	AT3G06760.1	similar to HRB1 (HYPERSENSITIVE TO RED AND BLUE) [Arabidopsis thaliana] (TAIR:AT5G49230.1); similar to fiber protein Fb2 [Gossypium barbadense] (GB:AAN77145.1); contains InterPro domain Drought induced 19; (InterPro:IPR008598)	GAACAAGTCTCGCTTCCACTCTCTCTCCATCTCCTCCCATTTTTCTTCCTCTTCTCTCTCTCTCGCTCTCCCGTCCTTCTAGGGTTTCGTTGATCGCAT TCAAATTTTTCTCTTTTCATCTCAAGAATCTCTAATTTATCCAATTTTGTAAAATCCGTGTATCAATCAGAAGAAATGGATTCGAATTCATGGATCAGTT GTCCTTCCGTTTTCTCATCATCTTCTTCGAGACGGTGTCAATCTCGATCAGATTTGTATTTAGGTGGAGGGTACGAGGATCTCGAAGGAGAAGACGA TCTGAAGGCGGAGTTTATCTGCCCATTTTGTGCAGAAGATTTTGACATTGTCGGGCTGTGTTGTCACATTGACGAAGAGCATCCTGTCGAGGCCAAG AATGGGGTGTGTCCTGTATGCACAAAGAGGGTGGGATTGGATATCGTTGGCCACATTACGACGCAACATGCAAATTTTTTTAAGGTGCAGCGAAGG AGAAGGTTGAGAAGAGGTGGATATAGCTCTGCTTATCTCGCCTTGAAAAAAGAACTCCGGGAAGCAAACTTACAGTCACTTCTTGGTGGATCTTCAA GTTTCACTTCTTCAACCAATATAGATTCTGATCCGTTGCTGTCGTCTTTTATGTTTAGTTCTCCTTCAGCTAATGAGTCTGCGAGCAAATCTGCTACAC CTTTGACCAAAGGAACCTCCGCTACAAAAATCTCGCAAAAGGAATCTCTCAAAAGAGACATTCGAGAAGCTACACTCTCAGGCGAAGATCAAGAGAA GGCGAAAAAGAGTGAGTTTGTGCGAGGTTTGTTGTTGTCAACCATGCTTGGAGACGAAATCTAATATCCGATAAGGCACTGTCTTATTGAGGAATCT GAGGTTGAAACTGTTAGAATGGTCTCAGCGTATGATGCAAAACCTTGTAAGTTGAGGGGGGAGCAGAGTTAAATCCGTATATTATTGTCATTGTACC
GCT-003A12	AT1G65310.1	ATXTH17 (XYLOGLUCAN ENDOTRANSGLUCOSYLASE/HYDROLASE 17); hydrolase, acting on glycosyl bonds	GATCAACAATATACATCTGAGATCTACAATAATGAAGTCTTCTTGCGGCGCAAGGTTCGCGTTCTTGGTTCTCTCTCTTTTTGCCGCACAGTCCGTGG GAGTCTATGCGGGTAGCTTCCACAGAGACGTTCAGATACATTGGGGTGATGGTCGTGGAAAGATTCACGACAATGGAGGAAGGCTTCTTTCTCTTT CCCTTGACAAAACCTCTGGATCCGGTTTTCAATCCAAGCAGGAGTTTCTCTATGGCAAAGCCGAGGTTCAAATGAAGCTTGTCCCTGGTAACTCTGC TGGAACGGTCACAACTTTCTATCTTAAATCCCCGGGAGTTACATGGGATGAGATCGATTTCGAGTTCTTGGGAAACATAAGTGGCCATCCTTATACT CTCCATACTAATGTTTACACAAGAGGCTCAGGAGACAAAGAACAACAGTTTCATTTATGGTTCGACCCAACTGCTGACTTTCACACTTATTGCATCAC ATGGAATCCCCAAAGGATCATTTTTACAGTTGATGGCATTCCCATTAGAGAGTTCAAGAACTCAGAGTCGATTGGAGTTCCATTCCCAAAGAGCCAA CCAATGAGGCTCTACGCGAGTCTTTGGGAAGCAGAGCATTGGGCCACAAGGGGAGGATTAGAGAAAACAGATTGGTCAAAAGCTCCTTTTACTGCT TTCTACAGAAACTACAATGTAGAAGGATGTGTATGGGCTAATGGAAAATCATCTTGCCCTGCAAACGCCCCATGGTTCACTCAAAAACTTGATAGGA GAGGCGCTAATAGAGTGAAATGGGCGCAGAGTAAGTATATGGTCTACAACTATTGCACTGATAAGAAAAGATTCCCTAAAGGTGTTCCTGCTGTGTG CACTTAAAATTATTGATTCTTTGATTGGTGAATAAGTTACTTGGCCTTGTCTTTGTAACTCAAATTTGTGTTTATCTATTTTCTTTTCATTCATTTGTTGC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003A13	AT5G60690.1	REV (REVOLUTA); DNA binding / lipid binding / transcription factor	GATCACTTACTCTCTCTCTCCTTCACTTTCTTCACTTTCTCACATAACCACTATCTCTTTTCTTCATTTGAATTTATTTTAGTGTTCTCCTGAGTTTCA AACCTTTTCAGCTTCGATTGTACCAAGTGATGTTCTGGGTTTCTTCTACTTCTTCTTTGCCATCATTGTTTTCAAGGTTTCTGTGTACTGGATTCTGCT AATGCTTCGAGCGTTTGGTGTCTCTCTTCTCTGAGAGAATTAACGTCACTTTCTCAGGGAAAGTTTTGGGTTCTTCTTTCTCTTTTCCCAGAAAAAAAA AATCAAACTCTGTAATTGGGTTTCTGGGTGTGATTCTGTATTCCTGGAAGAATCTTCAAAATTCTCAGATCTGAATCTTTCTTTTCACTGTTTTAATTTT TTCCTCATCTTCGCTTCCTTTTTTTTTCTTTTCCAAAATTCTCAGTTTCCACATGTCGTTGGTCTTTCGCTACAAGCCACGACCATAGAATCTTCTTTGT CTGAAAAAACAAAAGAATTACAATTTACGTTTCTCTTAAGAAACGACGACGGACTTTCCTAAGAAAAAATAAAGATTTATAGATAAAAAAAAATAAAAA AGGGAAGAGAAGTAAAGAAGAAGAAGAAGCAAGTTTGAGACTTTGGAGTTTTGTGGTCGAGAAAAAATGGAGATGGCGGTGGCTAATCACCAAGAC AGAAGTAGTGACAGCATGAATAGACATTTAGACAGTAGCGGCAAGTACGTCAGGTACACGGCGGAGCAAGTGGAGGCGCTCGAGCGTGTCTACTC CGAGTGTCCTAAGCCAAGCTCGCTCCGGCGACAACAATTGATCCGTGAATGTTCCATTTTGGCCAATATCGAGCCTAAGCAGATCAAAGTCTGGTTT CAGAACCGGAGGTGTCGAGATAAGCAGAGGAAAGAGGCGTCGAGGCTCCAGAGCGTAAACCGGAAGCTTTCGGCTATGAATAAACTGTTGATGGA GGAGAATGATAGATTGCAGAAGCAAGTTTCTCAGCTTGTCTGTGAAAATGGATACATGAAGCAGCAACTAACAACTGTTGTGACAGATGCAAGCTGC GAATCTGTGGTCAATACTCCTCAGCATTCGCTTAGAGACGCGAATAGTCCTGCTGGATTGCTCTCGATCGCAGAGGAGACCTTGGCAGAGTTCCTA TCCAAGGCTACAGGAACTGCTGTTGATTGGGTTCAGATGCCCGGGATGAAGCCTGGTCCGGATTCGGTTGGCATCTTTGCTATTTCGCAACGATGC AGTGGAGTGGCAGCTCGAGCCTGTGGTCTTGTTAGTTTAGAACCTATGAAGATTGCAGAGATTCTCAAAGACCGGCCGTCTTGGTTCCGTGACTGT AGGAGCCTTGAAGTTTTCACTATGTTCCCGGCCGGTAATGGCGGCACAATTGAGCTCGTGTATATGCAGTTGAGAAATGACTTTTCGTCAGACATAT GCACCAACGACCCTGGCTCCTGCCCGCGATTTCTGGACCCTGAGATACACAACTAGCCTCGACAATGGCAGTTTTGTGGTTTGTGAGAGGTCACTT TCTGGTTCTGGAGCTGGTCCTAATGCTGCCTCAGCTTCTCAGTTCGTGAGAGCAGAAATGCTTTCTAGTGGGTATTTAATCAGGCCTTGTGATGGTG GCGGTTCAATTATTCACATTGTCGATCACCTTAATCTTGAGGCTTGGAGTGTTCCTGATGTGCTTCGACCCCTTTATGAGTCATCCAAAGTGGTGGCA CAAAAAATGACCATTTCCGCGTTGCGGTATATCAGGCAGTTAGCTCAGGAGTCTAATGGTGAGTTAGTGTATGGAATAGGAAGGCAGCCCGCTGTT CTTAGAACCTTTAGCCAGAGATTAAGCAGGGGTTTTAATGATGCGGTTAATGGTTTTGGTGACGACGGTTGGTCTACGATGCATTGTGATGGCGCG GAAGACATTATCGTTGCTATTAACTCTACGAAGCATTTGAATAACATTTCTAATTCTCTTTCGTTCCTTGGAGGCGTGCTTTGTGCCAAGGCTTCAATG CTTCTCCAAAATGTTCCTCCTGCGGTTTTGATTCGGTTTCTCAGAGAGCATCGATCCGAGTGGGCTGATTTCAATGTTGATGCATATTCTGCTGCGAC
GCT-003A14	AT5G01600.1	ATFER1 (ferretin 1); ferric iron binding	GATTCATCATCAACACTAAATATCTTCTCATAAACCTGGAACTCCCCTTCCTCTCCCTAAAAAAAAAACACATTTTCTTAACATCCATCTCTGATGGCC TCAAGGGCTCTCTCGTCTTTCACCACTAAACCCGCTCCTTCTCCCAAGCCACATGGCGTCTCCTCCGCTTCTTCTCCGGCCTTTTCTATCGGATTCT CGAGGAAAACTAGCGGCAGAGCAATGGTGGTTGCGGCGGCTCCGGTGGACACAAACAACATGCCGATGACCGGAGTGGTGTTCCAGCCCTTCGA GGAGGTGAAGAAAGCCGATCTGGCCATTCCAATCAAATCCCATGTCTCCCTCGCTCGTCAGGGCTATGCCGACGCTACCGAGGCTGCCATTAATGA GCAGATCAATGTGGAATACAACGTCTCCTATGTCTATCATTCAATGTACGCATACTTCGACAGAGACAACGTTGCTCTTAAAGGACTAGCCAAATTTT TCAAGGAATCCAGTGAGGAAGAAAGAGGCCACGCAGAGAAGTTTATGGAGTACCAGAACAAAAGAGGAGGAAGAGTGAAGCTCCACCCGATCGTC TCACCTATCTCAGAATTCGAACATGCTGAAAAGGGAGATGCTTTATATGCAATGGAGTTGGCTCTGTCTCTAGAGAAACTTACCAACGAGAAGCTTCT AAACGTTCACAGCGTGGCAACAGAGAACAATGATCCCCAGTTAGCTGATTTCGTTGAGACTGAGTTTCTTGGAGAGCAGATTGAAGCAATCAAGAAG ATCTCAGACTTCATCACCCAGCTAAGGATGGTTGGGAAAGGACATGGAGTTTGGCACTTCGACCAGAGTCTTCTGAATTAGACTGGAGCTTTTATAA AGTTCACTTTCAGTTGACCACTTCCGGGGTTAAACAATGAAGATTCTGTAAAAGTTTTAGATTTGCAAGTTATGGAGTAATATCGCTGTAGTACTTTTA
GCT-003A15	AT4G15030.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT1G56660.1); similar to Phyb1 [Pimpinella brachycarpa] (GB:AAC31614.1); contains domain ACID PHOSPHATASE-RELATED (PTHR11567); contains domain UNCHARACTERIZED (PTHR11567:SF1)	TTTTTTTTTTTTTTTCTTTTTTTATTTTTATCTGTTTTTTAACATTGATGATGCAAATGGTGAGTAGATGATAAACAAGAAACAAACTTGAAAAAAGGAAA AGCTAATAAAAAGCTTCTAATGTCTACGCACTTGTTTTTGCTGCTGTACAAATCCTCTAAAAGACAACACTTGTTCTTCTTCTAATCACAATCTAGAAG GTTGGATTCGCTTCAGCAGTTTTACAGCTTGTTTCATCGTTGGTCTTATAGAGAGGCTATCAACAGTGCATTTCAGTGCTAAATGCAGAACCTCGACA AGATCATCTTGCGGACCAGTCTCCCATAGTCCCTTTGTGAAAACTTCCTTGGCTTTGCCTTGACTCAACATCATATGTGCCCACGAGACAATGTTGAA CCCGTTCTCGTGCGATGAGAAAGAAGGATCCAGAGCTCGCTTATCAGATATCAGCTCCAAGATGACAATACCGTAACTATAAACATCTGCCTTCTCC GAGACACGGCAAGTCATTGCGTATTCAGGAGCAACATAACCAAACGTTCCAGCCACGCCTGTTGTGACATGAGAGAGACGACTCGAGAATCGAAGT TGCAGGAAACACCGAACCAAGAACAGTGGTTAGAGCTGTTCGGATCCCAGCTAGAGAGAACACCATTTGGATCAGAGAAACTACTCTTCAACTCCA GAAGAACGGTTTCATCGTGAAAAGCATTCTCGGAGAAAAGTTTCCGAGAAAACGAAAACGCAAATAAATTAAGCAGCAAGAACAAAGCCAAGAGATT TCTTTTCATTTTTCTCCTCCACAAGAGAGATTGAGAGAGAGAGAGAAGACGACGGCAAAACGCAGAAGGAAAATCAAAACCCTAATTTTTTTTTTATG TTTTTCCCCTTTCTCGCAAACCCAAATATCAAAAAAAAATTGAAGTCTTTTCTAAAATTTTGATCTCCCTCTCTTCTCTTTCTCTCGAAATTCAAGTCGC AAAAGAAGAAAGTTTCTTTACCCAAAGAGAAAACGACATTAAAGTAAAACAAAAATTTCTTGGTTCAATAACCAATTCAAAAAAAAAAAGTTCTTAACG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003A16	AT1G27650.1	ATU2AF35A; RNA binding	GCCAAATCGGCCATCACGAGTCTCTCTCCTCTCTCTCTCTCTCTCTCTCTCTCTCCCCAACTCGCGAACAAAGCAAACCCTAGATCATCAATCCGAC GGAGACGGCAGCTCCTCGTCGGCAATATCTTCAACCGGCGGCGGCTACTCTCTCACAGATCTCTCAGTCTCATCCATCTCTGTAACATTTTGGTGG GAATCCTGCCATGGCGGAGCATTTGGCTTCAATTTTTGGTACGGAGAAGGACAGAGTGAACTGCCCATTCTACTTCAAGATTGGCGCTTGCCGTCA CGGTGACCGGTGCTCTCGTCTCCACAACCGTCCCACCATCTCCCCAACACTCCTCCTCTCCAACATGTACCAAAGGCCTGACATGATAACCCCTGG TGTCGATGCTCAGGGCCAACCTCTCGACCCGCGCAAGATCCAAGAGCATTTTGAGGATTTCTTCGAGGATCTCTTTGAGGAGCTGGGAAAGTTTGG AGAGATAGAAAGCCTCAACATTTGTGACAACCTTGCTGACCACATGATTGGCAATGTATATGTTCAGTTCAAGGAAGAGGATCAGGCTGCAGCTGCT TTGCAGGCTCTGCAAGGTAGGTTCTATTCGGGACGTCCCATCATTGCGGATTTCTCTCCTGTTACGGATTTCCGCGAAGCTACGTGTCGGCAGTAT GAAGAAAATAACTGTAACCGTGGTGGGTACTGTAATTTCATGCACGTGAAGCTTGTTTCGAGGGAGCTGAGGAGAAAACTCTTTGGGAGGTATCGG AGGTCATACCGCAGGGGAAGCAGGAGCAGGAGCAGGAGTATAAGCCCCAGGCACAAGAGAGAGCACGACAGGCGTGATCCTTCTCACAGGGAGT TCAGTCACCGGGACAGAGATCGTGAGTTTTACCGTCATGGAAGTGGGAAAAGGAGCAGTGAGAGGTCGGAGAGAGGAGACAGGGAAGGTTCAAG AGGAGACAGGGAAGGTTCAAGAGGAGACAGGGAAGGTTCAAGGAGGAGACATGAGTCCAGCCCTAAACGAGGAGGGAGCCCTGGTGGTGGGAGA GAAGGAAGCGAGGAGAGGAGGGCAAGGATTGAGCAATGGAACAGAGAACGGGAGGAGAAAGAAGCGGGAGGAGCATAAAAAAAAAGGTTGTTTA CGAAAATCATGACTGCTTGCAATGTGGCTTCTCGGCGTTTTGCTGATTTGTTTCCGGAAAAAGGATTTTATCATTTGGTGGTTCTAATTTGGGAACTT
GCT-003A17	AT4G02420.1	lectin protein kinase, putative	GATACAGAGCGATGTTCGTGAAGCTCGTCAACGTCGTCTTCTATTTGAGCATGATCAATCAATTCCTACAATCGTCTTCCCAAATTCTCAACTTCACT TACAATGGATTCCATCGTCCACTGAGTGCCATATCCCTCCAAGGGATCGCCACCGTCACACCCACCGGTCTCTTAAAGCTAACCGACACAACCGTG CAACAAACCGGTCACGCCTTCTATACCCTACCAATCCGGTTCAAAGATTCTCCAAACGGCACTGTCTCGTCCTTCTCCACCACTTTTGTCTTCGCTGT GCACTCTCAGATCCCGATACTTAAAGGCCACGGCATGGCTTTTGTCGTCGCTCCGAACACAAGCCTCCCCTTCTCGAGTACCAGCCAATACCTCGG TCTCTTCAACATCACAAACAACGGTAATGACACAAATCATGTGTTCGCTGTCGAATTTGACACGATTATGAGTCCCGAGTTTAATGATACGGACGATA ATCATGTCGGAATCGATATCAATAGCTTGACGTCAGTGAAAAGTTCGACGGCTGGTTACTGGGATGAAAACGATCAGTTTAAGAATCTGTCTTTGATC ACTGGTAAGCCGATGCAGGTTTGGGTCGATTATGATGGCCTTACACGTCAAGTCGATGTAACGATGGCTCCATTCAGCGAGAATAAACCTAGAAAC CCACTTCTTTCTGTTGTCAGAGATCTATCTTCGGTTCTATTGCAAGATATGTTCCTAGGTTTCTCGTCTGCGACTGGTTCTACTATGTCGGAACATTAT GTTCTCGGGTGGAGTTTCCAGATGAAGGGGAATGCTCCGCCGTTGGCCTTATCGAAACTTCCGACACTTCCGAGGTTTGACTCGTTTGAGGCCAAG AGTACCAACCGCTTCTTATTTATTTTGACGGAGGTGATGGCAAAGTTGTTGATTCCGGTCTTGTTTATCTTCTCGCTCATCTTCCTCGTGCGCTTCAT CGTGAAAAGGAGGAGAAAGTTCGCGGAAGAACTCGAAGATTGGGAAACAGAGTTCAAGAAGAACCGGTTGAAGTTCAAGGACTTGTACCGTGCCA CCAAAGGGTTCAAGAAGAAGGACATTCTCGGATCAGGCGGGTTTGGGAGCGTTTACAGAGGTGTCATGCTCAAGACGAACAAGGAAATTGCTGTGA AAAGAGTCTCGAACGAATCCCGACAAGGGCTTAAAGAGTTTGTGTCTGAGATCATAAGTATTGGTCGGATGAGTCACCGAAACATAGTCCCTCTCTT GGGTTATTGCCGCAGGAGAGACGAGCTTCTTCTGGTGTACGACTACATGCCCAATGGAAGCTTAGACAAGTACTTGTACAACAGTCCGGAGTTAAC CCTCGACTGGAAACAGAGGATCAGAGTCATTAAAGGCGTGGCCTCTGCCTTATTCTTCCTTCACGAAGACTGGGAACAAGTGGTGATTCACCGCGA CATCAAAGCCAGCAACGTCTTGTTAGACGCGGAGCTCAACGGGAGACTCGGGGATTTCGGTTTAGCTAGGTTGTGTGGTCACGGGTCGGATCCTC AAACCACGCACGTCGCTGGAACATGGGGATACCTAGCTCCCGACCACATCAGAACAGGAAAGGCCACGACCGCTACTGATGTTTTTGCGTTTGGG GTGCTTCTACTAGAAGTTGCGTGCGGTAGACGTCCCATCGAGATTCAGAACACTGAGAGGGTCTTGCTCGTGGATTGGGTTTATGGGTTTTGGACC GAGGGAAACATCTTGGATGCTAAGGATCCGAATCTTGGGACAGAGTATGACCAAAGAGAGGTCGAAATGGTCTTGAAGCTAGGTTTGCTCTGCTCT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003A18	AT3G25010.1	disease resistance family protein	GAAATCAAAATCACTTATTTCATCACAACCATGTCAGAATCGTGTTTGCGCTTGCATTTTCTCTTGGTTCTCTTTCTCTGTTTTGTCTCCGTGTCAAGC ATCTTTATTCCAAAATATCATGGTTTTGGTCTAGTTGCTTGTCGTCTCCACCAGATTCAATCCTTTACGAAGTTCAAGACCGAGTTTGATACGCATCGT TGCAACCACAATGACGACTTTAATGGAATCTGGTGTGATAATGCGACGGGTGCGGTCACAAAGCTTCAGCTCCGAAGCTGCCTAAGTGGAACTCTT AAGCCTAACAGTAGCCTCTTCCAGTTTCATCAGCTCCGCTACCTTGATCTAAATCAGAACAACTTCACCTCCTCTTCACTCCCTTCCGAGTTTGGAAA TCTCAACAAATTAGAGGTTTTATCTCTTTTCTCTAATGGCTTCATTGGTCCAATTCCTTCCTCATTTAGTAACCTAAGTCTTCTTTCTATTTTAGACCTTT CCGCAAATAAGCTCACTGGTAGTTTCCAACTTGTGCGGAGTCTAAGTAAGCTCACAATTTTACGACTTTCTCAAAATCACTTCTCTGGAACTCTGAAT TCCAACCATAGCCTCTTTGAGTTGCACCACCTTACTTACCTTGATCTAACTGAAAACAACTTCACTTCCTCTTCACTCCCTTATGAATTAGGAAACCTC AACAAACTAGAGGTCCTGCGCCTTTCCTCTAATGGCTTCTTCGGTCAAGTTCCTCCGACAATTAGTAACCTAACATTGTTAAGTGAGTTGTACCTTGA CACGAACGAGCTTACTGGTAGTTTCCCTCTTGTACAAAATCTAACCAAGCTCTCCACTCTAATACTTTTTGATAACCACTTCTCTGGAACCATCCCTG CTTCTCTCTTCACTATGCCTTTCTTATCATATCTAGAGCTTTGGAGAAATGATCTCAGTGGTTCTATTGAAGTTCCTAACTCATCTTCTTCTTCAAGGC TAAAACGTTTGTACCTAGGTCACAACCATTTTGAAGAAAAAATCCTAGAGCCTATCTCAAAACTCATCAACCTCAAAGAGCTCGACGTTTCTTTCCTAA ACACAAGCTACCCAATTGACCTAAGTATGTTCTCCTCTCTCAAATCTTTGTTGCTCCTAGATCTTTCCGGTGTTAGGATATCTCAGGCTAGTTTAGCTT CGGATTCCTTCATCCCATCAACCCTGGAAGCGTTGCGTTTGAAGCAATGCAACATCAGTGATTTCCCTACCATCTTAAAGACCCTTGAGAATTTGGT GCATATTAGCTTATCAAAAAATATCATCGGTGGGAAAGTCCCTGAGTGGATATGGAGCCTTCCTCGCTTGAACTCATTGTTTATTGATGGTAACTTGC TATATGGCTTCGAAGGTTCGTTGAAAGCATTGGTGAACTCATCGGTACAGATCTTAATTATGCATTCAAACAGTTTTGAAGGAGCACTTCCGCAACTA CCACTATCTATCAACTTCTTCTTTGCACAATCCAATAATTTCAGAGGCAACATACCTCTATCTATCTGCAATAGAAGCTCGTTGACTGTCCTTGATCTA AGCTACAACAACCTCACCGGTCCAATACCTCCATGTATGAGTAACTTCTTGTTTTTGAATCTCCGGAAGAACAAACTTGAAGGAAGTATTCCAGACAA GTTTTACGTTGGTGCACCTCTAAAGACACTCGACGTTGGCTACAATAGATTAACCGGAAAGCTTCCAAGGTCTCTTCTAAATTGCTCATCTCTACAGT TCCTAAGTGTGGACTACAACAGAATCAAAGATAGGTTTCCTTTCTCACTCAAGGCTTTACCGAGTTTGCAAGTGCTTATCCTCAGCTCAAACAAATTC TATGGTAGTGTGTCTTCTCCGAACCATGGTCCTCTAGACTTTCCTGAGCTGCGGATACTTGAGATAGCTGGTAATGAATTAACCGGAAGCTTGCCTC CAAACTTCTTTGTGAATTGGAAAGCATCATCACTCAAGATGAATGAAAATGTGGGTCAATATTTGGTATATAAAAAGGTTATTTACGATACATATTACC TCACATATAGGGACTCTATAGATTTACCACGCAAAGGTTTATTTCAAATGGAGGAGAAGCTCCTTACTTCCTACGCCACCATTGATTTTTCTGGGAAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003A19	AT4G21410.1	protein kinase family protein	GAGCTTTTAAATTCGCCGTCGCTAGACTCGGTTCCTCTCTGTTTCCTCACCGTCACTGCCACCACGGAAAATCCGATTATTTGGCGCAAGTGATTTC GAAGCAGATTGAAGAATCCAAACTCAAAAATCATCGTTTCGGTTCGACAAAATCAAGGGTTCAGGTTCAGGTTCCTGTGATGAAAATATTAACATTTT TGGGTGGTTTCCCGTTTTCGTATTGCAGGTTTTAGTGAAGAAGCTAGTAGGCTCCAATTGCATATTTAGCTTCAGATTTGAGTTTGACAACTCTTATG CCCAAATCAGGATATACTGTGTATAGATGTTCCATCAAACACGTCCTCTTACTTTTGGACTTTGTAGTAAAGCAAACGCATTTGGTTTCCCCCGTTTG GCCCTTGCAAAGTCACCTTCGTAAATTTTGAAAGATAACTCACTTAACGAGTAAGATTCCATGATGGGTATAGACTCAACTCTACAGTCTACTTAATAC TTAGTTTACTATCATTTAGATTACTGTAAGGTTGATTAGTTTGAATTCCTAGTTGGTTTAAAAGTATTCAAAGTCTCAGTTTTTTTCTTTTCCAGTTCACA TTGGTACTTTGGAGGAAAGTGGTGAGCAATAAACACTTTTATCTATATAACGTTTTTCACACCACCGTTGACCCGACTCGCAAACACTGCCCAATAGT GTCAACTACTGAATGTTATAATCGTGTTTGATCGGGAAGTTGTGTTTTTTTTCTCTGCTGTCAGATTTTGAAAATATTTTAAAGGTCAGATTAGATGGA CCTTTACCATAACCAGAAGAAGAAAAAAAAAAGCTTCAAGCTTCCATGGAACATGTCAGAGTTAGATTCTTCTTTCTTGCTTTTTTTCTAACCTGTGTTC CGTTTCACGCCTTAGCTCGGGTAGATACCTATGAGTTTGATCCAATTGTAAGAACATTCACGGCAACCAACAGTTTTGCCAAAAATCTCGACCGTCTT GTCACCTCTATCTCCTCACTAACACCCAAACCTTATGGCTTCTACAACCTCTCTTCTGGAGACTCATCTGGAGAAAGAGCTTATGCAATTGGTCTGTG TAGAAGAGATGTCAAAAGCGATGATTGTCTCAGGTGTATTCAGACAGCTGCAAGAAACCTCACCGAGCGGAATCCGCAGAAAAAAGAATATGTGAT GTGGTACACGCACTGTATGTTTCGTTACTCGAACAGGAATATATATGGAATAAAAGAAACATATCCAACTCTGGCTTTTGTTGCCGTTGAAAAGATAT CAGGAAACAGAGATGAGTTTAAGCGTCTGCAGGGAGCACTATTGAATAGGCTCAAAGGGATTGCAGCGGCTGGTGGGCCAAATAGGAAGTACGCT CAAGGGAACAGTTCAGCTTCGGTAGGGTACCGTAGCTTCTACGGAAGTGCGCAGTGTACGCCGGATTTGTCTGAAGAGGACTGTAATGACTGTCTA GCTTTTGGGTTTGAGAGTATCCCAAGTTGTTGTGATGGTGAGATTGGTCTTAGGTGGTTTTGTCCTAGTTGTAACCTCCGGTTTGAGACGTGGCGAT TCTATGAGCTTGATGCCGACCTAGAGCCTGATCCACCTGCAATTCAGCCACCAGCTGCAAAATTTGAGAGAACAGGAAAGGGCAAAGGTGGATCTA AAGTCGTTATTGCAATAGTCATCCCGACAGTTCTTGTTGCGTTATTTGCAATTTGCTTATGTTTGGTTTTGAAATGGAAGAAGAACAAGTCTGAAGATA GAGTCAAAGGATCAATTGCCGAGGATGAGTTATTGGATGAAGATTCGCTGCTGATTGACTTCGAAACTCTAAAGGCAGCAACAGATAACTTTTCACC AGAAAACGAACTTGGACGTGGTGGGTTTGGTTCAGTTTATAAGGGTGTGTTCTCTTGTGGGCAAGAAATCGCGGTGAAAAGATTATCTGGTACTTCT GGACAAGGAGACATTGAATTCAAGAACGAAATTATACTTCTTGCAAAGCTTCCACATAGAAATTTGGTCAGGCTTTTAGGTTTCTGCATACAAGGACA AGAAAGGCTCCTTGTCTATGAGTTCATCAAGAACGCTAGTCTGGACCATTTCATATTTGATCTTGAAAAGCGTCAACTTTTGGATTGGGGAGTGCGAT
GCT-003A20	AT1G05805.1	basic helix-loop-helix (bHLH) family protein	GGTCTTCTCTCCATTTGGCGATAGAAGATATGTACCAATCATCTTCCTCCACGTCATCATCATCGCAGAGATCATCGGTTCCCGGTGGCGGCGGAG GCGGAGGTCTGATCCGATACGGCTCAGCTCCGGGATCGCTTCTAAACTCTGTGGTGGACGAAGTCATCGGAACAAACGGTCGTGCAGGTGACTTC AATTATCCTCCGCCGGAAAACTTCCTCGGTCAGTTCTTCGCCGGAGCAGATTCATCCTCGCTGAGATCCGATTCGACGACTTGCGTAGTCAACTCAT CCAACGGACAGAAACAGCAGCTCGGCAACATTAATAAAGATCTCCTCCTCGACAGATCCTACGGTGGATTCAACGAGATCTCGCAGCACAAGAGCA ACGACCTCGGCAATAGCTCCGGATCTTACTCTCTCGCTAGGCAACGTAGCTCTCCCGCCGACCTCTTCACCTACCTCTCCGGAGACAAAAATAATTT CTCGTTGAACCAACCAACAAGTGATTATAATCCACAAGGAGGGTCTAATGCAGGACGAGGACAATCGAGACTCAAGTCTCAGCTAAGCTTCACGAG TCACGATCCTCTGTCCCGGATCTCTGAGGTCAATGAGACCTCTGTCCACGATGGTTCGGGCCATTCCTTTTCAGTGGCTAGCTTCGGTGCCCCCAC TGATTCTTGGGATGACGGTTCCGGTTCAATAGGCTTTACTGTGACCACCCGCCCAACTAAACGATCCAAGGACATGGACTCAGGTCTTTTTTCACAG TATAGTCTTCCTTCAGACACTTCAATGAACTACATGGATAACTATATGCAGCTTCCTGAAGATTCTGTACCTTGCAAAATTCGGGCCAAACGCGGCTG CGCCACCCACCCGAGAAGCATCGCCGAGCGGGAGAGGAGAACGAGAATAAGTGGCAAACTAAAGAAGCTACAAGACCTTGTCCCCAACATGGATA AGCAAACAAGCTATTCTGACATGCTGGATTTAGCTGTACAACACATCAAAGGCCTTCAACACCAACTTCAGAATTTGAAGAAAGAACAAGAGAACTG CACGTGCGGATGCAGTGAGAGACCAAATTAGCTGCAATCCTAACGGTAGGGATCATCCTAACTTTATCAGATGTTTTTGATATCATAAGAGAATTAGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003A21	AT3G59290.1	(EPSIN3); binding	GACGAAGCCAAACGCAAAAAAGGGAAACCATCGCACAAGTTTCCAAAGGATTTCTCTCCTTCCTTCCCGTTTTTCCTCTCCTCATTTCTGTCTCCATT TCGTATTCTTATTTTTTTTTGTCCCTTATTGATCCGCGATCCAATTTCCTTTGCCTTCAGGTTATAAAGCGCAGTAAGCACTTTTACCATAACAAGCAG AGTTTCACATTTGGATATGAAGAAAGCATTTGGTCAAACTGTCAGAGACCTTAAGAGAGGGGTCAACAAGAAAGTGCTTAAAGTACCTGGAATAGAA CAGAAGGTTCTAGATGCTACAAGCAATGAGTCATGGGGTCCGCATGGATCACTTCTTGCGGATATTGCGCATGCTTCAAGAAATTACCATGAATACC AGCTCACCATGGGAGTGTTATGGAAACGCCTTAGTGACACTGGAAAAAATTGGCGACATGTCTATAAGGCATTGACAGTCTTGGAGTACATGGTAGC CCATGGATCAGAACGTGTCATAGACGAGATTAAAGAACGTGCATATCAAATTTCGACATTGTCCGATTTTCAGTATATTGATTCCAGCGGTAAAGATC AAGGTAGCAATGTCAGGAAAAAGTCACAGAGCCTTGTGGCTTTGGTAAATGACAAAGAAAGAATAGTGGAGGTCAGAGAGAAGGCTGCTGCTAACA GAGACAAATATCGTAATTCACCAGTAGGTGGGATGCCTAGGCCGTCAGGAGGATATGGGGACAAATATGATTACGAAGGCCGCTATGGAGACAGA GATGAAGGGCGAAGTAGTTATGGGAGAGAAAGAGAATATGGCTATAGAGATGATGATAGAAGTAGTCGAGACTCTGAAGAACGGTATGGAAGAGAT GGTAACAGAGATGATGAATATCGTGGAAGGAGCAGAAGTGTTGATAATTACCGAAATGGATCAAGAGGTAGGAGCTCGGACAGAGAACGGCCTTTT GAGGATGATGGTCAATCTTCATCACGGGACAGTGGTGCACGAGCTGATGATCATTCTCAAGATGGGAGAGGGGGGCTAGAGAGGAAGTTTTCTGA ACAAAATATTGGTGCCGCCCCACCTAGATATGAAGAAGCTGTCAGTGAATCACGGAGCCCTGTATTCAGTGAAAGGGATGGTGGGGAGACTCCACA GGTTGGTCCTCCAGGAGCTGCTGCTTCTCCTCCTGCCGAAAGCAGCAGCATGGACAACAAATCTGCTGGTTTTGTTGATGAATCACCACCTCAGCA AGTTGAGGCTTTTGATGAATTTGATCCACGAGGGTCAGTTCCAGCTACCGCTTCGGCTCCTGAACCTAGCCCACCAACAGTAGTTTCTACGTCAGCC CCACCAGTCTCGGTCTCAGATACTGCCGAAATGGACTTGCTTGGCTCTCTTTCAGATGTATTTTCATCAAACCCGCTGGCTATTGTTACATCTGATTC TACTTCTGTTGTAACCAATGGACAAGCAAACGCTAGTCCAGCTCCGTCGTTTTCTACTTCCCAGTCATCAACTCAGCCGTTTGATGATCCATTTGGTG AATCTCCGTTCAAAGCCATCACTTCTGCTGACACTGACCCAAGCCAACATCAGACTTTTGGAGCTCCTTTCCAGCCAACACCACCAGCCTCAAATCC TAACAATAGTGATAATTTTGGTTTCGGGGAATCATTTTCTGCTGTTCCCAATCCTGAACCTGGCGTTCAAACTATGCAAGCTCCATCGGACTCATCCG TCTTCCCTCAAGAAGAGTATACTACATCGCAAAGCGAAATCGATATTCTTGCCGGCATTCTCCCGCCATCTGGACCACCAAATTCTCTGCCTCAGCC AAATCCCACGATGCCAACATCTCAATTTCCTCCCAACGGTAATGTGTATGAAAGTTTTCATCCCCAGGCAGTGCCTACGGATCCGAACATGCCAGGA CAGACTCCGTTTGGTCAAGCTTCACAACATTATAACATGAATTCTCACTCGCAAAATCATCCTGGAGGTGTGCAGTTCAACAATGGAGGCTTCACAC AACAGCCAGGCTATGCGGGTTCTGCAAATTCTCAACCTCCGCAGTATACTCCTGGTCTGTCTTCACACCCATCAAGTGAGACTTTTTCTCACCATCC
GCT-003A22	AT2G46450.1	ATCNGC12 (cyclic nucleotide gated channel 12); cyclic nucleotide binding / ion channel	GGGACAGACGTTAAAACATTTTGCAACCTTTTGCTTTGACAAATCCTCAAGAAGAAGCTGAGGAATGGTTTTGACTTTTGAAAGATCTTCGATTCTCC CACAATTTGTGTCTGCGAGGTTTGATGAATAGATTAGTTAAAATGGAAATTTCAAGGGTGTTAAGAGAACTCTTAAAGAAAGTTTGTGCGAAGATGAA TACACTTGAATACTGGAGGAAGGCAGTCCTCTTAGTTTGTGTGGCTGCTTTGGGGATTGACCCTTTATTTCTCTTTGTCCCTGTGATTGATTCTCCTA GATTCTGCTTCACTTTCGACAAGAAGCTTGGAGTAGTAGTTTCTGTCCTCCGTACCTTCATTGATACGCTATATGTGATTCACATCATTTTTCATTTCA TCACCGAGCTTATTACTCCTCGTTCTCAAGTATCTTTAAGAGGCGAGCTGATCATACATTCTAAGGCTATCAAGAAAAGACACTTCCTGTTTCACTTC GTTGTTGACATTCTTTCTGTTCTCCCCATTCCTCAGGTTGTGGTTCTTACTCTCATGCAACGGTCTGACTCACTGGTGTCAAAAGAAATACTGAAATG GATTATACTTTCTCAGTATATACCAAGAATCATTCGCATCTATCCAATTTTCAAAGAAGTGACAAGGGCCTCCGGTACAGTAGCAGAAACAAAGTGGA TTGGAGCTGCTTTCAACCTTTTCCTCTACATGCTCCACAGTTATGTGTTTGGGGCATTCTGGTACTTGAGTGCGATAGAAAAGAAAAACAAATGTTGG CGCGAAGCGTGTGCTAAGATATCCGGATGCAACATAACGAATCAGTATTGTGGTCGAGGTGGCGGAGAAGGAAACGGTCGTTATCTGAAAACGTCA TGCCCGTTAATTGATCCTGATCAAATCACAAGCTCCACAGTCTTCAACTTTGGTATGTACATTGATGCATTGAAGTCAGGGATCGTAGAGGTAAAGCC AAGGGACTTTCCGAGGAAGTTCTTCTACTGCTTTTGGTGGGGTCTCAGACATATTAGTGCTTTAGGCCAAAATCTGAAGACAAGCAACTCTGTAGGG GATATCATTTTCGCTATCATCATATGCGTCTCTGGTTTACTCTTGTTTGCTGTGCTCATTGGAAATGTTCAGAAGTACTTGCAATCAACTACGATTAGA TTAGATGAAATGGAGGAGAAAAAGAGAGACACAGAAAAATGGATGTCGACACGGATGCTACCAGAGTATCTCAAGGAACGCATTAGGAGATACGAG AATTACAAATGGCGAGAAACTAGAAGCATCGAAGAAGAAGCTTTTCTCCGCAACCTTCCACAAGATCTAAGACTCGAGACCAAACGCCATCTCTACC TTACTCTGTTAAACAATGTCCCTTGGCTCAACATCATGGATGATGGTTGGCTACTACAAACATTGTGCGATCGAGTAAAGTCTGCATTTTACTCGGCG AATAGCTATATAGTGAGAGACGGTGACCCCATTGGGGAAATGCTTATTGTAACGAGAGGCAGATTGAAAAGTATTTCCGGATCTAGTGAAATAACCG GCTACTATGATTCATCTTACCTCCAAGCAGGCGACATATTTGGAGATCTTCTCTTTTGGGTTCTTGATCCACATCCTTCTTCTGGCCTCCCAACCTCA AATAGAACAATATTAACTATGACCGATGTTGAAGGGTTCATTCTCTTGCCTGATGATCTCAAGTTTGTAGCTTCCCATTTCAATCGTTTTCATAGCACC AAATTCAAACATATGTTCAGGTTCTATTCTGCACATTGGCGGTCATGGGCGGCATGCTTTATACAAGCAGCATGGAGGGAACATTTCAAAAAGAAGC TTTCGAAGATCTTAGACACTAAAAGAGAACATAAGCAAATTTCACAAGGCAAGCAACTCAATATTGGAGCAAGTCTCTACGTGTCTAGATTTGTGTCC AAGGCTTTCGCAAAACGACGGCAAAATGCAGCATATTGTTCTAGCTCTTTGCATATCTTACCCGATCTACTGCAGAAGCCAGCTGATCCTCAGTTTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003A23	AT4G30993.2	similar to unknown protein [Oryza sativa (japonica cultivar-group)] (GB:BAD72545.1); contains domain Metallo-dependent phosphatases (SSF56300); contains domain no description (G3D.3.60.21.10)	GGCCATTTTTTCAGAAAGAAATCTCGTTTCAGAATTTCGAAAAAAAAGACATGAACAAATCGTCATGGGGTTGCACAATCTTTATCCAATTATCTCTCT GTCTCGTCGTCTATGTGTCTCTGCATTTGGGCCATCCATTCTTCTTCTCTAGTAACGATGGTGACAGTGCCGGAGCTCTTGATCTCCATTTCATCTCA GTTTCTGGAGGTTTCAGGCCTCCTCAGCGTCAAACTCGCCTTCTCCGATTGGTCTGTCTCCCATTTACGTTCAGTGATGAATCTCTTTATAATTCCGT TTTTGGTTTGGAACATAATTTTTTTTCCGTCTCAGCAATTTTGTTAGTTCTCGAATCCATTGGTTTCAGGATAAAAGTTAAAAAGTTTGAGTTTTTATTA GATCAACTCTTGGTTCCACGAGAAAGGAAAAAAAAACGTTGATTTTTCTTCTTCTTCTTAGTACTACGACGGGTTCAGTAGTTGGATTTAAAGACAAAA GATTATATTTTTCTTTGGTAGATAAGCGATTATTGTAGTTATTTTGTTATTGTTTGATCGGTGAAGATGGAGAGAGTTGCAGAAACGTACAAGGCAAGA TTTGTGGTGAGCACAAGTGAGCATGGAGAAGAAGATCCACTCCTGCAAAATACAGTTGGTATGAGTGATGAGTGTATTGATCTTTTCGCAGGCTACT CGAGTCTCCTCTAAACTGAAACTTCCTTGGTACACTACGAAGAAAGGTTCTGGAAATTTCAGAGAGCAAATCAAATCGCCTTTTGGTGGATCATTGGA CGTTATTTTCGTAGAAACTGGCTCGTTACAGCAGGAAGTGCTCGGTGGAGCATTGAATGGTTCGGTGATCAGTCAATTGAAAGAGATAACAAGGATT CTGAAAGCAGCAGATGGAGACTGGCGTATTGTGGTTGGATCAGACCCGTTACTCGCCTCTACACTTACTAAGGAACCAGAGGAAGCCAAGGGAGTT GCAAGGACATTTCATCAAATCATGACCAAGTATGGAGTGAACTTATATATAAGCGAAAAGGGTTGCACCAGTGGAGCCAGCGACAACAGCTTCTCTT GCATTACGGTTCCTAATACATCAGAAAACCAAGGTTCAACGAATGATAGTAAGAGTGAAATGGGAGATGGGTTTCTTCTTCACAGAGTTAGCTTCTCA CACTTTCTTACTTATACTATCAACTTATCCGCACAACTCATCCATACAACATTCCTTAACCAAAACCCCAAACACACCATCTAACATTTCATTTTTTTT
GCT-003A24	AT4G39210.1	APL3 (large subunit of AGP 3)	GAATTATATGGACTTTGTTCAGTACCATGTTGATAGAAACGCGGATATCACTCTTTCGTGCGCACCAGTAGGTGAGAGCCGTGCATCGGATTATGGG CTAGTGAATATCGATCGAAGCGGACGTGTAGTCCATTTCTCTGAGAAACCAACTGGCATCGATCTGAAATCAATGCAAACCGATACAGCTATGCTTG GACTGTCACATCAAGAGGCAGCGGAATCTCCATACATTGCATCAATGGGAGTTTATTGTTTCAAAACCGAAGCTTTGCTGAAACTTCTGACAAAGCAT TATCCGACTTCCAATGACTTTGGATCTGAAATTATTCCTGCAGCTATAGTAGATCACAATGTTCAAGGATACATCTACAGAGACTATTGGGAAGATAT CGGAACTATAAAGAGCTTCTATGAAGCTAATCTTGCACTTGTCGAGGAGCATCCCAAGTTTGAGTTTTACGATCAGAATACGCCTTTCTACACTTCTC CTCGGTTTCTACCACCCACCAAAACCGAAAAATGCCGCTTCGTAGATTCGATAATCTCACATGGATGTTTCTTGGGAGAATGCAGCATCCAACGTTC CATCATTGGTGAAAGGTCACGTCTTGACTATGGTGTTGAGCTTCAGGATACTTTAATGTTGGGAGCGGATAGTTACCAAACCGAATCTGAGATTGCG TCTCTGCTCGCGGAAGGCAATGTTCCAATTGGCATTGGCCGAGATACAAAGATCAGGAAATGCATCATTGACAAGAATGCAAAGATCGGGAAAAAC GTGATGATCTTGAACAAAGATGATGTTCAAGAAGCTGATAGGCCAGAGGAAGGATTCTACATTCGATCTGGTATCACTGTGATTGTCGAAAAGGCCA
GCT-003B01	AT5G57150.1	basic helix-loop-helix (bHLH) family protein	GGGTCGTATGATTCGAGTTCGCCTGATGGGGCGGCTTCGTCGCCGGCTTCAAAGAATATTGTGTCGGAGAGAAACAGAAGACAGAAACTTAACCAG AGACTCTTCGCTCTCCGATCAGTTGTTCCCAATATCACTAAGATGGATAAAGCATCAATAATCAAAGATGCTATTAGTTACATACAAGGGTTGCAATAT GAAGAAACGAAACTTGAAGCTGAGATCAGAGAACTTGAATCTACTCCAAAGAGTAGTCTGAGTTTCAGTAAAGATTTTGATCGTGATTTACTGGTTCC TGTCACATCCAAGAAGATGAAGCAGCTTGATACTGGTTCTTCCCGTTCTCTCATCGAAGTTCTCGATTTGAAGGTAACATTCATGAGAGAGAGAACAA TGGTGGTGAATGTTACATGTAACAAGAGGACAGACACAATGGTGAAACTGTGTGAAGTCTTTGAGTCATTGAATCTCAAAATCCTCACTTCCAGTCTC ACCTCTTTCTCTGGCATGATCTTCAATACTCTCTTTATTGAGGCAGATGAAGAAGAACAAGAGATGTTGAGGTCAAAAATAGAAACAGGAATAGGAGC TTATAACGAAACTCACAGTCCCTCTTTGAGCATCGACTCTCATTACTAAGTAATTTTTTTGGCTTCTCTCTTTAGTCATTACAATGAATAATATGGCCTC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003B02	AT5G17860.1	cation exchanger, putative (CAX7)	GATTGCTCCCACTTCAAACCAATTTGCTTCCTTGAATGGCAAGTCTCTTCTCCTCACCTCTCAGCTCACGTTCTCTCTCTCTTGTCATCAACCTATTCT TCATCTTCCTCATCTATCTCCATTTCGCTTCACAAAATCCTCCTCACTCCAATTCCATCAAATCCCTGAATTCTATCGCCGCCGGTGACAGTGACAGC TGCAGCGAAGGACTCGCCGTCCTCGACGACCACCGTTCCAAGTGTTCTTACGTTAGATCGAAATCAAAATGTGGCCCACAAGGTTACTTAGACTATC TCAAGATTTTCTTCTGTATCTTCGGACAATCCCCTGTTTTGGGCCATCTAGTTTTATCCATCTGGCTATTTGTTCTGTTCTACTTGCTCGGAGACACGG CGGCGAGTTACTTTTGTCCTTCTTTGGACAGCTTATCTAAGGTTTTGAAGCTGTCTCCTACAATGGCTGGAGTTACGCTTCTCTCTCTCGGCAACGGT GCGCCTGATTTGTTTTCAAGTATTGTCTCCTTCACGAGGTCAAATAATGGCGATTTTGGGCTCAACTCTGTTTTAGGCGGTGCGTTCTTCGTCTCCAG CTTCGTTGTCGGGACGATTTGTTTGTTAATTGGATCTAAAGATGTCTCTATCGACAAGTACAGCTTTATCCGCGATGTTGTTTTTCTTCTGGTCGCTCT GTGTTGTCTCGGTTTGATCGTCTTTGTCGGCAGAGTAACCATTTGGGTCGCACTTTGTTACCTTTCCATTTATATCCTTTATGTTGGGTTCTTATCATT TTCGCATTTCTTCGATCGCAAGAAACCTATCTCCGACCAGATTCTTCGTACCAGAGAGGATTTGGCCGAGATGGGCGTCCCATTGCTCGGATATATC AGCGAGGATAAGCCCGTACCGCCGCAAAAAATTGCTCATGAATCAAGAACTCAAGAACAAGAATTCAAGATTGTGTTTCTTGATTCGCCAAAAAAGC AGCCGTCTTGCTTCTCGGTGCTAGTGAGCGTCCTAGGACTACCTCTGTATCTCCCACGGCGGCTCACGATTCCCGTCGTCAGCGAAGAAAAGTGGT CAAGGCCTTGCGCGGTGGTTTCCACAGCCATGGCGCCTGTTCTGCTAACCGAGCTTTACTGTTCTCATTACAACGGGTCCAAAAGAAACCTAATCTT GTACATATTATCCGGAGTAATCGGATTATTCTTTGGTATCTTAGCGTACTTGACGACGGAAAGTTCTCGTCCGCCGAAGAAATTCTCACTAGTTTGGC TTCTAGGAGGCTTCACAATGAGTGTGACATGGACATACATCATAGCACAAGAGCTAGTCTCATTGTTAATATCCTTAGGGAATATCTTTGGGATTAGT CCTTCTGTTTTAGGACTAACCGTTCTTGCTTGGGGCAATTCTCTTGGCGATCTGATCGCCAATGTGACCGTGGCGGTTTACGGAGGAAACGACGGT GCGCAGATAGCACTTTCCGGGTGCTACGCTGGTCCGCTATTCAACACGGTGATTGGACTAGGCGTGCCACTTGTTATCTCCTCGTTGGCTGAATAT CCTGGGGTCTACATCATTCCAAGTGACAATTCGTTGCTTGAGACACTAGGCTTCTTAATGGTAGGCTTGCTTTGGGCACTTGTGATAATGCCAAAGA AGAAGATGAGGCTTGATAGGCTTGTCGGTGGCGGCTTACTCGCTATTTACCTCTGTTTCTTGTTCTTGAGATTGGCTAGGGTTTTCGGAGTCCTCGA
GCT-003B03	AT3G21220.1	ATMKK5 (MITOGEN-ACTIVATED PROTEIN KINASE KINASE 5); kinase	GGTGTCTAAACTAAAAAAACATTTCTTCAATCTCTCCACAATCTTCTTCGATGAACCTTCGTTTCCCTTTTGATTTCGATAAACGATGATAAATACGAA GACGATAAAGACCTGACTTTGAGAGGGTTTTACGAAAAAATCAAACTTTTTGATTTCCTCCAAAAAGCCATGAGACCGATTCAATCGTCTCCTCCTCC AGGAGTATCTTCCCCTGTAAAAAACCGCTTACGCAAGCGTCCTGACCTCAGCTTACCACTCCCACACCGCGACGTCGCTCTCGCCGTCCCTCTTCC TCTCCCTCCTCCCTCCTCCTCCTCCACCTCCTCCGCTCCTTCAGCCACCGCAATCTCCACCAACATCTCCGCCGCCAAAAGCTTATCCGAGCTAGA GCGCGTGAACAGAATCGGAAGCGGAGCCGGAGGAACCGTTTACAAAGTCATCCACCGTCCTTCCTCACGCCCTTTTGCTCTCAAGGTCATCTACGG TAACCACGAAGACACCGTGAGACGCCAGATCTGCAGAGAGATCGAGATCCTTCGAAGCGTAGATCACTCCAACGTCGTGAAATGTCACGACATGTT CGATCACAACGGCGAGATCCAGGTTCTTCTCGAGTTCATGGACCAAGGATCCCTCGAAGGCGCACACGTGTGGCAAGAGCACGAACTCGCCGATC TCTCACGGCAGATTCTCAGCGGATTAGCTTACCTTCATCGCCGTCACATAGTCCACCGAGACATAAAGCCTTCGAATTTACTCATAAACTCGGCGAA AAACGTTAAAATCGCCGATTTTGGAGTTAGCCGGATCTTGGCACAGACTATGGATCCTTGTAATTCCTCTGTTGGGACCATCGCTTATATGAGCCCT GAGAGGATTAACACTGATCTGAATCATGGACGGTACGATGGATACGCCGGAGATATCTGGAGCTTGGGTGTTAGTATCTTGGAGTTTTACTTGGGG AGGTTTCCTTTTGCAGTGAGTAGACAAGGAGACTGGGCGAGTTTGATGTGCGCTATTTGTATGTCTCAGCCGCCGGAAGCTCCGGCGACGGCGTCT CAGGAGTTTCGTCATTTTATCTCTTGTTGCTTGCAGAGTGATCCTCCTAAGAGATGGTCGGCGCAACAGCTTTTGCAGCATCCTTTTATACTTAAAGC TACCGGAGGTCCTAATCTCCGTCAGATGTTGCCGCCTCCTCGTCCTCTTTCTTCATCTTCTTCTCCGGCGTCTTAAAGTTTTTACCTTTTTTCATCGAA TCTTGGTTCCATTTTTCTGAATTTCCTGACAAAGATAAATGAGGTGAACATGACTGGAAAGGAACTCACTTTTTTTGCTTGCTAAGCTCGATTTGTTTC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003B04	AT5G48180.1	kelch repeat-containing protein	GACTCACAATTCTTTTACCTTTAATCAACAAAAAAAGAAAAACTTTATTCCCTGAAATCTTTTCTTTGCGTTTAACGAAATTGCCAGTATGAGTCCTGTG GCTGAGAACAAATGGGTTAAGGTGTCGCAAAAAGGAGCAGGTCCTGGACCGAGAAGCTCACACGCACTCGCCGTCGTGGGGAACAAAGTCTATTG CTTTGGCGGTGAGCTAAAGCCGACGATCCCAATCGACAACGATCTGTACGTTTTCGATCTCGAAACCCAAGAATGGTCCATTGCCCCAGCAACAGG AGACGCTCCTTTCCCCTGTTTCGGAGTCTCAATGGTCCCAATCGGATCCACGATCTACGTCTACGGTGGCCGCGACGACTCTCGGAGATACAACGG CCTCTATTCCTACGAGACTCTCACGAACAAATGGGAATTGCTATCTCCCGTTGAGGAAGGTCTTCCCGGTCGTAGCTACCACTCCATGGCCGGTGA TGATCGGAAAGTTTACGTCTTTGGTGGGGTTACTGCCAAAGGCCGCGTGAACACGCTACACGCTTACGATGTGGTTGATCGGAAATGGGTTGAGTA TCCGGCGGCTGGTGAAGCGTGTAAAGGGAGAGGAGCACCTGGGCTTGTGGTTGTGCAAGGGAAAGTTTGGGTTTTGTTTGGATTTGACGGCAACG AATTGGGTGATATCCATTGCTTTGATTTGGCTAGTGGGGAATGGACCGCCGTGGAGACGACCGGGGATGTACCTCCGGCGAGAAGCGTGTTTCCG GCGGTTTCTTCCGGGAAATATGTTGTGATATATGGTGGGGAGGAAGAGCCGCATGAGCTGATGCATATGGGAGCTGGGAAGTTATCTGGAGATCTT TACAAGTTTGATACAGAGACATTGGTTTGGGAGAAGATTGTGGATGGGACTGAGGAGGAGAAGAAGCCGAGCCCACGCGGGTGGTGTGCGTTTGC GGCCGTGGTCAAGAATGGTGAGGAAGGCTTGCTTGTTCACGGTGGGAATTCTCCGACCAACGAGCGGCTTGATGATTTGGTGTTTTGGAGTTTCTC GTCTTAATTTCAATCAATAAGTTACTTGGTGTCTTTTCGTTTGTAAACTGCTTAGTGTGCCAGTGTGTGTTAAGGAGGTATGTGGTGATGATATGTAGT
GCT-003B05	AT5G56600.1	PFN3/PRF3 (PROFILIN 3); actin binding	GACACTCGTAGTTTCGACGCTATCTCTAGAACATTCCGATTAGCCACAGAAGAAGCAGAGCCGAGGAAGAAAGAGGAAGAAGACGAAGATGTCGTG GCAGACTTACGTCGACGATCACTTGATGTGCGACGTTGAAGGCAACCACCTCACCGCCGCCGCAATTCTCGGCCAAGACGGTAGCGTCTGGGCTC AGAGCGCCAATTTCCCTCAGTTGAAGCCTGAGGAAATTAGCGGAATCAACAAAGATTTTGCTGAACCTGGAACACTTGCCCCAACGGGATTATTCAT CGGTGGCACAAAGTACATGGTAATCCAAGGAGAGCCAAATGCTGTCATTCGAGGGAAGAAGGGAGCTGGTGGTGTTACCATCAAGAAGACCACCC AAGCCTTGGTCTTTGGTATCTATGAAGAACCAATGGCTCCTGGACAGTGTAATATGGTCGTTGAGAGGCTCGGTGACTACCTGATTGAATCAGGGCT CTGAAACCCAAGCTGCTGCTATATCCATGTCGCTCATGTAATCTCCTAGTTGTGTCGTGAGAGAAAAACTATTTATATATCGAATGTGATCGATCATT
GCT-003B06	AT5G43270.1	SPL2 (SQUAMOSA PROMOTER BINDING PROTEIN-LIKE 2); DNA binding / transcription factor	GGATTTTGTCCTTTTACAGGGTTGAAGTTATTGTATTTTTGGTAGTCTTTCTGAATGGAGTGTAATGCAAAGCCACCGTTGCAATGGGAATGGGAAAA TTTGATATCTTTTGGTACTTCATCAGCTGAAATTCCTAGAAAGCTACGACCAATGGATTGGGAGATTGATGGGTTTGATTGCACCTCTCTATATTCTTC AAGCTTTGCTGCAGTAGCTTATGGTGGTAGTTCAGGTTCTGATCTAGCTCATGCTTTCTCTAAAAGCTCAAAGTCAACTTCCATTAGCTCCTCATCAG CTGAAGTGAGAACATACAATTTTACATCAGAAGCTGGTGAAAGTGAGGAGTTTGTAAAGGGAATGAATACTTCTCCAAGTCTTGAACTTTCATTTGGC TCTGGTGATCCGGTTCTTGGCTTAAAGCTTGGTAAAAGAACATACTTTGAAGACTTTTTGGATGTGGAGAATGCGAAAGTTTCTGCACTTCCAGTGAG CCTCGCGTCATCATCTGCATCTCCGGTGAAGAAATCAAAATCTGTTTCTCAGAGGCTACAAACTCCTCACTGCCAAGTTGAAGGCTGTAATCTTGAT CTCTCGTCAGCTAAAGACTATCATCGGAAACACAGGATTTGTGAAAACCATTCAAAGTTCCCTAAAGTTGTTGTGAGTGGCGTTGAACGTCGGTTCT GCCAACAGTGTAGCAGGTTCCACTGTCTCTCTGAGTTTGATGAGAAGAAACGTAGCTGTCGCAGGCGTCTCTCTGATCACAATGCAAGACGTCGCA AGCCAAATCCCGGGAGGACTTATGATGGGAAGCACCAAATGGATTTTGTATGGAACAGATTTGCACTTATCCATCCAAGAAGTGAGGAAAAGTTTCT ATGGCCAAGCTCAAAGCCCTTACCATCAAAAGGGTTAATGCCACAACATGCAAAGACCGAGATGTCCAATAAGCTGTTCACCGAGCAATGTGGATTT GGATTGTTGGACCCCAAAACTAAAACCACAAGAGCTGAATTATTCAGTAAAGATAAGGTCACAATCTCTTCACACATGGGTACTTCTCAAGATCTTGA TGGTGCTCTCTCTCTTCTGTCAAATTCAACATCATGGGTTTCCTCTGACCAACCAAGACGGTTTACCCTTGACCACCATCCCACAAGCAACGTCCAA CCCGTGGCTCACCGGTCTGCTAGTCAACTCAATTCAGTGTCTGGATATTGGCAGCCGAATCCACCAGCGGTTGAGCCTTCAAACGCTTTGCATAGA
GCT-003B07	AT1G01720.1	ATAF1 (Arabidopsis NAC domain containing protein 2); transcription factor	GGAGTTTCAGAGGTATAGGACTTAGGATAGGGATCAATCCAAGCATCCAACAACCCTCAATAATCTCATCACCATCTATAGTAAGGTGGTGAATTTA GGATCAGAGAGAGAGAGAGAGAGGGTAAAAAATGTCAGAATTACAGTTGCCTCCAGGATTCCGATTTCACCCTACCGATGAAGAGCTCGTCATGCA CTATCTCTGCCGCAAATGTGCCTCGCAGTCCATCTCCGTCCCTATCATCGCTGAGATCGATCTCTATAAATACGATCCCTGGGAGCTTCCCGGTTTA GCCTTGTATGGTGAGAAGGAATGGTATTTCTTTTCTCCCAGAGACAGAAAATATCCCAACGGTTCGCGTCCTAACCGGTCTGCTGGGTCAGGTTACT GGAAAGCGACTGGAGCTGATAAACCGATCGGAGTTCCTAAACCGGTCGGGATTAAGAAAGCTCTGGTTTTCTACGCCGGCAAAGCTCCAAAGGGA GAGAAAACCAATTGGATTATGCACGAGTACCGTCTCGCCGACGTTGACCGGTCGGTTCGCAAGAAGAAGAACAGTCTCAGGCTGGATGACTGGGTT CTTTGCCGGATTTACAACAAAAAAGGAGCTCTCGAGAGGCGAGGACCACCTCCTCCAGAGGTTCACGGCGGCGGAGTCACAGACGAAGCCGTGGA GGAGAAGCCGAGGTTGACGGAGATGGGCATGCCTCCGCCGCCGCAGCAGACGGCAAATGAATTCGTGTATTTTGACACGTCGGATTCGGTGCCGA AGCTGCATACGACGGAGTCGAGTTGCTCGGAGCATGTGGTGTCGCCGGAGTTCACGAGCGAGGTGCAGAGCGAGCCCAAGTGGAAGGATTGGTC GGCTGCGACTAATGGCAATAATACCCTTGATTTTGGGTATAACTACATGGATGCCACCGTGGATAACGCGTTTGGAGGAGGGAGTAATCAGATGTTT CCGCTACAGGATATGTTCATGTACATGCAGAAGCCGTATTAGCTAGGATCGCCGAACGCAAACGCAAAACGCAAACGCTTGTTTGTGCGTTTATGGT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003B08	AT1G14580.1	zinc finger (C2H2 type) family protein	GCCAATTATTACAAGAGAAGAGCACCAAAGCAAAACAAAGCAAGAGAGAGAGATTAAGCTTAAGCATACCCTGAGAAGATGTCTTCATCGTACAACA ACACAATTTCATCATCCTCCACTCAGTCTTTCCTCCTCTCCGGCGCCGCCATCGGAGCAAACAACTTTAACCGTGATGAGACGGCGATGACGATGAT TCAACAACCCAACTCCGTCGCTCCAACACCACCACCCAAGAAACGAAGAAACCAACCCGGAAACCCAAATCCCGATGCTGAAGTGATAGCGTTGTC TCCAAAGACGATAATGGCGACGAACAGGTTCATATGTGAAGTATGCAACAAAGGGTTTCAAAGAGAACAGAATCTACAGCTTCACCGGAGAGGACA CAACCTTCCATGGAAGCTGAAACAGAAGTCTACCAAAGAAGTGAGGAGGAAGGTGTATCTTTGTCCGGAGCCCTCGTGCGTCCACCATGACCCGTC ACGTGCTCTCGGAGACCTCACCGGAATCAAGAAGCATTATTACCGGAAGCACGGCGAGAAGAAGTTTAAATGCGAGAAATGCTCTAAGCGTTACGC TGTTCAATCTGATTGGAAGGCTCACTCTAAGACTTGTGGTACCAAAGAGTATCGATGTGACTGTGGTACCATCTTCTCAAGAAGAGACAGTTACATTA CGCACAGGGCATTCTGTGATGCACTAATCCAAGAGACAGCAAGAAATCCTACCGTGAGCTTCACGGCAATGGCAGCATCCGCTGGTGGCGGCGGG GGCAGACATGGCTTTTACGGTGGCGCTGCTTCTGGTTCTGCTCTCTCTCACAACCATTTCGGTAACAACTCAAACTCCGGTTTTACCCCTCTAGCTG CAGGTTACAATCTGAACCGTTCATCTTCCGAGAAGTTTGAGAACTTCGTTCCTCAGTCCACAAACCCTAATCCCGGCCCTACTAACTTCCTCATGCAA TGCTCTCCAAACCAAGGATTGTTGGCGCAGAACGATCAGGGTCTCATGAACCAGCACGGTCTGATTAGCCTCGGTGATAACATCAACAACAACAAC AACAACAACAACTTGTTCAACCTCGGCTACTTTCAAGACAACGCTAAGAACTCTGACCAGACCATTGTTCCTCCCCTTTTCCCCAGTGGTGCTGATAA CAACGATCCTTCGGCTTTGCTTAGAGGGTTAACTTCTTCATCTTCCTCAAGTGTGGTCGTCAATGACTTTGGAGATGGTGACAATGGAAACTTTCAAG GTCTCATGAACTCTCTAGCTGCGACATCTGATCATCAAGGCCGGTCCGGTAGCAGCCTCTTTGACCTTCACTTCGGAAACAATCTTAGCATGGGAG GCTCTGATAGGTTGACTCTGGACTTTCTTGGCGTTAATGGAGGAATCGTGAGCAACGTCAATGGTCGTGGTGGTCGTAATGGAGCTCCTTTGGACG
GCT-003B09	AT5G52180.1	similar to hypothetical protein [Oryza sativa (japonica cultivar-group)] (GB:BAD44788.1); contains domain Photosystem II reaction centre subunit H, transmembrane region (SSF81490)	GAAATTAGACTCTGTGCCTGTTTTTACATTTGCTTCCACCATAGACTCGAGGAACAGAGTAAACTACAAAGTGGAAGAAGAGAGAGCAAGAGACAAT GCTCGAGCTTCTTGGAACGTATAGGAATCTCATACTTCAAGCCCTGTTATCTCTCTTCTTAATCCTAATCCTCTCATTTATCAGAATCCCGATCATCTT CCTCTACGGCCTCTGTACCTACATCCAACCGGAGAATCTCGGCCAGAACAACGCCGGAAGTGGAGTCAGAGCCGCGATTCGACGTCCGTCTAGCG TCGACGATCCAAAGCCCAATGGTGAAGTCAGGAGGAGGAATAGATCCAAGGATAATAAATCCGAATTCGACGAAAGCAATGCCCAGATCTTCCGGA TTAAGCTCGATGAAGACCACCTCAGATCTCGGATGTATTTCAAAGAGTACAATAACCTCTTCGTTTTATCGTTCTTAGCTGTTTCGTGCTTCCTTCTTC ACAATTACTTCCCTGTAGATGATAGCCATGGCGTTCTCGGTAACGGGTTGATTTTCCCGGTTGTTCTGGGATTCATCGCGTTGTGTAAGGTCTTCGT CGCTTTGGCTAAGATCTCGATCGAAGGATCTGCTTCGAAGAAATCCGAGAAAAGACTAAGCTTGATCTTTGGGGCTTTAGGGTTTGTCTTCGGGATT ATAATCTGTGCTGGGGTTTTCCCAAAGGGATTCGATTTCCAATTGGGTTCCGTTGATGCGTTCTGCTGCATACTCATATCTTCCTCAATGGCTTGCAT CGCTGGTTTCCTTTACATGCCTGCAGGGAGAAGCGCGAGGTCGTTTTGGGTTGGTACTGATCAGATTAGGAGTAATCTGTCCATCATATCTTGTGGA TGGTTTGGTAGAATGATTCTATACGCGAATTACATCGTATCGGTTTTCACGTCGTTGCTTTGGATCCATCCATTGGCAGAGATTCTAGTGAAGAGAAG TCAAGATGCTGGAACTAGTAGTAGTAGTAGTAATGGTAGCCACATTGGGTTGGTTGGTAATGTAGGCATGTCAAGTATTGATTTCGCAAAGTTTCGT GTTCTGTGCTTGTTGGTTTCGGGTTTACTACAAGCCATTGCGGTTCGTCCTAACCTCCAGATGTTTTTGAACGAAGCTGTGCTCTCGTGGTACCAGA GATTACATGGAAGCAAAACTCCTGATTTGGATTTTAGCAGGGCGAAGATGTTCCTTCACAACCACTTCTTATGCCTCGTTGCTTTGCAGTTCTTGGCG CCGTCGGTGCTTGTGTTGCTCTTCCTCGGCTTGTCTCAGATCGACCTGAGCTCTTTTGCTGTATCCCAGCTGGTATGTGGTTCTTTGCCTTGCAGCG
GCT-003B10	AT1G75590.1	auxin-responsive family protein	GGGCATTTTCTCTCTCTTTCTCTCACTTTCTCGCCTGAGATTACTAACCGGAAAAAATGGCTGGAGGTCTCGGAAAATGCAGTAAGATCCGTCACATT GTGAGGCTGAGGCAGATGCTCCGACGGTGGCGCGACCAAGCGCGCATGTCTTCTTCCAGCCGTTGCGTGCCGTCGGATGTGCCGTCAGGACACG TGGCGGTCTACGTTGGCAGCAACTGCAGGAGATTTGTGGTGCGCGCGACGTATCTGAACCATCCCGTCCTAAGGAATCTTCTGGTTCAAGCCGAG GAAGAGTTCGGTTTCGTGAACCAAGGTCCGTTGGTTTTCCCTTGTGAAGAATCGGTTTTCGTGGAGTCGATTCGGTTTGTGTCCCGGTCCGATTCCA CCCGATCAAGACGGTTTACTTGTCCTGACGATTTCCTGAAGAACTGCCACGTGGAGATCAGAAGCAAGCTCGATCTATGGATCGAATCTCGGCCGT TGCTTCACGGCGTCTCCGAAAAAGCAATATGGTGATTTCTAGGGATCACAGAGTAAATAGATAATAAAAAAGACGATTCTGACTCGTAACGAGTTTAC TCGCCATGGAAGCAGAAAATTATCGAAGCCAATTATGAGTAATCGTCATTAACTCGGCTGAGTTTGACTCGGATCTGCTTCTATTCATTTATTGGTTT CTTCCTGAGTCAGACGCGGTGATATAAAGGAGATGGCTTTGAAAGGTGAGTGAGTCATTCTACCGAGTCGTCCCGGGTACGAGTCCGAGTTTGAGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003B11	AT2G32120.2	HSP70T-2; ATP binding	TGAGGTCGGCAAATTAATTTCGCAAGAAACAGTGAGAATCAAAAAAAAAAAAGGAACTCCCTCCTCTTCTCGAGCAAACTCTAGAAGTTGTTCAATCC TCAATTCTTCATCTCTCGCACCTTCTAAACTCTCTCTACTTCTTCTCCCTCTCGACAACTTTCTAATCCAGCTACAGCTACAAACACAAAGATCTCTCC TTTATTTCAGGGAAAATGGCAGAACCAGCTTACACGGTTGCCTCGGACAGCGAAAACACAGGAGAAGAGAAATCATCATCATCTCCTTCACTACCCG AAATAGCAGTTGGAATCGATATTGGTACATCCCAATGCAGCATAGCAGTTTGGAACGGCTCTCAAGTTCACATCTTGAGGAACACAAGAAACCAGAA ACTAATCAAATCATTCGTCACTTTCAAAGACGAAGTCCCTGCAGGAGGTGTGAGCAACCAGCTCTCACACGAGCAAGAAATGCTAACCGGAGCAGC CATCTTCAACATGAAACGTCTCATCGGCCGTGTAGACACAGACCCTGTGGTTCACGCCAGCAAAAACCTTCCTTTTTTTGTTCAAACGCTAGACATTG GAGTCAGGCCGTTCATCGCTGCGTTGGTGAACAATGCTTGGAGATCCACAACTCCAGAGGAAGTTCTTGCGATATTTCTTGTGGAGTTGCGTCTAAT GGCTGAAACTCAGCTGAAACGTGCCGTGAGAAACGTTGTTCTCACGGTTCCTGTTTCTTTCTCCAGGTTTCAGCTCACAAGGATGGAGAGAGCTTGT GCTATGGCTGGACTTCATGTTCTTCGTTTGATGCCTGAACCAACCGCAATCGCGTTGCTTTACGCGCAGCAGCAGCAGATGACTACGCATGAGAAT ATGGGAAGTGGAAGCGAGAGGCTTGCGGTTATATTCAACATCGGTGCTGGTTATTGTGACGTTGCGGTTACAGCGACTGCTGGTGGCGTTTCGCAG ATCAAATCCTTGGCGGGAAACGCCATTGGAGGAGAAGACATTCTGCAGAACACAATGCGCTATATCGCTCCTCCGAACAAAGAAGCTTCAGGGTTG CTCCGTGTAGCGACGCAGGACGCTATACACAGGCTGTCTAGTCAAGAAAACGTCCAAATCGAAGTGGATTTGGGAGACGGCGACATGGTTTCCAAG GTTCTTGATAGGTTGGAGTTTGAAGAAGTGAACGAGAAGGTGTTTCAAGAATGCGAGAGGCTTGTTGTGCAGTGTCTGCGAGATGCGAGAGTGGAG AGTGGTGATATCGACGATGTGATTATGGTGGGAGGGTGTTCTTGCATCCCGAAAGTAAGAGCCATTCTCAAGAACGTATGCAAGAAAGATGAGATTT ACAAAGACGTGAATCCTTTAGAAGCTGCGGTGAGAGGTGCAGCTTTGGAAGGTGCTGTGACTTCAGGGATTCACGATCCGTTTGGGAGCTTAGATC TCTTGACTATACAAGCCACGGCTCTTGCGGTTGGTGTAAGAGCTAACGGAAACAAGTTCGTACCAGTGATTCCACGCAACACGATGGTTCCTGCGA GGAAAGACCTCTTCTTCACGACGGTTCATGATGACCAGAAGGAAGCTTTGATCGTTGTGTGTGAAGGAGAAGGAGAGACTGTTGAAGAGAATCATC TTCTTGGATTTTTCAAGATCGTTGGGATTCCTCCATCGCAGAAAGGTGTTCCGGAGATTAATGTTTGTATGGACATTGATGCGTCGAATGCTTTGCGT GTTTTTGCAGCTGTGTTGATGCCTGGCTCGAAAAGCCCTGTGGTTCCTGTGGTTGAAGTGAGGATGCCGACGGTTGATGATGGACATGGTTGGTGT
GCT-003B12	AT1G35720.1	ANNAT1 (ANNEXIN ARABIDOPSIS 1); calcium ion binding / calcium-dependent phospholipid binding	GAACATACACTTGACCACAGAGAGACAGAGTGAAAGAAATAAGAACTTGCAAAGAAAAAAATGGCTACTCTTAAGGTTTCTTCTTCTGTTCCTTCTCC ATCTGAAGATGCTGAGCAATTGAAAACCGCCTTTGATGAAGCGCTGAACAGAGGAAGGTTATCAGGCAAACATACCATGAAACCTTTGGAGAAGAC CTTCTCAAGACTCTTGACAAAGAATTCTCTAACGACTTTGAGAGAGCCATCTTGCTCTGGACTCTTGAACCCGGTGAGCGTGATGCCTTATTGGCTA ATGAAGCCACCAAAAGATAGACTTCAAGCAACCAAGTGCTGATGGAAGTAGCCTGCACAAGGAGCTCAACGCAGCTGCTTCACGCTAGGCAAGCTT ACCATGCTCGTTACAAGAAGGCGCTTGAAGAGGATGTCGCTCACCACACCACCGGTGACTTCAGAAAACTTTTGGTTCCTCTTGTTACCTCATACAG GTACGAAGGGGACGAGGTGAACATCAAGGACAAGCATTACAATGATGAGGAAATCATTAGGATTTTGTCTACAAGAAGCAAAGCACAAATCAATGCT ACTTTCAACCGATACCAAGATGACCATGGCGAGGAAATCCTCAAGAGCCTTGAGGAAGGAGATGAGGATGACAAGTTCCTTGGACTGTTGAGGTCA ACGATTCAATGCTTGACAAGACCAGAGCTTTACTTTGTAGATGTTCTTCGTTCAGCAATCAACAAAACCGGAACAGACGAAGGAGCTCTCACTAGAA TTGTGACCACAAGAGCTGAGATTGACTTGAAGGTCATAGGAGAAGAGTATCAGCGCAGAAACAGCATTCCTTTGGAGAAAGCCATCACCAAAGACA CTCGTGGAGATTACGAGAAGATGCTCGTTGCACTTCTCGGTGAAGATGATGCTTAAACAAAAGCTTCTGTTTTATCTTATATCTCTCTCTCTCTCTT
GCT-003B13	AT3G06740.1	zinc finger (GATA type) family protein	GGTGGTATCTGTCGGGTCTCTTCTTTGAACCCAAAAAAAAAAAAAAATATCTCTGTTTCTCTGACACTCCCTCGCTACTCTCTCTCTCTCTCTCTGTT TCTCCAAAATTTCAAATTCTTTGTTTTACCGATCCTATCTCTCGTCTCTGATTTTGCATCTGATCTTGTGTTTTACTCGGACCCTTTCACTCTTATCTCT ATTTGAAGCCCTAGATTCATATCTTCTCGATTGAAACCCGTTCGCGATCTGCTGTTCGATCCAAGAATCGGAGACGAAGTTGGTAATGCTCTTGTTTC CAATCTTCGACTCAGAAGCCATGAAAAGCAGCAAGTTCACATCCGCAGATGCAATCGAAGAAAGCAGCAGTAGCAGTAATGGAGGTATTAGCAATG AGAAGAAGAGCTGTGCCATTTGCGGCACTAGCAAAACCCCTCTTTGGCGAGGCGGTCCCGCAGGTCCCAAGTCTCTGTGTAACGCATGCGGGATC AGGAACAGGAAGAAAAGACGGATCGTGATCGGGAATAGATCAGAAGATAAGAAGAAGAAGAAGAATCCCACCAGAAACTCGAAGCTTGGAGACTCA TTGAAGCAGAGGTTGATGGAGTTGGGGAGAGAAGTGATGCTGCAGCGATCGACGGCTGAGAATCAACGGCGGAAGAAGCTCGGCGAGGAAGAGC AAGCCGCCGTGCTACTCATGGCTCTATCTTATGCTTCTTCTGTTTATGCTTAACGAATTTCAAAGTTGAAATAATAATTAATTTTGTAGGATAAGAGTA TGTTTCAGATTCTGAGAGCAGTAGCTAACGAATTAATGTGTAATTTTTGTTCGTTTTTGAATTGTTGAATTAACCTTCTTTTCGAATTTTTTTGTATCTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003B14	AT4G32320.1	APX6 (ASCORBATE PEROXIDASE 6); L-ascorbate peroxidase	GGTCCCACCGTTAAAGATGACGACGACGACGACTGCGTCTCTGTTTGAAACTTCTCTTTCTCGGTGCTACTCGTCTTCTTCTTCTTCTTCTTTCA AATTCGAATCTCCCGCGAAAACGAAAACGCGACTGTTCTCGCCAGCGACTGGGAATCATGTTATCCGATCGGTGACAGCATGTCGTATCCGTTGCG CCTCCGATGATCCTGGATCTGTTTTTCTTTCCAGTAGAAGAAAAGTAGTTGTTCTGTTGTCCACGATGCAGCTTCTGTCTCAGTCACTTCCCCCAAAT GGAAATGCAGCTGAAATTTATCAACTGATGCAAAACGAAATAAAGAAAGTGGTGACAAAGGGAAAGGCTGCTGGTGTGCTTCGTTTAGTGTTTCATG ATGCTGGAACCTTTGAGCTCGACGATAATACAGGTGGCATCAACGGGTCTATTGCTTACGAACTCGAGAGACCTGAAAACACAGGTTTGAAGAAATC CCTAAAGGTTCTAGCGAAAGCAAAGATAAAGGTTGATGAGATACAACCAGTGTCTTGGGCGGATATGATATCTGTCGCTGGGTCTGTAGCGGTTTCA ATATGTGGCGGCCCAACAATTCCAGTAGTTTTGGGAAGACTTGATTCAACGCAACCTGATCCAGAAGACAAGCTACCTCCAGAATCCCTGAGTGCCT CGGGTTTGAAAGAATGCTTCAAAAGAAAAGGATTTTCGACCCAAGAACTTGTTGCCTTATCTGGGGCACATACGCTTGGGAGTAAAGGCTTTGGAGA TCCAACTGTTTTTGACAATGCATATTACAAAATCCTTCTCGCAAAGCCTTGGACATCGGCATCCAAAATGACGAGCATGGTCGGGCTTCCTTCGGAT CACGCCTTAGTGGAGGATGATGAGTGCTTAAGGTGGGTGAAACGATATGCGGAAGATCAAGACAAGTTCTTCCAAGACTTCACCAATGCTTATACCA
GCT-003B15	AT3G06050.1	ATPRXIIF/PRXIIF (PEROXIREDOXIN IIF); antioxidant/ peroxidase	GGTTGTTCTACACTCAGTCTCATTTTCAGCGATGGCGATGTCTATTCTCAAGCTAAGAAATTCACCGGCTCTGAGATCGGCCGCAAATAGTGTCCGG ATCGGGGTTTCATCGAGGGGTTTCTCAAAGCTCTCGGAGGGCACAGACATAACATCGGCGGCGCCTGGCGTTTCGCTCCAGAAAGCTCGCAGCTG GGACGAAGGCGTTTCCTCCAAATTCTCCACCACACCATTGACAGATATCTTCAAGGGGAAGAAAGTCGTCATCTTTGGTCTCCCTGGGGCTTACACG GGAGTTTGTTCACAGCAGCATGTGCCAAGCTACAAGAGCCAGATTGATAAGTTCAAGGCCAAAGGCATTGATTCCGTCATCTGTGTCTCTGTTAATG ATCCATATGCCATAAATGGCTGGGCAGAGAAGCTTGATGCCAAAGATGCAATTGAGTTTTACGGAGATTTTGATGGGAAATTCCATAAAAGCTTGGG GCTGGATAAGGATCTCTCTGCTGCATTGCTCGGGCCTCGGTCTGAGAGATGGTCGGCTTATGTAGAAGACGGTAAGGTTAAGGCAGTCAACGTGG AAGAAGCACCGTCTGACTTCAAGGTGTCGGGGGCAGAAGTCATTTTAGGACAGATCTAACAAAGTGTTTCGAGAAGTTGTTCTTGCGTCTGTTGTTT CCTCTAAGTTGCAACTGAAAATAAGTTTGATCCGAACATTTTCAAAGGATCACACCGAAGTAACAACTTACTTTTTTTCTTTTTCTTTTGTTTTTTTCTC
GCT-003B16	AT2G39840.1	TOPP4 (Type one serine/threonine protein phosphatase 4); protein phosphatase type 1	GAGTTTCAATTTTCAAAGAATTTTAAAGCTCCACTTCTCGGGAGCTCTTTTCGTTTTGGGGTTGAAAAAATTAGGGTTTTTTTTGGGTGTGGTTCTGTT AATGGCGACGACGCAGGGGCAGCAAACGGCGATTGACCCGACGGTTCTGGATGATATAATCAGGCGTCTCACGGAGGTCCGGTTAGCTAGACCAG GGAAGCAAGTCCAGCTCTCGGAGGCTGAGATCAAACAGCTCTGCACTACAGCTAGAGATATTTTCCTTCAGCAACCCAATTTGCTAGAGCTTGAGG CACCCATCAAAATCTGTGGTGACATACATGGGCAATATAGTGATTTGCTGAGGCTGTTTGAGTACGGTGGCTTCCCTCCTAGTGCCAATTATCTGTTT CTGGGGGACTATGTGGACCGAGGCAAACAGAGTCTTGAAACGATATGTCTCTTACTAGCTTACAAGATCAAGTACCCAGGGAACTTTTTTCTACTAA GGGGAAACCATGAATGTGCTTCTATCAATCGGATTTATGGCTTTTATGATGAATGTAAAAGGAGGTTTAATGTGAGGGTATGGAAGGTTTTTACAGAC TGTTTCAATTGCCTTCCTGTTGCGGCGCTTATAGATGACAAAATATTGTGCATGCACGGTGGACTATCGCCGGATCTCAACCATCTGGATGAGATTA GAAGCTTGCCTCGCCCAACCATGATTCCCGACACCGGGCTGCTCTGTGATTTGCTCTGGTCTGATCCTGGGAAAGATGTTAAAGGATGGGGAATGA ATGATAGAGGCGTTTCATACACCTTTGGTCCGGATAAAGTCTCTGAATTTCTAACAAAGCATGATCTAGACCTTGTGTGCCGTGCCCATCAGGTCGT GGAGGATGGTTATGAGTTCTTTGCTGATAGACAACTCGTGACGGTGTTTTCAGCTCCTAACTACTGTGGAGAATTTGATAATGCTGGCGCGATGATG AGCGTGGACGAGAACCTTATGTGCTCTTTTCAGATTTTGAAGCCCGCGGAGAAGAAGACCAAATTCATGATGTCCACAAAGATTTGATCTTTTGATTA AGATGGATTTGGTCTTGCTCAGAGAAATTGGAACCATTGACGATTTGGCTCTAAAGTGTGTGCCGATGGTAGTGAGAACTCTTAGAAAGGAGCAAAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003B17	AT1G75080.2	BZR1 (BRASSINAZOLE-RESISTANT 1)	GACACTTTTTTTTTGTTTGCTTTTAAATAAATTGAGAGAAGAATGAGAAATCCTTCTTCGATTCCAGCGAAGGAAAAGCGTATTCCTCGTGAGCACTAA CTTCTCACTCTTCTTCTTCTTCTTCACTCTGCGTTCACACAATCCTCACCCTCCCCATCAAAGCTCGGAGGAGGTTTCGAGGGGGGGTGGTTTCGTC TTTGTGTGAGGATGACGTCGGATGGGGCTACGTCGACATCAGCAGCTGCTGCGGCGGCGGCGGCGAGGAGGAAACCGTCGTGGAGAGAGAGGG AGAACAATCGGAGGAGAGAGAGACGGAGGAGAGCCGTAGCTGCGAAGATATACACAGGGCTTAGAGCTCAAGGCGATTATAATCTTCCCAAACATT GCGATAACAATGAGGTGCTCAAGGCTCTCTGTGCTGAAGCTGGTTGGGTTGTTGAAGAAGATGGCACCACTTATCGCAAGGGATGCAGGCCTCAAC CTGGTGAGATAGGTGGAACATCGTCTCGAGTGACGCCATACTCATCACAAAACCAGAGCCCTCTTTCTTCAGCCTTTCAAAGTCCCATACCTTCTTA CCAAGTCAGCCCATCTTCCTCTTCTTTCCCGAGTCCTTCCCGTGGTGAAGCCAACAACAACATCTCCACATTCTTCCCCTTCATCAGAAATGGTGGC ATCCCTTCCTCTCTTCCTTCCCTCAGAATCTCAAACAGCTGCCCCGTTACTCCACCACTCTCAACATCTCCAACTTCCAAGAATCCTAAACCTTTGCC TAACTGGGAATCTATCGCTAAGCAGTCCATGGCAATCGCTAAACAGTCGATGTCTTCTTTTAACTATCCTTTCTATGCTGTTTCTGCACCTGCTAGTC CGACTCATCGGCCATTTCATACTCCGGCGACTATACCTGAATGTGACGAGTCTGACTCTTCGACTGTTGATTCTGGTCATTGGATAAGCTTTCAGAA GTTTGCACAACAACAGCCATTCTCTGCATCTATGGTGCCAACCTCTCCTACCTTCAATCTTGTGAAACCTCCCGCACCTCAGCATATGTCTCCAAATG CTGCTGCGCTCCAAGAGATTGGCCAAAGCTCTGAATTTAAGTTTGAGAACAGTCAAGTTAAGCCTTGGGAAGGAGAAAGGATACATGATGTCGGTAT GGAGGATCTGGAGCTTACACTTGGAAACGGTAAAGCTCATGGTTGATTGATTGTGAGAAGCTATTCTTCTTGAGTATCTGGATCTTCATATATGGTTC TTCACTTACTATCCAAATATGCGGCAAAAAAGCCTTCTCCATGTAAGCATTGGAGTTTGGAGTGTTAGTGTCGTTGTTTAATTCATGAATTTGGTTTTC
GCT-003B18	AT1G14040.1	similar to EXS family protein / ERD1/XPR1/SYG1 family protein [Arabidopsis thaliana] (TAIR:AT2G03260.1); similar to EXS family protein / ERD1/XPR1/SYG1 family protein [Arabidopsis thaliana] (TAIR:AT2G03250.1); similar to EXS family protein / ERD1/XPR1/SYG1 family protein [Arabidopsis thaliana] (TAIR:AT2G03240.1); similar to SPX, N-terminal; EXS, C-terminal [Medicago truncatula] (GB:ABD32751.1); contains InterPro domain SPX, N-terminal; (InterPro:IPR004331); contains InterPro domain EXS, C-terminal; (InterPro:IPR004342)	GAGGTGTATATATAAATATACGATTCCTCTGCTCTTCAGACACAAACACAAAAATATCAATCTAAACAAAGACTAAAGATAGATTCGAAAAAAAGACTA AAGATAGATTCGAGACAAGAATCGAGATGAAGTTCGGGAAGGAGTTCTCGTCGCAGATGGTGCCAGAGTGGCAACAAGCTTACATGGATTACGATT TTCTCAAAACTCTTCTCAAAGAAATCATCCGATTCAAACTCCGAACCAACAACGCACATCCTCATGGCGGTGGCGCCAAGAATCACCACGACGGAG GATTAAACCGGAAAATGACTCTATACCGCGCGTTTAGCGGTTTAGTCTCAACGCCGGGAAGGCAAAGACGAAGCAATAATCCTCACGACGTCGAGG AAGGGATACAGTTAACGGCGACGACGTCGACGTCGGGACCGATTCTGGTGAACAACACGGCGAGTCGCGGTTACGAGACGACGTTTCTGATGGCG GCGGAGGAAGGAGGAGAGTATGAGTTAGTGTTTTTCAAAAGACTAGACGACGAGTTCAATAAAGTCAACAAATTTTACAGAGAGAAAGTAGAGGAAG TGTTGAAAGAAGCTGTGGTGCTCAACAAACAGATGGACGCTTTGATCGCGTTTCGTGTCAAAGTTGAGAATCCACAAGGTTGGGGATGGGATGAAC GGACGGTTGAGATTACTCGATTAGCTTCCGATATCGCTACTTCTGCGGCGGCTCTCTCCGCTTCTACTCCCGCCGGAGCTAAATCCAGTTCGAAGT CAAGCTGCTCATATGGAGTCAATACAGGAAAGAGGCTCGAGAAGAGCTGGGCAAATAGAAGAAAATGATGAAGAAGAAGAGGAAGAAGAAGAAGC AGAAAATAATGTAGACGTGAATACGAGCAGGATGAGAGGATTGAGACCAGCTCCGATTGATGTTCTGGATCGAGTCAAGATCAACAACACCAAAGA GACGCCTCGTTCCACCATTAAAGGAGTTCTCCAGGTATCGAGCCAGACCGAGTTAAAATTCAGCAGAGATAATCTGAGGAAAGTCGAGGAGAGGCT CAGGCGTGCTTTCGTCGAGTTTTATCAGAAGCTTCGGCTTCTCAAGAGCTACAGTTTTTTGAATGTATTGGCGTTCTCGAAGATATTAAAGAAGTATG ATAAGGTAGCCTCGAGGGATGCAACGAAGTCTTACATGAAAGTAGTTGATAGTTCATACCTGGGAAGCTCTGATGAGGTTATGAGACTCATGGAACG TGTTGAAGCTACATTCATAAAGCATTTTTCAAATGCTAATCGAACAAAAGGAATGAATATCTTACGGCCTAAAGCGAAACGAGAGAGACATAGACTTA CATTCTCAACTGGTTTCACGGCTGGATGCGTTTTCTCTCTTATCGTGGCTCTTGCCGCGATCATCCGCACCCGTCATCTCTTGCAAGAGGAAGGCCA GAAGCAATACATGAATACTATGTTCCCTCTGTATAGCTTATTCGGTTTCATCGTGCTGCACATCATCATGTATGCTGCTAATATATACTACTGGAGGC GATACCGTGTAAACTATTCCTTCATATTTGGGTTCAAGCAAGGAACTGAACTTGGATACAGACAAGTCTTGCTTGTGGGTTTCAGCATCGGAGTCTTT GCATTGCTTTGTGTTCTTGCCAATCTTGACATGGAGGCAAATCCCAAAACGAGAGACTATCAAGCATTTACCGAACTTCTTCCTCTTTTCCTACTTGTT GCTCTGTTCGTGATTCTAGTCCTGCCATTCAACCTCTTTTACCGCTCAAGTCGCTTTTTCTTCCTCACTTGTCTGTTTCATTGCCTCGCCGCTCCTCTT TACAAGGTAACATTACCTGATTTCTTCTTGGGCGATCAATTAACTAGCCAGGTTCAAGCTATTAGAAGCATCCAGTTCTACGTCTGTTACTATGGTTG GGGAGACTTCAAACATAGAGAGAACACTTGTAATCAATCTGGTGTGTACAAAACTTTCCTCTTCATCGTTGCTGTCATCCCTTATGTCTCTCGCCTCC TTCAGTGCCTGCGACGGCTATTTGAGGAGAAAAACCCGGAGCAAGGGTACAACGGACTCAAGTACTTCTTGACTATAGTGGCGGTTTGCTTGAGAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003B19	AT5G06750.1	protein phosphatase 2C family protein / PP2C family protein	GGCTTTTTGTTCAAAGCTTTTCCCGATTCGTTACTCGTTTTCCTCTCACCTGTTTCAGCTTCGATCCACCACATAATTAATCTTCTGATTTCCCAACAA CAGATCACGAAACCCCTCTTCTCTCTCCGCGATCTCCGGTGGGTCTCCGGCGACCTAAACAGAGGTGTTCTCGGCGGAGGTGAGGGCAAATGAGG GATGTTCTCCTGGTTGGCGAGAATGGCGCTTTTTTGTTTGCGACCTATGCGACGGTACGGCCGTATGAACAGGGATGATGATGATGATAACAACGG TGACCATGACGACATCGACGGCGACTCCTCCGGTGATTCTCTCCTCTGGTCTAGGGAACTCGAGAGGCATTCCTTCGGTGATTTCTCCATGGCCGT CGTGCAAGCTAACGAGGTCATTGAGGATCACACCCAAGTCGAGACTGGAAACGGCGCCGTTTTCGTCGGAGTTTACGATGGCCATGGTGGTCCTG AAGCTTCAAGATTCATCTCTGAACATCTCTTTCCCCATTTGATGAGACTTTCGAGAGAAAAGGGTTCCATTTCAGAGGATACTCTGAGGGCTGCATTT TTTGCAACTGAGGAAGGGTTTCTCACGCTTGTGCGAAGGACTTGCGGGTTAAAACCGTTGATTGCAGCAGTTGGATCTTGCTGTCTAGTGGGAGTT ATCTGGCAGGGGACCTTGCTTATCGCTAACGTTGGGGATTCCCGTGCTGTGCTCGGTTCCATGGGTAATAGTAGGTCAAACAAGATTGTAGCTGAG CAATTGACAAGTGATCACAATGCTGCTTTGGAAGAAGTAAGACAAGAGCTTAGGTCGTTGCATCCGGATGATTCGCACATCGTTGTCCTCAAAAACG GTGTGTGGCGCGTCAAAGGCATCATTCAGGTATCGAGATCAATCGGTGATGCGTACTTAAAGCGGCCAGAGTTTTCTCTTGATCCTTCATTTCCGCG GTTCCATATCCCTGAACGGCTACAAAGACCGGTTCTATCAGCAGAGCCTTGCGTCTACACAAGAGTCTTGCAAACAAGAGATAAGTTTGTGATATTC GCATCAGATGGACTCTGGGAACACATGAGCAACCAGCAAGCTGTGGAGATAGTGAATAAACATCCTCGTCCTGGGATAGCGAGAAGGCTGGTGAG AAGAGCGATGAACATAGCTGCGAAGAAGAGAGAGATGAGGTACGATGATTTGAAGAAAGTGGAGAGAGGAGTTAGGAGATTCTTTCACGATGATAT AACGGTGGTTGTGATATTCATAGACAATGAGCTCCTTATGGTGGAGAAAGCCACTGTTCCTGAATTGTCCATCAAAGGTTTTTCTCATACCGTTGGAC
GCT-003B20	AT1G13280.1	AOC4 (ALLENE OXIDE CYCLASE 4)	GAACTTCAAATAAACACAAAAGCAGTTTCTTCTTTGTATCAGTAGTTTATTACAATTATTTAAACAGGCAAGTCTATGATCATGGCTTCTTCTGCTGCT GCTGCATCGATCTCTATGATAACTCTAAGGAACCTCTCTCGCAATCATCAATCTCACCAGACCCCTCTTTTGGGTTTCTCCAGATCCTTCCATAACCT AAGGATCCCATCTAACGGTCCAGATTTCTTAGCACGATCAAGAAGATCCACCACCTCTTACACTCGAGGTTTCTTCAGAACCTTGTGCAGCAGCAGC ACCGAAAACTCCAGACCAAGTAAGTTAAAAAAAAAAAAAAACAGATTATGATGATAGAATAATTGAGAAAGAACAAAAATTAGGATCTGAAAAAAATGA CCTTTTATGTTCACGATCAAGTACCCACTTCAATTTATTTGATCTTTGCTTCACATTTTAAGTACCCATTTCATTAATTGGTGTATTAGAATCAAATTGG AATCAAAATTGGTTTTTAAAAATAGACCTTTATGCTCACCAAGTACCGATTTCATGAATTGGTATAGTATTTGGTGTAAAAATCTGATCTTTGCCTCCC ATATTTGGTGTAAAAATTTGACCTTTGCCTCACATATATGATATCAAAATTGGTGTACCCATTTCATGAATTGAGAAAAAAATTAGAGTAATTAACCTTT ATCCTCCAAATCAAGTGAGCATTCAAATCAGGTAACCATTTCTTTTTCTTTTTTTGTTAAAGCTTGAAGTACCCATTTCATAAAATCGATTTGTACTTTG TGAAAATTTTAGCGAAAATCCAAGAACTCAACGTGTACGAGTTCAACGAAGGCGATCGAAACAGCCCGGCGGTTCTAAAACTGGGCAAAAATCCACA GCAGCTTTCTCGTTCCTTTCACAAACAAACTCTACACCGGCGATCTCAAGAAACGCGTCGGAATCACCGCGGGACTCTGCGTTTTGATCCAACACGT TCCAGAGAAGAAAGGTGATCGCTTTGAAGCTTCTTACAGCTTCTACTTCGGCGATTACGGTCACATTTCCGTTCAGGGACCGTATCTGACTTACGAG GACACGTTTCTCGCAATCACCGGAGGCTCCGGCGTCTTCGAAGGAGCGTACGGACAGGTCAAGCTTCGTCAGCTCGTGTATCCGACGAAGCTGTT CTACACTTTTTACTTGAAAGGTGTTGCCGCTGATTTGCCGGTGGAGCTCACCGGAAAACCTGTTGAGCCGTCGAAAGATGTGAAGCCGGCGGCAGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003B21	AT2G46450.1	ATCNGC12 (cyclic nucleotide gated channel 12); cyclic nucleotide binding / ion channel	GGGACAGACGTTAAAACATTTTGCAACCTTTTGCTTTGACAAATCCTCAAGAAGAAGCTGAGGAATGGTTTTGACTTTTGAAAGATCTTCGATTCTCC CACAATTTGTGTCTGCGAGGTTTGATGAATAGATTAGTTAAAATGGAAATTTCAAGGGTGTTAAGAGAACTCTTAAAGAAAGTTTGTGCGAAGATGAA TACACTTGAATACTGGAGGAAGGCAGTCCTCTTAGTTTGTGTGGCTGCTTTGGGGATTGACCCTTTATTTCTCTTTGTCCCTGTGATTGATTCTCCTA GATTCTGCTTCACTTTCGACAAGAAGCTTGGAGTAGTAGTTTCTGTCCTCCGTACCTTCATTGATACGCTATATGTGATTCACATCATTTTTCATTTCA TCACCGAGCTTATTACTCCTCGTTCTCAAGTATCTTTAAGAGGCGAGCTGATCATACATTCTAAGGCTATCAAGAAAAGACACTTCCTGTTTCACTTC GTTGTTGACATTCTTTCTGTTCTCCCCATTCCTCAGGTTGTGGTTCTTACTCTCATGCAACGGTCTGACTCACTGGTGTCAAAAGAAATACTGAAATG GATTATACTTTCTCAGTATATACCAAGAATCATTCGCATCTATCCAATTTTCAAAGAAGTGACAAGGGCCTCCGGTACAGTAGCAGAAACAAAGTGGA TTGGAGCTGCTTTCAACCTTTTCCTCTACATGCTCCACAGTTATGTGTTTGGGGCATTCTGGTACTTGAGTGCGATAGAAAAGAAAAACAAATGTTGG CGCGAAGCGTGTGCTAAGATATCCGGATGCAACATAACGAATCAGTATTGTGGTCGAGGTGGCGGAGAAGGAAACGGTCGTTATCTGAAAACGTCA TGCCCGTTAATTGATCCTGATCAAATCACAAGCTCCACAGTCTTCAACTTTGGTATGTACATTGATGCATTGAAGTCAGGGATCGTAGAGGTAAAGCC AAGGGACTTTCCGAGGAAGTTCTTCTACTGCTTTTGGTGGGGTCTCAGACATATTAGTGCTTTAGGCCAAAATCTGAAGACAAGCAACTCTGTAGGG GATATCATTTTCGCTATCATCATATGCGTCTCTGGTTTACTCTTGTTTGCTGTGCTCATTGGAAATGTTCAGAAGTACTTGCAATCAACTACGATTAGA TTAGATGAAATGGAGGAGAAAAAGAGAGACACAGAAAAATGGATGTCGACACGGATGCTACCAGAGTATCTCAAGGAACGCATTAGGAGATACGAG AATTACAAATGGCGAGAAACTAGAAGCATCGAAGAAGAAGCTTTTCTCCGCAACCTTCCACAAGATCTAAGACTCGAGACCAAACGCCATCTCTACC TTACTCTGTTAAACAATGTCCCTTGGCTCAACATCATGGATGATGGTTGGCTACTACAAACATTGTGCGATCGAGTAAAGTCTGCATTTTACTCGGCG AATAGCTATATAGTGAGAGACGGTGACCCCATTGGGGAAATGCTTATTGTAACGAGAGGCAGATTGAAAAGTATTTCCGGATCTAGTGAAATAACCG GCTACTATGATTCATCTTACCTCCAAGCAGGCGACATATTTGGAGATCTTCTCTTTTGGGTTCTTGATCCACATCCTTCTTCTGGCCTCCCAACCTCA AATAGAACAATATTAACTATGACCGATGTTGAAGGGTTCATTCTCTTGCCTGATGATCTCAAGTTTGTAGCTTCCCATTTCAATCGTTTTCATAGCACC AAATTCAAACATATGTTCAGGTTCTATTCTGCACATTGGCGGTCATGGGCGGCATGCTTTATACAAGCAGCATGGAGGGAACATTTCAAAAAGAAGC TTTCGAAGATCTTAGACACTAAAAGAGAACATAAGCAAATTTCACAAGGCAAGCAACTCAATATTGGAGCAAGTCTCTACGTGTCTAGATTTGTGTCC AAGCGTTTGCGAAAACGACGCGAAAATGCAGCATATTGTTCTAGCTCTTTGCATATCTTACCCCATGTACTGCACAAGCGAGCTGATCCTGACTTTT
GCT-003B22	AT3G04210.1	disease resistance protein (TIR-NBS class), putative	GGGAGGAGTCAATGATAATAATTTCTGGATCGGTATATACACAAAATCCTCTTCCTAAGTGCTTCTTTCACACATTTCTTTAAAAATCTCTGTGATCTT AGATCCTCACTGAATCTTACTAATGGATTCTTATTTTTTCCTTGCCATTGTTGTTGCTGCAATAAGCTTTTTTATGCTTCTGGTGACAATAATGTTCTTG TTTTATAAGAATTCCAGATTCCATCAAGAAAACATAACAATAGCTTCTTTTTTGTCTCCTTCATCTCCTCCATTTTCTTTTCCTCACAACCAAAAAACGA CGTCTTCCCGAGCTTCCACGGTGCAGATGTCCGGAAAGCCTTTCTCAGTCACATTCGGAAGGAGTTTAGAAACAAGGGGATCGACACATTCGTTGA CAATGATATAGAGAGAGGAGTAGGTCTATCGGTCCTGAGCTCATAGATGCAATCAGAGGATCAAAGATCTCAATTGTCTTGCGCTCAAGGAACTACG CTTTTTCGACATGGTGTATGAACGAGTTGGTAGAGATCATGAAATGCAGAGAAGAGTTGTCTCAAACAGTGATGACCGTTTTCTATGAAGTGGATCC AACAGATGTAAAGAAGCAGGAGGGAGATTTTGGGAAGGTCTTCAGTAAAACTTGTAAGGGTAAATCAAGGGAGGACATTGTAAGATGGAGTCATGC TTTGGAGGAAGTGGCTAAAATTGCTGGTTACCATTCAAGCAACTGGGATAATGAAGCAGAAATGATCGAAGATATTGCCACTGATGTTTCGAACAAG TTGTTTAATTCCACGCCATCAAGGGATTTTGATGGCTTAGTTGGAATAAGAGCTCACATGGAAAAAATTGAAGAGCTCTTACAGCCAGATTTGGATGA AGTGGGGATGATAGGGATCTTAGGGCCGGCAGGGATAGGAAACAGCACCATTGCTAGATTTCTATATCACCACCACTCCAAAAAATTCCAACTGAG TGTCTTTATGGAGAACATCAAAATAACGTGTCAACTACGAGCTTGTTCCGATAACTATGGTGCGAAGTTGTATTTACAAGAGAAGTTTATGTCACAAA TGATCAATCACTTGGGCGTCAAGATTCCACATTTAGGAATTGTCGAAGAAAGGTTGAAAGACAAGAAAGTTTTGGTCATCCTTGATGATGTGGATCAA TTAGTACAATTAGAATCTATGGCTAAAGAACCTTGTTGGTTTGGTCCTTGGAGTCGGATTGTCATCACAACACAAGATCAAAAACTTTTAAGGGCACG TGGGATCAACCATATATACAGGGTGGAATTTCCATCGAATGATGAGGCTCTTCAAATATTCTGCATGTATGCTTTTGGTCAGAAGTCACCTAAGGATG GTTTCATGGACCTTGCTTGGGAAGTTACAGACCTTGTTGGTCAACTTCCTCTAGGACTAGTGCTCATACTTCAAGGAAATGCCCGAGCACGAGTGGT CAGTGGAACTACAAAGGTTAAGGTCAAGACTTGACGGAAAAATTGAGAGCATTTTGAAATTCAGTTATGATGCTTTATGTGATGAAGATAAAGATTTA TTCCTTCATATAGCTTGCTTTTTCAATTATCAAGAGGTTGAGAAAGTGGTAGAGCATCTTGCAAAGAGTTTCTTTCATGTGAGTGTGAGGCAACGGCT TCACATCTTAGCTGAAAAATCTCTCATATATATTGATGAGGGAATGATAGAGATGCATAGTTTGTTAGCTCAACTGGGAAAAGAAATTGTCTGCAAAC AATGTGTTCGTGACCCTGGGCGACGACGATTTTTGGTTGATGCCCAGGATATTTGTGAAGTGCTCACTGATTATACAACAAATCCTAGAAGTGTTATA AGCATCAATTTACGGTACAAGGAGATCAACTTAAGATTCGAGGAGAGCAAGTTAAACATAAGTGAGACAATCTTTGAAGAAATGTCAAATCTCCAATT CTTAAGATTGAGAAATGATGTTGGTCCTCCAAACATATTGTTTTTTCCGGGATGTCTGAGTTATATATCTCCAAAACTTCGATTACTAGACTGGAAGTA TTCGCTGATGACATGTTTGCCTTTTATTGGTAACCTGGAGTTCCTTGTCGAGTTAAGGATGGATCACAGCAAGTTTGAGAAGTTGTGGGACGAAATTA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003B23	AT3G56240.1	CCH (COPPER CHAPERONE)	GGTTCTGCAAACAAACATCTCACATTATCTAATTCGGATCGTCGATCTCAGAGCTTCTCGTTTCGTTTCATCTAATTCTAGCCATGTCTCAGACTGTTG TCCTCAAAGTTGGTATGTCATGCCAAGGCTGCGTTGGTGCCGTCAATAGAGTGTTGGGCAAAATGGAAGGGGTTGAGTCATTTGATATTGATATCAA GGAGCAAAAGGTGACAGTGAAAGGTAACGTTGAGCCTGAAGCAGTTTTTCAAACAGTTTCAAAGACTGGAAAGAAGACTTCTTACTGGCCCGTGGA TGCTGAGGCTGAGCCTAAAGCCGAAGCTGAGCCTAAGAAGGAGACTGAGACTGAGACTAAAACGGAGGCTGAGACTAAGACTGAGGCTAAGGTTG ATGTTGAACCAAAACTCGCAGAAGCCGAGTCTAAGCCATCGCAAGTTTAAGTACTAAAGATGACAATGGGGCTACTTATCCGTATTTGCAATGCTTCT
GCT-003B24	AT4G19660.1	NPR4 (NPR1-LIKE PROTEIN 4); protein binding	GAACCTCTGATTTTTCTCTTATTTGTTCTGAGATTCATACACCCACAAATTGTCTTCGATCATATTAAGTTGTGCAAAAATATCAAACTGTGATTTTGAA GAAATCCCATTTATATTTTATATTCTCTACTTCTTTCTCTCTGTGTTTAAGATTCAATTAGGGCTTTTCCATCCGCCATTTTCGTTGACTTTTCTTGAAG GTGTTTTCTCGATTTGGCTTCTTTACTTCACATTAACTCATTAGAAAATCTGAGTGTTCTTTCATAAATTTCGGATCTTTTCTATAGGGGTTGATTTATT TCATCTCTATGAGACTATGATCTTGTCGGTATTGTTCATAGCTCAAAAACATAAGATTTCGAATCTATTATCATTGGTTTCAAATATAAGGGTTTGTATC TGAAACAAAGACAGAGCCTTTGAGTGATATTTCTGGGAAGAAAATGGCTGCTGCTACCGAAATGGAGCCATCATCATCTATAAGCTTCGCATCTTCT CACTTATATAATCCTCCTCCTTTGGTTACTAATCATCATTCAGCTGCTAATCTTGAAGCTGTGAGTTTAATCAAGCTAAGCTCCGATCTGGAGCAGCTT CTCACTAACTCGGATTGCGATTATACTGACGCTGAGATCATCATCGAAGGAGAATCTCACGCAGTGGGTGTTCATAGGTGCGTTTTAGCTTCCAGGA GCACGTTTTTTCTTGAGCTGTTCAAGAAAGACAAAGAAACTATTGCAAAGAGTGAGCAGAAACCAAATTATCATATGAAAGATTTGTTGCCTTATAGA AATGTGGGGCGCGAGGCTTTTCTGCATTTATTGAACTATATCTACACTGGGAGGTTAAAACACTTTCCTATGGAGGTCTCGACTTGTGTTGATACAGT TTGTGCTCATGATTCTTGTAAACCGGCCATTGATTTTGCTGTTGAGTTGATGTATGCTTCACATGTGTTCCAAATCCCAGAGCTGGTTTCATCATTTCA GCGGCGATTGTGTAACTACATTGAGAAGTCACTTGTCGAGAATGTTCTTCCGATTCTTTTAGTTGCGTTTCATTGTGATTTGACTCAGCTTCTTGATCA GTGCATAGATAGAGTGGCCAGGTCTGATCTAGACAGATTCTGCATCGAAAAGGAGCTTCCTTTCGAAGTTTCAGAAAAGATCAAAAAGCTTCAAATC AAGTCTGTGAACATCCCTGAGGTGGTGGATAAACCGCTAGAGAGAACCGGGAAAGTGCTCAAGGCACTTGATTCAGACGATGTCGAACTCGTGAAG CTTCTTTTAACTGAGTCAGATATAACTCTAGACCAAGCCAATGGTCTGCATTATGCAGTGGCCTACAGTGACCCGAAAGTTGTGGCCGAGGTTCTTG CTCTGGACATGGCTGATGTGAATTTCAGAAACTCCCGGGGTTATACGGTTCTTCATATCGCTGCTATGCGTAGAGAGCCATCGATTATCATATCACTT CTTGGAAAAGGAGCTAATACTTCGGATTTGACGTTTGATGGACGTAGTGCGGTTAATATATGTAGGAGACTGACTAGGCCAAAAGATTACTATACCA AAACAGTAAAAGGGCAAGAAGCTAACAAAGACCGCTTATGCATCGATGTCTTGGAAAGAGAAATTAGAAGGAATCCATTGGCTAGTGGTGGGGATA CACCGACTTGTTCACATTCGATGCCTGAGGATCTCCAAATGAGGTTGTTATACTTGGAAAAGCGAGTGGGACTTGCTCAGTTGTTCTTCCCAACAGA AGCCAATGTAGCTATGGACATTGCTAATGTTGAAGGGACGAGCGAGTTCACAGGTCTTCTTGTTCCACCGCCATCAAATGGTGCAACCGGAAACTT GAGTCAGGTGGATTTGAATGAAACGCCTTATATGCAAACGAAAAGACTGCTTGCTCGTATGGAAGCTCTCATGAAAACAGTTGAGACAGGTCGGAG GTATTTTCCATCTTGTTCTGAGGTCCTGGATAAGTACATGGACGAGTATATGGACGAGGACATACCTGATATGTCGCATCCGGAGAAAGGCTCAGTG
GCT-003C01	AT3G60530.1	zinc finger (GATA type) family protein	GGCCCACTCTCTCTCTATATTAAAGCCCTGAACCAGTGACCACATACTGAGTGAGCGAGTCCGAGTCTGAGTCAAAGCCCGAGTCCAACTTTGT GTGTGAGAGGAGAGACCCGTAATAACTAATAATGGACGTCTACGGCTTATCTTCACCGGACTTGCTTCGTATCGACGACCTTCTCGACTTCTCCAAC GACGAAATCTTCTCCTCTTCCTCCACCGTCACTTCCTCCGCCGCTTCCTCCGCCGCATCTTCGGAAAACCCTTTTAATTTCCCCTCATCCGCTTCCAA TTCCTTCCACACTTCTCCTCCTCCTCTCCTCACCGATTTCACTCACGATTTCTGCGTTCCCAGTGATGACGCAGCTCATCTCGAATGGCTATCGCGAT TCGTCGACGACTCGTTCTCCGACTACCCAGCGAATCCTTTGACCATGACCGTCAGGCCCGAGATGTCGTTCACCGGAAAACCCAGAAGCCGACGAT CAAGAGCCCCAGCACCTCCCGTGGCCGGAACCTGGGCACCGATGCCGGAATCCGAGCTTTGTTACTCCGTCGCCAAAACTAAACCCAATAAGAAA TTCGAAGCCGAACCCATGGCGGCGGATGGAGGCGGAGCCAGACGCTGCACGCACTGCGCGTCGGAGAAAACGCCTCAGTGGAGGACGGGGCCG CTCGGGCCTAAAACGCTTTGCAACGCTTGTGGAGTTCGTTTCAAATCAGGGAGGCTCGTGCCGGAGTACAGACCGGCGTCGAGTCCGACCTTCGT GCTGACTCAGCATTCGAACTCTCACCGGAAAGTTATGGAACTCAGGCGACAGAAGGAACAATTAGAATCGGCCGTCCAATTTCCGCCGTTTCAGCC GCAATAATAATTCGCGTTTGCGTCTTCGTCGTTGTGGTTTGGGGTTTTCTTTCGAGGGTTTTTGAGTCACGAGTTTGGTGACGTGTCGTAATCATAAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003C02	AT3G48160.2	DEL1 (DP-E2F-like 1); transcription factor	GGGCCAAAAAAATAGGAGTGAATTTCAAATTGGCGCTCAAGCTTTTAACGTATCTTCCCAAAAAAATTCCCCCCAAATTTTTCGAATCTATTTTTTCTT AAATCCCTCCAAAATCCCCCACAAATTTCTCATCCCATCGATTTCTTCAAACATGTCAGATCTGCCGCCGGAAAAATCGAAAATGGCTCTTTCTTCAT CTTCTTCCGTGCCGGAATCTTCTTCCTCTCTACACCATTCCTACAGTCGGAAGCAGAAGTCTCTCGGCCTTCTTTGTACCAATTTCTTAGCTCTATAC AATCGAGATGGAATCGAAATGATTGGGCTTGATGACGCCGCCACAAAATTAGGTGTCGAGAGGCGGAGAATCTATGATATTGTTAATGTGCTGGAG AGTGTCGGGGTTTTAACAAGAAGAGCCAAAAACCAGTATACGTGGAAAGGATTCGCCGCTATTCCAGCAGCGTTAAAGGAGCTACAAGAAGAGGGA GCTAAGGACACTTTTCACCGTTTCTATACCAACGAGAATGTCAAAGTATCTGATGATGAGGATGATGATGAAGAGTCTTCTCAGCCTCATTCTAGTAG CCAGGCTGATAGTTCAAAACCTGGCTCTCTTCCCCAATCTTCAGATTCTTCAAAAATAGATAATCGACGAGAGAAATCTTTAGGATTGCTTACTCAGA ACTTTATCAAGCTCTTTGTTTGCTCTGAAGCTAGGATCATCTCCCTTGATGAGGCTGCGAAATTACTGCTTGGTGATGCCCACAATACATCAATAATG AGAACAAAAGTGAGGCGGCTTTATGATATCGCGAATGTCTTGTCATCAATGAATCTCATTGAGAAGACTCATACCTTAGATTCTAGAAAACCAGCTTT CAAGTGGTTGGGATACAATGGTGAGCCTACTTTCACACTGAGCAATGATCTAATGCAAGCCGAATCAAGAAAAAGAGTGTTCGGAACTGATCTTACA AACGTCAGTGTCAAGAGAAGCAAAACCCATGAAAATGCTACAGAGAGGAGGCTAAAGATGAAAAAACATGCAGTAGCAGAGAGTTCTTATAGCAAAA GCTTTGATGCTCATGAATCAAGACATGGATCAAGAGGTTACCAGTTTGGACCTTTTGCACCTGCCACTGGTACATATCCGACTCCTGGTTTGGAAGA TAACCCCAGGAGAGCTTTCGATGTGGAGAATCTTGTTTCGGATTACCGTCCCTCTTACCAAAACCAAGTTTTGAAAGACCTCTTTGCACATTACATGG ACGCTTGGAAGTCATGGTACAGCGAAGTCACCCAGAAGGATCCATTACCAAATACATCACAACACCCTTAGAAATTCTTCTTCTTCATCTCTTACCTG
GCT-003C03	AT4G28250.1	ATEXPB3 (ARABIDOPSIS THALIANA EXPANSIN B3)	GCCTTAAAAACAGAACTCACTCACTCTCTCTCTCACTGTCGGCAAAACTAACTTCTTTCCCTTTCCCACTGTGACCGTTTCCGGCGACACAGGTGATA TCTCCGGCAGAAATGCAGCTCCCTTCTCCGGTCATCATCTTAGCCACACTCTGCATTGTCCTGCAGCTTCTCATAAACTCCTCCGCCTCGGTGACCA CCAATCGACACGTGTCGAACGCTCATTGGCTTCCCGCCGTGGCCACCTGGTATGGAAGCCCCAACGGCGACGGTAGCGACGGAGGAGCGTGTGG GTATGGTTCGTTGGTGGATGTGAAGCCGTTCCATGCGAGGGTTGGAGCTGTGAATCCTATCCTATTCAAGAACGGTGAAGGCTGTGGCGCTTGTTA CAAGGTTCGGTGTTTGGACAGGAACATTTGTTCCCGGAGAGCCGTCACCGTCATCGTCACCGACGAGTGTCCCGGCTGCTCTAAAACCAACACTCA CTTTGATCTAAGTGGCTCTGCTTTTGGTCGCTTGGCTATCTCCGGAGAGTCTGGTCCCCTCCGCAACCGTGGCCTCATTCCCGTCATTTATCGCCG GACGGCATGCAAATATAGAAAGAAGAACATAGCGTTTCATGTAAACGAAGGATCAACTGATTTTTGGTTGTCTCTACTGGTTGAGTTCGAAGACGGA GAAGGCGACATTGGCTCCATGCATATACGCCAAGCAGGATCGATGGAGTGGTTAGAGATGAAGCACGTATGGGGAGCTAACTGGTGCATCATCGG AGGACCCCTTAAAGGACCATTCTCCGTTAAGCTCACCACTTTGTCCTCCGGTAAAACACTCTCTGCCACCGACGTCGTCCCCAGAAACTGGGCTCC CAAAGCAACTTACACTTCCCGCCTCAACTTCTCTCCCGTCCTCTGAAAAGACTAATATTTCCACTATTTTTATATTTGTGATCTTTTTTTTGTTTGTTTG AAGAGAGAGTTAGAGAGAGAGAGTGACTGCTGGCCATAGGATGGCGAGACTAATAGCCTGGTTCATCCTAATCCAACAACGGCTCATGCGTTCTCT CCTCTTCCTCCTTAATTGTTTGTGAATTTGTGTGTGTGTGTGTGTGTGTTGTGTCGGTGAGTGTGTGTAGGAGTTATTGTAGCCATCTCCAAAGGGGA
GCT-003C04	AT5G01520.1	zinc finger (C3HC4-type RING finger) family protein	GGAAGAGAAATTATTCCCGTTCCTTCTTGAACAAAAAAAAAAAGCTTAAGACGCTCCCTTTGTATTTTTATGATCTTATCTTACGTGTGCTCTACGCGAA TTTTGCAACTTTCTTCCTCTTTCTCTCTCTCTCTCTCCCTGTCGCTACCTCGGTTGGGTTGAGTAAGTAAATTTCAAAAAATCTTCCATGGAAATGGGA GAGAGAATCAATTCGAGTTGTTAAGGTTTGCGATATTTTAGGCTTGTGTCGGTGTAGTTGATCTCGAGGATTACAAAAAAAAGGATTTAGGGTTTTAG GGACTCGCTCTCGGAAGATAGTTTTATGTTGGATCGTCTCTATACTGGAGTGAAGGAAAAATGCGAAAATCGTTCAAGGATTCACTTAAAGCTCTCG AAGCTGATATCCAGTTCGCCAACACCCTGGCATCCGAGTATCCAGAGGAGTATGATGGTGGCTGCGTGCAGATGAGATTGTCTTACAGCCCAGCGG CTCATCTCTTTCTCTTCCTTCTTCAGTGGACAGATTGTCATTTCGCAGGCGCTTTGGGATTGCTTAGGATCCTTATTTATAAGGCATATGTTGATGGG AAGACTACAATGTCTCTACACGAACGCAAAGCTAGTATCAAAGAATTCTATGATGTGTTGTTTCCTTCGCTATTGCAACTTCACGGAGGGATAACCGA TGTAGAAGAAAGGAAACAAAAGGAGATATGCGACAAAAGATACCTGAAGAAGGACAAGACAGAGAAAGGGAAGATGTCAGAGATCGATTTGGAGAG GGAAGAAGAGTGTGGCATTTGCTTGGAGGTTCGAAATAAAGTTGTTCTTCCTACTTGCAATCACTCCATGTGTATCAATTGCTACAGAAACTGGCGC GCAAGGTCACAGTCGTGCCCGTTCTGTCGAGGCAGCTTGAAAAGAGTGAATTCTGGTGATCTATGGCTTTACACTTCGATCAAAGAGATTGTGGAG CTACCGGCTATTTACAAGGAGAATCTGAAGAGGTTGTTAATGTACATTGACAAATTGCCTCTCGTTGCTACGGACCCAACTCTTGTTCCTTACGCTCC TATTCCTCGGTGAACATCCTCCTCCTCGTAAGCTATCTCCTTGTTCTGCCTGCACATAGCAATTTCTATCATTTCTTTTCAGTGCCCACTTTGTAGATA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003C05	AT5G60360.1	AALP (ARABIDOPSIS ALEURAIN-LIKE PROTEASE); cysteine-type peptidase	GACTGAAGCTGTAGCGTTGAGAAAAAGTAAGAACCAGAAGACCACGAGAAGAAACCATGTCTGTGAAAACAATCCTACCATCGGTGGTTCTGGTGA TTCTCATCGCCGCATCGGCCGCGGCGGATATCGGATTCGATGAGTCCAATCCGATCCGTATGGTCTCCGACGGTCTCCGGGAGATAGAGGAATCT GTTGTCCAGATCTTAGGTCAGTCTCGTCACGTTCTCTCCTTCGCTCGCTTCACTCACCGATATGGGAAAAAGTATCAGAACGCGGAGGAGATAAAGC TCCGATTCTCGATTTTTAAGGAGAATCTCGACTTAATCAGATCTACCAACAAGAAACGCTTATCTTACAAACTCGGTGTCAATCAGTTCGCTGATTTAA CCTGGCAAGAGTTTCAAAGGAACAAGCTTGGTGCTGCTCAAAACTGCTCTGCCACTTTGAAGGGCAGCCACAAACTCACTGAAGCAGCTCTTCCGG AAACGAAAGACTGGAGAGAAGATGGTATTGTTAGCCCGGTCAAAGACCAGGGAGGTTGTGGATCTTGCTGGACATTCAGCACGACTGGAGCTCTTG AGGCAGCTTACCATCAGGCATTTGGAAAAGGAATATCTCTTTCTGAGCAACAGCTTGTGGATTGTGCTGGTGCTTTCAACAACTATGGCTGCAATGG TGGCCTTCCTTCCCAAGCCTTTGAGTACATTAAATCCAACGGTGGCCTAGACACAGAGGAAGCTTATCCTTACACCGGTAAAGATGGAACCTGCAAG TATTCGGCTGAAAACGTCGGTGTACAAGTCCTCGACTCAGTCAACATTACTCTGGGTGCTGAAGATGAATTGAAGCATGCGGTTGGATTAGTACGGC CAGTAAGCATAGCATTCGAGGTTGTAAAGTCATTCCGGCTTTACAAGAGCGGAGTTTACACTGATAGTCACTGTGGAAATACTCCAATGGATGTGAA CCACGCGGTTTTGGCGGTTGGATATGGAATTGAAGACGGTGTTCCATATTGGCTTATAAAGAACTCATGGGGAGCGGATTGGGGTGATAAAGGTTA CTTCAAGATGGAGATGGGCAAGAACATGTGTGGTATTGCGACATGTGCATCGTACCCGGTTGTGGCTTGAGATGATCAATCAGCGAATGTGGTTGG TCAATGTTTACATTAGAATATGTTGTCGCATATTTATTGCATTAATAGATTACTTCAAACTTGCGTCTCGCAACTCGATAGTCTTTATTATCGCTTCTCT
GCT-003C07	AT4G29140.1	MATE efflux protein-related	GAAGAAGCATCAAATTTTCAATCTCTTTCTTTCAATTTCTTCACTTAAAACCTCAAAACTTGAGAGGGCTCTTCACGAGAGAACTCTTTCTCTTTCATAT TAAAATCTCCAAAAAGATCAAATCTCTCTTCATCATCATCATCATCATCATCACCGTCATGTGTAACCCATCAACAACAACAACAACCACCACCGGCA CCGGCACGGCCATGTCCGAGAACGAACAATCTAGAACCGGAATCTTCCTCGATCTCTTCTCGATCAAAGCCTTGGAACAACCCACAAAGCGAAATA TCCGGCATTGCGAGAACAGAGGATCTCCTCTAATGTCAGAAGCTGTAACGGAGGCGAAATCTCTCTTCACGCTAGCTTTTCCGATCGCCGTGACGG CTCTAGTCCTCTACCTTCGCTCCGCCGTCTCCATGTTTTTCCTGGGTCGTCTCGGTGACCTCGAATTAGCCGCCGGTTCACTCGCCATTGCGTTTGC CAACATAACCGGTTACTCTGTTTTATCCGGTTTAGCACTTGGTATGGAACCACTCTGTTCTCAGGCCTTTGGTGCTCGCCGCTTCAAACTCCTCTCTC TCACACTCCATCGAGCCGTGGTTTTCCTCTTGGTTTGCTGCGTACCGATCTCGGTTCTCTGGCTAAACGTCGCCAAAATCTCGGTTTACCTTCACCA AGACCCCGACATCGCAAAGTTAGCTCAGACATATCTCATCTTCTCCCTTCCGGATCTCCTCACCAACACTCTCCTTCACCCAATCAGAATCTACCTTC GCGCTCAAGGCATCATCCACCCCGTCACTCTAGCATCTCTCTCCGGCGCCGTTTTTCACTTACCTGCTAATCTCTTCCTCGTCTCTTACCTCCGTCT CGGCTTAACCGGCGTAGCCATCGCCTCCTCCGTCACCAACCTCTTCGTCGTCCTTTTCTTAATCATCTACGTCTGGGCGAGTGGTCTCCACGCGCC TACTTGGACCGACCCGACCCGGGATTGTTTCCGGGGATGGGCTCCTCTGCTCCGTCTCGCGGGCCCGAGCTGCGTCTCCGTGTGTCTTGAGTGGT GGTGGTACGAGATCATGATCGTTTTGTGCGGGCTTCTCGTGAACCCGAGATCGACGGTTGCCGCCATGGGCGTTTTGATCCAGACGACGTCGTTTC TCTACGTCTTTCCGTCTTCTCTTAGCTTCGCCGTCTCCACTCGGGTCGGTAACGAGCTGGGAGCGAACCGGCCCAAGACGGCGAAGCTATCCGCC ACGGTGGCTATCGTTTTCGCGGTGGTTACTGGGATTACTGCGTCGGCGTTTGCTTACTCAGTCAGAAACGCGTGGGGGAGGGTATTCACCGGAGA CGACGAGATTCTCCGGCTAACAGCGGCGGCGCTTCCGATTTTGGGTTTATGCGAGATCGGAAACTGTCCTCAGACGGTGGGTTGCGGCGTTGTGA GGGGAACCGCACGGCCGTCGACGGCGGCGAACGTGAACCTCGGCGCGTTTTATCTGGTGGGCATGCCGGTGGCTGTGGGTCTCGGTTTTTGGGC CGGAATTGGGTTTAATGGGCTTTGGTTAGGACTCCTTGCTGCGCAGATTAGCTGCGCGGGGCTGATGATGTACGTGGTGGGGACCACTGATTGGG AATTGGAGGCTAATAAGGCGCAGACGCTAACATGCGCCGAGACTGTAGAGACCGATCTTATTAAGACGGTGGCGAATACAATAGGGGACGACGGT
GCT-003C08	AT4G00430.1	TMP-C (plasma membrane intrinsic protein 1;4); water channel	GACTGAAGAAAAAGAAAAAAAAAAGCTTAAAAACTTGGCACCTTTCTTGAGAGAGAGAGAGAGAGAGAAACCCTAAAAAAAAGAAGTGGGAGAGAAA TGGACGGCAAAGAAGAAGATGTGAGAGTTGGAGCTAACAAGTTCCCGGAGAGGCAGCCGATCGGGACGTCGGCTCAGTCGGACAAGGACTACAA AGAGCCACCGCCTGCGCCACTGTTCGAGCCCGGAGAGCTGAGCTCATGGTCGTTCTGGAGAGCTGGAATCGCCGAGTTCATAGCTACTTTCCTCT TCCTTTACATCACTGTTCTGACTGTGATGGGAGTGAAGAGAGCACCAAACATGTGTGCATCTGTTGGAATCCAAGGCATCGCTTGGGCCTTTGGTG GCATGATCTTTGCTCTTGTCTACTGTACTGCTGGAATTTCAGGTGGACACATCAACCCTGCGGTTACATTCGGTCTGTTCTTGGCTCGGAAATTGTCT CTGACCAGAGCTGTGTTCTACATGATAATGCAATGCCTCGGAGCCATCTGTGGTGCCGGAGTCGTCAAGGGTTTCCAGCCAACGCCGTACCAGACT CTCGGTGGCGGTGCCAACACAGTCGCTCCCGGCTACACCAAGGGTTCTGGACTCGGTGCTGAAATCATCGGAACCTTCGTTCTCGTCTACACGGT CTTCTCCGCCACCGACGCCAAGAGAAGCGCCCGTGATTCACACGTCCCGATATTGGCGCCACTCCCAATCGGGTTTGCAGTGTTCTTGGTACACCT GGCGACAATTCCGATAACCGGAACCGGAATCAACCCAGCTAGAAGCCTTGGAGCCGCCATTATCTACAACAAGGACCACTCCTGGGACGACCATTG GATTTTCTGGGTTGGACCATTTATTGGAGCAGCTCTAGCAGCACTCTATCACCAGATTGTCATCAGGGCCATTCCTTTCAAGAGCAAGAGCTGAGCG ATGAACAAAGATTCCACGGTCCTGGATTTGTTCTCTAATGTCGTGTAACTTGTTTGCGTATTATATATATCCACCACCTAGCTTTTGTTTTGCTATGTA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003C09	AT5G16570.1	GLN1;4 (Glutamine synthetase 1;4); glutamate-ammonia ligase	GATCACAAAAAAGAAGTTGGATTATTTTTTCAGATTCCTTAAAAAATGTCGGCACTTGCAGATTTAATTAATCTCGATCTCTCCAATTCCACTAAGCAG ATCATCGCCGAGTACATATGGGTTGGTGGATCAGGCTTGGATATGAGAAGCAAAGCAAGGACTCTGCCGGGACCAGTGAAGGATCCATCGGAGTT ACCAAAATGGAACTACGACGGTTCAAGCACCGGCCAAGCTCCCGGTGATGACAGTGAAGTCATCCTCTACCCTCAAGCTATCTTCAGAGACCCCTT CAGAAGAGGCAACAACATCCTTGTGATGTGTGACGCATATACACCGGCCGGTGAACCGATCCCATCGAACAAAAGGCATGCGGCAGCCAAGATCTT TAGCGACCCTAGCGTTGTTGCCGAAGAAACATGGTACGGAATTGAGCAAGAGTATACTTTGCTACAAAAGGATGTTAAGTGGCCTGTGGGTTGGCC AGTCGGCGGCTTCCCGGGTCCTCAGGGACCGTACTACTGTGGAGTTGGAGCAGACAAAGCCTTTGGAAGAGACATCGTAGATTCTCATTACAAAGC CTGTCTTTACGCCGGAATCAATATCAGTGGCACTAACGGCGAAGTCATGCCCGGCCAGTGGGAATTCCAAGTCGGTCCAACCGTTGGAATCGCTGC CGCCGATCAGGTCTGGGTCGCTCGCTACATCCTCGAGAGGATCACAGAATTGGCTGGAGTTGTTCCCTCTCTGGACCCTAAACCAATTCCGGGAGA TTGGAATGGTGCAGGAGCACACACAAATTACAGTACGAAGCCGATGAGAGAAGATGGAGGGTACGAGGTCATAAAGAAAGCGATAGAGAAGCTTG GATTGCGTCACAAGGAACACATCTCTGCTTATGGTGAGGGCAACGAGCGTCGTCTCACCGGAAAACACGAGACCGCCGATATCAACACTTTCTTAT GGGGTGTGGCGAACCGTGGGGCATCGGTTAGGGTTGGTCGCGACACTGAGAAGGCTGGAAAAGGATACTTTGAAGATCGTAGGCCAGCTTCGAA CATGGATCCTTACACTGTGACCTCCATGATTGCTGAATCCACGATCCTCTGGAAACCATGAAATAAGGAATCTTGAGCTTCAAGGAATCTCTAATATT
GCT-003C10	AT3G52470.1	harpin-induced family protein / HIN1 family protein / harpin-responsive family protein	GATCATATTATAGAGAGAGAAAGAGAAGAAGGTACGCCAGTGGCAAAACCGTAAATAAAAGATGTCGAAAGATTGCGGCAACCACGGCGGAGGCAA AGAAGTAGCCGTCCGGCGAATCTGCGGCGCCGTAATCGCCTTCATCATAATAGTCCTAATCACAATCTTCCTAGTTTGGGTCATACTCAGGCCCACA AAGCCCAGATTCATCCTCCAAGACGCCACCGTCTTCGCCTTCAACCTCTCGCAACCAAACCTCCTCACCTCAAACTTCCAAATCACGTTCGCATCTC GAAACCCAAACTCCAAGATCGGAATCTACTACGACCGTCTCCACGTCTACGCTACTTACCGGAACCAGCAGATAACTCTCCGGACGGCGATTCCTC CGACGTATCAAGGCCACAAAGAAGACAACGTTTGGTCTCCGTTTGTTTACGGAACCTCCGTTCCGATCGCTCCGTACAACTCCGTCGCTTTGGGAG ACGAGCAAGGACGTGGATTTGTTCAGTTGATGATACGCGCCGATGGGCGCGTGAGGTGGAAAGTGGGGACTTTGATCACCGGAAAATATCATCTC CATGTTCGGTGTCCGGCTTTCATTAATCTTGGAAACAAAGCTGCTGGTGTTCTTGTCGGTGATAACGCCGTTAAGTATACGTTGGTTACTAAATGCAG TGTGAACGTTTAGAACGTTGACGCCGTTAAGTTGTTTTTTTTTTTTAATTTATAATCATATCATTTTCTCTTTTTAAAGAAAGAAATAACCAAACTTCTTC TTCCACCAGCAGGATAATGTTTCTGTTTCACCACCTTTGGTTGTTATTAAGCTTATTGTTGATTACAGAATCATTATTACAATCGGAATTGAATGTAAA
GCT-003C11	AT3G26744.4	ICE1 (INDUCER OF CBF EXPRESSION 1); DNA binding	GAAGCAATTAGCAAAAGATGGAGCAGTGACGGTGAGACGACGGTAACGAAGAAGCAAAGAAGTCACGAGAAATCTGGGGTCTAAAGCTCTCGACTT TGCGATGGTTCTCGACGGAAACGGCGGTGCGGTTTGGTTAGGCGGCGGAGAACGGATTCAGGAGGAGGAGAACGAGGAAGCTTCGTGGGGTAGG AATCAAGAAGAAGGTGGAGCTTCACTTTCTCATTTCAAGCCTATGCTTGAAGGTGATTGGTTCAGTAACCCACCACATCCACAAGATCTCCAAATGTT ACAGAATCAGCAAGATTTCAGATTTCTCGGTGGTTTCCCTTTTAATCCCAGCGACAATCTTCTTCTTCACCAGTCGATTGATTCGTCTTCGTCTTGCTC TCCGTCTCAAGCTTTTAGCCTCGACCCTTCTCAGCCTTCGTTTCTAGCCGCCAACAACAAATCTTGTCTCCTCAATGTTCCTTCCTCCACAAACCCTT TCGACAATGCGTTCGAGTTCGGCTCTGATTCTGGTTTCCTCGGCCAAATCCAAGCCCCGATTTCGATGGGGTTTGGTTCGTTGACACAACTGGGAA ACCGGGATTTGAGCTCCGTCCCTGATTTCTTATCTGCTCGGTCGCTACTCCCGCCGGAAAACAACAACTCCACGCCGTTATGTGGCGGAGGAGGC GGTGGTGGTGGTGGATTCACTCCTCTGGAGCTGGAAGGGTTTGGGAGTCCTGCAAATGGCGGTTTTGTAGGGAACAGAGCGAAAGTTCTGAAACC TTTAGAGGTCTTAGCATCGTCTGGTGCACAGCCTACTCTGTTCCAGAAACGTGCAGCTATGCGTCAGAGCTCTGGAAGCAAGATTGGGAACTCGGA AGGCTCGGGGATGAGGAAGCTGAGCGATGATGGAGAGATGGATGAGACTGGGATTGAGGTTTCTGGGTTGAATTATGAGTCTGATGAGCTGAATG AGAGTGGTAAAGCGGCGGAGAGTGTTCAGAATGGAGGAGGAGGATGTAAAGGTAAGAAGAAAGGAATGCCTGCTAAGAATCTGATGGCTGAGAGG AGGAGGAGGAAGAGGCTTAATGATAGGCTTTATATGCTAAGATCAGTTGTGCCCAAGATCAGCAAAATGGATAGAGCATCAATACTTGGAGATGCAA TTGATTATCTCAAGGAACTTTTACAAAGGATCAATGATCTTCACAACGAACTTGAGTCAACTCCTCCTGGTTCTTTGCCTCCAACTTCATCAAGCTTCC ATCCGTTAACTCCTACACCGCAGACTCTTTCTTGCCGCGTCAAGGAAGAGCTATGTCCCTCTTCTTTGCCAAGCCCCAAAGGCCAGCAAGCAAGAG TTGAGGTTAGATTAAGGGAAGGAAGAGCAGTGAACATTCACATGTTCTGTGGTCGTAGACCAGGTCTTTTGCTCGCTACCATGAAAGCTTTGGATAA CCTTGGATTGGATGTTCAGCAAGCCGTGATCAGCTGTTTCAACGGGTTTGCCTTGGATGTTTTTCCGTGCTGAGCAATGCCAAGAAGGGCAGGAGA TATTGCCTGATCAAATCAAAGCAGTGCTTTTCGATACAGCTGGCTATGCTGGTATGATCTGATCTGATCCGATCAGAGCCGTAGTCATGTCCATTGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003C12	AT3G51860.1	CAX3 (cation exchanger 3); cation:cation antiporter	GAGAGATTCAAAAGTATTAAGCTATGGGGAGTATCGTTGAGCCATGGGCAATCGCGGAGAGCGGAAACGCAAACGCAAACGCGACCGCCAAGGGT TTGAGCAGAGAGCTGCGACATGGGAGAACGGCGCACAACATGTCGTCATCGTCTCTTAGGAAGAAATCAGACCTGAGACTGATTCAGAAGGTCCCA TGCAAAACTCTCAAGAACATTCTCTCAAATCTCCAAGAAGTCATTCTTGGTACTAAGCTCACTGTCCTCTTTCTCGCCATTCCTCTCGCCATAATCGC CAAGTCTTACCACTACGGTCGCCCGTTGATATTTGGACTGAGCTTGATAGGGCTGACACCTCTAGCTGAGCGAGTTAGCTTTTTGACAGAGCAACTA GCTTTCTACACGGGTCCAACAGTGGGCGGTTTGTTGAACGCGACTTGTGGAAACGCGACGGAGCTGATAATCGCGATACTAGCGTTGGCTAATAAC AAAGTAGCAGTGGTGAAATACTCTCTGTTGGGTTCAATTCTCTCAAACCTTCTCTTGGTTCTCGGCTCCTCCCTCTTCTGTGGTGGTATCGCCAATAT TCGCCGTGAGCAGCGGTTCGACCGGAAACAAGCGGATGTGAACTTCTTCTTGCTGCTTATGGGTTTGCTGTGTCATTTGCTGCCATTGTTGTTAAAA TATGCAGCAACTGGAGAAGCATCAACCTCTCTGATTAACAAAATGTCGCTTAGTCTTTCACGGACAAGCAGCATCGTTATGCTTATCGCTTACATTGC TTATCTCATCTTCCAGCTTTGGACTCACCGCCAATTGTTTGAAGCACAAGAGGACGATTATGATGATGCGTATGATGATGAGGTGACTGTTGAAGAA ACTCCGGTGATAGGATTTTGGAGCGGATTTGCTTGGCTTGTTGGGATGACACTCGTCATCGCATTGCTATCAGAGTATGTTGTAGCCACGATCGAG GATGCATCGGACTCATGGGGATTATCAGTGAGTTTCATAAGCATCATATTGCTTCCTATTGTTGGAAATGCGGCTGAGCACGCTGGTGCCATCATTT TCGCATTCAAGAACAAGCTCGACATATCTCTAGGGGTCGCGTTGGGCTCTGCAACTCAGATATCTTTGTTCGTGGTTCCACTGAGTGTTATCGTTGC GTGGATTATGGGAATCAAAATGGATCTCAACTTTAACATTCTTGAAACAAGCTCTCTAGCTTTGGCCATTATCATCACAGCCTTCACTTTACAGGATG GAACTTCTCATTACATGAAGGGATTGGTTCTATTGTTGTGCTATGTCATCATTGCCGCCTGTTTCTTCGTCGACCAAATTCCTCAGAATGGTGCTATC GTGGGAGTTCAACACAGGAACATTGCAGGAGGAGGATTTTTCTCAACTTAAAATGGAGAACAAATTATCATCAAATGACTTTTTGTAAGAAAAACAAC AACAAAAATGGCAGAAATTAGCAAATATGATTTGATTGAATCACCATCCAAAAACGGAGAGAGAGAGAGACTTGTTAGAGAGATTCCTCAGTATGAAA
GCT-003C13	AT2G24680.1	transcriptional factor B3 family protein	GGGCTTTCATCTTCTTTTCTTTGGTTTAAATCTGTCCATTTTCAGTTTTGTCTTTCTTTCTCTGCGAACAGCTTCTTGAGAGATATTTCTAGGGTTTTTT CTTCACCCTTTTGTTTACAGAGATTTATTCGCTTAAACATCCACAAGAAATGCATAGAGAAAAGATACTAGCGATTTAAGATATGTCAGGTTTAGGACT CAGTTGCTGCCAGATTCAAGACATCCCAGCTTCAAGCAGCGACAATGACCGAGAAAAGATTGAAATTGCTAGAAACAAAAAAGCTAAAGTCAACAAT TCAGTCACAGAATCTGATCCTTGTTCATCAGACCACTCTTGTTCTGTGGCCCTTGAAACGGCTTCCAATCTACAAAAAGATGTCCCGTGTCTTCCGTC AAGCCAAAATCAATTTATGACATTGCGAGTTGCACCTAACAGCCTCATAAGTGGTAGACAGTACCTTGCAATGTCGTTTATGAGGAAACATGGTATTA CCAAACTTGGGCCAATATCTATGATAGGAAAAAATGGTACAAAGTGGTTAGTTAATGTTAGAGGAGAAGCCTTAGGAAAATCATTGTGTTTGGGAAA GGGGTGGAAAAACTTTGCGAAAGCAAATGGATTAGAGCCGGGTAGATTATTCACCCTGGAATTAGTATGGGAAAACGAACTTCCGATGCTCAAACT GTTCTACACAGATGGTGATATAAAACACAAAGGAGAATCTTCAAAAGCCAAGGAAACAGACGAGTTCAACATAGATGAGACGAGCAATTCACTTTCA CTAATCCAAAACCGATTAGTGGACATTAGCACTTGTACCTGAAGATGTCAAAGCCTGTAAATTGCATCTTCCAAGTGAATTCTTGAGAGCTAATGGCA TCAACAAGCTTGGGAAGATGATTCTGTTGGGTAAAGAAGGTATGAAGTGCACAGGATATCTATTCTCAAGAGATGGATTTGTGGCTCTAGGAATTGA TTGGAAGGGTTTTTGTGAGGCTAATGGAGTCAAAACCGGAGTCTCTATCATTTTAGAATTCATTTATAAAGAAGAAACCACAACACCGATATTTAAGTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003C14	AT5G44370.1	transporter-related	GGCGGTGGACCACTGCGTCACACACCACTCTCTCTCCACCGTCAAACTCCAAAACCCATTCTTCATTTCTCCCCCAAAATCTCTCCAATTCCTTAAAT TGGTTTCACCGTAAACCCATAATTCGCACTTTGTCAATCCGATCTTGAAGTTCGAAACTCGAGCACGGCTTAACTTGAGGGATAATTTCGAGCAAAAG TTGAAGAATTCGAAACAGCTAAGATTTTAACGGTGCATTGAGGAGCCTTGGAGCTTATTTTCATCCCCTGGTCTCTTTTTCTTATGTGGTGGTGCTTG AGAGGCTTTTTGTATGACATAAATGCTCTAGATCAGAAAAAAAGGTCTAACATGAAGTTATCAAACATTCCGCAACGCTATGTGATAGTCTTCTTAACT TTTCTCAGCACCTCCGTGTGTTACATCGAGCGTGTTGGCTTCTCTATTGCATATACAGTCGCTGCAGATGCTGCCGGGATCAACCAGTCAAGCAAAG GAACCATACTTTCCACATTCTTTGTTGGCTACGCTTGTTCTCAAGTCCCCGGAGGTTGGGCGGCTCAGAAAATCGGTGGAAGGAAAGTTCTTCTCTT GTCGTTTGTTTTATGGTCATCGACGTGTTTCTTGGTTCCTCTCGATCCAAACAGAGTCGGGCTCTTGGTTTTTGCACGTTTGCTTGTTGGTGTTGCAC AAGGTTTCATCTTTCCCTCTATCCACACAGTTTTGGCTCAGTGGGTTCCTCCTCATGAAAGGTCTAGATTGGTTTCGATAACGACCTCGGGGATGTAT TTAGGTGCTGCTTTAGGAATGTGGTTGCTCCCTGCTTTAGTTGAGCTTAGAGGTCCTGAATCAGTTTTCTTAGCAGAGGCATTAGCTGGTGGTATAT GGTCATTGCTTTGGATTAGGTACGCTACTGACCCACCTCGATCTGAGCATCCAAAAGCCGCTGCTGCTGGATTTGGAGGTGCACTCTTGCCAACTA ATAACGTAAACCACCATAAAGTTACTCATATCCCATGGAAGAAGATCATGCTCAGTTTACCCGTTTGGGCCATTGTGGTTAACAACTTCACGTTCCAT TACGCTCTGTACGTGTTGATGAACTGGCTTCCGACCTACTTCGAGCTTGGACTTCAGATCAGTCTTCAGGGAATGGATTCGTCAAAGATGGTGCCGT ACCTCAACATGTTTGTGTTCTCCATTGTTGGTGGGTTTATTGCAGACTATTTGATCACCAAGAGAATACTCTCGGTGACAAGAACACGCAAGTTCTTG AACACGGTTGGGTTTTTGGTTGCTTCAGCGGCGTTGATGGCTTTGCCTCAGTTTAGAACCTCGAATGGTGTGATCTTGTGTTCCTCTGTGGCTCTTG GGTTTCTGGCGTTGGGAAGAGCCGGTTTTGCGGTGAACCATATGGACATTGCTCCGAGATATGCAGGGATTGTGATGGGTGTTTCGAATACTGCTG GGACATTAGCTGGAATCATTGGAGTTGATTTGACAGGAAAGCTTCTTGAGGCATCTAAACTGGTTTACTCAGATTTGTCACATCCAGAGAGCTGGAG AGCTGTGTTCTTCATTCCGGGTTTGCTCTGTATCTTTAGCTCCGTTGTGTTTTTGCTGTTTTCTACAGGAGAAAGGATCTTTGATTGAGAAAAGGATC
GCT-003C15	AT2G04050.1	MATE efflux family protein	GAAAGCCTTCAACACTAGGAAGACGACAATGGAAGAGCCATTTCTTCAAAGAGGCGAGGAGTTAATCTCCGGTACAACGACATGGCAAAGAAGCCA GCTCACCGTCGAGCTGAAGAAAGTTTGCCTCTTGGCCGCTCCTATGGCCACCGTGACCATTTCTCAATACCTTTTGCCTGTCATCTCAATCATGGTC GCCGGCCACAACGGCGAGCTCCAGCTCTCCGGCGTCGCTCTTGCCACCTCCTTCACAAATGTATCCGGTTTCAGCATTATGTGGGGGTTAGTGGG TGCTTTGGAGACTCTTTGTGGCCAAGCTTATGGAGCCAAACAATACGAAAAAATCGGAACCTACACATACGCAGCAATCGCCTCCAACATCCCAATT TGTTTCCTAATATCAATTCTATGGATTTACATCGACAAGCTTTTAATCTTTCTCGGACAAGACCCTGACATCTCCAGAGTAGCAGACTCCTACGCCTTT TGGCTCATACCGGCTTTGTTCGGCCAAGCGGTTGCCATACCACTAAACCGGTTTCTGATGACACAAGGGTTGGTTCTTCCTCTGCTCTACGCTGCC GTGGCCACCCTTTTATTCTACATCCCGGTTTGCTGGACTTTGGTTTCCGTGTTTGGTCTGGGAAGCAATGGAGCTGCTTTGGCTATTAGTATGTCTTT CTGGTTTTATGCGTTGATACTTGCATGCTATGTGAGATTCTCCAGCTCTTGTGAGAAGACTCGCGGCTTTGTATCCGATGATTTCGTGTCTTGTGTCA AACAGTTCTTCCATTACGGAGTCCCATCAGCAGCAATGTTGTGCCTAGAATGGTGGCTATTTGAGCTACTCATACTCTGCTCAGGACTTCTTCCCAA CCCGAAACTCGAGACCTCTGTTCTTTCAATATGTCTTACAACTGAAACTTTGCACTATGTAATTGCAAATGGAGTCGCGGCGGCTGTGAGCACACGC GTGTCAAACAACCTGGGAGCTGAGAATCTTCAAGTCGCTAGGTTATCAGTAATGGCAGGGCTTTGTCTCTGGCTGATAGAGTCTATTTGCTTTAGCA CACTTCTCTTCACCTGCAGGAACATAATAGGCTACGCATTCAACAACAGCAAAGAAGTTGTGGACTATGTCGCGGACCTATCTCCTTTGCTCTGTCTT TCTTTTATCCTCGACGGATTTACTGCAGTCCTCAATGGTGTTGCTAGGGGAAGTGGTTGGCAACACATTGGAGCTTGGAACAACGTGGTGGCTTATT ATCTCGTTGGAGCTCCGGTTGGAGTTTACTTAGCTTTCAGTTGGGGATTCAACGGAAAAGGACTATGGTGCGGTGTTGTGGTTGGATCCGCTGTCC
GCT-003C16	AT1G18020.1	12-oxophytodienoate reductase, putative	GATGGAGACCAAACAGAGTATCCCTCTCCTCACACCTTATAAGATGGGACCTTTCAATCTTTCTCACAGGGTTGTTCTAGCGCCATTGACGAGACAG AGAGCGTATGGATACATTCCTCAGCCTCACGCCAAGTTATATTACACGCAAAGAACAACACCTGGTGGTTTTCTTATTTCCGAAGCTTGTCTAGTGTC CGAGACAACAAAGGGCTTAACGGATGCACCTGGAATATGGACTAGAGAGCAAGTGGAGGCGTGGAAGCCCATTGTGGATGCGGTTCATTTGAAAG GCGGCATCTTCTTCTGCCAGATTTGGCATGGTGGCAGGGTGTTTCATTTAGACCAGCCAAATGGGGAAGCTCCTATCTCCTCTACAGACAAGCCGT TGACTTGCAATAACATCTATGGAGGTAAGTTTACGCCTCCAAGGCGGTTAAGGTCAGACGAGATCCCTGCCATTGTCAATGACTTTAGAGTTGCTGC AAGAAATGCAATGGAAGCTGGCTTTGATGGAGTGGAGGTTCACGGTGCACATGGCTACCTGATCGATCAGTTCTTAAAAGACAAAGTGAATGACAG AAGTGACGAATATGGTGGGTCACTAGAGAACCGATGCAGATTCGCTGTGGAAGTAATCGAAGCAGTTGTGAAGGAGATCGGTTCAGACCGCGTGG GAATCAGGCTCTCGCCATTCGCAGATTACATGGAGTCTGGAGACTCGAACCCAGAGGCGTTAGGACTGTACATGGTGCAAGCTATGAACAAGCATG GGATCCTCTACTGTCACTTGGTTGAACCTAGAATGAAAACCCTTGAGGGAATTCTTGAATGCACGGAATCACTTACGCCCATGAGAAATGCGTTCAA AGGAACGTTCATAGTAGCTGGAGGTTATTCTAGAGAAGACGGAAACAAGGCAGTGGAAGAGGCAAGAACTGATCTTGTGGGTTATGGACGTACGTT CTTGGCAAATCCGGATCTTCCCAGGAGATTCCAACTCAATGCACCGTTGAACAAGTATGATAGATCGACGTTCTACACCTCTGATCCTGTCGTGGGC TACACAGACTATCCATTTCTCGAGAATACAGACACAGCTGCTTAATGTTGGTGCCACTTTAATAAAACCTTTTGAGTACATATATAGTAGGTAAAGAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003C18	AT3G51430.1	YLS2 (yellow-leaf-specific gene 2); strictosidine synthase	GAAAAGCCAATCCTTTCTCCAATGGCTATATTCTTCTTCTCCCCACGTTTTCTCTTCTTCTCCACCATCATCCCATTCCTAGCTTCTATCGCTCTCTAC CGACTCGACACCTTTGACCCAGCTCCCCTTCCCGCTGAAGCATTAGCCTACTCCACTAATTCCATCCCGCCGCTTCTCAACGACGGATTACTCACCG GAGCCGAGTTTATCGGTGCTGGTCTTCTCAATAATCCAGAGGATATAGCCTACCACAGAGACTCAGGCCTCATCTATACAGGCTGTGTAGATGGATG GGTGAAACGAGTCAAGGTCCTCGACTCAGCTAATGACTCGGTCGTTGAGGATTGGGTCAACACCGGCGGTAGACCGCTCGGAATCGCTTTCGGAC TCCACGGCGAGGTCATCGTCGCAGACGCATACAAGGGGTTGTTGAACATAAGCAATGACGGGAAGAAGACGGAATTACTGACGGATGAAGCAGAA GGAGTGAGATTTAAGCTCACTGATGCAGTCGCCGTTGGAGATAACGGCGTTTTGTATTTCACTGATGCTTCTTACAAATACAATTTCCGTCAAGCCG CCTTTGACTTCTTGGAAGGCAAACCACATGGTCGACTCATGAGCTTTGACCCCACAACACGAACCACACGTGTCCTCCTCAGAGACCTCTACTTCGC CAATGGCGTCTCTATGTCTCCTGATCAATCCCATCTCGTCTTCTGTGAAACCACAGTGTCCTCTTTCTCTTTATCAACTCTGTCTTCTTGTCTGTCTGT GCATTGAAACATCGTCTCAGGTTGTTTTCTTGTTGTTATCAGAAGAAGATGTAGCAAGTATTACATCAATGGAGGGCGTGTGGAGGTATTCATTCAAG ACTTACCCGGTTATCCAGATAACATCCGGTACGATGGAGATGGACATTACTGGATTGCAATACCTTCGGGAGTAACAACGTTGTGGAAGCTCTCGAT GAAGTACCCTTTCTTGAGGAAACTCACAGTTATGGCGGCTAAATACGGTTTCGAACCTATGTTTGCGGAGAATGCTGGCGTTTTGCAGGTTGATTTG GATGGGAAGCCCATTGCATTGTACCATGATCGTAAAATATCTCACATAACCACCGGAGTCAAGATTGGGAGATATCTCTATTGTGGGAGTCTGTTGC ATTCCCACATTATCCCACTCCATCTCCTCAACTATCCTCCACACTACAACACCCTTTCAACATCAACTCTATACACAATATAAACTTTTTTACATTTA
GCT-003C19	AT5G53210.1	DNA binding / transcription factor	GGAACGAGGAAGAGAGAGAGAGAGAGATTTCTATTCACGATGCAGGAGATAATACCCGATTTTCTTGAAGAGTGTGAACTTGTCGACACTTCACTAG CCGGAGATGACCTATTTGCCATCTTAGAGAGTCTTGAAGGCGCCGGAGAGATATCTCCCGCGGCTGCATCTACTCCCAAAGATGGAACCACTAGTT CCAAGGAGTTAGTAAAGGATCAAAACTATGATACCTCATCTCCTAAGAGGAAGAGGCAAAGGCTAGAAACGGAGAAAGAAGAAGACGAAGACGAAG AAGACGGAGAAGGTGAAGGAGAAGGAGAAGGAGAGGAAGAGAATAAGCAAGATGGGCAGCAAAAGATGTCTCATGTAACCGTGGAACGTAACAGG AGAAAGCAAATGAATGAGCACTTAACCGTTTTACGTTCGCTTATGCCTTGTTTCTATGTCAAACGGGGGGACCAAGCATCGATCATAGGAGGAGTTG TGGAGTACATAAGCGAGCTACAACAAGTTCTACAATCCTTAGAAGCCAAGAAACAACGTAAGACATACGCGGAAGTCCTGAGCCCGAGACTAGTCC CGAGCCCTCGTCCTTCACCGCCTATCCTAAGCCCGCGAAAACTGCCTCTTAGCCCGCGCATCAACAACCACCAGATCCACCATCACCTCCTTCTCC CTCCCATCAGCCCTCGAACCCCTCAGCCCACAAGCCCATACAGGGCCCATCCGCCTCAACTACCACTCATCCCACAGCCTCCACTTCGTTCTTACA GCTCATTGGCCGGTTGCAGCAGCTTAGGGGACCCGCCTCCATATTCTCCAGCTTCATCTTCTTCCTCTCCTTCAGTTAGTAGTAACCATGAGAGTAG TGTGATAAATGAGCTCGTTGCTAACTCAAAATCGGCTTTGGCTGACGTAGAAGTGAAGTTCTCAGGAGCTAATGTGCTGCTCAAAACGATATCGCAT AAGATACCGGGACAAGTTATGAAGATAATCGCTGCTCTTGAGGATTTGGCTCTCGAAATTCTTCAGGTTAATATTAACACCGTCGACGAAACCATGCT TAATTCTTTCACCATCAAGATTGGAATTGAGTGCCAACTAAGTGCAGAAGAATTGGCTCAGCAAATTCAGCAAACATTCTGCTAATAAAAGAAGGTTG AATACATCTTCGTATAAACCCTAACGAGAGACCAGTACGTACTCACTTTCTCTCCTTATTATCCTTTTGATTATCTTCAAACTTTCCTATAAAAAGTGGA GCTATTTTCAATAATATTGTTATTTAAGATTTTTAAAGGATATTAATTAATATTATTATGACTAATATAGGTCTAAATGAGTTTTTAAAAGTTGCCAGCTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003C20	AT3G50700.1	ATIDD2 (ARABIDOPSIS THALIANA INDETERMINATE(ID)-DOMAIN 2); nucleic acid binding / transcription factor/ zinc ion binding	GACCTTTCTTTCACACGAAATCTCACGAGCCGCCTTGTTATTCTTCTTCTTTCTCTGTCTCTTTCGAAAAATAACAAAAACCACAGCGAAAAAAAATTA GAGCTTTGTGAGAACGGTAAGACCAACGACGGCGTTTCTCTCCGGTGGAATCTCAGCCGTTGGATCTGAGAAATCGCCGTGTCCAGTGGAGGAGT TAAAATGAAAACTTTCTTTTTCTAGTTTTAAATTTTTTTGTTTTTATCGTTATCAGAAAAGGTAGGTAGCGAAAAAGAGGTTTTTACGAAAAGCAGATTG ATTGACTGGTAGCTGAAGAACAACGGAGGAGAAATATAGAAAGTGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGA GAGTAAGATAAAAAAGAAGAGTGAGAAAAGATAAACCCTAAAGGTTGAAACTTGGTTGACGAAAATGAGCTGAAATTTTCTTCATTTATTTCATTCTTA CTTTACTTTTTTTCTTGGGTTACTTCAAAAATCAGTAGAGAGAAAAAAGTTCGATTTTTTTTTTGGAAGATGCCGGTAGATTTAGATAACTCCTCCACA GTTTCCGGCGAGGCAAGTGTCTCATCCACCGGAAACCAAAACCCACTTCTAAAATCCTCCGGAAAAAAGAAACGAAACCTCCCAGGCATGCCCGAT CCAGAATCAGAAGTTATAGCTTTGTCACCAAAAACATTACTAGCAACAAACAGATTCGTTTGCGAAATCTGCAGCAAAGGATTCCAGAGAGACCAGA ATCTGCAGCTTCACCGTCGAGGTCACAATCTTCCATGGAAACTCAGACAGAAATCGAGCAAAGAAGTGAGGAAAAAGGTTTACGTTTGTCCTGAGAT CAGCTGTGTTCATCACGACCCTTCACGCGCTTTAGGAGATCTCACCGGAATCAAGAAACACTTTTGTCGGAAACACGGCGAGAAGAAGTGGAAATG CGACAAATGCTCCAAGAAATACGCTGTTGTGTCCGATTGGAAAGCTCACTCGAAGATTTGTGGCACCAAAGAGTATAAATGCGATTGTGGTACTCTG TTTTCTAGGAGGGATAGCTTTATAACGCATAGAGCTTTCTGTGATGCTTTGGCTGAAGAAAGTGCGAGAAGCCATAATAATCCTAGTAAGAAGCAGA ATCCGGTAGTTTTGCCCCGGAAGAAACCAGTACCCGACCCGAAATCTGTAGCTGCAGCTAATTCACCGTCGTCTCCGAATCTTGCTCCGGTGGATA CTCAATCTGCTAAAATCAAATCTCCTCCGATTAAGCGATCAGAATCACCAAAAACCCCTCCAGAAACCTTACAAGAAGCTCCAAAACCGACCGGTTTA AACGTTACAAGAAACGGCGTTTTCGCAGGCTTATTCGAATCTTCATCAGCTTCTCCAAGCATATACACATCTTCTTCTTCTTCATCATCATCACAG TCTCTATTTGCGCCATCCTCATCCATCGAACCCATCTCTTTGGGGCTCTCAACAAGTCATGGATCATCATTTCTCGGGTCAACCCGGTTCCCAACTCA GCCCGCAATGTCAGCAACTGCTCTGCTTCAAAAAGCAGCTCAAATGGGAGCAACTTCTTCGGGAGGATCATTGCTTCGAGGGTTAGGCATTGTTTC ATCTTCTTCACCTTCTATGGACTCAATAGTCCCTCATGGCTTAGGATTGGGACTGCCTTGTGGCGGCGAAAGCAGCTCGGGTTTGAAAGAGCTCATG ATGGGGAACTCCTCTGTGTTTGGTCCGAAACAGACAACATTAGACTTTCTCGGATTAGGTAGAGCCGTTGGCAATGGTGGCGGTGGTCCCGGAAAC
GCT-003C21	AT1G53910.2	RAP2.12; DNA binding / transcription factor	GAGGCCATTTCTCTTACGCTTTTTTTTTCTGATGAACAAAGCAAATTGCTGAAGAGAGAGGAAAAGAAAAGATAAACCCCAAAAAGAGTTAATTATTTT ACATTTCGCCGCTAAGATTCTGTTTCTAAACATTTACACCCTCAAGAGTGACGCTTGTGTGAGCCGCCATGTGTGGAGGAGCTATAATCTCCGATTT CATTCCGCCGCCGAGGTCTCGCCGCGTTACTAGCGAATTTATCTGGCCGGATCTGAAGAAGAATGTGAAGGGATTGAAGAGAAGCTCGAAGAAGC GTTCGAATTTCTTTGATCTTGACGATGAGTTCGAGGCTGATTTCCAGGGTTTCAAGGATGATTCGTCCATTGATTGCGATGATGATTTCGATGTCGAT GATGTCTTCGCCGATGTGAAACCGTTTGTTTTCACCGCGTCTCCGAAACCCGTCGTCTCCTCCGCAGCTTCTGATTCAGCCTTTGGTAAGAAAGTTG CAGACTTTAAAGGACAAGCTGAGAAATCTTCAAAGAGGAAGAGGAAGAATCAGTACCGAGGGATTAGGCAACGTCCTTGGGGCAAATGGGCTGCTG AGATTCGTGATCCAAGGGAAGGTGCAAGAATCTGGCTTGGAACTTTCAAGACAGCTGAGGAAGCTGCAAGAGCTTACGATGCTGCAGCAAGAAGAA TCCGTGGATCCAAAGCTAAGGTGAATTTCCCAGAGGAAAACCCTACCGTCTCTCAGAAACGCCCTGCGAAGGTCAGTTCTCAGAAACCAGTTGCTA AACCAAACTCAAATCCAAGTCCAGCTTTGGTTCAGAACTTCGACAACTCCTTTGACAATATGTGTTTCGTGGAGGAGAAACACCAAGTGAACAGCAA CAATCAGTTTGGTCTGAAAAACACCATCGATGTAGGAGGTAATGGGTATCATCAGTATTTCAGCTCAGACCAGGGTAGTAATTCATTCGACTGTTCTG AGTTTGGTTGGAGCGGTCAAGCTCCAATAACTCCTGAGATATCTTCTGCGTTTATCAACAACAACAACAACAACAACTCTGCTGTATTTGTCGAGGAA GCAAATCCAGCTAAGAAGCTCAAGTCCATGGATTTTGAGACACCTTACAACAACACTGAATGGGAGTCTTCACTTGATTTCCTCAACGGAGATGGTG TGGCGACTCAGGACAATGGTTTAAACCCTATGGACCTATGGAGCATTGATGAGATCGATTCCATGATTGGAGGAGTCTTCTAAAGAGATCCAGTTTC ATGTAAATAAGCATGCGTGTTAGTGAGTCTCCCGCATCAACATCAATCTCCAAACTTTTTAAAATCTGTTATTTTCATCTTCTTGCTGTCTCTGTGTCT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003C22	AT1G12640.1	membrane bound O-acyl transferase (MBOAT) family protein	GACGAATCCATCATCGTAGTCTGTGAAGAAGCTTCCCTTCCCCTCCCGGAGCGACTCGGTCGTGACTCACTAACTCAGTCCGAGTTAAAACCGGGT TTTTCGATTCGTCGTCTCAACAGCATGGAGTTGATGGACATGAATTCGATGGCTGCTTCGATCGGCGTTTCAGTCGCCGTCCTCCGTTTCCTCCTCT GCTTCGTCGCTACCATCCCCGTCTCTTTCGCTTGGCGAATCGTCCCGAGTCGACTCGGTAAACACGTCTATTCCGCAGCTTCTGGTGCTTTCCTCTC TTACCTATCCTTTGGCTTCTCCTCCAACCTCCACTTCCTCGTTCCGATGACGATCGGCTATGCTTCCATGGCGATTTATCGACCCAAGTGCGGAATC ATCACTTTCTTCCTGGGTTTCGCTTATCTCATTGGCTGCCATGTGTTTTACATGAGTGGAGATGCGTGGAAAGAAGGAGGAATCGACTCTACAGGAG CGTTGATGGTGCTAACACTGAAAGTTATCTCGTGTGCGATAAATTACAATGATGGGATGTTGAAGGAGGAAGGTCTACGTGAAGCTCAGATGAAAAA CCGGTTGATTGGTATGCCGTCTCTTATCGAATACTTTGGTTACTGCCTCTGTTGTGGTAGCCACTTTGCTGGTCCTGTTTATGAAATGAAAGATTATC TCCAATGGACCGAAGGAAAAGGAATTTGGGAAACTTCCGAGAAAAGAAAGCGGCCATCGCCTTATGGAGCTACAATCCGAGCTATATTGCAAGCTG CGATTTGCATGGCTCTGTATCTCTATCTAGTGCCGCAATACCCATTGACTCGGTTTACTGAACCGGTGTACCAAGAATGGGGGTTTTGGAGGAAGTT TGGTTACCAATACATGGCCGGATTAACGGCTCGTTGGAAGTATTACTTTATCTGGTCAATTTCAGAGGCTTCCATTATCATCTCTGGTTTGGGTTTCA GTGGTTGGACCGATGATGCTTCACCAAAGCCGAAATGGGACCGTGCCAAGAACGTGGACATTCTTGGTGTCGAACTTGCTAAGAGCGCGGTTCAAA TCCCGCTTGTATGGAACATACAAGTCAGCACCTGGCTCCGTCACTGTAAGTATATATCAAAAGAGTCTTTGTGATACTTTTATCATCGTGAGAGACGA TCCACTTGCTCACATTGTTTTAAGCTACAGACGTGTATGAGAGACTTGTGAAGAACGGGAAGAAAGCGGGTTTCTTCCAGTTACTAGCTACACAAAC CGTCAGTGCGGTTTGGCATGGACTGTATCCTGGTTACATGATGTTCTTTGTTCAGTCAGCTTTGATGATCGCTGGCTCACGGGTTATTTACCGGTGG CAACAAGCGATCACTCCGAAGCTAGCAGTGCTGAGAAAAATCATGGTGCTCATCAACTTCCTTTACACCGTTTTGGTTCTCAACTACTCAGCCGTTG GTTTCATGGTGTTAAGCTTGCACGAAACACTGACTGCCTATGGGAGCGTATATTACATTGGAACAATCATACCTGTTGTATTGATTCTCCTCAGTTAC
GCT-003C23	AT1G77490.1	TAPX; L-ascorbate peroxidase	GCTCCGCCGTTTCGCCGCCGTAGACAAAATGGCTTTTTCTCTCTCCGCCGCTTCTCACTCATCACTCTGCTCCTCCGCCTCCACCAAAGTCTCTCTT TCCCCCGCCGTCTCTTCCTCAGCCCCTCTCGTTGCTCTTTCTTCCTCTTCATCACAACCACATTCTTTCTCTTCTCTCCGAAGCGTCAAATCTTCCTCT CTATTTCCACATTTCTCCTTTACTCAGAGAAAATATCCGATTAATGGGACGAAGAACAGAGGTTGTAGCACGAAATGTGCCGCCTCTGATGCAGCTC AATTGAGAAGCGCTAAAGAAGATATCAAAGTTCTTCTCCGGACAAAGTTTTGCCATCCGATATTCGTCAGGTTGGGATGGCACGATGCTGGCACATA TAACAAGAACATCGAGGAGTGGCCACAGAGAGGTGGAGCTAATGGAAGTCTTAGATTTGAGGCTGAGCTTAAGCATGCTGCAAATGCTGGTCTCAT TAGTGCGTTAAATCTAATTCAGCCTATCAAAGACAAGTATTCTAACATCTCTTACGCCGACTTATTCCAGTTAGCTAGTGCCACTGCAGTGGAGGAGG CTGGTGGTCCTGAGATCCCGATGAAATATGGGAGAGTTGATGTCTCGGTACCAGACCAATGTCCAGAAGAAGGAAGACTCCCTGGTTAAACTAATC TTTTAGCATTGTCTGTTTTCTTGGCTTCGATTGAGTTTGTTTTCAGATTTTGTTTATGGAATAATTGAAATAACGAGGGTGAAAATTTATGTTATGTTTA GATGCTGGACCGCCTTCACCAGCTGATCATTTGAGAGATGTATTCTACAGAATGGGACTCAATGATCAGGAGATTGTTGCCTTATCTGGTGCACATA CCCTAGGAAGAGCCAGACCAGAACGTAGCGGTTGGGGAAAACCTGAGACAAAGTACACGAAAACTGGACCTGGAGAAGCAGGGGGACAGTCTTG GACGGTGAAATGGCTTAAGTTTGGCAATTCCTATTTCAAGGATATCAAAGAAAAGAGGGACGAAGATCTTCTCGTGTTACCAACTGATGCTGCGCTA TTTGAAGATCCTTCATTCAAGAACTATGCAGAGAAGTATGCTGAAGATCCGGCTGCATTTTTCAAGGATTACGCTGAAGCTCATGCCAAGCTCAGCA ATCTCGGGGCTAAATTTGATCCTCCTGAGGGTATCATCATTGACAACGACCCTGCACAAGGAACTCCAGAGAAGTTCGTAGCCGCTAAGTATTCCAC TGGAAAGAAGGAGCTTTCGGAGTCAATGAAGAAGAAGATAAGAGCAGAGTATGAAGCAATTGGAGGAAGCCCAAATAAGCCCTTACCCACTAATTA
GCT-003C24	AT4G01026.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT1G01360.1); similar to AT-rich element binding factor 3 [Pisum sativum] (GB:AAV85853.1); similar to CAPIP1-like [Solanum tuberosum] (GB:ABB29920.1); contains domain Bet v1-like (SSF55961); contains domain no description (G3D.3.30.530.20)	GCTTTCCTCTCTCTCTCTTTTATCCACTCTCCCACCAGATTCCTTTTTAGGACAGAAGGAGGAAGATAAGAGGTTCTGATCTAAAGAAGATATGGA GGAGATCATCGGAGACGACACAGAGATGTACGGAGCTCTTGTGACGGCGAGATACGCACAGTTGCATCATCGTCACCATTGCAGTGAAAACCAATG TACCTCTGTTCTCGTCAAATACATTAAAGCCCCTGTTCATCTCGTTTGGTCACTGGTTCGGAGATTTGATCAGCCGCAGAAATATAAACCATTTATAA GCAGATGTACCGTTAATGGTGATCCTGAGATCGGTAGTCTCAGAGAAGTAAACGTCAAATCTGGTCTTCCTGCGACGACCAGTACCGAGAGATTGG AACAGCTTGATGATGATGAACACATCCTCGGTATCAACATCATTGGTGGTGATCACAGACTCAGAAAATACTCTTCGATCTTGACTGTACATCCGGA GATGATCGATGGGAGGTCAGCAACTATGGTGATTGAATCTTTTGTTGTGGATGTTCCTCAAGGCAACACCAAAGATGAGACATGTTACTTCGTGGAA GCACTCATCAAGTGTAACTTGAAATCCTTGGCTTGTGTCTCTGAAAGATTGGCTGCTCAGGACATTACCAATTCCATCGCCGCATTCTGAAAAAACAT TCAAATAGATACACAGAGAGAAGAATCATACAGCAGCATTTGAAGATTCATATAGTTCCACGTGATCGAAGCTCGGTGAAGGAAAGAAAGCTCCAGT GTGTTTAGACTCTTCCTTTAAGAAATTCTTTAGTCTGGTCATAATATATATTATAGAAGCACTCGTGGTCACGCTGCTTTGTTATGATCAGCTCCATAG GCCATGTTGAGCCTGTCGTAAAGTTTTGATGTAATTTTAGTTTACGGTGTTTGTTGGACAGTGTCTGTATTTACGCACCATTGTACAAGAAAAACAGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003D01	AT2G43550.1	trypsin inhibitor, putative	GAGCAAAATAAGCAGTACACAAGAGAACATGAAGTCTGTTTATAACATCTTCCTAGTGTTGTTCATCTTCTTCCTCGTTGTTCTTGGTGAGTCGCCAG AGAAGATAGAAGACGGCGAAAAGTTCAAATGCCTGCAAGAGTACGGAGGAGACGTGGGTCCCACGTTTTGTAACCCTAAATTCTTCCCAACGTTGT GTCGTCAGAACTGCCGGAGTTTCAAAGGTGCGAAAGGCGGGAGATGCGTGAAGAAACACAAAAACAAACCTATCAAATGCTTCTGCGACTACTGCA AAGACGAGTAAATTACTAGAGAGCATCAACCGCTGGTTGCAGTTCAAATCGGTAAACGCAGCCGCCCCCACCCACTATTTCAAACAAGAGAACACTC TATTTCCGTAATCGTTATCTAATTTGATATGAATTTATAAATGTAGTAATGTGCGAAGTGCTGTATGAATAATGCTAGAAATAAATATAGATGCGTATTTA
GCT-003D02	AT2G33835.1	FES1 (FRIGIDA-ESSENTIAL 1); nucleic acid binding	GGCTACCAAACGTATTCTCGGGGATCAGGACTCGCGAGACTCGCCTGAGCTTGGTTTCCCGATCAACGCCGCAATAATTCACCACTGTCTCGCCGG AAAACGTGATAAGAGAAGCTTCGAGATGTCTGATTCCGATATGGACATTGACGATGACGAGGTCCAAGTGCAGGTAAAACACACAAGTGCAAGAGA ATCTGAATTGCTCGGAAGGCCAATTGAAGCTTCCGATTCCCAGAACGATTTGAAGAAGCATTCAGCTGAGCAATCAAAGATCATGAAGGGTACAAGC GTTAGCTTCGAAAAATCAACACTTAAAATATCTGGGAACATTGGGAAGAAGCTGGAAGATGAAAAAGGCACAATTTTGTCAAGATTTCCTGCTCCCG GTATAACGGCGGCGCAAAGCTTTCCGTCAGGGAATGAACCAGAACAAAAACGTGCAGCTCTTGTCTGCAAGTTTTTTGTTAAAGGCTGGTGTAACAA GGGGAACTTCTGCAAGTTTGTTCACGTGAACGAGATTTCGAATCACACGAGTCCACAACAGGTGGCAAGTAATATGGCTGGAAGCAGTGGTATCCA GTCTGTTGAAGAAAGAAGAATACTTGACGGCAAAGAAGGTGTAAGGGCGCTCAATGGCGTGACCTCTTTGCATACCAGAGGGGATATATCTTTGGT GAATCCCCCGAGTGTTCAGAGAGTTTTCCCGTTCAATAACGAGATGCGATTTATGCCTTCACAACAAAATATGGGAAGAGAGAGTCTACAGAATTGT GGTGCTGATGTCACTGGGAACAGGTCTCTATTTAATAATAACAGCAATTCCTTTGCATTGCGAAGCAGCTTTGTTCAAGAGAATAGATCTTTGATCAC TTCCTATAGAAAAACAGACATGGAGTCTTCCGGACCAGCCTGGACAGTTCCATCGTTCAGTTCTGTTCCTATGAATCAGTATGCTTCTACCTTGAGGA ATATTGAAAACAGGAATAATATGTATGGATCTGGATCACTTCCAACGCTGCAAGGGACATCTGTTTCATCCGTTAAAGATGCAGAAGAAGGCAACAC TACTAGCTATGAGAAGAAAGTTTCTTCAAATGATTGGGAACCTTCTGAACCTTTCAAAGCATCTTTCACAATTCCACCTTATATACTTCCCTCGTCTGA TGCCCTCTACGATCCTTTCATAGAGAATCCAGAAGACAGATCTCTTAATGCTCCATCGTCAAGTAAAGGAAAACACGCCCGGAAAAATACCCGCCAG CAGAAAGATGGTGATTCTGCGAGTGATCCGCAAGCACGGGATTGCAATAACGATGATAAAAACAGTTCATGCAGTCAAAATCAATACCAAGAACCTG TGGCGAGGAAGAATTTGGTTGCACATGGAGTAGTGGAAGGGGTGGCTACGTCGGTGGTTGATCAAAATGATGCAACAACACCTAGCAAAGAGATTT CTTCTTCGGCTGCTGTAGAGAATAGAGTGGTTTTAAAAAGAAGCAAACCTGCAGGGCATGAATCTTGGCATAGAAGTGATGGTTCTTCACATCAGAA GATGTTGAAATCAGATGAGATAGATGGTGAAGTGAGGTCGTCAGACGCAGGAACGAAAGTGACGAGACAGTTCCGGACCGCAGTTGTGGAAACCA TTAAAGAAATGTTGAAACCATTGTGGCGTGAGGGTCGTCTTACCAAAGATGTGCACAACATGATAGTTAAAAGATCTGCTGAAAAGATAGTCAGCAC TGCTGTCCAGTTCCACCAGGTGCCGACTGAGACCGAATCGGTGGAGCAATATCTAAGTATGTCTGCACCCAAAATTGTGAAACTTGTGGAGGGGTA
GCT-003D03	AT1G16510.1	auxin-responsive family protein	GGCTTATGTACTCTCTCTCTCTCTCCCCTATGCTCTCGTCATAATCTTTTCATGTCCTCTCTCTCTTTCTCTCTGTATATATATATATATATAATCACT CTCTGTCTCTCTCTCTCTCACTCTTTTATTTTGAATTTTCTCTCTCTTCAAACCACCGGAGTAAGCAAAATGAAGCACCTTATCCGCCGCCTCTCTCGC GTCGCCGACTCCTCCTCCGAATTCTCCCTCCGCCGATCTGCCTCCTCCTTCCGCACACGACGCGGCCATCACCGTCCACACGCGCCGCCTCCGTG GTCGATTTGTCCGGCGAGACGAGTCAACACCGTCCCCGCCGGTCACGTCCCTGTCTACGTCGGCGAGGAGATGGAGAGGTTCGTGGTGAGCGCT GAGCTACTGAACCACCCGATCTTCGTCGGTTTGCTCAACAGATCCGCTCAGGAATACGGTTACGCACAGAAAGGAGTCCTCCACATCCCCTGCCAC GTCGTCGTCTTCGAGCGCGTGGTGGAAACGCTCCGGTTTGGGTTTAACGAGCACGGCGAGGTTCAGGATCTCGTCGCTTCTTTGCTCTCCGGCGA TGAGTTGATAACTGGAACTACAGAGTAGCTTTTGACATCATCCAATATCACATATTCTCCGACTTTTTCAATTTCTGTCTTTCTTGAAATTTCTCGGTTT TTTGTAAATATTTTATACTCCCTTAGTTTTTCTTCGTATTTCTTAGATTTTATCGATTGTTGCTCAGTCTCTGATTTAGCTTGTCGAGAAACAGAAATTAC
GCT-003D04	AT5G17220.1	ATGSTF12 (GLUTATHIONE S-TRANSFERASE 26); glutathione transferase	GGTACAAATTGTACGTAATTACCAATAAAAATATTTACAAAGTTATTGTAAAATAAAAATGGTTGTGAAAGTATACGGACAGATAACGGCAGCTTGTCC ACAAAGAGTTTTGCTTTGTTTTCTGGAGAAAGGAATTGAATTCGAGATTATTCACGTCGATCTTGATACACTAGAGCAAAAAAAACCAGAACATCTTCT TCGTCAGCCATTTGGTCAAGTCCCGGCCATAGAAGATGGAGATTTTAAGCTTTTTGAATCACGAGCCATTGCGAGATACTACGCAACTAAGTACTCG GACCAAGGCACCAACCTTTTGGGCAAGTCACTAGAGCATCGAGCCATCGTGGACCAGTGGGCCGATGTCGAGGTCCATTACTTCAACGTTCTGGCA CACCCCATTGTGATGAACCTAGTCATCAAGCCCAAGTTAGGCGAAGAATGTGACCTCAATTTGGTCGAGGAGCTCAAAAAGAAGCTCGAGGTGGTC TTGGACGTGTACGATAACCGGCTTTCTTCGAACCGGTTTTTGGGTGGTGATGAATTCACTATGGCTGATTTGACGCACATGCCGGCAATGCGGTATT TGATGAGTATAACCGATATAAACCGGATTGTTAAGGCTCGGGTGAATATGAACCGGTGGTGGGAAGAGATTACGGCTAGACCGTCTTGGAAGAAGC TTATGGAGATGGCTGGTTTGTGAACTAGTTCCAATTTGTGATGATCGGACCCAAATAAACTTCATATTTATGCTCTGTTTGTGCTTTTTATGAATTTAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003D05	AT1G63650.1	EGL3 (ENHANCER OF GLABRA3); DNA binding / transcription factor	GGACAACATTTTTTGTTTATTTAAAAAAGTCAGATTTTTTCATTGTGGATGCTTACATGGGGATGCTACATAGATGAAGAAACAATGGCTGCCGGAGA AAACAGAACGGTGCCGGAAAATCTAAAGAAACAGCTTGCAGTTTCAGTTCGAAACATTCAATGGAGTTACGGAATCTTCTGGTCTGTCTCTGCTTCT CAACCAGGAGTGTTGGAGTGGGGAGATGGATATTACAATGGAGACATTAAGACAAGGAAGACGATTCAAGCTGCTGAAGTCAAAGCCGACAAGTTA GGTCTTGAGAGAAGCGAACAGCTTAGAGAGCTTTACGAGTCTCTCTCCGTTGCTGAATCCTCAGCCTCTGGTGGCTCTCAGGTCACTAGACGAGCT TCCGCCGCCGCTCTCTCCCCTGAGGATCTCACCGACACCGAGTGGTACTACTTAGTCTGCATGTCTTTCGTCTTCAACATCGGTGAAGGAATACCC GGAGGAGCATTATCGAACGGGGAACCAATATGGCTTTGTAACGCTCATACCGCCGATAACAAAGTCTTCACTCGCTCTCTTCTCGCTAAAAGTGCTT CGCTTCAAACAGTGGTTTGCTTCCCGTTTCTTGGAGGAGTCCTTGAGATCGGCACAACCGAACATATTACAGAGGACTTAAACGTGATACAATGCGT GAAGACCCTGTTCCTTGAAGCTCCTCCTTTTGCTACAATATCAACGAGATCCGATTTTCAAGAAATTTTCGATCCTTTATGCGACGATAAATACATTCC GGTGTTCGGAAATGAAACTTTTCCTACGACTTCTACGAGTGGTTTTGAGCAAGAACCAGAGGATCATGACTCGTTCATCAATGGTGGTGGTGCGTCT CAGGTACAAAGCTGGCAGTTTGTGGGGGAAGAACTCAGTAACTGCGTTCACCAATCGCTTAATTCTAGCGATTGCGTTTCTCAAACATTTGTTGGGA CAACAAGAAGAGTTGCTTGTGATCCAAGAAAGAGTAAGGTTCAACGGTTAGGTCAAATTCAAGAACAGAGTAACCACGTAAATATGGACGATGATGT TCATTACCAAAGCGTGATCTCTACCATTTTCAAAACGACGCATCAGCTAATTCTTGGACCGCAGTTTCAGAACTTTGATAAGCGGTCAAGCTTCACGC GGTGGAAGCGGTCATCATCTGCAGAAACGTTGGGAGAGAAATCGCAGAAGATGTTAAAGAAGATTATATTCGAGGTTCCTCTGATGAATCAAAAGG CTTTGTTGTTACCAGACACACCCGAAGATAGCGAGTTTAAGGTCGGAGATGAAACCGCGAACCATGCATTCTCGGAGAGGAAACGCCGAGAGAAAT TGAATGATCGGTTTATGACGTTGAGATCAATCATTCCTTCGATCAGTAAGATTGATAAAGTCTCAATTCTTGATGATACGATTGAGTATCTTCAAGAAC TTCAAAGACGGGTTCAAGAATTGGAATCTTGCAGAGAATCTACCAATACAGAAATTCGAATTGCTATGAAGAGGAAGAAACCGGAGGATGAAGATGA AAGAGCCTCGGCGAATTGTATGAACAGCAAGAGGAAGGAGAGTGATGTGAATGTAGGAGAAGATGAACCGGCTGATACCGGTTATGCTGGTCTAAC CGATAACTTAAGAATCGGTTCGTTCGGTAATGAGGTGGTTATTGAGCTTAGATGTGCTTGGAGAGAAGGGATATTGCTTGAGATTATGGATGTGATT
GCT-003D06	AT5G54110.1	ATMAMI (ARABIDOPSIS THALIANA MEMBRANE-ASSOCIATED MANNITOL-INDUCED); structural molecule	GAGGCGTAACAAAAAAAAGCCAAGACAAAACGCCATTTTTTCTTTTTGTCCATTCTTCTTCCTTCCTCTTCTGAAAATTGAAATTTCACAACACTTTGT CTCTCTTCCTAGACTCAAGACCTAGAGAGAGAGAGTGAAATATTACTCGGAGGCTGAAGTTGATTCTCCGGTCATCGGAAGATTGGTTGATTAACGA TGGCGATATCTGACCGTCAGAATCGGAGTGCGGATCGTCAGAAGCTCTTCAGGCTGTGCCCGTTTTGGCAGAGGAGAAACACCACCTCCTCTTCTC CGTCCTCAACGCAGAACCCAAGCCAAAATTACCGTAGCAGCCGCCGTGGACATCGGAATAATACGGATGTCTCCGGCGTTCCCAAGCCGTCCTCC GCCTTGACTGTCTCTTCCGTCGCGAAATCACTTCTTCCGGCTCGCCGTCGTCTCCGGCTAGATCCTTCCAGCTATCTTTATTTCCCTTATGAACCTG GTAAACAAGTGCGAAGCGCAACCAAGCTTAAAAACACTAGCAAATCTCATACTGCATTTAAGTTCCAAACAACTGCACCAAAGAGTTGTTACATGCGT CCCCCTGGTGGAGTTTTGGCTCCAGGAGAGAGCGTCTTTGCAACTGTGTTCAAGTTCGTGGAACACCCAGAGAACAACGAGAAACAGAAGTTAAAC CAGAAGAGCAAGGTTAAGTTTAAGATTATGAGCCTGAAAGTGAAACCGGGAGTAGAGTATGTGCCCGAATTGTTTGATGAGCAAAAGGATCAAGTAA CAGTAGAGAGGGTTCTTCGGGTCATTTTTCTTGATGCAGACCGCCCAAGTGCTGCACTAGAGAAACTGAAACGTCAAGTGGATGAGGCTGAAGCTG CAGTTGAAGAAAGAAAGAAGCCTCCACCAGAGACAGGGCCTCGCGTGGTCGGGGAGGGTCTTGTTATCGATGAATGGAAGGAGAGAAGAGAGAAG TATCTTGCTCGACAACAAGTCGAAGCCATAGATTCTTCGTCCTGAAAAACAGAGAGAAACGTGGATTTGTTATAGCGGAGGTAAAAGACGCTCTTAT
GCT-003D07	AT5G17520.1	RCP1 (ROOT CAP 1)	GGTCTCTGTTCCAAGGCAAGTACAATAATTTTGCTTCTCCCACTCCCATGGAAGCTAAAACCATCGCAATGTCTCTCAGTGGTGACCGCTTATTGATT CTCCCGACTTCTCCTCGCTCTTCCTTCGTTTCTCCGGCCCGGTTCTCCCGCCTGCCGCTGAAGCGTGCGTGCATAGGTGGTGTTGCCTCTGGTTCC GGCGTCGATGGCTACCGTGGCTTGGCTCGCACTCGGTGGAATCCGATTGATTCGACTCGCCACCGACTCGTCCCCGTTCGTGCAATTGACTCGGA CCTTCCTCATCCGATTCATCAGGGATCTTCAGGTTTGGGGAAAATTAAGGAATACGAAGAATGGGATTCGTGGACGGCCAAGTTCTCCGGTGCAGC AAACGTTCCATTTCTGATGCTTCAATTGCCACAAATCATCCTCAATGCCCAGAATCTTTTGGCGGGAAACAACACCGCACTTTCGGCTGTCCCATGG ATGGGGATGTTGACTGGTCTATTAGGAAACCTTTCGTTGCTTTCATATTTTGCAAAGAAGAGAGAAAAAGAAGCAGCTGTGGTGCAAACACTGGGAG TGATCTCCACCTACGTCGTGCTTGCGCAGCTCACAATGGCTGAAGCTATGCCTCTGCAGTATTTTGTTGCTACTTCTGTTGTTGTCACGATCGGTCT CATATTGAACTGTTTGTACTATTTCGGTAAGCTTAGCACAACTCTGTGGCGACTGTGGGAAGACTTTATCACTGTTGGTGGACTCTCCGTTCTTCCTC AAATCATGTGGTCAACTTTTGTCCCTCTTGTACCAAACAGTATCTTGCCTGGGACTACTGCTTTTGTTATTGCTGTAGCCGCTGTAATTATGGCTCGA ACAGGGAAACTCTCAGAGGAAGGTGTTAGGTTTTTCGGGTCTTTATCTGGATGGACAGCGACACTTATGTTCATGTGGATGCCTATTTCCCAAATGT GGACAAATTTCCTAAACCCAGAAAACATAAAAGGCTTATCGCCAATCACAATGGTACTTGCGATGATGGGAAACGGGCTTATGATCCCACGAGCACT ATTTATCCGTGATTTGATGTGGTTCACTGGCTCGATATGGGGAACTCTCTTTTATGGATATGGAAACATTCTATGCTTATACGTGTATAACTGCACCA GCAAGTCATTCTTCGTGGCCGCCACAGTTGGTTTGATCTCATGGCTAGGACTGGCTTTGTGGAGAGATGCAGTGGCTTATAGTCACAACTCGCCGT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003D08	AT5G07070.1	CIPK2 (CBL-INTERACTING PROTEIN KINASE 2); kinase	GAAATGGCTCGATAACCACTTCCCACAACTTCTCTAGAACACTCTCGTCGAAGCTTTTCAGGGTCGGATCCACAAGTTCTCTCGCGGGTTTGGTTTC GTGGAGCAGAGAATCCGGACCCGGGATCTTTCCGGTGATGATCTCGTGCAGAATGGCGCCAAAGCTGAAGACGTAGCTGGTCTGGGAATCAAGTG GCGTGGAGCTGAGGAAAGTAAAGTCGGCGACTTCAGCGGCGTAATCTGTTGTCAAGTAGACGGAAGATGAGTTGAGGCTGGTTTGGGAAATGGGT TTAGGGCTGAGATTGTGTATGTGTTCTACACAGTAAGCTATTCCCATTGCGATTCTCAGTCTCTTTGGCCAGTCCAAGTGCTCTGCGTCTTGCGCTG CAAATAATTATACAGGTTAGTTACACAAAAGGGATGGGACTGGCTCTACGGAAGAGAAGAACATTCTCAGGAGATTGAATTACTGACCGTGCAGATA CTCGAAGAGGGATCCGTAAGGAGCGTACTCGAAAACCATCATCCGGTTGAAAGGCTCGTCTTCACGGCAATATCCGATTAAATTCAGAAAGTTCTTG TGGTCCACTTGAGATAACCTCTGTATCTGCATTGCAGGATTGTCTGTGGTTTTTAGAAGAAAAGAAAGTAAAGAAGGGTGAAGGTGGTTCTGGTGCT ACCTTTTCTTGGAACTGTGCTTCGAGATCATTTGACCAGTCTTGGAGGGATCCAGATGCGACTGATAAAACGGCAATCTCAGAGCCGGTGGAGAGA GTTCCTTTGTAAATGGTTGCGTCTGAGGATGTGGAGCCTATGATGTTACTGAAATCTTCGCAGGCAGTCTCTAGTTCCGACAGCTTTAGCTTGGGAA CACCTTCATACGTACAGTAAACTCACTCACCAATCTGCTATGTTACTGAATATAGACTAAACATAACGCAGTGAGCGAAGAAAATAGTGATACCTGTG ATAATAACATCTTGAAGCTGGCCACTGCTCTTAGTCGTCCATGGCTTTATCATTACTACCTTTTGCTTTCGGAGAAGAAAGAAGGCCACCAATGCGG CCATGAAGCCTAATACAACTACTAGCACTCCAACTATTATGAAAGTCTTGTGAGATACCTTTTTCTTGACAGCACGAGGCAGAAATGGAGCTGGAGG AAGCTGAGCTGGAGGAGGCTGAGCTGGAGGAGGCTGAGCTGGAGGGATCTCGGCTTGGGAACCAGTGGGAGGACTTTTACTTTTAATCTGTGGAG GAGGAGGAGGGAAAAATACATCTGTGGAGATATTCTCTGTAGGCGATGAAGGAGGAGGAGCTTCTCTGACGCCTGGATTCTGGCCAGGGGGAGTT ATCTGAAGTAGCCTGCGACTGAAAGGGAATGGTTGTCCAAACTTGTTGTCACACAAATCCAAGATCTCAAGCTCCTGCAATTCTGTTACCTCTTCAG GTACTCTCCCGGAAAATGAATTGTTTCTCAGAATACTGCAAAACCCCCCACAAGAACAAGTACTTGTAGATATTATGTGTAGTTTTGAGGGAGTGTTG GGAAAAACGTTTTTACTTACAGAGATTTCGAGTGAGTTAGGTTTCCGAGTTCAGGTGCAAGTGTTCCTTGCAGGGAGAGATCTCGTAGATTTCTACG GTATTTTTACCCAATTACACAATAAGAGATCAAAATGTAGAGCTGAGAAAGAGGAAAAGCATCTTAAGGATTTGGATGACTTACAAGATGACAACTCT TCCATCGTGTGAACAGACAACACCAGACCAAAAAACAATGAGGAAGCTCTCCCCAGTTCATCAGAGCTCCAAATGGGTCTGTCTCTATCCTTTCTTT GAATTTCATCAGCGCATCTGAGCTTTCTTCACTGGACGTAGGTACTTTTGCCAAGGTTTATTATGGAAGAAGTGTTCATACAAACGAGAGTGTAGCTA TCAAGATGATAGACAAAGACAAGGTTTTGAGGGTTGGTCTTAGCGAGCAGATCAAGAGAGAGATCTCTGTCATGAGGATTGCTAAACACCCAAATGT CGTTGAGCTGTACGAGGTTATGGCAACAAAGTCAAGGATTTACTTTGTTATAGAGTATTGTAAAGGTGGAGAGCTTTTCAATAAAGTTTCAAAAGGGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003D09	AT2G34680.1	AIR9 (Auxin-Induced in Root cultures 9); protein binding	GAGACAAATTGTTCAAAGAAAATAGATAAAGTAGACAAATTGTATCATCCTGGGATTTTTGCTTTCATTTCTGCAATAAGTCTCGATTGGTTTTGAAAT GGAGGACGTAGCGGCTAAGGCTGAGGAAGAAACTCCTGGAACCACCATAGAGGCTACAGCTGATGGAAGCAGAAGTCCAGAGAGTGTTTCTGCAG TGTCTGTGGTGTCAAGTAGAACTGCTACCACTAGAAAGAAACCAGTCGTGAGCCCGAATTTGATAAAGCCAACCGCATCTTCTTCTTTACGGGTCTC AAGCTCTACGCCTGTCACTATCAGGAGAAATAGCACTGGTGGAGTAACAGAGAAGTCAACTGGTGCCACTAAGATTCTGCCAAAACGAATGAGTACT GCCTCAGTTACTGATCCCGTAAGGCGGTCACTTCCAGAACTGAGGAAGAGCTCAGTTTCTTCTCTTTCTGCTAAGACTGTATCCAAAGCAAGCCTTC CCGAAGGTAAAAAGTCTATCCCTGTGTCACCAGGTGGTCGGAGTTCGACAAAGTCAACTGGGTCTAGTTTAAGTAAGCCAGAGTCTTCTGCTAGATC AGCCATGAATGTCTCTGTGTCTTCAAAAAGAGCTCCATCATCATCAGTTGACAGTAGTGGAAGCAGGACTAGCAGTGGAAGAGCGCATTCTACCCTC ACAAGTGGGAGGACAGTGTCTAAAGTTTCTTCTCCCTCCTCTGTTTCTAGCGGTATAAGATCAAAGTCATTATCGACACCTCTTGACCGGAGTTCCAA CTTCTCTGGACGGAAGAAAACAGCCACCCCAGAAAGCCGCGATTCGCGGCTCATTATTCTTCCAAAGGTGGAGGTTAAAGCTGGTGATGATATGAG ATTGGATCTCAGAGGCCACAGGATTCGCAGTCTAACCTCCAGTGGGCTACAATTGTCTCCAAACTTAGAGTTTGTCTATCTGAGAGACAATCTCCTA TCTGCGCTGGAAGGTATTGAGATATTGAATCGAGTCAAGGTTTTAGATTTGAGTTTTAATGATTTCAAAGGGCCTGGATTTGAACCACTTGAGAATTG CAAAATGCTTCAGCAACTGTATCTTGCTGGAAATCAGATAACTTCACTTGCTAGTTTGCCTCAACTTCCGAATTTAGAGTTTCTCTCTGTTGCTCAAAT AAATTAAAATCACTTGCAATGGCAAGCCAGCCCCGGCTTCAGGTACTAGCAGCAAGTAAGAACAAGATAACAACTCTGAAGGACTTTCCATATCTAC CAGTTCTTGAGCATCTGCGGGTTGAGGAAAATCCATTACTGAAGATTTCTCATTTGGAAGCGGCATCCATACTACTTGTAGGTCCTACCTTGAAGAAA TTCAATGACAGAGACCTCTCTCGTGAAGAAGTAGCAATTGCAAAGCGTTACCCTCCACAAACAGCCCTCTGCCTCAGAGATGGTTGGGAGTTCTGC AAGTCTGAGCTCGCAGCAGAATCGACATTTCGCTTCTTAGTTGAGAGGTGGCAGGATACGTTGCCTTCTGGTTGTCTTATCAAAGAAGCATCTGTTG ACCGACCTTCTGAAGAATCTCCCTGTCAATGTCACTTTGTTCTTGTTCAGGAAAAAACTACCGATACAGAATTGGTCCTGAGATATCAATGGTCTGTG GCAGACAGATCTCTTTCTAATTTTTTTCCTATTCATGATGCAACCAATGAGGTCTATTGGCCAAAACATGAAGACATTGGTAAAATTCTTAAGATTGAA TGTACTCCTGTTATTGGAGAGACTGAATATCCACCCATATTTGCCATATCGTCACCAGTTCTACGAGGAAAGGGAATACCAAAAGTTGTGAGCCTTG AACTACATGGGGAACTAGTTGAAGGAAATATTATGAAGGGTCAAGCAGTGGTTGCATGGTGTGGTGGGACACCTGGGAAGTGTATTACCAGTTGGT TGAGGAGAAAGTGGAATGGGAGCCCTGTGGTAATTGATGGAGCTGAGGATGAGGAATATAGGTTATCTTTAGATGATGTGGGATCGAGTATGGTGT TCATGTACACACCAGTCGCAGAAGAAGGTGCAAGAGGAGAGCCTCAGTATAAGTACACAGAGTTCGTAAAAGCAGCTCCTCCATCTGTAAGTAATGT
GCT-003D10	AT2G01760.1	ARR14 (ARABIDOPSIS RESPONSE REGULATOR 14); transcription factor/ two-component response regulator	GAGCTACTTACTCAACACTGTACGGTTTCAATCATTTCTTCTCTCCCATTTCTCTCTTTCCTCTCGTCCTTCTTCTTCTTCTTCTTCTTCTTCTTCTT CTTCCCCAAAATCCCTTTTCTCAGCTCTCTCGCTAAGGTCTTTTTCAATTTTCGTACCAAAGCTGAATCATTTGCTTAGCGAGTTCGAAAGGCATAGTT TTTTTTCGGTTTGGAAAATGACGATCAGCGATCAGTTTCCTTCTGGGTTAAGAGTTCTTGTTGTAGACGACGACACTTCCTGCTTGAGAATTCTCGAG CAAATGCTTCTTCGTCTCATGTACCAAGTTACCATTTGCTCACAAGCCGATGTTGCTTTAAACATTCTAAGAGAAAGAAAAGGCTGTTTCGATTTGGT ACTAAGCGATGTGCATATGCCTGGCATGAATGGATACAAACTTCTCCAACAAGTTGGACTCGAAATGGATCTTCCTGTCATAATGATGTCTGTTGATG GAAGAACAACGACAGTCATGAAAGGAATCAACCATGGAGCTTGTGATTACCTCATCAAACCAATTCGTCCTGAAGAACTCAAGAACATTTGGCAACA TGTAGTTCGCAGAAAATGGACAATGAACAAAGAGCTTCAAAGAAATTCCCAAGCTTTAGAGGATAACAAGAACAGTAGCAGCAGCCTGGAGACTGTT TTCTCGGTTAGTGAATGCTCAGAGGAAAGTAAACTTAGGAAGAACAAGAGAAGGGTTGATAGAGAAGACAATGAAGAAGATGATCTTCTTGATCCTG GAAACAATTCGAAGAAGTCACGCGTTGTTTGGTCGATTGAATTGCATCAACAATTCGCCAGTGCCGTAAACCATCTTGGAATTGAGAAAGCTGTACC AAAGCGGATTCTCGAGCTGATGAATGTGCCTGGTTTAAGCAGAGAAAACGTCGCTAGTCATTTACAGAAATACCGATTGTATTTGAGGAGATTAAGC GGCGGTGTAGCTTCGCAGATTAGGGACACCGAGTCTATGGAAAGATATGAAAACATTCAAGCTCTGGTTTCCTCAGGACAGATACCTCCACAGACA TTAGCTGCATTGTTTGGTCGACCAGTAGACAATCATATGTCTGGTGGTTTTGGAGTTTGGACACCTAGTGGTGGGTCTCAAAATGGAAACTTTTCGAT TGATGTATCATCCTCTTCAATGGCCGTGGTTCATGGACTATCTTCCTCTGCAAATTTAAGGCAGCAATGTGATGGTTTCAAGTCAAACAAGGGAATGG ATCACATGTCAATGAAGAATCTTGGATCTTGGAAAGGCCTCCAAGACAGCGAAAGAATCATCGATAATGAACACCATGGATGGCTTTAGAGGAGAAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003D11	AT5G55120.1	similar to VTC2 (VITAMIN C DEFECTIVE 2) [Arabidopsis thaliana] (TAIR:AT4G26850.1); similar to unknown [Xerophyta humilis] (GB:AAT45011.1); similar to Os12g0190000 [Oryza sativa (japonica cultivar-group)] (GB:NP_001066338.1); contains domain SUBFAMILY NOT NAMED (PTHR20884:SF3); contains domain FAMILY NOT NAMED (PTHR20884)	GGATGAAACCCACATCGAAAAACCTATCCTTACAGTGAAATTCCTCGATTTTGTTTTTTCTCTTCTTCTCCGGCGAAATCTGTGTGAATTCCGGGGGT AACCACGGCTATACACGGGATATACTCACGGCCTTTGAGCTCTCATGTCCAACGCAAGGGTTGCTTAATCGTAACTAACACTTCGCCGCACGGAGG ACGTGGAGCTCTGCCGTCTGAAGGCGGCAGTCCTTCCGATCTCCTCTTCCTCGCCGGAGGCGGTTCCTTTATCACCATTGATCTCTTTTCCATTTTT TAATTAGGTCTTTTTAGTTTCTTAATCTGTATATCATCTCGGGAGGGGTTTTGTTTTTTGCTCTTTTCGAAAAAAATGTTGTTGAAGATCAAAAGGGTTC CCACCGTCGTGTCTAATTACCAGAAAGACGAGACGGCGGAAGAAGGCGGCGGGTGTGGTCGGAATTGCCTGAGCAAGTGTTGCATCAATGGGGCA AGACTTCCTTTGTATACATGCAACAATGTGGATAAATCCGTCGGAGAAAAAGCGGAATCTCCGGTGGCATTCCTAGATTCTCTAGTTCTTGGAGAGT GGGAAGATCGGTTTCAAAGAGGACTCTTTCGTTATGATGTTACCGCCTGTGAAACCAAGGTTATACCGGGGAAGTACGGTTTTATCGCGCAGCTAAA CGAAGGTCGTCATCTCAAGAAGAGACCAACCGAGTTCCGTGTTGATAAAGTTCTTCAACCATTTGATGGAAACAAATTCAATTTCACTAAAGTTGGTC AAGAAGAGTTGCTTTTCCAGTTTGAAGCTACCGATGATGACGACGATAGAGAAATCCAGTTCTTCCCCAACATGCCTCTAGACGCGGACAATTCTCC AAGCGTCGTTGCAATCAATGATTGATCACAAAAGCCTTTTGCTTGCTATTCAAATGGCGACTGTAGCCGCTAATTCGTATTTCCGACTTGGATACAAT AGTTTAGGTGCATTTGCTACCATCAACCATCTTCACTTTCAGGCTTACTACTTGGCAATGCCATTCCCAATCGAGAAAGCTCCTTCCTTGAAGATCAC TACCACAAATGACTGCGTCAAAATCTCGAAACTCTTGAAGTATCCTGTGAGAGGTCTTCTCTTTGAAGGTGGAAGCTCCATTAAAGATCTGTCTGATA CTGTAGCAAACGCATCCGTTTGTCTTCAGAACAACAACATTCCTTTCAACATTCTCATCTCAGATTCTGGGAAACAAATCTTCCTTCTTCCTCAGTGTT ACGCAGAGAAACAGGCTTTAGGGGAAGTGAGCTCGAAGCTGTTGGATACGCAAGTGAATCCAGCGGTTTGGGAGATGAGTGGTCACATGGTGTTG AAGAGGAAAGAAGATTACCAAGGAGCTTCAGAGGAGAAAGCATGGAGTCTTCTCGCTGAAGTATCTTTATCAGAGGAGAGGTTCAAAGAAGTTAACA
GCT-003D12	AT4G06746.1	RAP2.9 (related to AP2 9); transcription factor	GGGCGAAGCCACATAAGGCATATCTTTAGCCGCCTAACCTGACACATTATCTTTTCTTCCTTTTTCCTCTCTTTCTATATAATCAAACAAACGAGACTC GTGTTGTTGAATTAGGGTGGATGGAGGTTGAATACTAACGAAACCTAGACCAACCTATGGAGAAAAAAGGACAGGTCATCAACGAGAAGCGTAAGT GGAATCCGATGAACCCTAAAGAGAGGCGGTACAAAGGGATAAGGATGAGGAAGTGGGGGAAGTGGGTGGCTGAGATAAGAGAGCCCAACAAGCG ATCACGGATCTGGCTTGGTTCTTACACGACCGCAGTTGCCGCAGCACATGCTTATGACACTGCCGCGTTTTACCTACGTGGTCCCTTGGCTAGGCT CAATTTCCCCGGACAGGTTTTACATGACGGAAACGGCAGTGGCGGCGTAGGAAGAGACATGTCTCCGACGTTTATACGGCAGAAGGCGGCGGAGG TGGGAGCTAGAGTCGACGCAGAGCTTCGGTTGGAGGATTCCGGATCAGTGGAAAAACCAGACGTGAATATGTTGCCGGAGGCTGGGAGAGTCTGA GAGGCAAATAGATTGTGATTTATACGTTGTAGTTTAGAGGTTGCGGATGTTGGGAGACAAGAGTCAAAACAGAGGTCCTTACTTCTGACTCAGAAGA
GCT-003D13	AT1G32400.3	TOM2A (TOBAMOVIRUS MULTIPLICATION 2A)	GGAACAAAAGGTATCCAAATTTTTTTTTCCAATTCCTTCCATTTTGCTCCCCTTCTTCTCTCGAACGTCAAGAAACATAAAGTTAAAACACCATCATCG AGACCTCTGCGCAAAGATCGAAGAATCATCTCAATCGAATTCTCCGATAATTCTTTGGACGCATGAACTAAGGGAAAATCTGAGTAAAACTTACAGCA GTTGAGTCGAAGAAAAACAAAAAATGGCTTGTAGAGGTTGTTTGGAGTGTTTGCTCAAGTTACTCAATTTTCTGCTGGCTGTTGCTGGCCTTGGCAT GATTGGTTATGGTATCTACTTATTCGTGGAGTACAAGAGAGCAACCGATAACTCTGTTACATTCAATCCTGTAAATGGCGACCAAAGTTACGTCTCGC TGGGGAGGCCCATGCTTATGGCTGTGGCACTGTCTTCGAATGTGTTTGACAATCTTCCAAAAGCTTGGTTCATATACTTGTTCATTGGTATCGGCGT GGCTCTGTTTGTTATCTCGTGCTGTGGCTGTGTTGGTACTTGCTCAAGGAGCGTCTGCTGCTTATCTTGTTACTCTTTGCTTCTGATCTTGTTGATCT TGGCGGAGCTTGGAGCTGCAGCTTTTATATTCTTCGACCACAGCTGGAGAGATGAAATTCCTTCTGACAGGACTGGAAACTTCGATACGATATATAA TTTCCTGAGAGAGAACTGGAAAATTGTAAGATGGGTTGCTCTAGGAGCAGTTGTTTTTGAGGCTTTGCTTTTCTTGCTTGCCCTTATGGTTAGGGCA GCTAATTCACCAGCAGAGTATGACAGTGATGATGAGATTATTGCTCCAAGGCAACAAATCAGGCAGCCGTTCATCAACCGCCAAGCCGCCCCTGTC ACCGGTGTCCCAGTTGCTCCTACTTTGGACCAACGCCCGAGCCGTAGTGACCCTTGGAGTGCACGCATGAGGGAAAAGTATGGGCTTGACACATC TGAGTTCACTTACAATCCTTCAGAATCGCACCGGTTCCAGCAAATGCCGACGCAACAAAATGAAGAAAAGGGCCGATGCACCATCATGTGAGTCCG TGTTGTTAAAAGTCTTGAAAACTTGAGTCAATTCTCTTATCCTATTTCTTTGTTCTGTGTGTTTACAATCATGAGTGTCAGTGAAATTAGAAGTTTGTTT CTGGCTTGATGATGAGTCTAGCTAGTAGCATTGCTGATGCCTTATGAAGCTAGTGACGTTGTCTAAAAGTCTTTTTTGTTGTGTGTGTAGTCTTTTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003D14	AT5G18070.1	DRT101 (DNA-DAMAGE-REPAIR/TOLERATION 101); intramolecular transferase, phosphotransferases	GGCATCTTCATTTTCCCCTCTCTCTCTCTCTCACTCTCTCACTAGCGCCATGGACGAGAGCCAAATCGCTTCACTCCTCAAATCATCAGAGCTCTTTC CGACTCCTCAAAGCGTCAAGCTTTCGTACGGAACGGCTGGGTTCCGAGGCGACGCAAAATTGCTGGATTCGACGGTTTACAGAGTTGGGATCCTCT CAGCTCTCCGATCGCTCAAGCTAGGGTCATCGACCGTCGGCCTCATGATCACAGCGTCGCACAACAAAGTCTCCGACAATGGCATTAAAGTCGCGG ATCCATCTGGTGGTATGCTCTCTCAAGAATGGGAGCCCTTCGCAGATCAGATCGCGAACGCGTCTTCTCCTCGAGAGCTCGTCTCGTTGATTAGAG AATTCGTGGAGAAGGAAGAAATTGCAATCGGAGAAGAGAAGAAGAATAAAAGTGCAGAGGTTTGGTTGGGAAGGGATACGAGACCTAGTGGTGAAT CTCTTCTCCGAGCTGCGGAGATCGGTGTCTCATCGATTTTGGGATCTGTTGCCATTGACAAGGGGATTTTGACAACTCCGCAGCTACATTGGATGGT TCGAGCTAAGAACAAAGGTCTCAAGGCAACGGAAAATGATTACTTTGAGAATCTCTTTACTTCATTCAGGTGCTTGATTGATCTGATCCCAAATAGTG GAAAGGACAAGTTAGAAGTTAGCAAAGTGATCGTAGATGGTGCTAATGGTGTGGGTGGATTGAAGCTTGAGGAGCTAAGAGAGTCTTTGAACAATC TAGATCTTGAGATTCGTAACACAGGAAGAGATGGAGGTGTGCTTAATGAAGGTGTAGGTGCAGATTTTGTGCAGAAAGAAAAGGTTGTACCTTTAGG ATTTGGGTCAAAGGATGTGGAGACGAGGTGTGCGAGTTTTGACGGCGATGCAGATCGATTGGTTTACTTTTACATTCCTACAGAATCTTCTACTGAC AAGGTTGAGCTACTCGATGGGGACAAGATTCTATCTTTGTTTGCTCTCTTTATCAAAGAGCAACTAAACACTCTCGATGATGATGATAAAGAAGGGAC GCGTTCTCGTCTTGGTGTTGTGCAGACGGCTTACGCAAATGGTGCATCCACGGATTATCTCAAGCAGTTGGGTTTAGATGTTGTTTTCGCAAAAACA GGGGTGAAGCATTTACACGAGAAAGCAGCAGAGTTTGATATTGGAATCTACTTTGAAGCTAATGGCCACGGGACTATTCTCTTCTCGGAAACTTTCA TATCGTTGTTAGTTGCCAAACAAAAGGATCTTACTCAAGGCTCTGAAGAGCACAAAGCGGTTTCTAGACTAGTGGCGGTGAGTAATCTGATTAACCA AGCGGTTGGTGACGCTCTAAGTGGATTGCTCTTGGTTGAAGTGATTCTGCAACACATGGGATGGTCAGTACAGAAGTGGAATGAGCTATACAAAGA TCTTCCTAGCAGACAGATTAAGGTCGAAGTTCCAGACAGAGCAGCAGTTGTGACCACAAGCGAAGAAACCGAGGCTCTGAAACCCTTGGGGATTCA AGATGCCATTAATGCTGAAATCAAGAAATATCCGCGTGGCAGAGCTTTCATAAGGCCATCAGGTACAGAAGATGTTGTTAGAGTATATGCTGAAGCA
GCT-003D15	AT3G15510.1	ATNAC2 (Arabidopsis thaliana NAC domain containing protein 2); transcription factor	GGGTACCACCTTCCTTCCCCACAACAAAAAAAAAAAAAAGAGAGAGAATAATCTCAGAGTAACATGAGCTTCTCCTCCTACAATCCGAGAAACTACC AACAAATCGTCCGATCACGGTGCTAGATTTTAAGAACAACGGAGAGGAAACAGCAGCTTTGTATAAATGGAAAGCACCGATTCTTCCGGTGGTCCTC CGCCACCTCAGCCTAACCTTCCTCCGGGATTCCGGTTTCACCCAACCGACGAAGAGCTCGTCGTTCACTACCTCAAACGCAAAGCCGCCTCCGCTC CTTTACCCGTCGCCATCATCGCCGAAGTTGATCTCTATAAATTCGATCCTTGGGAACTTCCCGCAAAGGCTTCGTTTGGAGAACAGGAATGGTACTT CTTCAGTCCAAGAGATCGGAAGTATCCAAACGGAGCAAGGCCAAACAGAGCAGCGACGTCGGGATACTGGAAAGCGACCGGTACAGATAAACCGG TGCTTACCTCCGAAGGTAACCAAAAGGTCGGCGTGAAGAAGGCTCTCGTCTTCTACAGTGGCAAACCTCCAAAAGGCGTGAAAAGCGATTGGATCA TGCATGAGTATCGTCTCATCGACAACAAACCAAACAACAGACCTCCTGGCTGCGATTTCGGCAACAAGAAAAACTCCCTCCGACTTGATGATTGGGT TCTATGTCGAATCTACAAGAAGAACAACGCAGGTCGACATGTGGATAACGATAAGGATCACGATATGATCGATTACATCTTCAGAAAAATTCCTCCGT CGATTTCAATGGCGGCTGCTACTACCGGACTCCACCACAATGTCTCCAGATCAATGAATTTCTTCCCGGGAAAATTCTCCTCCGGTGGTTACGGTAT TTTCTCCGACGGCGATCCCGGTTTGTACGACGCCGGTATGATCAACAGCATCGGTACCGATCATAACCACGGTTCCGGTTCTAACGGCAATACTAA CGCCGTCGGTTTGAATCCGGCTTCGTCGTCTGAGCCGATGATGATGGCGAACCTGAAACGAGCTCTTCCGGCGTCGTATTGGCCTGTACCGGAGG AAGAGCAGGATGTATCTCCGAGCAAACGGTTTCACGGCGGTGGCGGCGGAGGAGGAGGAGACTGTTCCAACATGTCTTCTTCGATGATGGAGGAG ACTCATCCGCCATTGATGCAACAGCAAGGTGGTGTTTTAGGAGACGGGTTATTCAGAACGACGTCGTACCAGTTACCTGGTTTAAATTGGTACTCTT CTTAAACCGATATTTGTTCCGCCACCGGTATGAAAGCTTTTCCCGTGACAGTGAAGAATCTCGGACTTACGAATTTTCCAATTGGTGGGGTCATTTAT TTGCATTATATATAATTCGAGATTTGTGTATATGTTTTGGGTTAATTTATTGGTCATTTGGAGATTTGACCATAGGGGTTAGAGGAAAGGAGGTTTAGA GAGGCGAAGAAGTGAGGCAAAACATATAGAAGAAACATAGGAGTAAAAAAAATATACTGTTTTCTTTATTTAAATTTCGAAATGTATAAATTACATACT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003D16	AT3G12750.1	ZIP1 (ZINC TRANSPORTER 1 PRECURSOR); zinc ion transporter	GGCTTTTACTTTCTTACAAATCAAGCACAACAACATATCTAAACCCCATATCTGATCGTGGCTGTTTTTCCACAAATATGTTGAGAATTTATATAATATT CATGATATGTTTACATGTGTGTAGTGCTTCGAGTGATTGTACAAGCCACGACGATCAAGAAGCTGTTTCTCAAGACGAAGCAGAGAAAGCGACGAAG CTTAAGCTCGGTTCCATCGCTTTGCTCCTTGTGGCAGGAGGAGTAGGTGTGAGTCTACCGTTGGTCGGGAAGAAGATACCGGCGTTACAGCCTGAA AACGATATCTTCTTCATGGTGAAAGCTTTCGCAGCAGGAGTGATCCTCTGCACAGGATTCGTCCATATTCTACCAGACGCGTTCGAGAGATTAGGCT CACCTTGTCTCCAGAGCACAGCAGCCGGAAAATTCCCGTTCGCCGGTTTCGTGGCGATGTTGTCAGCGATGGGCACTCTTATGATCGACACTTTCG CGACGGGGTATTACAAAAGGCAACACTTTGGCAGTAACAATGGGAACAAGCAAGTAGTGAACGTGGTAGACGAAGAAGAGCATGCGGGTCATGTTC ACGTCCACACGCATGCGAGTCACGGACACGCACATGGCTCTACCGAGTTGATCAGGAGACGGATCGTGTCACAAGTGCTGGAGATTGGGATAGTT GTGCATTCGGTTATAATAGGGATATCTCTTGGAGCTTCACAGAGCATAGAGACCATAAAGCCGCTCATGGCTGCTCTTTCTTTCCATCAGTTCTTTGA AGGTCTTGGCCTCGGTGGCTGCATCTCTCTCGCAGAGTTGAAGTCGAAATCGACGGTGATAATGGCGACGTTTTTCTCGGTGACGGCACCGGTTG GGATAGGGATAGGGATGGGGATGTCGAGTGGTTTAGGATACAGGAAAGAGAGCAAAGAGGCACTAATGGTGGAAGGAATGTTGAACGCTGCATCA GCTGGGATTCTCATTTACATGTCACTCGTTGATCTTCTTGCTCCTGATTTCGTGAATCCAAGATTGCAATCCAATCTTTGGCTTCACTTGGCTGCTTTT CTCTCTCTCCTCCTCGGCGCTGCTTCAATGTCTCTCCTCGCCATTTGGGCATAGCCCCGTTGATTCTCTGCAGCTATTAACATACAAGCACAACAAA
GCT-003D17	AT3G23690.1	basic helix-loop-helix (bHLH) family protein	GGATTGCTCATAATCAGTTCTTGAGCCTCTATCTTTTTCTGGGTCTGCTCCTCTCATTCTCTCATCAAATTTTCTTAATCCCATTTCCGGATTATCTTCA GTAACTGTGCGAATTGCAGAAAAAAGATTTTGACTATGGATAAGGAAACAGAAGAAACCCTAAACTGCTTATTACCATTAGGAAGATTTTGCGACACG CAAGAGATAACACCATTGTCACTCTCCCACTTCTCTGAGGATTTCCCAATTCGATTCCCGTATCCAGCACAATTCGGATCCAATCAGGTCCTGGGTT CGCAGCCAACAACACAGGAGAGCAACAAGAGCTCGTTACTGGATCCAGATTCGGTTTCTGATCAAGATAAGACCAGACACAACTCCAGGAAGAGAA AATCGATTCCCACTGGAAATGAAAAGGAGTCTCCAGCTTCCTCGTCTCTCACAGCTTCCAATTCCAAGATTTCAGAAGAGAAAGCTTGCAAGAGAAG CAAGCAAAATGAGACTGAAAAGAGCGAAAACAAAGAGGAGCCGCGCAAAGATTATATACATGTAAGAGCAAGAAGAGGTCAAGCAACCGATAGCCA CAGTATCGCTGAAAGGGCAAGAAGAGAAAAGATTAGCGAGAGAATGAAGTTGCTTCAAGATTTGGTTCCTGGTTGCAACCGGATTACTGGGAAAGC TGTCATGCTTGATGAAATTATAAATTATGTGCAGTCGTTGCAGACACAAGTCGAGTTCTTATCTATGAAGTTGGCAACTATAAATCCAATAACGGAGTT CAATGCTAATGCTCTATTATCCGCAGAGATGTTGCAGCTTGGAGAGTCATTAACGCAGGCGATATCATGCTCAGAGGCAAGACTTCCTTCAGAGTAT TTATCTCTTGGCAAGAACATTCCAAGATTCTTTGAGACTCAAACTCAGTTCCTAAACTCGTCTAGTGCTTCAAATGGTGGATTTGTTCACGCTGAGGC ACCGGTTTTCTGGGAAAACGATCTGCAGAGTATTGTTCAGATGGGTTTCAGAGATATTCAGCAAGAGAACACCAACTGTTTTGAACCAACGATTCATA TGAAACTTGAGCCAGAGAGATGATCAAAGAAATGATGATTACTGACCATCTTTTGGATTTAATATCTGTTTGTCTGTAAAAATTCATCGTCTGTAAAAA
GCT-003D18	AT1G42970.1	GAPB (GLYCERALDEHYDE-3-PHOSPHATE DEHYDROGENASE B SUBUNIT); glyceraldehyde-3-phosphate dehydrogenase	GGGCATTTTCTTCTAGTTTCACTTGCAGCTATGGCGACACATTCAGCTCTCGCCGTCTCCAGAATCCCGGTGAACCCGAGGCTGCAGTCTAAGAGT GCCATTCACTCTTTCCCTGCTCAATGCTCCTCCAAGAGGCTAGAAGTGGCAGAATTCTCCGGCCTACGAGTTAGCAATAACGGTGGGGAGGCCTCT TTCTTTGATGCCATAGCTGCACAAATAACCCCTAAGGCTGTGACAACATCCACTCCTGTAAGAGGAGAGACAGTGGCCAAACTGAAGGTTGCAATTA ACGGGTTTGGAAGGATTGGTAGGAACTTCCTCAGATGCTGGCACGGCCGCAAAGACTCTCCTCTTGAAGTTATCGTAGTTAACGACAGTGGTGGTG TCAAGAACGCATCCCACTTGCTCAAGTATGACTCTATGCTTGGAACCTTCAAGGCTGATGTGAAAATTGTCGACAATGAAACTATCAGTGTTGATGGT AAGCTCATCAAAGTTGTCTCCAACAGAGACCCTCTTAAGCTTCCATGGGCTGAGCTCGGCATAGACATTGTCATCGAGGGAACAGGAGTGTTTGTTG ATGGGCCAGGAGCAGGGAAGCATATTCAAGCTGGAGCCTCAAAAGTGATCATCACCGCACCAGCGAAAGGTGCTGATATCCCGACCTATGTTGTG GGAGTCAATGAGCAAGACTATTCTCATGACGTCGCTAACATCATTAGCAATGCATCTTGCACCACCAACTGTTTGGCCCCCTTTGCGAAAGTCTTGG ATGAAGAATTTGGAATCGTCAAGGGAACAATGACGACGACACACTCTTACACCGGAGACCAAAGGCTTCTCGATGCATCACACAGGGACCTACGGC GTGCCAGAGCTGCAGCGCTGAACATAGTACCGACAAGCACAGGTGCAGCCAAGGCCGTGTCGTTGGTGCTGCCGCAGCTGAAGGGTAAACTCAAC GGCATTGCACTCCGTGTGCCGACCCCGAACGTCTCAGTGGTTGACCTTGTTGTGAACGTTGCGAAGAAAGGTTTGACAGCAGAGGACGTTAACGA GGCGTTTAGAAAAGCGGCGGATGGACCGCTAAAGGGCGTTTTAGCCGTTTGCGACATACCGCTTGTCTCTTGTGACTTCAGGTGCTCTGATGTCTC AACCACCATTGACTCTTCCCTCACAATGGTCATGGGTGATGATATGGTCAAGGTGGTCGCTTGGTATGACAACGAATGGGGTTACAGTCAAAGGGT AGTGGATTTGGCACATCTAGTGGCCAACAAGTGGCCGGGAGAGGTAGCTGCTGGAAGCGGAGACCCATTGGAAGATTTCTGCAAGACAAATCCAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003D19	AT5G13630.2	GUN5 (GENOMES UNCOUPLED 5)	GGTGAGAGAAACATAAACTCCCACTTGGAGCAGAAGTGTAAACGACAACAAAAAAATCGAAAGAAGAAGAAGAGAGATCGATTCTCCTCTCTTCTCA TCTCAATCTCAAACTCTTCTCTTCCATATCCTCTCCTATCCGATTCAACAACTTTGAATCGAATCTGTAAGCCAGAAAAATGGCTTCACTTGTTTATTCT CCCTTCACTCTATCCACCTCCAAAGCAGAGCATCTCTCTTCGCTCTCTAACAGTAACAAACATTCATTTCTCCGGAAGAATTCCAGATCAGCCAAACC CACCAAATCCTTATTCAAGGTGAAATCCGCTGTTTCCGGAAACGGCCTCTTCACGCAGACAAACCCGGAGGTCCGCCGTGTAGTTCCGATCAGGAG AGACAACGTTCCGACGGTGAAAATCGTCTACGTCGTCCTCGAGGCTCAGTACCAGTCATCTCTCACGGAGGCCGTGCAAACACTCAACAAGACATC GAGATTCGCGTCCTACGAAGTCGTTGGGTACTTGGTAGAGGAGCTTCGTGACAAGAACACTTACAAGAGCTTCTGCGATGACCTCAAAGACGCCAA CATCTTCATTGGTTCTCTGATTTTCGTCGAGGAATTGGCGCTTAAAGTCAAAGATGCTGTGGAGAAAGAGAGAGACAGGATGGACGCGGTTCTCGT CTTCCCTTCCATGCCTGAGGTAATGAGACTGAACAAGCTCGGATCTTTCAGCATGTCTCAATTGGGTCAGTCCAAGTCTCCGTTTTTCCAACTCTTCA AGAGGAAGAAAGCAGGCTCCGCTGGTTTCGCCGACAGTATGTTGAAGCTTGTTAGGACATTGCCCAAGGTTTTGAAGTACTTACCGAGTGACAAGG CTCAAGATGCTCGTCTCTACATCTTGAGTTTACAGTTCTGGCTTGGAGGGTCTCCTGATAATCTCCAGAACTTTGTTAAGATGATTTCGGGATCTTAC GTCCCGGCATTGAAAGGCGTCAAAATCGAGTACTCGGATCCGGTTTTGTTCTTGGATACCGGAATTTGGCATCCTCTTGCACCATGTATGTTTGATG ATGTCAAGGAATACTGGAACTGGTACGACACTAGAAGGGACACCAATGAGTCTCTCAAGAAGAAGGACGCGACGGTTGTCGGTTTGGTCCTGCAGA GGAGTCACATTGTGACTGGTGATGATAGTCACTATGTGGCTGTTATCATGGAGCTTGAGGCTAGAGGCGCTAAGGTCGTTCCTATTTTCGCTGGAG GGTTGGATTTCTCTGGTCCAGTAGAGAAATATTTCGTTGATCCGGTGACGAAACAGCCCATCATTAACTCTGCAGTCTCCTTGACCGGCTTTGCTCT AGTGGGTGGACCCGCAAGGCAGGATCATCCGAGGGCTATCGAGGCCCTGAAGAAGCTTGATGTTCCTTACCTTGTGGCAGTACCATTGGTGTTTCA GACAACAGAGGAGTGGCTAAACAGCACACTTGGCCTGCATCCTATCCAGGTGGCTCTCCAGGTTGCTCTTCCTGAGCTTGATGGTGGGATGGAGC CAATCGTTTTCGCTGGCCGTGACCCTAGAACAGGGAAGTCGCATGCTCTCCACAAGAGAGTGGAACAACTCTGCATCAGGGCGATTCGATGGGGA GAGCTCAAAAGAAAAACTAAGGCAGAGAAGAAGCTGGCAATCACCGTTTTCAGTTTCCCACCTGATAAAGGAAATGTAGGGACTGCAGCTTACCTTA ACGTGTTTGCTTCCATCTTCTCGGTCTTGAAAGACCTCAAGAGAGATGGCTACAATGTCGAAGGCCTTCCCGAGAATGCAGAGACTCTTATTGAAGA GATCATTCATGACAAGGAGGCTCAATTCAGCAGTCCTAACCTCAATGTTGCTTACAAAATGGGAGTCCGCGAGTACCAAAACCTCACTCCTTACGCG AACGCCTTGGAAGAAAACTGGGGGAAACCTCCCGGTAACCTGAACTCAGACGGAGAGAATCTTTTGGTCTATGGCAAAGAGTATGGTAACGTTTTC ATCGGCGTACAACCGACATTTGGGTATGAAGGTGATCCCATGAGGCTGCTTTTCTCCAAATCAGCGAGTCCTCATCACGGTTTTGCCGCTTACTACT
GCT-003D20	AT5G42020.1	BIP (LUMINAL BINDING PROTEIN); ATP binding	GAACTAAAAAAAAAAAAAAAGAAGAAGAAGGAGAAGAGCTCTTGTTCGAAGATCTAAAGAGAAAAGGGAGATCGAATACACTCGATATGGCTCGCTCG TTTGGAGCAAACGGCACCGTTGTGCTGGCGATTATCTTCTTCGGATGTCTATTTGCGTTTTCCACTGCTAAAGAAGAGGCCACCAAGTTGGGAACAG TTATAGGGATAGATCTTGGTACAACATACTCTTGTGTTGGTGTTTACAAGAATGGCCATGTTGAAATCATTGCCAATGACCAAGGAAACCGTATTACA CCTTCCTGGGTTGGTTTCACCGACTCCGAGAGGCTCATTGGTGAGGCTGCTAAGAACCAGGCGGCTGTTAACCCAGAGAGAACCATCTTCGACGTC AAGAGGCTGATCGGGCGAAAATTCGAGGACAAAGAAGTCCAAAAGGACAAGAAGCTTGTACCTTACCAGATCGTGAACAAGGACGGCAAGCCATAC ATTCAAGTCAAGATCAAGGATGGTGAGACCAAGGTTTTCTCTCCTGAGGAGATCAGTGCCATGATTCTGACTAAGATGAAGGAGACAGCTGAAGCTT ACCTTGGAAAGAAAATCAAGGACGCTGTTGTCACTGTTCCAGCTTACTTCAACGATGCCCAGAGGCAGGCGACCAAGGATGCTGGTGTAATTGCTG GCCTCAATGTTGCTAGAATCATCAACGAACCCACTGCTGCTGCTATTGCCTACGGTCTTGATAAGAAGGGTGGTGAGAAGAACATCCTCGTCTTTGA CCTTGGTGGTGGTACCTTTGATGTCAGTGTCTTGACCATTGATAACGGAGTGTTCGAGGTTCTCTCCACAAATGGTGACACTCACTTGGGAGGTGAG GACTTTGACCACAGGATCATGGACTACTTTATCAAGTTGATCAAGAAGAAGCACCAAAAGGACATCAGCAAGGACAACAAGGCTCTAGGTAAGCTCC GCAGGGAATGTGAGAGGGCCAAGAGAGCTCTTAGTAGCCAGCACCAAGTCCGTGTAGAGATCGAGTCCCTCTTCGATGGTGTTGATTTCTCCGAG CCACTGACGAGAGCTCGTTTCGAGGAGCTGAACAACGACTTGTTCAGGAAGACGATGGGACCGGTGAAGAAGGCCATGGATGATGCTGGTCTACA GAAGAGCCAGATCGATGAGATCGTGCTTGTTGGTGGAAGCACTAGGATCCCAAAGGTTCAGCAGCTGTTGAAGGACTTCTTTGAAGGGAAAGAGCC CAACAAGGGTGTGAACCCGGACGAGGCTGTCGCTTATGGTGCTGCCGTCCAGGGTGGTATCTTGAGCGGAGAAGGCGGTGACGAGACGAAAGAT ATCCTTCTTCTTGACGTTGCGCCACTCACTTTGGGTATCGAGACAGTGGGAGGAGTGATGACAAAGCTGATCCCGAGAAACACGGTTATTCCGACC AAGAAATCTCAGGTTTTCACGACATACCAAGACCAGCAGACAACGGTCTCCATCCAGGTCTTTGAAGGTGAGCGAAGTCTCACCAAGGACTGCAGG CTGCTCGGGAAATTCGACCTCACCGGAATCCCACCGGCACCAAGAGGAACACCTCAAATCGAGGTCACGTTTGAAGTGGACGCGAATGGTATCCT GAACGTGAAAGCAGAGGACAAGGCGAGTGGTAAATCAGAGAAGATCACAATCACAAACGAGAAGGGTCGACTGAGCCAGGAAGAGATTGAGCGGA TGGTGAAGGAGGCAGAGGAGTTTGCAGAGGAAGACAAGAAGGTGAAGGAGAGGATCGACGCCAGGAACAGCCTGGAGACATACGTGTACAACAT GAAGAACCAAGTGAGCGACAAGGACAAGCTCGCTGACAAATTGGAGGCGGACGAGAAGGACAAGATTGAAGCTGCCACCAAAGAAGCCTTGGAGT GCCTTGACGAGAACGAAAACTCGGAGAAAGAAGATTATCAGGAGAAGCTCAAGGAAGTAGAGCGACTGTCTAAGCGAATCATCACGCCCGTTTATC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003D21	AT4G31420.1	zinc finger (C2H2 type) family protein	GAGGTTTTCCCTCTTTCACCGATCCTCCATCTACGAGCCGTCTCAAGAACAATCGTTATCGTGATCGAGAGATGCCTGGTTTAACATGTAACGCGTG TAACATGGAGTTCGACGACGAAGCAGAGCGAAAGCTTCATTACAAGTCCGATTGGCACCGCTACAATCTCAAGCGCAAGGTGGCTGGGGTTCCTG GAGTTACAGAAGAGCTGTTTGAGGCTAGACAATCTGCTCTTGCTCAGGAGAACGGTAAATCAGATGAAGCACCTATGCTTTATAGTTGCGGAATCTG TGGTAAAGGTTACAGGAGCTCCAAGGCTCATGAGCAGCATCTTAAGTCGCGGAGCCACGTTGTGAGGGTTTCACAGGGGACAACAACCAACGGAG AGGAGGATAAAGCCATCATTAGGCCACTTCCTCCTCGCCGTAAAGGTTCGTTTGATGAAGAAAGTGAAGATGAATGGGTGGAGGCTGATTCAGACG ACGAATTGGCTGCTCAAGAAGCCTCGGATTCTTTGTCCAAGTTGAATGTAAATGAGTCAGGATCTGCTGAAGAAGATATGGATGAAGATGATGCAGA CAAGTATGAGCTGGACCCAACCTGCTGTTTGATGTGTGACAAAAAACATAACAACTTAGAGACCTGTATGGTTCACATGCATAAGCATCATGGTTTCT TTATTCCCGACGTTGAGTATCTCAAGGATCCAGAAGGGCTTCTCACTTACCTCGGTCTTAAGGTCAAGAGAGACTTCATGTGTCTGTACTGCAATGA GCTGTGCCGTCCATTCAGCAGCTTAGAAGCTGTAAGGAAGCACATGGAAGCAAAGAGTCATTGCAAATTGCATTATGGTGATGGTGATGACGATGA AGATGCTGAACTAGAAGAGTTCTATGACTACAGCAGCAGCTATGTTGATGAAGCTGGAGACCAGATAGTTGTGTCTGGTGAAACAGACAACGCTGTA GAACTCGTTGGTGGTTCTGAGCTTGTGATCACCGAGAGATCCGAGAACACAACTACGTCTAGGACTCTTGGGTCACGTGAGTTCATGCGTTATTACA GACAGAAGCCGCGCCCAACTTCTCAAAACAGCAACCAGATTATTGCCTCTTTATCTTCAAGGTACAAGAGCCTGGGTCTGAAGACGGTGCCGTCGA AACAGCAGACAGTCAACATCAAACTCCTCAAGCAGATCAAGAAGACAGCCGCAGAATCCGCTACGAAGATCGCAATCAAGACTAATCTCATAAGAA
GCT-003D22	AT1G61890.1	MATE efflux family protein	GACAGACTCAATACTCAGAAAATTTGAGAAAGAGAGAGAAAGAGAGTGATAGAGAGAGAGAAACACTATCCTCGTTCCCAGATTTCGAATTTTTTTTT TTTTTTTACATCTCCCAACAAATTTTCTCAGAAAGATTCTTAACGAAGGAAAAAAAAAAATAAAAATGAATTCAGAGTCGTTGGAAAATCTCCACCGTC CATTGATAGAATCGTCTAAATCGTTCATCGATTACCGGCTCGAGACAGTGTTAACGGACCGAGAATTGCCGTATTACCGGAAAATCTACCTGGCGAT GATGATAGAGATGAAGTTCCTCTTCCACCTCGCCGCTCCGGCGATCTTCGTCTACGTCATCAACAACGGAATGTCCATCCTCACTCGTATCTTCGCC GGCCACGTCGGCAGCTCCCAACTCGCCGCCGCTTCACTCGGCAACAGTGGATTCAACATGTTCACCTACGGTCTTCTGCTTGGAATGGGAAGTGC GGTGGAGACGTTATGTGGACAAGCGCACGGAGCTCATCGTTACGAGATGCTCGGCGTTTACCTCCAGAGATCGACGGTGGTTTTGATTTTAACTTG TCTTCCGATGTCGCTTCTCTTCATCTTCTCGAATCCGCTTTTGAATTCGCTCGGCGAGCCTGAGCAAGTCGCGTCGATGGCTTCGACTTTCGTCTAC GGTATGATTCCGGTGATTTTCGCCTACGCTTTCAATTTCCCGATCCAGAAATTTCTCCAAGCGCAGAGCATCGTGACGCCGAGCGCTTACATCTCCG CCGCGACTCTCGTCATCCACCTCGTCTTGTCGTGGATCGCCGTTTATCGATTAGGGTTTGGTTTGTTGGCTTTGTCTTTGATCCATAGCTTCTCGTG GTGGATTATCGTCGTGGCTCAGATTGTGTATATTAAGATGAGTCCGAGATGTCGCCGGACTTGGGAAGGTTTTAGCTGGAAAGCTTTTGAAGGTCTC TGGGATTTTTTCCGGTTATCGGCGGCTTCCGCCGTTATGCTCTGTTTAGAGTCGTGGTACTCTCAGATTCTGGTTTTGCTCGCCGGACTTCTCAAAG ACCCTGAGCTCGCTTTGGATTCTCTCGCTATTTGCATGTCAATTTCAGCAATCTCGTTCATGGTCTCCGTTGGATTCAACGCAGCTGCAAGTGTGAG AGTAAGCAATGAATTAGGAGCCGGAAACCCAAGGGCGGCTGCGTTTTCCACCGTAGTAACGACCGGAGTATCATTCTTACTAGCGGTTTTCGAAGC CGTCGTGGTTTTATCGTGGCGACATGTGATCAGTTATGCGTTTACGGATAGTCCTGCAGTGGCTAAGGCTGTTGCGGATTTATCTCCCTTTTTAGCC ATCACTATTGTCCTCAATGGAATTCAGCCTGTTTTGTCTGGTGTGGCTGTTGGATGTGGATGGCAAGCATTTGTGGCGTACGTTAACATTGGATGTTA CTACGTTGTGGGAATTCCTATTGGTTTCGTTCTAGGTTTCACTTATGATATGGGAGCAAAGGGAATATGGACAGGTATGATTGGTGGTACATTAATGC AAACAATAATCTTAGTGATTGTCACCTTCCGAACTGATTGGGATAAAGAGGTGGAGAAAGCTTCGAGTCGATTGGACCAGTGGGAAGAAAGCCGTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003D23	AT2G34930.1	disease resistance family protein	GAACAAAATATAGCTCAAGTATGGACCTTAAGCTCAGGCCAAGCTTCTTCACCTCCTTTTTTGTTTTCATCATACTTCTAAAAAACCCTGATTTCGCAT CAGCAGCAACTAGTCCTAGATGCATATCCACCGAGCGAGAAGCTCTTCTCACCTTCAAACAATCACTGACCGATCTTTCGGGTCGGCTCTCTTCTTG GTCCGGACCTGACTGCTGCAAATGGAACGGTATTCTCTGCGACGCCCAAACAAGCAGGGTTATCAAGATTGATCTCAGAAATCCCAGTCAAGTAGC TAACTCCGATGAGTATAAAAGAAGTTGCTTGCGGGGTAAGATACATTCCTCTCTGACCCGTCTCAAGTTCTTGAGCTATCTGGATTTGAGTTCAAATG ATTTCAATGGATCGGAGATCCCGGACTCTATCGGCCACATCGTTACTTTAAGGTACTTGAATCTTTCTTCCTCCTCGTTTTCTGGTGAAATTCCGGCG AGTCTTGGCAACTTGTCGAAGCTGGAGTCTCTTGATCTGTACGCTGAGTCGTTTAGTGACTCTGGTGCGTTTGCTTTGCGCGCAAGCAACCTCGGG TGGCTTTCTGGTCTGTCTTCTTCTCTGGCTTACCTCAACATGGGGTATGTGAATCTGAGCGGTGCCGGTGAAACCTGGTTACAGGATTTGAGTAGAC TCTCGAAGCTGAAGGAGTTGCGTTTGTTCAATTCTCAGCTCAAGAACTTACCTCTCTCGTTGTCTTCGTCTGCGAATCTTAAACTCCTTGAAGTTCTT GATTTGTCTGAAAACTCTCTCAGTTCGCCGATACCCAACTGGCTATTTGGTCTCACCAGCCTTAGAAAGCTGTTCCTCAGATGGGATTTTCTCCAGG GTTCGATTCCTTCCGGGTTCAAGAACCTGAAGCTTCTAGAGACACTAGATCTGTCTAATAATCTGGGACTCCAGGGCGAGATTCCATCGGTCCTTGG AGATCTTCCTCAACTGAAGTATCTAGACCTTTCTGCAAATGAGCTCAATGGTCAAATTCATGGGTTTCTCGACGCCTTCTCCAGAAACAAAGGCAATA GCTTGGTCTTTCTTGATCTTAGTTCCAACAAGTTAGCTGGGACATTGCCTGAGTCGCTTGGAGCGTTGAGGAATCTGCAGATTCTGGATCTTTCATC GAATTCCTTCACGGGTTCGGTCCCTTCCTCGATAGGAAATATGGCGTCACTGAAGAAACTTGATCTTTCTTTCAACACCATGAACGGGGCAATCGCA GAAAGCTTGGGGAAGCTTGGTGAGCTTGAGGATCTGAACTTGATGGCGAATACATGGGAAGGTGTTATGGGGAAGTCTCATTTCGTGAATCTTAGA AGCTTGAAAAGCATCCGCCTCACAACCGAACCAAACAGATCTCTTGTCTTAAAGTTGCCATCTACCTGGATTCCTCCTTTCAGACTTGAGTTGATCCA AATTGAGAACTGCCAAATCGGTCCTTCGTTCCCAATGTGGCTTCAAGTGCAAACCAAACTCAACTTTGTCACACTCAGAAACACTGGGATTGCAGAT ACAATACCAGATAGCTGGTTTTCAGGAATCTCTTCTGAAGTAACTTACCTGATTCTAGCAAACAACAGAATCAAAGGAAGATTACCTCAAAAGCTTGT GTTCCCAAAGTTAAACACCATTGATCTGAGCTCCAACAACTTCGACGGCCCTTTTCCTCTCTGGTCAACAAACGCAACAGAGCTTCGACTTTACGAG AACAACTTCTCGGGTTCTCTTCCACTGAACATTGATGTCTTGATGCCAAGAATGGAGAAAATCTACCTCTTTCATAACAGCTTCACAGGCACAATCCC GTCGTCTCTATGTGAAGTCTCCGGCCTGCAAATCCTCTCTCTAAGAAACAATCACTTCTCTGGTAGTTTCCCAAAATGCTGGCACCGTTCGTTCATGC TTTGGGGAATTGACGCGTCTGAAAATAACATATCAGGCGAAATACCAGAGTCTCTCGGTGTGTTACGTTCTCTCAGTGTCTTGCTTCTGAACCAGAA TGCATTGGAAGGTGAAATACCAGAGAGTCTTCAGAACTGCTCTGGCCTTACGAACATTGATCTTGGAGGAAACAAGCTGACTGGGAAACTTCCATCA
GCT-003D24	AT1G69850.1	ATNRT1:2 (NITRATE TRANSPORTER 1:2); calcium ion binding / transporter	GGTTCTTCTTCTCCTCAAAGTTTGAGAGAGAGAAAGAGAGAGAATGGAAGTGGAAGAAGAGGTCTCAAGATGGGAAGGCTACGCCGATTGGAGAAA CAGAGCCGCTGTAAAAGGCCGTCACGGCGGCATGCTCGCCGCTTCTTTTGTCTTAGTGGTGGAGATATTAGAGAATCTAGCGTATCTGGCGAATGC AAGTAATCTCGTGTTGTACCTAAGAGAGTACATGCACTTGTCTCCATCGAAATCAGCGAATGACGTCACCAATTTCATGGGCACAGCTTTTCTCCTTG CTCTTCTTGGTGGTTTCCTCTCCGACGCTTTCTTCTCCACTTATGTCATCTTCCTCATCTCTGCCTCTATCGAGTTTCTGGGATTGATCGTACTCACGA TCCAAGCTCGTACACCTTCCTTAATGCCACCATCGTGCGATGGTCCCACGTGTCAAGGTGTGAGTGGTTCGAAGGCGGCAATGCTGTTTGTGGGAT TGTACCTTGTGGCTTTAGGAGTGGGAGGGATAAAAGGGTCATTACCATCTCACGGAGCAGAGCAATTCGATGAGAGTACACCTAAAGGTCGGAAAC AAAGGTCAACGTTCTTCAACTACTTCGTGTTCTGTCTAGCTTCTGGAGCACTCGTGGCCGTCACGTTCGTTGTTTGGTTAGAAGACAACAAAGGATG GGAATGGGGATTTGGTGTTTCTACCATTGCCATTTTCATCTCGTTTCTCATCTTCCTCTCTGGTTCAAGCTTTTACAGGAACAAGATCCCATGTGGAA GTCCTCTCACCACAATCTTGAAGGTTCTTCTTGCGGCTTCGGTTAAGAGCTGCGCGAGTGGAAGTTCAAGTAATGCGATTGTGAATTTGGCTATTAG TCCCCCTAATCATTGTGTACCGAAGGGGAAGAAAGAAGTTGCTGTGAACTCAGAAGAAGGACTTGAAAAGCCGCGTCATGAAGAAGCTGTGCCTCC TCAGACACAACTAACCAATAGTTTGAGATTCTTAAACAGAGCTGCGGAGGAGAAACCGGAACATAGATTGTTAGAATGCACTGTCCAACAAGTGGAG GATGTAAAGATTGTGCTTAAAATGCTCCCGATATTTGCTTGCACCATCATGCTCAACTGTTGCTTAGCTCAGCTCTCAACATTCTCCGTCCAACAAGC TGCATCGATGAACACAAAGATCGGAAACCTAAAGATTCCTCCAGCTTCATTACCAGTCTTCCCCGTCGTGTTCATCATGATCCTCGCGCCTATCTAC GACCATCTCATTATCCCATTCGCTAGAAAAACAACCAAAACCGAAACAGGAGTCACTCATCTGCAAAGAATCGGAGTAGGGTTAGTACTCTCGATAT TGGCCATGGCGGTTGCAGCTCTGGTTGAGATCAAACGCAAGGGAGTGGCCAAAGACGCCGGGTTGCTTGACTCGCACGAAACCTTACCGATCACT TTCCTCTGGATCGCGCTTCAGTATCTTTTCCTAGGGTCAGCTGATCTGTTCACGCTAGCTGGTTTGCTAGAGTATTTCTTCACAGAAGCACCATCCTC TATGAGATCTTTAGCTACATCGCTCTCGTGGGCTTCTTTGGCAATGGGGTATTACTTGAGCTCGGTGATCGTTTCAGTAGTGAACAGCATAACAGGT AGCTCAGGGAATACACCTTGGCTCAGAGGAGAGAAGATAAACCGTTACAAACTAGACTACTTCTACTGGCTAATGTGTGTTTTGAGTGCAGCTAACT TCTTGCACTATCTCTTCTGGGCAATGCGTTACAAGTACAGATCAACAGGTTCGAGAAGTTAGATCGGTTTGTCCGCTTTTAATGTTTTTTTTGGTTAGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003E01	AT4G16420.1	ADA2B (PROPORZ1); DNA binding / transcription factor	GGAGAAAAGTAAAAATTAAAAAAACAGAGCTTGATTCACTGTAGATCTGTTGTGACTTCTAATGAAATTGACGAAGAATGAAGAAATGAGGAGGAAGA TGTGACTCTGAGAATTGGGTTGAATCGTGTCAAATGCCAACAATTTAGCAATTACCATAAAAGTTTAGGATTAGTGGATTAATCAATAGATATACTTCT ACTACTATATAATTTAAGAGGCAGTTAAATTAATCATATTCTTATTAAGCATCACTTGCGTAATCGGAAAAAATCTAAAAAGCACAGTGGCTTAGAAAA TAGAAATTCCTTTTTCCTCGACTCTCCTAATTTCTCTCAGACCACCGTCGATTACAGATCCGACCTGACAGCTCTCGACCGAGTAGGGTTGAATTCCG ATTTGATCTTTCTCCTCCAGCGAAACCCTAAGTACCCTTCGATCTTTTTTCTACTTGACATTGTTGGGTTTTTGAATCCGATTCTTTGATTCGGCATCA ATGGGTCGCTCTCGTGGGAACTTCCACAACTTTGAAGACCCTACGCAGAGAACGAGGAAAAAGAAAAATGCGGCTAATGTGGAGAACTTTGAGTCT ACATCTATGGTTCCAGGTACCGAAGGAGGAGGGAAATACAACTGCGATTATTGCCAGAAAGACATTACCGGCAAAATTAGGATCAAATGTGCGGTCT GTCCCGATTTCGATCTCTGTGTAGAATGTATGTCTGTTGGAGCAGAGATCACTCCTCACAAACGTGATCACGCATACAGAGTTATGGGAAATCTAAC TTTCCCGCTTATTTGTCCGGACTGGAGTGCCGATGATGAAATGCTTCTCCTGGAGGGACTTGAAATTTATGGCTTGGGAAACTGGGCAGAGGTTGC GGAGCATGTAGGAACGAAGAGTAAAGAACAGTGTCTCGAGCACTACAAAAATATTTATTTGAACTCGCCATTTTTCCCACTTCCAGATATGTCGCATG TAGCAGGGAAGAACAAAAAAGAACTTCAAGCCATGGCAAAAGGACGAGTCGAAGATAAGAAAGCAGAGCAGATCATGAAAGAAGAGTATCCGTTTT CTCCTCCTAAAGTCAAAGTTGAAGACACACAAAAAGAGTCTCATACAGACAGGAGTTTTGGAGGAAAGAAACCTGTTGTTGCCCCGGGAAACAACTC ACTGGTTGAATTAAGTAATTACAATCTCAAAAGACAAGAGTTCGACCCTGAATATGACAATGATGCTGAGCAGCTCTTGGCTGAGATGGAGTTCAAA GAGAACGATACTCCTGAAGAACATGAGCTGAAGCTGCGTGTGTTACGTATCTATTCGAAAAGGCTTGATGAGAGGAAACGTAGAAAGGAATTCATAC TAGAAAGAAACCTGTTGTACCCAAATCCCTTTGAGAAGGACCTGTCTCAGGAGGAGAAAGTGCTGTGTCGGCGTTTGGACGTTTTCATGCGTTTTCA TTCAAAAGAAGAGCACGAGGAGCTACTCCGTAGTGTTGTGAGCGAATACCGTATGGTGAAACGGCTCAAAGATCTCAAGGAAGCTCAAGGGGCAG GGTGTCGTTCGACGGCTGAAGCAGAGAGGTATCTAGGGAGGAAGAGAAAGAGAGAAAACGAAGAAGGGATGAACAGAGGGAAAGAGAGTGGCCA ATTTGGTCAACTTGCAGGGGAAATGGGCTCTAGACCTCCTGTGCAAGCTTCTTCAAGCTATGTGAATGACTTGGACCTGATTGGATTCACAGAGTCG CAACTTCTGTCTGAATCCGAGAAGCGTTTGTGCAGCGAGGCCAAGTTGGTTCCACCGATTTATCTACAGATGCAACAAGTGATGTCACATGAGATAT
GCT-003E02	AT4G13640.1	UNE16 (unfertilized embryo sac 16); transcription factor	GGTCACGGAACCGAATACCCCTTTTGACTGCCAGAGAAATCTCTGCATACATTTTCCTTCACTTTCCCGGTAAAGTAGCCGAGAAAAGTAGGGAAAG AGAATGTACTCGGCGATTCGTTCGTCGCTTCCGCTCGATGGCAGCATGGGAGATTATTCCGACGGAACTAATCTTCCCATCGACGCCTGCTTGGTC CTAACCACTGACCCAAAGCCCCGTCTTCGCTGGACGTCGGAGCTCCACGAGCGATTCGTCGACGCCGTCACCCAGCTCGGCGGACCCGACAAAG CAACGCCCAAAACGATAATGAGAACGATGGGAGTGAAAGGTCTCACTCTCTACCACTTGAAATCTCATCTTCAGAAATTCCGCTTGGGGAGGCAATC CTGCAAAGAATCAACTGAAAACTCTAAGGATGTTTCTTGTGTTGCGGAGAGTCAGGACACAGGTTCATCTTCAACATCATCATTAAGATTGGCTGCG CAGGAACAGAACGAGAGTTACCAGGTCACTGAAGCTTTGCGTGCTCAGATGGAAGTCCAAAGAAGACTACACGAGCAATTAGAGGTACAAAGGAGA CTCCAGCTAAGGATCGAGGCACAGGGGAAGTATTTGCAATCAGTTCTAGAGAAAGCTTGCAAGGCTATAGAGGAGCAAGCTGTTTCGTTCGCCGGG CTCGAGGCGGCTAGAGAAGAGCTCTCAGAGCTAGCCATAAAGGTCTCCAATGGGTGCCACCAAGGAACAACAAGCTCGTTCGACACGACCAAAAT GAGGATTCCGTCCTTATCCGAGCTTGCAGTAGCGATAGAGCACAAAAACAACTGTTCAGCAGAGAGCTCTCTGACTTCAAGCACCGTGGGGAGTCC AGTTTCAGCTGCTTTGATGAAGAAGAGGCATCGTGGAGTGTTTGGAAACGGGGATAGTGTGGTTGTGGGTCATGAAACTGGGTGGATTATTCCTAG TAGTAGCATTGGATGAAGGTTAAAGAGAGAGAGAGCGAGAGCGAGGGAGACCAGATTTTAGCTTATTTGCTTTGTTGTATTATTTAACTCGAAACTTT
GCT-003E03	AT1G49480.1	RTV1 (RELATED TO VERNALIZATION1 1); DNA binding / transcription factor	GGTGTGGGTTTTTTTTTGTGTGTGTGTTGGTTAGGTCACTCAGGTCAGGTTTAAACGAGGGTTAGAGAGAGAGAGAGTTTAAGCCTTTGACCAAAAG CAAAACTCAAAATTGGTTTCAGATCTGAAAAGGGTTTTTTCTGCTTAGAGACTCAGTGTTATGTATCGGATTCTCCGGCGTCGTTTCATGATCTAACC CCTCTTTCTTTCGTTAACTCTGGTCCCTTCTTTTATCTCTTTACATACTTCGTCACTGTTGATGATTATCTGAATATGCCTTTCCCTTTCTTCCACAGCC TTATTCTCTCATCCACTATTCAACGAAAGCGTCTGGCCTAAAGATAGCTGACAACAAAATCAGTTGTTTTGCCTGTTTCAAGACGTTTGGTTTTAAGAT ACAAAAGGTGATTCCGCGTCTACCATCTACATTTTCAATCTATCTCAAGACTCTAAGATCAACTACTGTCAAGTGCTGCTATGAACATGGATTCCGCA CACAATCAGCTGAACAAACGCGCTCGATTGTTTGGTGACCTTGAAAACAAAGACGCCAAGGTCATTTATCCACCGATCCCTGCATCTACTGCTCCCC TAAATAAAGGGTCTGATGGTTCTACAGCCACACAAAGCTTGTTCGCTGAATCTAAACCAGAAGAGACGCCAAAGGTACTCAAGAAGAGAGGGAGGA AGAAGAAGAATCCCAATCCGGAGGAAATGAATTCGTCGACTCCAGGTGGAGATGACTCGGAGAACCGCTCAAAGTTCTACGAGAGTGCTTCTGCTA GAAAAAGAACTGTAACTGCAGAGGAAAGAGAAAGAGCCATCAATGCAGCCAAAACATTCGAACCAACCAATCCTTTCTTCAGAGTTGTCCTGCGACC ATCATATCTATACCGAGGCTGCATCATGTACTTGCCTTCTGGTTTTGCTGAGAAGTACCTAAGCGGGATATCTGGTTTCATCAAGCTCCAGCTCGGG GAGAAACAATGGCCAGTGAGGTGCCTTTACAAAGCAGGAAGAGCTAAGTTTAGCCAAGGATGGTACGAGTTCACACTCGAGAACAATATTGGCGAA GGAGATGTTTGTGTTTTTGAGCTACTCAAAACTCGGGATTTCGTTCTGAAAGTCACGGCCTTTCGCGTCAATCAGTACGTGTGACCGACCAAAAACA ATATCGCTTTCCATGAGCGATCTTGCAGAGGAGCTTTCCAAATTTATATTTCATGTAGGGTCTTCTCTTAACTGTTGTATCTCTCTTGCATTTCTTGGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003E04	AT3G44990.1	XTR8 (xyloglucan:xyloglucosyl transferase 8); hydrolase, acting on glycosyl bonds	GATTCATAAAACTATTTATTCCCCCTTTGGTAGTAACCACTGAAAGGGCTTTACTTCACTCTCTCAAATGGCTTTTCATCTTATCCTTCTTCTTTGTCTA GCTCTACTAGTGTTGTGCCCTCGTGGTTATAGCCAGCGTTCTCCTTCGCCGGGATACTACCCGAGTTCTCGAGTACCGACTTCAACTTTTGATCGTG AATTTCAGCCTCTATGGGGCTCTCAACACCAGCGTAGAGAGCAAGACGTTATCACTCTATGGCTCGACAAATCAACAGGGAGTGGATTCAAGTCTAT TCATTCGTACAGGTCGGGTTACTTTGGTGCATCCATTAAGCTTCAACCAGGCTATACAGCTGGAGTCGATACATCCCTCTATCTCTCGAACAACCAA GAGCATCCTGGAGACCACGACGAGGTCGATATCGAGTTTCTAGGGACAACGCCAGGGAAACCTTATAGCCTTCAGACAAATGTATTTGTTAGAGGA AGTGGTGACCGAAATGTCATTGGGAGAGAAATGAAATTTAACTTGTGGTTCGACCCCACTCAAGATTTCCACCATTATGCTATTTTGTGGAACGCTAA TCAAATTGTATTCTACGTAGACGATGTGCCGATACGTACGTATGATAGAAAGAATGAAGCTATCTTCCCCACTAGACCGATGTGGGTGTATGGATCG ATATGGGATGCATCGGACTGGGCCACAGAAAATGGGAGGATCAAAGCCGACTATCGATATCAACCATTTGTGGCTAAGTACAAAAACTTTAAGCTAG CAGGTTGCACCGCAGACGGATCTACATCATGCAGACCACCATCGGCCTCACCTATGAGGAACCGAGGGTTGAGCCGGCAACAAATGGGGGCGATG GCTTGGGCACAGAGGAACTTCTTGGTCTATAACTATTGCCATGACCCTAAAAGAGACCATACCCAAACACCAGAATGTTAAACACACAAACAAACAA AAGAAAAAGGTTTTTTTATAATTTTATTTTGTATTACCAAATTATACATTAAGTTAATAATGGGAGGACTTGAGACGGGTCCACACTCCACACTGGAAA CTAGAGTGCAGCAGTTGAGCGTCCGGTCCTCCTAGATTTGAGATTAAAAAGAAAGTTATTCTTGTAATATTGTTTTGTTCTATTTGTGATTTTCTAATA
GCT-003E05	AT2G41430.2	ERD15 (EARLY RESPONSIVE TO DEHYDRATION 15)	GACCGTGTTTGATCCTAATCCGTTTTCGCTTTTGTCAAAGAGAAGAAGAAGAAAAATATCAAACTTTGAGCGAGAGTTGCAGGTATTTTCTCGGCCAA GAGTTAAAGAAATGGCGATGGTTTCAGGAAGACGTTCTACTCTAAACCCTGATGCACCCCTTTTTGTTCCGGCAGCTGTTAGACAGGTGGAAGATTT CTCGCCGGAATGGTGGCAATTGGTGACAACCTCGACTTGGTACCATGACTACTGGATCAGCCAGCACCAAGGCCCTGACGGTTTCTACGACAACG GAGAGAACGAGAATCGTGGTGGCGAGGTTGATGTAGCTGATCTTCTTCCAGAGTCATTTGATTTCGATGACATGGAAGATTTCTTCGACATTGATGC TGCTGAGTTTGATCATGGATACGGTGGACAAATCTACCACGCACCTTCCGACTTTGGTTTAGGGAAGAATGGTGAGATGGTTAGGATAAAAAGTGGA AACAGGAGCCCTAAAACAGTTGCAGATCCAGCAAAGTATGCAGAAAAGCCAGCGAAATGGGGAAACCAGAGGGTTGCTCCTAGAAACATCCACCAG CCTCGTTGAAGAAGAGATGGGTGTTAACTAGTCAGAGTCGTTGTTTCTTTAGCCACTGTACCTTTTGTAATTTTTAGTTATTTGCTTCCACAAGAACCT
GCT-003E06	AT1G72010.1	TCP family transcription factor, putative	GGCTTGTTTTTATCCTTCAATCATTCTCTCCTTCTCTCTCTCTCTCTCTCTCTTCTTCACAACGCCATTATAGTAGAAAGCTCTGCTTAGATCTCCTCACT GCTTTTTACCTTTTCAATCAATTCCCCAAATTGCTTCAGATTTACCCGGAATTTCGGAGACTTCGATGTCTGCTGTCGAAATTCGCATGGGTTTTGCTT AAAGGTAACTTCTTTTAGGGATTTCGAGGATCAGGAGATGGAAATTGGCACGACTCAGAATCCCCACGACCGTCAACGAGAAGCCGTCGCGACGGC GGAGGCAGGGCTGCAACTCAATTCTACCGAAAACCCATCACCGGGATCGGTTCCTTTTGCCGGAGGTATCTCCGGTTCAGCGACGAGCTCAGGCA CAAGCACCACGAGCTCAGGGAGTGCTCTCGCCGTAGTTAAATCCGCCGTGAAGAAGCCGTCTAAAGATCGACACACGAAAGTGGACGGCCGTGGA CGGCGAATCCGCATGCCGGCGATGTGCGCCGCTAGAGTTTTCCAGCTAACGAGAGAGTTGGGTCATAAATCCGACGGAGAGACAATCGAGTGGCT TCTCCAGCAAGCAGAGCCTGCAATTATCGCATCTACAGGCACCGGAACGATCCCGGCGAATTTCTCAACGCTAAACGCCTCTTTACGCGGTAGCGG CGGCGGCGGCTGCGGCTCCACCATCTTCGCTCAGCCGTCAAAGTCTTCATCTTCGCCGCTCTCGTTTCACAGCACCGGAATGTCTCTCTACGACGA CAGTAACGGTACTAACAACGGGTCTTCTTCCTCCTCCTCCGCCGTAGATCCCTCTAGGAAGATGTTAAACGCCGCCGCAGCCGCTCAGAACGCTGC CGTTTTCGGGTTTCACCATCAGATGTACCCGCCGATAATGTCGACGGAGAGAAGCCCGGCCAACTTGGCGAAACCTTACAGAGAAGATTACTTCAA GGAGTCTGAACCAAGTGGGAGTTCTCAGAAACCGGGTCAGTTCCAGGATCAAGATTTGGGTTCGGGTCCGGGTCCGGGTCCGGGCCGTGTGGTG CCTCAACCAATGTGGGCGATGGCTCCGGGGACCACGAACGGAGGAAGTGCGTTCTGGATGCTTCCGATGAGTGGGTCGGGTGGGCGAGAGCAGA TGCAGCAGCAACCGGGTCACCAAATGTGGGCATTTAATCCCGGGAATTATCCGGTTGGGACGGGCCGGGTCGTAACCGCACCGATGGGGTCAATA ATGTTGGGAGGTCAGCAGCTAGGATTAGGTGTGGCCGAGAGCAACATGGCGGCTGCAATGCGTGGTGGTAGAGGTGATGGTTTGGCCATGACGCT AGACCAACATCAACATCAGCATCACCAGCAACATCACGAGCCAAGCCAAAGTCAAGCTAGTGAAAATGGTGGTGATGGCAAAAAGTGATGAAACAC AGACCTCATGACATTCTCTAATGACCACCACACTCAGCGTTTTGAAGATCTGCGATTTGCGGTTAGGAGGATACCGTTGGAGATTCGCAGCGGTTGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003E07	AT2G43010.2	PIF4 (PHYTOCHROME INTERACTING FACTOR 4); DNA binding / transcription factor	GGAGAAACTTCTGTATCTATTTCTTTCCTTTTTAAAAAAAAACTTTTTGTTGGGCGTGGAACTTCGACTTCCACAAATAGGTTTCGATCTCTTCCTTCA ACTTCTGATTCGCCCATAAGCTTTCTAAATCTAAAACCTGACATGGAACAACAACCAGGTTGGAATTTTGAGGAGACTTACAATTTCTCCATTAACCG AAGATCTATAAGGCCACAAGATGACCTAGTGGAGTTGTTATGGCGAGATGGGAAAGTGGTTATGCAGAGCCAAACTCACAGAGAGCAAACAAAAGT CCAAACTCAGAAACAAGATCATCACCAAGAAAACCTAAGATCCAACACCTTTCTTGAAGATCAAGAGACCGTCTCTTGGATCCAATACCCTCCAGAT GAAGATCCATTCGAAACCGACGACTTCTCCTCCCAATTCTTCTCAACCGTCAATGCCCTCGAGAGGCCGGACTCAGCCTCTGAGTCGGTTAAGCAC GAGACCGGTCCTGACCCTCCTCATCCGGTCATGCCTCCTCCTAAGTTCAGGGTAACGGATTCATCATCAGGAGTCAGGGAACCAGGAAAGGAACA GTACTCGGTGGTGACCGTTGGACCGAGCCATTGCGAGAGCAACCAATCTCAGAACGATCTCGATGTTGCAATGAGTCATGATCAGAGCAAAACCAT CGATGAGAGGCTTTTCCCGAACGCAAGTTCATCATCAGGTGGCTCCTCTGGTTGCAGCTTTGGCAAGAACATAAAAGAAATGGCTAGTGGGATTAG AAGCATCACAACAGATCGTAAGAGAAAACATATAATTGACACTGATGAATCTGTGTCTCAATCAGATGCTATTGGTAACAAGTCGAACCAACGATCAG GATCAACGCGAAGGAGTCGAGCAGCTGAGGTTCATAATCTCTCCGAAAGGGTACTTCATCGGTTCGTCGATAAATATATACGTATATTATATAGTTTA CTGTTAGTAGATTGTTAATTAAAGAGAAAACTCTGTTTTTTATAGAGAAACAGATACAAAACTCTGTTTTTTATTTCTCTCTCTGTTAATTAAAATAGAG AAGGAGAGATAGGATAAACGAGAGAATGAAGGCTTTGCAAGAACTAATACCTCACTGCAGTAAAACCGATAAAGCTTCGATTTTGGACGAAGCCATA GATTACTTGAAATCACTTCAGTTACAGCTTCAAGTTATGTGGATGGGAAGTGGAATGGCGGCGGCGACGGCGGCGACGGCGGCTCCGATGATGTA TCCCGGAGCCGGAGTACAGCCTCCGCCGTTCATTCGTCAAATGCCGAACCCGGTACCGTTTCCTCGATTCCCGGTTATGGACCGGTCTGCGATTCA GAATAATCCCGGTTTAGTTTGTCAGGTCCCGGTACAAAATCAGGTCTTCTCCGATCGATTTGCTAGATACGTCGGCGGAATCCCACCGATGCAGGC
GCT-003E08	AT4G17570.1	zinc finger (GATA type) family protein	GCTCTTTTCTATTGGATTGTATTAGACTGATAGCTCAAGGAACCGAAAAAAAGAGAAAGAAAGGATAACAAAAATATCTCCTGAAAAAATTTCTCAGC CTTGGTTTGATTTTTAATTTTCAGGAACTGTTTTGGAGTTTTTTCCAGATTTTTTTTCTGTATTTCCTCGTAAAAAAATTTTCTGGGTTTTTTTTTTCTTTC CTGGCTTCAATTTGTTCATATGCAGAAAATCCTTTTTCTGGGTTTTTACCTTTGCCAGAGAGAAGCCTCTTAATAGTTAATAGTCTTGTTTTTGTATATT CCAATTATAGCTCAATATTGAACATAATTTATAAACTTAAATTTCTTTCCAAAAAGTCTCTTCTTTTGTCATTATAAATTGAAACCTTCCTTTGAAATTAT ATTTTCATCTTTGAAAAAGAAAAAAGAGAGAGAGATTATGGGGAAGCAAGGGCCTTGCTGTCACTGTGGAGTTACAAGCACACCTCTGTGGCGAAAT GGGCCACCAGAGAAGCCGGTATTGTGCAATGCGTGTGGATCGCGTTGGAGAACAAAGGGAACACTTGTGAACTACACACCGCTTCATTCTCGTGCT GATTGTGATGACCATGAGGATCATCAGAGGTATCAAAGAATGAAGAGCATTTCTATGAGTAGCAAGAACAAAGAGACGAAGATGCTCAAGAGGAAA GCAATTCAAGAAAACATCTCCATTAAAAGACCTCTCTTGGAATTCAACTATGGTTTGAAGAAGGCTGTGGTAGAGGAGGATGCTAGTAACAGGTCGA GTTCTGGTTCGGCTATATCAAACTCTGAGAGCTGTGCACAGTTTAGTAGTGCAGATGGGAGCGAGTTAACAGGTCCATCTCAATCTAACACATGGGA CACGACTGTTCCTAGCAAGAGGAGGACGTGTGTAGGCCGTCCAAAGTCCTCTTCTGTTGAAAAGCTCAGAAAGGACCTTTACAATATTCTACAAGAG CAGCAATCGTCGTGTCTCTCAGTTTCATCAGAGGAAGATCTTCTTTTTGGGAATGAAATGTCAATGGTCTCTGTTGAGATTGGGCATGGGAGTGTTC TGATGAGGAATCCCCACTCGTTTGCTCGGGAAGAGGAGTCTGAAGCCAGCTCGCTCTCTTCGGTTGAGAACAAGTCATCCATCAGTGAGGCATACT CACATTCTGTGAAGCGTGCTGAGATTGGAGGAGAGAGAGGTTCAGACTCTTTTGGACAAGCAATAAAGCATGAGCAACTCAGAAGAACCAAGTCTC AAAGTGGAAGAGTGCATGTCCTGGGGAGCCATAGTTCACCACTCTGTAGCATTGATTTGAAGGAAGTTTTCAACTTTGATGAGTTCATAGAGCAATT CACAGAGGAAGAACAGAAGAAACTGATGAAATTACTTCCTCAGATTGATTCTATTAACCTTCCTGATAGCCTCAGAATGATGTTCGAAAGTGCTCAGT TCAAAGAGAACTTCTCTTTGCTTCAGAAACTTATTGCAGATGGTGTCTTTGAGATGCCTTCTTCCTCTGGGGCAAAACTCGAAGACATAAGGACTTTT AAGAAGCTTGCTTTGTCTGATTTTAACAAATCTCGTTTGGTGGAAGGCTATAACCTGCTGAAGGAACAGGAAAAAGGGTCTGGAGATTCTGCCACTA CAACTTCAAGAATCTCGAACCCAAATGTACCTAAAAATATTATAACCATCAAGAGACGCTGTGAAAATCAAACTCAATTAAAGTCAGAGTCAAGAGGG CTTATGAGGAGCCCCAAAAGTGTAACGAAGATGAAAACAAGCCATGAAAGCAAAGTTATGACAGAGAACAACGTCTCATGCTTCAGCCCAAAAAGCT TAGTGTTTGCGCAAGAAAGTGGTTCTACAGTGTTTGGCTATGAAGGTAGTTGCAGTTCCGATCAAGACCTCCTTCTTCTGGATTTGCCGTCAAATGG
GCT-003E09	AT5G54940.2	eukaryotic translation initiation factor SUI1, putative	GAATTGAAATAACAAAACCGGAAGAACTTGATCGTCTTCTTCCCACACCTTCAGAGAGTCGAACAACTTGCGAAGAGCCGTATTTTCGTTCCAAGAA ACCAAGTTTACATGGTTGAGCTAGACATCCAGATTCCATCAGCATTCGATCCTTTCGCAGAAGCACAAGACACAGATGCACCGGGTACAAAAGAGTA CGTCCACATCCGAATCCAGCAGAGGAATGGGAAGAAGAGCTTGACGACTGTTCAGGGTCTGAAGAAAGATTACAGCTACGAGAGGATCCTCAAGG ACTTGAAGAAAGATTTCTGCTGCAACGGGAACGTTGTGCAGGACAAGGAGCTAGGCAAGATCATTCAGCTTCAAGGTGATCAGAGGAAGAAAGTGT CTCAGTTCTTGGTGCAGACTGGGATTGCTAATAAGGATCAGATCAAGATCCACGGGTTCTAAGCTGAGGATCGATCGTTTGATGTTTATCTATCTATT TATATGCGAATAAGTGGACGTGGTGTGGTGTGGTGTGATCATTAGGAGTTTTCAAGGGAAAGCTTTTTGGTTTTTTTTTTTTTTTTTTGGAAGCTTTGG

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GCT-003E10	AT3G63080.1	ATGPX5 (GLUTATHIONE PEROXIDASE 5); glutathione peroxidase	GACGGATTGTGCGGGTGTGAAGAAAGGATAAGACGACAGAAGAGGACAAAACTGGCGAGAGCTCCGGCCAGATGGGTGCTTCGATATCCGTCTCC GAGAAATCCATCCACCAATTCACCGTCAAGGATAGCTCCGGCAAGGACGTTGACCTTAGCGTTTATCAAGGGAAGGTTCTCCTCGTCGTCAACGTC GCTTCTAAATGCGGTTTCACGGAAACCAATTACACACAGCTCACAGAACTTTACCGGAAATACAGAGATCAAGGGTTTGTGATCTTGGCGTTTCCTT GCAACCAGTTTATGTACCAAGAGCCTGGAACAAGCCAAGATGCTCATGCTTTTGCTTGTACTAGGTTTAAGGCCGAATACCCGGTTTTCCAAAAGGT CCGTGTAAATGGGCAAAACGCAGCACCAGTCTACAAATTCCTCAAGTCAAAGAAGCCCACTTTCCTGGGAACGAGGATCAAATGGAACTTCACTAAG TTCTTGGTCGGGAAAGATGGTCAAGTCATTGATCGTTATGGCCCAACAGTTCCACCTCTCTCCATCGAGAATGACATCAAGAAAGCCCTTGGAGAGT TACCAAGTGTTAACCCTTGAAGACACTGAGACTGGCTTCTTTTTTTTTTTGTAGAGAAGAATTCAGCTCTTCAAGGCTACGACTCTCCGAATTGTACTT CTCTCTCAAACCAAAACAAAAAACAAAAAAATCGAGGACGAAAATGTTAATCAAAAGACAATTTGATTCTTGAGAAAGAGAAATCGCTAAATTTGTTTG
GCT-003E11	AT4G02440.1	EID1 (EMPFINDLICHER IM DUNKELROTEN LICHT 1)	GAGTGCAGGCATACATAAAAAAATCAGAGGTTGAGAGAGAGAGAGTGAGAGCGAGAAGCAATGGCGGAATCTGGTTTCTCTCTGGTACCAGAAGAC GTTGTCTTCAAAATCTTCTTCAAGCTCCAAGACGATCCAAGAAACTGGGCTCGTCTCGCTTGCGTCTGCACCAAATTCTCATCGATCGTACGGAACG TTTGCTGTAAAACGCAGTGCTATTCCGCAATCCCAACCGTCATCTCTGACCTCCTCACTTCTCCCTCCGCCTCTTCCGCTTCTTCCTCATCTTCAGCC GCCGCGGATTCGTCTCTTCCTCCTCCCGGCGGCTGGGCTTCTCTCTACAAACTCGCCGTCTGTTGTCCTGGCCTCTTCCACGCCGGAATTCTCCTC GAAAACTCCGATTTCGGTCTAGAACGTGAGCTCGGCCCCGATGAAAGCCTCAATAGACTCGATCCGATACCTACACCGACGGATCCGGCTCGCAAC GACGGCGAAGTTACGAAACCAGTCGGATCTACTTTAGAAACGACTTCGTTTTGGTCTCTCTATGACGACCTCTACACCGATACTCTTTCCGCTCCTC CCGAAGATTCCGTCGAGAAAGAAGAAGAAATTGAGACGAGTGAGATCAGACCTGGACGCGATCTTCCGGTGAGGAAACGGCGGAAGATTTTCCGG TCGCTAGGTTCTCATTTAGCTTCAGGAGGTTGGAATCTGAGCCGAGAACAAGGCAACAAGCTCCTCGCGAGCAGATTTCGCGGTGATTGTCTCTAC ATCTGCAATTGGCCTGGATGCATCCACGTGGAAGAGAAGCGAAACTACATGTTGTTCAGAGGCGTTTTCAAGGAATTCAAAAGGTCTCGTGTTTGGA GAACGATAAACGACGGTAATCGGAGTAAGGTTTCGGGTTTGAAATGCGCGTTTTGTTCGTGCGACGAGACTTGGGATCTGCATTCGTCGTTTTGCTT GAGAAGAGTTTTTGGGTTTCACGACGATGGTGAGCCAGTTGTGAGAGCTTATGTCTGTGAGAATGGACATGTCTCTGGTGCTTGGACAGCTTTACCT CTCTATACTTGAGAGATTGAAAAAAAAAAGGTCTTTGATTCTTCTTCTTCTCAAAGTCTTTTCTAAAAATCTGAACCTTTACCTTGCTGCTGAATTGTTT
GCT-003E12	AT3G58630.1	transcription factor	GGTACATGCACACAAGGCAAAACACACTGGTTTGTTTTTAAAATCCTCCGTCCTCCTCAATTCCGTTACCGTCAGCGTCAACCTCCGTTTCTCTCATC TTCACCGTTCATCTCCTCCGATCTAACTCGCCGTCGACAACGGTATGATTGACGCCGGCAACGATTCCTTTTCGCCGGGATCTTCCCGTCCTTCGCC TTCGACGCTTTCTCGGGAGGATTGCTGGAGCGAGGAAGCGACCTTCACGCTAATCCAAGCCTGGGGCAGCCGCTACGTCGACCTTAGCCGCGGTA ATCTCCGTCAGAAACACTGGCAAGAGGTGGCTAACGCCGTTAACGACCGTCACTTCAACACCGGCCGAAACGTTTCCGCCGCCAAATCGCAGCCG TACCGCACCGACGTTCAGTGTAAAAACCGGATCGACACCTTGAAGAAGAAGTACAAAGTCGAGAAGGCTAGGGTTTCGGAATCGAATCCCGGTGCC GCCTACATCAGCCCATGGCCTTTCTTCTCCGCTCTCGATGAACTTCTCCGGGAAAGCTTTCCGACGTCTAGTACTCCTGATTCGACTGATAACCAGA GGCTTTCACTGCCGATGTCGATTATACCAATTCCGGTCGCTCCACGATCGGCGATTCCCAGGCGTCCGGCGCCGGCGCCGGCGATTATGCCTCCC GGAGGTGACAATTTGCTCGGATTTCGCGGAAATCTCAACGCATTCGCGGCAGCTGCAGCGGCCGCCGCTTGCCCGGCGTATGAAGATGATTCGGA TGGGTCAAGGTCCAGATCGAGCGGAGGTAACAGGAAGCGCGAAAGGGAAATTGAGCGGAATCAAGGTTACAAGGAAGTTGCAGACGCAATTGAGA GGCTTGGGCAGATATACGAGAGGGTGGAGGAGAGGAAGCGAAAGGAAATGGTGGAGTTGGAGAAGCAGAGGATGCGATTCGCCAAGGAATTGGA GTGCCATAGGATGCAGCTGTTCACTGAGATGCAGGTTCGTCTTCACAAGCTCAGGCGTACCTCTGGATCCAAAGGCCCGACTTCTTCAGCCTCCGC CGCTCTTGATTATGGGATGATGGATTTCCCTAGTTACTTCTAAGGCAGGATGTGATTGTAGGCCATTGATGAAGAAGGAAGAGTCAGCATTAAATAG

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GCT-003E13	AT1G73730.1	EIL3 (ETHYLENE-INSENSITIVE3-LIKE3); transcription factor	GGAACGACAAGAGAAAAAAAAAACCTAAATTCTTTCAAGGACCTGCAATTTCGGCGGTTCAGGTTTGAAGGGTTTTGATCATTCTCGAATAGACTTAA TTTATATGGGCGATCTTGCTATGTCCGTAGCAGACATCAGGATGGAGAATGAGCCTGATGATTTGGCTAGTGATAATGTAGCGGAGATTGATGTGAG TGATGAAGAGATTGATGCGGAAGACTTGGAGAGACGTATGTGGAAGGATCGTGTCAGGCTCAAGAGAATCAAAGAACGACAAAAAGGTGGTTCTCA GGGAGCTCAAACGAAAGAGATGCCTAAGAAAATCTCTGACCAAGCGCAGAGGAAGAAAATGTCTAGAGCTCAAGATGGTATACTCAAATACATGTTG AAGCTTATGGAAGTCTGCAAAGTTCGAGGCTTTGTGTATGGTATTATACCAGAAAAGGGAAAGCCAGTGAGCGGTTCCTCTGACAATATAAGAGCAT GGTGGAAAGAGAAGGTGAAGTTTGATAAGAACGGGCCAGCTGCGATTGCTAAGTATGAAGAGGAGTGCTTAGCTTTTGGGAAATCAGATGGTAATA GAAACTCGCAGTTTGTTCTCCAAGACCTGCAAGATGCAACTTTAGGGTCTCTGTTATCTTCATTGATGCAACATTGTGATCCTCCGCAGAGGAAGTA CCCTTTGGAGAAAGGAACTCCTCCACCTTGGTGGCCAACAGGGGATGAAGAATGGTGGGTGAAACTCGGTCTGCCTAAAAGCCAGAGCCCTCCGT ACAGAAAACCGCATGATCTCAAGAAGATGTGGAAAGTTGGAGTTTTGACGGCTGTGATCAATCATATGTCGCCTGATATTGCAAAGATCAAGAGGCA TGTTCGCCAGTCAAAATGTTTACAGGACAAAATGACAGCTAAAGAGAGTGCGATTTGGTTGGCGGTTTTGAACCAAGAGGAATCCCTCATTCAGCAG CCTAGCAGTGACAATGGAACATCTAATGTAACCGAGACACATCGAAGGGGTAATAACGCTGACAGGAGAAAAACGGTGATCAACAGTGACAGTGAC TATGATGTTGATGGGACAGAGGATGCTTCAGGTTCGGTTTCGTCTAAAGACAATAGAAGAAACCAAACGCAAAAAGAACAACCAACAGCCACCTCAC ACCCAGTAAGAGATCAAGATAAAGCAGAGAAACACCACAGAAGGAAAAGACCCAGAGTCAGATCCGGAACTGTCAATCCACAAGAGGAAGAACAAC CAGAAGCTGAGCAAAGAAATATCTTACCTGATATGAATCATGTTGATGCACCTCTGCTGGAATATAACATCAATGGTACTCTTCACGAGGACGGTGTT TTGGGACCAAACATAGCCTTAGGAGCAGAGGAGAATGGTCTGGAATTGGTGGTTCCTGAGTTCAATAACAACTATACTTATCTTCCACCTGGAAATG GACAAGCTATGATGCCTGTAGACGAAAGGCCAATGCTCTATGGACCAAACCCCAACGAAGAGTTGCAATTTGGATCAGGTTATAACTTCTATAATCC CTCTGCAGTGTTTGTGAATAATCAGGAAGAAGACATTATCCATACAGAGATAGAGATGAATGCTCAAGCACTGCCTCACAACAGCGGGTTCGAGGC CCCAGGAGGAGTACTTCAACCTCAGAGTTTACATGGAAATGATGACGGCGTCAGAGGCAGAGATTTGCCATCTCAGTATCAGAGTGAACAAGAGAA GCTCTTGGACAGTAACCTTCTGTCTCCATTTAATGACTTGGCGTTTGATAGTAGCACCTTTTACTCTGGGTTTGATTCCTATGGTGCATTTGATGATG
GCT-003E14	AT5G12250.1	TUB6 (BETA-6 TUBULIN)	GATTCACTTCTTCTGCTACTCCGATCGATCCACCGTCGTACTCGATCGTCCTCATCTCGCCGGAGATCTCTGTATTTTCTTATCCCTAAACAGAAGAT GAGAGAAATCCTTCACATTCAAGGTGGCCAATGTGGGAACCAGATTGGTTCAAAATTCTGGGAAGTTGTCTGTGATGAGCACGGTATTGATCCCACC GGTCGTTACACTGGAAACTCTGATCTGCAGCTGGAGCGTGTAAATGTTTACTATAACGAGGCATCCTGCGGAAGATATGTTCCTCGTGCCATTCTCA TGGATCTTGAGCCCGGTACTATGGACAGTGTCAGAACTGGACCTTATGGTCAAATCTTCAGACCTGACAACTTTGTTTTCGGGCAATCTGGTGCTGG AAACAACTGGGCTAAAGGGCACTACACTGAAGGAGCCGAACTTATTGATGCCGTACTTGATGTTGTACGCAAGGAGGCCGAGAATTGTGACTGTCT TCAGGGTTTCCAAGTGTGTCACTCGCTTGGTGGAGGCACCGGGTCTGGAATGGGAACTCTGCTGATATCTAAGATCAGGGAAGAGTATCCTGATCG CATGATGCTTACTTTCTCTGTCTTCCCATCACCTAAGGTCTCTGACACCGTGGTCGAACCATACAATGCTACACTTTCAGTTCATCAGCTGGTTGAAA ATGCTGATGAGTGTATGGTTCTGGACAATGAAGCCCTTTATGACATCTGTTTCAGAACACTCAAGCTTACCACTCCTAGCTTTGGTGATCTGAATCAT CTGATCTCTGCAACCATGAGTGGAGTTACATGCTGTCTTAGATTCCCTGGTCAGCTCAACTCTGATCTGAGGAAGCTCGCAGTGAACCTCATCCCTT TCCCTCGCCTCCACTTTTTCATGGTCGGTTTTGCCCCTCTCACCTCCCGTGGGTCGCAGCAGTACCGTGCACTCACCGTCCCTGAGCTCACCCAAC AAATGTGGGATTCGAAGAACATGATGTGCGCAGCAGACCCGCGTCACGGCCGGTACCTAACAGCCTCAGCAATGTTCCGTGGCAAAATGAGCACA AAAGAAGTGGACGAGCAGATGATAAACGTGCAGAACAAAAACTCTTCCTACTTTGTGGAATGGATACCGAACAACGTCAAGTCAAGCGTCTGTGACA TAGCGCCACGAGGTCTTTCGATGGCATCGACTTTTGTTGGGAACTCGACGTCGATCCAAGAGATGTTTAGGCGGGTGAGTGAGCAGTTCACTGCCA TGTTCAGGAGGAAAGCTTTCTTGCATTGGTACACAGGTGAAGGAATGGACGAGATGGAGTTTACTGAAGCAGAGAGCAACATGAACGATCTCGTCT
GCT-003E15	AT5G65310.1	ATHB5 (ARABIDOPSIS THALIANA HOMEOBOX PROTEIN 5); transcription factor	GGTCGTCTTATTTAAAACCCGGAGAAGGACTGTGAGGCCATCTCTCTCTCTCTCTCTCTCCCTTCTCTTTTGCTCTCTGTTATAAATTTCGGATTTC TCGGGAAAACAAAAATACACGACTGTGAAATCTCCCTCTCGATTAAAAGTTTAATTTTTTTCCTTGGAGTGTACTAAATGAGTCTTTCTTGGATAATTA GTAACCTTTGATCAATTCTCTGCTTCCATATTGGATGTATCGTAGTCACAGAGCAAAGATCCTTATTTGGAGAGGAAGAGATAGTACACGTATTGGTC GTAGATAGATCCTGATCGTTCATTACTATTACTCAAACGATTTAGGCCTCGATTTAACCATTAAATAAAATTTCTTTCCTTTTTCCCTGCTTAAGTTAGT TCTCTATCTAAATAGCTCCGACCAAACAAGATGAAGAGATCACGTGGAAGCTCCGATTCTTTATCCGGTTTCTTACCAATTTGCCACTCTGCAACAGA CAAACAAATAAGTCCAAGACCAACAACCACCGGCTTTCTCTATTCCGGCGCCGGAGACTACTCGCCGATGTTCGACGGTCTAGAAGATGACGGAAG CCTAGAAGACATCGGCGTCAGACACGCGTCGGCGGCGGCGGAGAAAAAGCGGCGGTTGAGTGCAGAGCAAGTGAAAGCGTTAGAGAAGAATTTC GAGATTGATAACAAGTTAGAGCCGGAGAGGAAAGTGAAGCTAGCTCAAGAGCTTGGGCTGCAACCGCGCCAAGTGGCGATCTGGTTTCAGAACCG CCGTGCTCGATGGAAGACAAAGCAGCTCGAACGTGATTACGGCGTTCTCAAGTCAAACTTTGACGCACTTAAACGCAGCCGCGACTCGCTTCAACG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003E16	AT2G38880.5	HAP3A (Heme activator protein (yeast) homolog 3A)	GAACCATATCGTCTTGACAAGCAGCCGCCCAAACTCTGCGATAATTTTCGTCGGTAGAAAATTTGGACTTTCTCCTAAGCCCTAAATATCCCAAGTTC CACTATCGGGAATCTAGTAAAATGGCGGATACGCCTTCGAGCCCGGCCGGAGATGGCGGAGAAAGCGGCGGCTCCGTTAGGGAGCAGGACCGAT ACCTTCCTATTGCTAATATCAGCAGGATCATGAAGAAGGCGTTGCCTCCCAACGGAAAGATCGGAAAAGATGCTAAAGACACCGTCCAAGAATGCG TCTCTGAGTTCATCAGCTTCATCACCAGCGAGGCCAGTGATAAGTGCCAGAAAGAGAAAAGGAAAACTGTGAATGGTGAGGATTTGTTGTGGGCGA TGGCAACATTAGGATTTGAGGATTACCTGGAACCCTTAAAGATATATCTAGCGAGGTACAGGGAGTTGGAGGGGGATAATAAGGGCTCAGGCAAGA GTGGAGATGGATCTAATAGAGATGCAGCTGGGGGTGCGTCTGGTGAAGATATGCCGGGCTGGTGAAAAAAAAGTCGCAAGTGAACTCTCTAGAGA TCAAGAACAACGCCAAATGATCAAGTAATTCCTCTATCTATCACAACGGCTAGTGTATACAAACGAAGAGCATAATCTGTATGCATGGGAAATTAGAG ATCAGTGTGTTGTTTATAGTTGAGCTGATCGGCGACATTTTTCTTTTTTTCTTCTTATAGAGATTCTATTTCGGGTTTATTGTCAATTTCGGTTGTGTTA
GCT-003E17	AT4G19970.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT5G44820.1); similar to H0307D04.3 [Oryza sativa (indica cultivar-group)] (GB:CAH66858.1); contains domain Nucleotide-diphospho-sugar transferases (SSF53448); contains domain (Trans)glycosidases (SSF51445); contains domain PENTATRICOPEPTIDE REPEAT-CONTAINING PROTEIN (PTHR10483)	GAATATAAAGAGAACGCACGAAGAGAGAAAAAAAGGGTTTCATATTAAAAACAATGAAGAGCACTAACGGCGAATCTTCTTCATTGGGGTACAAGTT CGCCGGAGTTAACATGGACGATGGAAAGTCTAAGCCACCGGTGATATATTCCGATGGTTTTTTCGGAGGTCGAGACGTGATTAAAGTCGTGTTATTG GTCGCGACCGTCACACTTTCTTGCTTATTATTCTACAAATCTGCAAATAATCCTCTCAACATGGTGTCTCCATGGAAGAGCGATTGTTACTCTTCAAAA ATCATAAACGAGACTTCCTTAGAAATGGTACAAAAGAAGAAACCGGTTTCAGAATTAGAGAGAGTATTGATGAATGCAGCTATGGAGGATAACACGG TGATCATCACGGCGTTAAACCAAGCATGGGCCGAACCAAACTCAACGTTCGATGTGTTTCGAGAGAGTTTTAAAGCCGGATTAGGTACAGAGAGGC TATTGAAGCACGTGATCGCAGTTTGCTTGGATAACAAGGCATATGATCGGTGCGTAGAGGTTCATCCTCATTGCTACTTGATTAACGCCACAGATTC AGACCAACTCTCCGGTCCAAACCGGTTTATGACGCCTGGTTATTTGAAACTCATTTGGCGGCGGATGGATCTTCATAGACAAGTTCTTGGCTTAGGG TACAACTTCATCTTCACGGATGCAGATATTTTGTGGCTTCGAGACCCATTTCCCCGTTTTTTTCCAGACGCCGATTTTCAGATAACGTGTGATGATTA CAACGGAAAGCCATCGGACAAAAACAATCACGTGAATTCTGGTTTCACATATGTCAAAGCAAACAACAAAACATTAAACTTCTACAAATATTGGATCA GATCAAGTCGAAAGTTCCCTGGAAAACATGATCAAGATGTGTTCAACTTGATAAAAAACAAGCATTTCATCGAGAAACTTGGAATCAAAATGAGGTTT TTCGACACAGTTTATTTTGGAGGGTTTTGCCAACCAAGCCGGGACATCAACGTGGTCAACACTATGCATGCTAACTGTTGTATTGGTTTGGACAACA AAGTGAATAATCTCAAGGCTGCTCTTGAAGATTGGAAACTATATGTATCGTTGAATACGACCGTGTCCGAAACTAAATGGAACATTCCACCTAGGTGT
GCT-003E18	AT2G33770.1	PHO2/UBC24 (PHOSPHATE 2); ubiquitin-protein ligase	GAACCACTCCCACACGAACCACCCCAGAGAAATTTCAGAGAGAAGAACCAAAGAGAAGAAGCAGAGAGAAAAAAGCAGAGCAGAAGAAACAGAGA GCAGAATTGTTTTCGTTTTCCAATGGTTTGGAGATTTGTTAATGGCGTCATAGATTCGTGGGACTAAGGGAGGAAGAAGCTTACCCTGCATCTTCCG GATTTCTCACTCTTTCCTCCCGCCAGAGGAATAGGCGAGAAATTGACACATATAATCCCGAAGCTTCTTATGGTTCGCTGGAAATTCTTAACTGATGG AGGAAAATTTGGTTTACTTCGCTTGAGCAATTAACAAAATTTCATCATGATGGTCTCACTGCCACACTGGTGGGAACATGCGTGAATGATTGTCAAGA GACCGATCCTGTTTCTCACTTCGTTTTATTCGTTTGAACGCTATACTGTTTCCTATATATACACTTGGATTCTAGCTCATTTAGGGCAAATCTCCTTTG GCAAGGTAAAACTAAATCAGCAGCAGAAAAAGTGAAGTTTTCCCGTTAAGTGGTTTTGATAACAAGCCATTTCTCTGCGGAGACTTCATCGTCGTGC CTTCAAATTTCTTCGAGGTTTGAAGCTCCACCCTCATTCTAGGGCATATCTCCTTTGGCATTTGGAACTCCAGTTACATCTTGGGTTCCTCTCTTGATA CTTCAGTCCTTTCGTTGGGCAAATCTCCTTTGGCATTTCCGAGTCCTCAGTTGGCTCACCTTATCATTAGTCGAGCAAATCTCCTTTGGCATTATCCG AGTCCGCACTTGGCTCACCTTATCATCATTAGTGGAGCAAATCTCCTTTGGCATTACCCGAGTCGTACTGTTGACTCCTACTATCTTAGTCTAGCAGA TACTCATCACCGTTTCGAAGTAGACCTTTGCTGCTATTGCATTTCAGTCATCTTACGTCAGAAAAAAGATACGCACCTATCAGAATAACTGAACCTGT TCATAAAGACAGCAGCGAAGCTACACCATTTGGCATCGAAGTTTGTCTAAGGCATCTAAACTATGGATATGGCCCTTACTGACTCTGACTGGGAGAG CTCCAGCGACAGTGGTAGCAGTGAACACGAGGAAGTCGAGTTTTCTTATGGCGGACGGGCTCAGAACATCTTCTCAAACCTTGAAGAGACCATTGG AAAAATCGATGAGTTCTTGTCCTTCGAGAGGGAGTTTATGTATGGTGACATTGTGCGGTCCACAACTGAACCATCAGGACAGACTGGCAGGGTTGT CAACGTCAACATGTCCGTTAATCTCGAGAGTATTCATGGGAAGATTGTAAAAGAAGTTGATACCAAGAGGCTTCAAAAGTTGCGTTCGATCTCACTCT GTGATTATGTGATCAATGGACCTTGGCTTGGAAGGGTCGACAAAATAGTTGAGCGTGTCTCCGTCACCCTTGACGATGGTTCCAACTATGAGGTTCT TGTAAGTGATCAAGATAAACTTGTGGCCATTCCTCCAAATCTGCTCGAGGATTCTCAATATTCTTATTACCCGGGGCAGAGAGTTCAGGTAAAGCTG GCCCATGCTCCCAGATCAACGACATGGTTATGCGGGAACTGGAGGGAGAACCAAGTTGTGGGAACCGTCTGCTCTGTAGAAGCAGGACTTGTCTA CGTAGATTGGGTTGCCTCCATCATAATGGGGGGTGATCGGAATTTAACTACACCTCAAGCGTTGCAGAGTCCTGAGAATTTAACTTTGTTACCTTCT GTTTCTCATGCAAGTTGGCAGCTTGGTGACTGGTGCATACTCCCTGAACTGCAAACCCCAGATGTGGTTGCATACAGTTTCAACGATTGCCATAAGA CATTCCAAAAAGGGTTTAACAGAAATATGCAGAGCTCAAGTTCGGATGAGCTTTTTGCTATCACGAAGACAAAGATGAAGGTTGATGTTCTGTGGCA AGATGGTAGCTGCAGTGTGGGAGTTGATTCTCAACAGCTGCTTCCTGTTGGTGCCGTGAATGCTCATGATTTTTGGCCCGAACAGTTTGTTGTGGAA AAGGAAACCTGCAACAGCACAAGATGGGGAGTTGTGAAGACTGTCAATGCAAAGGAACAAACTGTGAAGGTACAATGGAGAACACAGGTTGAGAAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003E19	AT4G32880.1	ATHB-8 (HOMEOBOX GENE 8); DNA binding / transcription factor	GGTTGTTTTTGTTTTCGTAGAATGTTCCACCGTCGATTCTTCTGAGATTCTTGAGGGAACATAGGCAAGAATGGGCTGACAATAGCATTGATGCGTAT TCGGCTGCGGCCATTAAAGCAGGGCCTTGTAGTGTACCAATTCCTCGCCCAGGGAGCTTCGGCGGTCAAGTCATTCTTCCTCTAGCTCACACTATA GAAAATGAAGAGTTTATGGAAGTGATCAAGCTTGAGAGCTTGGGGCATTACCAAGAAGACATGATGATGCCTGCTGATATCTTCCTTCTACAGGTAG AGCTTATTGTCTGAAACGTCAATTTTATGCATGTCCACATCTTAACAAGATAAAAAGAAAAATTTCACTTCATAAACTATTTGCAAAATGTAAAGGTTAT CTTCCGCTTGCGTTTTACAATTTTGAATTTATTTAAAAAAATATTCAAGATGTGGTTCAGTTTGGAAAGTATACACTTATAAACGTAAAATCAACTCAAA CACTTAAAACAATCAATTGACTGAGATATAATTCTCTGCTTTTCAGTAATTCATCTGATTGCAATTATTTAACTATTATGGTTTGATGATATAGATGTGC AGTGGGGTGGATGAGAACGCAGTTGAATCATGCGCAGAGCTTATCTTTGCACCCATCGACGCCTCTTTCTCTGATGATGCTCCAATCATTCCTTCCG GCTTCCGCATCATTCCTCTAGAGTCCAAATCTGTACGTTCATTTCATCTTAATTACAATCATCAACATCATTCGAATGAAACACTAACTGAATCAAACA CAACTATATATAGGAGGGATTGAGTCCAAACCGAACGCTAGACTTAGCATCGGCTCTAGACGTCGGGAGCAGAACAGCCGGAGACTCATGTGGAA GCAGAGGAAACACAAAGTCAGTGATGACAATAGCGTTTCAGCTAGCTTTTGAGATGCATATGCAAGAGAACGTAGCCTCAATGGCTAGACAATATGT GAGAAGTGTGATCGCGTCTGTCCAACGGGTCGCGCTTGCTCTCTCTCCTTCTTCTCATCAGCTAAGCGGCGGCCTGCGTCCTCCACCCGCATCACC CGAAGCTCACACGCTCGCTCGTTGGATATCTCACTCGTATAGATGTTACCTTGGCGTCGAACTACTTAAACCTAATGGAACCGATCTTCTCAAGTCT CTTTGGCACCATCCTGACGCCGTCATGTGTTGTTCACTCAAGGTCACTTTTTTTTTCTCTTTACTTTGTTCTCATTCGCATTTGCATGCATCTTATATTA TATTATGGACGGTTAAAACTGCACGAGCCTCCTGATTTGGAACTTAGGCGGTTGATCAATCAGTCTAGTCCTTATTAAATATATTAACAAATATTTTCT TCTATTTGTCAATGAAAGTTTCCACAAAACACTAAACTATGAAGGTGGTCTTGGCACTATAAAACTTTGAAACGAATTATTTACGTCTAGTGATATTTT GAACATCAATGATAAATTTACTTAATTTCGAAAATTATTATACCTTTTCTAACGATGAAAGTGGACTGGTTTGATCATTGCAGGCCTTACCGCCCGTAT TCACATTTGCGAACCAGGCTGGTTTAGACATGCTAGAGACGACGTTGGTAGCACTTCAGGATATCACTCTCGAAAAGATCTTTGACAACAATGGGAA GAAGACGTTATGCTCCGACTTCCCTCAGATTATGCAACAGGTACGTTAAAATGGAGCTATGCATAATATAATTAGCTAAAAATTGAAACATTATTTGAA ATTATCACACAGAAAAAAAAAAATTGTGTAACGTTGCAGTGTGGGTCCCGTTAAATCATTATTTTTTTCTAAACCTTAAAAATGTGGTTATAAGAATAAAT CATAATTTTGGGGTCGTAAATTAATAAAAATAATTTTCCAGGGGTTTATGTGTATTGATGGAGGAATATGCATGTCGAGCATGGGAAGAGCAGTAACG
GCT-003E20	AT1G34750.1	protein phosphatase 2C, putative / PP2C, putative	GGTGGTTTCTTGATTCATGAAAAAATTCAAGGTTTTTGATTGTTTTCAGGGTCTTGAAATCGTGAAGAAGCAGAGCTTTTTGCGGAATTATAACATCTG CTTCTCATGGCGAGCTTTTGTTGCTTCGGTTCTTCAGACTACGATCTCGTGGTTGGAAGGGCGTCTAGTAGTTCTGGTAAAGGAAAAAACAGCGAAG GCGAGATTAAGTTTGGTTACAGCTTAGTGAAAGGGAAAGCCAATCATCCAATGGAAGATTACTACGTCTCCAAATTCACGAAAATAGACGGTAACGA GCTCGGTTTGTTTGCTATCTACGATGGTCATTTGGGTGAACGTGTTCCTGCTTATCTACAAAAGCATTTGTTCTCCAACATTCTCAAAGAGGAGCAGT TTTGGTATGATCCTCACAGAGCAATAATTGCTGCATATGAGAAGACAGACCAAGCCATTCTGTCACATTCTGACCTTGGCCGTGGTGGTTCAACCGC TGTAACCGCTATTCTGTTGAATGGACGGCGTTTGTGGGTGGCAAATGTGGGTGATTCCAGGGCGGTTCTATCTCAAGGAGGTCAGGCAATACAGAT GACTATAGATCACGAGCCACACACTGAAAGATTGAGCATCGAGGATAGAGGAGGCTTTGTATCAAACATGCCAGGGGATGTCCCTCGAGTCAACGG GCAGCTAGCAGTTTCTCGTGCTTTTGGAGACAAAAGCCTGAAAACACATCTACGGTCAGATCCAGACGTTAAAGACTCATCGATAGATGATCACACA GATGTTCTTGTTCTTGCTAGTGACGGTCTATGGAAGGTGATGGCTAACCAAGAGGCGATTGATATCGCGAGAAGAATCAAAGATCCATTGAAAGCAG CTAAAGAACTAACAACCGAAGCACTGAGAAGAGACAGCAAAGATGATATATCTTGCATTGTCGTCAGATTAAGGTGATGAAAGATGTTTTAAAACCAC CAAGGAAAAAACAAGGATGAAACAATTTAGAAATGGAAGAAACTAAATAAATAAGTTTGATTATATAAAGAGTAGTAGAAGGAACTCAATAATTCTTCC ATATCGCTGCCAATAACAAAAATTAAACATCAAGATGGCTCTCGAAGTCTGCGTGAAAGCCGCCGTTGGTGCCCCTGATAAACTCGGCGACTGCCC GTTCAGCCAAAGGGTTCTTCTCACCCTCGAGGAGAAGAGTCTACCCTACAAAATTCATCTGATCAATATCTCCGACAAACCTCAGTGGTTCTTAGAC ATTAGTCCTCAAGGGAAAGTACCAGTGCTTAAGATCGACGGCAAGTGGGTGTCTGATTCCGACGTCATCGTCGGTATTCTCGAGGACAAGTATCCT GAGCCATCTCTCAAGACTCCTCCTCGATTTGCCTCTGTGGGATCCCAGATTTTCAGCACTTTCGTGGCTTTCTTGAAGAGCAAAGACTCCCATGACA GAACCGAACATGCGTTGCTTCATGAGCTAGAAGCTCTGGAGAATCATCTCAAGACTCATGATGGTCCTTTTATCGCCGGGGAGAGAGTCACCGCGG TGGATCTAAGCTTAGCACCAAAGCTTTACCATCTCGAGGTCGCTCTTGGACATTTCAAAAGCTGGTCTGTCCCAGGCAGCTTGCCACATGTCCATAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003E21	AT1G29950.2	similar to transcription factor/ transcription regulator [Arabidopsis thaliana] (TAIR:AT5G50010.1); similar to Helix-loop-helix DNA-binding [Medicago truncatula] (GB:ABE90109.1); contains InterPro domain Helix-loop-helix DNA-binding; (InterPro:IPR011598); contains InterPro domain Basic helix-loop-helix dimerisation region bHLH; (InterPro:IPR001092)	GCAGCCACGCTCTCTGTCACTTACTCTTATTTCTCTCCCTTTTTTTACCAGACTCTCTCTCTAGATCTTCCCCTGCAACTACTTTCTTCCGAATTTGAT CAAATCTTGAGCTTAAGTCTTACGCTTAAAAACGGTTCATTTGATTCTCTTCTTTCTTTATTCAAAGGTTTCTGATTTCTACGTTTGTGAGTAGAGGAAA GGCGCTTTAAATATACACACAAACAAAAGTTAATATAGTGGAAGAATCAAGATGCCGTGGACATCCTTCTTCATGTTTTTCAACAGGACTTGCACTCG TCTAGTTGTCTTCTTCCTCGTGATTCTGTAAATTTGTTCCTTTTAGGTGCTTTTTTCCGGAGTTTCGGAGTAGCTCTCAGTTGTTTAGCCTATATATTCT TTGGTTAGTGTGAGAATGTGCATTGTTGGAAACAAGAAGGGAAACCGAGCATTGAAGGAGATAGGAACGTTTATGATGACTACATGTTTCATTGCTA ATTACCAATCCGTTCAAGTTTGCCAGGCAGAATATTTCAGACAGTTGCTAAAGCCTGTAACGTAGTCTGGTGTCTGGAATTTCCGGAAATTTGGGTTT TTTGGGGCGGCTATCTACTTTTGATTTCGAAAAGAGTTATTGTGAGATATTAAGAGTTTGGTATTCTGAAGAGCTGTGTTGACGTCTGAGAAGCTTCT GGTTTTGGGGAGGGCTCTGGTGGAAAAAATTCGTGATATCTTCAGTATGATGGCCATAACTTGATTTAGCATCCTTTTGGTTCAGATTCTCGACTTTT AGTGTAGTAGTAAACGAGCAGCTCGAAGCTTTACAAAGAGGCAAATCTTGGTTGCAAGAAACTGAAGCAGCTCACGGTTTTTGAGGTGTAGGACTTT GTTTTTCTTTGTGTGTTCACTTTTTATACCTTTTGCAAGGGTTTTCTGATGCAGAACGATCAGTTTCCCTACTTCTCAGACGAAATGGGAGACAGAAAC ATGAACAACCCGTATGCATCAGCGTCATCTTTTGACGATTTGTTCCCACCATGTGCCAAGTTACCATTCCATGGTGTTGAACTCCAACCTTCTCCGGT CTGTCCAAAGAACTTTGTCATCTTTGACCAAACATGACCGGAGCCAAGTGATGTACCATCCTGAGCTGACCCATAGGCTGGCTAGTTCCCCATCGTT GAACGGATTAGCTTCAAAGTTCCAGAGCGAGTATGTTGGGGAGAGTTTTGGTAACTATGGCCAACAAGAAGTGTCCTCTTCTCACCAAGAAGATCCA AATGAGATTGATGCCCTCTTGAGCACAGATGAAGACTACGAAGATGGTGATGATGATGAGAATGAGGATGGTGGTGATTCAGAAGAGGTCAGCACG GCTCGTAATTCTTACAGAGATAATGGAAATGCATCAGCTGAAGAATCTTGTTGCTCCTCCAGCTATGGATATAAGAGCTCAAAGAAGAAGCAGAGTTT ATCAGGGAGCGCTAGTTGTAACAATGATGGTAAAGGACGGAAGAAGATGAAGAAGATGATGGGAGTGTTGAGGAGGATTGTCCCTGGAGGTGAAG ATATGAATACAGCTTGCGTTCTTGATGAAGCTGTTCAGTACCTCAAGTCACTTAAAATCGAAGCTCAGAAACTTGGCGTTGGACATTTCTCTAACCAA TCTTGAAATGCTATGAGAAATATTCGTTCTTCCATTGGAATTGTTCTTTGGAGGTAAAATCTGTCCATGCGCTATCTGGACCACTCTCTCTCTCTCTCT
GCT-003E22	AT4G05040.3	protein binding	GATCAAGCTTATAAAACATATCCTGTTGCATGTCTGATCTCTTTATTCCACCTGGTAAGATTTGTGCAGTGAGTTTAGGTTTGAGATGGCATGTTTTCA AGCACGTCTAGATAGAATCGAGTCTCAGAGGTTTGTTTCTCTGCGTGACGAGAGGGGACCATCTAATGGAGGCATCGAACTTGTGGCAAACACCGA ATCTGTGGCAGAGTTCCTTACCAATCTCAGATTAGAAGATCTTTTCAATCTCCCTAGTGGATATGTCCAGATGGATCCGGAAACTTTTTGCGGAGTGA GTGGTGGGAACAAAGAATGTGTGGAGAAGTTGAGAAGTCTTGAAATGGCACGTCTCGAGAGCCATAATGGAGATTCTGTTCTTCATCTTGCTGCCA CATGGGGTCATTCAGAATTAGTGAAGAGCATTGTCTCTGAGTGTCCATGCCTTGTGTTGGTGCCAAACTCGAAAGATCAGTTTCCCCTTCATGTTGC GGCTTATGCCGGCCATTCAGCTGTTGTTGAGGTTCTTGTTGCGACATTAACTTATGTTTCAGCTAAAGTGTCTGAAGAAAAGAAGGAGAGGCTGAAT CTATATGTTGTCAAGGACAAAGATGGAGATACTCCTCTGCATTTGGCGTTGAAAGGACGCTATATGGAGATAGCTTCCTCCCTGGTGAAGGCGAACA ACCAAGCTTCGTTTCTTGCGAATAACGAGGGAATATCTCCCTTGTATATGGCCATAGAAGCTGGAGATTTATCACTTGTGAAAGCAATTTTAGACATT ACGGACGACGATGGCCTTGAAAGGGAGAAGTGTAGCTTAGATTCAAAGTTGGAAGGGAGAAAATATCTAGCACACGCTGCTTTGAAGGCTGAGAGT ACAGAGATCCTTGATGTTATTCTAAAAGAATATTCAAGTCTTGAGGATGAGCGAGATGAAGAAGGAAGGACTTGTCTTTCATTTGGGGCATCCATAG GGAATTATGAAGGAGTGCGCAAGCTCTTAGACCGACCAACAAAGAACGTTTATGTGTGTGATGATGATGGTTCATTTCCAATCCATTTGGCTATGGA GAAAAACAATAGGAAGATTGTTAAAGAGTTTATAGAATGTTGTCCAGATTCAAAATACTTGCTTAACAAACGTGGTCAGAACATACTCCATATTGCAGT ACAGATGGGGCACAAAATAAACTTTCTGGGTTTTGATGTGATAAAACTTCTGGGTCTTGGGCAAGATGTGGATGGGAATACGCCTTTGCACATTGCC ACCAAAAATTGGTTCGCTGAAACCGTTGATTTACTTACTACTGATGAAAGGGTACTGCAACTACGGAACAAAAGCGGGTTGAGAGCTCAGGATATTG CTGAGACAGAGTTGAAACCATACTACATCTTTCAGCAGAGGTTGACATTGGCATACTTAAAATATGCTACTCGCGGCATAAAGGGTTATGAAAAGATA AAGTCGATGAGAAGACCAGCAGAGCCACTAGCAGATGACAAAGAGAGGGATTACGTCAACACTTTTCTACTGGTGGCAACTCTTGTAGCCACCATG ACGTTTGCTGCAGGTTTTACAATACCAGGTGGCTTTACCAGCTCCAACCCGCATTTGGGAAGAGCAGCTTTGGCCACTAACCCAACTCTCATACTTT TTCTGCTATTTGACACCTTGGCATTGGTATGCTCGGTTGCAACAATAGCTATACTTATTTGGGCGCAAGTGGGTGATCCAGCACTCCTCCATGCATC CATAGACGTGGTCTTGCCTTTAATGCAATATTCTCTGCTATCCATGCCCTTGGCATTCTTTTTTGGCGTAATTACTGCAGTTGGGCAAGTGAAATGGC TTGTAGCCATCTTTTCCATGAGTGCTTTTGCCTTCTTCTGCTGGGTGCTTTTTCTCGTTGCCCCTCACGTCATGCTAAAGCGGTCAAACTCTGCTGCC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003E23	AT4G00710.1	protein kinase family protein	GAGTTTCTAAACCTAAATTGAAGACTAACACGCAGACAATTTTTCTTCTTCTTCCTCGATTCCTCTTCTCGAAATCTGAGAAACAGAGATTGCATCAAT GGTGGCTCTCTGCTCCAGCGATTCTCTCTGAGAAGAAACCCCTTTTTCCCTTCCACACCCATCCTCGATTTTCTCAGAGGGGTTTCGTTTAATCGCC AACAGAACAGAAGAGTGTCGTAAGAGCCCAGCCACATACGTTTTCTGCTGTTGGGGAGCCTGATCTCTGAAACCCATTTCTCCCATTTCCTCTTCTT CACGCTTTTGTACTTTGACTGCATGGACAACAAAGACGACGCTCTTCTCGCTCTTCGATAGCTTTGATTTGGATCCTAGAATCATAGAAGAAGAATGC AGTCAAGCGTTTCACAAGAATGGGTGGCCTGATGCACGACAATTCCTGGAGGACGCTAAGTCGGTTGGCCAGCTGCGGAGTGAGAGAATGGCCTA TTTCCAGTTCTTCACCTTTCGATTTGCATAGTATCAACATGAGTAGATGATTCTCGGTGAAAACAGAAAAACAAACTGGTTTGATTACATGTGAACCTT TGACAGATTCAGAAGTTTGGGCCAAACAACTCTAACGACAAAGAGGAATGTACTCGCCACAAGATCTATCTCAATGGCTAACGAGATTACAGAGGAA GATGACCAGATTCGTGAGCTAAAGGTCTCTTTTTTCGTTACATATCGGTGATATGTTGGCGGGTTTCTTTAGACGGAATCCAGACCTTGCAAGTTTCA CATCACAGCAGAAGTGGGAAGATGCTTCCATCTTGGATTACGAGATGGATATTGAGCCAGGTTTGCAAGTTTTAGACCAGATGAAAGCTTTTGCGAG CAAAGACAACAACAAGTTTTGAGATTTCCTACAAGGCAATAAAGGTCAAGCTTGAGATCCGAGGACGAGCAACCTATCCTTTATTCACAAGTTAATAT
GCT-003E24	AT4G00730.1	ANL2 (ANTHOCYANINLESS 2); transcription factor	GAGGGTTTCCCATCTTCATCTTCCCCATCACTCTCTGAAAGAGAATAAGAGAGAGAAAGAAAAAAAGAATCCATTAATTCTTAAGAGAGAGAGAGAG ACTGAGAACGAAGAGCACAAGAGAGAAGTTTCCGCTTTCGTTCTCTTTCTCTCTCCTCCATTTCAGTAATAAACTTCTTTTAATTTTCTGGGTTTCTTC TTCTCCCTCATCATCATTTTTAGTTATTTCTAATTTCTTCCTTCTTTTTTGTTTTCCTGTGACTTAGTTCTCGATCCACTCATACTTTTTTCCGTGAAAAG TCTCGACCTTTATTCGCTTTCATTCTCTGGTTTCACTGTGTGTTTTATTTTTGATGAACTTCGGTAGTCTCTTCGACAATACGACCGGTGGTGCATCCA CCGGAGCTAGAATCCTCTCCGGTTTAACTTATGGCAATCACACCACCACATCCACCGTAATACCCGGCGGTGCTATGGCTCAAGCGGCGGCGGCG GCGAGCCTCTTTTCTCCTCCTATTACTAAATCTGTTTACGCCTCCTCAGGCCTCTCTCTAGCTCTCGAGCAACCGGAGAGAGGAATAAACCGTGGAG AAGCGTCGATGAGGAACAATAACGGAGGAGGCGATAATTTCGATGGAAGTGCGAACAGAAGAAGTCGAGAAGAGGAGCATGAGAGCAGATCTGGA AGTGATAACGTCGAAGGAATCTCCGGCGAAGATCAAGACGCCGACGATAAACCTCCGAGGAAAAAACGTTACCACCGACACACTCCTCAACAAATC CAAGAGCTCGAATCTATGTTCAAAGAGTGTCCGCATCCAGACGAGAAACAAAGATTGGAACTAAGTAAGAGGCTTTGCTTGGAGACAAGACAAGTCA AGTTCTGGTTCCAGAATCGTCGGACTCAGATGAAGACTCAATTAGAGCGGCACGAGAACGCGTTACTGAGACAAGAGAACGATAAGCTAAGAGCTG AGAACATGTCGATTCGCGAAGCAATGAGGAATCCAATCTGCACCAATTGTGGTGGACCCGCCATGCTCGGCGATGTCTCTCTCGAAGAACACCATC TTCGTATCGAAAACGCTCGTTTAAAAGACGAGCTCGATCGCGTCTGTAACCTCACCGGTAAATTCCTCGGCCACCACCAACACCACAACTCCTCCCT CGAGCTCGCCGTCGGCACCAACAATGGCGGAGATTTCGCTTTCCCTCCTGATTTCGGTGGTGGTGGCGGTTGCTTACCGCAGACGCAGCAACAAC AGCCGACGGGGATCAATGGGATCGACCAGAGATCAGTTCTGCTGGAGCTTGCTCTAACGGCCATGGATGAGCTTGTGAAGCTCGCTCACAGTGAA GAACCGTTATGGGTTAAAAGCTTAGACGGAGAGAGAGATGAGCTTAACGAAGAAGAGTACATGAGAACATTTTCGTCCACTAAACCAACCGGTTTAG TTACCGAGGCTTCTAAAATCTCCGGTATGGTCATCATCAATAGCTTAGCTCTCGTCGAGACCTTAATGGACTCCAATCGATGGACGGAGATGTTTCC GTGTAACGTTGCAAGAGCCGCAACCACCGACGTTATCTCCGGCGGAATGGCCGGAACAAGAAACGGTGCACTTCAATTGATGAATGCGGAGCTAC AGGTTTTGTCTCCGTTGGTTCCGGTTCGAAATGTCAATTTCCTCCGGTTCTGTAAGCAGCACGCGGAAGGGGTATGGGCAGCGGTGGACGTTTCAA TTGATACCGTCCGGGAAAACTCCGGTGTCTCTCCGGTCATAATCCGGCGACTTCCATCGGGCTGTGTAGTGCAAGATATGTCTAATGGATACTCAAA GGTCACGTGGGTGGAGCATGCAGAATACGACGAGAACCAAATCCACCACTTGTACCGGCCATTGATTCGGTCAGGTTTAGGTTTTGGGTCGCAAAG ATGGGTCGCTACACTTCAGAGACAGTGCGAATGTCTCGCCATCCTCATGTCCTCCTCCGTTACATCTCCCGACAACACATCTATAACGCCTGGTGGT CGGAAAAGCATGCTCAAGTTAGCTCAACGTATGACGTTTAACTTCTGTTCGGGCATATCTGCGCCGTCAGTCCACAGTTGGAGCAAGCTCACGGTC
GCT-003F01	AT3G12490.2	cysteine protease inhibitor, putative / cystatin, putative	GACCGAACGTAAAATAAAAAAGGTAGATGATGAAAAGCCGTTTCTTACTCTTCTTCATCGTTTTCTCTCTCTCCGTCTTCATTTCTTCTCTGATCGCAA GTGACTTAGGGTTCTGCAACGAAGATATGGCCTTGCTCGGCGGCGTTCGCGATGTACCTGTTAACCAGAACAGTGACGAGGTCGAGAGCCTCGCT CGTTTCGCTGTCGATGAGCATAACAAGAAGGAGAATGCTCTGCTCGAGTTTGCGAGAGTTGTGAAGGCGAAGGAACAAGTTGTTGCCGGTACGCTG CATCACCTGACTCTGGAGATCGTCGAGGCTGGGAAGAAGAAGCTTTACGAAGCGAAAGTGTGGGTGAAGCCATGGTTGAACTTTAAGGAGTTACAG GAGTTCAAGCCTGCCAGTGATGCCCCTGCCATTACTCCCTCCGACCTTGGCTGCAAGAAAGATGAACATGAATCTGGATGGAGGGAAGTTCCAGGA GATGATCCAGAAGTGCAGCACGTTGCTGAGCATGCTGTCAAGACCATCCAGCAGAGGTCGAACTCCTTGTTCCCCTATGAACTTCAGGAGGTTGTG CATGCTAACGCTGAGGTCACCGGCGAGGCTGCAAAATTCAACATGCTTCTCAAGTTGAAGAGAGGAGAAAAGGAGGAAAAATTCAAGGTGGAAGTT CACAAGAACCATGAAGGTGTTCTTCATCTCAACCACATGGAGCAACACCATGACTAGTCCTCTCCTCTGTTAATGTATATTGAGTGTTTGCTTGCTCT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003F02	AT4G39980.1	DHS1 (3-DEOXY-D-ARABINO-HEPTULOSONATE 7-PHOSPHATE SYNTHASE 1); 3-deoxy-7-phosphoheptulonate synthase	GAACCGCCTCCATTGTCATTCTCTCTCTCTCTCACCTAAAACACCAAATCAAAGACTCCTCAGACAGAGAGAGAGAAAAGACATCAGAGAGAGAA AGAGAGACAGAGATCATGGCTCTTTCCAACGCCTCCTCTCTCTCCTCCAGATCTATCTACGGCGGCGACGCGCGTCTTTCTCACCGTCAGAGCAAC CGTCAATCTTCCTTCACCGTCGTCAACACCAAGCTTAGGTCCCTTAACCTCGTTACGGCGGTCCACGCCTCTGAGCCGGCTAGAAACGCTGTCTCA GTCAAGGAATCCGTTGCTCCGTCGTCATCATTGAAATGGACGCCGGAGAGCTGGAAATTGAAGAAAGCTCTGCAACTCCCTGATTACCCCAACGCG AACGAGCTCGAGTCTGTGCTCAAGACGATCGAGGCGTTTCCTCCGATTGTTTTCGCCGGAGAAGCCAGGAACCTTGAGGAGAGGTTGGCCGATGC TGCCGTCGGCAAGGCTTTTCTTCTCCAGGGAGGGGATTGTGCTGAGAGCTTCAAGGAGTTCAATGCAACTAATATCAGAGACACCTTCAGGGTTCT GCTTCAGATGAGCATTGTCCTTACATTCGGCGGCCAAGTTCCGGTGATTAAGGTTGGGAGAATGGCTGGTCAATTTGCGAAGCCTAGATCTGACCC ATTCGAGGAGAAGGATGGAGTGAAGTTACCAAGCTACAAGGGAGACAACATCAATGGCGATGATTTTAATGAGAAATCAAGAATCCCTGATCCCAAT AGGATGATTCGTGCTTACACACAATCTGCTGCGACGTTGAACCTTCTTAGAGCCTTTGCCACTGGAGGGTATGCTGCGATTCAAAGAGTTACTCAAT GGAACCTTGATTTTGTTGAGCAAAGTGAGCAAGCTGACAGGTACCAGGAACTAGCCAACAGGGTTGATGAGGCCTTGGGGTTCATGTCTGCATGTG GACTTACCACTGATCATCCACTCATGACTACAACTGATTTCTACACATCCCATGAGTGTTTGCTTCTGCCTTATGAACAGTCTCTCACAAGGTTGGAC TCAACTTCTGGTCTCTACTATGATTGCTCTGCCCACATGGTTTGGTGCGGGGAGCGTACCCGACAGTTGGATGGTGCTCATGTCGAGTTTCTCAGG GGGATTGCTAATCCTCTCGGGATTAAGGTGAGCAACAAAATGGATCCAAATGAGCTGGTCAAGCTAGTCGAAATCCTGAATCCTCACAACAAGGCT GGAAGAATCACTGTGATTGTGAGAATGGGGGCAGAGAACATGAGGGTTAAGCTTCCACACCTGATCAGAGCAGTGCGCAGGTCAGGCCAGATTGT GACATGGGTCTGCGATCCTATGCATGGGAACACCATCAAAGCACCATGCGGTCTCAAAACACGAGCCTTCGACTCAATCCTGGCTGAAGTAAGAGC ATTCCTTGATGTGCATGAGCAAGAAGGAAGCCACGCAGGAGGTATCCATCTAGAGATGACAGGTCAGAACGTGACAGAATGCATCGGAGGGTCCC
GCT-003F03	AT5G11250.1	disease resistance protein (TIR-NBS-LRR class), putative	GGTCCACATAGCTCCCTTTAAAGCTCTGTAATATTGACGACAAGAAAAAGCTCTGTAATATTGATCCTCTTTCCATCATACTAATTAATGGATTCTTCT TTTTTCCTTACCACTGTTGCTGCTGCAATAGGATGCTTTACCCTTTTGAGAAAACTCAGATTCCATCGAAAAGATAACAAAGAAAAGGATTCTTCTTTT TCTTCATCTCCTTCTCCTTCTTCTTCTTTGTCCCCTTCATCAGTTCCTCCACCTTCTTCTTCTCGCATCTGGACACACCATGTCTTTCCCAGCTTCCGC GGGGAAGATGTCCGCAGAGATTTTCTCAGTCACATTCAGATGGAGTTTCAAAGAAACGGAATCACTCCTTTCATTGATAATGAGATCAAAAGAGGAG AATCCATCGGTCCTGAGCTCATAAGGGCGATTAGAGGGTCTAAGATCGCAATCATCTTGCTCTCAAGGAACTACGCTTCTTCAAAATGGTGTCTTGA CGAACTGGTGGAGATTATGAAGTGCAGAGAAGAGCTGGGTCAAACTGTGATGGCCATTTTCTACAAAGTGGATCCATCTGATGTTAAAAAGCTGACA GGAGATTTTGGTAGAGTCTTTAGAAAAACTTGTTCTGGTAAAAAAAAGGAGGACACTGAGAGATGGAGACAAGCTTTGGCAAAGGTGGCAACAATCG CTGGTTATCATTCAAACAACTGGGATAATGAAGTGGCCATGATCAAGAAAATCGCCACTGATATTTCGAACATGTTGAATAACTCCATATCATCAAGT GATTTCGACGGGTTAGTTGGGATGAGAGCTCATTTGGAAAAGATGGAACCATTGTTATGCCTAGAATCAGATGAGGTGAGGATGATTGGGATTTGG GGTCCTCCTGGGATTGGGAAGACCACGATCGCTAGAGTCGTATACCACCAACTCTCCAACAGCTTTCAACTGAGTGTCTTCATGGAAAACATCAAAG CAAACTATACAAGACCTTGTTCTGATGACTACAGCACGAAGTTGCAATTACAACAGCAGTTTATGTCTCGAATAACCAACCATAAGGATATGGAGGTT TCTCATTTGGGAGTTGTCCCAAATAGGTTGAAAGACAAGAAAGTTCTTGTCGTTCTTGATGGCGTGGACCAACTAGTACAACTAGATGCGATGGCGA AAGAGACTTGGTGGCTTGGTCCTGGGAGTCGAATTATCATTACAGCACAAGATCAAAGTCTTTTTAGAGCACATGGCATTAGCCATATATACAAGGT GGATTTCCCAGAAACTGATGAGGCTCTCCAAATCTTTTGTATGTATGCTTTTGGTCAAAAATCCCCTAAAGATGGTTTTGAGGAGCTAGCTTGGGAAG TCACAAAACTTGTTGGTAAACTCCCTTTAGGGCTAAGGGTTATGGGCTCCTACTTTCGGGGAATGTCCAAGCAAGAGTGGAAAAGTTCAATACCGAG GTTAAAGAGTAGCCTAAGCCCTGATATTCAAAGCATTTTGAAGTTCAGCTATGACGCTTTAGATGAGGAAGATAAAGATTTATTTCTTCATATAGCATG TTTTTTCAATCATGCAGAGATTGAGAGAATGGAAGCGTATCTTGGGAAGAAGTTCTTGGAAGTGAGGCAAAGGCTTAACGTCTTAGCTGAGAAATCT CTCATATCTATCGAGTGGCGGAAGAATTGGAGGCGTTCTGGGCACTCGTATTGGATAGATATGCATAGTTTGCTAGGACAACTTGGTAAGGATATTG TTCGTAAACAATCTATTGACGAGCCTGGACAGCGCCGGTTTTTGGTCGATAAAAGAGATATTTCTGAAGTACTGACTGATGATGCAGCAGGTGGTAA AAGTGTCATCGGCATAAATTGCTACTGCAACAGCGGAGATATCGATATAGATATAAGCGAGAGAGCCTTTGAAAGAATGACTAATCTCCAGTTTTTAA GATTAGACATTCACACATTCTGGGGTTCTAGCGCTCGTGGTCCTGGTCGCAACAAATTGCATCTACCGCGAGGTCTGAAATATATATCTCGTAAACT TCGATTCCTAGAGTGGAGATATTTCCCGATGAAATGTTTGCCTTCTGTTGTGAACGTGGAGTTCCTTGTCGAACTAATTCTGGCAGACAGCCAGCTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003F04	AT2G29110.1	ATGLR2.8 (Arabidopsis thaliana glutamate receptor 2.8)	GACATTCAGTTTCTGTATCCTCGATCTTTGGAAATTGATGAAGACGATGAACACTACAAAAACTCATAACACCTTTCTGAGTTACTTTTTCTTATTTCTT TGGGGTTTTCTGTTGATGGAGGTTGGCTTAGGACAAAACCCAACAACTGAAATCAAAATCATCCTAATTACCGCAGAAGACTTGCGCTTCACGTCAG AGATTCCATGGAAGATACTGTTCAAGCATCAGCTGCAGCCTTAGACCTAATCAAGAACGAGCAAGTGAGCGCCATCATCGGACCAAGAACCTCTAT GCAAGCCGAGTTTATGATCAAACTGGCTAACAAATCTCAAGTACCGACCATCACATTCTCCGCAACGAGCCCCCTTCTAAGATCCATCAGCAACCCT TACTTCGTCCGAGCGACTCTCGACGACTCATCCCAGGTCAAAGCCATTGCGGCCATTGTCAAATTCTATGGGTGGAGAAGCGTCGTCGCCATTTAT GTGGACAACGAGTTAGGTGAAGGAATCATGCATTCCTTCTCAAACGCTTTACATGACGTGGATGTCAAAAGAAGTGTGATCTCTCCGGAAGCTAACG ATGATCAGATCCTAAAGGAACTTTATAAGCTCAAGACGAGGCAGACAAGAGTCTTCGTTGTTCACATGGCCTCAAGTCTCGGATTCCGAGTTTTGCA GAAAGCTAGAGAGATCCAGATGATGGAGGAAGGGTATGTATGGTTACTATCAAATGGAATGACGCATATGATGAGACATAATGGTCGTAGCTTAGAG ACTATGCAGGGGTTGTTAGGTGTGAGGAGCCATGTCCCTGAATCGAAAGAGCTTGAAGATTTCCGTTTGAGATGGAAAAGAAAGTTCGAGAAGGAG AACCCATCCATGGGGGACGATGTAGAGCTTAACGTTTTCGCATTATGGGCGTATGATTCGGTCACTGCATTGGCCTTGGCCGTAGAGGAAACCGAC ACAAAGAACTTGCGGTATGATAAAGCTAGCGCTTCTCTAAATAACAAGACAGATTTAGGGACCCTTGATGTCTCTCGCTACGGTCCAAGTCTTCTAG AGGCTCTGTCAAATGTAAGATTCAAGGGTTTAGCAGGAGAGTTTAAACTCATTGCCAGGGAACTCGAGTCATCAACTTTTGACATCATCAATGTTATT GGAAAAAAAGAGAAGGTTATCGGATCCTGGACAACAAGAAACGGACTTGTGGATTTAAATTCCAAGAAAATGACGTCGTTTACAACAGAGAGGTTTG AGCCAATGATATGGCCCGGACCTTCAAAAGTTGTTCCAAAAGGTTGGCAGATTCCAACGGATGGGAAAAAGATTAAAGTGGGCGTTCCAGTAAAGA GAGGCTTCTTCAATTTTGTGAAGGTAAAGACAGATCCGATCAGTAACGTAATTACCGCAACGGGTTACGCCATAGACATCTTTGAAGCTGCTCTTAA GAAGTTGCCATATTCAGTCATTCCTCAATACTACCCTTTTGAGTCTCCAGATGATAAATACAATGATTTGGTCTACCAAGTCTATAACGGGACGTGGG ATGCAGTTGTTGGAGATGTAACCATCACAGCAAACAGGTCAAAGTATGTTGATTTCACTTTACCGTACACAGAGTCTGGGGTGTCTATGATGGTGCC CCTCAGGGACAACGAAAACAAGAACACATGGGTGTTCCTCAAACCTTGGAGCTTAGACCTATGGGTCACTACAGTTTGCTTCTTCGTGCTCATTGGT TTTGTTGTCTGGCTATTCGAACATAGAGTCAACAATGACTTTCGTGGACCGCCTCACCACCAGATCGGCACTAGTTTTTGGTTCTCCTTCTCCACCAT GGTTTTTGCCCACCGTGAGAAGGTTGTGAGCAACTTATCAAGGTTTGTCGTGGTCGTTTGGTGCTTTGTTGTGCTAGTGCTGACTCAGAGCTACACA GCGAATCTGACCTCTTTCTTGACGGTACAACGTTTACAACCAGCGGCCACAACTATGAGAGATCTCATCAGAAATGGGGAGTATGTAGGGTACCAAC ACGGCGCTTTCGTTTATGATATTCTAATAGGTGAAGGGTTTGATAAATCTAAGCTCAAGCCTTTTGGTTCTGCTGAAGAATGCGATGATCTTTTGTCG
GCT-003F05	AT1G75540.1	zinc finger (B-box type) family protein	GGATAAAGAAGAAGCGTCGGTGTTTTGCACCGCCGACGAAGCGTCTCTGTGCGGCGGCTGCGACCACCGAGTCCACCACGCAAACAAACTCGCCT CCAAACATCTGCGTTTCTCTCTCCTTTATCCTTCTTCCTCCAACAACTCCTCTCCTATCTGCGACATCTGTCAGGAGAAAAAAGCTCTGTTGTTTTGTC AACAAGATAGGGCCATTTTATGCAAAGATTGTGATTCATCGATCCACTCTGCGAACGAACACACCAAGAAACACGATAGGTTTCTTCTCACAGGGGT TAAGCTCTCTGCCACATCATCTGTTTACAAACCCACTTCAGAGTCTTCTTCTTCTTCAAGCAGTCAAGATTGTTCTGTCCCTGGATCATCAATCTCTAA TCCTCCTATCAAGAAACCTCTATCATCTCCTCAGAGCAACAACTCCAAGATCCAACCTTCTTCTAAGGTCGATGCAGCTTTGAATCAGTGGGGATCAA CAAGCACTATTTCAGAGTATCTGATCGATACGTTACCTGGATGGCACGTTGAGGATTTCCTCGATTCCTCTCTTCCTCCTTTTGGTTTCTCCAAGAGT AGTGATGATGATGGAGTGTTACCATATGTGGAAGCAGAAGATGACAGCACTAAGAAAAACAACAACAATACAGTGTCACTTCCATCTAAGAATTTGG GGATTTGGGTCCCTCAGATTCCACAAACCATTCCTTCTTCATACACAAATCAGTACTTTTCTCAAGACAACAACAACAATATTCACTTTGGGATGTACA ACAACAAAGACACATTACCAGAAGTACAGACCTATGCTCCAATACAAAACATGAAACAAGGTCACAACAAGAGATGGTATGATGATGGTGGCTTCAC TGTCCCACAGATTACCACTTCTACTTTCACTCATCCTCCTTCTCTTCCTTCTAACAAAAAGTCCAGATCTTTCTGGTAATTCAGATGGCTGGCTTTTTT CTTTTGTTTGTTTTCTTGCCCTTTTTATTTCTCTGAACTGCGGTCTTTGATAGAATTAGGTCTTTTTTGGGTCCTGTCTTTTGTAAATTTTGGGTGTGAT
GCT-003F06	AT1G53580.1	ETHE1/GLX2-3 (GLYOXALASE 2-3); hydroxyacylglutathione hydrolase	GAGCAATGGTGATGACACATTGTACACGCTTCCAACATCTTCTTCAACCCAAATTACTCTTTTCTCATTCTCGTGTTTTCCGTCATCCTCATATCAGAG CTCGCACGCCCCTCAGATCGATTATGGGTTCGTCTTCGTCTTTCTCCTCGAAGCTTCTCTTTCGTCAGCTCTTCGAGAAAGAGTCCTCGACTTACAC TTATCTTCTCGCCGACGTTTCACATCCTGATAAACCCGCTCTTTTAATTGATCCGGTGGACAAGACTGTTGATAGAGACCTGAAACTAGTTAATGAGC TAGGCTTAAAGCTTATCTATGCTATGAACACTCATGTTCATGCTGATCATGTCACTGGAACTGGACTTCTTAAGAAAAAGGTTCCTGGTGTGAAATCC GTCATTTCGAAAGCTAGTGGTTCCAAAGCAGATATGTTTCTTGAACCTGGTGACAAAGTAACTATCGGCGATCTGTACCTTGAGGTTCGTGCTACAC CAGGACATACCGCAGGATGTGTTACATATGTGACTGGAGAAGAAGCAGATCAGCCCCAACCAAGAATGGCTTTTACAGGAGATGCTGTACTGATCC GCGGTTGTGGGAGGACCGACTTTCAGGGTGGAAGCTCGGATCAACTCTACGAGTCTGTACATTCACAGATATTTACATTGCCAAAGGACACACTGA TCTATCCAGCTCATGACTACAAAGGTTATGAGGTAAGTACAGTTGGAGAAGAGATGCAACACAACCCACGTTTAACTAAAGATAAAGAAACATTCAAA ACCATCATGTCAAATCTGAATCTGGCGTATCCGAAAATGATTGATGTTGCAGTACCAGCAAACATGGTATGTGGATTACAAGAGTAGCCTTCTCAAG CCCACTAAAACTTTCTACACAACTCTCTTTACACTCCATTCTATGTTTTAACAGAAGCCAATAAAACTATTCAGAGGTTGTTTGTCCAATAAGATCTGC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003F07	AT1G19850.1	MP (MONOPTEROS); transcription factor	GGTCATGTGTAAGGGTTTTGCCCTTCGAATTTGGAGTTTTCTTTAACCAAAAAAACCAGATTCCATGAAATGGGTTTGTCCTTAATTCTTCTGGTTTCT CGATTTATCTTGTAGCCTGTTTGCTCAATAGGGCTCTTTGTCTCTTCTTGGGTAAAATAAATAAAGTAAATTATGAAGATTTCGTAAAAGAAAAATACC TTCGAAGTCTCGCTTAAAGCCTAGTGCTGAGTGTCGTAGACACTGACCGAGCTTACAAAATCTCTTTATGATGGCTTCAATGGCTTGTGTTGAAGAC AAGATGAAAACAAATGGTTTGGTTAGTGGAGGAACAACAACAACTTCTCAATCTACTCTTCTTGAAGAGATGAAGCTGTTGAAGGATCAGTCAGGAA CGAGAAAGCCGGTAATAAACTCGGAGCTATGGCATGCTTGTGCAGGCCCTTTGGTTTGTCTCCCTCAAGTTGGGAGCTTAGTGTATTACTTCTCACA AGGTCATAGCGAACAGGTTGCTGTTTCAACCAGAAGATCAGCAACAACCCAAGTTCCTAATTACCCAAACCTTCCATCTCAGTTGATGTGCCAAGTC CATAATGTTACTCTACATGCAGACAAAGACAGTGACGAAATCTATGCTCAGATGAGTCTTCAGCCTGTTCACTCCGAGAGAGATGTGTTTCCTGTAC CAGACTTTGGGCTATTGAGAGGAAGCAAGCACCCGACTGAGTTTTTCTGCAAGACACTTACTGCAAGTGATACGAGTACACATGGAGGTTTCTCCGT GCCACGTAGAGCTGCAGAGAAGCTATTTCCACCTTTGGATTACACAGCGCAGCCTCCAACACAAGAGCTTGTAGTTCGAGATTTGCATGAGAATACT TGGACATTTCGCCATATATATCGCGGGCAACCAAAGAGACATCTCCTAACAACAGGATGGAGTTTGTTTGTTGGGTCGAAAAGATTAAGAGCTGGGG ATTCTGTTTTGTTCATCAGGGATGAGAAGTCGCAACTGATGGTTGGTGTGAGGCGTGCTAATAGGCAACAAACAGCTCTTCCTTCATCAGTTCTCTC AGCGGATAGTATGCACATCGGTGTTCTTGCTGCTGCGGCTCACGCAACTGCAAACCGCACTCCTTTCTTGATATTCTATAATCCAAGAGCATGTCCA GCAGAATTTGTGATCCCTCTTGCTAAATACCGCAAGGCAATATGTGGCTCTCAGCTCTCAGTTGGTATGAGGTTTGGAATGATGTTTGAAACTGAGG ATTCCGGGAAGCGTAGATACATGGGAACAATTGTTGGAATCAGTGATCTGGACCCGTTGAGGTGGCCTGGTTCTAAGTGGCGTAACCTTCAGGTTG AATGGGATGAGCCTGGATGTAACGATAAGCCGACTAGGGTCAGTCCATGGGATATTGAAACACCTGAAAGTCTCTTCATTTTTCCTTCGCTGACCTC AGGACTCAAACGTCAGCTCCATCCATCTTACTTTGCTGGTGAAACAGAATGGGGTAGCTTGATCAAGCGGCCTCTTATCCGAGTTTCTGACTCTGCT AACGGGATTCTGCCTTACGCATCATTTCCAAATATGGCCTCGGAGCAGCTTATGAAAATGATGATGAGACCTCACAACAACCAAAACGCAACATCTT TCATGTCTGAGATGCAGCAGAACGTTTTGATGGGTCATGGAGGTTTACTAGGAGATATGAAGATGCAGCAGCCGATGGTAAGGAACCAGAAATCTG AGATGGTGCAGCCAGAAAGCAAGCTAACTGTGAACCCGTCTGCTTCTAATATAAGTGGCCAAGAACAGAATCTGTCACAGAGTATGAATGCTCCTGC TGAACCTGAAAAATCGACACTTTCTGGTTGCAGCTCCGGGAGAGTCAATCATGGAAGTGAGCAGCAGTCAATGGAACAGGCTAGCCAGGTGAAAAC AGTCACAGTGTCTAATGAGGAAAAGGTTAATCAGCTAATCCAGAAACCGAGTGCTTTGTCTCCTCCACAAGCTGATTCATGTCCTGACATAACTCAAC AGATGTACCCACCACTGTCTGATCCAAATCCAATAAACGGATTCTCTTTCCTGGAAACCGATGAGCTGACATCACAGGTCTCTACCTTCCAATCACTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003F08	AT1G30490.1	PHV (PHAVOLUTA); DNA binding / transcription factor	GGTCTTCTTCTTCTCCTCCTTCGAGAGAGCAAATGAAAATCCAAACTCTTTTCCCCAACCATTCTTTCATGAGAGGCTCTCTCCACTCAGAGGGCTTA CCCGTCTAAAAATCAAACCTTTCCATTTTCTCAATCGATACCCATTTCTTCTCCATCTTGCCCTTCCCATTATTTCCCTTAAAGCATCGATTTTTACTTT CTCGCTGTGTGATTTCTCGACTTGGAAATGATGATGGCTCATCATCATCACTCCATGGACGACAGAGACTCTCCGGATAAAGGATTCGACTCTGGCA AGTACGTTAGGTACACACCGGAGCAAGTTGAAGCTCTTGAGAGAGTTTACGCCGAGTGTCCGAAACCTAGCTCTCTCCGAAGACAGCAACTCATTC GTGAATGCCCGATTCTCTGCAACATCGAGCCTCGTCAGATCAAAGTTTGGTTCCAAAACCGCAGATGTCGAGAGAAGCAGAGGAAAGAATCTGCTC GTCTTCAGACAGTGAACAGAAAGCTGAGTGCCATGAACAAGCTTCTGATGGAAGAGAACGACCGCTTGCAGAAGCAAGTCTCCCACTTGGTTTACG AAAATGGATTCATGAAACATCGAATCCACACTGCATCTGGGACGACCACAGACAACAGCTGTGAGTCTGTGGTCGTGAGTGGTCAGCAACGTCAGC AGCAAAACCCAACACATCAGCATCCGCAACGTGATGCTAACAACCCAGCTGGTCTTCTCTCCATTGCGGAGGAGACCTTGGCAGAGTTCCTTTGCA AGGCTACAGGAACTGCTGTCGACTGGGTCCAGATGATTGGGATGAAGCCTGGTCCGGATTCTATTGGCATCGTAGCCGTTTCACGCAACTGCAGTG GAATAGCAGCACGTGCCTGTGGCCTCGTGAGTTTAGAACCCATGAAGGTTGTTGAAATCCTCAAAGATCGTCCATCTTGGTTCCGTGACTGTCGATG TGTCGAGACTCTAAGCGTGATACCCACTGGAAACGGTGGTACTATTGAGCTTGTGAACACTCAGATTTATGCTCCTACAACATTAGCAGCAGCTCGT GACTTTTGGACGCTTAGATATAGTACAAGTCTAGAAGATGGAAGCTATGTGGTTTGTGAGAAGTCATTAACTTCTGCAACTGGTGGCCCCAATGGTC CACTGTCTTCAAGCTTCGTGAGAGCCAAAATGCTGTCAAGCGGGTTTCTTATCCGTCCTTGTGATGGTGGTGGTTCCATCATTCACATTGTTGATCAT GTTGATTTGGATGTTTCAAGTGTTCCTGAAGTCCTGAGGCCGCTCTATGAGTCTTCCAAAATTCTCGCTCAGAAAATGACCGTCGCTGCTCTGAGAC ATGTGAGGCAAATTGCTCAAGAGACTAGTGGAGAAGTTCAGTATAGTGGTGGACGCCAGCCTGCTGTTTTAAGAACTTTCAGCCAAAGACTCTGCC GTGGTTTCAATGATGCTGTTAATGGTTTTGCGGATGATGGATGGTCTCCTATGAGTAGTGATGGAGGAGAGGATATTACTATCATGATCAACTCTTCC TCTGCTAAATTCGCTGGTTCTCAATACGGTAACTCGTTTCTTCCAAGTTTTGGAAGCGGTGTCCTCTGTGCAAAAGCTTCTATGCTGTTACAGAATGT TCCACCCCTTGTCCTGATTCGGTTCCTGAGAGAACATCGAGCTGAATGGGCAGACTATGGGGTTGATGCCTACTCTGCTGCATCTCTCAGAGCAAC TCCATTCGCTGTTCCTTGCGTTAGAACCGGTGGGTTCCCGAGTAACCAAGTCATTCTTCCTCTCGCACAGACACTCGAACATGAAGAGTTTCTCGAA GTGGTTAGGCTTGGAGGTCATGCTTACTCACCTGAAGACATGGGCTTATCCCGGGACATGTATTTACTGCAGCTTTGCAGCGGCGTTGATGAAAAT GTGGTTGGAGGTTGTGCTCAGCTTGTCTTTGCTCCTATCGATGAATCATTTGCTGATGATGCACCTTTGCTTCCTTCTGGCTTCCGGGTCATACCGC TTGAACAAAAAACAACTCCGAGTGATCATGTATCTGCGAATCGAACACGGGATCTAGCATCATCTCTAGATGGTTCAACCAAAACCGATTCAGAAAC
GCT-003F09	AT3G30775.1	ERD5 (EARLY RESPONSIVE TO DEHYDRATION 5, PROLINE OXIDASE); proline dehydrogenase	GGCACAACAAAGTTGAGAAAAAAAAAGGAAGAGAAGAGAGGAGAGGAGAAAAAAACAGCGATAAAACCGAAAAGCCTAAGAAACATCAAAAGAGAA GAAGAAAAAAAATTTCAATTTTTTTTGTTTCACAAAGGAAAATCTTTCAATTTTATGGCAACCCGTCTCCTCCGAACAAACTTTATCCGGCGTCCTTAC CGTTTCTCCGCTTTAACTCCGGTGGGTCCCCCCACCGTAACGGCTTCAACCGCCGTCGTCCCTGAGATTCTCTCCTTCGGACAACAAGCGCCGGAG CCACCTCTCCACCACCCAAAACCAAACGAAGCTCACCATGACATCGATCTCTCCGATCAAGCCCGTCTCTTTGCCTCCGTGCCCACCTCCGATCTC CTCCGCTCAACCGCCGTTTTGCATGCGGCGGCGATAGGCCCTATGGTGGATCTTGGATCGTGGGTCATGAGCTCTAAACTCATGGACACCGCCGT GACACGTGGCATGGTTCTTGGGCTTGTGAAAGGTACGTTTTATGACCATTTTTGCGCCGGTGAAGACGCAGACGCAGCCGCTGAACGTGTGAGGA GCGTTTACGAGGCTACGGGTCTTAAAGGGATGCTTGTCTATGGCGTCGAACACGCCGATGATGCTCCTTCTTGCGATGATAACATGCAACAATTCCT TCGAACCATCGAAGCTGCCAAATCCTTACCAACATCTCATTTCAGCTCAGTGGTCGTGAAGATAACCGCGATTTGTCCGATTAGTCTTCTGAAACGA GTGAGCGATTTGCTTCGATGGGAATACAAGAGTCCGAATTTCAAACTCTCATGGAAGCTCAAATCCTTCCCGGTTTTCTCCGATTCGAGTCCTCTCTA CCACACAAACGCAGAACCGGAACCGTTAACCGCCGAGGAAGAACGTGAGCTCGAAGCAGCCCACGGAAGAATCCAAGAAATCTGCAGGAAATGTC AAGAATCCAATGTACCTTTGCTAATCGATGCAGAAGACACAATCCTCCAACCAGCGATTGATTACATGGCTTATTCATCGGCGATCATGTTCAACGC GGACAAAGATAGACCAATCGTTTACAACACGATTCAGGCCTACTTGAGAGACGCGGGTGAGAGATTGCATTTGGCTGTGCAAGAAGCTGAGAAAGA GAATGTTCCTATGGGGTTTAAGTTGGTGAGAGGTGCTTATATGTCGAGCGAAGCTAGATTGGCAGATTCCTTGGGTTTCAAGTCACCGGTCCACGA CACGATTCAGGACACGCATGCTTGTTACAACAACTGCATGACCTTCCTGATGGAGAAAGCATCTAACGGGTCTGGTTTTGGTGTCGTTCTTGCAACA CACAATGCTGATTCGGGAAGACTTGCGTCAAAGAAGGCGAGTGATCTCGGGATCGATAAACAGAATGGGAAGATAGAGTTTGCGCAGCTATACGGT ATGTCAGATGCATTGTCCTTCGGTTTAAAGAGAGCCGGGTTCAATGTTAGCAAGTACATGCCATTTGGACCGGTCGAAACTGCTATACCGTATCTTC TCCGACGTGCTTATGAGAACCGGGGAATGATGGCTACCGGAGCCAATGACCGTCAACTCATGAGGATGGAACTTAAGAGGAGATTAATCGCCGGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003F10	AT4G35770.1	SEN1 (DARK INDUCIBLE 1)	GAACAAAGTATCTAAGAAAGAAGAAGAGAGAAAAAAAGAAATGGAAACAACGACTTTTAACACACCGACACGAATTGGAAGCTGGTCATCGACTATT TCTCAACCTCTACAAACGTGTGGATCTTTCAAGTGGAAACTACCAACGGCAAATTCAACAAGAAGAGGTGTCATTGTTGCAGATGTTCAAACTTCAAA TATCCGATGGCGGAGAGCAACAACGAGCAGAGGAAATGTTGCAGCAGAAGCAGGCAGAGTTCCTACATCGGTACCGGTAAGAGTGGCGCATGAGC TAGCTCAAGCAGGATATCGATATCTCGACGTGAGGACACCAGATGAATTCAGCATCGGACATCCTTCTAGTGCCATCAACGCCCCTTACATGTACAG AGTCGGATCAGGGATGGTCAAGAACCCGAGTTTTCTAAGGCAGGTCTCGTCCCACTTCAGGAAACACGACGAAATCATCATCGGTTGTGAGAGCGG GCAAAGGTCTTTCATGGCGTCAACTGATCTTCTCACGGCTGGTTTCACCGCGGTCACAGACATTGCTGGAGGATACGTTGCCTGGACAGAGAATGA ACTACCTGTAGAAGAGTGATAAGCAAACACGAGACCACTCCGTTTGTGATCTGTAAATACATGGATAATGTAAAATTTCTCAACACAAGTGTTTTATG
GCT-003F11	AT3G52430.1	PAD4 (PHYTOALEXIN DEFICIENT 4); triacylglycerol lipase	GGACTACTACGAATAGTCGATATCCAGTCATGGAAGAGTGCCGGTTCGAGACAAGCGAGTTACAGGCATCGTTCATGATGTCGACTCCGTTATGGT CCGATTCTTGGAGTTTATGCAACGCCGCAAATTCCGCCGGGAGTATCCAGGTTCAGCACATTGCCGGAATCATGTATGTCGCTTTACCGGCGATGG AGATAATTCAACTGGGAGATCTCGTGGGCCTGGAAGTCGCCGGAGATGGGCTTTTTCCGGCCTTGTCGACATCATTAGCCACCGATGAGCCTCTGC CTATGGTCGACGCTGCTATACTTGAACTTTTCATCCCCTTGCTTCCCCTCATTCAATCTCAGATCACACGAGGATTGGAAATGGAAGGAAGAAAACA GATTGTGTTAACCGGACATTCAACCGGCGGCGCGTTGGCCGCTCTCACCGCACTTTGGCTTCTCTCCCAACCGTCTCCGCCATCATTCCGCCTCCT CTGCATCACCTTTGGCTCACCTTTACTTGGAAACCAAACTCTATCTTCCTCAATCTCTCGATCTCGTTTAGCCCACAAATTCTGCCACGTGGTCTCCA TCCATGACCTCGTTCCCAGGAGAAGCAGTGAACAGTTCTGGCCCTTTGGAACCTATCTCTTCTGTTCCGACAATGGAGGTGTCTGCTTGGACAATGC TGCTTCAGTTCGTGGGATGTTTCTTATACTCAACTCGACAGGAACTCCAAACATTGAGGAACATCAAAGGTACGGACATTACGTGTCCACACTCTCT CACCAGTTTCTCGTATCTAGGAGCTTTCGTGGTGGGAACATCTCCGACAATAGCTACCAAGCTGGCGTCGCATTAGCCCTAGAATCTCTAGGATTCT CTAATGACGACCCAAGTGGTGTATCAGCAAAAGAATGCATAGAAACGTCTACAAGAATTGGTCGTGCTCCGATATTGAGGTCGAGCGAGTTAGCTAT TGAGCTTGGTAATGTCTTACCATCGAGACTAGAGATTCAATGGTACAAAGAAAGCTGCGACGCGTCGCCAAAGCAGCTAGGTTACTACGATAACTTC AAACAATACTCAAATCAAAGAGAGATAAGAGTGAACATGAGTCGAGCAAAGCTAGCTAGGTTTTGGGACAGTGTGCTTGAAATGGTGGAGAAGAATG AGTTACCTTTTGATTTTCATTTAGGAGTGGGAAGGAAATGGGTATACGCATCACAGTTTTACCGGCTCTTAGCCGAGCCACTAGACATTGCATACTTC TACAAGTACAAATATTCAAGGGCTGTTGGTCATTACATGCAGAGTGGGAATAGACCCAAAAGGTATGTAATGTTTGATAAGTGGTGGGAAGTAAGTG GAGAGCCTTATGAAGAGACGCGTGCGAGAACTCAATATGCGAGCACTACGCAGGATACTTGCTTTTGGGCTAAGCTTGAGGAAGTGAAAGAGTGTT TGGATGAGATGAGAAGCGAGAGTAGCGGCAATGCGCAAAGGAGATCTTCGTTGTGGAAAAAGATTGTTGCATTTGAGAACTATGCGGATACATTGG
GCT-003F12	AT4G24660.1	ATHB22/MEE68 (ARABIDOPSIS THALIANA HOMEOBOX PROTEIN 22, maternal effect embryo arrest 68); DNA binding / transcription factor	GATACTCTTAACCCTCATGAATTATTGGTCTCCAGAATAGTTTTTAAGTTACAATTCAACTGTACGGATGTCTCTTGTGATGTTAAAGAATTAAGAAAC AAAGAAAGAGAGAGAGAGAGAAGAAGAAAAAATGAATTTTGAGGATCAAGAAGAAGAAAGGGAGATGTCGGGTGTAAACCCTCCCGGCGGTTACGA ATCTCTGAGCGGTGAAGGAGCCACCTCGAGCGGTGGTGGTGGTGGTGGTGGCGGAAGGAGAAAAACCGTTGGAGGAGGAAAGATAAGGTATAGA GAGTGCTTGAAGAATCACGCCGTTAACATCGGTGGCCACGCCGTGGACGGTTGCTGCGAGTTCATGCCTTCAGGTGAAGATGGTTCACTCGACGC TCTCAAGTGTGCAGCTTGTGGCTGCCACCGCAACTTCCACCGCAAGGAAACCGAGATCATCGGCGGCAGAGCTCACAGAGTTCCAACTTACTACAA CCGTCCGCCTCAGCTTCCACCGCCGCCAGGATACCTTCATCTAACATCTCCGGCAACGGCAGGGCAGCCTTACAGGCCACCGGCTGCATCGGCG GATCAGGAGGATACGTCTAATCCGAGCAGCAGCGGCGGAACAACGGCTAAGAGGTTTAGAACGAAATTCACGGCGGAGCAGAAAGAGAAGATGCT GATCTTTGCGGAGAGGTTGGGGTGGCGGATTCAGAAACACGATGACGTGGCGGTTGAGCAGTTCTGTGCGGAGACTGGTGTTAGGAGACAAGTGC TTAAAATCTGGATGCATAACAACAAGAACTCTCTTGGTAAGAAACCCTAATTTTCCCCCCGACATATGATTTAAGCAGAAGAGATGATCATTGCTTTTG TTTTTTTTTTGTATGACTCTTTTGTAACTAGTTGTACTTCTGGACATTATTTCTTATTTTAGTTAATAAGTTAATTTAGTACTTTGGGGAGACAGTACTGT GATTAATAAGCTATCTTTAACTTTGGTTAAATGGTTCAGATTTGATAAGTTTACTTATATGTATGCAATTGAATGGATCGGACCAAATGATCCAAATTTG
GCT-003F13	AT2G15960.1	unknown protein	GGTAATTTCATATTAAGGATCAACAAGAAGAAGAATGGCAAAAGCTATTGAGGTTTGGGTGGGAGAGATGAAAAACATGGGTGAGAAGATAAATCCT AGAAACCCATTGATGCAGAGGAAGAAGAGTACATCTTCTGTTGTTTCCAAACAACAGCAAGGAGAAGAAGAAAGAGGACTTAAACAAAAGACAAGAG ACAAAGATGAAGCTGCAACTATGTCTGAGCTCACTGTTTGTCTTCTCATGGACCGTTTTGTTCCATGGTGATATTCTTATATACTCTGTTTTTGGGATC TCCCCTTCGGTGATGTGTATATATAGAATTACATGTATATCTATGTCAATAGATGTTGTCTGTGCATAACATGTTCTTCAAATTCCCTTGTGAATTTATG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003F14	AT1G68670.1	myb family transcription factor	GACAAAATTAAAACTCTCAAAGATTCGTTTAGGTACGCGACGCCCCGACCTCGAACCCTTCTCAACCATTTCTCTCTCTCTTCAAAAATTTTCTCCAT GTTTATTCCCTTCTCTGATTCCATTTAGATCCAATATTCTTTCTCCATTGGACTCTATAGATCTGTATATTGCCTTCTTTACTTTGAAACACCATAGCCA AAACAAAAAATGATGGTTCACAAGATGGAGACTGATCACGCCCAGAAAATGCAAAGATGTCATGAGTATGTTGAAGCTCTTGAAGAAGAACAGAAGA AAATCCTAGTCTTTCAACGCGAGCTTCCTTTATGTTTAGAGCTCGTTACTAAAACGATCGAGGCGTATCGTAAGGAGTTATCCGGTACATCATCGGA GCAGATTCACGGCCAATCAGACTGTTCGGAGCAGACGACGAGCTTTTGCGGTGGACCAGTCTTGGAGGAGTTTATTCCAATCAAGAAGAGTTCGTT GAGCCAGGAAGAAGAAGACGGCGAACATGAATCTCTAGAGCCTGAGATTAATAACGTCGACAAGAAGAAATCTGATTGGCTTAGATCTGTTCAGCTA TGGAACAATCCGTCACCGGATCTAAACCCGATAGAGGTATCAGATTCGGAGCGTGTGGTGGCTAAGAAGGCGAAAGTGGTTGAGGTGAAACCAAA CAACGGCGGCGCGTTTCAGCCGTTTCGTAAGGAGAAAAAACGCGTTTTTTTGGAGACTCAGCCGCCGCAACCGGCGGTTAAAGCGGCGACGACGA CGAGTTCCACGACGGAAACAACCGGCGGAGGTAAAAGTGATTCGGTTAAAGCGAGGGAGGAGCAGATGAAGCAGGACCAATCGCAGTCGCAAAC GCATAGAAAACAACGGCGATGCTGGTCGCCGGAGTTACACCGGCGGTTTCTTCACGCGCTTCAGCAGCTCGGAGGATCGCATGTTGCTACACCAA AACAGATTAGAGATCATATGAAAGTCGATGGGTTAACAAACGACGAAGTTAAAAGCCATTTACAGAAATATAGACTTCATACAAGAAGGCCAGCAAC GTCTGTGACGGCGCAGAGTAACGGAAACTCGCAACAACCACAATTCGTGGTGGTCGGAGGAATATGGGTTCCGTCGCCACAGGATTATCCTCCAC CGTCAGATGTATATGCTCCGGTGGCGGAGGTGCAACCACCACCACTACCACTACCACCGCAATCTCCTAAGCTTTCGGTGGAGAGAAGTAGCGGC
GCT-003F15	AT1G10500.1	ATCPISCA (CHLOROPLAST-LOCALIZED ISCA-LIKE PROTEIN); structural molecule	GATTAAGCGAAAAGAGATTTTTTTTGTGTTCTTCCTGGTCTTCTTCGAAAGGACGTTTCCTCAGCTCGGCGATTCTATTCCGGGATGATGGCGTTCAC TGGAATCACGACCTCAAATCCAACTCTTCTTCAGCTTAGGATCTCCAGTACAAGTTTACGCTCTGTGATTCCTTGTAATTCGATTTCATTTCCTCGTTC ATCATACGTGAAACTCAATCGGAGAAACCGCCTCTATGTTCGATCCAGTTCAGTTCCAGTGGCACCTGCAATGGAGGGACTGAAACCGGCGATATC CCTGACGGATAATGCACTGAAGCATCTGAATAAGATGAGATCAGAACGCGGGGAAGATTTGTGCTTGAGAATTGGTGTCAAACAGGGAGGATGCTC GGGGATGTCTTACACGATGGACTTCGAGAACAGAGCCAACGCACGACCAGATGATTCTACCATTGAATACCAAGGATTTGCTATAGTTTGTGATCCG AAGAGCATGCTCTTCCTCTTCGGGATGCAGCTTGATTACAGCGATGCCTTAATCGGTGGAGGCTTCTCTTTCTCGAATCCTAATGCTACGCAGACCT GTGGATGTGGGAAGTCTTTTGCTGCCGAGATGTGAAACATTTTGACATATGGCAGTAATGATATATGTAGTCAGACTTATAATTGATGGAACACTTTG
GCT-003F16	AT5G41210.1	ATGSTT1 (Arabidopsis thaliana Glutathione S-transferase (class theta) 1); glutathione transferase	GACAAATCATTAGAAGAAGAAGAATCAAAAAGAAGAAGAATGAAGCTCAAAGTGTATACAGATCGTATGTCACAGCCATCTCGTGCTGTCATCATATT CTGCAAGGTGAATGGAATACAATTCGATGAGATTCTGATTTCTTTGGCCAAGCGTCAGCAATTAGCACCTGAGTTCAAAGATATTAATCCACTGGGG AAAGTTCCAGCTATTGTTGACGGCAGGCTTAAGCTCTTCGAGAGTCACGCGATCTTGATTTATCTTTCCTCTGCATTCCCAAGTGTAGCTGATCATTG GTACCCTAACGATCTTTCCAAGAGAGCCAAGATTCACTCAGTCTTGGATTGGCATCACACAAATTTACGCCCTGGTGCAGCTGGATATGTTCTGAAT AGTGTTTTAGCTCCATCTCTTGGACTTCCTCTGGATCCGCAAGCAGCTTCTAAAGCCGATAAGCTACTAACAAAGTCTCTGTCCACTCTAGAGACTTT CTGGCTTAAGGGCAATGCCAAGTTCTTGCTTGGAAGCAACCAACCATCTATAGCTGATCTGAGCCTTGTATGTGAACTTACGCAACTGCAGCTTTTG GATGAGAAAGATCGTGTTAGATTGCTCAGTCCTCATAAGAAAGTTGAACAATGGATTGAGAATACGAGAAAGGCGACAATGCCTCACTTTGATGAGG TCCATGAGATCCTTTTCAAAGCCAAACAAAGATTTGAGAAGCAGCGAGAGATGGGAACCGTACCTAAACCGGGTTTTCAATCTAAGATGTAAGAAGA
GCT-003F17	AT5G28770.2	BZO2H3 (basic leucine zipper O2 homolog 3); DNA binding / transcription factor	GGAAGAAATTTGTAGGGAGAAATAAACAAATTTATTAACAAAAATGGAAAAGGTTTTCTCCGTTGAAGAATTTTCCGGTAACCTTCTCTGGTCGGAGC TAGCGAAAGAGGCCGATGGAACGACGGCGATGAATCGTAGCGACTCCGAGTGGGCATTTCATCGTTTCATACAAGAATCCTCAGCCGCCGGAGAA GCTACGACGGCGTCTGGTGTTTCCGTCTCTGGACCTCCTTCTCCGAGTGTTCCGGTCGATTCCGAGGAATACAGAGAGTTCCTTAAGAATAAACTCA ATCTAGCTTGTGCTGCTGTCGCCATGAAAAGGGGATCTTTCATTAAACCTCAGGAGACGTCTGGTAGATCTGAGAATGGAGGAGCATACACATCCA GTGCATCAGAACAAGCCTCTCTAGCTTCTTCCAAAGCTACACCAATGATGAGCAGTGCTATAACAAGTGGATCTGAGCTCTCAGGTGATGAAGAAGA AGCTGATGGTGAAACAAATATGAACCCTTCTAATGTTAAGCGTGTGAGAAGAATGCTTTCTAACAGGGAATCAGCTAGACGGTCCAGAAGAAGAAAG CAAGCACACCTGAGTGAGCTAGAGACACAAGTTTCACAGCTTCGTGTAGAGAATTCCAAGCTCATGAAAGGTCTCACTGAGGTAACTCAGACATTCA ATGACGCAGCTGTAGAAAACAGAGTTTTGAAAGCCAATATCGAAACATTACGAGCCAAGGTGAAAATGGCTGAGGAGACAGTGAAGAGAATCACTG GCTTCAACCCAATGTTCCACACCATGCCTCAGGTTTCAACAGTGTCTCTTCCTCCAGAGACATCAAATTCTCTAGACGAAAGCATCCACGTCACCAC ACCACCAGAGACCAGCTCAGGCAACAAAAGCAAGGCCTTGATCGGGTGCAAAATGAACAGAACAGCTTCGATGCGTAGAGTTGCTAGCTTGGAACA TCTGCAGAAACGTATTCGAAGCGTTGGGGATCAGTAAGTAGCTGCTAAGAAGAAACTTGATTTGTAACATCGTCACAAGAGAGAAACAGAGAGTGAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003F18	AT3G09710.1	IQD1 (IQ-DOMAIN 1); calmodulin binding	GAGCAAAGATCAAAACTCGACCGATTCAAATTCTTATAGCATTTTCATTTTCCGAGAAAGTCGCATTTAGCCATTAAAGGAACTCTCGGAGTCGTGCT TTTGAAGGTTTAAGTTGAATCTCGAGTTTCTTTTCTTCCAGATCTGCTTCTACAGGTTCGATTCATCTTCTTCTGGAGGATCAGAGAGATCGAAATGGT AAAAAAAGCGAAATGGCTGAAGAACGTAAAGAAAGCGTTTAGCCCAGATTTAAAGAAGTTGAAACACCAATCGGTTGAGTGTCAAAATAGTGTGATC TCTTACCCTGTCTTGGTTGCCACATCCAGAAGCTCTCCTCCTCAGTTTGAAGTGAGAGTTGATGAGGTCAATAATGAAGAGAAGAAGAAGAATCTGT GCCCTCCTCCTTCAGATTCTGTGATTGCTACAGAAGAAGATGTTTTTGTAGATTCACCTCCATCTTCTCCTGAGTTTGTTCGTCCAGCTACACCTGAT AGGTTTGCAGGGAAGTCAAAGGAAGAAGCTTCTGCCATCTTGATCCAGTCTACATTTAGGGGCTATTTGGCAAGAAGAGAATCGCGGGAGATGAGG GGATTGGCCAGACTTAAGTTATTGATGGATGGATCGGTTGTACAACGGCAAGCTGCAAATACACTCAAATGTATGCAGACTCTCACTCGTGTACAGT CACAAATCCGGTCTAGGAGAGTCAGGATGTCAGAAGAGAATCAAGCTCGCCATAAGCAACTCCTTCAGAAGCATGCCAAAGAGCTAGGAGGCTTAA AGAATGGGGGTAATTGGAATGACAGCAATCAGTCGAAGGAACAAATAGAAGCAGGTTTGTTGAATAAGTACGAGGCGACAATGAGAAGGGAAAGGG CATTGGCTTATGCATTCACACATCAGCAAAACCTGAAGAGTAACTCAAGATCTGCAAACCCGATGTTCATGGATCCTAGCAACCCGACTTGGGGTTG GAGCTGGTTGGAAAGGTGGATGGCTGACCGGCCATGGGAGAGCTCAGAGAAAGAACAGAACAACAACAGTGAAAACTCCTCGGTTAAGACCTCGT CTAACCGTAATTCCCATCGAGGAGAAACCGCAAAATCTTCGAACCGCAAAAACCTCAATAGCTCGGCTCAACTCAATACCCCATCTTCATCATCATTA TCCACCACAAGAATCCCGAGAAAGAACAGGCCAACACCACCGTCCATAAAATCAAAGACCACCGATGAAAACGCCAAGAGCTCGGAAAAGAATCGT AGGCACAGCATTGCAAGGTCATCGGTTAGTGATGACGAGAACTCAACGGCTCGACGTAGAAACATGGTTCCCACAAAATCAACAAGAGGCAAGCTC AAGGCCCAGAGCTCATCAAGCGTCTCCGTAATCACGACAACCATGGAGGAAAATGGTGTTTTACCGCAGAAAGCAGCAGCAAAGAAACGGATCTCC
GCT-003F19	AT3G27380.1	SDH2-1 (succinate dehydrogenase 2-1)	GGTCGTCTAATTTTCGCTCCGTCTCCACTGTTGTGTGTTTCTCCCCTGAAAATGGCGTCCGGTTTAATCGGAAGATTGGTTGGAACCAAACCGTCGA GGTTAACGACGGCGGCGAGGTTGATTCCGGCGCGATGTACGGCTTCGGGATCGGAAGCGGAACCAAAGGCATCGTCTGGTGGCGGCGGAGGATC GAAATTGAAGACGTTTCAGATCTACCGTTGGAATCCTGATAATCCTGGGAAGCCTCAGCTTCAGGATTACCAGATCGATCTCAAGGATTGTGGTCCG ATGGTTTTGGATGCTTTGATTAAGATCAAAAACGAGATGGATCCGTCGCTCACTTTCCGTCGCTCGTGCCGAGAAGGGATCTGTGGTTCGTGCGCG ATGAACATCGACGGATGCAACGGGCTCGCTTGTTTGACGAAGATCCAAGACGGAGCGTCGGAGACAACAATCACGCCGTTGCCTCATATGTTCGTG ATTAAGGATCTGGTGGTGGATATGACCAATTTTTACAACCAGTACAAAAGTATTGAGCCGTGGTTGAAGAGGAAGAATCCGCCGTCTGAGCCTGGG AAGGAGATTCTACAGAGCAAGAAGGATAGGGCTAAGCTTGATGGGATGTACGAGTGTATTCTGTGCGCTTGCTGTAGCACATCCTGTCCCAGTTAC TGGTGGAATCCTGAATCTTACCTTGGCCCTGCCGCTTTGCTACACGCCAACAGGTGGATAAGCGACAGTCGCGATGAGTACACTAAGGAAAGACTT GAGGCTATTGACGACGAGTTCAAGCTTTACCGTTGCCATACGATCTTGAACTGTGCACGTGCATGTCCAAAGGGTTTGAACCCAGGCAAACAGATC GCACACATCAAGCAACTTCAGCGTTAAACAGCTTTTTTAAGTATGCATGCGGTACTCATCGGGAAACTCATTACCCCTTAACGTTTGAAGCTAATAAT CTTCACAAAACCTCCCGGATTTTCAGTTCATTCTTGTATTTGTTGTTGCCAAATATTAGCGCCTGGAAAAAACTCTTATGCAAGCCCTCCCAAGTAGAT
GCT-003F20	AT1G33520.1	MOS2 (MODIFIER OF SNC1, 2); RNA binding / nucleic acid binding / protein binding	GCGATTCTCGCCGTCTTCGTGACATTTCTGATTTCTGTTTGCTCTTGTGAGAGAGAAGAGAACGAATCATCATGAAGCTCTCTTTCTCTCTCCCTTCC AAATCGAAGCCCAAAGTCACAGCGATCGCCGACGGGAACAACGCCGGTGACGACGGTAATAGCAAGGAGTTCGTGACGGAATTCGATCCTTCGAA AACCCTAGCTGATTCCACTCCCAAATACGTTATCCCTCCGATAGAGAATACATGGAGGCCTCACAAGAAGATGAAGAATCTCGATCTCCCGCTTCAA TCCGGTAATACCGGTTCAGGTCTCGAATTCGAGCCCGAAGTTCCTTTAGGCGATTCCAAGGGATCCGATAGTAACATCACCTACGGTTTGAATCTGC GTCAGAAAGTAGTGAAGGAAGGCGACGCGAGTGATGAGACCGAAGATCGGAAACTAGCTCCGGTGGAGCAGCTTATGCAGCAAAACTTGAGGAAA GATCTGGAGTCGCTCGCTGATGATCCGACGATGGAGGATTTCGAGAGCGTTCCTGTGGAAGGTTTTGGAGCTGCGTTGATGGCTGGATATGGATG GAAGCCAGGGAAAGGAATAGGTAAGAATGCTAAAGACGATGTTGAGATTAAGGAATACAAAAAGTGGACTGCTAAGGAAGGATTAGGTTTCGATCC GGATAGATCTAAGGTTGTGGATACGGAGGCTAAAGTGAAAGAAAGTGGGAAACTTGATATTAATGGCGGAGATGTGTTTTTTGTTGGCAAAGAAGTG AGGATCGTTGCGGGAAGAGATATAGGATTAAAGGGTAAGATTGTAGAGAAACTTGGTAAGGATTTGTTTGTTTTGAAGCTCTCTGGAAGCAAAGATG AAGTGACAGTTGGTGTGAATGAGGTAGCAGATTTGGGTTCCAAGGAAGAAGAAAGGTGTTTGAAGAAGTTGAAAGATTTACAGCTAAACGATAAGGA GAAAGATAAGAAAGCGAGTAAACGAAGCAGAGGAACAGAGAGAGGGAGTAAAAGTGAAGTTAAACAAGAGAGAGGTCAAACAAGAGAGTGGAGAG TGAAGCCCTCATGGCTAAGGAGTCAGATAAAGGTGAGAATAGTAAGCAAGGAGTTGAAAGGTGGGAGATTGTATCTTAAGAAAGGAAAAGTTGTCG ACGTTGTTGGACCAACTACATGTGATATCACCATGGATGAGACGCAAGAGTTGGTTCAAGGGGTTGATCAGGAGCTGCTCGAGACGGCTTTGCCTA GGCGAGGAGGGCCGGTTCTGGTTTTATTAGGGAAACATAAGGGCGTCTATGGAAATCTGGTTGAGAAAGATTTGGATAAAGAAACTGGTGTGGTTC GTGATTTAGATAACCACAAGATGCTTGATGTTAGGCTTGAACAAGTTGCTGAGTACATGGGTGATATGGATGATATTGAATACTGAAACTCTCTGTGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003F21	AT3G18990.1	VRN1 (REDUCED VERNALIZATION RESPONSE 1)	GGGTCTCTGTCTCCGTATTCTCCGGCGTCGTTTTATGATCTGACTTCGGTCTCTTCTTCTTCTCTTTTTTTTTTCTTCTTTACTTCGTCACTGTTTCTCT GAACATGCCACGCCCTTTCTTCCACAAGCTGATTTTCTCATCCACTATCCAGGAAAAGCGTCTGAGAGTCCCAGATAAGTTTGTGAGTAAATTCAAG GACGAGCTATCGGTAGCTGTTGCACTCACAGTACCTGACGGTCATGTTTGGCGTGTAGGACTAAGGAAAGCTGAGAACAAAATTTGGTTTCAAGAT GGTTGGCAAGAGTTTGTTGACCGTTACTCCATTCGCATTGGTTACCTTTTGATTTTTAGATACGAAGGAAACTCTGCCTTTAGCGTTTACATTTTCAAT CTATCCCACTCTGAGATCAATTACCATTCCACCGGTCTCATGGATTCTGCGCACAACCACTTCAAACGCGCACGTTTGTTCGAAGACCTTGAAGACG AAGATGCAGAGGTCATCTATCCTTCTTCCGTGTACCCATCACCACTTCCTGATTCTACTGTACCCGCCAATAAAGGATATTCTGGTTCAGCCATTCAA AGCTTGTTCACTGGACCTGTTAAAGCTGAGGAGGCAACGCCAACCCCAAAAGTTCCGAAAAAGAGAGGGAGGAAGAAGAAAAACGCTGACCCTGA GGAAATAAACTCATCTGCTCCGCGCGATGATGACCCAGAGAACCGTTCAAAGTTCTACGAGAGTGCTTCTGCGAGAAAGAGAACCGTGACTGCAGA AGAGAGGGAGAGGGCCATCAATGCTGCCAAAACGTTCGAGCCAACAAACCCTTTCTTCAGAGTTGTTCTGCGACCATCCTATCTATACAGAGGTTG CATCATGTATCTGCCTTCTGGTTTTGCTGAGAAGTATTTAAGTGGGATCTCAGGATTCATCAAGGTCCAGCTAGCGGAGAAACAATGGCCCGTGCGA TGCCTCTACAAAGCCGGGAGAGCCAAATTCAGCCAAGGATGGTACGAGTTCACTCTGGAGAACAACCTAGGAGAAGGTGACGTGTGCGTGTTCGA GCTGCTCAGAACCAGAGATTTCGTTCTGAAAGTGACAGCCTTTCGAGTCAACGAGTACGTCTGAAACAAGAGATCACTCACTGTGGTATTATGGTTG TGATCGATCTGCAGTTGGGGGACAATTCCGTGTAGGTGTGTCTTAATTCAAAAACAACTAAAAACTCTCTCTATCTCTCTGTGTCATTGCGTCAGTGT
GCT-003F22	AT5G18370.1	disease resistance protein (TIR-NBS-LRR class), putative	GACCTTTGGTGGCTATGATTCTCTTATCTCTCTCTTTTCTTTTCATACGCCATTGTTCTTATCTTCCCCTGAATCCTAGCTTTTAAGGTGCTTATTCTAC TTTCTTTCACCTTCTAGGCTTATTCTTCTTAAGTTCAAACTCTAGTTTCTTCGTGATCTTATTCATGGCTTCTTCCTCTTCTTCATCTTTGAATCGCAATT GGACGCACCAAGTCTTCCCGAGCTTCTGTGGATTAGACGTCCGCAGAACCTTCCTCAGTCATATTATGAAATAGTTCAAAAGCAAGGGAATCACACC CTTTATTGATAATGAGATAAAGCGAGGCCAATCTATCGGTCCTGAGCTAATACTAGCGATCAGAGAATCAAGGGTTGCGATTGTCTTGCTTTCGAGT AACTACGCTTCTTCGAGCTGGTGTTTGGATGAACTAGTGGAAATCATAAAGTGCAAGGAAGAGAATCAACAAACAGTGATGACTATTTTCTATGATGT TGATCCATCTGATGTGAGGAAGCAGACAGGAGATGTCGGAAAGGCCTTTGAGAAAACATGTGTTGGGAAAACCAAAGAGGTGAAGCAGAGATGGA GCCAAGCTCTTAAGGATGTCGCAAGTATAGCCGGTTACCACTCTCGCAATTTGTTCTATCACTTGCATATTTTGTATCTTTCTTCTTGACTAACCATTT TTTTAGTGGAGTCATCTTTTTTTTTTTTGGACAATGAAGCTGATTTGATCAACAAAATTGCCTCAGATGTTATGGGTGTGTTGGATTTTACCCCATCAA GGGATTTTGATGATTTTGTTGGTATAGAAGCTCGTATCACAGAGATAAATTCGTTGCTGAGCCTACAATCAGATGAAGTTAAGATGCTTGGGATTTTG GGTCCTGCTGGGATTGGTAAGACGACCACTGCTAGAGTTTTATATGACCAACTCTCTTGTGATTTTCAATACAGCGCGTTTATGGAGAATATCAAAGC AAGTTATGCGAGGCCTTGTTATGATGACTATCAACTGAAGTTGTGTTTTCAGAAGCAGCTACTCTCTCAAATTGTAAACCAAAAGGATATTGAGGTTC GTCACTTGGGAGTGGCTCAAGAAAAGCTGAGAGACAAAAAAGTGTTGGTTGTTCTTGATGAAGTGGATAGCTTATGGCAGCTAAATGCGATGGCGA ATCAGCCTGGATGATTTGGTTGCGGAAGTACGATTATCATTACAACCGAAGACAAACAGGTTTTCAAAGCACACGGGATCAATCATATTTATGAGATG ACATATCCAACTAGTGATGAGGCTCTTCAAATCTTCTGCCAATATGCTTTTGGTCAAAATTCCCCATATGATGGTTTTGAAGGGCTTGCTTGGGAAGT TACTAAACTTGCCGGTGAACTTCCTCTAGGTCTAAGAGTTTTGGGATCGTATCTACGTGGGATGTCCATAGACGAGTGGATAGACGCACTACCAAGG CTCAGGTCTAGCCTTGACAAAGAAATTGAATCAGTTTTAAGATTTAGCTATGATGCCTTAGGTGACAAAGATAAAGCTCTTTTTCTGTATATCGCATGT TTCTTTGCTCTTGATTGGGATTACTTTGACAGTTATTCAGTTGAGCGCATTAAAAGGTTTCTTGCAAACAGTGATTTAGACGTCAACCATGGGCTTCAA CTTTTAGCTCAGAAATCTCTCATTTGTATAGACGATGGAACCTTGGATATACATCCTTTATTGCAACAAATGGGTAGAGAAATAGTCTATAAACAATCT TTTGAGCCCGGAAAGCGACAATTCTTGATGGATAGCACGGAGATTTGTGATTTACTTAAGGAAAATACTGGTACTGGAACTGTTCTAGGCATATTCTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003F23	AT1G58280.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT5G64460.6); similar to phosphoglycerate mutase-like protein [Glycine max] (GB:AAG38144.1); contains InterPro domain Phosphoglycerate mutase; (InterPro:IPR013078)	GATTTTCCCATTCCATTTCCATTTCCTCTGTTTCTCCTCTTCCTTCGCTTCGTACCCTCTCTCTTCATCGTTGCAACTCTATTCCTTCTCACGATATGGA GGCTAAACCAAGTCAAGGCCTTTACCCTCTGCATCGTTGCAAAACCATACATCTGGTGAGGCATGCTCAAGGGATTCACAATGTAGCAGGAGAGAA GAACCATGATGCTTACTTATCTGAGGATCTCTTTGATGCACATCTTACACCTCTCGGATGGCAACAGGTTGATAATCTACGCAAGCATGTTAAGGCAA GTGGGATCTCCAATAGAATTGAGTTAGTCGTTGTGTCGCCTCTGCTCAGGACTTTGCAAACTGCGGTTGGAACTTTTGGAGGGGAAAGTTACCGAG ATGGTGTTGATGCAACTCCGCTTATGAAGGCAGGTGCAGGGAACAGCGATCGTCCTGCTATACCAAGCTTAAATTGCCCACCTTTTATTGCGGTTGA ATCTTGCCGAGAACATTTGGGTGTTCATCCTTGTGACAGAAGAAGCAGTATCACCAAGTACCGCGAGTTATTCCCTGCGGTTGATTTTTCATTGATAG AAACTGACGAAGATGTTTTGTGGAAGCCTGACATCAGAGAGGAGAACAAAGATATTGCTGCCAGAGGCGTGAGATTCATGAACTGGTTGAGTACAA GGAAAGAAAAGGAGATTGCGGTTGTTACTCATAGCGGATTCTTGTATCAAACATTAAACTCGTTTGGAAACGATTGTGATCCCGCTGTGAAGAGCGA GATTTCTTCACATTTTGCTAACTGTGAGCTCCGTTCGGTTGTTCTGGTGGATAAATGCATGAACAGTTCTGATCCTCCAGTGACCAACTATCCCGGAA AAATACCTTCCGGGGAAGATCTTCCAAGTGATATTGCTGATGAGAAGAAGTAGTTGGAGAGACAAAAGTAATGAGACTTATGTTTACTCTTTCATGAA TCTCAAGAGTCATTAATGTTATTTACAATAAAGAATATACTAACTAAAGTTGATTCCTTGACTCTTCTTTTGAAGAGGGTGTTATTCGCTCCATCGATTT
GCT-003F24	AT2G24150.1	HHP3 (heptahelical protein 3); receptor	GCACCGAAATATCAGATTTCCGATTATTGAGAGAAAGCGACGGACGCAGATTCGCCGGAGCCAGATTCCTTTCCCGGCGAGCTCCGAGAGAAAAC GAATCAATCGGAAGCCTGACCGGAGCCGATAATCTCATTCTTCTCTAGAAAATCTCGCCGGAAAATCTCGCCGGAGCTGATTGATTTTCCTCATTTT CTCATCTTGTTTAAGAAATTAGCAATGAAGAGAGGTAAAGCGGCGAGGAAATCTCCGTCGATGGTGGCGGTTAGCGATTGGGAGGGTGTTGATTCC GGCGAAGAGACGAGAATCGAACGGAGGTTGATGAAGTTCGAGGAATTGCCTGGGTATTTGAAGGATAACGAGTTTATTTACGACCATTATCGATGT CAATGGTCTCTCAAGGATACTTTCCTCAGTGCTTTCTCTTGGCATAACGAGACTCTCAATATTTGGACGCACTTAATCGGATTTCTGATATTTCTCTGG TTGATGGTGGTGAGTTCCTTAGAAACGACGGAGCTTGGCCTCGCCGGAATATTCAAATGCATGACCGGAGCGTGGATGTACGTCTCGAGCAATCAT ACTCTGCTTCATCATGACTCCAACGTGACAAAACACAACTCACTTATCAACTCTAAAGGAGAAGTGAACCATCACAACCACGAAGAATCTGTTCCGAA ATGGCCATGGCTCTTGTACTTAGCAGGAGCAATGGGTTGCTTAATCTGCAGCTCTGTTTCACACCTCCTCGCTTGCCACTCAAAACGTTACAACCTC TTCTTCTGGCGTTTGGACTACGCAGGAATCTCACTCATGATCGTTTCCTCTTTCTTCGCACCTATCTACTACGCATTTTCCTGCAATCCTAACTTCCGT ATCTTCTACTTGTCCTCAATCTCAGTCCTCGGTCTCCTCGCCATCATCACTCTCCTCTCTCCAGCTCTCTCAACGCCGCGTTTCAGGCCTTTCAGGG CAAGTCTTTTCCTTGCGATGGGATTCTCAAGTGTGATTCCAGCTTCTCATGTGCTTTGCCTTTACTGGGGTCACCCTAACGTGTTCCTCGCCCTCGG TTGCGAGCTTGCCACTGGCTTCTCTTACGCTTTGGGAGCAGCGTTTTATGTTAGTCGTGTGCCTGAGAGATGGAAGCCTGGAGCGTTTGATATTGCA GGACATAGCCATCAGATATTCCATGTGTTTGTAGTGTTAGGTGCTCTTATTCATTGTGTTGCCACTCTTCTCATTGTGGATTTTCGACGTGCGTCCCC
GCT-003G01	AT1G53280.1	DJ-1 family protein	GGTCGTTGTGTCACAGCTATTTTAACCCAATCAGTGTCACTCCGTTTTCCAGCACTAAACTCCATTGCTCTTCTTCGAGACGAACTTCTCTTCTCTTG AATCGACGATTATTCTCTGTTTCTGCAACTATGGCTTCACCTACAAAGAAAGTTTTGATTCCCGTTGCGCATGGTACGGAGCCGTTTGAAGCGGTGG TGATGATCGATGTGCTGCGGCGAGGCGGGGCGGAGGTAACGGTGGCGTCCGTCGAGAATCAGGTTGGCGTTGATGTATGCCATGGAATCAAGAT GGTCGCCGATACTCTTCTCTCCGATGTTACCGACTCCGTTTTCGACCTTATTATGCTCCCTGGAGGACTTCCCGGCGGTGAGACTCTTAAGAACTGT AAAGCTTTAGAGAATATGGTGAAGAAACAAGAGACGGATGGACGGCTTAACGCTGCTATCTGTTGTGCCCCGGCGTTGGCGCTTGGTACCTGGGGT CTACTAGAGGGTAAAAAGGCAACTTGTTACCCGGTTTTTATGGAGAAACTAGCAACCTGTGCAACAGCTGTTGAGTCAAGGGTCGAAATAGATGGTA GGATAGTGACCAGTAGAGGACCTGGAACCACCATGGAATTCTCTGTAACGCTTGTGGAGCAACTGTTTGGGAAAGAGAAAGCTGCTGAAGTCTCTG GCCCCTTGGTGATGCGTCCCAACCCTGGTGATGAGTACACTATTACCGAGCTTAACCAAATGAACTGGTCGTTTGACAGTACCCCACAGATTCTTGT ACCCATTGCAGATGGCTCGGAGGAAATGGAAGCTGTTGCTATCATTGATGTCCTGAGGCGGGCAAAAGCAAATGTCGTCGTTGCTGCGCTTGGTAA CAATTTGGAAGTGGTAGCATCTCGTAAAGTCAAGCTAGTGGCAGATGTGCTTCTCGATGAGGCTGAAAAGAATACATACGATCTGATTGTGTTGCCT GGTGGTCTCGGTGGTGCTGAAGCTTTTGCAAGTTCAGAGAAGCTAGTGGACATGTTAAAGAGGCAGGCGGAATCAAACAAACCATATGGAGCAATT TGTGCCTCTCCTGCTCTGGTCTTCGAGCCACATGGTTTACTCAAGGGTAAGAAGGCGACAGCGTTTCCAGCAATGTGCAACAAACTGTCGGACCAG AGTCACATTGAGCATAGAGTATTGGTGGACGGTAATCTCATAACGAGTAGGGGTCCTGGAACCTCGTTGGAGTTTGCGCTCGCTATTGTAGAGAAG TTTTATGGGCGCGAGAAAGCACTTCAGCTCGCAAAGGCAACACTTGTGTAAACTCAAAAGGAAGCGAGTATCTTTAGGTAAGTGACTAAGTGAGTGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003G02	AT4G25000.1	AMY1 (ALPHA-AMYLASE-LIKE); alpha-amylase	GGTTTCGCCGATTCGAGAATTGGGTTAGTGAAAAAACATCATCTTTGACGACAGGGTTTCAAATGGGAATCATGGAAGCAAGAAGGAGGATTCTACA ATTCTCTACAAAACTCCATCGACGACATTAGCAACTCTGGAATCACTCATATCTGGCTTCCTCCTCCTTCTCAATCCGTTTCTCCTGAAGGGTACTTA CCGGGAAAGCTCTACGATTTGAACAGCTCCAAATACGGTTCAGAGACGGAATTGAAGTCACTAATCGCAGCACTGAATCAAAGAGGAATAAAATCCG TGGCTGATATTGTGATTAACCACAGAACAGGTGAGAGGAAAGACGATCACTGTGGGTATTGTTATTTCGAAGGTGGGACTAGCGATGGTCGTCTAG ACTGGGACCCTTCCTTCGTCTGTCGCGACGATCCTAAATTTCCCGGCACCGGAAACTCCGACACCGGCAAAGATTTCGATGGTGCGCCAGACATCG ACCACCTTAACCCAAGGGTTCAAAAGGAGCTGTCGGAATGGATGAACTGGCTCAAATCTGAAATCGGATTCAGTGGTTGGAGATTCGATTTCGTTCG AGGTTATGCTCCTTCCATCACCAAATCATACGTAAAGAATACTTCGCCGGAATTTGCGGTTGGTGAGAAATGGGACGATATGAAGTACGGAGGAGAC GGCAAACCGGAGTATGATCAGGACGAGCATCGGTCGGCTCTCAGACACTGGATCGAGGAAGCAGGTGGTGGTGGTGGTGTCTTGACAGCTTTTGA TTTCACGACCAAAGGGATCTTACAGTCTGCGGTCGGAGGTGAGCTTTGGAGACTAAAGGACTCGCAGGGAAAGCCGCCTGGTCTTATCGGAATCAT GCCCGGAAATGCAGTCACTTTCGTAGATAACCACGATACCATCAGACCAAACACGTGGGCTTTTCCTTCCGATAAAGTCTTGCTTGGATACGTTTAT ATTCTTACTCACCCAGGCACTCCTTGCATCTTTTATAGTCATTACATGGAATGGGGTCTAAAAGATAGTATCACGAAGTTGGTTGCAATCAGGAAGAG AAATGGCATTGGTAGCACAAGCTCTGTTACGATCAAAGCGGCCGAGTCGGATCTCTACTTGGCTGTGATTGATGACAAGGTTATCATGAAGATTGGG
GCT-003G03	AT1G75240.1	ATHB33 (ARABIDOPSIS THALIANA HOMEOBOX PROTEIN 33); DNA binding / transcription factor	GACAGTATTAATCCCAAAAGTTCCTCTCACATCTCTCTCTCTATCTATCTATCTCTCTCCATTAAAACCATTCACAAGAAGCAAAAAGCTTTGAGCTTT TAATGAGTTTAAGGTCCTCTTCGGTTCCTCCTGCAAAAACTGGGTCTTTCCTCGTGTACTTGCTCTTATCTGCATAAAATTAAACAAACTCTACTCCAG TGTAAGCTTATCATCTGCTATATCACCAGATAAAGTCCAAAAATTTAACCTTTTTGTCGATCTATTTGATTGAAATTGCAATTTTAAGTGCAAGCAAAAA AAAAAATGGATATGAGAAGCCATGAAATGATGGAGAGAAGAAGAGATGACAATGGCAACAATGGTGCTGGTACCATCAACATCATTACTACAAATGA TGATAATTGCAACGGTAATAACAACAACAACAACAACAAGGCTCTTGTCTCTTGCAACTCTCAAAACCTAGATCACCACCACCACCAATCCAAGTCTC CCTCTCCATTTTCCATGTCTAAATCCACCGTACGGTACCGGGAGTGTCTCAAGAACCACGCGGCCAACGTCGGAGGAAGCGTACACGACGGATGC GGCGAGTTTATGCCGAGTGGTGAAGAAGGAACAATCGAAGCTCTCAGATGCGCTGCTTGTGACTGCCACCGTAATTTCCACCGGAAAGAAATCGAC GGTGTTGGAAGCTCTGATGTAATCTCTCACCACCACCACCGTCACCACCACCAGTACGGCGGAGGAGGAGGGAGAAGACCGCCGCCGCCGAACA TGATGCTTAATCCACTCATGCTTCCTCCGCCGCCGAATTACGCTCCGATGCACCACCACAAGTACGGGATGAGTCCTCCTGGCGGTGGAGGAGGA ATGGTGACGCCGATGAGCGTCGCATACGGCGGAGGAAGCGGAGGAGGAGGAGCGGAGTCGTCGAGTGAAGATCTGAATCTGTACGGACAGTCGA GTGGCGAGCATGGAGGAGGAGGAGGAGCGGCGGGGCAAATGGCGTATTCGATGTCGTCGTCGAAGAAAAGGTTCAGGACGAAATTCACGACGGA GCAGAAGGAGAGGATGATGGAGTTCGCGGAGAAGCTAGGATGGAGGATGAACAAGCAAGACGAAGAAGAGCTCAAGAGATTCTGTGGTGAGATCG GAGTCAAAAGACAAGTCTTTAAAGTCTGGATGCATAACAACAAGAACAATGCCAAGAAATCACCAGCAGCAACTACAACAACAACAACAGGAGGAAC
GCT-003G04	AT4G25100.2	FSD1 (FE SUPEROXIDE DISMUTASE 1); iron superoxide dismutase	GACGTGTGCTCTCCTCACTTTCCCTTAAACTAGAGCTTCATCAGTCCCAAAAGAAATGGCTGCTTCTAATACAGTAACCGCAAACTACGTCCTCAAGC CACCTCCATATTCTCTGGATGCTTTGGAGCCGCATATGAGCCGACAAACTCTGGAGTTTCACTGGGGAAAGCATCACAGGGCTTACGTGGACAACC TCAAGAAACAGGTTCTTGGAACCGAGCTCGAAGGCAAACCCTTAGATCACATTATCCTCAAGACTTACAACAATGGCGATCTCCTCCCTGCTTTCAA CAACGCTGCTCAGGCTTGGAACCACGAATTCTTCTGGGAATCAATGAAACCCGGTGGTGGAGGAAAACCGTCAGGAGAGCTTCTTGCTTTGCTTGA AAGAGATTTCACTTCTTATGAGAAATTCTACGATGAGTTCAATGCTGCAGCAGCCACTCAATTTGGAGCTGGATGGGCTTGGCTTGCTTACGCAAAT GACAAACTCAAAGTAGTGAAAACTCCAAATGCCGTGAATCCCCTTGTGCTTGACTCTTTCCCATTGCTTACCATTGATGTCTGGGAGCATGCTTACTA CCTAGACTTCCAGAACCGGAGACCGGATTACATAAAGACATTCATGAACAATCTTGTGTCTTGGGAAGCTGTTAGTTCCAGACTTGAGGCCGCAAAG GCTGCTTCTGCCTCTTCTGCTTGAGCGCACAGTTCTGAACAATTAGTCTTCAGCGAGTTCTGCATTAATTACTGAAGTTTCTTAATAAAATATTGGTCA TGGTAATAAAGACACAGCTCTCTTGTTGTATTGTGTCACAGAGTCGTTCATCTTGATCTTGTTAGCTGAATCTTATTTACTGTGTTTAATGAGTAATTA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003G05	AT3G12500.1	ATHCHIB (BASIC CHITINASE); chitinase	GACCATAAAATTATTCAGAGCAAAATGAAGACTTATCTACTCTTCTTTACCATCTTCTCATCACTTCTCATATCATTTTCCTCAGCCGAGCAATGTGGG CGACAAGCCGGAGGAGCACTCTGCCCCAACGGTCTTTGTTGCAGCGAGTTCGGATGGTGCGGTGACACCGAAGCTTACTGTAAGCAGCCTGGCTG CCAAAGCCAGTGTACTCCCGGCGGTACTCCCACAGGTGATCTTTCCGGCATCATTTCAAGATCTCAGTTCGATGACATGCTTAAGCATAGAAACGAC GGTGCTTGTCCCGCTCGAGGTTTCTACACTTATGACGCCTTTCTCACCGCCGCTAAGTCTTTCCCCGGCTTTGGCACCACCGGAGACACCGCCGCC AGGAAGAAGGAGATCGCTGCCTTCTTTGGTCAGACTTCTCACGAAACCACCGGTGGGTGGCCCACAGCACCGGACGGACCATATGCATGGGGATA CTGTTTCAAGCAAGAACAGAATCCATCTTCTGACTACTGTTCACCGAGCGCCACGTGGCCATGCGCTTCAGGCAAACGCTACTACGGAAGAGGACC GATGCAGCTGACGTGGAACTACAACTACGGACAGTGTGGTCGAGCCATAGGAGCCGACTTGCTCAACAACCCTGACCTCGTCTCCAACGACCCAG TCATCGCTTTCAAAGCCGCCATTTGGTTCTGGATGACTCCTCAGTCTCCCAAACCGTCGTGTCACGCCGTCATCTCTGGCCAGTGGCAGCCGTCAG ATGCCGATCGTGCCGCCGGGAGATTACCTGGTTACGGAGTGATTACGAATATCATTAACGGTGGATTAGAGTGTGGACGTGGCCAAGATTCGAGAG TCGCTGATCGGATTGGGTTTTATCAGAGGTACTGTAACATATTTGGAGTTAATCCTGGTGCTAATCTTGATTGTTACAACCAAAGGTCCTTTGCTTCT
GCT-003G06	AT2G34810.1	FAD-binding domain-containing protein	GCTTTATATTCATAAACCAATCAACAAAATAACAAACCAAAAAAATGAAGTTCTGGTCACGACCAACGTTTCTTCTCATACTCTCTCTGATCCATCTTA TCACAATCCCACGAGTCTACTCATCATCATCACCAACACTCTCTCTGCCGGAACATTTCCTCCGATGTCTCGACACTCAACCGGCCGACCACAACAG TCCCAACTCCAGAACCGCCGTGATCCCCACAAACTCAACTTTCTCCACAAACCTAATGGCCGCCGTTAGAAACCTCCGGTTCGCTTCAACCTCCACA AGAAAACCGGAAGCCATCGTCGCCGCCGTCACCGAAACCCACATCAGAGCAGCAATCTCCTGCTGCAAACTCCTGAACCTCGAGCTCAGAATCCG CAGCGGAGGCCACGACTACGAAGGCTTCTCCTACACTTCTCCGGTGCCGTTCGTGATCTTAGACATGTACAACTTCAACAAGATCGACATTAACATG ACCGACGAGACCGTGTGGATCCAAGCCGGAGCCTCACTAGGCGAGCTTTACTACAACATTGCGAGCAAAAGCAAAGTCCACGCCTTTCCCGCCGG AGTTTGTCCTAAAGTCGGCGCCGGAGGTCATTTCAGCGGCGGAGGATTCGGAAACCTCATGAGGAAACACGGTTTATCGATTGATCATATAATCGA CGCGCAAATCATGGACGCGAACGGGAGAGTTTACCGTGACCGGCGTTCTATGGGAGAAGACGTGTTTTGGGCGATTCGCGGCGGAGGCGGCGGG AGCTACGGCGTGATTCTTGCGTGGAAGATTAAGCTCATTAGGGTTCCGGAGAAAGTCACCGTCTTTAAGCTCGAGAGAACGGTGAGAGAAGGAGCA GTAGATTTGGTCTGGAAATGGCAGCAAGTGGCACCGGTTATCGACAGAGATTTGTTTATCCGGTTAGAGATTAAACCGATTAACCGGAAAATATCGA AAGGGAAGACGATTAAAGTTTCTTTCATCGGAATGTTTCTTGGTTTGCCGGAGAGGCTTTTGAACATAACGAAACAGAGCTTCCCTGAGCTACACTT GACGAAATCGGATTGTATGGTGAAGAAATGGATCGAATCAACGGTTTTCTGGGCAAATTACCCAGAAAAAGCACCGATTCAGCTTCTTCTCAAGAGA
GCT-003G07	AT1G09160.1	protein phosphatase 2C-related / PP2C-related	ATATCGACCAACGAATACTACTGGAAAAGAACTTCCGATTTCGTTCAGACTCCGATCTCAAAACAGGGACTTGCGAAGATTTTCCAGACGATGATCG ATCATTCGCCGCTTCCACGGCGAGTTTGGATGCAGTGGAATCCTTGGGGAGGTAAAATGGCGGAGATTGAGTCTGATGCGACGCCGTTTGTGCAC AGAGGAGGTAACATCTTCATGATTGAGCATTTCATGAATTGGTATAGACCTGGAGATGAGCTTGAGGAGCAGTTCTTGGCGATCGCGAGAAGCTTTA AAGAAGCTATGGCTCCGTTTGTTTCGAAGAATCCGAGAGAGGCTTTCTTTAATTACAGAGACGTCGATATCGGAATCACGACGCCGGGAGATAACG CGACGTATGAAGGTGCTAAGGTTTATGGGGATAGTTATTTCAAAGGGAATTACTTGAGGTTGGTTAAGGTTAAAGCCCGGTTCGACCGGACTAATTT GGAGAAGAAATTAGGCACATACTCTTCGGCAACTTCGTCTCTCTTCTGTTTATAAACTTTTTTTTTTGTTTGTTTATCTCTGTTCCACGCGTTTCCAGA CTGATATTTTTCCATTTGGTTACCGACGACGGCCCGGAAATTTTCCCCGAGAAGGCGTCGAGGACCTCAGCATTATCTACGAGCCAACTTTTCCAGC TAGATCTACTGTGTATTTTACTGCGATTTCTTTCTAACTCGATTTTTTCCAGCCAATGCTGAAGGCTTAGGCTGAAATGAGCCCCTCAAAAGGATCGA GGACGAAACATTCTCTTGTTCCTCTTGCAACCCTTATCGGTAGGGAGCTGAGGAGCGAGAAAGTAGAGAAACCTCTGGTCAAGTATGGTCAAGCTG CTCTCGCTAAGAAAGGAGAAGACTACTTTTTGATCAAAACTGACTGTGAGAGGGTAACTGGTGATCCATCATCCGCTTTTTCAGTATTCGGGATATTT GATGGCCACAATGGTAATTCAGCTGCCATATATACTAAGGAACATCTTCTCGACAATGTGGTGAGTGCAATTCCTCAAGGCGCAACCAGGGAAGAGT GGCTTCAAGCTCTTCCTAGGGCACTAGTTGCAGGCTTTGTGAAAACAGACATCGAATTTCAGCAGAAAGGGGAAACTTCTGGAACAACGGTTACATT TGTTATAATTGATGGTTGGACTATCACTGTCGCTTCTGTTGGCGACTCGCGCTGCATATTAGACACCCAAGGTGGTGTGGTTTCTCTGCTGACCGTC GATCACAGGCTAGAAGAGAATGTTGAAGAAAGAGAACGCATAACTGCCAGTGGAGGTGAGGTCGGAAGGCTCAATGTTTTTGGTGGCAATGAGGTC GGACCACTTCGATGCTGGCCTGGTGGTTTGTGTCTTTCGAGGTCCATTGGTGATACCGATGTGGGAGAATTTATTGTCCCAATACCGCATGTTAAGC AAGTGAAACTTTCAGATGCTGGAGGGAGACTCATTATAGCTTCAGATGGTATATGGGATATACTGTCTTCTGATATGGCTGCCAAAGCTTGTCGTGG TTTATCTGCGGAGCTTGCTGCTAAACTTGTTGTTAAGGAAGCGTTGCGAACAAAAGGGTTGAAGGATGATACTACTTGTGTAGTTGTTGACATTGTTC CATCTGATCATCTTGCCTTGGCTCCAACGCCTAGAAAGAAGCAGAACACACTCACCTCATTTCTTTCTAGGAAAAAACAGACGGATACCAACAACAA AAACGGGAACAAGCTTTCTTCTGTTGGAGTTGTAGAAGAACTGTTTGAAGAAGGTTCTGCTGTACTTGCAGATAGATTGGGAAAGGATCTTCCCTCA AATACGGACACTGGGCTCCTAAAGTGTGCTGTATGCCAAATAGATCAATCTCCAGCTGAAGATCTATTAAGTGACGAGGGTCCTATCATCTCCTCAG CATCTAAGCGATGGGAAGGCCCCTTCCTATGCACAATATGCAAGAAAAAGAAAGACGCCATGGAAGGAAAAAGACCAAGCAAAGGATCAGTGACCA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003G08	AT2G18040.1	PIN1AT (parvulin 1At)	GGGAAGAAAGATTCGGTCTCGTCGATAGATCGAACGTCGGAGAAATCGAAAGAGAAGAAAGACGACCACCACCACAACAACAAGCAGCACCGGAA GAAGAGCAAGATGGCGTCGAGGGACCAGGTCAAGGCGTCGCACATTCTGATTAAGCATCAAGGATCTCGGAGGAAGGCGTCGTGGAAGGATCCA GAAGGGAAGATCATTATGACTACTACCAGAGAAGCCGCCGTCGAACAGCTCAAATCGATCCGTGAAGACATCGTCTCCGGCAAGGCTAACTTCGAG GATGTGGCTACTCGCGTTTCCGACTGTAGCTCCGCTAAACGCGGCGGAGATCTAGGTCCTTTTGGTCGAGGTCAAATGCAGAAACCATTTGAGGAA GCAACTTACGCACTCAAGGTTGGAGATATAAGCGACATTGTTGACACAGACAGTGGAGTCCATATCATAAAGAGAACAGCTTGATCCTGATCTCCTT CAAAAGCCACCCTCTCATGTATTAAAAGTTGCCAGCTTATTTTCCTTCTCTTCTATAGACCAAAGAAGAACATAGAAGAAGGAAGAATAAGATTAAGC
GCT-003G09	AT5G58390.1	peroxidase, putative	GGCAGCTCCAAAACAACAAATAAAGATAGAAAGCAAAGGAGAGAATCATATCATGGAATACAATAATAAGCAGGGAAGTATGCTATTAATGGTGGTG TTGATGATGATGACAATGTGGAGCTGTGGTTACAGCGAGGCCAAGCTGAGCAGAGACTTCTACTCGGAAAGCTGTCCCTCACTGTTCCCAGCGGTG AGACGGGTCGTGCAGCATGCGGTTGCCAAAGAGCGTCGCATGGCTGCTTCTCTCCTCCGTTTGTTTTTCCACGACTGTTTCGTAAACGGGTGTGAC GGATCCATATTGCTGGACGACACTTCCTCATTTGTGGGAGAGAAAACCGCAGGACCAAACAATAACTCTGTGAGGGGATTCGAAGTGATCGACAGA ATCAAGTCCAAGGTTGAGAGACTCTGTCCTGGCGTCGTCTCATGCGCAGACATTCTCGCCATCACTGCTCGTGACTCTGTCCTCCTCCTGGGTGGG CCCAAGTGGGGCGTGAAACTTGGGAGACGAGACTCCACGAAGGCCAGCTTTTCGGACGCCAACTCAGGCGTCATCCCACCTCCGACCTCTACTCT CAACAATCTCATCAACCGTTTTAAAGCAAAAGGCTTGTCCACACGCGACATGGTCGCTCTCTCTGGTGCGCACACCATTGGACAAGCCAGGTGTGT CACCTTCAGGAACCGTATCCACAACGCAAGTAACATAGACCTTTCTTTCGCCTTGTCCAGACAGATGAGCTGTCCCGCTGCCTCTGGCTCGGGAGA CAACAACGAAGCTGCTCTTGACCCTCGTTCACCTGGAAGGTTCGACCTCAGCTACTACAAGCAGCTTCTCAAACACAGGGGTCTGCTCACTTCAGAT CAAGTCCTTTTCAATGGCGGCTCCACTGACTCGCTCGTTGTAGCCTACGGCTACAGTCTCAAAGCTTTTTACCGCGACTTTGTAAGAGCTATGATTA AGATGGGTGATATCAGCCCCCTCACCGGATCCAATGGTCAGATCCGCAACAACTGTCGCAGGCCCAATTGAATCTCTTGGTATATGAAGCCCATTG GGCTCAGTCATACAACCACCTATCGTTCGTCAACTGTATTTTATGTTTTTTTTTTGTTCTGTGTTCTTCGTCAACTGTTTATTAAATACACAAGGTAATA
GCT-003G10	AT1G74020.1	SS2 (STRICTOSIDINE SYNTHASE 2); strictosidine synthase	GATACTCATCCTTTTCTTTGTGAATTCTATAGCAACGTTATGATGTCATTTTCCTCCATGATTTTTCTTGTGCTTCTTCTTCTCTCTCTTTCGTCGGCTG TAATCTCCGATGACGCGTCTTTCCAGAAACTTCCGCTGCCGGAAAATAGGTCAGGCCCTGAAGCTTTCGCCTTTGATTCCACCGGAAAAGGATTCTA CACCAGTGTTTCCGGTGGTAAAATCCTCAAGTATACTCCCGAGACGGGTTATGTCGATTTTGCACAGATCACAGAATCCTCGAACTCTTCATGGTGC GATGGAGTACTTGGAACGGCTTTAGCCGGAAGATGCGGTCGACCAGCAGGGATAGCCTTCAATGAGAAAACAGGTGATCTCTACGTCGCCGATGC TCCGTTGGGACTTCACGTTGTTTCTCCGAACGGTGGTTTGGCCGTAAAGATCGCCGACAGTGTAGACGGCAAGCCCTTCAAGTTTCTTGACGGTCT TGACGTTGATCCCACTACTGGTGTCGTTTACTTCACTTCCTTTAGCTCTCGCTTCACCCCACTCCAAGTGGTGATTGCATTGGGATTAAAGGACGCG ACCGGGAAACTCTACAAGTACGATCCATCAACTAAGGTCGTGACCGTATTGATGGAAGGGCTAAGTGGATCAGCCGGTTGTGCCGTGAGCTCGGAT GGTTCGTTCGTGTTGGTCAGTCAGTTCACAAAGAGTAACATCAAGAGGTATTGGATCAAGGGACCTAAAGCTGGTTCTTCTGAAGACTTCACAAACT CGGTCTCAAACCCTGACAATATCAGAAGAATTGGTTCTACTGGAAACTTCTGGGTCGCTTCCGTCGTGAACAAGATCGTCGTGCCTACGAACCCATC AGCGGTCAAAGTCAACTCTGACGGTGAAGTGCTTCAGACAATTCCTCTAAAAGATCAGTTTGGGGACACTTTGCTTAGCGAAGTTAACGAGTTCGAC GGTAGTCTTTATATTGGGACTCTCACTGGCCCTTTTGCTGGAATCCTTAAGCTTTAAGTTTGGTATAAAAGTGTGGTTGTTACTTCTTAGTTTGTCACT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003G11	AT1G65060.2	4CL3 (4-coumarate:CoA ligase 3); 4-coumarate-CoA ligase	GAAGAGAAGAAAAAAAAAAGAAAAAGCAAATAAACACATTCATCACTCTTCATTAAACGATGATAACCGCGGCTCTACACGAACCACAAATTCACAAA ACGGCCGATACTACTTCCACCGCTGTCTCCGGCGAGAATGAGCCTCCTACGCTTCGCATTTTCCGATCAAAGCTTCCGGATATCAACATTCCGAACC ACCTCCCTCTCCACACTTACTGCTTCCACAAGCTTTCCACTGTTTCCGACAAGCCTTGTCTAATCGTAGGCTCAACCGGAAAAAGCTACACCTACGG AGAGACACACCTCATCTGCCGGAGAGTCGCTTCCGGGTTTTACACAATGGGTATTCGAAAAGGTGACGTCATCATGATCCTCCTACAAAACTCACCC GAGTTCGTCTTCTCCTTCATGGGTGCTTCCATGATAGGAGCCGTCTCAACCACCGCGAATCCTTTCTACACCTCTCAAGAGATTTACAAACAGCTCA AATCTTCCGGAGCTAAGCTCATCATCACTCACTCTCATTACGTCGACAAATTGAGAAACCTCGATCAAGAAACCAAAATCGGAGAAAATCTCACGGTT ATCACCACCGACGATCCTACACCGGAGAATTGTCTACCTTTCTCCACACTCATTGACGAGGCAAACCCACAAGATGAATCAGAATCCGTCGGTGTTG ATGGTGACGATGCGGCGGCGCTTCCTTTCTCTTCCGGCACGACGGGGTTACCAAAGGGAGTGGTTTTGACTCATAAGAGCTTAATCACCAGCGTTG CGCAACAAGTTGATGGAGATAACCCAAATCTTTACTTGACATCAAACGACGTCGTACTCTGCGTTTTGCCTCTTTTCCACATCTATTCTCTCAATAGC GTGCTACTCAATTCCATCCGATGCGGTGCGACGGTTCTTCTGATGCACAAATTCGAAATTGGAGCATTGTTGGATCTAATCCAGAGACACAAGGTGA CTATAGCGGCACTTGTTCCGCCGCTTGTGATCGCTCTGGCTAAGAACCCAACCGTTAACTCTTACGATCTTTCTTCCGTTAGATTGGTTCTCTCCGG TGCAGCTCCATTAGGCAAAGATCTCCAAGATAATCTCCGTCGCCGCCTCCCTCAGGCCGTCCTTGGTCAGGTTGCCGTTTCGTTTTGCAGAGAAATT GGGTCATCGGCCGAGATGCTTCTCTAGTTCGCCGGAGAAGAGAACACTGGCTATTCTGAAGTGCTCCGGCTCGTTTCGTCACTGAATTGCTCCGGC ACGCTTCGTCACCTTATTCCTCCATCCCTACAAATAAGGATAAGGTAATGTTGAAAGCTTTCAATTGTTGGTGTTTGGTGTCGTGAAAGATCGAATGA AACTGGCCCCCAAAGATCGAATTCAGCTCCATATTTTGTTCCTTGAATATGCGGAGGTTCACCATAGCTAAGCTCATTGTTCGTTGAGAAACCAAGCT CAAACACTGTTGGTGTTGGATTTAGCCCAAATCTAACCCATAAAGCACTTTGAGTGAACAAGCCATTATAAGGGAAGTTTTGGGCCCTATAGACCCG TAACTAAGGCAAGGAAAGCATCTCCAAGGAATATACTCAAGTACAAGTCAATCTAAGAGGACGCGGAAAGCTGGATAAAAAGAGATCGTGGAGATCT
GCT-003G12	AT1G47380.1	protein phosphatase 2C-related / PP2C-related	GACCTTCGTTTGCGCGTTTTCTCTGTAATCTCTCTCTCTTCTCTCTCCTCTCTCTCTTACGGCTGTGACGACGATGGAATTTCTGCAGAGCGAC GGGATCCGTGATTCTCGATCGGAGGAAGCTTCTACTCCTTCTCTCTCCGCCTAAATCTCCAATTCGCCGCCGTTTACCGTCATCTCCGTTTCCAAAC CAAAATCGTTTTTTTTTCTCGTATGATGGGAGATCTGGTGGAGAACTAGACGCAGCAGCTAGCGGAAGTTTTTAGTCTCAGCTTCTTCATTTTTTTTCT TTCAAGGCTCAGGGAAATAAAAATGTCAACTAAGGGAGAACATCATACAGTTCCACTATCTGTTTTGCTCAAGCGTGAATCAGCGAATGAGAAGATA GACAATCCTGAGCTCGTACACGGGCAGGCTAACCAGAGCAAGAAAGGCGAGGACTTTACGCTTGTTAAAACAGAGTGCCAAAGGGTCATGGGAGA TGGAGTCACTACCTTCTCAGTTTTTGGGCTTTTTGATGGACACAATGGTTCTGCAGCAGCTATCTACACAAAGGAGAACCTTTTGAACAATGTATTAG CTGCAATACCCTCTGATCTCAACAGAGACGAGTGGGTTGCGGCGCTTCCGAGGGCTTTGGTTGCAGGGTTTGTGAAAACTGATAAAGATTTCCAGG AAAGAGCAAGGACGTCTGGAACGACTGTAACTTTTGTAATAGTAGAAGGATGGGTGGTGAGTGTTGCATCTGTAGGTGACTCTCGTTGCATACTTGA GCCTGCTGAAGGTGGTGTCTATTATTTATCTGCTGATCATCGGCTTGAAATAAACGAAGAAGAGCGAGATCGCGTCACTGCAAGTGGTGGTGAAGTT GGTCGGTTAAATACTGGTGGTGGTACTGAGATTGGTCCTCTGAGATGTTGGCCTGGTGGACTTTGTCTCTCAAGATCCATTGGAGATCTGGATGTTG GCGAATACATTGTTCCAGTTCCTTATGTGAAGCAAGTCAAGTTGTCTTCAGCTGGTGGTCGACTTATCATCTCAAGTGATGGTGTGTGGGATGCAAT GAGTGCAGAGGAGGCTCTTGATTGTTGCCGGGGCTTGCCACCTGAAACTTCTGCGGAGCACATTGTCAAAGAAGCTGTGGGGAAAAAGGGTCTAC GCGATGACACAACCTGTATTGTTGTTGACATATTACCGTTGGAAAAACCGGCCGCTTCCTTGCCGCCTCCGAAAAAGCAAGGAAAAGGAATGCTAAA GTCCATGTTCAAAAGAAAAAGTTCAGACTCCTCTTCTAATATTGAGAAAGAGTATGCAGAACCTGATGTAGTTGAAGAACTGTTTGAAGAGGGCTCTG CTATGCTTTCAGAGAGATTAGACACAAAGTACCCGCTTTGCAATATGTTCAAGTTGTTTATGTGTGCTGTGTGTCAAGTAGAAGTGAAACCTGGAGAA GGTGTCTCAATCCATGCTGGATCGTCTAATTGCCGTAAACTTCGTCCCTGGGATGGTCCATTCCTTTGCGCAAGTTGCCAGGACAAGAAAGACGCA ATGGAAGGGAAAAGATCATCTGGAGATAGACATAGTAGTGAGAGCGACTAGCCAGTAATTTCTGCAACTTGCAATTTTATTTTGGCAAAGCAAAACTA ACAAAACAGTGTTGTGAGTAAATTGGAGCGGTTCAAGAGGATCTTACCATCCAGAGATACATGAGTTCCTTGATCAACCACTATACCATTCTTACCAT TCTCCGGCAGACTCCAAAGCAGTTTGTGTTTTTTTTTCCCCTTTGATATGGTGATGGCTCCTACTTCACGGCGTCTTGGATTCTTAAATGTAAATCCG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003G13	AT1G73200.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT1G17820.1); similar to unknown protein [Oryza sativa (japonica cultivar-group)] (GB:BAD23057.1); similar to Os02g0827500 [Oryza sativa (japonica cultivar-group)] (GB:NP_001048594.1); contains InterPro domain Pleckstrin homology-type; (InterPro:IPR011993)	GGTTTCTCAAGTGACCATGAACTACACACCGTTACGCGTCTTCTTCTCTTCTTGATTCCTTGGCAAGAAATCTTCTCCGATAACTGGAAATCGATAAA CTTGTTGGCTTCCCGGAGATGGTTTCCTTTGCGATTTTCGTCTTCGTTACCGGATTTTTGCTGGGGATTCTTACCATCGTGACGGCGGAATTAGCGG GGTTTTTGTATCTTCTGAATCGATTGAATCGGAAGAGAAATCGCCAGGAATCGAGTACGGGTTCTGATCCAGCACTCACGGAGTTTGATCCTCCCCA GTCCAGTGCTCTCAGTCTCAACAAACAGGGAGTGATTTGGGTTTTGGAGTTGGATGAAAGTTTAAAGGAATGGATGAAGGAAAAGCTACCAAAAGAG CAAAAAAAGAAGAAAGACCTCTTGGATGTACATCCAGTTAGGAAATTTGCTCGCATCAAAGACCATAAGCTGATCTTATCAGAGACAAATAACACTCA GACTATTATTACTTTGAAAGGTTGCTCGGTTGATGCTGTTTCAGGGTCTGAACTCCCGACAAGGAAATGGGCTAAAAGATTTCCTATCCAAGTAGAG AGCAAAACTTCAGAGTTGTACAAGGGAAACCGGGTGTTTTACATCTATCTCGAGACTTCTTGGGAGAAGGAGTCATGGTGTAAAGCACTTCGTCTTG CTGCTTGCATGGATCAGGAAAGGTCTATCTGGCTCACCAAATTGAAAGACGATTTTCGAAACTACATGTCTTCCCTTAATGTTGCATATCCTTCGTTT ATGAAACCATCAGCTGAGTTTAGTTTTGAGTCATTGGACAAGGGGCTTAAAACGGATGGTCCCTCATCAAAAGTTCGTTCACTCTGGAAGAAGTTTTC AAAAAAGTATTCAACTAAAGTGAATACGGCCCCTTCGAACCGTGAAGACAAGAAGACTTCAACCCGTCCTTACCAAGATTCACAGTCTACCGGTAGC TCTGGAAGGAGCACACCAGCAAGAATGATGAGAGATAACATCCCTGAGGAAACCGATGTGCAAGTTTTCTCACGTACTTGGAGCCATGGCAGTCAT GTTTCGGATGTAGACTCAGAAGACAAGTTTTTTGCTGATGAAGGAACATTGGCGTGGAACTTACTAATTTCTAGGCTGTTTTTTGATGTCAAACAGAA CACAGGGATAAAGAATCAAGTGCAGGAACGAATCCAGCGGGTGGTGTCCAACATGAGACTTCCCAGCTACATAGGCGATTTAATCTGCTGTGATGT AAACATTGGAAATCTCCCACCTTATATACATGGTATAAGGATTCTTCCATTGCAGATGAATGGTGTGTGGGCGTTCGAATTAGATATTGAATACAGTG GCGGTGCGGGACTTGAAGTTGAAACTCGGGTTGATGCCAGAGAGGAAGATCTGCAGAAAGGCATAGCTGAAGGAAAATTGCAGCCAAATTCTGCT GGGGATGTTCCTCCAGATCTACTTGAAGGTCTTGCGGATTTTGAAAAGCAATTAACTGACCCCCAGCCAGGAGGAACTGTTGATGCACAAGATGTG AAAACTGGAGGAAGCGATAAAGCTGGTCAGTACGGTATTCTGCTGATGGTTTGTGTATTCATCTAATTATGTGATCTTGCATGCTGCGTAGAAGCATT TATACCAAGGAGGCAAGGATGATAAACTACTTTTTTATTTGACGCAGATGAATCTAAGGGATCAAAAAGCACAAAATCAGGTTCGAACAATGGATCCA AGTGGAAGTCTATTCTGAAGAACATCGTTGAGCAAGTTTCCCAGGTTTCAATTAGTTTGTCAATAGGAGTTACTTCGCTTCGAGGGACACTGCGTGT ACACATGAAGCCGCCTCCATCTGATCAACTATGGTTTGGCTTCACAAGCAATCCCGATATTGAATTCGCCCTTGTCTCATCTGTTGGTGAACACAAAA TCTCAAACAGCCAGGTTGCTACGTTCTTGATCAACCGGTTTAAGACGGGGATACGAGAGGTCATGGTGCTCCCGAACTGCGAAAGCGTAACCATTC CTTGGATGATAGCTGAAAAGGATGATTGGGTCCAACGCAAAGTCGCTCCATTCATTTGGCTGAATCAAGACTTGACTAGTGATCACGACAGCTTCGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003G14	AT5G52640.1	HSP81-1 (HEAT SHOCK PROTEIN 81-1); ATP binding / unfolded protein binding	GGTGTCTCAAAGATTGAAATCATCAAATCTCTCGAAAAAGCTCTCAAAAGTTTATCTATTCGTCTTTCAATTTCTCTTGCTGTTCTTCGTTTGCGTTGA ATAGAAAATCGTTGCAATGGCGGAAGTTCAGATGGCTGATGCGGAGACTTTTGCCTTCCAGGCCGAGATTAACCAGCTCCTTAGCTTGATCATCAAC ACTTTCTACAGCAACAAAGAGATTTTCCTCCGTGAGCTTATCAGTAACTCCTCTGATGCTCTTGACAAGATTCGGTTTGAGAGCTTGACCGATAAGAG CAAGCTCGATGGACAGCCTGAGCTCTTCATCAGGTTGGTCCCAGACAAGGCCAACAAGACCCTCTCGATTATTGACAGTGGCATTGGAATGACCAA AGCAGATCTGGTGAACAACTTGGGAACCATTGCGAGGTCTGGAACCAAGGAGTTTATGGAAGCGCTCCAAGCTGGTGCTGATGTGAGCATGATTGG TCAGTTTGGTGTTGGTTTCTACTCTGCTTATCTCGTTGCAGAGAAGGTTATTGTCACCACAAAGCACAATGATGACGAGCAGTACGTATGGGAGTCT CAAGCTGGTGGTTCCTTCACTGTCACAAGGGATGTTGATGGGGAACCCCTTGGTAGAGGGACTAAGATCACTCTCTTCCTCAAGGATGACCAGCTT GAATACTTGGAGGAGAGGAGACTCAAAGACTTGGTGAAGAAGCACTCTGAGTTCATCAGTTACCCGATCTATCTTTGGACTGAGAAAACCACCGAG AAGGAGATCAGTGACGATGAGGACGAGGATGAACCAAAGAAAGAGAACGAAGGCGAGGTTGTAGACGTTGATGAGGAGAAGGAGAAAGAAGGTAA AACGAAGAAGAAAATTAAGGAAGTCTCTCACGAGTGGCAACTCATCAACAAGCAGAAACCGATTTGGTTGAGGAAGCCTGAAGAGATCACCAAGGA TGAGTACGCTTCTTTCTACAAGAGCTTATCCAATGACTGGGAGGATCATCTTGCCGTGAAGCATTTCTCAGTGGAGGGTCAGCTCGAGTTCAAGGCC ATTCTCTTTGTTCCAAAGAGAGCTCCATTCGATCTCTTCGACACAAGAAAGAAGCTGAACAACATCAAGCTCTACGTCAGGAGGGTCTTCATTATGGA CAATTGCGAAGAGCTAATCCCAGAGTACCTCAGCTTCGTGAAAGGTGTGGTTGACTCTGATGATTTGCCGCTCAACATCTCTCGTGAGACTCTTCAA CAGAACAAGATTCTCAAGGTGATCCGGAAGAATCTAGTGAAGAAGTGCATTGAGATGTTCAACGAGATCGCCGAGAACAAAGAAGACTACAACAAAT TCTACGAGGCGTTCTCCAAGAACCTCAAACTGGGTATCCATGAAGACAGCCAGAACAGGTCAAAGATAGCTGATCTTCTTCGTTACCACTCGACAAA GAGCGGAGACGAAATGACGAGCTTGAAAGATTACGTCACAAGGATGAAGGAAGGCCAAAAGGACATTTTCTACATAACTGGTGAAAGCAAAAAGGC AGTGGAGAATTCTCCGTTCTTGGAGAAGCTGAAGAAGAGAGGATACGAAGTGCTTTACATGGTGGATGCGATCGATGAATACGCCGTTGGACAATT GAAGGAGTACGACGGTAAGAAGCTCGTCTCCGCGACAAAAGAAGGACTCAAGCTCGATGATGAGACTGAGGAAGAGAAGAAAAAGAAGGAAGAGA AGAAGAAGTCTTTCGAGAATCTCTGCAAGACGATCAAGGACATTCTTGGTGACAAGGTTGAAAAAGTTGTGGTCTCGGACAGAATCGTGGACTCTCC GTGCTGTCTCGTGACTGGTGAATATGGATGGACTGCGAATATGGAGAGGATTATGAAGGCACAGGCGCTGAGAGATAGCAGCATGAGTGGTTACAT GTCGAGCAAGAAGACGATGGAGATTAATCCCGACAATGGAATCATGGAGGAGCTCAGGAAGAGAGCTGAGGCGGACAAGAACGATAAATCTGTTA AGGATCTTGTGATGTTGCTGTTCGAGACCGCTTTGTTGACGTCTGGTTTCAGTCTCGATGATCCGAACACGTTTGCTGCGAGGATTCACAGGATGTT
GCT-003G15	AT2G31370.5	DNA binding / transcription factor	GATGATCTCTTGTAAGAATCGCATTCTCTCTTCGTCTTCTCACTCATAGATCTCTTTCTCTTCCTCTCATTTTCTCCTCCGATTCTCAATTTTCCTCCTT TTTCTCTCATAACTTTTGGAAAAGCCCTAAACTTTCTGCCTGGAAAATCTTACAATTTTTCTCTTGGATCTCTCTCTCTCTCTCTGCAGGGCCAGGC TACTACAGCTGATTAGATCTATTTAGTAAGTGATGTTACAAAGTCGTCTCCTTTGATCTATTTAATAGTTGAGTCTTTAGAGTGAATTCTAGAAATGGA TAAAGAGAAATCTCCGGCACCTTGTGGTGGTCTCCCACCTCCATCTCCGTCAGGTCGATGCTCAGCATTCTCAGACGCTGGTCATGGACCAGATAC TAACCGGTTAAGCCACGATATTAGCCGTATGCTCGATAACCCACCAAAGAAGATTGGACACCGTCGAGCACATTCCGAGATCCTCACTCTCCCTGAT GATTTGAGTTTTGACAGTGATCTTGGTGTGGTTGGTACTAATGCTGATGGAGCTTCTTTCTCTGATGACACGGAAGAAGACTTGCTATCTATATATCT TGATATGGATAAGTTTAATTCCTCGGCTACTTCTTCTGCTCAAGTTGGTGAGCCGTCAGGAACTTCTTGGAAAAATGAGTCGAAGATGCATACAGGC TCAACTTCTAATCCTCAGAATACGCTCAATAGTTTCGGCGAAAGACCAAGAGTCAGACACCAACACAGCCAATCTATGGATGGTTCAATGAACATCA ATGAGATGCTTATGTCGGGAAATGAAGATGATTCCACTGTTGATGCTAAGAAGTCCATGTCTGCTGCTAAACTTGCTGAGCTTGCCCTCATCGATCC AAAACGTGCTAAGAGGATATGGGCAAACAGGCAATCCGCGGCAAGATCAAAAGAAAGGAAGACGAGATACATATTTGAGCTTGAGAGAAAAGTACA GACTTTGCAAACAGAAGCTACAACTCTCTCAGCCCAGTTGACTCTCTTACAGAGAGACACAAATGGCTTGACTGTAGAAAACAACGAGCTGAAACTG CGGTTACAAACAATGGAGCAGCAAGTTCACTTGCAGGATGAACTAAACGAAGCACTTAAGGAGGAAATCCAGCATCTGAAGGTGTTGACGGGCCAA GCTGCTCCAAACGGTGCATCAGCAATGAACTATGGGTCGTTGGGATCAAACCAGCAATTCTATTCCAACAATCAGTCAATGCAAACAATCTTAGCCG CACAACAGTTCCAGCAGCTTCAGATCCATTCGCAGAAACAGCTGCAACACCAACAACAGTTTCAGCTTCAGCAGCAACAGCTGCAGCAGCTTCTAAA CCATCGCCTTCAACAGCAGGAACAACAAAATGGAATTGCAGAGATGAGAAAACAGAAACCATCTCAAGGCCAGAATGAGAGCTGAGGAATACGAGG TTGAATATATGTGGACTTTTGCGAGAGAGGGTATTGACGTTATGCACTAAGCAGAAGACTTTTGGTATATCATCGAGGAAAGAAAACATTTGGATAGC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003G16	AT4G03280.1	PETC (PHOTOSYNTHETIC ELECTRON TRANSFER C)	GCTTCTTCATAACATCAAAAGCTCCATTTTACCAAAACCCTTTCACAATCTCGGCTACATCAATGGCGTCGTCCTCCATCTCGCCTGCTACTCAGCTT GGTTCGAGCAGAAGCGCTATGTTGGCGATGTCGCGTGGGTTGTTTGTGAAACCAACGAGGACGAATCATCAAATGGTTAGAAAGGAGAAGATTGGA TTGAGAATTGCTTGTCAAGCGACGAGTATCCCAGCGGACAGAGTTCCAGATATGGAAAAGAGAAAACTCTTGAATCTTCTCCTTGTCGGGGCTCTTT CTCTCCCTAGCGGCTACATGCTTGTTCCTTACGCTACCTTCTTTGTCCCTCCTGGATCCGGAGGTGGAGGTGGTGGTACCCCAGCCAAGGATGCAC TTGGAAACGATGTAATTGCAGATGAATGGCTTAAGACTCATGGTGCTGGTGATCGAACCCTGACCCAAGGATTGAAGGGAGATCCAACTTACCTAGT TGTGGAGAACGACAAGACACTAGCGACCTACGGTATAAACGCAGTGTGCACTCATCTTGGATGTGTTGTGCCGTGGAACAAAGCCGAGAACAAGTT TCTATGTCCTTGCCATGGATCCCAATACAATGCCCAAGGCAGAGTTGTTAGAGGTCCAGCGCCATTGTCGCTTGCCTTGGCTCACGCGGATATCGA TGATGGTGGGAAGGTTGTGTTTGTTCCATGGGTTGAGACTGACTTCAGGACTGGTGATGCACCATGGTGGTCTTAAACTCTACAATAACTCTTTTGT GGGAAGAAGAAAGGCTGAGTCTTTTTGTGTTATACTTGTTTGAATGTTCTTATGATGTAAAAGCTGTGTGTAAGCATACATTTCATGGCATTACTCTGT
GCT-003G17	AT3G17650.1	YSL5 (YELLOW STRIPE LIKE 5); oligopeptide transporter	GGAGAAACAGAGAAAACGAGAGAGAGATAGGATGAGAAAGGGAGTCTTAAATCCAGGCAGAGATCGTCAAATTGTGGAACATGAGTTGCAGGAAAC TGGGTTTAGCCCAGAATCAGAGAAGGCGACAAAAAAGAATGTTGAAGGAGACGAAGATGAAGAGGAAGAGGAAGAATCTGTGGAGAAGATCTTTGA AAGCAGAGAAGTGCCTTCTTGGAAGAAGCAGCTGACTTTGAGGGCTTTCGTGGTGAGCTTTGTGCTGAGCATCTTGTTTAGCTTCATTGTTATGAAG CTCAACCTCACAACGGGAATCATACCGTCGCTCAATGTCTCCGCTGGTCTTCTGGGATTCTTCTTCGTCAAGACATGGACCAAGATGCTTCATAGGT CTGGATACTTGAAACAGCCATTTACTCGCCAGGAGAATACTGTTATTCAGACCTGCGTTGTTGCTTCTTCCGGCATTGCCTTCAGCGGAGGGTTTGG GACTTACCTCTTTGGCATGAGTGAACGAATTGCGAACCAATCAGGAGATGCTGCCCGTGGCGTCAAGGACCCTTCTTTAGGTTGGATAATCGGTTTT CTCTTTGTTGTCAGCTTTCTTGGGCTCTTCTCGGTCGTTCCCCTACGAAAGATAATGGTAATAGACTTCAAACTAACATACCCAAGTGGTACTGCAAC TGCTCATCTTATCAACAGCTTTCACACCCCTCAAGGCGCCAAGCTGGCCAAGAAACAAGTGAGGGTGTTGGGGAAATTCTTCTCCTTCAGCTTTTTC TGGAGTTTCTTCCAATGGTTCTTTACCGGAGGAGAAAATTGTGGGTTCTCCAACTTCCCTACTTTCGGACTCAAAGCATACCAGTACAACAACATATG TAGGTGTTGGCATGATATGCCCATACATAATCAACATCTCTGTTCTTTTGGGAGGAATTCTCTCTTGGGGGATAATGTGGCCTCTCATTGAAACCAGA AAGGGAGATTGGTTTCCTGCTGATGTCGAATCCAGCAGCATGAATGGCCTTCAGGCTTATAAGGTGTTTATAGCTGTTGCGATAATCCTAGGAGATG GATTATACAACTTTTGCAAAGTGCTGAGCCGTACACTCTCAGGTCTATTTATACAGCTACGAGGCACTACACCTCCTTCAAGAACATCTTTCACAGTC GAAGAAGACCCTCCTGCTTCCCCATTAAGCCCACAGCAATCTTATGATGACCTACGTCGTACAAGATTCTTCCTCAAAGATCAAATCCCTACTTGGTT TGCTGTTGGAGGATATATCATAATAGCTGCAACATCTACTGCGATACTCCCTCACATGTTTCAGCAGCTGAGATGGTATTACATTCTGGTCCTCTATA TCTGCGCGCCTGTCTTAGCTTTCTGTAACGCTTATGGAGCTGGACTCACAGATTGGTCCTTAGCTTCAACTTATGGAAAGCTAGCCATATTCACAATC GGAGCTTGGGCTGGCTCTGAGCACGGTGGTATGCTAGCTGGTCTCGCAGCATGTGGCGTTATGATGAACATAGTATCGACAGCTTCGGATCTCACA CAGGATTTCAAGACAGGTTACCTCACTTTATCATCGCCAAAGTCGATGTTTGTGAGCCAAGTCATTGGAACAGCAATGGGTTGTGTGGTATCTCCTT GTGTGTTCTGGCTGTTCTACGAGGCGTTTGATGATTTAGGCCTTCCCAACAGTGAATACCCTGCACCATTTGCTACCGTATATCGAAGTATGGCTAA ACTAGGAGTAGAAGGTGTCTCATCATTACCGAGAGAATGTCTCGTCCTATGCTACGCGTTCTTCAGTGTGGCGATTCTCGTAAACATAGTAAAGGAT AGTCTTTGGAGCAGATGGGGACGGTTCATTCCTCTTCCGATGGCAATGGCTATACCGTTTTTCTTAGGGCCTTACTTTGCCATTGACATGTGTGTGG GAAGTTTGATACTTTTCATCTGCGAAAGACTAGATGCAGCGAAGCCCCAAGCTTTCCCCACTCCCCTCCTTCTCGTTTCATATCCCCACACCCCA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003G18	AT5G17310.2	UTP--glucose-1-phosphate uridylyltransferase, putative / UDP-glucose pyrophosphorylase, putative / UGPase, putative	GAATCTCTCTTTTTCCTCTCTGCGACTAATTTCTGTACATCGGATTCTATCATCGGAAATCAACCATGGCCGCTGCAATCGAGAAGCTCCCTCAGCTC AAATCCGCCACCGATGGACTTAATGAGATGAGCGAGAATGAGAGAAGCGGATTCATCAACCTCGTCTCACGTTACCTGAGCGGTGAGGCTCAGCAC ATTGAATGGAGTAAGATCCAGACACCTACTGATGAGATCGTTGTTCCTTACGATAAAATGGCTAACGTCTCCGAAGATGCTTCCGAGACCAAATATCT GTTGGACAAGCTTGTTGTGCTAAAGCTTAATGGGGGTTTGGGAACGACAATGGGATGCACAGGTCCAAAATCGGTTATCGAAGTTCGTGATGGTTT GACATTTCTGGACCTGATTGTTATCCAGATCGAGAATCTCAACAACAAGTATGGCTGCAAGGTTCCCTTGGTTCTCATGAACTCATTCAATACACATG ATGACACCCAAAAGATTGTGGAGAAGTACACCAACTCGAATGTTGATATTCACACTTTTAATCAGAGCAAGTATCCTCGTGTTGTTGCTGATGAGTTT GTGCCGTGGCCTAGCAAAGGAAAGACTGACAAGGATGGCTGGTATCCTCCTGGTCACGGTGATGTATTCCCATCCCTCATGAACAGTGGCAAGCTT GATGCTTTCTTATCACAGGGTAAGGAGTATGTCTTCGTCGCCAACTCAGACAACCTTGGCGCTATCGTTGACTTAAAAATCTTGAAGCACCTGATCC AGAACAAAAATGAGTACTGTATGGAGGTTACACCCAAAACTCTAGCTGATGTAAAGGGAGGAACTCTCATCTCCTACGAAGGAAAAGTACAGCTTTT GGAGATTGCTCAGGTTCCTGATGAGCATGTAAATGAATTCAAATCAATTGAGAAATTCAAGATTTTCAACACAAACAACCTTTGGGTTAACTTGAAAG CCATCAAAAAGCTTGTGGAAGCTGACGCGCTTAAGATGGAGATCATCCCAAACCCGAAGGAAGTCGATGGAGTCAAAGTTCTACAACTGGAAACGG CAGCTGGTGCTGCGATAAGGTTTTTTGATAACGCAATCGGTGTGAATGTACCTCGGTCACGGTTCTTACCAGTAAAGGCAACTTCAGATTTGCTTCT TGTTCAATCGGATCTCTACACTCTCGTGGATGGTTTTGTTACACGAAACAAAGCTAGAACAAACCCCACCAACCCAGCTATCGAATTGGGACCCGAA TTCAAAAAGGTCGCTAGCTTCCTTAGCCGGTTCAAGTCCATCCCGAGTATAGTTGAGCTCGATAGCCTTAAGGTCTCTGGTGATGTCTGGTTTGGAT
GCT-003G19	AT2G46790.1	APRR9 (PSEUDO-RESPONSE REGULATOR 9); transcription regulator	GGCGATTTCCTCTAAGCATCGAAGTCGTCTTTCTCAGGGAAGATATTTTCGCGATTTGAGCGGTTGTGATCGAAAGTAAAATTAGATACTAAATATAC AAAGAAAGAGTTCTTCTTCCTTCATCCTCACTGCGACTTCACATATCTTTTTCTCTCCTTTAATCCTTGATCGGAAACGGTTTTCTCGGCGAATTAAGA TCCAAAATCTCATTGATCGAGATTCTTGTTTCGTTTACGGTGTTTATTTGACTTTGTTGCTGTTATCAAGTTCTGCTTTTCTCTGTAATTTTTGTTTTGA GCTCCGATCGATGGGAGAGTTTGTGGTTTTAAGTAGCGACGATGGTATGGATACGAATGAAGAGATGATGGTGAACAGAGGCAAGTCGTCAGAGGT TGTCCGGTGGGAGAAGTATCTTCCGAAAACAGTGCTTAGGGTTTTGCTAGTAGAATCTGATGATTCAACTCGCCAAATCATCACTGCTCTTCTTCGC AAGTGCTATTACAAAGTTGTTGCCGTTTCCGATGGTTTAGCTGCGTGGGAGACTCTAAAAGAGAAGTCGCATAGCATTGACCTTATACTTACCGAGC TGGATTTGCCATCTATATCTGGTTTTGCTCTCCTTGCTTTGGTGATGGAGAATGAAGCTTGCAAGAACATTCCTGTCATAATGATGTCTTCGCAAGAT TCGATAACATTGGTCTTGAAGTGTATGCTGAGAGGTGCCGCTGATTATCTAATTAAACCCATGAGGAAAAACGAGTTGAAAAATCTATGGCAACATGT GTGGAGAAGACATTCTTTGCGTGATGATCCTACTGCTCGTGCTCATAGCTTACCAGGTTCGCAGCAGAACCTTGAAGATACTGATGAAACTTGTGCA GATTCCAGATATCATTCTGATCAAGGAAGTGGTGCTCAGGCTATCAGCTACAACGGCCACAATAAGCTAACGGCGGATGTCAAACCGCTGGATGAA AGAGATTCTGGTAGAATTGACAAAAAGCTTGAATCTTTTGATGTGACAATGGATTTGATTGGTGGAATCGACAAACGGCCTGAGTGTTGTTTTTATGG AGACAACACTGGTGACGAGTGTGTTGGTCCCGAGCTTGGGCTTTCTCTGAAAAGATCTTGCTCTGGAAGTTTGGAGAACCAAGCTGAAAGCAAGCA TCAAAAGCTTAGCTTCTCTGATGCATCAGCCTTCTTAAGATATGAGAATAGCAAGCCAGCAGAGAAAGCAGTCGTTGCTTTAGATGCGAGTAGTTCA GCGGAGCCAAAGACACCAAGCGAATCACATGAGAAGTTAAGAAAAGTAAGATGCGATCACGGAAGCGCTACAACGAGTAGCAACCAAGAGAATATC GGATCATCAAGCGTAAGCGGACAAAATGAGTTAAGCTTCCGTAACCAAGTTCTTGTTACAAGTCAGAAGCCACACCCGCAAGATTCTCCCTTTCCAG TAGAAACAAGTCGCCTGAAAGCAAGCAAGGAAGTAGAAGTTGGTACTCAAAGCACGTGCAACACCAATGAAGGGATCGCAGGACAAAGTAGCAGCA CGGAGAAATCAAAGGAAGAAGAAGGTCTCAGTGCCCAGCAACGTTGGAGTCAGAGAGAAGCGGCACTGATGAAATTCCGACTGAAGAGGAAAGAT AGATGCTTTGATAAAAAGGTTCGATATCAGAGCAGGAAGAAGCTAGCAGAGCAGCGACCACGAGTGAAAGGCCAGTTCGTGCGTGCCGTAAATTCA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003G20	AT1G03190.2	UVH6 (ULTRAVIOLET HYPERSENSITIVE 6); ATP binding / ATP-dependent DNA helicase/ ATP-dependent helicase/ DNA binding / hydrolase, acting on acid anhydrides, in phosphorus-containing anhydrides / nucleic acid binding	GGGGCCAACGCTTCCATTATCGCCGGTAATCTTTCCCCGTTATTTTAGGGTTTTCTAAGTGTTCTACCAATTTCGACTTTGAGAAGGAAGATGATCTT CAAGATCGAAGACGTTACTGTCTACTTCCCTTATGAGAACATATATCCAGAACAATACGAATACATGGTGGAATTGAAGCGATCCCTAGACGCCAAG GGACATTGTCTTCTCGAGATGCCCACCGGAACTGGCAAAACCATTGCCCTTCTCTCCCTTATCACCAGTTACCGGCTCTCTCGTCCCGATTCTCCGA TCAAGCTTGTCTACTGCACTCGTACCGTCCACGAGATGGAGAAAACGCTTGCTGAGCTTAAGCTACTCCACGAATACCAAGTACGCCATCTCGGCT CTCAGGCAAAGATCCTTGCCATCGGTCTTTCCTCCCGGAAGAACCTTTGCGTTAATCCTAAGGTTTTAGCGGCGGAGAATCGTGATTCCGTCGATGC AGCGTGTAGGAAACGGACGGCTAGTTGGGTTAGGGCTTTGTCGGCGGAGAATCCAAATGTAGAACTCTGTGACTACTTTGAGAACTACGAGAAGGC TGCTGAGAATGCGTTATTGCCTCCTGGTGTTTATACTTTAGAGGATTTAAGGACGTTTGGTAAGAATCGAGGATGGTGTCCTTACTTCCTTGCGAGG CATATGGTTCAGTTCGCCAACGTTATTGTTTATAGCTACCAGTACTTGCTTGATCCCAAGGTTGCTGGAATTATATCCAAGGAGTTACAGAAGGAGAC AGTTGTAGTGTTTGACGAGGCGCATAATATAGATAACGTGTGTATTGAAGCACTCAGCGTCAGTGTGAGGAGGGTTACACTCGAAGGAGCTAATCG AAATCTTAATAAGATTAGGCAAGAAATTGATAGGTGCGCTATTCTTTTTCTACGTAGCTGATATAACTTCTCTTGAGCACAATAAACGTTGGTGAACGG GTCTTTTCTTTTTCAATTGAATTTCCTGATAGTTCTTGGATCTCTTCTGGTGTCTACTCTGCATTTTCTATTTGCACATTTGGTGTTCTTGTGGAAGTTT AAGCTAGTAAGAAAGATATATACTTTTCTGAGATTGCTTCTTCTCAAAGAACTGACAGTGGGGAACATAAAATTACAAACACTAATGTCAGCAACTTGA AGCACATGACTGTCTTGTTTAGTGGTGCAGAATTGTCTTCGTTTTATACAGGGACTGGCCTGGTTGTTTGCTGATACTTAATTTTAAATTCTTAAAATT GTCTAACTGGTAGGAAGGTTCAAGGCTACAGATGCAGGAAGATTGCGAGCTGAATACAATCGGCTGGTTGAGGGTTTAGCACTGAGAGGGGACTTA TCTGGAACTGATCAATGGCTTGCAAACCCTGCACTGCCCCATGATATTCTAAAGGAGGCTGTCCCAGGAAATATTAGACGGGCTGAGCATTTTGTGC ATGTTTTACGCCGATTACTTCAGTACTTGGGGGGACGGCTGGATACTGACAACGTGGAGAAAGAAAGCCCTGTTAGCTTTGTATCGTCGCTTAATTC TCAGGCTGGAATTGAGCAGAAAACACTGAAGTTCTGCTATGACCGGCTCCAGTCTCTCATGTTAACTCTTGAAATTACAGATACAGATGATTTCTTGC CTATCCAGACAGTGTGCGATTTTGCAACTCTTGTTGGGACATATGCAAGGGGCTTTTCCATCATCATTGAGCCTTATGACGAGAGAATGCCCCATAT TCCAGATCCTATATTGCAGTTGAGCTGTCATGATGCGTCTCTGGCTATAAAACCGGTGTTTGATCGCTTCCAATCAGTAGTTATTACATCAGGCACCC TGAGCCCTATTGATCTGTATCCCCGACTTCTTAGTTTCAATCCTGTTGTTAGTCGAAGCTTTAAGATGTCAATGACACGAGACTGCATCTGCCCTATG GTTTTAACTCGAGGAAGTGATCAGCTTCCTGTTAGCACCAAATTTGACATGAGAAGTGATCCTGGGGTTGTCAGGAATTATGGAAAGTTTTTGGTGG AGATGGTATCTATTGTTCCTGATGGAGTTGTCTGCTTCTTTGTTAGTTACTCATACATGGATGGGATTATTGCTACTTGGAATGAAACTGGAATTCTGA
GCT-003G21	AT1G22640.1	MYB3 (myb domain protein 3); DNA binding / transcription factor	GGGGAACCTCCCTTCCTTGAAAACAAAAACACACCAAAGTCCTCTTCCTCCACATAAGACACATATACACATACACATAGAGATTGAGAGATCGAAG AGATTTAAAGGAGAGATGGGAAGGTCACCTTGCTGCGAGAAAGCACATATGAACAAAGGAGCTTGGACTAAAGAAGAAGATCAGCTTCTCGTTGATT ACATTCGCAAACACGGTGAAGGTTGCTGGCGATCTCTCCCTCGAGCCGCCGGGTTGCAGAGATGTGGTAAAAGTTGTAGGTTGAGATGGATGAATT ATCTAAGACCAGATCTCAAGAGAGGTAATTTCACTGAGGAAGAAGACGAACTCATCATCAAACTCCATAGCTTGCTCGGTAACAAATGGTCATTGATT GCTGGGAGATTACCAGGAAGAACAGACAACGAGATCAAAAACTATTGGAACACTCACATCAAGAGGAAGCTTCTCAGCCGTGGGATCGACCCAAAC ACACACCGTCCGATCAACGAATCCACAAACGCTCCATCCAAAGCGACGCCGTCTCTTCAAACCGGTGTCGTCGACGAGTCTGTAAAATTCGATTTC GCCGGACCGGATAAACAACCGACGGTTAAACCGGAACCGGGGGTACAAAACCGGGAAGAAGGTTATAATAACTGCTCGAGTAGCGGAACGACGAC GGAGAAAGATATTCAGACGGACGACGATTGGGTGCTCAACTTGGAACTCTCTGTTGGACCAGCGACGACGAGTTATCGGTACGAGTCAACTCGGAA GGCGAATCTTGACTCGGCCGAGTCGACTCGACGGTGGGGCCCTGAGTTGTTCGGGGCTCAGGCTTCGGTGTGTTTATGTTGTCGGATAGGGTCCC ATGGTGAGTCGTGTCGGAGTTGTCGAATTTCCGATGTTAGAACCATTTGGGAGTCGAAAATTCTTTAGGAATCTTTCATATATTAGTTTAATTTGTAAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003G22	AT1G25540.2	PFT1 (PHYTOCHROME AND FLOWERING TIME 1)	GAACCAAGTCTTTTGTTTTTGTATATTTCCTTTTGATATTTCTCCATTCGATTTTTCCTTATTTGCCGAAGAGGAAGGAACATTACAAGAACGAGCTAA GATCATATTTCCCGATAAATTCCCGTCAGCGAATCGCTACGCTTAAGAAGATCAAAAACAATTCCAGGCGGCGAAGAGATTGATTTTGATTCACGTC GCAGCTCTCCAAGGTTTCTTAAAGACTTCCGATTATGTCGTCGGAGGTGAAACAGCTGATCGTCGTTGCTGAAGGCACTGCTGCGTTGGGCCCTTA TTGGCACACCATCGTCTCCGATTATCTCGAGAAAATTATCAGGTCTTTCTGTGGCAGTGAATTAAATGGAGAGAGGAATGTTGAGCTATCACTGGTC ATCTTCAATTCTCATGGTTCATATTGTGCTTGCTTGGTACAACGGAGTGGCTGGACAAAAGATGTTGATATTTTCTTGCATTGGCTTTCGTCCATACAA TTTGCCGGTGGTGGTTTCAGCGAGGCTGCCACAGCCGAAGGGCTTGCCGAAGCATTGATGATGTTTTCTCCTCCCTCAGGCCAAGCTCAACCAAGT AACGATCTGAAAAGGCACTGTATCTTAATCACAGCCAGCAACCCTCACTCATTGCCAACACCTGTATATCGTCCAAAATTGCCAAATGCGGAACGGA ATGAAAATGGCGATGCGCAATCTGAAAGTCGTTTATCAGATGCCGAGACAGTGGCATCATATTTTTCTAGGTGCTCTGTTTCTTTGTCTGTTATATGT CCAAAGCAGCTTCCAAAGATTAGAGCACTCTACAATGCGGGAAAGCTCAATCCACAAAGTCCGGACTTGTCAATTGACACGGTTAAGAACACATTCT ATCTTGTCCTGATCCCAGAAAATTTTGTGGAGGCACGTGCTGCCTTAAGTCATTCTGCTACAAATTTGCCACAGACCCAAAGCCCTGTGAAAGTCGA CAGGTCCACTGTTGCTCCATCTCTTCCAGTCACTGGGCAACCTCCAGCTCCTGTGCCATCAGCCAATGGACCTATTCTTAATCGGCAGCCAGTATCT ATTGGACCAGTTCCAACTGCTACTGTGAAAGTTGAGCCTAGCACTGTACCTTCTATGGCAGCAGTTTCAACTTTTCCCCATATCCAGTCTGTAGCTCG GCCTGCTACACAAGCAATTCCTTCAATTCAAACATCTTCACCGTCGCCAGTTTCTCAAGAAATGGTCACCAACGCCGAGAATGCTCCTGATGTTAAG CCTGTGGTTACTGGAATGACGCCACCGTTGCGCACTGGTCCTCCTGGTGGAGCTAATGTAAATCTGCTGAATAATCTTTCTCAAGTTCGACAAGTCA TGAGCTCTGCAGCTCTGGCGGGTGCAGCCTCGTCGACTGGGCAAAGTGCGGTTGCAATGCACATGTCAAACATGATATCAACAGGAATGGCTACAT CTCTGCCTCCTTCACAAACTGTGTTTTCCTCTGGACAGCAGGGAATTACTTCAATGGCTGGTTCGGGTGCACTAATGGGAACGGTACAAGCGGGAC AAAGCCCTGGTCCTAATAATTCCTTTAGTCCGCAAACTACGTCAAATGTTGCTTCAAACCTTGGTGTTTCTCAACCGATGCCAGGGATGAACCAAGG AAGTCATTCTGGAGCACAGATGATGCAAGGTGGAATCCCCATGAATCAAAACATGATGAGTGGTCTCGGTCAAGGAAATGTATCTTCTGGAACAGGT GGAATGATGCCTACTCCAGGAGTTGGGCAACAAGCGCAATCAGGAATACAACAACTTGGTGGCAGTAACAGTTCAGCTCCTAATATGCAGTTGTCA CAACCATCATCGGCGGCTCTTCAGACTTCACAAAGCAAATATGTAAAAGTCTGGGAGGGGAATTTATCTGGGCAAAGACAAGGGCAGCCTGTTCTTA TCACCAGACTTGAGGGCTACCGAAGTGCTTCTGCCTCTGATTCGTTGGCAGCAAACTGGCCACCAACTATGCAGATTGTTCGTCTCATATCCCAGGA TCATATGAATAACAAGCAATATGTTGGCAAAGCTGACTCCCTTGTGTTTCGGGCAATGAGTCAACATGGGTTCTTGGGACAACTTCAGGATAAGAAG
GCT-003G23	AT2G26580.1	plant-specific transcription factor YABBY family protein	GAGAGTGAGTTAGAAGCTTTTCACCTATATAATTGATCTCATCTTCTATTATTCCTCAACACAAACAACTTGTTTGGTCTGATTTCTCCGATTGATCAT GGCTAACTCTGCGACAGCGACCGAGCAACTTTGCTACATCCCTTGCAACTTCTGCAACATAGTCCTTGCGGTGAGTGTCCCATGCAGTAGTCTATTC GACATCGTGACAGTGCGATGCGGCCACTGCACGAATCTGTGGTCTGTAAACATGGTAGCTGCTCTTCAGTCGCTTTCACGCCCTAATTTCCAGGCA ACAAACTATGCAATGTCAGAGCATGGATCTTCCTCAAGAGGCCACACCAAAATCCCTTCCAGAATTTCAACTCGTACCATAACTGAGCAAAGAGTTG TAAACCGTCCTCCAGAAAAGCGGCAGCGAGTACGTTCTGCTTACAATCAATTCATAAAAGAGGAAATTCAGAGGATCAAGGCGAATAATCCAAACAT AAGCCACAGAGAAGCATTCAGCACCGCCGCCAAGAATTGGGCACACTTTCCTCATATTCACTTCGGTCTAATGCTGGAGAGCAACAAGCAAGCTAA GATAGCTTAATAATTCTCAGGGTGTATGATGAAAATAAGTGCTGGAGCGTTGAAGTACCATGGAACAAGTGCTCATGAGACAACTGTATGTCTCGTA TACATATCATTCACTAGACATATATTGTATGATCTTCGAATCGTATGATCACATCTCTATATATAAGTGAAGATTTCTATCTTTAAAACCATATCTAGAT ATGTATTCTTACTAAGTTTCTTATGATTTACTTTTATGGCATTAATTGATGGTTCCTGTCACAAGATGTATGAGTTCCCTTTCGGTTTTATAAATCTTAAA
GCT-003G24	AT4G30470.1	cinnamoyl-CoA reductase-related	GAGCCTTCTTCACACACACACACATATATATATACACACACGCTTTGGATAAAAACTCTCTGATTCGATAAATCAGAAGAAGAAAAAAAAAAAAACAAAA TGGATCACGAAAAGTCTACCTCCTGTTGCTGCGTTCTCGATGCTTCCACTTTTGTGGGTTTCTGGATTCTCAAGAAATTGCTTAGCAGAGGATACTCT GTTCACGCAGCGATTCGTAAAAAAGGAGAGAGTGAAATTGAAGAGAAAATCAGAGAGATGGAAGCAACGGAGGAGAGATTAGTGGTGTACGATGTT GATGTGTTGGATTATCAAAGCATACTTGTCTCCCTCAAGACATGTAACGCAGTCTTCTGCTGCTTAGATAGCCCTGAAGGGTACGATGAGAAGGAAG TGGATTTGGAGGTGAGAGGAGCGATCAATGTGGTGGAGGCATGTGGAAGAACAGAGAGCATTGACAAGATTGTCTTCTCTTCTTCGTTAACAGCTT CAATTTGGAGAGACAACATTGGAACTCAGAAGGATGTTGATGAGAAGTGTTGGAGTGATCAAGACTTCTGTCGCAAAAAGAAGTTGTGGCACGCATT GGCAAAGATGTTGTCAGAGAAAGCAGCTTGGGCACTAGCCATGGACCGTAGGCTCAACATGGTTTCTATCAATCCTGGTCTTATCGTCGGACCATC GGTCGCACAACACAACGCTGGGCCTACCATGTCCTACCTCAAAGGAGCTGCGCAAATGTACGAGAATGGAGTGTTGGCGTACGTTGACGTTAAGTT TTTGGCGGATGTTCATATTAGAGCGTTCGAGGATGTTTCAGCTTGTGGTCGATATTTCTGCTTCAACCAAATCGTCAACACAGAAGAAGAAGCCCTC AAGCTTGTCCAGAGTTTGTCTCCTTTGATACCTATGCCACCGAGGTATGAGAGTGAGATGCAAGGAAATGAAGTTTACGAAGAAAGATTGAGGAACT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003H01	AT4G35790.2	ATPLDDELTA (Arabidopsis thaliana phospholipase D delta); phospholipase D	GAGATTCACCCTTCGTTTCTGCAGCAGCAACAACAACCGAGCCCTGTTCGTTAGGGTTTTCGGTTTTTGTTGGCTTTCTTCTTGCGTTGCTCAACACC TTTTCTCATTTCCTCCGCCTGATTTGTAACCATGGCGGAGAAAGTATCGGATGATGTGATGCTTTTACACGGTGACCTCGATTTGAAAATTGTTCAGG CGAGGAGATTACCTAACATGGATATGTTCTCAGAACATATGCGCCGTTGCTTCACCGTTTGTAACTCCTGTACTACACCTACCGATGATGAAGATCC CAGAGACAGAGACGGTGGAGCGAAATCCGGTGATAGGAACATCCGCGGCCACCGGAAGGTTATCACCAGTGACCCCTACGTCACCGTCGTCGTCC CGCAAGCCACTCTTGCTCGGACGCGCGTTTTGAAAAACGCCCAGGATCCTCTTTGGGACGAGCATTTCGTCATTTCCGTCGCGCATCCGCTCTCTT ATCTCGAGTTCCAGGTCAAGGACGACGATGTCTTCGGTGCGCAGATCATCGGAACCGCTAAGATCCCCGTTCGGGATATCGCATCCGGCGAACGC ATTTCCGGTTGGTTTCCCGTGCTCGGCGCCTCGGGAAAACCGCCGAAGAAAGAAACTGCTCTCTTCATCGATATGAAATTTACTCCCTTCGATCAGA TCCACACCTACCGCACTGGGATCGCCGGCGATCCGGATCGTAAAGGTGTTAAACGGACTTATTTCCCTGTGAGGAAGGGAAGTCAGGTGAGGCTTT ACCAGGACGCTCACGTAATGGACGGAATGTTGCCGGAGATTGGGTTGGACAACGGCAAGGTTTACCAGCACGGCAAGTGCTGGGAAGATATATGT TATGCCGTTTCTGAGGCTCACCATATGATTTACATTGTTGGCTGGTCTGTCTTCCACAAGGTGAAGCTGGTTAGGGAACCTACAAGGAAGTTACCTA GAGGTGGTGATTTGACGCTTGGGGAGTTGCTGAAATACAAATCGGAAGAGGGTGTTCGAGTTTTGCTACTTGTATGGGACGATAAGACTTCTCATGA TAAGTTCGGGATAAGCACGGCTGGAGTTATGGGGACACATGATGAAGAGACTAGGAAGTTCTTCAAGCATTCTTCTGTGATATGCGTATTGTCACCC CGCTATGCCAGCAGTAAGCTTGGGTTGTTCAAACAACAGGTTGTTGGCACTCTCTTCACGCATCATCAGAAGTGTGTTCTTGTAGACACTCAGGCTG TTGGTAATAATCGCAAGGTCACAGCTTTTATTGGAGGTATAGATCTTTGTGACGGCCGCTATGACACACCTGAGCACCGGATATTACGCGATCTTGA CTCTGTATTTAAGGATGATTTTCACAATCCTACATTTCCAGCTGGTACCAAGGCTCCAAGACAACCTTGGCACGATTTGCACTGTAGGCTAGAAGGA CCTGCGGCATATGATGTTCTCATAAACTTTGAGCAGCGGTGGAGAAAGGCAACACGATGGAAAGAGTTTAGCTTACGTTTAAAGGGGAAAACTCACT GGCAAGATGATGCGTTGATCCGGATAGGACGCATATCATGGATTCTAAGTCCAGTGTTTAAATATCTGAAGGATGGTACTTCAATTGTTCCAGAAGA CGATCCAGTTGTTTACGTTTCCAAAGAAGATGATCCTGAGAATTGGCATGTTCAGGTATTCCGTTCTATCGACTCAGGATCCGTGAAAGGATTTCCAA AATATGAAGATGAAGCTGAGGCCCAACATCTGGAGTGTGCCAAGCGTCTTGTAGTAGATAAAAGCATCCAAACTGCATACATCCAGACAATCAGATC TGCTCAGCATTTCATATATATCGAGAACCAGTATTTCCTGGGTTCTTCTTATGCTTGGCCTTCTTATAAAGATGCAGGAGCTGACAATCTAATTCCTAT GGAGTTGGCTCTAAAGATTGTTAGTAAAATCCGAGCTAAAGAAAGATTTGCTGTATATGTCGTCATACCACTGTGGCCTGAAGGCGACCCAAAGTCT GGACCTGTGCAAGAAATTCTATATTGGCAGAGCCAAACTATGCAGATGATGTATGATGTTATAGCACGGGAACTGAAATCGGTGCAGTCAGATGCTC
GCT-003H02	AT3G07740.3	ADA2A (Arabidopsis adaptor 2A homolog)	GGGTTTTCTCAATTTTCCGGGAAGAAGTGCGAGCTTGGTGCGCGATGGGTCGTTCGAAACTAGCTTCTCGTCCGGCTGATGAAGACGCGAATCCAG GAAAATCGAAAAGGAAAAAGTTATCCTTGGATCCTGAGAATGCAGGGGCTTCAGTTTCGACCGGAGGTGAAGCTAGGATTGAGAGGAAGCCTGGCC TTTACTGTTGTAACTATTGCGATAAAGATCTGTCTGGTTTTGTTCGTTTCAAATGTGCTGTTTGTATGGACTTTGACCTTTGTGTGGAATGCTTCTCTG TCGGTGCTGAACTTAATCGTCACAAGAGCAGTCACCCATATCGGGTTATGGTTAGTTTCCAACATCAAGCAGTATATTTGAATTCAACCTCTATCAGC TGAATAGTTAGTGGTTAGATAATTATTTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTTGCATCTACCCTTTTGTGTGACAGGACAATTTGTCTT TTCCGCTTGTTACTTCTGATTGGAATGCAGACGAAGAGATACTCCTCCTTGAGGCCATTTCGACATACGGGTTTGGGAATTGGAAAGAAGTTGCAGA CCATGTTGGTAGTAAGACAAAGACAGAGTGTATTGATCACTTCAATTCTGCTTACATGCAGTCACCGTGCTTTCCACTCCCTGACTTGTCTCATACAA ATGGAAAGAGCAAAGAGGAGCTTCTTGCTATGAGTAAAGAACATGCAGTGAAAAATGAAATACCTGCACTCGTGAAGCTATCTCCAAAAGAAGAGCT GCAAATGTCAGCTGTAATCATACATGAAGATTCAGGGAAGGACGATGCAATAGATCAACCGTTGCCTGTCTTAGCTGGAGTTAAGAAGAAAGTCAAT GGACCACAGGCTACTGACAGCATTAAGTTGGAAGCTGCAAAACAACCGTCTGACAGGAGTGTCGGGGAGAAGAAACCGAGACTTCCTGGAGAAAA AGTTCCATTAGTAACGGAGTTATATGGCTACAATTTAAAGAGGCAAGAATTTGAGATTGAACATGACAATGATGCTGAGCAACTACTCGCGGACATG GAATTTAAGGATTCTGACACTGATGCTGAGCGTGAGCAGAAGTTGCAGGTTCTTCATATTTACTCGAAAAGGCTTGATGAGAGGAAGCGGAGGAAG GAATTCGTTCTCGAAAGAAACTTACTGTATCCTGATCAATTTGAGATGAGCCTTTCAGCAGAGGAGAGAAAATTATACAGCAGCTGCAAGGTATTTGC GCGGTTCCACTCCAAGGAAGAGCACAAAGAACTGATGAAAAAAGTCATTGAGGAGCACCGAATTCTCAGAAGAATCCAGGATCTTCAGGACGCAAG AGCTGCTGGTTGTAGAACATCTACAGATGCTAATAGATTTATAGAAGAGAAGAGAAAGAAGGAAGCGGAAGAAAGTTGGCTGCGACAAAACCACGG TGCACCAGGCAGTATAGCCAGTAAAACACTAAAAAGTCCAAGAGGGTTGCCCAGAAATTTACAGCCCTTTGGTTCTGTCTCACTGTCAAAGGTCACA CTTCCAATAATATCTAGCTCATTAGACGATTGGGATGTAAGTGGTCTCCTTGGGGCTGACTTACTCTCTGAGACCGAAAAAAGTATGTGCAACGAGA TGAGGATACTTCCTGCGCACTATTTCAAAATGCTGGAAACCTTAACAAGCGAGATAAAGAAAGGGAACATAAAGAAAAAGTCTGATGCTTATAGCTTC TTTAAAGTAGAGCCGAGTAAAGTCGACAAAGTATATGATTTGCTGATTCAGAAGGGAATAGGCGAGTCAACATGACTCATGAGCCCTAGGATTCCCC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003H03	AT1G67900.2	phototropic-responsive NPH3 family protein	GAAGAAAACAAAAAAAGTTGAAAAGTAGATCGCTCTGCTCTGCTTTCTTTTGCTTCTCTCTTTTTATCTTTGAATGATTGGTGAAGAGGGTTTTCTGGG AAATTGCCTTGCTCAAAACATTTTCTTTCTCATAACACAAAGAAGAAACCTCAAGTTTGTTCTGTTTTCATCCAAACAGGAAATTTGTCTCTCTTTTTTT TTTTGAGGAAGGAACTGTTCTTCAGAGATTGGAGCCTTAGAAGAAGAAACCCTTTTGGAGTTTGGCCATTATGCAGAGGATTTTCTGAAGATTCAAGA ACCTAATAAAACATCATAAATCAGCTATGAAGTTTATGAAACTTGGATCTCGTCCTGACACTTTCTACACTTCAGAAGATTTAAGATGTGTGTCTTCTG AAGTTTCCAGTGATTTCCCAATCGAAGTGTCAGGAAGCAGATATCTTCTTCACAAATTTCCACTACTCTCCAAATGTTTAAGGCTTCAAAGACTATGCT CTGAATCACCAGAATCCATCCAACTTCCAGAATTTCCAGGAGGAGTAGAAGCCTTTGATCTCTGTGCCAAATTCTGCTACGGAATAACAATAACCATA AGCGCTTACAACATCGTAGCAGCAAGATGTGCAGCAGAGTATCTACAAATGTCAGAGGAGGTTGAGAAAGGTAACTTGGTGTACAAGCTTGAAGTTT TCTTCAACTCCTGCATCCTAAACGGATGGAGAGACTCCATAGTCACTCTCCAAACCACAAAAGCTTTTCCTTTGTGGTCTGAAGATCTCGCTATCACA AGTAGATGCATTGAAGCCATAGCCTCTAAGGTCTTGTCTCACCCATCCAAAGTGTCTCTCTCACATAGCCATTCTAGGCGTGTTAAGGATGATGACA CGTCCTCTAACAGAGCCGCTGCTACGAGCAGAGGATGGTGGGCTGAAGATATAGCAGAGTTGGGGATAGATCTTTATTGGAGGACTATGATTGCTA TTAAATCCGGTGGCAAAGTACCCTCGAGTCTTGTAGGTGATGCCCTTCGAGTTTACGCTTCTAAATGGCTTCCTACTTTACAAAGAAACCGGAAACTA GTCGGCAAGAAAACTGATTCAGACTCGGATTCTGATACAGAGTCTTCATCGAAGCATAGGCTGTTGTTGGAATCCATAATAAGCTTGCTTCCTGCTG AGAAAACCGCTGTTTCTTGCAGTTTCTTGCTTAAACTCTTGAAAGCAGCTAATATCTTAAACGCATCAGCGTCTTCTAAAATGGAATTAGCAAGAAGG GTGGCTCTTCAGTTAGAAGAAGCAACGGTTAGTGATTTGTTAATACCACCAATGTCCTACAAATCCGAAATGTTGTACGATGTGGACATTGTTGCGAC TATCTTGGAACAGTTTATGGTCCAAGGGCAGACTAGTCCACCAACAAGTCCTCCAAGAGGTAAAAAGGGAATGATGATGGATAGAAGAAGAAGATCT CGTTCGGCAGAGAATATAGATCTTGAGTTCCAAGAAAGTAGGAGATCTTCCTCTGCCTCTCATAGCTCCAAGCTTAAAGTGGCTAAGCTTGTTGATG GATATCTCCAACAGATTGCTAGAGATGTGAATCTTCCACTCTCAAAGTTTGTCACTTTAGCTGAGAGTGTCCCTGAATTTTCAAGACTTGATCATGAT GATCTCTACAGAGCCATTGACATATATCTCAAGGCTCACAAGAATCTAAATAAATCAGAAAGGAAGAAAGTTTGCAGAGTCTTGAACTGCAAGAAACT GTCAATGGAAGCTTGCATGCACGCGGCGCAGAACGAGATGCTTCCTCTAAGAGTAGTGGTCCAAGTCCTCTTCTATGAGCAGGCACGAGCCGCTG CGGCTACTACGACCAACTGTGAAGGAGGCAAAATGACAGAACTTCCAAGCAACATCAAAGCATTACTCGCTGCACACAAAATTGACCCTTCTAATCC AAATGCAGCCGCTTTTAGCACGACTACAAGCATGGCAGCACCGGAAGATCAATGGAGCGTCTCTGGTCTCAAATCTCCCAAATCAAAACTCTCAGG GAGTCTCAGAAGTAAGCTAGCTGAAGATCAAGAGTTAGAGCAAAGCTTTATGAATCAAGACGGCAGCAAGAAGAGTCGATGTCGCTTTAAGCGTTT
GCT-003H04	AT4G14410.2	basic helix-loop-helix (bHLH) family protein	GATTGGCGTCTCTCTTGAAGCTTTACCAAATCTCTGAAATCTGTTTTTGAGACTCAGATGTATCCTTCTCTGGACGATGATTTCGTCTCTGATTTGTTT TGCTTCGATCAAAGCAATGGAGCAGAACTCGATGATTACACACAATTTGGTGTAAATTTGCAGATTGATCAAGAAGATACCTTCCTAGATTTCGGGTC ATACGGTGTAAACGAACCAGAAGAAGTTTTCAGCATTGGAGGAGCTCCACTGGATTTGGCTTCGTTTAGTGGAGTTTTGCAGCAAGAGCCAAAGCAA GTTCGTGTAGTTGGAGGGCAAAATGATTGTGAAATTGTGCAGGAAGAAGATGTAGATTTCAATTCAGGATCATCTGGTGGTCCTATTAAGCAAGAAC AAGAACATTTAGACGACGATTGCTCTAGAAAGCGGGGAAGGACCGGATCGTGTATCAGGCCAGGAGGAAGTAAAGCCTGTCGTGAAAGATTGAGG AGGGAGAAGCTAAATGAAAGGTTCATGGATTTGAGCTCGGTTTTGGAGCCAGGGAGGAGTCCAAAGACAGATAAACCGGCGATACTCGATGATGCA ATCCGTGTCTTGAACCAACTCAGAGATGAAGCTCATGAGCTTGAAGAAACTAACCAGAAGCTTTTAGACGAGATTAAGAGTCTCAAGGCTGAGAAAA ACGAGCTTAGGGAGGAGAAGCTGGTGCTGAAGGCAGAGAAGGAGAAGACAGAACAGCAGTTAAAGTCTATGATGGTTCCATCTTCAGGGTTCATG CCTCAGATTCCAGGTGCATATAGTCAGAACAAAATGGCGGTTTATCCGAGCTACGGTTACATGCCAATGTGGCATTACTTGCCTCAATCGGTTCGTG ATACATCTCGTGATCAAGAACTCAGGCCTCCTGCTGCTTAAAACTCTCGATTGTCTTTCTCTTCTTTTTGGTTGTTGTTGTTGGTACCCATTAGGGAAT GTAGAGAGATATGTGATCCACTTGGTTTTTAGGATTCTTCCGATTGGCAAGTGTAAAAGCTTTACTCTTGGTATTGGGTTGTATTTTCAATAAAAATAT
GCT-003H05	AT3G61470.1	LHCA2 (Photosystem I light harvesting complex gene 2); chlorophyll binding	TGGAGCCTTGAAGATCAACAACGTCGAGAGTAATGGCTTCTCTATGTGCTTCTTCTGCCATCGCCGCCATTTCTTCTCCAAGTTTCTTGGGTGGGAA GAAACTGAGGCTGAAGAATAAGGCGAGTGTTCCGGCTGTTTCCAGATCGGCTGCGTTGGTGCGCGCCGTCGCAGCTGATCCCGAGAGACCAATTT GGTTCCCGGGAAGCACTCCTCCGGAGTGGCTCGACGGTAGCCTCCCTGGTGACTTCGGATTTGATCCTCTTGGTCTTTCCTCCGACCCGGATAGTC TAAAATGGAACGCACAAGCAGAGCTAGTCCATTGCAGGTGGGCAATGCTCGGCGCCGCCGGGATTTTCATCCCGGAGTTCCTAACAAAGATCGGA ATCTTAAACACTCCGTCGTGGTACACGGCGGGAGAGCAAGAGTATTTCACGGACAAAACCACACTATTCGTCGTAGAGCTCATCTTAATCGGATGG GCCGAGGGACGTAGATGGGCCGATATCATAAAGCCCGGTAGCGTCAACACTGACCCCATATTCCCAAACAACAAGCTGACGGGTACAGACGTGGG ATACCCGGGTGGGTTATGGTTCGACCCGTTGGGTTGGGGATCCGGTAGCCCGGCTAAGATCAAGGAGCTGAGGACCAAAGAGATCAAGAACGGAA GGTTGGCTATGTTGGCAGTGATGGGTGCATGGTTCCAACACATCTACACTGGCACTGGTCCTATCGATAATCTTTTTGCACATCTTGCTGATCCTGG TCACGCCACTATCTTCGCTGCTTTCACACCCAAGTGAGACAGCAAAAAAGAGAGGATTTGGGAGGAAGAATGCGTTTGTGTGATCATGTTTGTACAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003H06	AT3G49360.1	glucosamine/galactosamine-6-phosphate isomerase family protein	GGCCATCATCAACACAATTCACAATCATCATCACAATCATCATCATCTAAGCAGATGGCGCCGGTGAAGAGGAGGGTGTTTAAGACAAAGAAAGAAA TGGCGGTGGAACTGGCCAAATACACGGCGGATCTCTCCTCCAAATTCTGCAAAGAAAGAGGAATTTTCACCGTTGTTTTCTCCGGCGGCGACCTCA TCTCCTGGCTCTGGAAATTGTTGGAACCTCCTTATATTGATTCAATTGAGTGGTCCAAGTGGCACATCTTTTGGGTGGACGAGAGGGTTTGTGGTTG GGATGATGCAGATAGCAACTACAAACTCGCCTACGACGAGTTTCTCTCCAAGGTTCCTATACCGGCCGAGAACATCTATGCCATCGACAACGGGCT CGGGGCTGAAGGCAACGCCGAGCTTGCAGCCGAACGGTACGAGGAGTGCCTCAAAGATAAGGTGAACCAAAACATAATCCGAACATACAAATCCT CCGGTTTCCCACAATTTGATCTCCAGCTTCTAGGAATGGGACCGGACGGTCACATGGCGTCTCTATTCCCGGGACATGACCAGATCAATGAGAAAG TGAAATGGGTTACATACATAACCGATTCTCCTAAACCCCCATCAAAAAGGATCACTTTTACTTTAACGGTTATCAATTGTGCTTCATACAATGTTATGG CCGTGTGTGATAAAGAACAAGCTGATTCGGTTGAGGCTGCTCTTAACCATACCAAAGACGTACCAGCCGGAAGACTAACCGCGGATGATGAAGTGG TCTGGTTCCTTGACCAAGCAGCTGCGTCTAAACTCCCTCATGGCTGGTGCTCTATCCTTTGATTTAAGGGAAGGGCTTTATGTTTTTGTCTCACTGAA
GCT-003H07	AT1G31340.1	RUB1 (RELATED TO UBIQUITIN 1)	GGCGTATATATTCTCAACCGCTAAATCAGAGTGAGAGATAGAGAAAATCAAAAATCTTCCGGCGAAGAAAAAAAAGAATGCAGATCTTCGTCAAAAC CTTGACCGGGAAAACCATAACCCTAGAGGTTGAAAGCAGCGACACCATCGACAATGTCAAAGCCAAAATCCAGGACAAAGAGGGGATACCACCTGA TCAACAGAGACTGATATTTGCTGGGAAACAACTTGAAGATGGACGAACACTAGCGGACTACAACATCCAGAAAGAGTCGACTCTTCACTTGGTCTTG AGGCTTAGGGGTGGTACCATGATAAAGGTCAAGACTCTCACAGGAAAAGAAATTGAGATTGATATCGAACCAACCGACACTATTGATCGGATCAAGG AACGTGTTGAGGAGAAAGAAGGCATCCCTCCTGTTCAGCAAAGGCTCATCTATGCCGGAAAACAGCTAGCTGATGACAAAACGGCAAAGGACTACA ACATAGAGGGAGGCTCTGTTCTTCATCTGGTTCTTGCTCTTAGGGGTGGTTTTGGTCTTCTCTGAGAAATAATTCTCTCTTCTATCTAAGTTTATTTCT ATCTAAGTTTATTTGCTCCAAGAGTTTCCTTTCTATGGCTTTGGTTGAGTTCATGAGAAAAAAGTGAATGCAATTTGGATATATGATATGCTTTAAATA
GCT-003H08	AT1G11000.1	MLO4 (MILDEW RESISTANCE LOCUS O 4); calmodulin binding	GGGAAGCCACCATGTGCGGCGGTTTCTACTTGGTGCGGCATTCCATGAGCTTTCTCCTCCTTGACTGGACTATTTTATTTCTAAAATTAAATGAAGAA ATAAAGCTAAACTTTTAGTATTATTCTCTCGCAATCACACAGATGCAGATCCCTTCACAAATTTTCTCGGGAGAAAAGATTGTTGCGACTTTCCCGGA AAATCTACTCGACAGAGATGGAGCATCTGATGAAGGAAGGGAGGTCTCTGGCAGAGACGCCGACTTACTCTGTTGCTTCGGTTGTTACTGTTTTGG TCTTTGTTTGCTTTCTCGTAGAACGCGCCATCTACAGATTTGGAAAGTGGTTAAAGAAGACTAGAAGAAAGGCACTTTTTACTTCACTTGAGAAGATG AAAGAAGAGTTGATGTTGCTGGGACTTATATCACTGCTGTTGTCACAAAGCGCGAGATGGATCTCAGAAATCTGTGTAAACTCTTCCCTTTTCAACAG TAAATTCTACATCTGCTCTGAAGAGGACTATGGAATCCATAAGAAAGTTCTTCTGGAGCACACTTCTTCTACAAGCAACACTTCATTACCACATCATG GAATACATGGAGCCTCTCATCAATGTGGTCATGGCCGGGAACCATTTGTGTCGTATGAGGGCCTCGAGCAACTCCTGAGATTCTTATTTGTCCTGG GTATCACTCATGTTCTGTACAGTGGCATTGCCATTGGTTTAGCCATGAGCAAGATTTACAGTTGGAGAAAATGGGAAGCCCAAGCGATCATAATGGC TGAAGCAGATATCCATGCAAAGAAGACGAAGGTGATGATGCGGCAGTCTACATTTGTCTTCCATCATGCCTCTCATCCTTGGAGTAACAATCGTTTT CTCATCTGGATGCTTTGTTTCTTGCGTCAGTTTAGAGGATCCATACGGAAGTCTGACTACTTTGCGCTTCGGTTAGGTTTCCTCACTAAACATAACTT GCCTTTTACATACAACTTCCATATGTATATGGTGCGGAGCATGGAAGATGAGTTTCATGGCATTGTCGGAATAAGCTGGCCGCTTTGGGTTTACGCT ATAGTATGTATCTGCATAAATGTTCATGGCCTGAATATGTACTTTTGGTTATCATTCATCCCTGCCATTCTTGTCATGTTGGTTGGAACAAAACTTGAG CACGTTGTCTCAAAGCTTGCTCTTGAGGTTAAAGAGCAGCAGACAGGCACATCTGGTGGGGGTCAAGTGAAACCACGCGATGGACTCTTCTGGTTT GGGAAACCAGAAATTCTGTTACGGTTGATACAGTTTATCATTTTTCAGAATGCATTTGAGATGGCAACATTCATCTGGTTCTTGTGGGGAATCAAGGA AAGATCTTGCTTCATGAAGAACCACGTCATGATATCGAGCCGTCTGATTTCTGGGGTTCTTGTTCAGTTCTGGTGTAGTTATGGCACAGTGCCTCTC AATGTAATCGTCACTCAGATGGGATCTCGGTGCAAGAAAGCCGTGATAGCAGAGAATGTAAGAGACTCGCTTCACAGCTGGTGCAAGAGAGTGAAA GAGAGATCTAAGCACGCGAGGTCTGTGTGTTCCCTCGACACAGCAACCATAGACGAGAGAGATGAGATCACAGTGGGAACATTGTCGAGGAGCTC ATCGATGACTTCGCTGAATCAGATCACCATAAACTCCACAGACCAGGCAGAGTCCATATTTGGAGCAGGAGCTTCGTCGAGCAGTCCTCAAGATGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003H09	AT5G46520.1	ATP binding / nucleoside-triphosphatase/ nucleotide binding / protein binding / transmembrane receptor	GGTGGCCTTTTGTGTGGGCGCAATTAAGTCAACAAATATACTACTTGCTTCAACTTGCATCTGAAAAAATTCTGAGAAATAATGGTGAGATTGCTACT TATATGCTCTAATTAACACTCTCCTTTGATTGTCTCTTCAGAAGATCAATCACAAAGTCGTTTTTTGTTCCTCTCTCTCTCTTTCTCTATGGCTCCATCA TCTTCTTTTACCACTTGGGTGTACGATGTTTTTCCGAGCTTCAGTGGGGAAGACGTACGTGTAACTTTCCTCAGCCACTTTCTAAAGGAGCTTGATCG GAAACTGATCATTCCTTTCAAAGACAATGAGATGGAGAGAAGCCGGTCACTCGATCCTGAGCTTAAACAGGCTATTAAGGATTCTAGAATTGCAGTG GTCGTGATCTCCAAAAACTACGCCTCTTCAAGCTGGTGCCTCAACGAGTTGCTGGAGATAGTGAATTGCAAGGAAGAGTATGGTCAGATGGTAATAC CGGTTTTCTATGCTTTGGATCCTTCCCATGTAAGGAAACAAACCGGTGACTTTGGAAAAATCTTTGAAGAGACTTGCAAGAACAGTACAAAAGAAGTG ACAAACCGATGGAGGAGTGCCTTGACCGATGTAGCTAATATCCTCGGATATCATTCAGTGTCTTGGGGTAACGAAGCAAAAATGATTGAAGAAATTG CCAATGATGTTTTGGATAAACTACTTTTAACTCCATCGAAGGATTCTGAGGACTTCGTAGGCATCAAAGATCATATCGCAAATATGAGTGTATTGTTAA ACTTGGAATCTGAGGAAGTGAGGATGGTTGGTATATGGGGTTCCTCCGGGATTGGCAAAACTACAATAGCAAGAGCTCTTTACAACCAACTTTCTCG ACATTTTCAAAATAGCATTTTCATAGACAGGTCTTTCTTATCTAAGAGTATGGAAATTTATAATATAGCCAATCCGGACGACTACAACATGAAGTTGCA TTTGCAAAGAAATTTCCTCTCTGAAATCTTAGGTAAAAAACACATAAAGCTGAATCATTTAAGTGCTGTTGAGGAGAGGCTGAAGCACCAGAAAGTTC TTATTTTCATCGATGATTTGGATGATCAAGTGGTGCTAGATGCCTTGGTGGGTGAACCAAAATGGTTTGGAAATGCGAGCAGAATAATTGTGGTTACA AATGATAAGCATTTCTTAAGGGCCCATGGGATTGATTGTCATTATGAGGTCTGTCTCCCATCTGAAGACCTCGCTCAAGATATGTTATGTCAATATGC TTTCAGGAAAAAGTCTCCACCTGAAGGTTTTGAGAAGCTAGTAGTTGAAGTTGCAAGACATGCTGGTTGTCTTCCTTTGGGTCTTAATGTTTTGGGTT CATCTCTACGAGGGAGAGATAAGGAGTACTGGATGGATATGTTGCCAAGGCTTCAAAATGGTATAGATGAGAAGATTGAGAAAACATTGAGAGTCAG CTATGATGGATTAGGTAGCGAACAAGACAAAGCGATATTCCGCCATATCGCATGCTTTTTCAATGGTGCCGAAGTCACATACATGAAGTTATTGCTC GCAGATAGTGACTTGGGTGTTAATATTGCACTTGGGAACCTAGCTGATAAGTCCCTCATCGACGTCAGATTGGGTATTGTGAGGATGCACCGTTTGC TACAAGAAATGGGTAAAAAGGTTGTTCGTCTTGACGACCCTGAAAAAACGGGAATTTCTGGTGGATTCACAAGATATATGTGATGTACTCAATGAAG GCATTGGTAGTAAAAAGATTTTAGGTATATCATTGGATATTGATGAGATTGATGAGTTGCATGTACATGAGAGTGCCTTCAAGGGGATGCGTAATCTC CGTTTTCTAGACATTTACTCGAAAAGCTTTCATAGGTTGGGGAAACAAGGCATTTTGCACTTACCCGAAAGCTTCGACTACTTTCCCCCTAAACTCAA ATTATTGTGTTGGCCCGAATATCCAATGAGATGTATGCCATCCAAGTTTCGTCCTGAAAAACTGGTTAAGCTCAAAATGAATAATAGCAAGCTTGAGA AGCTGTGGGAAGGAGTTGTGTCACTAACATGTCTCAATGTGATGGATTTGTGGGGATCTCACAACCTCAAAGAAATCCCAGATCTTTCAAAGGCAAC
GCT-003H10	AT3G47620.1	TCP family transcription factor, putative	GGTCATAATGGACGGTGGAGACAGCGTCGGAGGAGGTGGAGGAGACGATCACCACCGTCACCTTCACCACCATCACCGCCCTACTTTCCCTTTTC AACTCCTCGGAAAACGAGACCCCGACGATCAACAACAACAACAACCTTCCCCCTCCTCCTCCTCTCTCTTCTCCCTTCATCAACACCAACAACTATCT CAATCGCAATCGCAACAACCGCAACCGCAGCAAAAGACGACGCAACCAACGCAGAAAGAGTTACAAACAACAACGCAAGAGGATCAATCTGCGGTT GCAGCCGCAGCTAAAAAGCCGCCGTTGAAACGAGCGTCCACGAAAGATAGACACACGAAAGTAGACGGAAGAGGGAGGAGGATAAGGATGCCTG CGTTATGCGCAGCTAGGGTTTTTCAGCTTACGAGAGAGCTTGGCCATAAATCCGACGGAGAAACCATCGAGTGGCTTCTCCAACAAGCAGAGCCTT CCGTTATCGCCGCCACCGGAACAGGAACAATTCCGGCGAATTTCACTTCTCTAAACATCTCTCTACGTTCTTCAGGCTCCTCCATGTCTCTCCCTTCT CATTTCCGTAACGCAGCTTCCACTTTTAGCCCTAACAACATCTTCTCTCCCTCTTCTTTACTTCAACAACAGCAACAAAGAAGTGGGTTTCATCATCAT CACCAGCAACATCTACAAGGACGTGCAACGACGTCGTCTCTGTTCCCTGGAATCGATAACTTCACACCAACGACGTCGTTTTTGAACTTTCATAGTC AGACCAAACAAGAAGGAGATCAAGATTCGGAAGAGTTAAACTCAGAGAAGAAAAGAAGACTCCAAACGACGTCGGATTTGCATCAACAACACCAAC ATGATCAAATCAGTGGCTTAGGCTATACTCTTCAATCTAGCAACAGTGGATCTACAACCGCTACAACCGCGCAAATTCCAGGAAATTTCTGGATGGTT GCGGCTGCGGCTGCGGCTGGTGGTGGTGGTGGTAATAACAACCAAACAGGAGGAGGTTCTGTTGGTAGCGGTGGAGGAGGCGGCGGTGGAGAG CCTGTTTGGACGTTTCCTTCGATTAATACAGCGGCTGCTGCGTTATACAGAAGTAGCGTTTCGGGCGTTCAAGGCGGTGCGGTTTCGAGCGGTTTA CATTTCATGAATTTCGCAGCGCCAATGGCGTTTCTTACTGGACAACAGCTAGCAACGAGTAGTAATCATGAGATCAATGAAGATAATAATGAAGGAG GGAGAAGTGACGGTGGTGATCATCATAACACACAGAGACATCATCATCATCATCATCATCAACAGCAAGAACAACAGCATAATATTCTCTCCGGTTTA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003H11	AT5G23400.1	disease resistance family protein / LRR family protein	GACCAGACTTAATCCACCAATTCTCATTTTTTTTGACTAAAGTGAAAAGAAAATATCTTTTTTTTTTTTGCTACTCTTTCTTTTCTTTTTTTTCCCTTTTTTA TTTATTCTATGGATGGATCATTATACCTTCCTGTCTAAGTGAAGGAACACAATAATAAAAACAGTTTTTGTTTAATTCCCTTTATCCCAATTCGAGCCAA AGTTAACTCCTGTCAGATTCCTTTGTCTGAGAAAAAAAGAAAAGTCTTATTTTTAACCATTTCTGCGTTAAACTGATCAAAACCCATTTTCCCAAAATG CAAAACCTGAGATGGGTTTTGAATCTCTTGTTTGTTTCTGCTCTTCTTCATAATCTCGTTCACTCTTCATCTCAAGCAATCTGCTCAAGCCAAGACAGA GCAGCACTTCTGGGTTTCAAATCAAGCATCATCAAGGACACAACAGGAGTTCTGTCTTCATGGGTCGGCAAAGACTGTTGCAATGGAGATTGGGAA GGTGTTCAATGCAATCCGGCCACCGGAAAAGTCACACACTTGGTGTTGCAAAGCTCCGAGAAGGAACCTACTCTTTACATGAAAGGCACATTATCAC CTTCACTGGGGAATCTCGGATCTCTCGAGGTTTTGATCATTACTGGAAACAAATTCATCACTGGTTCGATCCCTAACAGCTTCTCTAGCCTAACTCAA CTTACCACACTCGTGCTCGATGATAATTCTCTCCAAGGCAATCTTCCTTCTTGTTTAGGCCATCCTCCATTGTTGGAAACTCTATCTTTAGCTGGGAA TCGCTTCTCAGGTCTTGTCCCGGCGAGTTTGGGGAACTTGAGAAGCCTTTCTATGTTGAGTTTGGCTCGAAACTCTCTCTCCGGTCCAATCCCAGCG ACTTTCAAGAACCTTCTCAAGCTTCAGACTCTTGATCTCAGCTCCAATTTGTTATCTGGACCGATCCCAGATTTCATAGGTCAGTTTCGAAATCTCAC CAATCTTTATCTGTTCAGCAACAGATTATCAGGGGGGTTACCACTTTCTGTTTACAATTTGGGGAAGCTTCAGGACATGTCGTTGGAGCGAAATCATC TGACTGGACCACTCTCAGAACGTGTCAGCAATTTGAAGTCGCTCACTAACCTTGACTTGAGCAGCAACAAGTTCGTTGGTCACATACCGGCATCGAT CACAAGACTGCAGAATCTCTGGTCTCTCAATCTCTCAAGAAACCAGTTCTCCGATCCACTGCCTGTTGTCGTAGGCAGAGGATTTCCTTCTCTACTG TCCGTTGATCTTTCCTACAACAACCTTAATCTTGGAGCTATACCAAGCTGGATCAGAGATAAGCAACTTACAAATATCAACTTGGCTGGTTGCAAACT AAGAGGAGCCCTTCCAAAGCTAACAAAACCACAAGACTTGAGCTCGCTAGATTTGTCTGACAACTTTTTAACAGGTGATGTTTCAGCTTTCCTCACAA AATTGACCAGTCTTCAGAAAGTGAAACTCTCAAAGAACCAGCTCAGGTTCGATCTCTCAAAGCTCAAGTTGCCAGAAGGGGTGTCTTCCATTGATCT AAGTTCAAATCTAGTGACAGGGTCGCTTTCAAGCCTGTTAAACAACAAGACAAGCCCCTTCTTGGAAGAGATCGATTTCACCAACAACCAAATCTCA GGGAGGATCCCTGATTTCGCAGAGAGCTTGAACCTGAAAGTACTCAACGTAGGGAGCAACAAAATCGGTGGACAAATCCCAAGTTCAATATCAAAC CTTGCTGAACTTGTGAGACTAGACATCTCAAGGAATCATATTACAGGAGTCATACCTCCAGCTTTAGGACAGCTCGCGCAGCTCAGTTGGCTCGACC TCTCGATCAATGCACTTTCAGGAAGAATCCCGGATAGCTTATTGAACATCAAGACAATGAAACATGTGAGCTTCAGAGCCAACAGATTGTGCGGATT CATTCCACAAGCAAGACCATTCAACATCTTTCCTCCAGCTCCTTATCTCCATAACCTTTCCTTCTCTCCCAAGCCATTACCACTTTCCACCAAGACAA
GCT-003H12	AT5G44050.1	MATE efflux family protein	GGTTTACAGAAAGATCGGCGATGGGAGACAAAGACGACGAAGCAGAAGGTGTAGAGACGACGAGAATTCCCCTACTAAGGGATCAAAATGCGACG GAGGAGGAAGGCGGAGAGATAAAGAGAAGAATATGGACGGAGATGAAGAAGCTATGGCGTATCGTTGGACCAGCCATATTCACAAGAGCCTCGAC CTACTCGATCCTCGTCATCACTCAGGCGTTCGCTGGCCACCTCGGCGAGCTCGAACTCGCCGCCATCTCCATCGTCAACAACGTCATCATCGGATT CAACTTCGGCCTCCTCCTTGGAATGGCGAGTGCGTTGGAAACGCTGTGCGGTCAAGCGTTTGGAGCCAAGAAGTATGACATGTTGGGAGTATATAT GCAACGATCTTGGATTGTTCTGTTTTTATGCTCCGTCTTGCTCCTCCCTATGTACATCTTTACGTCCCCAATTCTTAAGTTCTTCGGCCAGCCTGACG ACATCGCAGAGCTCTCCGGTATTATCGCCGTTTGGGTCATTCCTGTCCATTTTGCATTTGCCTTCTTTTTCCCTCTTAATCGATTCCTCCAATGCCAG CTCAAGAATATGGTGCTTGCATTTACGGCTGGAGTAGTACTTGTAGTTCACATATTTGTGTGCTGGCTTTTTGTGTACGGTCTTAAACTTGGAGTCAT AGGGACCATGGCTACTGTTAACGTGTCATGGTGGCTCAATGTCTTAATCTTATATACTTATGCCACTTGCGGAGGTTGTCCGGTCACTTGGACCGGT TACTCCATCGAAGCTTTCACCGAACTATGGGAATTCGCTAAGCTCTCTGCTTCTTCCGGAATCATGCTTTGCTTGGAGAGTTGGTATTATAAGATTTT GATTGTGATGACTGGGAATCTGAAGGATACAAAAATTGCTGTCGACTCTTTGTCTATATGCATGTCGATAAATGGTTTGGAAATGATGATCCCAATTG CTTTCCTCGCCGGAACCGGTGTACGAGTGGCGAATGAATTAGGAGCAGGCAATGGAAAAAAAGCAAGATTTGCGATGATTATATCAGTGATACAATC GTTAATCATTTGGAATAATATTTTCAGTGCTTATAGTATTTCTTCATGATCAAATCGGCTGGATTTTCTCTTCAAGTGAAATCGTCATAAAAGCAGTCAA TGATCTCTCTATTCTTTTAGCATTTACGATTCTTCTCAACAGTGTCCAACCGGTTCTTTCCGGAGTTGCAATTGGTTCGGGTTGGCAATCCTTTGTGG CATACATAAATTTGGGATGTTACTATTTCATTGGACTTCCTCTCGGATTTGTCATGGGCTGGATTTTCAAGTTTGGTGTCAAGGGCATTTGGGCTGGT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003H13	AT1G75990.1	26S proteasome regulatory subunit S3, putative (RPN3)	GACGAGGAGAATCAAAAGAAGCTCTTTAATTTTCTCGTGGCAACGATCTCATCTACGTGTCAAAATCTCACTCCCTCACTCCGGCGACAATGTACCG AGCGGCGGCGAAGCGTCTTCTCGGCGGTGGTTTTACAGCCAACCGCGTCCTCCCCAAGCTCAGGTCCACCATCAACCCGTCCTCTTATACTTCCC GTCTCTGCACGTCGTCGATGGGTAATACTGAATCGACGGTGGGTAATCAGTCTGTAAACCCTAATCAATCGGATCACACGGCGTCTTCTTCTTCTTC CACGGCTACAGGGGAAGGACCTCGTCGACATGAGAGCAGAAAACCGAGAGCCGAGTTTCAGGAAGAGCAGGCTCGTGTTCTCTCTGCTTCTCTCC GTCACGTGCCGAGATTAGGTTGGACAGAGGAAGCGATGATGGCTGGTTCAAGAGATGTTGGTGTGTCTCCTTCGATTGTAGGGTCTTTCTCCAGGA AAGAAGCTGCACTTGTTGAGTTCTTCATGGATGAATGCCTGCAATTGCTTATGGATAGAGTAGACTCTGGATTGGATTTGGAAAACCTGATCCCTAGT GAACGTATCTCCAAGCTCATCAGAATTCGCCTAGAAATGCAGGTCCCTTACATGTCAAAATGGCCTCAAGCTCTCAGCATCCAAGCGCATCCTGTAA ACGTCCCAACCAGTTTTAAGCAACGGGCAATGCTAGTTGATGAGATATGGCATGCTGTTGGAGATGGAACCTCGGATTTAGATTGGTATGTCAAGCG CACCATTCTTGGAGGAGTTTACTCAACCACCGAGATTTACATGCTTACCGATGACTCTCCAGAGTATCGAGATACATGGGCATTCTTGGATGACAGA GTTAAAGATGCTTTTGATCTGAAGAAAAGTATACAAGAGGCCAAGTATTTTGCAGAAGACATCGGAGCGGGAGTTGGGAAATCGGTTCAAGGACTGA TGAATGGAGTTATGCAGACGATGTCCAGAAGGGGTGGTAGCTCTGCGTTTTGAAAGATGACACCTTTATACAATGAAACTTTTTCATACTTTAAGATT CTCCAATATTTTGAGTTGAGATATGCTATAATAATATGTATGACTTGAAAGTGTATAAACATTTTGTTTGTCTTCTACTTTTGAATAAAACCATCGAGTT TGGAACGTTAAAAAAAAAAAAAAAATACGGGCCATAAGGGCCAAATCGGCCATCACGAAGCCCCTTTACTCTCCATATTTTATCTGTCTTTGTGAAGA ACATTGAGATTTGTGGAAAAGATGACTCAAGACGTGGAGATGAAAGATAACCAGACCCCAACTCAATCCGTCGTTTCTGCTACGACCTCCACGCTTC AGCATTTGAAGGAGATTGCAGCTCTGATCGATACTGGGTCGTATACCAAGGAAGTCCGTCGTATTGCTCGTGCTGTGCGTCTCACCGTGGGGCTAA GACGGAAGCTCACCAGTTCCGTGATCTCCTCTTTCCTTGATTTCGCTTTGGTTCCTGGTTCCGAAGCTCACACTCGTCTTTCTTCTTTTGTTCCCAAG AGTGATGAACATGACATGGAAGTTGACACAGCATCATCGAACTCTCAAGCTCCTTCTTCCAAGCACTTACCTGCTGAGCTCGAGATTTACTGCTATTT TATTGTCCTTCTTTTTCTGATTGATCAGAAAAAGTACAACGAGGCCAAAGCTTGCTCTTCAGCAAGTATTGCTCGCCTCAAGAGTGTAAACAGGAGAA CCATTGATGTGATAGCCTCCAAGTTATACTTTTACTATTCCTTAAGCTACGAGCTAACAGGTGATCTTGCGGAGATACGAGAGACCCTTCTTGCCTTG CACCATTCTGCAACACTGCGCCATGATGAGTTGGGTCAGGAGACACTTCTGAACCTGTTGCTTCGCAACTACCTACACTACAACCTGTATGACCAAG CAGAGAAGCTAAGATCAAAAGCACCTCGATTTGAAGCACATTCTAACCAACAGTTTTGTAGGTATTTGTATTATCTCGGTAAGATCCGGACAATCCAG CTAGAATACACCGATGCGAAAGAGAGCCTCCTTCAGGCTGCTAGAAAAGCACCTGTCGCTGCTCTAGGCTTTAGAATCCAATGCAACAAGTGGGCT
GCT-003H14	AT3G16560.1	protein phosphatase 2C-related / PP2C-related	GAACTTGGATCTTCTTGCTGTTTCAGAAACATTTTTTCACAAAAAATGCAGCAAGAGACGATAAGTGATCCTTATGGAGAGATTGAGATAAGCTTTGG TTATCAATGCAATAACAATAAGAGTAAGATAGGAATCCCTGAAGATACTATTACTGATGGGCGTGAGGTTCTTGCTGGGTTTAGGCTTCAAAAGACAA GCAGTTTCTCTTGTTTATCAGGAGCTGCTTTAAGCGGGAACCCAACATTAGCCAACACGAATATCTGCAACGGAGTGATTGGCTCCGAGATTCTGCC ATCTCTAGATTCTCCCAGATCCTTCAGGAAAGTTCCATCTTCCCCTGCGCTTTCAAAGCTCGACATACTCTCTCCTTCTCTCCATGGCAGCATGGCGA GTCTCAGCTGCAGCTCGTCTACTAGCCCGAGTCCTCCTGAGCCAGAATCTTGTTTCTTGACGTCGATGAGCTCTCCTTCTTCTGTGAACGAAGGGTT TCTCCTCTCTGCCATGGAAGTTCAAGTTGCTGGAGGTGCAGCAGGTGAAGATAGGGTTCAGGCCGTTTGCTCTGAGGAGAACGGTTGGCTCTTTTG CGCCATCTATGATGGATTCAATGGAAGAGATGCTGCTGATTTCTTGGCATGTACTTTGTATGAGTCCATTGTGTTCCATCTCCAGTTGCTTGATCACC AGATGAAGCAAAGCCTTACAATGACGCAGCAAGATGATGTTGATGATGCCGTAAAATCATCGGGGTTGTTATCTAACATAAGTAAAATAAATTCTTCT TCATCTGATTTGTTCAGACAAGGAGTGCTAGATTGCTTAAACCGTGCGCTTTTTCAGGCGGAAAATGATTTCTTGAGGATGGTTGAGCAAGAAATGG AAGAAAGACCGGATCTAGTGTCCGTTGGGTCTTGCGTTCTGGTCACTCTCCTTGTCGGGAAGGATCTGTATATCCTGAATCTAGGTGATAGCAGAG CTGTTCTAGCGACCTACAATGGTAACAGGAAGCTTCAAGCTGTTCAGCTCACAGAGGATCACACTGTTGACAACGAAATCGAAGAAGCTAGGCTCTT GAGTGAACATCTTGATGATCCCAAAATCGTTATTGGTGGAAAAATCAAAGGAAAGCTTAAAGTTACTCGTGCTCTAGGAGTTGGTTACTTGAAAAAGG AGAAACTGAACGATGCACTCATGGGAATTCTCCGTGTTCGTAACCTTTTGAGCCCACCTTACGTCTCAGTTGAACCATCGATGAGAGTTCACAAGAT AACGGAGTCTGATCACTTTGTTATAGTCGCAAGCGATGGTTTATTCGATTTCTTCAGCAACGAGGAAGCGATTGAGCTCGTCCATTCCTTCATTTTTA GTAACCCTTGTGGTGATCCAGCAAAGTTTCTACTTGAACGTCTTGTAGCTAAAGCTGCTGCTCGTGTTGGCTTCACGTTGGAAGAATTGATGAATGTT CCGGCTGGTCGGAGACGGAGATATCATGACGATGTGACTGTAATGGTAATCACTCTCGGTACTCATCAACGCACCTCAAAGGCTTCTACGTTTGTGT GATTTGATGATTGATTCCGATTAATGATGATGACGACAAATCTTGGAGTGGTGAAATTGTAAATAGTCTGTTAATCGTATTTAGACTTTTGAAACTGAT CTTGAATTTTCAACACTTGCTTTTGGGTATTTTTTTTCCATTGTATAGTATATATATATTAATTGTAGTGGTCGTAGTTTGGGGGTTTTTGGCTATCTAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003H15	AT2G38390.1	peroxidase, putative	GATCATCCACACTCATAAATCGAAATCATCGTTTGTCTTCCTCCTGAAAAAGAAAAATGGGGTTTTCTTCTTCGTTTTCTTGCAGTGTTATGGGAGCC CTAATATTGGGTTGCCTTCTCCTTCAAGCATCAAACTCTAATGCTCAGTTGAGGCCTGATTTCTACTTCGGAACATGCCCGCGTGTTTTCGATATCAT TGGGAATATCATCGTTGATGAATTGGCCTCCGATCCTCGTATTGCCGCTAGCCTCCTTCGCATGCACTTCCATGACTGTTTTGTTAATGGTTGTGAC GCATCGATCCTGCTCGACAATTCCACATCGTTCCGGACCGAGAAAGATGCTGCTCCAAACGCAAATTCGGTTAGAGGGTTTGATGTGATAGATAGAA TGAAAGCCGAGATCGAGAGAGCTTGCCCAAGAACAGTGTCTTGTGCAGACGTTCTCACCATTGCTTCTCAAATATCAGTGCTTTTGTCGGGAGGTCC ATGGTGGCCAGTTCCGTTGGGGAGGAGAGACAGCGTACAAGCTTTCTTTGATCTGGCTAATACGAATCTTCCCTCTCCATTCTCCACTCTTGCTCAA CTCAAAGCAAGTTTTGCTGCCGTTGGCCTTAACCGCGCCTCGGATCTAGTTGCTCTTTCTGGTGGTCACACGTTTGGAAGAGCACAATGTCAATTTG TGACACCTCGTCTCTACAACTTCAACAACACCAACAGACCAGACCCGAGTCTTAACCCAACTTACCTCGCCCAACTCCGTGCATTGTGCCCTCAAAA CGGAAACGGCACCGTTCTGGTCAACTTCGACCCCGTGACTCCTGATTTTTTCGATAGGCAGTACTACACCAATCTACTTAATGGGAGAGGTCTGATT CAGAGTGATCAAGTACTGTCCTCGACTCCAGGAGCAGACACGATTCCACTTGTGCAACAATACAGCAGCAACACGTTTGTCTTCTTCCGAGCATTCG TTGATGCAATGATCAGGATGGGAAATCTTGCCCCTTCGTCTGGAAATACCGAGATAAGACTAAATTGTAGGGTTGTGAATTCGAGAAGAATTAGGAG TGTGGACAATGAGGATGATGGTGTTGTGAGTTCCATTTGATTATGTCGAGGATATCATATGGATATATCATATATGTAAGAAAGTATAAAATGCGTGT
GCT-003H16	AT2G17040.1	ANAC036 (Arabidopsis NAC domain containing protein 36); transcription factor	GAAGTGATATCACCAACAACCTTTTTCACTTACACAACTTTCAAAAAGAACTAAAACTTGATAAGTGTTTTTTAGAGACAGTGAGAGGTATGTCAAAAG AGATTGAGCTGCCAGGTTTCAGATTCCACCCAACCGAGGAGGAGCTGCTTGATTTCTACCTCAAGAACATGATTTACGGGAAAAGATCGAAAGCGG AAGTCATTGGTTTTCTCAACATCTATCGTCATGATCCATGGGAGTTACCTGGTTTATCGATGATAATGGGTGAGAGAGAGTGGTATTTCTTTGTGCCA AGAGAAAGGAAGCATGGAAACGGAGGGAGACCAAGCAGGACAACTGAGAAAGGTTATTGGAAAGCAACTGGTTCCGATCGTAAAATCATTAGCTTG TCTGAGCCAAAACGTGTGATTGGGCTCAAGAAGACGCTTGTGTTCTACAGAGGAAGAGCACCTGGTGGAAGCAAGACTGATTGGGTCATGAACGAG TTCCGGATGCCTGACAATTGCACCTTACCAAAGGATGTTGTGCTGTGTAAGATATATAGAAAAGCCACTTCCTTAAAAGTATTGGAGCAAAGAGCAG AGATGGAAGCTAAGATGAACCAAACATGTCCAAGTTCTCCTCTCTCGTCTTCTGAGACCATTTCTTTCGTTGGCAAAGAGGAAGACTTGATGACTTCT TTCCCTTATCCTCAAGCGGTAGCCATGAGAGAAGCAAACGACATTTCAATGCTTCAAGGGCATACCGAAAACGCAAAGAGCGAAGAGAAACATAGA GAAACAGAGAGAAAAGAACCTTCTTCATCACTGAAACTGCCATGTGGAGTCTTACCACTACCAGAGCTTCAATTACCTAAACCAGGACTTGAATGGG GACCAGACCAGTTCTTGAGTATAAGCCCTTGGCTCCAGAATCTTACACCAATAGTTAACCTATTAAATTTTTAGGATATGTAAAGAGCAAATGCATTTG AGGGTTCATGCCACGGTCATTAACTATTCAATGTTACCCTCATTCACCTGGAAAAAAACAGAGCTTGTAAGATGTTTGGCTTAGCTTCATAGTAAGAA
GCT-003H17	AT1G18330.1	EPR1 (EARLY-PHYTOCHROME-RESPONSIVE1); DNA binding / transcription factor	GACCTTCTCTTCACTCTCTCCTTCCAATTTCTTCTTCTCACTATTCACTTTTCTTTTTGTTATTTACTCGGGAAATATCTTCCGGTTTCCAGGAATTTCA TTTCCCGGGAAAAAAATAAAGCAGAACTGTTATCTATTCACTGTTCAGATACACTCGGCCACTGGATACTTGTTCCGATTGAGGTTAAAATTGTGAAA TTATCGCTTCAGAAAGTTAGCTTATCAGATACTGTTACATGGCTGCTCTGGATCGAAGTGAGCAACTAAGCAGCAATGCAGAAAATGGGAGTTGCAA TTCAAACGAAGGAACAAATCCAGAAACCAGCAGTAATTGGATTGAAAACGCTGTTAAGGTTAGGAAGCCGTACACAGTAACTAAGCAGAGAGAAAAG TGGAGTGAGGCAGAACATGAGAGATTCCTTGAAGCTATAAAGCTTTGTGGTCGTGCTTGGCGTCAAATCGAAGAACATATAGGTACGAAAACCGCT GTTCAGATTCGAAGCCACGCTCAGAAGTTTTTCTCCAAGGTGACTCGGGTAGCTGACAATATGAACGATGTCTCAGATAAAGCTGTTGTAATCCCGC CTCCTCGTCCAAAGAGAAAACCGGCACATCCTTATCCTCGGAAATCGCCTGTTCCATATCCTCACTCTCCTTCCTCAAATCTGTCAGCTATGGAGAA AGGAACAAATTCTCCAACCTCAGTTCTATCAGCATTTGCTTCAGAGGATCAAATCAATAGCTGCTCCTCACCTAACTCTTGTACCAGTGACGTCCAAT CATCCATTGATAAGAAGAATGACAATGCAGCATCCAACCAATCTCTCAAAGAAGATGCTGCCATTGGTTCTACTCCAGTCTCAAGCATTATGCTATTC GGGAAGGTTGTCCTTGTGGGGGAATCTGATGAACCATCCCCTTACGAAGATTATGTTGATGATCTTAAATCTATGGCAGACAAGACGGGTCAAGAGA ATCACTACTCATGGATAGAGAAATCTACCTCCCACATTGATCCTAGGAACGTCAATACTGATTTGTCTCTTGGGGTATGTGAAATGTCTTGTACTGGT TCTAATGTGTTTGGCTCGGTCAAAGAAATTTCAGAGAACTTGGAGAGGAGTGCAGAGCCCATTAATTCAACATGGAGACGGTTAAACTCGTTAGAAA AACAAGAATCCTGTTATCATTCAAATGGGTTTAGGCCATACAAGAGATGCTTATCAGAAAGAGAAGTGACATCGTCATTGTCGTTGGTAACTTCAGGA GAAGAGAAAAGCCGGAGAAGAGCACGTGTATGCTCGTAGCGAAAGCACAATGCCCACCTTTGTATAGTTGCTACAAACCACAGTTTTAGTATTGATT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003H18	AT5G40020.1	pathogenesis-related thaumatin family protein	GGAAACGGTCAAGTTCCAACCAAAGTTCCAATGAGATTCCACTCTAGCTCGCTGTTCCAACTTTGCATTATATGGAGTTATATATTATTCGGTGAAGT AACATGTCATGGAGTAACATTTTATGTGCAAAATAAATGCTCATTTCCCATTTGGCCTGCTGTTGCACCCAACTCTGGCCATCCAGTTCTAGCATCCG GAGGATTTTACCTGCCATGCGGAGATACCAGACGCATTGATGTTCCTTGGGGTTGGAATGGTCGTGTTTGGGCTAGAACAGGTTGTGATTTTACTTC GAATTGGAATCAAGCTTGCGAAACAGGTGATTGTGATGGACGTTTGGAGTGTAACGGTTTGATTGGAAAACCTCCAGTGACCCTTATACAAATTGCG GTGCAAGCTGACAAATCCAAACCTAATTTCTATGATGTAAGCCTCGTCGACGGTTATAACCTCCCCGTCGCAGTGAATTCCAAACCCGTATCATCCA AATGCGTGGTCTTAGGTTGTCATAAAGATCTCATAACGACCTGTCCCGAAGAATTACAGGTTTTGAACAAAGAGGGACGAGTCGTGGCATGCAAGA GTGCATGCTTAGCGTTTGATAACGACAGGTTTTGCTGTCGGAATGCGTACGGAACGCCGGAAAAATGCAAAAGGACTACGTACTCTATGTTGTTTAA
GCT-003H19	AT1G28330.2	DRM1 (DORMANCY-ASSOCIATED PROTEIN 1)	GGCATCCCTCTCTACAAAAGAAAATCACTTAAGATCACAACAACAAAAAGAAGAAAAAAAAAGTGAAACTAAGTAACTAAAAGATGGTTCTGCTAGAG AAGCTTTGGGATGATGTGGTGGCCGGACCTCAACCAGACCGTGGCCTTGGCCGCCTCCGTAAAATCACCACCCAACCCATTAACATCCGAGATATA GGAGAAGGAAACAAAAAGACGATGCACAAGTCGTTGACTATGCCGGCGGTAGTGAGCCCCGGAACTCCGACTACTCCGACCACTCCGACCACTCC GACGACGCCACATAAGGATAACGTGTGGAGGAGTGTTTTTAATCCGGGAAGCAACCTCGCCACAAGGTCCATCGGTTCCAACATCTTTGATAAACC GACCCACCCAAACTCTCCATCCGTTTACGACTGTGATGGTATCGAAGCTCAAAGGAAGGAACACGTGGCACTGTGTTTAGTGGGCGCGTGGATGTA AATAAATTGAAAAAAGATTATTCTATTTTATCAACTCATCATCCTTCCTTATTGTGCATATGGTTGTACAGCGGTGAGTCAAGGAGTCAGCACCGTTAA AAAGCAACTCACAGTCTAGATCTTTCGCCACGTGTCTGTTTTGACTTTTTTTTTGGGTAACCGAGAGTGTGTGTAAAGGGTATAAAGTGACGGCGAG GTTTACTTTTTGTACATAACTGTCTTCCACCTACGCAATGCGCCGCCACGTGTTAGTTTCTGTCCTGGGCTGTGTTTTGCAAGCTTCTTTTTACGAGT CGTGTAGTTGCAAGTGGCGGTTGGATCTTCACTATCATCGTCGGATTTTGACCTTTGGAAGTGCGTCTACTTTAATGTTTTATTTTATATGTTAATCAA
GCT-003H20	AT1G70560.1	alliinase C-terminal domain-containing protein	GGTTACAAACGAAGCAAAAAAATTATAACATCAAAACCGAGAAGAAGAAGATGGTGAAAGTGGAGAACTCGAAGAACATCGCCTTGTCCGATTCCAT CATCAACCTGGACCATGGAGATCCAACGGCGTACGAAGAATACTGGAGGAAGATGGGAGACAGGTGTACGGTGACGATACGTGGATGGGATCTGA TGAGTTACTTCAGCGACGTGAACAACCTGTGTTGGTTTCTTGAGCCGGAGCTAGCGGAAGCGATCAAAGAGTTGCACGGTGCGGTCGGAAACGCA GCGACGGAGGATCGATACATAGTGGTCGGGACTGGCTCGACGCAGCTTTGTCAAGCGGCCGTCCACGCACTGTCTTCACTCGCTGGGTCCCATCC TGTCAGTGTCGTCGCTGCTGCTCCTTTTTACTCCACGTATGTGGAGGAGACGACGTATGTTCGGTCGGGTATGTACAAGTGGGAAGGAGACGCTTG GGGTTTCGACAAAAAAGGCCCTTACATCGAGCTTGTGACGTCACCCAATAACCCTGATGGCACCATTCGAGAGACTGTGGTGAACTCTCCAGAAGA CGACGAAGGCAAAGTGATCCATGACTTTGCCTATTACTGGCCCCACTACACTCCCATCACTCGCCGTCAAGACCATGACATCATGCTCTTCGCTTTC TCCAAGATCACAGGCCACGCTGGGTCCCGCATCGGGTGGGCATTGGTGAAGGACAAGGAGGTGGCAAAGAAGATGGTAGAGTATATAATAGTGAA CTCTATTGGTGTGTCTAAGGAGTCACAGATACGAGCAGCTAAGATACTCAAAGTTCTAAAGGAGAATTGTGAGAGCGAATCTGATAATTTCTTCGAGT ATGGTCGTGAGATAATGAGGAACAGGTGGGAGAAGCTGCGTGAAGTGGTGAAGGAGAGTGATGTCTTTGCTCTTCCTAAGTACCCTGAAGCCTATT GCAACTTTTTTGGCAAAACACTCGAATCTTACCCTGCGTTTGCTTGGCTGGGGACGAAGGAAGAGACGGATCTGGTAAGTGATTTGAGGAGACAAA AGGTTATGAGCAGAGCAGGAGAACGTTGTGGTTCTGACAAGAAGCATGTCCGAGTCAGTATGCTGAGTCGTGAAGATGTTTTCAATGTCTTTCTCGA
GCT-003H21	AT1G69780.1	ATHB13 (ARABIDOPSIS THALIANA HOMEOBOX PROTEIN 12); DNA binding / transcription factor	GGTAAGTGGTATAGTCTAGGCCGATACATTTCACTATCTCTCTCCTTTTTATTCCTCTTATCTTTTCCATTTGATTCTCCGACTCACACAATGGGTTTT GAGATCCCAAGGTCTCAATTATGATGGCTTCGAGACAAAGAATGGTAAGAAGAAACTAAAGAGAAACGACCAAAGCTTAAGCAAACAGTGTCTTGTC TTCTGTTGAAAAACAGAAGAAAATGTCTTGTAATAATGGAATGTCTTTTTTCCCTTCAAATTTCATGATCCAAACCTCTTACGAAGACGATCATCCTCA CCAATCTCCATCTCTTGCACCTCTACTTCCTTCTTGCTCACTACCTCAAGATCTCCATGGATTTGCTTCGTTTCTAGGTAAGAGGTCTCCAATAGAAG GGTGCTGCGATTTAGAAATGGGGAACAATATGAACGGAGAAGAGGATTATTCAGATGATGGGTCTCAGATGGGAGAGAAGAAGAGGAGATTGAACA TGGAGCAAGTGAAGACATTGGAGAAGAATTTCGAGCTTGGAAACAAACTTGAACCAGAGAGGAAAATGCAGCTGGCTCGTGCCTTGGGTTTGCAGC CAAGACAGATCGCGATTTGGTTTCAGAACAGAAGAGCTCGCTGGAAAACAAAGCAGCTTGAGAAAGATTATGATACGCTTAAACGACAATTCGATGC ACTTAAAGCTGAAAACGATCTTCTTCAAACTCACAATCAGAAACTCCAAGCTGAGATAATGGGATTAAAAAACAGAGAACAAACAGAATCAATAAATC TGAACAAAGAAACAGAAGGATCTTGCAGTAATAGAAGTGATAACAGCTCCGATAATCTCAGACTTGACATCTCAACGGCGCCGCCATCAATCGACAG CACAATAACCGGAAGCCAACCACCACCGCCGGAGACAATCGGTAGACACTTCTTCCCGCCGTCTCCAGCCACCGGAACAACGACGACGATGACGA CGATGCAATTCTTCCAAAACTCGTCTTCAGGACAGAGTATGGTTAAAGAAGAGAACAGTATCAGTAACATGTTCTGCGCATTGGATGACCACTCTGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003H22	AT5G09590.1	mtHSC70-2 (HEAT SHOCK PROTEIN 70); ATP binding / unfolded protein binding	GGAAAAGTATCACCGCCTAGAACCTTCGCTCTTTCTCTAGAAATCTCTCCTTAAAAAAACAACTTTCGTACCTTCAAAAACCCTAAACCCTCTTAGTAC ACGTTCCCGATTTTATCCGCATCATTTGGCATCTTCCTAACTGATCTATCGCCTCCTGAATTTCAAACCATGGCTACCGCCGCTCTCCTCCGTTCGAT TCGACGCCGTGAAGTCGCTTCCACTCCTTTCTCAGCTTACAAATGCCTATCGAGCAGCGGGAAAATATCATTCAATGGTTCTTATCTTGGTCAGAATT GGAGAAGCTTTTCAAGAGCGTTTAGCTCCAAGCCTGCTGGGAATGATGTCATCGGTATTGACTTGGGTACTACTAATTCCTGTGTTGCAGTCATGGA AGGGAAGAATCCGAAAGTCATTGAAAATGCTGAAGGTGCTCGAACCACGCCATCAGTTGTTGCTTTCAACCCGAAAGGAGAACTTCTTGTGGGTAC ACCAGCAAAGCGACAAGCCGTCACTAATCCAACAAACACAGTATTTGGAACAAAACGTTTGATTGGGAGAAAATTCGACGACCCGCAAACACAGAAA GAAATGAAGATGGTGCCTTACAAGATTGTTCGTGCACCTAACGGCGATGCATGGGTTGAAGCCAATGGTCAGCAGTATTCTCCTAGTCAGGTTGGA GCATTTGTGTTGACAAAGATGAAAGAGACAGCCGAAGCTTACCTTGGGAAATCGGTGAAGAAAGCTGTTGTCACTGTTCCTGCCTACTTCAATGATG CTCAGAGGCAAGCAACCAAAGATGCTGGTAGAATTGCTGGTCTTGATGTTGAGAGAATTATAAACGAACCGACGGCTGCTGCTCTTTCCTATGGAAT GACCAACAAGGAGGGTTTGATTGCTGTGTTTGATCTTGGCGGTGGCACATTCGATATATCTGTTTTGGAGATTTCTAATGGGGTTTTCGAGGTAAAA GCCACTAATGGGGATACCTTCTTGGGAGGAGAGGATTTCGACAATGCTCTGCTAGACTTCTTGGTGAATGAATTCAAGACAACTGAAGGAATAGACC TTGCCAAAGACAGGCTTGCTCTGCAGAGGCTTCGAGAGGCCGCTGAGAAAGCTAAGATTGAACTATCATCAACTTCTCAAACTGAAATTAATCTGCC ATTTATCACAGCTGATGCGTCTGGGGCAAAGCATTTCAACATCACCCTAACACGGTCAAGGTTTGAAACTCTGGTGAATCACTTGATTGAGAGGACC CGCGATCCTTGCAAGAACTGTCTCAAGGATGCTGGTATAAGTGCTAAGGAAGTTGATGAGGTTCTTCTAGTTGGAGGGATGACCCGTGTTCCCAAG GTACAGTCTGTTGTCTCAGAGATATTTGGAAAGACTCCTAGCAAAGGTGTCAATCCTGATGAGGCCGTTGCTATGGGAGCTGCACTTCAAGGTGGTA TCCTCCGCGGTGATGTCAAAGAATTGTTACTTCTAGATGTCACACCTCTATCTCTCGGTATTGAAACACTTGGTGGTGTCTTTACAAGACTGATTAGC CGAAACACAACCATCCCCACAAAGAAGAGTCAGGTGTTCTCAACTGCAGCCGACAATCAGACACAAGTTGGGATCAGAGTGCTTCAAGGTGAGCGT GAAATGGCAACAGACAACAAGCTGTTGGGAGAATTCGATCTAGTGGGCATTCCACCATCACCAAGAGGAATCCCTCAGATCGAAGTAACATTCGAC ATTGATGCCAATGGTATTGTCACTGTTTCCGCCAAGGACAAGACAACTGGTAAAGAACAACAGATCACAATCCGTTCCTCCGGTGGGCTCTCAGAG GATGATATCCAGAAGATGGTGAGAGAAGCAGAGTTGCATGCTCAGAAAGACAAAGAAAGAAAAGACTTGATCGACACCAAGAACACAGCCGACACA ACCATTTACAGCATAGAGAAGAGTCTTGGTGAATACAGAGAGAAGATCCCGAGTGAAGTCGCCAAGGAGATCGAAGATGCTGTGTCAGATCTAAGG
GCT-003H23	AT5G08130.1	BIM1 (BES1-interacting Myc-like protein 1); DNA binding / transcription factor	TAAAACCGAGAGAGAAAGAGAGAGAGAAGAGAGAGAGATAGAGGGAGTGAGAGAGCTCTCTGGCTGATCTTTTTTTACCCGATCAGATCGAAGAGT TTTATCTCGAAATTCGAACTTTCTGTGTGGTTGCTCTGACCAAGAGATCCAAGCTTCACACAATTGTCGTTGATTCATTCTCGTAAAGATCTATCGAAT CCCAGAATTTGCTGATTACACGAGTTTCACGTCGAATTCTGGAGAATTGGCGAGGAAAACTTGCAGCGGAGGCTGGTTTTGGCTAAATCGACCAGG ATTTTATCGAAATTCTAGGAGTTTTCTCGTGAAAAAGCGACTGAGAAAGCATAATTCAGCGACTTTCGAGCTCAATTCCTCTTCTACAAGGATCGGAG AAGGCGAATCTCGTGAATTAGCATACAGATCTGAGTTGGTAGCTACAGAATTCCGTCGAATTCCAGAGGAATCAAGCCAAAATTTTGCGAAGAAGTA TCCGAGAAAGACGCAGAATCGTGATAATTCCCGCGCGCAGAGGATAATTCAAAATCAAGAACTGTCGAAGCTTCTGTTGATGGAACTTCCTCAACCT CGTCCCTTCAAAACCGAAGAAGAATTTCCACAGGGAGAAAACCAACACATGATTTTTTATCGCTCTGCAGTCATTCAACCGTCCAGCCAGATCCAAA GCCAACACCTTCTTCTCAAGGTAGCTACTTGAAAACCCATGATTTTCTTCAACCGTTAGAATGTGTTGGTGCTAAAGAAGAGGCAAGTAGGATCAACA CTACAACTACAGCGTCCGAGAAACCACCGCCGCCTGCACCACTGCAGCATGTGCTTCCCGGTGGTATAGGGACTTACACAATCAGCCCCATTCCTT ACTTTCATCATCATCATCATCATCAGAGAATTCCTAAGCCGGAGTTGTCACCACCGATGATGTTCACTGCTGGTGCGCAAGGGAGTGGTGGTAACGA GAGAAACGTTGTGGACGAGAATTCAAACTCTAATTGTAGCTCGTACGCTGCTGCAGCAAGCGGGTTTACTCTGTGGGATGAATCTCGTTCTGGGAA GAAGGGACAGACAAGGAAGGAGAATAATGTTGGGGAGAGAGCAAACATCAGAGCTGATGTTGCAACAACTATGGGACAGTGGCCAGTAGTGGAAC GACAGTCCCAATCTTTGACAAATAACCATTTGAGCGGTTTCAGTTCTCGCTCTTCCTCTCAAGGGTCTGGACTAAAGAGCCAGAGCTTCATGGACAT GATAAGATCAGCGAAAGGAAGTTCACAGGACGATGATCTAGATGATGAAGAAGATTTCATCATGAGGAAAGAAAGCTCATCCACTAGCCAGAGCCA GAGAGTGGATTTGAGAGTAAAAGCAGACGTGAGAGGCTCTGGTAACGATCAAAAGCTGAACACGCCTAGGTCCAAACATTCTGCTACAGAGCAACG AAGGAGGAGCAAGATCAATGATAGATTTCAAATGTTGAGACAACTGATACCTAACAGCGACCAAAAGCGGGACAAGGCCTCCTTCTTACTAGAGGTT ATCGAGTATATTCAATTCTTACAGGAGAAAGCAAATAAGTATGAGACCCCTTACCAGGGATGGAATCACGAACCTGCGAAGCTATTGAACTGGCAGA GAAACAATCAACAGCTAGTACCTGAAGGAACCGTTGCTTTTGCTCCTAAGTTGGAAGAAGAGAAGAGCAACATTCCGGTTTCAGCCCTTGCAACAGC ACAAGGCGGAACTATTGATCAATCAGAAACATTGAACCGAGCAATGCCAACGACCACTCCATTTCCTATGTCAGTTCAAAGCAACAGTTTATTCTCTC CTGTAATTGCGGGTAACCCCGTAACTCAGTTCCACACAAGAGTCGCATCATCTGAAACCGTAGAGCCTAGCCCGAGTTCTCGGAGTCTGACTCAGC CATTGAAAGAAGAAGGAGAAGAAGAAGATGAGGAAGTTCATGAGGGTAACATCAGTATATCAAGTGTTTACTCACAAGGGTTAGTGAAAACACTAAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003H24	AT4G11850.1	PLDGAMMA1 (maternal effect embryo arrest 54); phospholipase D	GCGTTTCTTTATTTGTTTTTTTTTTTCTCTGTTTGTATACCAATGGGAGAGTCAAGTAAAGGGTCTTTGAGGGTAGAGTTGTTACATGGTAACTTAGAC ATTTGGGTTAAGGAAGCTAAACATCTTCCTAACATGGCTCGGTTCAAGAAGTACCGGAAGAACAGTAAGAGTGATCCTTTTGTGACTGTCTCTATCTC AGGTTTGAGATTGCCACAACTTTTGTCATCAAGAACGATGAAAATCCTGTGTGGAAGCAGCATTTCGATGTACCGGTGGCTCATAGTGCTGCAGAAG TTGAGTTTGTGTTGAAAGACAGTGACTTGGTTGGAGCAAAGTTTATTGGATCTCTTAGAATCCCAACCAAGGAGTTGTGTTCTGGGGATACGATAGA AGGATGTTTTCCGATACTAAACAGTAGCGGGAATCCTTGTAATCCGGGCGCTGTGTTGAGTTTATCTATTCAATACACTCCAATGGAAAAGATGAGA CTTTACCAAATGGGTGTTGGTTTTGGGAACGAGTGTGTAGGAGTTCCCGGTACTTACTTCCCTTTGAGGAAAGGCGGTACAGTTACTCTGTATCAGG ATGCTCATGTTGATGAAGGTACTCTCCCAAGTGTAGATCTCGACGGAGGGATACAGTATATACATGGAAAGTGCTGGGAAGATATGGCTGGTGCTAT AAGACAGGCAAAGAAGTTGATTTATATCACAGGTTGGTCAGTCTACCATTCGGTTAGGCTGGTTCGTCTTAATAATGATCCGACCGATGGTACGTTA GGGGATTTGCTTAAAGAAAGATCTCAGGAAGGTGTTCGAGTTTTGGTTTTGGTGTGGGATGATCCAACTTCATGGAGCCTTCTAGGAATTAAAACAC AAGGATTTATGAAGACAAGCGATGAGGCAACTCGCCACTTTTTCAAGCACTCGTCGGTGCAAGTTCGTATTTGTCCTAGATTTGGTGGGAAAGGTCA AGGCCTCGTAAAAAGCTTTGAAGCTGAAACAATCTTCAGCCATCATCAGAAAACTGTGATTGTAGATGCTGATGGAGGTCAGAATCGAAGAAAGATT GTAGCTTTTGTTGGAGGGCTTGACATGTGCAAAGGACGATTTGATACTCCCAAACATCCTCTCTTTAGGACACTAAAGACACTCCATAAAGATGACTT CCATAACCCGACTTTCAAGACTACTGGAAATGATGTACCAAGAGAACCATGGCATGATATGCATAGCAAGATTGATGGTCCAGCTGCATATGATGTG CTTACTAATTTTGAGGAACGGTGGCTAAAGTCTTCACAACATAGCAGGATTTGGAAACATATAAGGTCTAATAATGATTCTTTGCTTGTTAGAGATAGA ATACCCGAACTCATAGGAATGTCTGAAGCATGTTCTTCTGCTAATGAGAATGATCCTGAGTCTTGGCATGTTCAGGTTTTCCGTTCAATTGATTCAAG CTCAGTCAAAGGGTTTCCAGAGGACCCAAAGGAAGCTACTGGAAGAAATCTTCTATGTGGGAAGAATATACTCATAGACATGAGCATACACGCGGC TTATGTTAAGGCCATACGATCTGCTCAGCATTTCATCTACATCGAGAACCAATATTTTCTTGGATCATCATTTAACTGGGAATCAATCAATGGCTTACG TGTTAATAATCTAATCCCGATGGAAATTGCACTTAAGATTGCTAATAAAATTAGAGCAAGGGAGAAGTTTGCTGCTTATATTGTCATTCCAATGTGGCC AGAAGGTGATCCAACAACTATTCCTATGCAGAGAATTCTATACTATCAGCACAAGACTATGCAAATGATGTATCAAACTATCTACAAGACACTTGAGG AAGTTGGACTTGATGGTCAATATGAGCCACAAGACTATTTGAACTTCTTCTGTCTTGGAACCAGAGAGGTCGCTGATGCTGATGGAACACTCAGCGT ATATAGTCCTTTGAATCCATCAAAGGAAAATCCAAATGCTTCACTGGTGCAAGTTTTGAAGAGTCGAAGATTCATGATATATGTTCACTCCAAAGGTAT GGTAGTGGATGATGAGTTTGTCTTAATTGGTTCCGCAAATATCAACCAGAGGTCCTTGGAAGGAACTAGAGACACGGAAATCGCCATGGGAGGGTA
GCT-003I01	AT3G04670.2	WRKY39 (WRKY DNA-binding protein 39); transcription factor	GACGAGCTGATTCTATCTTCTGGGTGTTCACAAGGATCTCATTTTTCTTTTAGCTCTAAAATTTGAGGGATGTTTTTGTTTTTCCTTCTCATAAGCTAA GTTTATCTTTCTGGGTATAGACAAAAGATCTCATCTTTTAGCTCTTGAATTGAGGGAGTTTCGATTTTACTTTACACAGTGAGTTGGAGAGATTCAGCA TTTTGGGGGAAGTAACTAAATGCTGATTGGTTTCTTAATATTTAGGGGTTGAGTTTTGGATTTTTCACGCGCCTTGGATTTGATCTCTATTTAGCTTTT TAATGTGCAACTCTTCTTTCATGTCTTATCGGTTTAGATTCACTGGGATTTCGATTTTGGGCTCTTTTGTTATAGGTTGCAAATTCCATCTTTTTAGGTT CTGGGATTGATATGATTGTCTTGTAGTTCTCGTGAGATTTTGGTGTTAATTTTAGTTTGTGAATTCAGATATTAGGGGTTTCTTGTTCTCTCCTCTGGA AAGAAAAAAAAATGGAGGAAGTTGAAGCTGCTAGCAAATCAGCTATCGAAAGCTGTCATGGAGTCTTAAATCTCTTGTCACAACAAGGCAATGATTC CAACTCTCTCATGGTTGAAACAAGAGAAGCAGTTTCCAAGTTCAAGAAAGTAGCCTCCCTATTAACCAGAGGGTCAGGTCATGGAAAGTTTAGGAGA ATCAACAACAAGTTTAGGTCATCTTTTCCTCAACATATCTTCTTGGAGAGCCCTATTTGCTGTGTTAATGATGTGAGTAGTGACTACACTCAAGTTCTT GCACCAGAGCCTCTTCAGATGGTTCCAGCTTCTGTTGTTTATGACGAGATTGACCCAAAACACCAATTGGGTCATCCTCCATTGATGCTTAGTCACA AAATGCGTGTTGAGAGGTCGTTTCTGGAGTTAAAGCCACCGCCTTTTCGAGCTCCTTATCAGTTAATCCACAACCACCAGCAAATAGCTTACTCTAG GAGCAATAGCGGTGTAAACCTCAAGTTTGATGGATCTGGGAGTAGTTGCTATACACCGAGTGTATCGAACGGATCGAGATCATTTGTATCATCTCTT AGTATGGATGCTAGTGTGGCGGATTACGATAGGAGCTCGTTCCATATAACCGGATTATCTGACCAGATATCGCAGCACTCCCGGAAGATGTGCTCT GGTAGCTTGAAATGCGGAAGTCGAAGCAAATGTCATTGTTCCAAGAAAAGGAAACTTAGGGTGAAACGATCAATCAAGGTGCCTGCAATTAGTAACA AGATTGCGGATATTCCTCCAGATGAGTATTCATGGAGGAAATATGGGCAGAAACCGATAAAGGGTTCACCACATCCACGGGGATATTACAAATGCAG CAGTGTGAGAGGTTGTCCGGCAAGGAAGCATGTGGAGCGATGTATTGATGAAACTTCGATGTTGATTGTGACTTACGAAGGCGAACATAGCCATTC CAGAATATTGTCTTCACAATCAGCTCACACCTGATGAAAGGTATCGACTTTACTCATCTACTTTCTGATTTGAAGAAGAATGAATTAGGTTCAAGAAAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003I02	AT1G47330.1	similar to CBS domain-containing protein [Arabidopsis thaliana] (TAIR:AT2G14520.1); similar to CBS [Medicago truncatula] (GB:ABE86592.1); similar to Os03g0125800 [Oryza sativa (japonica cultivar-group)] (GB:NP_001048820.1); contains InterPro domain Protein of unknown function DUF21; (InterPro:IPR002550); contains InterPro domain CBS; (InterPro:IPR000644)	ACGCAGTACCCAAAAAAAGGACTCACTCCAACATTCAGCTCTCAATCGCCGAATTTCCCTACCGCAAAACTCCACCGGAAAAATTCAGATTCCGGAG ATAAATCATGGCGGCGGAGGATATTCCGTGCTGCGGAGCTAGGTTCTCGCTCTACGTCGTGATAATCATAGCTCTTGTAGCCTTTGCTGGGTTGAT GGCAGGTTTAACACTGGGTCTCATGTCTCTTGGATTAGTCGATCTCGAAGTTCTCATCAAATCCGGCCGTCCTCAGGATCGAATCAACGCCGGTAAG ATATTTCCAGTAGTGAAGAATCAACATCTTTTGCTGTGTACTCTTTTGATTGGAAACTCTATGGCAATGGAGGCTCTGCCAATATTCTTGGATAGGATT GTGCCTCCATGGGCTGCAATTGTTCTGTCAGTGACTCTCATACTGATTTTTGGAGAGATAATGCCACAGGCTGTTTGCACTCGGTACGGGCTCAAGG TTGGAGCAATAATGGCTCCTTTTGTCCGTGTTCTTCTTATACTGTTCTTCCCTATTTCATATCCAATCAGTAAGGTTCTTGATTGGATGTTGGGTAAGG GACATGGTGTTCTTTTACGGAGAGCAGAGCTAAAGACATTCGTGAATTTCCATGGAAATGAGGCTGGGAAAGGTGGAGATCTAACAAACGATGAGA CTTCTATCATCACAGGTGCACTTGAATTAACAGAAAAGACGGCAAAAGATGCAATGACTCCCATATCGAACGCGTTTTCCCTTGAACTTGATTCAACT CTTAATTTGGAAACTTTGAGTACAATAATGTCAGTTGGTCATAGCAGAGTTCCAGTTTATTTCAGAAATCCAACACATATAATTGGGCTCATTCTGGTT AAAAATCTTTTGGCTTTTGATGCAAGAAAGGAAGTTTCTCTGAGGAAAATGATCATGAGAAAAATTCCGCGTGTCTCTGAAACAATGCCATTATACGA TATCCTAAACGAGTTTCAGAAGGGTCACAGCCACATTGCAGTTGTCTATAAGGATCTTGACGAGCAGAAGGGATCACCCGAAACAAGCCAAAATGGT AGTGAGCGCAGAAAAAACAAGAAAACTAGAGACGAACTGTTTAAGGACAGTTGTAAGAAACCAAAATCTCAGCTTGAAGTATCAGAGAAGGAAGTAT TCAAAATCGAAACCGGAGATGCAAAATCCTTCAAGAGCGAGAACAGTGAGGAGCAGCAAGGGAAAACGATTCTATCAGCTGCTCCAGCTAAGAAAC GACATAGAGGCTGTTCGTTCTGCATTTTGGATATCGAGAATTTTCCTATACCTGATTTCCCTCCCAATGAAGAGGTTGTAGGAGTTATCACCATGGAA GATGTTATCGAAGAGCTTCTTCAGGAAGAGATTCTTGACGAAACAGATGAGTATGTGAACATTCACAACAGGATAAGAGTCAACATGCATGCTTCTC AGGAGAATCTACCAAGCGTAATAACCTCGATCACACAATCATCTTCTGGTTCCACTACTCCGAACCGAACATCTCATATGGCCACACCAGATTTGAG
GCT-003I03	AT5G09460.1	transcription factor/ transcription regulator	GAAGATTTCGAACATTGAAGTACGAGAACAACGGAGACTCTAATAACCCAACAATTGTAGTGAGAGTTATTGCTTGCTTTCAACCGATGGATAATTGT CAGGCTGAATACTTTAGACATATACTCAAACCAGTGACGTAGTTGGTTTGTGTTTTCGTATTGTGTCTTCGAGCTGGCATCTTTCTTTTCTTCATTTTG TCTCTACTTTCTTTTACGATTGTTTCAAGAAAGAACCAAGGAGTACTGCGTTCATCACATTTGAGCAACAGCTTCCACAATCGCTTTTTTTTTTTTCCT GCAGTAAAGTTCCATTGGCTTAAACTGCAAGAGCATGCCTCTTGACTCCAGGCAACAGAAATGGTTGCCATTGGGCGTAAATACTCAAGCTACTGAG TCTTCCCGTCCTGGAATTCCTTTTCCAGAACTTGGTAAAGTATATGCAGCTGAGCATCGGTTCCAGGCCTTACTGTCCGGTTATGATAAGCAGTCTT GTGGAAGACAAGTTTCATGTTTGAACGGGCGGTCTAGCTACGATGCTGCTCCAGATGGGGCACTCAAGTCTTCTCAGAAAAGATTTCTAATCTTCGA TCACTCAGGAAATCAGACTCGCTTGTTACAATCTGGATTTCCACTGCAGTTTCCTTCTTCTGTGGCTGCAGAGCCAGGGAAAATTCTCGATTCCCTAA AGCCAGAGAATGGGTTTAGTAAAGATCATGCCATTCCAGAAACGATATTGCTCCATGGAGATCATGTTGAGAAATGTTATGATGGCAAAGAAGAAGA AGAAGAGTCAGAAATGCACGAAGACACGGAGGAAATCGACGCACTGCTGTATTCTGATGATGAAGACAATGATGATTGCGAGAGTGATGATGAAGT GATGAGCACTGGTCACTCTCCTTTCCTAGTTGAACAGCAAGCGTGCGACAAAACAAAAGAAGAAGTGGATGAAACTGAAAGCAGTGATGATGGTCC ACGTCGTAAAAGGCAGAAACTAGTGGACCATTCACACAGAGACTCATTTGTGGGCACCAATAGTTTCACTAAACTCAAAGGCTTATCAGATGAAAAA CTTGGTGAATCCAACAGCTCAAGCAAACTAGAAACAGGTTCTGGTCTAAGCGACGAGCAATCAAGAAAAGACAAGATCCACATCGCTCTGAGAATCC TCGAGAGCGTCGTTCCAGGAGCAAAGGGAAAAGAAGCTCTTTTACTACTAGACGAAGCCATTGATTATCTCAAGTTGCTGAAGCGAAACTTAAACTC ATCAAAGGCTAGCAACCATTGGTGAAAGACTAGAAACCCACTTATTCCCTCCATTGATAAACATGTTTGGTTGGTTAAAGAGAAGACAAGGGACAAA AGATAATCAATGAGGTAAAGGACTGAAGATTCTCTCAAAATTTTCATTAACGTGCGTTTGAAACAATTAGGACACGCCTGGTGACCTAGTGGGACCG TATCCACTGTTCAGCTCAGCTGGATCAATAGTGATCTACTTTTGGATTTGGCATGCTCTCAGATAAAAGAAGGAAAAAAAAAAAAAGCGACTTTCTTCT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003I04	AT2G26300.1	GPA1 (G PROTEIN ALPHA SUBUNIT 1); signal transducer	GACAGGAGAAACAGATGTACTCTGCTCTCTTCTCAGAATTTGTTTTGTACTTGTGAAAAAACTCCTCAGATTTTGTTTTGTTTTTCTTCAGGTGAGCAT TGTCCTGTTATGAGAGGCAACTGTAGCAAGAAGCTGAAGTGTTATTGTTTTTAGCTGTGAGGCTTTATATTTTTCCGACTTCCATGCTATCTTTGGGA TTATAAAAAAAAAAAAGATATCATGGGGTTACTCTGCAGTAGAAGTCGGCATCATACAGAAGATACCGAAGAAAATGCCCAGGCTGCTGAAATCGAAA GACGGATAGAGCAAGAAGCGAAGGCTGAAAAGCATATTCGGAAGCTCCTGCTGCTTGGTGCTGGAGAATCTGGAAAATCTACAATTTTTAAACAGAT AAAACTTCTATTTCAAACGGGATTTGACGAAGGAGAACTAAAGAGCTATGTTCCAGTCATCCATGCCAATGTCTATCAGACTATAAAATTATTGCATG AAGGAACAAAGGAGTTTGCTCAAAATGAAACAGATTCTGCAAAATATACTTTATCATCTGAAAATATGGCAATGGGGGAGAAAATTTCTGAAATTGGT GGTAGGTTAGACTATCCACGTCTTACCAAGGATCTCGCCGAGGGAATTGAAACACTATGGAAGGATCCTGCAATTCAGGAAACATGTGCTCGTGGT AACGAGCTTCAAGTTCCTGATTGCACGAAATACCTGATGGAGAACTTGAAGAGACTATCAGATCTGAATTATATTCCAACCAAGGAGGATGTTCTCTA TGCAAGAGTTCGCACAACTGGTGTCGTGGAAATACAGTTCAGCCCGGTAGGAGAGAATAAGAAAAGTGGTGAAGTGTACCGGTTATTTGACGTGGG TGGACAGAGAAATGAGAGGAGGAAATGGATTCATTTGTTTGAAGGTGTAACTGCTGTGATATTTTGCGCTGCCATCAGCGAGTACGACCAAACGCTA TTTGAGGACGAGCAGAAAAACAGGATGATGGAGACCAAGGAATTATTTGACTGGGTCCTGAAACAGCCTTGTTTCGAGAAAACATCCTTCATGCTGT TCTTGAACAAGTTCGACATATTTGAGAAGAAGGTTCCGTTGAACGTTTGCGAGTGGTTCAGAGATTACCAACCAGTATCAAGTGGGAAACAAGAGAT TGAGCATGCTTACGAGTTTGTGAAGAAGAAATTCGAGGAATTATATTACCAGAACACAGCGCCGGATCGAGTGGACAGGGTATTTAAAATATACAGG
GCT-003I05	AT4G32690.1	GLB3 (2-on-2 hemoglobin like gene 3)	GATAGACTAGCGACAGAGAGAGAGATGCAATCGCTGCAAGAGAAGGCATCGATATGGAGCGGCGTGGATCGAGCAGACGCGTTCGCCATCGACG ACTCCAATCTGTTCGAAAAGCTCGGACTTCAGAGCTTCATCAACCTATCCACCAATTTCTACACCAGGGTGTATGATGACGAAGAAGAATGGTTTCG ATCCATATTTTCTGATTCAAAGAAAGAAGATGCCATCCAGAACCAGTATGAGTTCTTCGTCCAGCGTATGGGAGGCCCTCCTTTGTATTCTCAAAGGA AAGGTCATCCTGCTTTGATTGGACGTCACCGTCCATTTCCAGTGACCCATGAAGCTGCAGAGAGATGGCTGCAGCACATGCAAAATGCTCTGGACG ATTCACTTGACATTGACCAGGACTCAAAAATTAAAATGATGAATTTCTTCAGGCATACCGCCTTCTTCCTTGTGGCTGGAAACGAGTTGAAGAATCAG AACCAGAATCAGAACAACCAGGTTGCGTGTAAACACGCTGCCAATAAACCAGCGGAAGAATAATTAACGACAGATTATTGTTTTATTTGACTTTCAAA
GCT-003I06	AT3G25890.2	AP2 domain-containing transcription factor, putative	GACCCTTCTTTTTCCGACATAATTTTTTTTCTTTCTTCAGTTTTGTCATTGTTAGAGAGCCAGGAAAATCTTGGCCATAGATTTATCATCTGTTTCCGAT TCGATTTGATTCTTACTTTATCTTCTTCTTCTTCTTCTTCTTCTTTTGTATCTTCTTATATCTATTACTATCTCACTTTTCTTTTTCACTTTTGGGGAAACG GAGTGAGAGAGTGTAGAGAAAGAGAGAGAGAAGGTTCTTCGAAGTCGCCGGAGTTGTTTAATCAGAGCTCCGGCTACTTTCTATCTTTTATTCCTCT CTTCTCTCTCTTCTAATTTTCTCTCATCTTCGTCTTCGTCTTCGTCTTCTTAATCGCTTTATGCTCTGTTCTTGGGTTCTCTTGTTCATCAAGCTGCATC TACTGGCTGGTCCAGTGGTTGATTTCTCGCTATATCATCGGCTCCATGCGTTTAAAGCCTAAAAGGATTTGTTCTGGAGTAACTTTTCTTGAAAGAAG ACTTTTATTGATTTTGAGGCTTTTCTCTGGGCAATTGAAGAGGATATTTTAGGGTTTAGAGGGTTTGGTTTGAATTTCGCTCACCAAGTGTTCGACAAA ATGGCTGAACCGAAGAAACGTTCTTCTTTTCAAACCAGTAAACCCTGCAAAAAACCCAAGAAGAAAACTTTCCAGCTAAATCACCTCCCTGGTTTATC TGAAGACTTGAAGACTATGAGAAAAATCCGATTCGTAGTGAATGATCCTTACGCTACTGACTACTCATCCAGCGAAGAAGATGAAACCAATCTGAAAA GGAAACGTTATGTCTGCGAGGTCAACCTCCCTTTCTCTCAAGCCACTACTCAAGCTGAATCTGAAAGCTCGTACTGTCAGGAGAGTAATAATGGTGG AAGCAAAGCCAAAACCTCTGCTTCTAGCAAAAGGGTTTTAAGCAGCAAAACCCCTCGGGTCGTTGGACGTTCAAATGGTGTTTCCAAGCCTGTTGGT GTTAGGCAGAGGAAATGGGGCAAATGGGCTGCTGAGATTAGACATCCAATCACCAAGACAAGAACTTGGTTGGGCACTTATGAGACTCTTGAACAA GCAGCTGATGCTTATGCTACTAAGAAGCTAGAATTTGATGCTTTGGCTGCTGCCACTTCTGCTCCTTCCTCTGACTTGTCCGACAATGCTCTGTCAG GTTCACATGAGTCGGAGTCTCTGGTCTCAGCCTCTGGGTCTAATGTTGAAGCTGTCTCAAGCATTGATCTTGACAAGGAGCTAGTCGATTCAACCAT CGGTCCTGAAGCTGGTGAATCGAAGAAAGCGAGTTTCGATTTCAACTTCGCAGATCTACAGATTCCAGACATGGGTTGCTTCGTTGATGAGTCATTA ATCCCAAATGCTTGTGAGCTTGATTTTCTCTTTACAGAAGAGAACAACCAACTGTTGGATGATTACTGCGGCATAGATGATATGAACATCATTGGTCT TGATTGTGACGGTCCAAGCGAACTTCCGGACTATGATTTCTCAGATGTGGAGATCGATCTTGGTCACATTGGAACTACCATCGACAATTTTGGTTTC GTCGATCACATTACAGCAACTACTACCACTCCTCTTAATATCGCGTGCCCATAAGTTTTGCAGCTAGGTGTTATTTATTAGCTATAGGAGCTAAGCAA AGAAAGCTCTTTTTTACTCGGTTTGTGTTTAAGTTATTACAGTATAGCGGAGGCAATTAATCTCAGGGGAAGCAAGAACCCTAAAGAGAGAAGTTTTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003I07	AT2G27110.3	FRS3 (FAR1-RELATED SEQUENCE 3); zinc ion binding	GGTTTAAAAAAAATAAACCTCACCGCATTCTGGCTGTGTGCAACGCAGCGCCGCGTCCTCTTCTTCTCAGCTTGAGTCGATCCCAGAGTACAGATTG ATAAACCCTAGCTATCTGTAGAAACTTTCACCCTAGAATAGCGAGGATTTAAAAGGAGTTCGTCGGAACCTAATTGCTGCGTCGATTTGATCGCTGT GAAGAAAGAAACCCTAATTTCAGAATCGGTAGTGTGAGACTATGAAGATGTGAAACAGCTGTTTGGAAGTTCTCTAATCAGTAAGTGAGAGAGAGAA GATGGATATTCATTTGGCTGACGAGGTTTTGCCAATGGTGAATACTCATGGGATTGGAGATGATAGAGATGCTGAATCTAGCGATTGCAGTGGAACA AATCCGTTGGGAATCGCAGAGCCGTGTGTTGGCATGGAGTTTCACTCAGAGAAAGACGCCAAATCTTTCTACGACGAGTATTCTAGGCAGCTCGGC TTTACTTCCAAGCCCCTTGCTAAAACCGATACTGCTCGGGAATTCGGGTGTAGTAGCAGCAAAAGGTCGAAAAGAAGACCAGCTGAGAGCTGTGAT GCAATGGTTAGGATAGAGATGAAGAGTCAGGATAAATGGGTTGTGACGAAACTCGTTAAAGAGCACACTCATGGGTTGTCAAGTCCTAACACACTCC ATTGTCTTCGTCCTCGTAGGCATTTTGCCAATTCGGAGAAAACTATTCAAGAAGGGGTGAGTGTTCCTAGTGGTATGATGTATGTTTCTATGGATGGT ATTCGTGTTCCCTTGGAACCTAGTTATAGAGGAGCTAGAAGTGCGTCTAAGGATTCAAATAGAGTAAATTATGGACCTATGGCTACAAACACGAAGA GAACGCTTGGACGGGATGCACATAATCTGTTGGAGTATTTTAAGAGGATGCAGGCAGAGAATCCTGGTTTTTTCTATGCGGTTCAGCTTGATGAAGA TAATCAGATGACAAATGTGTTCTGGGCAGATTCGAGGTCTAGGATTGCTTATACTCATTTTGGCGACACGGTCACTTTAGATACAAGATACAGGTGC AATCAGTTTCGGGTTCCTTTTGCTCCGTTTACTGGGGTGAATCATCATGGTCAGACTATCTTATTTGGATGTGCACTAATTTTGGACGAGTCAGACGC TTCGTTTGTCTGGCTGTTCAAGACTTTTCTAACAGCGATGAGAGATCAGTCACCTGTCTCTTTGGTTACTGATCAAGATAGAGCCATACAGATTGCTG TTGCTCAGGTATTTCCAGGTGCTCGTCACTGTATTAATAAATGGGACGTGCTAAGAGAAGGCCAGGAAAAGCTTGCTCATGTGTGTCTTGCGTATCC TAGTTTTCAGGTGGAGCTATATAACTGTATCAACTTCACCGAAACGATAGAGGAGTTTGAATCGTCATGGAGTTCCATCATTGAAAAGTATGACTTAG GAAGACATGAATGGCTTAGTTCTTTATATAATGCTCGAGGTCAATGGGTACCTGTTTATTTCCGGGATTCCTTTTTTGCTGCTGTGTTTCCTAGCCAA GGTTATCCGAGTTCCTTCTTTGATGGGTATGTGAATCAGCAGACAACCCTTCCGATGTTCTTTAGGCTGTACGAAAGGGCTATGGAGAGCTGGTTTG AGATGGAGATTGACGCGGATATTGACACTGTCAACACACCTCCAGTCTTGAAGACTCCATCACCCATGGAGAATCAGGCTGCAAATCTCTTTACACG GAAGATATTTGCAAAGTTTCAGGAAGAGTTGGTAGAGACATTCGCTTACACTGCAAACAGAATTGATGATGATGGTACCAATAGCACATTTAGGGTT GCGAAATTTGAAAATGACAACAAAGCTTATTTAGTGACGTTTTGCTACCCTGAGATGAGAGCAAACTGCAGCTGTCAAATGTTTGAGCATTCTGGCAT ACTCTGCCGACATGTTTTGACGGTGTTTACTGTCACAAATATACTCACTTTGCCACCACAATATATTCTGAGACGGTGGACAAGAAATGCCAAGAGC GTGGTAGGGTTGGATGAGCATGTCAGTGAAAATGGACATGATAGCTTGATACACCGCTATAATCATCTATGTCGCGAGGCCATCAAGTATGCTGAG
GCT-003I08	AT2G23320.1	WRKY15 (WRKY DNA-binding protein 15); transcription factor	GATCTCTCTCTTTCTCGCTCTCTCTTCATCTTCTAGAGAGAGATTTTATGGCGGTGGAGCTCATGACTCGAAACTACATCTCCGGCGTCGGAGCCGA TAGCTTCGCCGTTCAAGAAGCTGCAGCTTCAGGGCTCAAAAGTATGGAGAATTTCATCGGTTTGATGTCTCGTGAAAGCTGTAATAACTCCGATCAA CCATCTTCTTCTTCCGCCGCCGTTGCCGCCGATCTGGAATCAGCTCGTAACACGACGGCTGACGTGGCGGTTTCGAAGTTCAAAAGAGTCATATCT CTCTTAGATCGGACTCGTACCGGACACGCCCGGTTTAGACGCGCTCCGGTTATTTCTCCAATTCAAGAAATTAAACCGACGCCGTTTCAAGCTCCGC CGCAGATCCGTAAAGGTTCGTTTTCTTCATCGATCAAAACGATCGATTTCTCTTCTCTCTCCTCCGTAACGACGGAATCAGATCACAAGAAGCATCTT CATCGTCCCTCCGAAACGGCGCCGTTTGAGACTCAAAGCCTCTCAACTTCTTCTTTGTCCAAATCAACAAAGAGAAAATGTAATTCAGAGAATCTTAT CGCCGGAAAATGCGTCTCTGCTTCTTCCTCCGGTCGTTGTCATTGCTCCAAGAAAAGGAAGATTAAACAGAAGAGAGTAATTAGGGTTCCGGCGAT CAGTGCTAAAATGTCCGATGTTCCTCCAGACGATTACTCATGGAGAAAATACGGACAAAAACCAATCAAAGGATCTCCACATCCCAGAGGATATTAC AAGTGCAGTAGCGTAAGAGGTTGTCCAGCTCGTAAACACGTGGAGAGAGCAGCAGATGATTCCTCGATGTTAATCGTTACTTATGAAGGAGATCATA ATCATTCTCTCTCTGCCGCTGATCTTGCCGGCGCCGCCGTAGCTGATCTCATTTTGGAATCGTCTTGAAGAAAATCTTAAGACTCAAAATTATATAAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003I09	AT1G63900.1	zinc finger (C3HC4-type RING finger) family protein	GATTCAGCAATATAGGGGGCCCGAAATTCTGTTGGGCCTTTATGATAATAATAATTCTCTGATTCATAAATATGTCACCGATTTAAAAAATCGGTATCC GCCAAAGCTGACTCCTGCTTAGAGTTGCGTCGGATCCGCAACTAGTTGGTCGTTCAGGTAAGCCGTCGAATAAAAAAGTAAATCAATTGAAGATGAT AAAATAAATTAAATGCCATCGAAAAAAAACAAAATCGAAAAAGCAAAATCAATGATAAATAAATTAAACCAAGTGAACGGATTTACCATATATTTTTCAA TGAAAAAATCTATTTTTTTTAATAATTATAGTATAATTTTGTCGACCAATATAATTTGATACCGTTTGTGCCCGTATTAGAACAAAGCACATAAACATTAA TTCGATATCTATATTGTGTTATACAAATCCATATCTATTTTTTTTCTTTCCTTCCCAGACAGCGTCGACGAGATATTTTTCTGGTCTTTCTTCGTCTATA AATCCATTCATTCAAAGGTTGGTTTTTCGTTTTTTAATTTCTTTGAAACTTTGTTTTGCTCACTTGTTAAGATGCTGTATATGAGTTACAGAGAATTCTA CCCACATTTTTTTTCTGAGGTTTGTTGGGTGGTTTAAACTGTCATCAAATTGTTTATGAGTTTTATGTTGGTGTTGTGTGTGGCTTCGTTTTCATAGGAA TGCGATTTCGTGATTCAAAATACAAGGTTAAGATTCAGGGTTCAAGTCTTAGGTTTATCAGAATTGTTAATTTGTTTCGAGAATTATCGTTGAATTACC GTTGATGGCAGATCTTACTTTTGACTCACAAAATATGATCCACATGGGTACAAATAAAACTATGATTATTATTGATTTTTTAATTATTGATTTTTTCAATT GACGAAAAAAGCAGATTATAATTTATGTGTGAATGGCAAATTACATGATAGATGTTCTGCTTGTGAATGAACCACATCTGGGAGTTTGTGATTTTAACT ATTGGGTCTGGCCCGTATTAGAAATCAGCACACAATCATTAATTTGATGCTTATATTGTGTTATACAAATCCATATTTGTTTTCTTTCTTCCCTTCCTAG ACAGCGTCAATGAGATATTTCTGTAGTCTTCATTTTCTTTCTGTAAATCTATTCAAAAATTGGTTTTTCGCTTTTTTCTTTCTTTAAAACTTTGTCTTGCT CACTTGTTAAGATGCTGCATATAAGTTATGTTAATATTTTGTTTATAAATACCCATCTTTTCAGAACTTGGTTTTTTTTTTTTTTTATAAAGCAAATCTTTTC TAAAAACACAAAAATGTATTATAGAGTGAATATATCTTTGTGTGGTGATGTATATGAATTACAAAAAGTAGATGTATACGTGTAAAAATTTATTCGAAGA AAATGGTCAAAAAAAAAGTTTAGAGATGGTTTTAAAATATTTATGTCCATATAGTTATTATACCGGTAAATTTAAAAAGTTCTGACCATATTGAAAAAGT ATGAGTAAGATCTTACCGTGTGATGCTATGTGAAAACATTTATTGAATAAAGAGTTATGCCACATTATTTTACAGAGTTTTTTTTTGGGTAAAATGATTA TTTTTTTATTTTATTTTATAGAGTTTCGATATGGAAAAGATTCTGGTGGGAATGCAGCAAATAGTCGTCATATATATGTAGTAATCATCAAGTTGTGGAT CATCATGAACTTACTAATTTTCTTTTGCGAATTGGATGGACAGAAAGACTAATAAACATAATGAAAGATATAATAATAGTATTTAGTAAGTTACGAACA CAGAACTTATATGAAATGTAGGATGTTCACTAGAGTTTCACAAATTCAAAGAAGATTAAAACAAAAACAAAAGCAGCAAAAATTCATTCCATACTTGTA ATCCAACCATTCAGAAGCTCAATATCACGTTGGGCTTAAACATGAAAAAAACATTTAGGCTCATTGAATCTTTTAGAAATAGCCACGTCATCAGCTTC CTTGTTTCTGTCTTTTATCATCTTCTTCCCCAAACCCTGAGCTTGAGAATATGAGAGAGATCAAACAAAAGATCATCCAATTACAATAATCTGAACTTT TTTTTCGAAATTTACGTCTTCCATCGATTCGCAGATCCAACGACAATCACCGAACGCCCCGAATAATCGATAACTCCATCACTGTCTGATTCTTAGCG
GCT-003I11	AT5G15210.1	ATHB30/ZFHD3 (ZINC FINGER HOMEODOMAIN 3); DNA binding / transcription factor	GGTCTGTCCACACAGCTAACCCAAATTCCCAAAGATTTCGACTTTACAATTAAAAAACAGTTTCGTTTAGTGTAACCTTTATCTTACCTTCACTTCTCA ACCCTTCTTCTTCTTCTCCCATATTTAGAAACCCATTGTTTTTTTTAATAAGTTTTTTTCTTGTTAGTCGTATTTTCTATCCAATTAGCAATAAACCA TCCCTAAACTCAAATATCTCAACTTTACAAGAGAAAGAGATTTTTTTTTTGTGTGTGGAAACCATAAATGTTTTTGAAGTCATGGATGTAATAGCTACTA CAACTACTACAGTATCCGACTTCGATTCGCGAAAACCCGAAATCGAAGCTCCGACCCGGATCCAGCCGGCGAAGCCTATTTCATTCTCAAACGGCA AACGCTGCCACCACTACCATCATCATCTCGCGTCTGAAGCGGTTGCGGTTGCTACTTACAAAGAATGCCTAAAGAACCACGCCGCCGGAATCGGCG GTCACGCTTTAGACGGTTGCGGCGAGTTTATGCCGTCTCTGTCGTTTAACTCGAACGACCCCGCTTCACTAACATGCGCCGCCTGCGGTTGCCACC GTAACTTCCACCGCCGTGAAGAAGATCCATCCTCTGTTTCCGCCATCGTCCCGGCGATCGAGTTCCGTCCTCATAACCGTCACCAGCTTCCTCCGC CGCCGCCTCCGTCGCTGGGGATTCGTAGCCCAGACGAGGACGATTCTGCTTCTCCGCCGCCGATCTCGTCTTCTTACATGCTCCTCGCGCTCTCG GGAGGAGCCACGGCGGTTCCGATGTCGAGGAAACGGTTTAGGACGAAGTTTAGTCAGTTTCAGAAGGAGAAGATGTTCGAGTTCTCGGAGAGAGT TGGGTGGAGGATGCCGAAAGCCGATGACGTGGCGGTTAGGGAGTTTTGTCGGGAGATCGGAGTTGAGAGAAGCGTTTTCAAAGTGTGGATGCATA ACAACAAGATCTCTGGACGCGGTGGAGCTAGAAGAGCTAACGGCGGAGTAGGAGGAGGAGGAGACGGTGGTGAGAGTGTTCCGACGAATGTGTC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003I12	AT3G09260.1	PYK10 (phosphate starvation-response 3.1); hydrolase, hydrolyzing O-glycosyl compounds	GAAGACCATCCAACGCTTTCTTCTCTTGAAGAAAACATAGAAAGTTTTATCCAAACCAAAAATGGCTTTGCAAAAGTTTCCTCTCATGGGGCTGCTTA TGCTCCTAACCATCATTGTTTCTCCGGCAACAGCCGATGGACCTGTTTGCCCACCGACGACTAAACTAAGCCGGGCAAGTTTTCCTGAAGGGTTTCT ATTTGGCACGGCTACTGCAGCATATCAGGTTGAAGGTGCAGTGAATGAAACTTGTCGTGGACCGGCCTTATGGGATATCTACTGTAAGAGATATCCA TCGAGGTGCAATAACGATAACGGTGATGTGGCCGTTGATTTCTTCCATCGTTATAAGGAAGATATACAACTAATGAAGAATCTAAACACAGACGCCTT CAGAATGTCTATCGCGTGGCCAAGAATATTTCCTCATGGGAGGATGGAGAAAGGAGTGAGTCAAGCTGGTGTGCAATTTTACCACGATGTCATCGA TGAGCTCCTTAAAAATGGTATAACTCCGTTCGTGACTGTTTACCATTGGGACACTCCACAAGATTTAGAAGATGAATATGGCGGTTTTTTAAGTGAAA GAATTGTGAAAGATTTCCGAGAATATGCAAATTTTGTTTTCCAAGAATATGGTGGAAAAGTGAAACATTGGATTACTTTTAATGAGCCATGGGTTTTCT CGCACGCTGGTTATGACGTAGGCAAAAAAGCACCAGGACGTTGCTCTAAATATGTCAAAGAAGAATGCCAAGAGGGACGATCAGGATACGAGGCTT ACCTCGTCACTCACAATCTTCTTAACTCTCACGCAGAAGCCGTTGAAGCTTTCCGACAATGTGAAAAGTGTAAAGGTGGGAAAATCGGAATCGCACA TAGTCCGGCTTGGTTCGAACCACACGACCTTGCTGATTCACAAGATGGTGCATCCATTAACCGTGCACTTGACTTTATTTTGGGATGGCATCTAGAC ACAACAACGTATGGAGATTACCCACAGATCATGAAAGACATTGTTGGACACAGATTGCCTAAATTTACTGATCAGCAGAAGGCAAAATTGAAAAACTC AGCCGATTTCGTTGGGCTCAACTATTATACTTCAGTATTTTCAAACCATTTGGAGAAGCCAGATTATTCTAAACCAAGATGGATGCAAGATTCTCTTAT TAACTGGGAATCTAAGAATGCGCACAATTACTCCATTGGTAGCAAGCCTTTCACGGCTGCACTGCCCGTTTACGCGAGAGGCTTCAGAAGTCTTTTG AAGTACATCAAAGATAAATATGCCAACCCGGAAATTATGATCATGGAAAATGGATATGGAGAAGAACTTGGGGCATCAGATTCGATTGCAGTTGGTA CTGCTGATCATAACAGGAAGTATTACCTCCAGAGGCATCTTTTAAGTATGCAAGAAGCTATCTGCATCGACAAGGTGAATGTTACAGGATACTTTGTA TGGTCATTGTTGGATAACTTCGAGTGGCAAGACGGTTATAAGAACAGATTTGGATTATATTACATTGATTTCAAAAATAACCTCACACGTTATGAGAAA
GCT-003I13	AT3G27210.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT5G40860.1); similar to Os04g0380200 [Oryza sativa (japonica cultivar-group)] (GB:NP_001052596.1); similar to OSJNBb0089B03.11 [Oryza sativa (japonica cultivar-group)] (GB:CAE03997.1); similar to Os01g0920100 [Oryza sativa (japonica cultivar-group)] (GB:NP_001045217.1)	GGCACTCTCTTATTACACAAAAGTTCAACATACTTGCTGTTTTTTTGTTTTGTTATATGAATACTGGCATGTGGTGGTTCGGTGATCGGGAAATAAGTA TCTGAAATTATTCTTCCATTAATTCATATATTTCTAAAATAATCCTTTTCTAAACATCGATATGATTTTTCTTCATCTCAACATAGAGAGAGAGAGAGACT TTTAGGTGTTCTTTCTTATCTGATAAGATCATATCTCTTAATTGATTTTTCCCATTGATAGATTTTTGGGGATTTTATTGCTTAAATCAAAGACTTTCCCG TGATAACAGAGATTTTTCTCACAACAGGAAAAAGTGGTTTAAAAGGAGATATAGAGAGGGACAAAGAGCTAATTTGGTGAATTGTGATTACAAAAGTT GTCTACTTTAAACTGTGACCCAAATCTGAAAAGCTGTGTAAAAGTATATGTTACTACTCTTCTCTCTTCTTGATCTGGGGTTACATTGTTTTTCACGCT TTACTTTGAATGGCTTTTGAAAAAAAAATCGAAATTTTTACCCGGGAACTTCAGAGAATTCAAGTAGATTCCATGTTTTAAATTTCAAATTAATCTCTTT TAGGCATTGCTTTGTGATTTTCTCAGATTCCATCTCCTCTGTTTTTAAGGGGTAGAGACTTATAGTAATTCTCGTTTCTTTTTGTCTATTCTATCTTATG ATGGTGATTGAATCAAAAGGTTTGAAAAATACAAGTATGAATCATACACTTACATTCTTGTTCTAAAGTTTTGAAATGTATATCCTTTAATTTGTTCCAC AGGAAGTAAAGATGAAACCTTTTTCGATTCGCAGCAATGGCTACAATCCGACTCTGACGATGATTTCCACAGCGTAAATGGCGATTTCACTCCATCG CGTGGAAACACTCCTAAGAGCAGCTTCTCAGATAGGACTCCTCGTATCCACAACCTTATATTCCAAGAGAAGAAGCCTCCTCGAGGCTCTTCTTCTC CAGCGCCACAACCGAGGAGGAAGAAGCTTGGTGAGCTTTTCAGAGACAGTATAAGAGAAGAACGAGAGGAAAGCTCTGGAAGCTCATCAGCTCTA AGCTCTCCTTATCTCTCAGGTGCAAACTCAGGCGAATTCAACAACGCCACCATTGAAGACTCTAGTGTGAAGGAAGAGAAGAAGAAGTCTAATTGGC AGCATCATCGTTGCCTTCCTGGTTTCTCTTCATGTGGTGGAAGTTTCATGGAGAGGAGGAAGAAGATGAGCTCTGAAACTGCGGTTGTTGCAGTGAA
GCT-003I14	AT1G08465.1	YAB2 (YABBY 2); transcription factor	GGTACACTTCCTCCACCCATCTCTCTCTCTCTCTCTTTCTCTCTTTATCCTTCTTTCTCTCTTCTTTGCTTGCCTTTTCTTCAGTTTATTCTTCCCAAAAT CAAATAGTTCCTTCTTTGATCTCATTGGTATAACTAACAAGAAGAGAGATATCATTACTGAAGAGATCAACCCACACAAAAATGTCTATTGATTTATCA TCTGAGCGCGTTTGCTATGTCCACTGCAACTTCTGCACAACGATTTTAGCGGTAAGTGTACCATACGCAAGTTTGTTTACACTTGTGACGGTGAGAT GTGGCCATTGTACCAATTTGCTCTCTCTCAACATCGGAGTTTCACTTCATCAAACCTCAGCTCCTCCCATACATCAAGATCTTCAGCAGCATAAGCAA CACATAACCTCTCCGGTAACAAGGAAAGATTTTGGATCATCTTCAAGGAGCTCCAACCATTTTTCAACCACATTGTCCGAAAATGTCGATCGAGATCA GGCTCCTAGAATGCCTCCTATTCGTCCGCCAGAGAAAAGACAACGCGTTCCTTCGGCGTACAACAGATTCATCAAAGAGGAAATCCAAAGGATCAA GGCTGGCAATCCTGAGATCAGCCACCGTGAGGCGTTCAGCACAGCTGCTAAAAATTGGGCACATTTTCCTCACATTCACTTTGGATTAAAGCTGGAT GGCAACAAGAAAGGCAAGCAATTAGACCAGACAGTTGCAGGCCAAAAGTCTAATGGCTATTACTAAAGCCTTTTTCATACTGATAATAATGGCTATTA TATATATGCCTGTGTATCTTTATGTTTATCTTTGTACGTCCGCGTTTATAAATGTCTAAGCAGAGCTGGTGATGAAAGAGAAGGCGAGGAAGAAGAAG ATCATAACCTTACATATATATATACATGTATGTATGTCCCTTTCTTTTTCTTGTGTGGGCTCCATCTATAACTTCGTTTCTAGATTTATATTCTCCTAATA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003I15	AT1G61100.1	disease resistance protein (TIR class), putative	GGTCAGAGAAGAAGAAGAAGACTTCACTGATTCTCTTTTTCTCTCTCTCCTTCGGAATCCATGGATTCCAAAGCTATGCTCGATTCCGCTTTGTT TCAACTCACCCCTACTCGTACCAGATTCGATCTGGTGCTTTTCTGTGGGAGTAAGAAGGAGAAATTGGCTTCTGGGATTTTCGAACCGTTCATCTCT CATCTTAAATTCGCTAGAGATCAGATCTCTAAAGGCGGCTACTCTATTTCTCTTCATCCTCCGACTTCTCACTCTTCTTGGTTCACCAAATCCACTTTT GATCGGTTCGTGAGATTCGTAAACACGCCTGCGATTATCGAGAGATTTGCTACTCTGGAGAAAGAGATCTTGCAGATTGAGCATTCCATTCAAGCTA ATGAAATTGCCAATGCTGAGCAACTACAAGACGGGAGCAATCTAAGAAAGTCAATCGAGTCCTCCAAGAAGGAATCTGAGAACGGCAATGAGGTTG CAGGAGAGGAAACCTCAAAGATTCAGCTTCAACGTCTTCTTGAAACTCGAAGAACATTACTTAGGAGAGAGCAAGCAATGGCCTATGCACGAGGGG TTGTTGCTGGTTATGAAATTGATAGTATCGATGATCTCATACTGTTTGCTGATGCTTTTGGGGCGTCAAGGTTAAGGGAAGCATGCGTAAAGTATAAG GAACTATGGAAGAAGAAGCACGGAGACGGGCTTTGGATGGCTGAGTTAGCAGCTGTGAAAGCAATTGCTCCAGCGGACATGTCATTATTGGGTTCC TCAGGGATTATCCTCACCAATGAAGGTGCTTCTCTATCACTAAATGGGACAGACTCTTCTAATGCAAGCTCTGAAAACAAAGATGACAAGTCGGCTC ATATGGACCAACATCATCCTGGCGTTCCAAACTTTCAAGCACCAATGGGATGGCCGAACCATATGCCTCAGTATTTCTACCCGCCTCCGTACCAAGG CTATCCGTACCCTCCAATGCAACCTATGCCAAATCAAAACCAAGGAAACATGCCATGGCCTTCAAAGGGCAAAACTTCCAAGAAGAAAGGGAAAGG GGATTCTGATGCAGATGGGTCTAGTGGATCAAGTGAGTCTAGTGAATCTGACTCTGCCAGTGATGATTCTGCTTCATCTTTGGAAGATCAAGGTAGA AGACACTCTTCTCATACGGGTAAAAACTCCTCTCGTCGGTCAAAGAAAAACCGGAAGAAATCATCTAAAACTGTTATCATCCGTAATATCAACTACAT AACCCCTGAGGGAAGAAATGGCGACGTGGAGGGGAATGAGTTTACGGAAAACGGTTCCATCAAAGAGACTGTAGATGCTGCGGTTGGATTTCTCAA GGGAGAAGTTTCTGGTGATGAAATTCTGAAAAGCTCAGCTGAAGGAAAACGAAGCAATGAGAATTGGGATTCGTTTCAGAACATTCTTATGAGGCAC GACGATGGCTCAGATATGCATTCAATGGATGTCGCCAGTGAGGAACATTTCGATCTCAGAGGCTCTAGTCTTGCCGCGAATTCTAAAAGTTTGCAAG CAAATAACAGTGCCTCGGGTGATTCCATCATCGTAACTCATAAACACATTGAAGATGGAGGAGGAGCGACTTTTGATCATTTTGAGAGTGAGGACGG TGCTCGTAGGCTTCCAAGAACGAGGGACTCAACTGAAGAATGTATGTTACTGCTAAAAAGATCAGAAATGTTAGGAGATGAAAGCAAAGACTTGTAT AATGCGACAAGAGGTGACTCATTGGTGAAGAAGTCAGGGAGTGGAGAGGATTGGTTTACCTCTGATCATCTTGCAGGGAAAACTGAAAGCAACTAC GGGAGGATACCATTTGATGAGAGTTGCATTTTGACTTCGCAAGGCTCTGATAAGAGCAAGAAACAAGAATTCGTCGATGATTCATTCATGGTCCATT CATCATCACTCACTGGTGATGATCTTTATGACTCTCGGTGGAGACCAGACATGTCTGCAGATATTGTTTTGGCGTCAGACATTGAAAACGGTCAAGC GAATGAGAAGCGTGAAATGTCTGGCTCATGGGAACCAAATGATCTTTGTATGATTCTTGAACGCCATTCAGGAGACTCGTTGGCTAATAATGATTACT
GCT-003I16	AT3G52450.1	U-box domain-containing protein	GAACTTATTCAAACCAATTCACATCTCTCACAAATCTCAACAACTACACTTTGTAGCAAAAGTTTCATTTTGTGAGATTCGTTCGTCGGTCGATTTCTT AATCAAGTTTTACTTCTTTTTCTTTTCATATTTCCGGCGAGTTCAATGGATCAAGAGATAGAGATTCCTTCTTTCTTCCTATGTCCGATCTCTCTAGATA TTATGAAGGATCCGGTGATAGTTTCCACCGGAATAACCTACGACAGAGACAGCATCGAGAAATGGCTCTTCACCGGTAAGAAAAACTCATGTCCGGT CACAAAACAAGCCATAACCGAAACCGATCTCACACCAAACCACACTCTTCGCCGTCTGATCCAATCTTGGTGTACTCTCAACGCATCTTACGGTATC GAGAGAATCCCAACTCCAAAGCCTCCGATCTGTAAATACGAGATCGAAAAGCTCATCAAAGATTCTTCATCCTCACATCAAAACCAAGTCAAATGCCT CAAAAGACTTCGTCAAATAGTGACGGAGAACACAACGAACAAACGATGCTTAGAAGCTGCAGAAGTTCCCGAGTTCTTGGCAAAGATCGTCAGCAG CTCCGTAGATACTTACAACTCTCCTTCTCCTTCCCTTTCTTCATCGAATCTCAACGACTTGTGTCAATCAAACATGTTGGAGAATCGGTTCGATTCTTC GAGGAGCTTAATGGACGAAGCTTTAAGCTTACTCTACCATCTCGACACGTCGGAGACAGCCCGCAAGAGTCTTTTAAACAACAAGAAGGAAACAAAT CTTGTGAAGACGTTGACTAAGATAATGCAACGTGGGATCTACGAGTCAAGAGCCTATGCGACTTTGCTTCTCAAGAAGATTCTCGAAGTTGCGGATC CAATGCAGATCATACTGTTGGAACGTGAGCTTTTCAATGAAGTGGTTCAGATCTTGCATGACCAGATCTCTCACAAGGCAACGAAATCAGCAATGCA AATCTTGGTGATTATATGTCCATGGGGAAGGAATAGACACAAGGCTGTGGAAGCTGGAGCGATCTCGATGATAATCGAGCTTCTAATGGATGAAACT TTCTCATCCGAGAGAAGGAATTCGGAGATGGCGATGGTGGTACTTGATATGTTATGTCAATGTGCAGAAGGAAGAGCTGAGTTCTTGAATCATGGTG CGGCTATTGCGGTTGTGTCTAAGAAGATATTGAGGGTCTCACAGATAACTAGCGAGAGGGCGGTTAGGGTTTTGCTTTCCATTGGGAGGTTTTGCG CAACACCGTGTTTGTTACAGGAGATGTTACAATTGGGAGTTGTGGCGAAGATGTGTTTGGTGCTTCAAGTGAGTTGCGGGAACAAGACTAAGGAAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003I17	AT4G38670.2	pathogenesis-related thaumatin family protein	GAGAGCGTTAATCGTTTACGGTTTGATTCGGTTCAGTAGAGGCCCTCTCTCTCCCTCTCCCCACTATTCTCTCATCCGCCACCGAAAGTAGAGTGAA TCTCACCACTTGGGCATTCTACTTTCTCAATCCCAATCCTGCATCTATGGATCGAATCCTGATGATTATGATCTTGGGGTTTTTCTTATCTCTTCAAGG AGTCGAGCTGATTTCATTCAAGATCACCAATCGTTGCCGGAACACGATATGGCCCGGTTTTCTCTCCGGCGCCACCTCACCGCCACTCCCCACAAC TGGATTTCGCTTAGCTAGAGGAAAATCCAAGACCGTCAGAATACCGGCGTCGTGGTCCGGTCGTCTCTGGGCAAGAACCTTGTGCTCGCAAGATCC GTCCTCCGGTTCTTTCGCCTGCTTGACCGCAGACTGCGGCTCCGGTAAGGTCGAGTGTTCCGGCTCCGGAGCCAAACCTCCCGCAACGCTCGCCG AGTTTACCCTCAACGGCACCGGAGGACTAGACTTCTACGACGTCAGCCTTGTCGACGGCTACAACCTCCCGATGCTTATTCTGCCCAAGAAAATTGT CGTCGGAGGATGCGGGGCCACGGGGTGTCTCGTGGACCTCAACGGCGCGTGTCCGAGAGACCTGAAGCTCATGGCTCGAGGGAATAGGAACGG CGTCGCTTGCCGCAGCGCGTGCGAGGCGTTCGGAGACCCGCGCTTTTGCTGCAGCGGTGCGTACGCGACGCCGGACACGTGTCAGCCGTCGGTT TACTCGCTCTTCTTTAAGCACGCGTGCCCTCGCGCCTACAGCTACGCCTATGACGATAAGACGAGCACCTACACTTGCTCCACCGGGGCCGACTAC GTCATCATCTTCTGTCCGCCGCCGTATACAAGGTCAGATGCTGACCGTTTTGCCCCTCGCGGGGTCTCATTTCATTTCACCTTTTCATTTTAATAGTT CTTAATATATTCGAGACATGGAGTAGCAAATGTATATCCGAGCTATTGGTTGCTAGAGTTTAGCTAATAATTAGTTAGTCGTTATGATTAGTAGTCTTG AAATCGATCAAATTCTAATCTTCATGGGGTTGAATTGAAAGCAAGAAAGATTAAAAAAAAACACTTGGTGAGCGAATTTGGAATAGCAGGCAACGCTT GGATTGAATTCAACGAAAGATTGGATGGTTGCGAGCAAAATGTGCCATAGATGGAAACATTATGTGTAATGGAACCTAGGAATCTTTGATTAAGGGT TTTACTTGCACTGTTGTGTTTAAGTTCCACAGTGATTGGATTGGATTGAAAAATGGTAGTTAGATGTAATTGTTGATGATGGGTTGTGTTTGCAGCGA GAAGCTATTAGGATCGAGGAAAGACGGGGCGACTCTACCGCTAGTAAACAAGAGCATGATACATTTGCCGCATCCGCGCAGCAGCTGAGCCGCCG CCTTCTATTAGTCTTAGGCAGATAGCAAAATTCATGTAAAGTTGGTGATACTAAGGGTGGGAAATTGTGTAAATATATATCCTCTTCTTTTGCATCCCC
GCT-003I18	AT2G02860.1	SUT2 (sucrose transporter 3); carbohydrate transporter/ sucrose:hydrogen symporter/ sugar porter	GACCCTCTGAAAAAAAAAAAAAAAAACCACCCAAAGCGATCAAATCGATTCCATCAAAAAATCACCCGCCCGAATTTGACTCTTGCTAGATCTCGATCG TCGTCTCCGAATCTCCTGGCGTATTCCATATAACTAGATCTTTTGATTCGAGTGTATTGTAATCTCTCTGAGTCGGAATGAGAAATTGATTCGATACG AACTAGGGATCTGTAGTTTCGGGACAGATAGATACCGGAGTCTGTGTTGAAGACGACGAGTTATGACGGGGAAGAGTGACTCGGTGTCGATCTCG GTGCCGTATAGGAATTTGAGGAAGGATGTTGAACTTGAGATGGTGACGAAGCATCAAATGGAACCCGCTTCTTCTTCGTCTTCTCCTTTGAATCATC ATGATTCGGCCGATGGTGAAACTGTGTCGAAGAATTGTAGCTTAGTCACGCTGGTTCTTAGCTGTACAGTCGCTGCTGGTGTTCAATTTGGATGGGC ATTGCAACTTTCTCTTCTCACTCCTTACATTCAGACCCTTGGAATATCGCACGCTTTTTCTTCATTTATTTGGCTATGCGGCCCAATTACAGGCCTTGT GGTCCAGCCTTGTGTTGGCATTTGGAGCGATAATTGTACTTCAAAGTATGGAAGAAGACGACCATTTATTCTCGTGGGATCACTCATGATCTCAATA GCAGTGATTATTATCGGGTTTTCTGCAGACATTGGGTATCTGTTAGGAGATACAAAGGAACATTGCAGTACTTTCAAAGGCACACGGACCAGGGCAG CTTTTGTCTTTATCATCGGGTTTTGGTTGTTGGATCTAGCAAACAACACAGTACAGGGACCTGCTCGTGCTCTTCTAGCTGATCTATCAGGTCCTGAT CAGCGGAACACTGCAAATGCTGTGTTCTGCTTGTGGATGGCTGTTGGGAATATTCTTGGGTTTTCTGCTGGTGCTAGCGGACGATGGCAAGAATGG TTCCCTTTCCTAACTAGTAGAGCATGTTGTTCTGCATGTGGAAATCTTAAAGCGGCGTTTCTTCTTGCAGTGGTCTTTCTCACTATATGCACTCTAGTC ACAATCTATTTTGCTAAAGAGATTCCTCTGACAAACAATGAGCCCACCCGCATACCAGATTCTGCACCTTTGCTGGATGATCTCCAGTCTAATGGCCT TCAGCTCTCAAATAATGGTACTGCCAATGGGTTAAATTATGAGAGAGTGGAACGTGATATGGATGTACAGCTCGACAAGTCAACGAATGAGCATCAA GATGGGGCCTCCATTGATGGCCGCCCTGGATCTGTTTTAGTGAATTTGCTAACCAGTTTAAGGCATTTGCCTCCTGCTATGCACTCAGTTCTTATCG TCATGGCTCTAACATGGTTATCGTGGTTCCCCTTCTTTCTGTTTGATACAGATTGGATGGGAAGAGAAGTTTACCATGGGGATCCCAAGGGAAATAG TTTACTTGTGGAACTCTATGGTCAAGGTGTCCGTGAAGGTGCATTTGGTTTGCTACTAAACTCTGTTGTTCTTGGGATCAGCTCATTCTTAATTGAAC CAATGTGTCAGCGGATGGGTGCACGAGTTGTATGGGCTCTGAGCAATTTCATTGTATTTGCCTGCATGGCAGGAACAGCTGTAATTAGCTTGATGTC TCTCAGGGATAACTCTAAAGGAATCGAACACATAATAGATGGAAACGAAACAACAAGAACTGCAGCTGTAGTCGTCTTTGCACTACTTGGTTTTCCTC TAGCTATCACATACAGTGTTCCTTTCTCTGTCACAGCAGAAGTCACTGCGGATTCTGGTGGCGGTCAAGGTCTGTGAAAAGATTCAGAGGTTTTATG TGCTTATATCTTAGATTTTCAGGAATTGTAAATGGTTTCATTTCCTCGCTGTAGGTTTGGCTATAGGAGTTTTGAACCTCGCAATCGTCGTTCCACAGA TCATAGTATCGCTTCGAGCGGCTCGATGGGATGCATTGTTCGGAGGAGGAAACTTACGGCGGTTTCTTATGCGCTCTCTTGCTGCTTTTGCTGCGC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003I19	AT1G69690.1	TCP family transcription factor, putative	GATCATCATCATCAATGGATCCGGATCCAGATCATCACAGACCCAACTTCCCTCTCCAGCTTCTTGATTCTTCTTCCTCCTCTTCCACTTCCTTAGCC ATCATCCCAACAGCTTCCTCTTCCGAACCTAACTCCGACCCTAACGCTCTCTCCAAGAAACCACCTCCGAAGCGAACCTCAACAAAAGACCGACACA CCAAAGTCGAAGGCCGAGGCCGTAGGATCCGTATGCCTGCCATGTGCGCCGCACGTGTCTTTCAGCTCACACGTGAGCTCGGTCACAAATCCGAC GGCGAAACCATCGAGTGGCTTCTCCAGCAAGCTGAACCGGCGGTTATAGCCGCTACAGGGACTGGAACCATTCCGGCTAACTTCACTTCTCTTAAT ATCTCACTTCGTAGCTCAAGATCTTCTCTCTCTGCTGCTCATCTTCGTACAACTCCGAGCAGCTATTACTTTCATTCACCTTCCATGTCTCATCATCAT CATCATCATCAGCAGCAGCAGCAACATCAAGTTCGTCCCAAGAACGAGTCGCATTCTTCTCCTTCTTCTCAGCTTTTAGATCACAACCAAATGGGGA ACTATCTTGTACAATCAACGGCTGGATCTTTGCCTACAAGCCAGACTCCTGCTACGGCGCCGTTTTGGAGCAGTGGTGGTGATAGTAATACGCAGA ATCTTTGGGCTTTTAATATAAACCCTCATCATTCCGGTGATGTTTACAACCCGAGCGGCGGTGGTGGTGGTGGTGGCGGCGGAGTAGGAGGAGGA GGAGGAGCAGGAGCAGGAGTACATCTGATGAATTTTGCAGCTCCGATTGCTTTGTTTTCCGGACAGCCTTTGGCGTCTGGTTACGGAGGAGGAGG AGGAGGAGGAGAACATAACCATTATGGAGTTTTAGCGGCGTTAAATGCTGCGTACCGGCCGGTTCAGGAGACGGGGAATAACCAGCAAAACCGTG ACGGGGATCATCATCACAACCATCAAGAAGATGGAAGCACGAGTCATCATTCCTAGGCAAAAAACACACACAAACAATATATCTGTGAGATTTATTTC TTTTTTTTTTTCTTTTTTGGTCCTTTCGTTTGTTTGATTGTTTTTTTAAACAAGCGTGTTTTGTTTTTATTTTTTTGCATCTTTCATATATTTTTTCTTTCTTT
GCT-003I20	AT2G04030.2	CR88 (EMBRYO DEFECTIVE 1956); ATP binding	GATGATCTTTCTTCTTCCTCCACGATTTCCTTTTTTTCCGTTTAACTGCAGAAAAAGATCTATGCCAGTTGTTGATAAAATAAAAATAAAAAGAGATCTA TGCCAGTTTTTTTCTATTCCGTGGCTGGTTCTTACCCCTATTTCTCTTCGAATTCCACCAATTCCAATGAAGAAATCTAATTGAAGAAATCTGGTGGCT GCGGTTTGTTCTCGCCTTCGCTTACGCGATCTGCAGATTCCTCCCAACGTTCCTTCCATTGACGTTGATGAATCCGATGCAGGTTAGCCGATTGTTG GATTTGATTGTTCATTGTTTATACAGTCACAAGAGGTAGTCCTCAAGGAACTTTAAGTAACGCAAGTGATTCTTTGGATAAGCTGAGGTTCTTAAATGT AACGGAGCCTGCTTTGCTTGGAGATGGTGTGATACTGGTATTGGAATGACAAAGGAATAACTTCTAGATAGCCTTGGAACCATAGCTCAGAGTGGCA CTTCGAAATTCTTGAAGGCTCTAAAGGAAAAGAAGGACCTTGGTGCCGACAACGGATAGATTGGACAGTTTGGTGTTGGGTTTTACTCTGCTTTCTT AGTGGCTGAAAATGAAAAAATTTGAAGATATCATTGAATTATACTCATGTTTCCCAACTCAAGCTTTCTAAACAAAATGGAAGATGAAAAGCTTGAAAG CCATTGGATATTCAACTTATAATTTCCAGGTGAGTTATGAAAGTAATTTTAATTGTAACGTGTCATTGATCACTAAGAGTAATATGAAACTCTGGACTT CCTTCACCAAGAGTAAGTCCGGATATCTCTTTATCATTTTTAAAATCATTTTTGGATCTTGCTATATGTTTTGGTCTGGAACCTCCCGAGTCATTATTA CTTCCAGTGTGTTGTGTTGTTGATGTTGTAGTTAAGCTGCAAGTATATGTGTTCCTAGAGATCATCTTCACTAAATTCAGAAAGATACTATACTATGAG
GCT-003I21	AT1G01260.2	basic helix-loop-helix (bHLH) family protein	GAAACTAATTTTTTTGTTTTTGTTTTAATCTTTTACCCATTTTCTGCACTTTCTTCGATTCTTAGTTTTTTTTTTATTGGGAAGTTCGGTTTGTTCATTTCG GGTTGGAGGAGAGAGTTTTTTTTTGGTCGTATGAAAAAGAGAGTTTTTTATATGAAATTTCCGATTTTCTGGAGAAAAAATCGGTGGTGAAACTTTCTT GAATCCGATATACTGGGCAAGATCTGAGATCTCTGGTGTTCCATGCAAACCTGTTGTGCTCCGCCGTATTTTCGCATCTGGGACACTTATAAACCCT AGAATTTGACCAAGACTCGGTTTCTGAAGATCTGAGTTTCTTGAAAGCTTGGATTTTTTCTTTCTTTCTGGGAAATCAATCAAACAGAGAGATGAATAT CGGTGGCGTAGCGTGGAACGAGGATGATAAAGCGATTGTTGCTTCATTACTGGGGAAACGAGCTCTCGATTATTTGCTTTCGAATTCGGTACCAAAT GCAAATCTCCTGATGACTGTAGGAAGCGACGAGAATCTACAGAACAAGCTCTCGGATCTCGTGGAGAGACCCAACGCTTCGAATTTCTCATGGAAC TACGCCATCTTCTGGCAGATTTCGAGGTCAAAGGCCGGAGATTTGGTACTCTGCTGGGGAGACGGATCTTGCAGAGAGCCTAAAGAAGGAGAGAA ATCAGAGATCGTGAGGATTCTAAGTATGGGAAGAGAAGAAGAAACGCATCAGACTATGAGGAAGAGAGTGTTGCAGAAGCTTCATGCTTTGTTCGG TGGATTAGAGGAAGACAACTGTGCTTTAGGACTAGATAGAGTTACGGACACTGAGATGTTTCTTCTTGCTTCCATGTATTTTTCTTTCCCTCGAGGTG AAGGCGGTCCAGGGAAGTGTTTCGACTCGGGAAAACCGGTTTGGTTACCGGATGTGGTGAACTCGGGTTCTGATTATTGCGTTAGATCGTTTCTTG CTAAATCTGCTGGAATCCAGACCATTGTTTTGGTTCCTACTGATATTGGTGTCGTTGAGTTAGGCTCTACGAGAAGTTTGCCTGAAAGTCAGGAGTC GATGTTGTCTATAAGATCCTTGTTCTCGAGTTATTTGCCTCCTCCGGTTAGAGTTGTGACGCCTGCTGCTTTACCCGTTGTTGTAGCCGATAAGAATG ATGATAACAGAACGGTTAATTCCTCAAAGATATTCGGCAAGGATCTTCAAAACTCGGGTTTTCTTCGTCATCATCAACAACAGCCACAGCAACAACAA CAACAACATAGACAATTCAGAGAGAAACTTACGGTTAGAAAGATGGATGATAGAGTTCCAAAGAGATTAGATACTTATCCGAATAATGGGAACAGGT ATGTGTTCTCGAACCCGAGCACCAACAACAACAACAACAACAGCACTCTTCTGAGTCCTACATGGGTCCAACCGGAGATGTACACGAGGGCGAACA GTGTGAAGGAAGTTCCGAACACGGAGGATTTCAAGTTTCTCCCTCTGCAGCAATCGTCGCAGAGGCTTCTTCCACCTGCTCAAATGCAGATTGATTT CTCTGGTGCGAGCTCAAGAGCGCCTGAGAATAATTCAGATGGAGAAGGAGGAGCGGAATGGGCAGATGTGGTGGGTGGTGATGAATCTGGTAACA ACAAGCCGAGAAAACGAGGAAGGAGACCTGCTAACGGGAGAGCAGAAGCTTTGAACCACGTAGAAGCAGAGAGACAACGGCGTGAGAAGCTTAAC CAGAGGTTTTACGCCCTGAGGTCGGTTGTTCCCAACATTTCCAAGATGGACAAAGCATCCTTGTTGGGAGACGCGGTTTCTTACATAAACGAGCTGC ATGCCAAGCTCAAGGTCATGGAAGCGGAGAGAGAGAGGTTAGGGTATAGCTCAAACCCACCGATCAGCTTGGAACCGGAGATTAATGTTCAAACCT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003I22	AT3G05560.1	60S ribosomal protein L22-2 (RPL22B)	GGTCTTCTCTCGTTCAAGAGCCTAAAAGACGCCGCTCGTCTCTTCAGACAGTTCCACCTTCTAGGATTTGTTCAAGAGAGAAGGGTTGAGAAATGAG TCGTGGAAGTGCAGCCGTTGCCAAGGGAAAGAAGAAGGGAGTTGCCTTCACCATTGATTGCTCCAAGCCTGTCGATGACAAGATCATGGAGATTGC TTCCCTCGAGAAGTTCCTTCAGGAGAGGATCAAAGTCGGTGGTAAAGCCGGTGCCCTCGGTGATTCCGTCACAATCACCCGTGACAAGAACAAGAT CACCGTCACTGCTGATGGCCAATTCTCCAAGAGGTATCTGAAGTACTTGACAAAGAAGTACCTGAAGAAGCACAATGTGAGGGATTGGCTCAGAGT GATTGCAGCGAACAAGGACCGTAACCTCTATGAGTTGAGGTACTTCAACATCGCTGAGAACGAGGGAGAGGAAGAAGACTAGAAAAACCCTTTAAA CCGGTTTTGCTTAGGACGATACTTCCTATTCCCTGTTTCTGTTGTTTTGGTTTCTGCTCTCTGTTCGAATACAATTTATTATCTTCGCCCTTCCGTTGT
GCT-003I23	AT2G39800.1	P5CS1 (DELTA1-PYRROLINE-5-CARBOXYLATE SYNTHASE 1)	GACACTTCCCTCACCAGATATTTCCCTAAACGCGCTCACTGACGAAATCCACCACTGAGTTAACTCGTTCCTTCTCTGGGTTTTGGTAGGCGGCGAC AATGGAGGAGCTAGATCGTTCACGCGCTTTTGCCAAAGACGTCAAGCGTATCGTCGTTAAGGTTGGGACCGCTGTTGTTACTGGGAAAGGTGGAAG ATTGGCTCTTGGTCGCTTAGGAGCACTGTGTGAACAGCTTGCGGAATTAAACTCGGATGGATTTGAGGTGATTTTGGTGTCATCTGGTGCGGTTGG CCTTGGCAGGCAAAGGCTTCGATACAGACAATTAGTCAATAGCAGCTTTGCGGATCTTCAGAAGCCTCAGAGTGAACTTGATGGGAAGGCTTGCGC TGGTGTTGGACAAAGCAGTCTTATGGCTTATTACGAGACTATGTTCGACCAGCTGGATGTGACGGCGGCTCAACTTCTGGTGAATGACAGTAGTTTT AGAGACAAGGATTTCAGAAAGCAACTTAATGAAACTGTCAAGTCGATGCTTGATTTGAGGGTTATTCCGATTTTCAATGAGAATGATGCTATAAGCAC CAGAAGAGCCCCATATCAGGATTCCTCTGGCATCTTTTGGGATAACGACAGCTTAGCTGCTCTACTGGCGCTGGAACTGAAAGCTGACCTTCTGATT CTTCTGAGTGATGTCGAAGGTCTTTACACAGGCCCTCCCAGTGATCCTAACTCAAAGTTGATCCACACATTTATTAAGGAAAAACATCAAGATGAGAT TACATTTGGCGACAAGTCAAGATTAGGAAGAGGTGGCATGACTGCAAAAGTCAAAGCTGCAGTGAATGCAGCATATGCTGGGATTCCTGTCATCATA ACCAGTGGGTATTCAGCTGAAAACATAGATAAAGTCCTCCGAGGACTGCGTGTTGGAACCTTGTTCCATCAAGATGCTCGTCAATGGGCTCCGATCA CAGATTCTACTGCTCGTGACATGGCAGTTGCTGCAAGAGAAAGTTCCAGAAAGCTTCAGGCCTTATCTTCAGAAGATAGGAAACAAATTCTGTATAAT ATCGCCGACGCTCTTGAAGCAAATGAAAAAACAATCAGAGATGAGAATGAATTAGATGTATCTGCAGCACAAGAAGCTGGATTTGAAGAGTCATTGG TGGCTCGCTTAGTTATGACACCTGCAAAGATCTCAAGCCTTGCAGCTTCAGTTCGTAAGCTAGCCGATATGGAAGATCCAATTGGCCGTGTTTTAAA GAAAACTGAGGTGGCAGATGGTCTTGTCTTAGAGAAGACCTCATCCCCATTAGGCGTACTCCTGATTGTTTTTGAATCCCGACCTGATGCACTTGTA CAGATAGCTTCACTTGCCATCCGGAGTGGAAATGGTCTTCTATTGAAGGGTGGAAAGGAGGCCCGGCGATCAAATGCTATCTTACATAAGGTGATC ACTGATGCAATTCCAGAGACTGTCGGGGGTAAACTCATTGGACTTGTGACTTCAAGAGAAGAGATTCCTGATTTGCTCAAGCTTGATGACGTTATAG ATCTTGTGATCCCAAGAGGCAGCAACAAGCTTGTTTCCCAGATAAAAAATACTACAAAAATCCCTGTGCTAGGCCATGCTGATGGAATCTGTCATGTA TATGTCGACAAGTCATGTAATCTGGATATGGCAAAGCGCATAATTTCCGATGCAAAGTTGGATTATCCAGCAGCCTGTAATGCGATGGAAACTCTTCT TGTGCATAAGGATCTAGAGCAGAACGGGCTCAATGAGCTTATTTTTGTGCTGCAGAGCAATGGAGTCACTGTATATGGTGGACCAAGAGCAAGTGC AATACTGAACATACCAGAAGCACGGTCGTTCAACTATGAGTACTGTTCCAAGGCTTGCACCGTTGAAGTTGTAGAAGACGTTTACGGTGCTATAGAT CACATTCACCGACATGGGAGTGCGCACACAGATTGCATTGTGACAGAGGATACCGAAGTTGCAGAGCTATTCCTTCGCCAAGTGGACAGCGCTGCT GTTTTCCACAACGCAAGCACAAGATTCTCAGATGGGGCTCGATTTGGACTTGGTGCCGAGGTGGGAATAAGCACAGGTAGGATTCATGCTCGTGGC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003I24	AT4G32770.1	VTE1 (VITAMIN E DEFICIENT 1)	GGTCCATAGATTTTTCTTTCACGAAACCAAAGTTTTCCGTTCACTTTCACCATTCTCTGCATTTCTTCCTTCAGTTACTGAATCCGATCTTCAACTATG GAGACCCGGAGCTTGGTTGTTTCGATGAACACTAATTTCTCTTCCTATGAGCTCTCTCTTCCTGCATCGCCTCTCACTCGCTCACTTGCTCCGTTCC GATCGGCTAAACTAGGGTCCCGCTCCATTTCTAGGGTTTCGGCGTCGATCTCCACTCCGAACAGTGAACCTTCTTCCTCCGGCAAGGATGCTGCTA TCTCTGTGAAACCCGTTTACGTCCCGACGCCGCCCAATCGCGACCTCCGGACTCCTCACAGTGGATACCATTTCGATGGAACAGCACGGAAGTTCT TCGAGGGATGGTATTTCAGGGTTTCGATTCCGGAGAAGAAGGAGAGTTTTTGCTTTATGTATTCTGTGGAGAATCCAGCGTTTCGTAAGAGATTGTC ACCATTGGAAGTGGCTCTCTATGGACCCAGATTCACTGGTGTCGGTGCCCAGATTCTTGGAGCTAATGATAAATACATATGCCAATACACACAAGAG TCTCATAACTTCTGGGGAGATAGACATGAGCTAGTTTTGGGGAATACTTTCAGTGCTGTGCCAGGCGCTAGATCTCCAAGCAAGGAGGTTCCACCA GAGGAATTCAACAGAAGAGTGTCCGAAGGGTTCCAAGTTACCCCATTTTGGCATCAAGGTCACATATGCGATGATGGCAGGACTGACTACGCGGAA ACTGTGAAATCTGCTCGGTGGGAGTATAGTACCCGTCCTGTTTACGGTTGGGGTGATGTTGGGGCCAAACAAAAGTCTACTGCAGGCTGGCCTGCA GCTTTTCCTGTATTTGAGCCTCATTGGCAGATATGCATGGCAGGAGGCCTTTCAACAGGGTGGATAGAATGGGGTGGTGAAAGGTTTGAATTTCGG GATGCACCTTCTTATTCAGAAAAGAATTGGGGTGGAGGCTTCCCTAGAAAATGGTTTTGGGTCCAGTGTAATGTCTTTGAAGGAGCAAGTGGAGAAG TTGCTTTGACCGCTGCTGGCGGGTTGAGGCAATTGCCTGGATTGACCGAGACCTATGAAAATGCTGCACTGGTTTGTGTACACTTTGATGGAAAATT GTACGAGTTTGTCCCATGGAATGGTGTTGTTAGATGGGACATGTCTCCATGGGGTTATTGGTATATGACTGCAGAGAACGAAACCCATATGGTGGAA CTAGAGGCAAGAACAAACGAAGCGGGTACACCTCTGCGTGCGCCTACGACAGAAGCTGGACTAGCTACGGCTTGCAGAGATAGTTGTTACGGTGA ATTGAAGTTGCAGATATGGGAACGGCTATATGATGGAAGTAAAGGCAAGGTAATACTGGAGACAAAGAGCTCGATGGCAGCAGTGGAGATAGGAG
GCT-003J01	AT5G07690.1	MYB29 (myb domain protein 29); DNA binding / transcription factor	GGTAGAGAAGTAGCTAGCAATGTCTTAGATCTTTGATATATCTTCAATTTTTTTTTGTTTATTATCGTTTTCAAATGTTACTGAAAATGAATACACATAAT CATTCAACAATCTACCATAGTTTCTCAGTCAGTTTCATATTTAGATGCATCAGAGTTCTACTCAACAGATCTATTGGTCTCTTACCTTAAATTAGACGA CACTTTTTTCTTTCCTTTCTTCTTTTTTTTTTTCGTTCTTCTTCTATATTTTGTACGTATATCTATAAATATTTTATTCATATAAGAGTGAAAAAATGTCAA GAAAGCCATGTTGTGTGGGAGAAGGGCTGAAGAAAGGAGCATGGACCGCCGAAGAAGACAAGAAACTAATTTCTTACATTCATGAACATGGCGAAG GAGGCTGGCGTGACATTCCCCAAAAAGCTGGACTAAAACGATGTGGAAAAAGTTGTAGATTGCGATGGGCTAACTATCTGAAACCGGATATTAAGA GAGGAGAATTTAGCTACGAGGAGGAACAGATTATCATCATGCTTCACGCTTCCCGGGGCAACAAGTGGTCGGTCATAGCGAGACATTTGCCCAAAA GGACAGACAACGAGATCAAGAACTATTGGAACACACATCTCAAAAAACGCCTTATTGATCAAGGTATTGATCCCGTGACCCACAAGCCACTTGCCTC TAACACTAGTCCTGCCACGCTCAAGACTTCTGAGTTCCAAGATGACGACTCAAACCGGGATGACCAGTCACAGTCAGGTTCTATGTCTCCAAAATCT CTTCCTCCATCTTCAAGCTCCTGCAATCTACCGGAGATAAGCAGCAGTGATGAGACACCGAAAATTGATGGTTCGTTGAGCTCCAAGAAACGCCGTT TTCAGAGATCGAGTTCGACCTCAAAGCTGTTAAACAAAGTTGCAACTAGGGCTGCTTCCATTGGAAATATCTTATCAGCGTCCATGGAAGGAACCTT GCTCAGCTCTACAACACTGTCTCCATGTCTCATTGATGACTTTTCCGAAACTAGTCAGTTTCATATGGACGAATTCGATCCATTCTCTCAGCCATCTG AACACACAATTGATCATATGAAGGATGATAACGGCATGAACTTTGATCTCAACAGTTCCGAATATGATTTCTCGCAGTTTCTCGAGCAATTTAGTAAC AACGAAGGCGAAGAAGCCGAGAACATTGGAGGATATAATCAAGATCTCCTTATGTCTGATGTCTCATCAACAAGCGTTGATGAAGACAATATGATGC CAAACATAACCGGTTGGTCCAATTATCTTGTTGACTATTCCGATTTTGTTTATGACACGAACCAAGATTGCGACGCCAAGAACTTCATATGATCCGTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003J02	AT5G28030.1	cysteine synthase, putative / O-acetylserine (thiol)-lyase, putative / O-acetylserine sulfhydrylase, putative	GGCGATGTTTTATTTTTCTGTCTTGCTTCTTTCTGATTTATCCATAAAAATAATATCATGTTGCTCTGCTCAGAAACATTGATATCTTTACTTTCATTTCC TGATTTTGGTCTCAAATTATCTGGTTTTCACTGTTTTATCGTCGCTTTAGACGTAACTCAGGGCTTGTCATGTTCTTTGGTTACTTAAAAAAGTACGCC TCTCTGTTCACTCTTATCTACTTTTGGAGTTCCAAATCAGAAATTATAGTTCTGAGACAATACTCACTGTGCTTTCCGCTTTTAACATAAATCCCACGT GCCAAGATTTCTTCTGAATCTTGCTTGTGAACTGTGTAAATAGACCTTCTTAAGTAGATTGTGGCCAATCTGTGCAGGAGATTCAAAGACACATCAAC ATGGAAGACCGGTTCTTGCTCAAGAATGATGTCACTGAATTGATCGGTAACACACCAATGGTGTATCTGAATAAAATTGTGGATGGTTGTGTGGCCC GTATCGCTGCCAAGCTTGAGATGATGGAGCCTTGCTCTAGCATCAAAGACAGAATCGCTTACAGTATGATCAAAGATGCAGAAGACAGAGGATTGAT TACTCCAGGAAAGAGTACATTGATTGAGGCAACGGGTGGTAACACTGGGATTGGTTTAGCCAGCATCGGTGCTTCAAGAGGCTATAAAGTAATACTT TTGATGCCTTCAACGATGAGCTTAGAGAGGAGAATCATTCTGAGAGCATTAGGTGCAGAGCTTCATCTAACAGATATGAACATAGGCATTAAAGGAA TGTTGGAGAAAGCTGAAGAGATATTAAGCAAAACTCCTGGTGGTTACATACCACACCAGTTTATAAACCCTGAAAACCCAGAGATTCATTACAGAACA ACGGGTCCAGAGATATGGAGAGATTCAGCAGGGAAAGTAGATATATTGGTCGCTGGTGCTGGAACTGGTGGAACGGTTTCTGGTACAGGGAAGTT CCTTAAGAAGATGAATAAAGACATTAAGGTTTGTGTGGTGGAACCTACAGAAAGTGCTGTACTCAGCGGAGGAGAACCAGGTCCACATTTGATACAG GGAATTGGCCCTGGTGTCATCCCAACCAATTTGGAGTTAAGCATTGTTGATGAAGTCATTCAAGTGACTGGTGAGGAAGCTATTGAAACAGCCAAGC TTCTTGCCCTCAAAGAAGGATTACTGGTGGGAATATCTTCTGGGGCTGCAGCAGCGGCTGCGTTAAAGGTTGCTAAGCGGCCACAAAACGCAGGCA AACTCATTGTGGTGGTTTTTCCTAGTGGAGGAGAACGTTATTTATCGACTGAATTGTTCGAGTCGGTCAGATATGAAGCAGAGAATTTGTCGATTGAA TGAGTGGCGATGTGTGTTTCGGTTTTGTTCGGTTAGAGATGTTGGTGCAAGATTATAGTTTGATTATTTCAGCCAGGTCACTGTAAACTCTTTAAGAG
GCT-003J03	AT5G43860.1	ATCLH2 (Chlorophyll-chlorophyllido hydrolase 2)	GGAAAAAAAAATGTACTCTTCTTCATCAAGAAACGCGTTTGAGGATGGCAAATACAAAACAGATCTCTTAACCGTGGACTCATCATCTCACTGCTTCA GAACGACGCCGTCTTCTTCTTCTCCGGCTCCGCCGAAGGGTCTGTTGATAGCGACGCCGGTGGAGGAAGGAGAATATCCGGTGGTGATGCTCCTC CATGGTTACCTTCTCTACAACACCTTTTATTCTCAGCTTATGTTGCATGTCTCTTCTCATGGCTTCATCCTCATCGCTCCTCAGTTATATAGCATCGCT GGACCGGACACGATGGAAGAGATCAAATCAACGGCGGAGACAATGGATTGGTTATCCGTCGGACTTAACCACTTTCTTCCACCACAAGTAACACCA AACCTAACCAAATTCGCACTCTCTGGCCATAGCCGCGGAGGAAAAACCGCTTTTGCAGCTGCTCTAAAGAAATTTGGATACTCCTCGGATCTAAAGA TCTCGACACTGATCGGTATAGATCCAGTGGATGGAATGGGGAAAGGGAAACAAACCCCTCCTCCCGTTTTAACCTATGAACCAAACTCATTTGACCT AGACAAAATGCCTATTCTAGTGATTGGTTCGGGGCTTGGTGAAACTGCGCGAAACCCGTTGTTCCCTCCGTGCGCGCCTCCTGGAGTTAACCATCG AGATTTCTTCCGGGAATGTCAAGGTCCGGCTTGGCATTTTGTCGCACAGGATTACGGGCATTTGGACATGCTTGATGATGATACAAAGGGGATTAGA GGGAAGAGTTCTTATTGTTTGTGTAAGAATGGTGAAGGGAGAAGACCAATGAGGAGATTTGTTGGTGGAATTGTTGTGGCATTTTTGATGGCTTATTT GGAAGGAGATAATTCTGAGTTGGTTAAGATCAAAGATGGATCTCACGATGGTGTTTCCATCGAAATTCAAGAGTTTGAGGTTAAAATGTAGGAACTAA
GCT-003J04	AT5G11060.1	KNAT4 (KNOTTED1-LIKE HOMEOBOX GENE 4); transcription factor	GGTACAGTTGTACCAAACCAAAAAAAACATCGTCGAAGCTGAGAATTCATCTTCTCTTTCTCCATCTTTCCCTCTCCGAGACAAGAGATTCAAAACAC AAAGAAAACGATGGCGTTTCATCACAATCATTTCAATCACTTCACCGACCAACAACACGAGCCTCCTCCTCCTCCTCCGCCGCAGCAGCAACATTTC CACGAATCCGCACCGCCTAATTGGCTCCTCCGCTCCGACAACAATTTCCTTAACCTCCACACCGCCGCCGCTACAAGCTCCGATTCTCCTTCCTCC GCCGCCGCTAACCAGTGGCTCTCCCGATCCTCCTCCTTCCTCCAACGTGGCGCCGCCAGCAACAACAACAACGCCGCCTCAGGTGACGTCATCGA CGACATCAACGGCGGAGAGGAGTCGATGATAGGCGAGAAGAAGGAGGCGGAGAGATGGCAGAATGCTAGGCACAAGGCGGAGATACTCTCTCAT CCACTCTACGAGCAGCTTTTGTCTGCACACGTGGCGTGCCTGAGGATCGCCACGCCGGTGGATCAGCTTCCGAGGATCGACGCACAGCTCGCTCA GACTCAGAACGTCGTGGCTAAGTACTCAAGCTTGGAAGCTGCTGCTCAGGGACTCATCGCCGGCGATGAAAAGGAGCTTGACCACTTCATGACGC ATTATGTACTATTGTTGTGCTCTTTTAAAGAACAATTGCAACAGCATGTTCGTGTTCATGCAATGGAAGCTGTTATGGCCTGTTGGGAGATTGAGCAG TCTCTTCAAAGCTTTACAGGAGTGTCTCCTGGTGAAGGCACAGGGGCAACAATGTCTGAGGATGAAGATGAGCAAGTAGATAGTGATGCTCATTTGT TTGATGGAAGCTTAGATGGGTTAGGGTTTGGTCCTCTGGTTCCTACTGAGAGCGAGAGATCCTTAATGGAACGAGTTAGACAAGAACTCAAACATGA ACTCAAGCAGGGTTATAAGGAGAAAATTGTAGACATAAGAGAGGAGATATTAAGGAAGAGAAGAGCTGGGAAATTACCAGGAGACACCACCTCCGT TCTCAAAGCTTGGTGGCAGTCTCATTCTAAGTGGCCTTACCCTACTGAGGAAGATAAGGCGAGGTTAGTGCAGGAGACGGGGTTGCAGCTCAAACA GATAAACAATTGGTTCATCAATCAAAGAAAGAGGAATTGGCATAGCAATCCATCTTCTTCCACCGTCTCAAAGAACAAACGCAGAAGCAATGCAGGT GAAAATAGCGGAAGAGAGCGTTGAAGTCGCTGTGAAGCTCCCATGGAGAGATCCAATAGCTTGACAGAAAGTTGGAGACATGATCAAGACAAAGCT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003J05	AT1G75280.1	isoflavone reductase, putative	GACATTCCAAAATCATTCGCTCTCTGTAATAATGGCAACGGAGAAAAGCAAGATTCTGGTGATCGGAGGAACTGGTTACATCGGAAAGTTCATCGTC GCAGAAAGCGCGAAATCCGGCCACCAAACATTCGCTCTCGTCAGAGAAGCTTCTCTCTCCGATCCCGTCAAGGGTAAAATCGTCCAGAGTTTCAAA GATCTCGGCGTCACAGTACTACATGGAGATGTGAACGATCACGAGAGCCTCGTCAAGGCAATAAAACAGGTCGATGTGGTGATATCTACTATTGGA AGCATGCAAATCTTGGATCAAACCAAGATCATTTCCGCCATTAAAGAAGCTGGTAACGTCAAGAGATTCTTGCCGTCTGAGTTCGGGACAGACGTAG ACAGAACAAGTGCGGTTGAGCCAGCGAAATCGGCATTTGCAGTGAAGATTGAGATCAGGAGAGCCATAGAAGCACAAGGCATACCATACACTTACG TTGTTAACAATTGCTTTGCCGGTTACTACTTGCCTACATTGGTTCAGTTCGAGCCCGGTCTCACTTCTCCTCCTAGAGACAAAGTCACCATTTTGGGC GATGGAAATGCCAAAGCTGTGATCAACAAGGAGGAAGATATTGCTGCTTACACGATCAAAGCAGTGGATGATCCAAGGACTCTTAACAAAATCCTCT ACATTAATCCTCCTAAGAACACTTTGTCAATGAATGAAATCGTTAGCCTGTGGGAGAACAAGATCGGCAAGTCTCTTGAGGAGACTTACATCTCAGA GGAACAAGTGCTCAAAAGCATCCAAGAGTCTCCGGTTCCCATCAATGTTCTTCTGTCGATAAACCACTCGGTGTTTGTGAAGGGAGATCAGACCAAT TTTACTATAGAGCCTTCGTTTGGTCTTGAAGCATCTGAACTTTACCCTGATGTCAAGTACACGAGTATCGACGAGTATCTCAGTCACTTCGCTTGAGA ATTTTCGTGAATATTCGCCTAATTTACCATGACCATGACCATGATCCGGGTTTGTGTATTGTAAGAATAAAAAGCGGTTCTTGTTAATAGTGAAGATTG
GCT-003J06	AT1G14920.1	GAI (GA INSENSITIVE); transcription factor	GGGAAGTGGTAGTAGTAGTAGCATCACCATTCACCCAATCCCCAATACTAAAGATTCTTCACCCTCAGAAAAAGCAAAACCTAGAGATCCGACATTA AAGGAAGGTTTCAAGATCGATCTGAGAAACCCCCAATAACCATCATGAAGAGAGATCAAAATCATTTTTTTCAGGGAGATAAGACGATGAAGGAAGA AGACGGCATGGATGAGCTTTTGGCCGTGCTTGGTTACAAGGTGCAGTCGTCGGAAATGGCTGAGGTTGCTCAGAAGCTTGAGCAGCTTGAGGTGA TGATGTCTAATGTTCGGGAAGACGATCTTTCTCAGCTCGCCACGAGGACCGTACACTACAACCCATCGCAGCTTTACACGTGGCTCGACTCCATGC TCTCCGATCTCAACCCTCCGTCCTCTGCCGATGATTACGACCTCAAAGCTATTCCCGGTGACGCTATTCTCAATCAATTCGCGACCGATTCTTCTTCT TCTTCGTCGAACCAAGGTACCAACAACAAGCGGTTAAAATGCTCGAGCTCTGATTCCATGGTTGTTTCCACATCTCCGGCGGCGGTGGCCACCACG ACGACTGAGCCAACTCGGGCTTTTGTCCTGGTCGACTCACAGGAGAACGGTGTGCGTCTCGTCCACGCGCTTTTGGCCTGCGCCGAAGCCGTACA AAAGGACGATCTAAATCTAGCGGAAGCTCTGGTGAAGCAAATCGGGTTTTTAGCTGTGTCTCAGGTCGGCGCAATGAGAAAAGTAGCTACTTACTTC GCCGAAGCTCTCGCGCGCCGAATCTACCATCTCCGTCCGTCTCGGAGTCCGATCGACCATTCTCTCTCCGACACTCTCCAGATGCACTTCTATGAG ACCTGTCCTTACCTCAAATTCGCACACTTTACGGCGAATCAAGCCATTCTCGAAGCTTTCCAAGGCAAGAAAAGGGTTCATGTGATCGATTTCTCCAT GAATCAGGGTCTACAATGGCCGGCGCTTATGCAAGCCCTCGCGCTTAGACCTGGAGGTCCTCCGATTTTTCGGCTAACCGGAATCGGTCCACCGG CACCGGATAATTTCGATTACCTTCATGAGGTTGGGTGTAAGCTGGCTCATCTAGCGGAGGCGATTCACGTGGAGTTCGAGTACAGAGGATTCGTCG CCAACACTTTAGCAGATCTCGACGCGTCGATGCTGGAGCTTAGACCAAGTGAGATCGAATCTGTTGCGGTTAACTCTGTTTTTGAGCTTCACAAGCT TTTGGGACGACCAGGTGCGATCGAGAAAGTCCTTGGAGTCGTGAATCAGATTAAACCGGAGATTTTCACTGTGGTGGAACAAGAATCAAACCATAAT AGTCCGGTTTTCTTAGACCGGTTTACCGAGTCTCTGCATTATTACTCTTCATTGTTTGACTCGTTGGAAGGAGTCCCGAGTAGCCAAGACAAGGTCA TGTCGGAGGTTTACTTGGGTAAACAGATCTGCAACGTTGTCGCTTGTGATGGGCCTGACCGAGTTGAGCGTCACGAAACGCTGAGTCAATGGAGAA ACCGGTTTGGTTCTGCGGGGTTTTCGGCTGCACATATTGGTTCGAATGCGTTCAAGCAAGCGAGCATGCTTTTGGCTTTGTTCAACAGTGGTGAAG GTTATCGTGTGGAGGAGAGCGACGGCTGTCTGATGCTGGGTTGGCACACTAGGCCGCTTATAGCCACTTCGGCTTGGAAGCTCTCCACCAATCAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003J07	AT4G10240.1	zinc finger (B-box type) family protein	GGTACCTTCAGAAGAAACGGGCAATTTCTTAAACCGACTCTTCGAAAAGGCATAAACTCTAAAAGACTTTCTCATTGTCGTCGGATCTTCTTAATATC ATTCTCTAGCCGTTGGATCTTCCAAAACCCTAAACCCATCAGAAACACAAGCTTACAAAGGTTTTGGTAGATCGGTTACAACATCAAATGTAGAGATT TATATAACTCTTCTCACACTCAAAGGAGACAGCTTATTGAGGTTAATAGTGAGCACACCATTCTCGAGCTTGGCCTTGACAGAGTCCATATCCACATT ATCAGTCCACTCTCGTTGGGGATAGAGCCACGCTTTGGTCCCTCTCGAGTTCTAATGGGATTCTCTCCAAGATTTTGAATGGATCGGGAAACCGGTC TAGCCAGAGATCCGATAGCCAGCTGCTCGGTGTGTCCAGTGCAGATGACAAAGACCCTTCATTTGGTTTGATGTTTCCAAGAAACAAAGCTCCTATG AAGAGACTTAACAGAGTAAAGTAAGGCAAGTGCTTCATCTTGATTAGTGATCGGCTTTCTTGTAGAGGGTGGAAACCAAAATGTTAGTTTTTCTGACT TCACTTTAGATTACTTGCTTGTTCTTCTCTATGGATTGTAAGTTCCAGTTATCTGGTGTTATATAAATAACTTTATGAAGACTACAGCAGGTTCTTGAAA GATCTTTTGGTAGATTTTTGTAGAGATTTTGGGATTGTTCTAGCTTTTGGCTATGGAATTTGTTACTAATTATGTTATTACACGTTGTATGGGTTGTTGT GTCTTTGAGGAGGGTCTTCTCTCATGTTCCAGAGACTTCATGTAACTATGGTGAGCCAAACAAAATTGGATTGGACTGGCCCATGATATTGGTTTATG CAGGCCTATTTTTCATTAGCCCATGATTATAATTGGTACCATTTTGATGGAATTCAAAGATGAAAGTTGTTGAAGATGAGTCTTAAGAGCTTTGGCTGC TGCATGGGAAAGGGATGGGAAGATTGTGAATGTGCCATGCTTCATTTTAGATCCTGACATTCTAGAGTTTTTGATCTCCATTGCCTAAGGTCTATTTA CTTTATCCACAGTCTTTACTTTTGCATATTGTGTGGTCCTCCCATTACTTTTGGCTTGTCATGCTTTGAATTAAGAGAAGCTTGTTGTTTTGTCTGTCAA TATATGTGTCAAAAGGGAAGTAAGTACACAAGCTTCTTAAGAATCTTGTCATGGAGATCTTGGTAGCAGAACATTTATTGATTTAAATGCCACCCACA AAGTTGGTCTAACCTCAGCATGTGAACCTATTGAAGTTTTTTCTTTCTTATTTTTTTGTCTTAGATTCACTTCTTGTTAAATATCAAGAAACATTTGCTCT GTCTTTGTATTGGCAATTTGAAGGATTGATGAAGATACAGTGCGAAGTGTGCGAGAAGGCTGAAGCAGAAGTACTCTGCTGTTCAGATGAAGCTGTT CTTTGCAAGCCATGTGACACTAAGGTACATGAAGCTAATAAGCTTTTCCAGAGGCATCACCGAGTCGACCTACAAAAGAATACAGCCACAGTAGCTT CTGGAGGTCCTCTCTGTGATATCTGCCAGGAGAGAAAAGGGTACTTCTTCTGCTTAGAAGACAGAGCATTGCTGTGTAATGACTGTGATGGAGCCAT CCACATTTGCAATTCCCACCAAAGATACTTACTTTCTGGAGTCCAAGTTTCTGATCCGTCTTTGACTGAAAACTCTGGATGCAGCACTAGTTTTAGCT
GCT-003J08	AT5G37780.1	CAM1 (CALMODULIN 1); calcium ion binding	GATCCAAAATACGGAAAAAAAAATAAAAAAAAAAAACAAAAAGCAAAGGGAGAAGAAAGACGATTTCTGGAAAAAAAAAGGACGAAGAAGCTATGGC GGACCAACTCACAGACGAGCAGATCTCCGAATTTAAGGAAGCCTTTAGCCTCTTCGACAAGGATGGCGATGGTTGCATCACTACCAAAGAGCTGGG AACAGTTATGCGTTCACTAGGGCAGAACCCAACAGAGGCCGAGCTCCAAGACATGATCAACGAGGTTGATGCAGATGGAAACGGAACCATCGACTT TCCCGAGTTCCTTAACCTGATGGCTAAGAAGATGAAAGACACTGACTCAGAGGAAGAGCTAAAAGAAGCTTTCAGGGTTTTCGACAAAGACCAGAAC GGTTTCATCTCAGCTGCTGAGCTACGCCATGTGATGACCAATCTTGGGGAGAAGCTAACTGATGAGGAAGTGGAGGAGATGATCCGTGAGGCTGAT GTTGATGGAGATGGTCAGATAAACTATGAAGAGTTTGTCAAGATTATGATGGCTAAGTGATTGGAGAAAGGTTGTTGCTGGTGATGACTGATGACCT TTTTATTATCTTTGTCTAGGAGTTTAACCAAGAACATTTGTATGATTGGTCGACAAAAAATTGGCTTTAAAAAGATTGAGATCTGAGACTGTGTTTGTTT
GCT-003J09	AT4G22100.1	glycosyl hydrolase family 1 protein	GGTTTTATCGGGTCATTTCAACTCACCGTACTCCCTCTCACACTGGATTATTCTTGGATTCATTTCAACACACTTGTCAGTGTCGCTTTGCTTTTGAAT CCACGCTGAATATTGATACAGACAACAAGTGTTTGATTCTTCGTAAACTTCTCTCGCGAGACTAGTGTTCTTTGACACCAAAATCATGGTGCGTATAG AGACAGAAATAGAGAAATGGAACGAAGTTTGTCTCTGATCACCATTTTTCTGGTTCTCGCTTTGTCTGGAAGATGCAGCTGCGATGTCAATCTTTTCA GCCGGAACGATTTCCCCGAGGGCTTCGCTTTCGGATCCGCAACTTCTGCTTATCAGTGGGAAGGAGCTGTTAGTGAAGATGGGAAAAAGCCTAGCA TCTGGGACACTTTCCTTCACCCTCGTAACTTGGAAAATGGAGACATAGCTTGTGATGGGTATCACAAGTACAAGGAAGATGTGCAGCTGATGGTGGA AACTGGCTTAGATGCGTTCAGATTCTCCATCTCTTGGTCTAGGCTTATACCGGAGGTCTTGTTAACCCAAAGGGTCTTCAGTTCTACAATAACTTCAT CCAAGAACTTGTAAGCCATGGAATCGAACCACATGTTACACTGTACCACTACGACCATCCTCAGTACATAGAGGATGACTATGGAGGATGGATCAAC CGCAGAATCATCGAAGACTTTACTGCTTATGCAGATGTTTGCTTCAGAGAGTTTGGTTCTCGCGTCAAATTTTGGACCACGATCAACGAGGCTAATG TATTCACTATTGGAGGTTATAACGATGGGACTACACCGCCTGGTCGTTGCTCCTCACCGGGCAGAAACTGCTCGTCAGGGAACTCTTCGACTGAAC CATATATCGTAGGCCATAACTTGCTGCTTGCGCACGCCTCTGTTTCAAGACTATATAAGCAAAAGTACAAGGAAAGGCAAAGAGGTTCTGTAGGCTT TAGCTTATTTACAATAGGGTTTACTCCTTCTACAAGCTCCAAAGATGATATCAATGCAATTCTTAGAGCCAAAGATTTCTTCCTCGGCTGGATGCTTGA GCCTCTTATATTTGGAGACTATCCGGATGAAATGAAAAGAACCGTTGGTTCAAGACTACCAGTTTTCTCAGAGGGAGAGTCAGAACAAGTTAAAGGC TCATCTGACTTCATAGGAATCATTCACTATCTTGCGGCGTACGTCACAAACATCAAATTCAAACCTTCTCTTTCAGGGAACCCGGATTTCTTCTCAGA CATGGGCGTATCTGTGACTTGTCGGAATCAATACTCCTCTTTTTGAATATGAAAACAAACTCTTTGTTCGTTTATCTCGATATTTTTGTTTTTGCTAATC ATCTCTTCTTCGTGTTACTGCTTCGAGGGACAGTCCTTGGGAATTTTACGGCTTTCGAGTATGCTGTTGCTCCATGGGCTATGGAAAGTGTCTTGGA GTATATAAAGCAGAGTTATGGCAATCCTCCTGTCTACATTCTTGAGAATGGTAGACCGATGAAACAAGATTTGCAGCTGCAAAAGAAGGACACTCCA AGAATTGAGTACTTACATGCTTACATTGGTGCGGTGCTAAAATCCGTTAGGAATGGATCAAACACGAGAGGCTATTTCGTATGGTCATTTATGGATTT ATACGAGTTACTGAGAGGATACGAGTTTAGTTTTGGATTGTACTCTGTGAATTTTAGCGATCCTCATCTCAAGAGATCTCCAAAGGCCTCTGCTCATT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003J10	AT1G74840.1	myb family transcription factor	GACTCACACCACTCCATTGCCATTGCTCTGTACTTTTTGATCTCCTTCCGTTGAGTGAAAGGGGAAAAAAAAAACCAGCGCAGGCAAATCTTATGGC CGAAGGAAGTAATAGTTCGTCGGATTCCACCGTCTCTTGCGGCGGCGGCGGTATAAGAAGAGAGATTATGCTGTTCGGTGTCAGGGTTGTGCTTGA TCCGATGAGAAAGAGCGTGAGCTTGAACAATTTGTCCGAGTATGAGCAGACGGAGGAGATTCCTAAGATCTGCGGCGAGGATGGAGATGTACAAG ATAAGAACAAAACCTCCTCCGGTTACGCCTCGGCGGATGACGCTGTTCCGATTTCTTCTTCCGGCGGAAATCGCGAGAGGAAACGAGGAGTTCCAT GGACTGAAGATGAGCACAAGCTATTCTTGTTTGGGCTGCAGAAAGTAGGAAAAGGAGATTGGAAAGGAATATCCAAAAACTTTGTGAAAAGCAGAAC GTCCACGCAAGTAGCTAGCCACGCTCAGAAATACTTCATCCGGCGAAGCAATCTCAACCGTCGCCGACGAAGATCTAGCCTTTTTGACATCACCAC TGATACGGTCATGTCCACGGAAGAAGATCAGGTGCTTATGCAGGAGAACACATCACCACAATCACCTTCTCTTGTACCGGAAATCAACAACTTCTCT ATGTATCCGGTTATGCAAGTCTTTCCTGAGTTCTCTGTACCAACATCTGGTGGTGATTCATCAGGGAATCAATCACATGGACTGATTCCTTCCTCTAA TTTCATCAACTTGGTTCCATTAACATTTCAAGCAAGTCCTGCACCGCTCTCTCTTAGCCTCTCGCTAGCCTCGTCTAATCTTTACGAGCCTTCTTCTTC AAGACAGTCAGCGTTCAACACGATTGGAGTCGCTTAGAACAAAATCTCAAAGGTGCATCTGCAACACAAACACACCCTGTTTGTTTCTTTGTTGTACA GATAGGTCTTGACTTTTTTTTACATTTATCGAAAAAATCTGTGGTAAAGAAGAAGAATAAACAGAGGAGTTTGTAGAATAGGACTAAGTGGTTTTTTTT
GCT-003J11	AT4G33430.1	BAK1 (BRI1-ASSOCIATED RECEPTOR KINASE); kinase	GAAGTCAACGGGTGAATACGCGTCGAGGGCTTTTCTCTTACTTTGATTTTTCATTTCATCATCTTAGTTGTTTTTGGGGTGTCCTTGTGTGGTAGTTG CTTAATCTAGGATTCGAGATCCTTTAGTTGGTGAGTCAAAATCGTGCTGGATCTTTCTCGAATGATTATTGATGAAGGAGAATTTTAGGGTTCGTTTTT AATCTGGGAACTTGGCAAAAATGGAACGACGATTGATCCCTGGCTTCTTTTGGTTGATTCTGGTTTTCGATTTGGTTCTCAGAACAGCGGGCAACGC CGAAGGTGATGCTCTGAGTGCACTGAAAAACAGCTTAGCTGACCCTAACAAGGTGCTTCAAAGTTGGGATGCTACTCTTGTTACTCCCTGTACATGG TTTCATGTTACTTGCAATAGTGACAATAGTGTTACACGTGTGTAAGTTTCTTTCTTTCTCTGGCCAAGATGATTCATTTTTTTTTTCACATCTACTAAGA GTATCCTGGTCTTCATGTTTGCTCAGTGACCTTGGGAATGCCAATCTATCTGGTCAGCTCGTAATGCAACTTGGTCAGCTTCCAAACTTGCAGTACTT GGAGCTTTATAGTAATAACATTACTGGGACAATCCCAGAGCAGCTTGGAAATTTGACGGAATTGGTGAGTTTGGATCTTTACTTAAACAACTTAACCG GTCCCATCCCATCAACTCTCGGCCGACTACAGAAACTCCGTTTCTTGCGTCTTAATAACAATAGCTTATCTGGAGAAATTCCAAGGTCTTTGACTGCT GTCTCGTCACTGCAAGTTCTGGATCTCTCAAACAATCCTCTCACTGGAGACATTCCTGTTAATGGTTCCTTTTCACTTTTCACACCTATCAGTTTTGCC AACACAAAATTGACTCCCCTTCCTGCAGCTCCGCCGCCTCCTATCTCTCCTACACCGCCATCACCTGCAGGGAGTAACAGAATTACCGGAGCAATT GCGGGAGGAGTTGCTGCAGGTGCTGCACTTCTATTTGCTGTTCCGGCCATTGCACTTGCTTGGTGGCGAAGGAAAAAACCACAAGATCACTTCTTT GATGTTCCAGCTGAAGAGGACCCAGAGGTTCATTTAGGACAACTCAAGAGGTTTTCATTGCGTGAACTACAAGTTGCTTCCGATAATTTTAGCAACA GGAACATACTGGGTAGAGGTGGTTTTGGTAAAGTTTATAAAGGACGGTTAGCCGATGGTTCTTTAGTGGCAGTTAAAAGACTGAAAGAGGAGCGTA CTCAAGGAGGCGAACTGCAGTTTCAGACCGAGGTTGAGATGATCAGCATGGCGGTTCACAGGAACTTGCTTCGGCTTCGTGGATTTTGCATGACTC CAACAGAGAGATTGCTTGTTTATCCCTACATGGCTAATGGAAGTGTTGCCTCCTGTTTAAGAGAACGTCCGGAGTCCCAGCAACCACTTGATTGGCC AAAGAGACAGCGTATTGCGTTAGGATCGGCAAGGGGGCTTGCATATTTACATGATCATTGTGACCCAAAGATCATTCATCGAGATGTGAAAGCTGCG AATATATTGTTGGACGAAGAGTTTGAAGCAGTTGTTGGGGATTTTGGACTCGCAAAGCTCATGGACTACAAAGACACACATGTGACAACGGCAGTGC GTGGTACAATTGGTCATATAGCCCCTGAGTACCTTTCTACAGGAAAGTCATCAGAAAAAACCGATGTCTTTGGTTACGGAGTCATGCTTCTTGAGCT CATTACTGGACAAAGGGCTTTTGATCTTGCTCGGCTCGCGAATGACGATGATGTCATGTTACTAGACTGGGTGAAAGGGTTGTTGAAAGAGAAGAAA TTGGAAGCGCTAGTAGATGTTGATCTTCAAGGTAATTACATAGACGAGGAAGTGGAGCAGCTAATCCAAGTAGCTCTGCTCTGCACTCAGAGTTCAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003J12	AT3G50950.1	disease resistance protein (CC-NBS-LRR class), putative	GTCGAGCCTTATTTCAAGTTCAGAACGCCGAGCAACGTTGGAAGAGACAATGGAACTGATCGGTGGAGCTCTCCGGTGTATGATCATACTCAGGTG GTTGGTTTGGAAGGAGATAAAAGAAAAATCAAGGAGTGGCTCTTTTGTTCAAACGAGAGCGACCTTCTGATGATGGCCTTTGTTGGGATGGGAGGC TTAGGTAAAACAACGATTGCTCAAGAAGTGTTCAATGACAAAGAGATCGAGAACCGTTTCGAAAGAAGGATTTGGGTGTCTGTGTCCCAGACTTTTA CTGAAGAACAGATCATGAGAAGCATATTGAGGAACTTGGGTGACGCAAGTGTTGGAGACGATCTTGGAACATTGCTGAGGAAAATCCAGCAATATCT CTTGGGGAAAAGGTATTTGATCGTGATGGACGATGTATGGGACAAGAACTTGAGTTGGTGGGACAAGATCTACCAAGGACTGCCTAAAGGACAAGG TGGCAGCGTTATCGTGACCACAAGATCAGAATCTGTCGCGGTAAAGGTTCAGGCAAGAGACAAGACTCACCGTCCACAGCTACTTAGTGCTGATAA CAGCTGGTTGCTTTTTTGTAAAGTGGCGTTTGCAGCAAATAACGGTACTTGTGAGCGTCCTGAGCTAGAAGATGTTGGCAAGGAGATTGTAACGAAA TGCAAAGGTTTGCCTTTGACGATCAAGGCCATTGGTGGGTTGCTTCTTTGCAAAGACCATGTCTATCATGAATGGAGAAGAATAGCAGAGTATTTTC AGGACGAGCTTAAAGATAACACTTCTGAAATTGACAATGTGATGTCTTCTCTGCAGCTAAGCTACGACGAACTCCCTTCTCACCTGAAATCATGCTTT CTCACTCTCTCGCTATATCCGGAAGACTGTGTTATACCGAAACAGCAACTAGTACATGGATGGATCGGAGAAGGTTTTGTCATGTTGAAAAACGGCA GGTCTGCTACTGAATCTGGAGAAGATTGCTTTTCAGGGCTTACTAATCGGTGTCTAGTTGAAGTTGTTGACAAAACTTACAGTGGAACCATCCTCACT TGCAAGATTCATGATATGGTTCGTGATTTGGTGATCGATATAGCCAAAAATGATTCCTTCTCTAACCCGGAAGGCCTCAACTGTCGTCACCTTGGGAT TAGTGGAAACTTTGATGAGAAGCAGATCAAACTTAACCATAGATTGAGAGGTCTAGTGTCAACAACTAAGACAGGTGAAGTGAACAAGCTTAACTCA GACCTAGCTAAGAAGTTCACAGACTGCAAATACCTGCGGGTTCTTGATATCTCGAAATCCATTTTTGATGCTCCTCTGTCTGATATTTTGGATGAGAT TGCGAGCCTTCAGCACTTGGCGTGTCTTAGTATGAGCAACACACATCCGTTGATCCAGTTTCCTCGTTCTATGGAGGAACTCCACAATCTTCAGATT CTAGACGCGAGCTACTGTCAGAATCTTAAACAGCTTCAACCTTGCATTGTCTTGTTCAAGAAACTTCTTGTACTTGACATGACAAATTGCGGATCACT TGAGTACTTCCCTAAAGGAATTGGAAGTCTCGGGAACCTCGAAGTGCTACTAGGATTCAAGCCATCCAGGTCGAACAATGGGTGCAAGCTAAGTGA AGTGAGAAATCTCACCAACCTTAGGAAACTTGGTCTTTCTCTGACTCGCGGCGATCAGATCGAAGAGGATGAGCTTGATTCTTTGATAAACCTATCC AAGCTTATGTTCATCTCCATCAACTGCTATGATAGCTATGGTGATGATCTCATAACCAAACTAGATGCTCTCACTCCTCCACACCAGCTCCATGAGCT TTCTCTACAGTTCTATCCTGGAAAGTGTAGTCCTTCATGGTTGAGTCCTATCTCGCTTCCGATGTTGAGGTACATGTCAATATGCTCTGGTAATCTGG TGAAAATGCATGAACGATTCTGCGCAACTCAGACTAAGACTGACTGCAGAATCGAGCGTTTGATCTTAAATTCGCTCTCGCAACTAGACATGCATTG
GCT-003J13	AT5G15310.2	AtMIXTA/AtMYB16 (myb domain protein 16)	GGTAACAATTCTACAACTGTAGCCAAAAAGACCATTCCTTTTGTGCTCTTATGGTGATCATGATCATGAGCATGTGATGAATGAAATATCTCTTATTAA CTCCCTCTTCATATTTTTCTTTTTCTTTGTTCTGCAATAAGATTAGAGAGAGCGAGTTTTAGTTTTTGGACCAAATGGGTAGATCACCGTGCTGCGACA AGTTGGGTTTGAAGAAAGGGCCTTGGACACCAGAAGAAGATCAGAAGCTTTTGGCTTATATTGAAGAACATGGCCATGGAAGTTGGCGTTCATTGC CTGAGAAAGCTGGTCTCCATCGATGCGGCAAAAGCTGCAGACTCAGATGGACTAACTACTTAAGACCTGACATCAAAAGAGGCAAATTTAACTTGCA AGAAGAACAAACCATCATTCAACTCCACGCTCTCTTAGGAAACAGGTGGTCGGCGATTGCGACTCATTTGCCAAAGAGAACAGACAACGAGATCAA GAACTATTGGAACACGCATTTGAAGAAACGGTTAGTGAAAATGGGGATTGATCCAGTGACTCATAAACCCAAAAACGAGACTCCTTTATCCTCTCTTG GTCTGTCCAAGAACGCAGCCACACTTAGCCACATGGCTCAGTGGGAAAGTGCTCGACTTGAAGCTGAAGCAAGGCTAGCTAGAGAATCAAAGCTTC TTCATTACCAAAGCAAAACATCATCGATTCATCATGGATTCACTCACAAGGCACTTATAACCAATTGGACAACAAAACCAAACGAAGATCAACAACAA CAGCTTGAATCTCCGACATCTACAGTGTCATTTTCGGAGATGAAGGAATCATCAAACGGAATCCCGACAAAGATAGAGTTTGTCGGATCATCCACGG ATCTGACTTTGATGAAAGAACCCGAAAACGATTGGATCAATTCAACAATTCACGAATTTGCAGCCACGCAGATGGCGGAAGGAATCGAAGAAGGGTT CACGGGTCTCTTGCTCGGCGGAGATTCACTGGAACGGAGTTTCTCCGGCGATAAAAACGAGACGGCCGGCGAGAGTAGTGGTGGTGACTGCAACA ACTACTACGAGGACAACAAGAATTATTTAGACAGCATTTTTAGCTTTGTGGATCCTTCGCCGTCCGATTCACCGCCGATGTTTTGAATCAATGGTCGA TATTTCTTGGGAATGTCCTTGATTCTTTTTAGTTTCTAGTTTTTTTTTGTTTTTGTGTGTGTGTAAACTCTGATTAGATAATTTTAGACTAATCCAATTTTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003J14	AT3G15260.2	protein phosphatase 2C, putative / PP2C, putative	GGGGGTTCGTGTCATCTTCCCCTCCTCTCTCACTCCTTCTCTCTTACGCTCGCGGAAGAAGATATTTTCATTTGCATTTTCGCCTGTTTCTTTATTAAT ATTTCATATCCACACATATATATAATCCTCTTTTCATCTTCGAGCCATGACCGGCAAGGAAATTCTCCACAAGATGAAGGAATCCGTCAAGGAGAAAG TTGGGCTTGTTGCGTCCGCTTCTGCAGATTCAGGGAAAGGTAAGAGCAAGATGTCGAAGCAGATCACACATGGTTTTCACTTGGTGAAAGGGAAAG CTTTTCACGAGATGGAGGATTATGTGGTTGCCAAATTCAAGGAAGTTGATGACAATGAGCTTGGCCTGTTTGCTATCTTCGATGGCCATCTTAGCCA CGAGATTCCCGACTACTTGTGCTCCCATTTGTTTGAGAACATCTTGAAAGAGCCGAATTTCTGGCAAGAGCCTGAGATAGCGATAAAGAAAGCTTAC TATATAACGGATTCGAAGATTCTGGATAAGGCGTCTGATTTGGGGAAAGGAGGCTCGACTGCTGTGACTGCGATATTAATTAATTGCCAGAAGTTGG TGGTTGCTAATGTTGGAGACTCGAGAGCTGTTATTTGCAAAGATGGTGTTGCGAAGCAACTCTCTGTTGATCACGAGCCAAACATGGAGAAAGATGA AATAGAGAACAGAGGCGGATTCGTTTCAAACTTTCCTGGGGACGTTCCTCGAGTTGATGGTCAACTGGCTGTGGCAAGAGCATTTGGTGATAAGAG TATAAAGATGCATTTGAGTTCGGAACCATATGTTACGGTGGAGATAATTGGCGATGATGCAGACTTTCTGATCCTAGCAAGTGATGGACTTTGGAAG GTGATGTCGAACCAAGAGGCTGTTGACTCGATTAAGGGAATAAAAGATGCAAAGTCTGCAGCTAAGCATCTCTCAGAGGAGGCTGTTGCAAGGAAA AGCTCAGATGATATCTCAGTGGTCGTCGTGAAATTTCAGTAACCTATGTTTACGGGAGAAGAAGAGACCTCTGCAGATTCCATTGATCATAAGTCTTA CTGGTCACTGAAACGAGTAATGAGTCTTTGAGTTTGGACCAGCTAAAGAATCAGAACATGATATATACAAGTTTCCTCTGTAAGATGCAATCATCAGT
GCT-003J15	AT4G01610.1	cathepsin B-like cysteine protease, putative	GAAGAAGTGTCTCTGTCATTGTGCAGTAGATAAGCCACTCTCTCTCTATATTATAAACGAGATTCTCCCATTAGTGAGGTTACTTCAACAAAGAGATC TTTTGATTTTCTGGGATTCATCGAGAAGAGTTTGAAAGTGAAAAAGAGAGATTCCCATGGCTGATTCTACCACCACCACCAAACTCTGTTTGGTCTCT GTTTTCTTACTCTTAGGGCTTGTCTCCTCGTCTTTCGACTTGCAGGGTGTTAAAGCAGAAAATCTATCCAAACAGAAACTGAACTCGAAGATACTTCA GGAAGAGATTGTGAAGAAAGTAAACCAAAATCCAGACGCTGGATGGAAAGCTGCTATAAATGATCGATTTTCCAACGCAACAGTTGCAGAGTTTAAG CGTCTCCTCGGGGTGAAACCAACTCCTAAGAAGCACTTCTTAGGTGTTCCTATCGTAAGCCATGATCGATCTTTGAAGCTACCTAAAGAATTCGATG CTAGAACCGCTTGGCCACAATGCACCAGTATTGGAAACATCTTAGATCAGGGACATTGTGGTTCTTGCTGGGCATTTGGTGCTGTTGAATCACTATC TGATAGATTCTGTATCGAATTTGGAATGAACATTTCTTTATCAGTAAATGATCTCTTAGCTTGTTGTGGATTCCGTTGTGGCGATGGTTGTGACGGTG GCTACCCAATTGCTGCTTGGCAATACTTTTCCTATAGCGGCGTTGTCACTGAAGAGTGTGATCCATACTTTGATGATACCGGTTGCTCTCACCCTGG ATGTGAACCAGCATATCCTACACCGAAATGTATGCGGAAATGCGTTAGTGGAAACCAGTTATGGAGTCAATCCAAACATTACAGTGTTAGTACATACA CTGTTAAATCTAATCCACAAGACATCATGGCAGAGGTTTATAAGAATGGACCTGTTGAAGTCTCTTTTACTGTTTATGAGGATTTTGCTCATTACAAAT CTGGAGTATATAAGCACATAACAGGTTCTAACATTGGAGGTCATGCTGTTAAACTTATTGGTTGGGGAACTACTGATGAAGGCGAAGATTATTGGTT GTTGGCAAATCAATGGAACAGAAGCTGGGGAGATGATGGTTATTTCATGATTAGGAGAGGAACAAATGAATGTGGAATTGAAGATGAACCAGTGGC TGCTTTGCGTTGAAGCAGCAATCTCTTTAAGCTTATTACGCGTTCAGATCATCTTTCGCTTGCTTGCTTTAAGATCAAAGACGAAAAGTTTCTATCT
GCT-003J16	AT2G44490.1	PEN2 (PENETRATION 2); hydrolase, hydrolyzing O-glycosyl compounds	GAACCAGGAAAAATTATTTCAAGATCTACTTATTATCATCATTTCATCCTTCCTTCTCCAAGATCTTCCGCATCAAAATTCTTCAGCAGAAATCTGGAA AAGCTTTTGTTTACAGACAAGACAAAACCCAACAAATATGACACATCTTCAAAGAACATATCCTACATCGATGTCAAAAGGTAGAGCTAGCTTTCCAA AAGGCTTTCTCTTTGGAACTGCCTCTTCTTCATACCAGTATGAAGGAGCAGTCACTGAAGGTAAGAGAGGTCAAAGCATGTGGGATCATTTCTCCAA CAGATTTCCTCACAGAATCAGTGATAATAAAAACGGAAACGAAGCCGTCGATTTCTTCCATCGTTACAAGGAAGATATCAAGAGAATGAAAGATATAA ACATGGATTCTTTTAGACTCTCCATTGCTTGGCCACGAGTTATACCTTATGGCAAAAGGGAGAGAGGAGTTAGTGAAGAAGGAATTAAGTTTTACAAT GATGTGATAGATGAACTCCTAGCCAATGAAATCACTCCTCTTGTTACAATCTTTCATTGGGACACTCCTCAGGATCTTGAAGATGAATATGGAGGTTT TCTAAGCGAACAGATTATAGATGACTTTAGAGACTACGCGAGTCTCTGCTTCGAGAGATTTGGGGATAGAGTGAGTCTATGGTGCACATTGAATGAG CCATGGGTCTACAGTGTTGCTGGTTATGACACAGGGAGAAAAGCGCCAGGACGATGCTCCAAGTATGTGAATGGGGCTAGCACTGCTGGAATGTC CGGATACGAGGCTTATATCGTGAGCCATAACATGCTTCTAGCTCACGCGGAAGCTGTGCAAGTGTTTAGGAAATGTGACAATATTAAAAATGGACAA ATTGGAATTGCGCATAATCCGCTTTGGTACGAGCCTTATGATCCGAGCGATCCAGATGATGTAGAAGGATGTAATCGAGCTATGGACTTCATGATTG GTTGGCATCATCATCCGACAGCGTATGGAGACTATCCAGAATCGATGAAGAAATCTTGCGGAGATAGATTACCGAGTTTTACTCCAGAACAATCCAA GAAACTGATAGGCTCTTGCGATTACGTTGGTATAAACTACTACAGCTCGCTTTTCGTAAAGAGTATCAAAAACGTGGATCCTACGCAACCCACTTGG AGAACTGATCAAGGCGTAGATTGGATGAAAACCAACATAGATGGGAAACAAATAGCGAAACAAGGAGGATCAGAGTGGAGTTTCACATACCCAACA GGACTCAGAAACGTTTTGAAGTATATGAAAAAGAATTATGAGAATCCAAGGATTATCATAACCGAGAACGGGTATGGTGAAGTAGCGGAACAGAGTC AGGGTCTGTTTATGTACAATCCTTCAATCGACACAGAGAGATTGGAATACATAGAAGGACACATCCACGCAATTCATCAAGCCATTTATGAAGATGGA GTCAGAGTGGAAGGCTATTACGTTTGGTCATTGCTAGATAACTTCGAGTGGAACAGTGGATATGGTGTGAGATACGGTTTGTACTACATTGATTTCA AAGATGGGCTTAAAAGATTCCCGAAAATGTCGGCTTTGTGGTTGAGAGAGTTCTTGAAGTTTGATCAAGAAGACGAGTCTTCTTCTTCTTTGGCGTCT AACAAGGAAGAAAAGAAGGAGAGCTACGGGAAACAGCTATTGCATTCAGTTCAAGACAGTCAACTTGTCCATTCGATTAAAGACAGTGGTGCGTTAC CCGCAGTTCTGGGGAGCTTGTTCGTTGTCACTGCAACTGTTGGTACTTCTCTGTTCTTCAAAGGCTCGAATAATTGAAAACAGAGTGTTATGGAAAAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003J17	AT1G55680.1	WD-40 repeat family protein	GATTGATGTAAGCCTGTGAACGAAGAAGATAAATTTCCCTGTCTTCTCTCTCTCTCTCTCCTTCTCCGTTCTTGTTTTCTGAATTCGCTCGAAATCGAT CTCAACGCCAATCCAATGATGTTTTATATTCGACCCCAAACTTAAATTTAGAAACCACAATTTCTCGAAGTCAATCCGTTTTCATTTTCACGAATTGCA TCGCCAGGCCCTGTTTATCAACTAAAAAAAATGTCCAATTACCACCAAGAGGAGGATGCTGATTACATGGACGATGTGGATGATGAAATGGATGATG TGGTTGACGATGATATAGATGACGAGTTTCGCGGGGATGATATGGTTGCATCGGATTCCGATGTCGACGAGTTTGACTACTCAAATAATAAAATAGC TGACACTTCAGCTGATCAAGCCCGGAAAGGGAAAGACATTCAGGGGATTCCTTGGGACAGGCTTAGTATTACACGTGAGAAATACAGACAAACTAG ACTAGAACAGTACAAAAACTACGAAAATGTTCCCAATTCTGGGGAATCCTCGGGGAAAGATTGCATGGTCACGCAGAAAGGGGCCATTTTTTATGAT TTCTGGCGGAATTCAAGATCTATCAAATCAAGTATTCTTCATTTCCAGTTGAGGAATTTGGTTTGGGCAACTTCTAAGCACGATGTCTACCTTATGTCA CAATTTTTGGTGAGCCACTATTCTACTTTGACATCTGGAAAGCATGAAGTTCTCAATGTTCAAGGTCATGTTTCCCCATCCGAGAAACACCCTGGAAG CTTGTTGGAGGGATTTACGAAGACTCAAGTGAGTACACTTGCAGTGAGAGATAAATTTCTAGTTGCTGGCGGATTTCAAGGAGAACTTATCTGCAAG GTAAGCTCTAGAGTTTTACGAATCATGCATTTCACATACATGCAATCTGATCAAGGAACTTCATCTGTTTCCCCATTGATTTGATTCAGCACCTTGATA GACCTGGTGTGAGCTTTTGTTCACGTACAACTTATGATGATAATGCTATCACCAATGCAATTGAGATTTATAACAAACCCAGTGGAGCGCTTCATTTT ACCGCATCAAATAATGATTGTGGAGTCAGAGATTTTGATATGGAGAGATATCAGCTTGTACACTATTTTCGCTTTCCTTGGCCAGTGAATCACACATC TCTGAGTCCTGATGGTAAATTATTGACGATTGTGGGAGACAACCCGGAGGGCCTTCTCGTAGACCCCAACACGGGAAAGACACTGGGAACGCTAG CAGGACACTTGGACTTTTCCTTTGCATCGGCATGGCACCCAGATGGGGTCACATTCTCCACAGGTAACCAAGACAAGACATGCCGGGTTTGGGACA TACGTAACCTGTCTAAATCTGTTGCTGTCTTGAGGGGTAACCTCGGGGCAATCAGATCCATCCGCTACACATCTGATGGGAGATACATGGCCATGG CTGAGCCGGCAGACTTTGTGCATGTCTATGACGTCTCAAAAGAGTATGAAACAGAGCAAGAGATCGATTTCTTTGGGGAGATCTCGGGAATATCCTT TAGCCCTGACACAGAAGCGCTCTTCATCGGTGTTTGGGACCGCACTTACGGTAGTCTCCTTGAGTATGGTCGGCGCCGTAACTACTCCTACCTTGA
GCT-003J18	AT3G14940.1	ATPPC3 (PHOSPHOENOLPYRUVATE CARBOXYLASE 3); phosphoenolpyruvate carboxylase	GACCATCTCTGAATCTGATTCCACATCAAAAAAAAAACCATTCTCTCTAATCTCTGTTTTGATTCTTACCAACTTCGGTTTTGATTTCCATCGACACCAT CCGCAGACTTCTTCTTATAGAAGAACTTATAGAGAGCGTGGGGCTAGTGGAGAGATCGATTGTGATCGGCGATAATGGCGGGTCGGAACTTAGAGA AGATGGCATCAATTGATGCGCAGCTTCGTCAACTGGTTCCTGCTAAAGTCAGTGAAGACGATAAGCTTGTTGAGTATGATGCTCTTCTCCTCGATCG CTTTCTCGACATTCTCCAGGATCTACACGGCGAGGATCTCCGTGAAACCGTCCAAGAGCTGTACGAGCTTTCTGCTGAGTATGAAGGGAACCGTGA GCCTAAGAAGCTTGAGGAACTAGGGAGCGTCCTAACGAGTTTGGATCCAGGTGACTCCATTGTTATCTCCAAGGCTTTCTCCCACATGCTTAACTTA GCCAACTTGGCCGAGGAGGTGCAGATTGCTTACCGTCGCAGGATCAAGAAGCTCAAGAAGGGTGATTTCGTTGATGAGAGCTCTGCTACTACTGAA TCCGATATCGAAGAGACTTTCAAGAGACTCGTCTCGGATCTTGGTAAGTCTCCTGAAGAGATCTTTGATGCCCTGAAGAATCAGACTGTGGATCTTG TTTTGACTGCTCATCCTACTCAGTCCGTGCGTAGATCTTTGCTTCAGAAGCATGGCAGGATAAGGGACTGTCTAGCTCAACTGTATGCAAAGGATAT TACTCCTGATGACAAGCAGGAGCTTGATGAGTCTCTTCAAAGAGAGATTCAAGCTGCATTTCGCACAGATGAGATTAGAAGAACACCTCCAACGCCG CAAGATGAAATGAGAGCTGGAATGAGCTACTTCCACGAGACAATCTGGAAAGGTGTCCCTAAGTTCTTGCGCCGTGTGGACACAGCTCTGAAAAAC ATTGGGATTGATGAGCGTGTCCCTTACAATGCCCCATTGATTCAGTTCTCGTCTTGGATGGGTGGTGATCGTGATGGTAACCCGAGGGTCACACCT GAGGTCACTAGAGATGTGTGCTTGCTGGCTAGAATGATGGCTGCCAATCTCTACTATAACCAAATCGAGAATCTGATGTTTGAGTTGTCTATGTGGC GTTGCACTGATGAGTTCCGTGCCAAGGCTGATGAACTCCACAGGAACTCAAGGAAAGATGCTGCAAAACATTACATAGAATTCTGGAAGACAATTCC TCCAACTGAGCCATATCGTGTGATTCTTGGTGATGTGAGGGATAAACTGTATCACACACGTGAGCGCTCTCGCCAAATGCTGAGCAACGGAATCTC GGACATCCCTGAAGAAGCTACTTTCACCAATGTGGAACAGTTCTTGGAGCCTCTTGAGCTATGTTACCGATCACTATGTTCATGTGGTGACCGCCCA ATAGCTGATGGAAGCCTTCTTGATTTCCTGAGACAAGTCTCTACCTTTGGACTCTCCCTTGTGAGACTTGACATTAGGCAAGAGTCTGAACGCCACA CCGATGTCTTGGATGCTATCACCAAGCACTTGGACATCGGTTCCTCCTATAGAGACTGGTCTGAAGAAGGCCGACAGGAATGGCTTCTAGCTGAAC TAAGCGGCAAGCGTCCACTTTTCGGACCTGATCTTCCCAAAACCGAAGAAATTGCTGATGTCCTGGACACATTCAAAGTCATATCAGAGCTTCCTTC AGATTGCTTTGGAGCTTACATTATCTCTATGGCAACTTCACCAAGTGATGTGCTTGCAGTTGAGCTTTTACAGCGTGAATGCCACGTGAAAAAGCCA CTAAGAGTTGTTCCACTCTTTGAGAAGCTAGCTGATCTTGAAGCGGCTCCTGCTGCTGTTGCAAGACTCTTTTCTTTAGACTGGTACAAAAACCGTAT CAACGGTAAACAAGAGGTTATGATCGGTTACTCAGATTCAGGGAAAGACGCTGGGCGTCTCTCAGCTGCTTGGGAACTATACAAAGCTCAAGAAGC GCTTGTGAAGGTTGCTAAGGAATATGGAGTGAAGCTGACTATGTTCCATGGCCGTGGTGGCACAGTCGGAAGAGGAGGTGGTCCCACTCATCTTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003J19	AT1G08550.2	NPQ1 (NON-PHOTOCHEMICAL QUENCHING 1)	GAAAGCAAATTCCTTACATCCGTATATCGCTCACTCCCTCTCCCTCTGCTTCTCGCGGAGCTTTCAATCTTCGAGGAAGATTAGAAGATACTCAAGAG CATGGCAGTAGCTACATATTGTTTCACTTCACCTTGCCATGACCGTATTCGATTTTTCTCTGGAGTTACAAGTTTTGATGGTAGGCTTCTAAGGAAGA GGATCAATGGCACATTCTTGGTCAAGATTTTACCCCCTTCCCAAAATGCTGATCTAAGGACAACTTCGAGATCCTCACGTCCCTTATCTGGATTCAGG TCAGGAACCTCTAAGGGAGTATTTGATATTGTGGCATTAACATCAAGGAATGCACTGAAAGAGCTGAGCACTCCAATGGTGTTAAAGCTAGTGGGTG TTTTAGCGTGCGCATTCCTCATAGTTCCATCTGCAGACGCAGTTGACGCACTCAAAACTTGTGCATGCTTGCTAAAGGGATGCAGGTGAATTCCTTT CATTTGCATATGATTTGCACTGTATGGCTTCATTCAGATTCTACCATTTCAATTGTTCAGAATGTTGCCGGTTGTTTATGAATCTAGATGAAGCTAGTG TTTGTCTACCATGGAGCTGATTTGAGTTGGTGTCTTTTTTTGCCAGAAGTTTATATATATCTCACATTGTCTGACCATATAATCTGTTAGGATAGAACT CGCAAAGTGCATTGCCAACCCTTCCTGCGCAGCCAATGTCGCCTGCCTCCAGACCTGTAATAATCGTCCAGATGAAACCGAGTGCCAGATCAAATG TGGGGATCTATTCGAGAACAAAGTAGTTGATGAGTTCAACGAGTGTGCTGTGTCGAGAAAAAAGTGTGTTCCTCAAAAATCTGATCTCGGAGAATTT CCTGTCCCTGACCCTTCTGTTCTTGTCAAGAACTTCAACATCAGTGACTTTAATGGCAAGTGGTACATTACAAGTGGCTTGAATCCAACCTTTGACAC ATTCGACTGCCAGCGGCATGAGTTCCACGCAGATGGTGACAAGCTTGTTGGAAACATCTCCTGGAGAATAAAGACCCTAGACAGCGGATTCTTTAC AAGGTCAGCTGTACAAAAATTCGTGCAAGATCCTAACCAACCTGCTATTCTCTACAATCATGACAATGAGTACCTTCACTATCAAGATGACTGGTATA TCCTGTCATCAAAGGTAGAGAATAAACCAGACGACTACATTTTTGTGTACTACCGTGGGCGAAACGATGCTTGGGATGGATATGGTGGTGCGGTTGT GTACACGAGAAGTGCAGTATTACCCAATAGCATTGTACCAGAACTTGAAAAGGCAGCAAAAAGCATAGGCAGAGACTTCAGCACATTCGTGAGAAC GGATAACACCTGTGGTCCTGAACCTCCGCTGGTGGAGAGATTTGAGAAGACAGTGGAAGAAGGAGAAAAGATAATCGTAAAAGAGGTTGAGGAGAT AGAAGAGGAAGTGGAGAAGGAAGTGGAGAAAGTCGGTAAGACAGAGATGACCTTGTTCCAGAGATTGGCTGAAGGATTTAACGAACTAAAACAAGA CGAGGAGAATTTCCTAAGAGGATTAAGTGAAGAAGAGATGGAGTTGTTGAATGAGCTCAAAATGGAAGCAAGCGAGGTTGAAAAATTGTTTGGAAAA TCTTTGCCGATTAGGAAGGTCAGGTAAACGAAGAAGAACCATCATTGTTATACATACTGTTGTTCAGTTCATCACATAAGGGAATATATATATATTTGT AAAAACATTCTTCATTCAATAACAGTTGGATACAGAACACGAAAGGATTAAGACATCCTTTTTTTTGGGGCTAAAGAAATACAAAAGTGGTAACAAATG GGTATCTCAAGAAGAGGTGAAACTGGTAATGATTGGGATGACAACAATAAGAATGATCAAGAGCAGCACAATGATACCAATGCACATCCATTTTCTA CTGTTTCTTTGATGATTCTTTGCGGTCTTGAGCTCGTTAGCACCATCTTTCACGTAATGGCTCGCGTTCATCACATGATGTTCGATCTCATCCATCTG TTCACCTTGCGCTTCAACCATCACAGCCATATCCAAAAACACCTGGTGAAGCTCTAACAGACTCTTCTCTATCTCCTTGGCCGCATCGTACCTTCAAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003J20	AT5G25350.1	EBF2 (EIN3-BINDING F BOX PROTEIN 2)	GATCTCATAATTTTATCTCTCTTCTGTAAATCTTCTTCTCTCTTCCTTTTTGCCCTATATTCTAGGGTTCTTCGCGTTTCATGAATCTCAGTCTTTGTCTT CTATTCAACACCGTCTCTGCTCTGTTAGTCTCCGTCTACGTTCTCGTCCTCTCACCTACCTTCCTGGAGTTTCTTCCTACGGTGTTGGAATTATGTCT GGAATCTTCAGATTTAGTGGTGATGAAGATTTTTTCCCTGGGGGATCAATGCATCTATCGCCAGGGAGTTGTCCCGGCGTATATTTCCCAGCACGCA AGAGATTGCGGATTGCTGCACCGTCAGTTCAAATCGGTTTTGAGCAAAACAAACTTCAATCGAAGTATTGCCTGATGAGTGTCTATTTGAGATCCTAA GACGCTTGCCTTCCGGCCAAGAAAGGAGCGCCTGCGCTTGTGTCTCCAAGCACTGGCTTAATCTTTTGAGTAGTATCAGCAGGAGTGAAGTGAATG AGTCTGTTCAAGATGTGGAGGGTGAAGGATTTTTGTCAAGAAGTTTGGAAGGTAAGAAAGCCACAGATTTGAGGCTGTCAGCGATCTCAGTTGGGA CATCTACGCGCGGAGGATTAGGGAAGCTTCAAATCCGTGGGAGTGGTTTTGACAGCAAAGTGACAGACGTTGGCCTTGGATCTATTGCCCATGGTT GTCCATCTCTTAGGGTTCTATCTCTGTGGAATCTGCCTGCAGTTAGTGATATTGGTCTGTCTGAGATCGCACGGTCATGCCCGATGATCGAGAAACT TGACCTTTCACGATGTCCAGGAATAACCGACAACGCTATGGTTGCAATCGCCGAGAACTGCCTGCATCTGAGTGATTTGACAATTGACTCGTGTTCT GGTATTGGAAACGAGGGTTTAAGGGCTATTGCACGACGCTGTACCAATCTGAGATCTATCTCTATCAGGAGCTGCCCACGCATTGGAGATCAAGGA GTTGCTTTCCTCTTGGCCCAAGCTGGTTCTTACTTGACAAAAGTGAAACTCCAGATGTTGAACATAACGGGTCTGTCTCTTGCCGTTCTTGGCCACTA CGGAGCAGCAGTTACTGATCTCGTGCTTCATGGCCTTCAAGGTGTGAACGAGAAAGGCTTCTGGGTAATGGCAAATGCAAAAGGGATGAAGAAACT GAAGTCCCTCTCAGTAATGTCGTGCCGAGGCATGACGGATGTTGGGCTCGAAGCTGTTGGTAATGGTTGCCCTGATCTGAAGCATGTATCTCTGAA CAAATGCTTGCTTGTTTCTGGCAAAGGACTTGTCGCTTTGGCCAAATCTGCATTGTCGCTGGAAAGTTTGAAACTTGAGGAATGCCACAGGATCAAC CAGTTTGGTTTTTTGGGCTTTCTCACGAACTGCGGTTCAAAGTTGAAGGCTTTCTCTTTGGCAAACTGTATGGGCATCCAGGACTTGAACCCGGAAT CACCTCTGCAGTTAACCGGTTGTAGCTCCATACGGTCTCTGTCAATCCGTTGCTGCCCTGGGTTTGGGGATGCAAGTCTCGCTTTCTTGGGGAAGT TTTGTCATCAGCTTCAGGATGTTGAACTCTCTGGATTGAATGGAGTGACGGATGCAGGTGTGCTCGAGTTGCTTCAGAGCAACAATGTTGGTCTAGT GAAGGTGAATCTGAGCGGATGTATCAATGTATCAGACAACACAGTCTCTGCAATATCCATGTGCCACGGACGCTTTATGGAGTCTCTTAACCTTGAT GGCTGCAAGAACATCACTGATGCAAGCCTTGTCGCAGTGGCCAAGAACTGCTACTCAGTTAGTGACCTTGACATCTCAAATACTTTGGTCTCAGATC ACGGGATCAAGGCTTTGGCATCTTCTCCCAACCACCTGAATCTTCAGGTGCTTTCTGTTGGCGGCTGCTCAGCGATTACAGACAAAAGCAAGGCAT GCATACAAAAACTAGGCCGCACGCTTTTGGGGTTAAACATCCAACGATGTGGTAGAATCAGCAGCAGCACTGTGGATAACCTTCTGGAACATCTATG GAGGTGCGATATACTTTACTAAAAAAAATACCACGTTTTCTGCAAAACCTTAGTATCCAGTCAAGTCTTTTTCTAGGTTTTGGTCGCTAAACCCATAGA
GCT-003J21	AT2G46100.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT3G04890.1); similar to H0404F02.9 [Oryza sativa (indica cultivar-group)] (GB:CAH66733.1); similar to Os04g0578200 [Oryza sativa (japonica cultivar-group)] (GB:NP_001053638.1); contains domain NTF2-like (SSF54427)	GACACTTGAACCCAAAAATGGCGTCTTCTCTTTCCTTTCATTCCATCACCACCGTCAACCCCAGCTACTCCGGCGATCGTGGCCGTTCAAATTTCCG GCGTAACCGCCGATTCGAAGCAACTGGAGTGAGTTGCAGAGGACAGAATCCGGCTAACGAGCCACAGACAAGTAAAGGAGCCGAGCCGGAGAAT GTTCTACTCAAATTCGCTTGGTACGGATCCGAGCTACTCGGAATCGCTGCTTCCGCTTTCCGATCTCCGGCGTCTCCTCCTCCTCCGACTGTGACA GGATTTGAGGTTCCTGTTGATTGTTCGGGACGAGCCGTTCGTGTAGCCGTCGTGGATTCGATCAAACAAGACTTCAAGCGATCGTATTTCGTCACAG GGAACTTGACGCCGGAGGTTTACGAGGAGAAGTGCGAATTCGCCGATCCGGCTGGTTCTTTCAAGGGTCTTACTCGTTTCAAAAGGAATTGCACTA ATTTCGGAACCTTAATTGAGAAATCGAATATGAAGCTCATGAAATGGGAAAATTTCGAGGATAAAGGAGTCGGGCATTGGAAATTTAGCTGTGTCAT GTCGTTTCCATGGAAACCCATTCTTTCAGCAACTGGTTACACGGAGTATTACTTCGACACAGAGTCCGGGAAAATTTGCAGACACGTGGAGCATTGG AATGTCCCTAAGATTGCTCTGTTCAAGCAACTTCTGAGACCCAGCCGTGGATTAATGGGGACACAAAACTAGCCCGATGAAGAAAATGATGATGTCA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003J22	AT5G62530.1	ALDH12A1 (Aldehyde dehydrogenase 12A1); 1-pyrroline-5-carboxylate dehydrogenase/ 3-chloroallyl aldehyde dehydrogenase	GATCAGGGGAAACCATTTACTCCATTTTATAAGCCACAAACCAAATCACATAATTTTACAAATCTCGAATCCTCAAAACGTCTGATTTCATCTTTCTCC GTCTCTTCTGGATCTTACGCAATGTACAGAGTTTTGGCGAGCCGAGGACTGAGAGCTAAGTCTCTCCTCTGTGACAAATCCGCGAGCTTCCTTGGTT CTTTGACCTTTTCCAGATTGAATCATTCCTTACCTTTTGCTACCGTAGATGCCGAGGAGCTATCGGGTGCTCATCCTGCTGAAGTACAGAGCTTTGTG CAGGGAAAATGGATAGGATCGTCGAACTATAACACGCTTCTGGATCCTCTTAATGGAGAACCGTTCATTAAAGTTGCTGAAGTGGAGGAAACAGGAA TTCAGCCATTTGTTGAGAGCTTATCGCAGTGCCCGAAACATGGTCTGCACAACCCTTTCAAATCTCCAGAGAGATACCTCTTATATGGGGATATCTC GACAAAGGCAGCTCATATGCTTGCATTACCTAAGGTATCTGATTTCTTCACGAGATTAATTCAAAGGGTTGCTCCAAAGAGTTACCAGCAAGCTGCT GGAGAAGTCTTTGTCACACGGAAGTTTTTAGAGAACTTCTGCGGTGATCAGGTGCGGTTTCTGGCACGGTCTTTCGCAGTACCTGGGAATCATCTTG GGCAGCAAAGTCATGGATACCGTTGGCCTTATGGTCCTGTAACGATTGTTACACCATTCAATTTTCCACTTGAGATTCCGCTACTTCAGTTGATGGG GGCTCTATACATGGGTAACAAACCTCTTCTTAAAGTGGACAGCAAGGTGAGCATTGTAATGGAGCAAATGATGCGATTGCTTCATCACTGTGGTTTA CCCGTTGAAGATGTTGACTTTATAAATTCAGATGGGAAGACTATGAACAAGATATTGTTAGAGGCGAATCCAAGGATGACCCTCTTCACGGGTAGCT CTAGAGTAGCAGAAAAGTTGGCACTTGACCTTAAGGGTCGGATCAGACTGGAAGACGCTGGATTTGATTGGAAAGTGTTGGGACCAGATGTTCAGG AGGTTGATTACGTTGCATGGGTGTGTGATCAAGATGCCTACGCGTGCAGTGGACAGAAGTGTTTTGCACAGTCTATGCTTTTTATGCACGAGAACTG GTCAAAAACCCCTCTTGTTTCCAAATTAAAAGAACTTGCCGCAAGACGCAAACTGGAAGACTTGACCATTGGTCCTGTCCTAACATTCACAACGGAG GCAATGTTGGAGCACATGGAGAATCTGCTTCAGATTCCGGGATCAAAGCTACTCTTTGGTGGGAAGCCATTGAAGAATCATTCAATTCCTTCAATCT ATGGAGCTTTGGAGCCTACTGCAGTTTATGTTCCGATTGAAGAAATCTTGAAGGACAGTAAAACCTACGAACTCGTCACCAAAGAAATCTTTGGACC GTTTCAGATTGTAACGGAATACAAAAAAGATCAACTTCCTCTAGTGTTGGATGCTTTGGAGAGGATGCACGCTCATCTAACTGCAGCTGTTGTTTCAA ACGATCCCATCTTTATTCAGGAAGTGATAGGGAACTCGGTGAATGGAACTACATATGCTGGCCTCAGAGGACGAACAACTGGAGCTCCTCAGAATC ACTGGTTTGGACCAGCGGGGGACCCGAGAGGAGCTGGGATAGGGACACCGGAGGCTATAAAGCTGGTTTGGTCATGCCACAGAGAGATCATCTAT
GCT-003J23	AT5G57900.1	SKIP1 (SKP1 INTERACTING PARTNER 1)	GCGAGAAAGCAACAATTTTTATGGACGAAGACGGGTCTGATTGGGGCGGATTGGCTCCGGAGATACTCACCAATATCATTTCAAGGCTGACAATTC AAGAGCGATAGACGGGACCGATGTTGGTCCGGAAATCGTGGCTAACCGCTTGCAGAGATCCGTACCTCTGGACCATCTTCGATCTGGAGCCATGG TTCGAGTCATATCCCGACTCGGCTCGCTTGTGGACCCCTGACTTCGAGGGGAAAGTAGACTCAATGCTCCGATCAGTCGTTGATTGGAGCGACGGA GGTCTCACCGAGATCCGCGTCCGCCATTGCAGCGACCACGCTCTCTCTTACGCTGCCGATAGATGCCCAATTCTCCAGTTTCTCGCCGTAAGAAGC TGTCGTAACGTGACAGACGCATCGATGACGAAGATAGCGTTTCGGTGCAGGAGTCTAAAGGAAGTCGACATCAGTTACTGCCACGAAATATCTCAC GACACGCTTGTGATGATTGGTAGGAACTGTCCCAATCTCAGGACACTGAAACGCAATCTTATGGATTGGTCAGATTCTTGTCGACGCGTCAGCTCTG TTCCTACAGAGTACCTAGACGCTTGTCCTCAAGACGGCGACACAGAAGCTGACGCGATCGGAAAACACATGATCAGTCTAGAGCGTTTGGAGATTC AGTGCTCTAGATTATCTGTCAAGGGACTCGCTTCTATATGCGAGGGTTGTCCAAAGCTAGAATACTTGGACTTGTTTGGCTGTGTGCATCTGTCAAG CCGTGACATAGCAAACAACGTGTCAAGGCTCAAGTGGCTTAAGGAGGTGAAGAAGCCAGATGTGTATGTGCCAAGGTCTGGGGATGTGGCTCAGA CGGAGAGATACGGACACTGGAGACTTTATGATGAGAGATTTGACATACAAGCCATGAGGATCTGATTTTCTTACACAAAGCATGTTCTGTAATAAAG
GCT-003J24	AT5G41340.1	UBC4 (UBIQUITIN CONJUGATING ENZYME 4); ubiquitin-protein ligase	GACACATTTTTCTTCATTTCCACTCGAATCCGAAAGAACCAGAAAAAAAAAACCCAGAAAAGAAGAAAATCAGAGAAATTAAGCGAACCCAGAAAAAA AAGATGTCTTCCCCAAGCAAACGCCGAGAAATGGATATGATGAAGCTGATGATGAGCGATTATAAAGTGGAGACGATCAACGATGGCATGCAAGAG TTCTTTGTTGAATTCAATGGACCCAAAGACAGTCTGTATCAAGGAGGTGTGTGGAAGATAAGAGTTGAGCTTCCAGATGCTTATCCTTACAAATCTCC ATCTGTTGGTTTCATTACTAAGATTTATCACCCAAATGTTGATGAACTGTCGGGTTCTGTTTGTTTAGATGTGATCAATCAGACTTGGAGTCCAATGTT TGACCTTGTGAATGTGTTTGAGACATTTCTTCCTCAGCTTCTTCTGTATCCAAACCCATCAGATCCATTGAATGGAGAAGCTGCTGCACTGATGATGC GTGATCGTCCTGCGTATGAACAGCGAGTTAAAGAATACTGTGAGAAGTATGCAAAACCAGGGGAAGGTTCAGAAGATAAGTCCAGCGATGAAGAAC TAAGTGAAGAGGAATTTGGTTCTGATGACGATGAAGATGATGATGATGATGTTGCAATTGCAGGCAAACCAGATCCTTGAACCGGGATTTGGTAGGG GACGACTTGTTTTATGTATATGATCGATCATGAATATTTTATTTATGCTTATAAGTTACTGAACTGTGAAATCTCCCGTTGTGTTTGTTTACCTGTTTTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003K01	AT2G37640.1	ATEXPA3 (ARABIDOPSIS THALIANA EXPANSIN A3)	GGCTCTATCGAATACACACTTCTCTCTCTTTCTTTCTCACTTTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCTCACTGTCTCGA TGGCGGCGACTGCGTTTGGGATTCGCTTCTTGTGGTTGGCCGTTACGATTTCCTTTCTGTTAGCCGCTACAAACGCCAAAATCCCCGGCGTTTACAC CGGCGGCCCATGGCAAAACGCACACGCCACTTTCTACGGCGGCAGCGATGCTTCCGGCACCATGGGCGGCGCGTGTGGTTACGGGAATTTATAC AGCCAAGGATACGGTGTGAACACGGCGGCGCTGAGTACCGCTCTGTTCAACAACGGCTTTAGCTGCGGTGCTTGCTTCGAGATTAAGTGTACGGA CGACCCGAGGTGGTGTGTCCCGGGAAACCCGTCGATTTTCGTGACGGCGACCAACTTTTGTCCGCCGAATTTCGCACAGCCGAGTGACGACGGAG GATGGTGCAATCCGCCGCGAGAGCACTTCGACCTCGCCATGCCGATGTTCCTCAAGATTGGTCTGTATCGCGCCGGCATTGTCCCCGTCTCTTACC GCAGGGTACCTTGTCGGAAGCTAGGAGGGATAAGATTCACAGTAAACGGATTCAGATACTTCAATCTCGTTTTAATAACTAATGTCGCCGGCGCCG GAGACATTACCGGAGTGAGCGTCAAGGGTTCAAAGACGGATTGGGTGAGGATGAGCCGGAACTGGGGACAGAATTGGCAGTCCAATGCCGTACTC ATCGGCCAATCTCTCTCTTTCCGAGTCACCGCCTCCGATCGCCGTTCCTCCACCTCCTGGAACGTCGCTCCTGCCACGTGGCAGTTTGGTCAGACT TTCTCCGGCAAAAACTTCCGAGTCTGAACTATAAGATCAACGGTCTCATTTAATGAAAACACCAATACTCAGATGTCATTGTTATTTCCTTTTTAAAAC TTTTAATATGAGAGATAAAGGAAAAGCAATTTTCCCGCCCTGGGTTTTCTCTAAATTTTCTTGGGAAAATTTCTGGTGGCTTTGGGAAAATGTTTCCTT TTTTTTGTTTTAGGAAGAGGATTCCTTTTAATGTTTGTGATTGCGAATTTGCAAGTGATTTGTTTTGTTTGTTTGTTTTTTTATCGTTTTGTTGTTATGGC
GCT-003K02	AT2G33150.1	PED1 (PEROXISOME DEFECTIVE 1); acetyl-CoA C-acyltransferase	GGTGTAGAATCAAATCCTTTCGAAGAAAACAGATCGAATTTATCTTAATCGGCATAGAAAAAATGGAGAAAGCGATCGAGAGACAACGAGTTCTTCTT GAACATCTCCGACCTTCTTCTTCTTCCTCACACAGCTTTGAGGGCTCTCTATCTGCGTCTGCTTGCTTGGCTGGGGACAGTGCTGCATATCAGAGGA CTTCTCTTTATGGAGATGATGTAGTGATTGTCGCGGCACATAGGACTGCACTATGCAAGTCGAAACGTGGCAACTTCAAGGATACATATCCGGATGA TCTTCTTGCACCTGTTTTGAGGGCATTGATAGAGAAGACAAATCTAAACCCAAGTGAAGTTGGTGACATTGTTGTGGGTACTGTTTTGGCACCGGGA TCTCAGAGAGCCAGCGAATGCAGGATGTCTGCTTTCTATGCTGGTTTCCCTGAAACCGTGGCCGTAAGAACCGTGAATAGACAATGCTCATCTGGG CTTCAGGCTGTTGCAGACGTAGCTGCTGCCATAAAAGCTGGATTTTATGATATTGGTATTGGGGCTGGATTGGAGTCCATGACTACCAATCCAATGG CATGGGAAGGGTCGGTCAATCCAGCGGTGAAGAAGTTTGCACAAGCCCAGAATTGTCTTCTTCCTATGGGTGTTACTTCAGAGAATGTAGCACAGC GTTTTGGTGTCTCAAGGCAGGAGCAAGATCAAGCTGCTGTTGACTCTCACAGAAAGGCAGCTGCTGCTACGGCTGCTGGTAAATTCAAGGATGAAA TTATTCCTGTTAAAACCAAGCTTGTTGACCCAAAGACAGGTGATGAGACACCCATTACAGTTTCTGTTGATGATGGGATCCGACCGAGTACAACTCTT GCTACCCTTGGGAAGCTGAAGCCCGTGTTTAAGAAGGATGGAACCACAACTGCTGGAAATTCCAGCCAAGTAAGTGATGGTGCAGGAGCTGTTCTC CTCATGAAGAGAAGTGTTGCAATGCAAAAAGGACTTCCCGTTCTTGGTGTATTCAGGACATTTGCTGCAGTTGGTGTTGACCCAGCAATCATGGGTA TCGGTCCAGCAGTTGCCATTCCTGCTGCAGTTAAGGCGGCTGGCTTAGAGCTGGATGACATCGACTTGTTTGAGATCAACGAGGCATTTGCATCTC AGTTTGTGTATTGCCGTAACAAATTGGGACTTGACGCAGAGAAAATCAATGTCAATGGAGGCGCAATGGCCATAGGACATCCTTTGGGCGCTACAG GAGCACGTTGTGTTGCTACTTTGTTGCACGAGATGAAACGCCGTGGAAAAGACTGCCGTTTTGGGGTAGTGTCAATGTGCATTGGGACGGGAATGG GTGCAGCGGCTGTATTTGAGAGAGGAGATGGAGTTGATGAGCTTCGCAACGCCAGGAAAGTTGAAGCGCATGGCCTTTTGTCCAAGGATGCTCGTT
GCT-003K03	AT1G59700.1	ATGSTU16 (Arabidopsis thaliana Glutathione S-transferase (class tau) 16); glutathione transferase	GAAGAAAATAAAGAAAAAGAAAAAGAAAATGGGAGACAAAGAGGAAGTGAAACTGTTGGGAACATGGTACAGTCCGGTGGTGTTAAGAGCAAAGAT CGCTCTTCGTCTCAAATTGGTTGATTACGATTACGTTGAAGAAGATCTTTTCGGATCCAAGAGTGAGCTTCTTCTCAAATCGAACCCGGTTCACAAGA AAGTCCCGGTCCTCATCCACAATAATAAACCGATTTCCGAGTCTCTCAACATCGTTCAATACATCGATGAGACCTGGAACTCATCTGGACCATCCATT CTTCCTTCACATCCTCATGATCGCGCTCTAGCTCGCTTCTGGTCTGCCTTCGTTGATAACAAGTGGTTTCCGGCGTTAAGAGCGGCGGCGATTACGA AATCGGAAGACGCGAAAGCAAAAGGTATGGAAGAAGTAGAAGAAGGGTTATTGCGACTTGAGGAAGCGTTTGTTGCTCTAAGCAAAGGGAAACCGT TTTTCGGCGGTGAAGATATTGGGTTAATGGACATTTGTTTCGGAAGCTTTTTGGTTCTCTTGAAAGCTAGAGAGAAGCTTAAAGGAGAAAAGCTTTTG GACGAATCAAAAACTCCATCACTTTGTAAATGGGCTGACGAGTACTTGTCTGATGATACGGTGAAGAATGTGGTACCAAATGTTGATAAAATCGCTG AGTTTATAGGAGAGCTTGAGGTTAAAGGTCAATCTTAGGCAGCTTCGAGATCTTGAGATCATCTAAGAATTTTATTTGCAATGCAAATATGTCGAATG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003K04	AT1G75050.1	similar to ATLP-3 (Arabidopsis thaumatin-like protein 3) [Arabidopsis thaliana] (TAIR:AT1G75030.1); similar to SCUTL2 [Vitis vinifera] (GB:AAF06347.1); contains InterPro domain Thaumatin, pathogenesis-related; (InterPro:IPR001938)	GATCATCCACATCACAAACACAAAACAACCACAAAACTCAAAATCCAAAAAATGGCTAATTTCTCCAGTTTTCACGTTCTCTTATTCGTGTTCATCACA AGCGGCGTTGCTGTTTCCGCCACCGTCTTCACTTTGGAGAATCTTTGCCCTTACACCGTCTGGCCCGGAATTCTCACCGGAAACGGAGGAAAAGCC CTCGGCGACGGCGGATTGGAATTAGCTACAGACGCTTCCGTACAGCTCACGGCACCTCCGGGATGGACAGGCCGGTTCTGGGCTCGTACCGGCT GCAAGTTCGACTCAACCGGACACGGTATATGCGTCACCGGAGACTGCGGCGGCGTCCTAAAATGTGCCGGCGCCGGTGGAGTTCCACCGGTCAC TCTGGCTGAATTCACCGTTGGAGGCAAAGATTTCTACGACGTGAGCCTCGTCGACGGTTACAACGTGAAGATGGGGATAAAACCTCAGGGAGGATC CGGAGATTGCAGATACGCAGGCTGCGTCGCCGACCTAAACGCGATTTGCCCTGAAGAGCTTCGTGTCAAGGATCAGCAGAACAATGTGGCGGCGT GCAAGAGCGCATGCGCGGCGTTTAACAAGGAGGAGTATTGCTGCAGCGGAGCTCATTCGACGCCGGAGACTTGTGCTCCGACGAATTACTCGATG ACGTTCAAGAAAGCTTGCCCTAGCGCATATAGCTACGCTTATGACGACGCAACAAGCACCTTCACTTGTTCTGGTGCTAGCTACCTGATCACTTTCT GCCCCACCACTTCTTAATTATAACCGGAGATCCGATCTCCGGTTTAAGATTCGGGCCGGGTTTCTATCTCCGCGTTTTGTTTGCTTGCTATGTACGG
GCT-003K05	AT3G14560.1	unknown protein	GAGATATAATATATTCTCTTTAAGTTATAGATATAAATTTGCTCTTCTTAACAGTTTCTCGATCTCTTCTCACAAATGGAGTCTCTGCAGTATGGTTTGG ATCAAGGCATGGAGATTTTCAACGATGAGCTTATGATCATGTCGTTTTTGGAAGATGAATCGCCTGTCGAAAACCATAGTAGCGTTAACGAAGAGGA AGAAGAGAAATTAAACCGAGTCATTAGATCGCTAGAAGTTGAGATCAACATGAATTCTCCGACGACGACCATAGAATCTCGGAAAACGGATCTTCAA CAGACAAAATCCGGTCTTGAAGATGATTTCGGGTGGCTTAACGACTTTGATATTGGTGTGCTTTCGTCGCAAAATGATGATGAGATGATGAATTGGT GTACGGAACTTTCTTACATGGATAGTGTTGAGATTGAAGGTGGTGATTATTATTCTCATATTAACTATGGACTTGCATTTGAGGAACCAACTCTTTCTC TTTGGCAAGAGAATAATGATGTAGTTATGTATTGATTGATTTTGTGAATTCATAATATAACAAAGGCTGTTTCATATCAGTTAATTAACCTTTTACGTTC CTGTATGTTGTATGTATTCGTAAATGTTATCTTAATTATTAATTTAATACAGAAATATATTATTAGATTTAGAGAGAGAATGGTAAAAAATGTTCTATTAT
GCT-003K06	AT1G72770.1	HAB1 (HOMOLOGY TO ABI1); protein phosphatase type 2C	GAATATTCCCTTCTCTCTCTCTTCTTTCGCTGGTAGAGAGCCTCTCTCTAAAGCAAAAACACGAGCGATAAAAAAATCCGAGGGAGCTAGAAACGAA ACGAAACGAAAGAAGACCATCTTTACTTGTTTCTCTGTTCGTTTTTTTTATTTTTCTTTTTTTTTTCTAGATGCGAATATCTTAAGATTCAACTGGCTGAA ATCGAGATGAAGATTTTGCGAGATCAGCCAAATTGTTGGGATCAATCAAAGATAGTGGTCAAAAAACCCCAAGTGGAAAATACAGTCGCATAGATTT CGTCAGATCTGTTAATCTCCGGTACTCAATTCTCATTGATTCGTCCTCTGTTATGCTAAAGTTAAGTGTATGAATAAGCTTAGCATAATTAGTAGCGTC GCTGAGAAAACTCGAATGGAGGAGGAGTATTTCTTGAAGATCATGAGCTTAGAGGAATCCAAGAAGATGAGAAACATTGGATTGTCTTAAGAAAAAT CAAACCTTTTGAAAACTTACTTACTCTCTGTGGTTGGGAATCTCTTTATCTAGAGAGCTCATGGAAGACATGACCCCAGCAGTTGCAATGACTCTGAG CATAGCTAACTCAATATGTGACTCATCATCACCTGTTGAGATCTCTCAGCTCAAGAACGTTACCGATGCAGCTGATTTGTTACCTGATTCAGCCAATC AGAGCTGTTGCAATGGAGAGACTGATTCCACCATGGAAGATGTCTCTAAAAGCGGGTCAACAGTTGTGGATGAAGACGAGGTATTATCCGTTGTGG AGGATACTAATGCAGTCATAAACGAAGGCTTATTGGTTCTTGATCCTGGCTCTGAGTTAAGCTTGTCTGATACAGCAATGGAGATTGAAAACGGGAG AGTTCTTGCTACAGCGATCATCCTAGGAGAATCAAGCATCGAGCAGGTCCCCACGACGGAAGTCCTTATCGCTGGTGTGAATCAGGACACGAACAT AGAGAATGGTTCAGCTTCGGAGGTTGTCATTCGGTTGCCAGAAGAAAATAGTAATCATCTGGCGAGAGGGAGAAGCGTCTATGAACTGGACTGTAT ACCTCTTTGGGGCACGGTTTCTATTCAAGGTAATAGATCCGAGATGGAGGATTCTGTTGCGGTGTTACCTCATTTTCTTAAGTTACCTATCAAAATGC TTATGGGGGATCATGAGGGTATGAGTCCAAGCCTCACACACCTCACCGGTCATTTCTTCGGTGTTTATGATGGTCATGGAGGCTTTCAGGTTGCTGA CTATTGCCGAGATAGACTCCATTTTGCCTTGGCTGAAGAAATCGAGCGCATAAAAGACGAGTTATGCAAGAGGAACACAGGAGAGGGTAGGCAGGT CCAGTGGGAGAAAGTCTTCACTAGCTGTTTTCTAACCGTTGATGGTGAGATAGGAGGGAAAATTGGGAGAGTTGTTGCTGGTTCTTCTGATAAGGTT CTTGAGGCGGTTGCCTCTGAGACTGTAGGATCAACTGCTGTGGTTGCTTTGGTTTGTTCATCACATATAGTAGTTTCTAACTGTGGTGATTCAAGGG CGGTTTTATACCGTGGCAAAGAAGCCATGCCTTTATCAGTCGATCACAAACCAGATAGAGAGGATGAGTATACAAGAATAGAAAATGCTGGAGGGAA AGTTATACAGTGGCAAGGCGCTCGTGTATTTGGTGTTCTCGCCATGTCTAGGTCTCTTGGTGATAGGTATCTGAAGCCATATGTGATCCCAGAACCG GAAGTGACATTCATGCCAAGGTCAAGAGAAGACGAGTGTCTAATACTAGCCAGTGATGGTCTTTGGGATGTAATGAACAACCAAGAAGTCTGTGAAA TAGCGAGGAGACGGATCTTGATGTGGCATAAGAAGCACGGGGCACCACCTCTAGCAGAGAGAGGCAAAGGAGCAGATCCAGCTTGCCAAGCCGC GGCTGAGTACCTCTCTGTGCTTGCTCTTCAAAAAGGAAGCAAAGACAACATCTCCATTATTGTGGTTGACTTGAAAGCTCAAAGAAAGTTCAAGACC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003K07	AT4G21990.1	APR3 (APS REDUCTASE 3)	GGAAGAGAAAAACAAAAAAAAATATAAACCTCAGATCATAAAAAAAAAGACTTCGAGAAATTTGTTGTGTGGTGAAATGGCACTAGCGATCAACGTTT CTCTATCTTCTTCTGGGATCTCGAGCTCTAGCTTCCCTTCTTCAGAGCTTAAAGTATCGCAAATCGGTTCGTTGAGGCTATCGGATCGGATCAATGTC TCTGCGGCGTCTCTGAGTTTTTCCGGGAAGCGATCATCGGTGAAACCTCTAAATGTGCAGTCAATTACAAAGGAATCAATGGTTTCTCAAGCAGCTT CCATGGTTGCCTCTGAGGTTACAGAGAAACTAGATGTGGTTGAAGTGGAAGACTTTGAGGAGCTAGCAAAGAGGCTAGAGAATGCTTCACCTCTTG AAATTATGGACAAAGCTCTTGAGAAGTTTGGCAATGACATTGCTATCGCCTTTAGTGGAGCAGAAGACGTTGCTCTTATTGAGTATGCTCATCTAACT GGAAGACCCTACAGAGTTTTCAGCTTAGACACAGGGAGATTGAATCCAGAAACATACAGACTCTTCGATACAGTGGAGAAACACTACGGTATTCGAA TTGAGTACATGTTTCCCGATGCTGTTGAGGTTCAAGCTTTGGTTAGGAACAAGGGTTTGTTCTCTTTCTATGAAGATGGTCACCAAGAGTGTTGCCGT ATAAGAAAGGTGAGACCTTTGAGGCGGGCGTTGAAGGGTCTACGCGCTTGGATCACTGGGCAAAGAAAAGATCAATCACCAGGGACAAGATCAGA GATTCCTGTTGTTCAAATTGATCCAGTGTTTGAAGGATTAGATGGTGGAGCTGGTAGTTTGGTGAAGTGGAATCCGGTTGCGAACGTCGAAGGGAA CGATGTTTGGAATTTCTTGAGGACCATGGATGTTCCTGTGAACACGCTTCATGCTGCAGGGTATGTTTCCATCGGGTGTGAGCCGTGCACGAGAGC GGTTTTACCAGGTCAACACGAGAGAGAAGGGAGATGGTGGTGGGGAGATGCAAAGGCTAAAGAGTGTGGACTTCACAAAGGGAATATCAAGGAGA ATAACAACGGGAACGCAACGGCTAATGTCAATGGGACATCCACAGTTGCGGATATTTTCAAAAGCGAGAATGTTGTGAACTTGAGCAGGCAAGGGA TTGAGAATTTGATGAAGTTGGAGAACCGGAAAGAGGCTTGGATCGTTGTTCTTTATGCTCCGTGGTGCCCGTTTTGTCAAGCAATGGAGGCTTCTTT TGATGAATTGGCTGATAAGTTGGCTGGAAATGGCGTGAAGGTCGCTAAGTTTAGAGCTGATGGTGACCAAAAGGAGTTTGCTAAAAGGGATTTGCA GCTCGGAAGCTTCCCAACAATACTTGTGTTCTCAAAGAACTCTTCAAGACCAATCAAGTATCCATCGGAGAAGAGAGATGTCGATTCTTTGACATCCT
GCT-003K08	AT2G46530.1	ARF11 (AUXIN RESPONSE FACTOR 11); transcription factor	GGCAGCTCGATTTTAGCTGCTCGTTGCTTTTGTAATTGAGATTAGAAGAAAAGATTGGATTTCCTCGATGGCGAATGTAGATGTTGATTTCAGAAGAT CAGGGTCTTATGATGATCAATTGTACATGGAGCTGTGGAAAGCTTGTGCAGGGCCACTTGTGGAAGTTCCTCGTTATGGTGAAAGAGTTTTCTACTT CCCTCAAGGTCACATGGAACAATTGGTGGCTTTGACTAATCAAGGAGTCGTTGATCAAGAAATACCTGATTTTAATCTTCCTCCAAAGATACTCTGTC GAGTTCTTAGTGTCATGTTAAAAGCAGAGCATGAGACAGACGAGGTTTATGCTCAGATCACATTACAACCAGAGGAAGATCAAAGTGAACCTACAAG CCTTGATCCACCCCTAGTCGAACCTGCTAAACAATCGGTTGATTCATTTGTTAAGATTCTAACAGCTTCTGATACAAGCACTCATGGTGGATTCTCTG TTCTTCGTAAACACGCCACTGAGTGCTTGCCTTCACTTGATATGAGACAACCTACACAGACTCAAGAACTGGTAGCTAGAGATCTCCACGGCTACGA ATGGAGGTTTAAGCATATATTCAGAGGGCAACCGAGGAGGCATTTGCTTACAACGGGCTGGAGTACATTTGTAACCTCGAAAAGACTTGTAGCTGG AGATGCATTTGTGTTCTTGAGGGGTCAAACTGGGGATTTACGAGTTGGCGTGAGACGTTTAGCGAGGCAACAAAGCACAATGCCTGCATCGGTGAT CTCGAGTCAGAGTATGCATTTGGGAGTTCTTGCTACTGCTTCTCATGCTGTTAACACCAAAACTCTGTTTGTTGTCTTCTATAAGCCGAGGATAAGCC AGTTCATAATCGGCGTGAACAAGTATATGGCGGCCATGAAAATTGGATTTCCTATCGGTATGCGGTTTAGAATGAGATTTGAAGGAGAAGAGTCTCC TGAGAGAATATTTACGGGTACGATTGTTGGTACTGGAGATCTATCTTCTCAATGGCCAGCTTCGAAATGGAGGTCGTTGCAGATCCAATGGGACGAG CCATCTACGGTTCAGAGACCAAACAAGGTCTCAACGTGGGAGATCGAGCCTTTCTCACCATCCGTGCTAACCCCAACACCTACTCAACCACAATCAA AGTCCAAACGGTCCAGACCCATTAATTCATCATCAGTTTCAGTAATTCGTTCTCGAGTTTCATCTTGCATTGCAGAAATCACAGGGAGTCCTATCGCT TCTACTTTCTTGAGCCTCGACTCCAATTCATCACTCAGACTTTTGTTTCAAGATCCATCAACCGAAAGAAACTCCAACAAACCAGTGTTTCCAAGCGG ATTACAATGCAAGAAAACCGAGACTCCGGTCACAAGTTGCTGTAGGTTATTCGGATTCGATCTCATGAGCAAGCCTGCTTCTACTGCTCCAGTTCCT CCTGACAAGCTACTTATTAGTGTGGATTCAAACAATTCTGGTTCTGCCAAATGTCAAGATCCTAACTCACTGACGGAGCAGAAGCAACAAACATCCA CAAGAAGCCGAACCAAGGTGCAAAAGCAAGGAACAGCGGTTGGACGTGCGGTTGATTTAACGTTGTTGAGATCATACGATGAGTTAATCAATGAGT TAGAGAAAATGTTTGAGATTGATGGAGAGCTTAGTCCAAAAGACAAATGGGCTATTGTGTTTACAGACGACGAAGGAGATATGATGCTCGTTTGAGA CGATCCATGGAATGAGTTCTGTAAAATGGCAAAGAAGCTATTCATATATTCGACTGATGAGGTCAAGAAAATGAGCACAAAGTCGTCGTTGGATGAT GAAGGTACGATCGTAAATCTTGAGTTGGACCAGAGGACAGTTTACCTATAATTATGAAGTTCTTGAATTTTTTTTTTTTTTTTTATCTATGTTGGATTC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003K09	AT4G22100.1	glycosyl hydrolase family 1 protein	GGTTTTATCGGGTCATTTCAACTCACCGTACTCCCTCTCACACTGGATTATTCTTGGATTCATTTCAACACACTTGTCAGTGTCGCTTTGCTTTTGAAT CCACGCTGAATATTGATACAGACAACAAGTGTTTGATTCTTCGTAAACTTCTCTCGCGAGACTAGTGTTCTTTGACACCAAAATCATGGTGCGTATAG AGACAGAAATAGAGAAATGGAACGAAGTTTGTCTCTGATCACCATTTTTCTGGTTCTCGCTTTGTCTGGAAGATGCAGCTGCGATGTCAATCTTTTCA GCCGGAACGATTTCCCCGAGGGCTTCGCTTTCGGATCCGCAACTTCTGCTTATCAGTGGGAAGGAGCTGTTAGTGAAGATGGGAAAAAGCCTAGCA TCTGGGACACTTTCCTTCACCCTCGTAACTTGGAAAATGGAGACATAGCTTGTGATGGGTATCACAAGTACAAGGAAGATGTGCAGCTGATGGTGGA AACTGGCTTAGATGCGTTCAGATTCTCCATCTCTTGGTCTAGGCTTATACCGGAGGTCTTGTTAACCCAAAGGGTCTTCAGTTCTACAATAACTTCAT CCAAGAACTTGTAAGCCATGGAATCGAACCACATGTTACACTGTACCACTACGACCATCCTCAGTACATAGAGGATGACTATGGAGGATGGATCAAC CGCAGAATCATCGAAGACTTTACTGCTTATGCAGATGTTTGCTTCAGAGAGTTTGGTTCTCGCGTCAAATTTTGGACCACGATCAACGAGGCTAATG TATTCACTATTGGAGGTTATAACGATGGGACTACACCGCCTGGTCGTTGCTCCTCACCGGGCAGAAACTGCTCGTCAGGGAACTCTTCGACTGAAC CATATATCGTAGGCCATAACTTGCTGCTTGCGCACGCCTCTGTTTCAAGACTATATAAGCAAAAGTACAAGGAAAGGCAAAGAGGTTCTGTAGGCTT TAGCTTATTTACAATAGGGTTTACTCCTTCTACAAGCTCCAAAGATGATATCAATGCAATTCTTAGAGCCAAAGATTTCTTCCTCGGCTGGATGCTTGA GCCTCTTATATTTGGAGACTATCCGGATGAAATGAAAAGAACCGTTGGTTCAAGACTACCAGTTTTCTCAGAGGGAGAGTCAGAACAAGTTAAAGGC TCATCTGACTTCATAGGAATCATTCACTATCTTGCGGCGTACGTCACAAACATCAAATTCAAACCTTCTCTTTCAGGGAACCCGGATTTCTTCTCAGA CATGGGCGTATCTGTGACTTGTCGGAATCAATACTCCTCTTTTTGAATATGAAAACAAACTCTTTGTTCGTTTATCTCGATATTTTTGTTTTTGCTAATC ATCTCTTCTTCGTGTTACTGCTTCGAGGGACAGTCCTTGGGAATTTTACGGCTTTCGAGTATGCTGTTGCTCCATGGGCTATGGAAAGTGTCTTGGA GTATATAAAGCAGAGTTATGGCAATCCTCCTGTCTACATTCTTGAGAATGGTAGACCGATGAAACAAGATTTGCAGCTGCAAAAGAAGGACACTCCA AGAATTGAGTACTTACATGCTTACATTGGTGCGGTGCTAAAATCCGTTAGGAATGGATCAAACACGAGAGGCTATTTCGTATGGTCATTTATGGATTT ATACGAGTTACTGAGAGGATACGAGTTTAGTTTTGGATTGTACTCTGTGAATTTTAGCGATCCTCATCTCAAGAGATCTCCAAAGGCCTCTGCTCATT
GCT-003K10	AT2G25070.1	protein phosphatase 2C, putative / PP2C, putative	GAAGTGGTTGGTCCCTTTCCCTTTCTCGTCCCGATTCTTCTCCTAACTCCAGAATTTGGTCTCCAAGATCTGAAAAGTACCTTCCTTTTTACTCAGAG ATAAAGAGATGGGTACATACTTAAGCTCTCCAAAAACTGATAAGTTATCAGAAGAAGGCGAGAATGATAAGCTGAGATATGGTTTATCGTCTATGCAA GGTTGGCGTGCCACCATGGAAGATGCGCATGCTGCAATTCTTGATCTGGATGATAAGACATCTTTCTTCGGTGTTTACGATGGCCATGGAGGTAAA GTTGTAGCAAAGTTCTGTGCCAAGTATCTACACCAGCAGGTTCTCAGTAATGAAGCATATGGAGCTGGAGACATAGAAACATCTCTTCAAAGAGCAT TTTTTAGAATGGATGACATGATGCAAGGACAGAGAGGATGGCGAGAGTTAGCTGTACTCGGTGACAAGATGAATAAATTTAGCGGCATGATAGAAG GATTTATATGGTCACCAAGAAGCGGTGACGTCAATAACCGGCCTGATAATTGGCCTCTTGAGGATGGTCCTCATTCTGATTTCCCGGGACCTACTTC CGGGTGCACAGCATGTGTAGCTCTTATTAAAGATAAGAAACTCTTTGTTGCAAATGCCGGTGACTCACGTTGTGTGATATCAAGGAAGGGTGAGGCT TACGATCTTTCTAAAGATCACAAGCCTGATCTTGAAGCTGAAAAAGAAAGGATACTGAAAGCTGGTGGTTTTATTCACGCTGGGAGAATCAATGGAA GCTTGAATCTGACAAGAGCCATTGGTGACATGGAATTCAAACAGAATAAGTTCTTACCATCTGAAAAGCAAATGGTTACTGCCGATCCAGATATTAAC ACTGTTGAACTATGTGATGATGATGACTTTCTTGTTGTTGCATGTGATGGAATCTGGGATTGTATGTCAAGCCAACAACTGGTGGATTTTATCCATGA ACAGCTAAAATCTGAAACAAAACTTTCGACCGTATGTGAAAAAGTTGTTGATAGATGTTTGGCTCCAGACACTGCGACTGGCGAAGGTTGTGATAAT ATGACCATCATCTTGGTTCAGTTCAAGAAGCCTAACCCATCCGAGACCGAACCAGAAGAAGAAACCAAACCAGAACCAAGCCAGGATGGGCCGAGC TCATCAAGCTAGATGTTCTTAAAGAGCCAAGAGGAAGATTTGAAAGTATCTTATATCATTGACTTTGGTTCAATATTGTAAATGCTTTTGAGTGGCTTA GAGAAGCAGAAGCTGGCGTTTTATTGGAATATCCAAGCTTCTCTTTACTCACACAGACTAAACTCTGTTTCATCGGTTCTGGTAATCAAAAACGACTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003K11	AT4G33950.1	OST1 (OPEN STOMATA 1); kinase/ protein kinase	AACGAGAGCTGATAGAGAGACACTGAGCTCACGATCACGAGCTTTTCTTCCTTCTTCTTCATAAATCATCCATCTTTGAATAAAATAAAAAAAGACAG CGATCAAAGACACAAAAAAGGATCTCAAGAAACCCACTTGTTGTTGGTTAGAGAATTCACGGGTCTCTCAAAATCTATCTCTGAAAAGTCTCTTTCCC ACACCCATAACTTCATCATCATCATCATCATCACCCACTACTCTTTCCCAATTTCAACGGCCCAAATTCCTCCACGTCATAGTCGCTCATTTTCTCAGA TGTAATGTCGAGTCTCTGTTAGATATCTCCCAGAAAAACCTGATCTGATCAAATTGAAGTCGCAGAGAGGAAAGGGAAAAGAAAAATGGATCGACCA GCAGTGAGTGGGCCAATGGATTTGCCGATTATGCACGATAGCGATAGGTACGAGCTCGTTAAGGATTTTGGGTCTGGTAATTTCGGAGTTGCAAGA TTGATGAGAGACAAGCAAAGTAACGAGCTTGTTGCTGTTAAATATATCGAGAGAGGTGAGAAGATAGATGAAAATGTAAAAAGGGAGATAATTAACC ACAGGTCCTTGAGACATCCCAATATCGTAAGATTCAAAGAGGTCATATTAACACCAACACATTTGGCCATTGTTATGGAATACGCATCTGGAGGAGA GCTCTTTGAGCGAATCTGCAACGCAGGCCGGTTCAGCGAAGACGAGGCGAGGTTTTTCTTCCAGCAACTCATATCAGGAGTTAGTTACTGTCACGC TATGCAAGTATGTCACCGAGATTTGAAGCTCGAGAATACGTTATTAGATGGTAGCCCTGCACCTCGTCTAAAAATTTGTGATTTTGGATATTCTAAGT CATCAGTGTTACATTCCCAGCCAAAATCAACTGTTGGAACCCCTGCTTACATTGCGCCCGAGGTTTTGCTAAAGAAAGAATATGATGGAAAGGTTGC AGATGTTTGGTCTTGTGGGGTAACTCTGTATGTTATGCTTGTTGGAGCATATCCTTTCGAAGATCCAGACGAGCCTAAGAATTTCAGGAAAACAATAC ATAGAATCCTGAATGTTCAGTACGCTATTCCGGATTATGTTCACATATCTCCTGAATGTCGCCATTTGATCTCCAGAATATTCGTTGCTGACCCTGCA AAGAGGATATCAATTCCAGAAATAAGGAACCACGAATGGTTTCTGAAGAATCTACCAGCAGATCTCATGAATGATAATAACGCGATGAATAGCCAGTT TGATGAATCGGATCAACCTGGTCAAAGCATCGAAGAGATCATGCAGATCATTGCAGAAGCGACTGTTCCTCCTGCAGGCACTCAGAATCTAAACCAT
GCT-003K12	AT3G11900.1	ANT1 (AROMATIC AND NEUTRAL TRANSPORTER 1); amino acid permease/ amino acid transporter	GGTACGTCTCCTTAAAAACAAAAATAGAAGAAAAACAAAAAACAAGAGGAGTGAATCTCGGCGATGGCGATCAAGGACCTGGCGGCGAACGACGAT TCATCTCTTCCTCTGATAAAATCTCCGCCGTCTACAACGACCGGAGACAGAACCACGGCTCTTCAGACGCTCGGAAACATTATCGTCTCCATCGTCG GTACAGGCGTCCTTGGGCTCCCTTATGCTTTCCGTGTCGCCGGATGGTTCGCCGGATCTCTCGGCGTTATTATCGTCGGATTCGCCACCTATTACT GCATGCTCCTCCTCATTCAGTGCAGAGACAAGCTCGAATCGGAAGAAGGAAAAGAAGAATCAAAGACATATGGTGATTTAGGATTCAAATGTATGGG AACAAAAGGTCGATACCTAACCGAATTCCTCATATTCACTGCTCAATGTGGTGGATCAGTAGCATATCTAGTGTTCATAGGCCGAAATATGTCGTCGA TATTCAAATCATGTGGATTAAGTATGGTCTCCTTCATCTTGATCCTGGTTCCAATCGAGGCTGGACTGTCTTGGATCACTTCTTTATCAGCTCTCTCG CCTTTCAGCATCTTTGCTGATATATGCAATATCATAGCAATGTGTTTCGTTGTGAAAGAAAACGTGGAGATGGTGATCGAAGGAGACTTCTCGTTTGG TGACAGAACAGCCATTTCGTCTACCATTGGAGGCTTACCGTTTGCTGGAGGAGTTGCAGTGTTCTGTTTTGAGGGTTTTGCGATGACGTTGGCTCTT GAAGGTTCTATGAAGGAGAGAGAAGCTTTCCCTAAGCTGTTAGCTAAAGTGCTTGCCGGGATTACGTTTGTCTACGTGTTGTTCGGTTTCTGCGGTT ATATGGCTTACGGCGATGAAACAAAGGATATCATCACACTTAACCTCCCAAAGAATTGGTCTGCCATTGCCGTGCAGATTGGCTTATGTGTGGGATT GACGTTTACATTCCCCATCATGGTACATCCGCTTAACGAGATCATAGAGCAGAAACTGAAAAGGATTGATTGGCTTCAAAAGCATCATCATCATCAGC AGCAGCATCAGTACAGCAACGAAACAGTTTCAGTGTCAAAATATGTAATCTTGATCACGAGGACGCTTTTGGTGGTAGGACTGGCAGCAATCGCGTC ATTAGTGCCGGGCTTTGGCACATTTGCATCTCTGGTTGGAAGTACTCTGTGTGCACTCATATCATTTGTGTTGCCGGCTTCTTATCACCTCACGCTG
GCT-003K13	AT3G63030.1	MBD4 (methyl-CpG-binding domain 4); DNA binding	TGTAAGCAGTGAACCAAATCAACACTTTGCTTTTCTGACGAAAATCCATTCTTCCGGTTTTGTTGTTTTTGTTTTCGTACCTTGTGATTTTGGGTCAAT TGCATGCATTTTGCATGTTGTTATAATCTCTGTAGATCTCAGATCTCTTTAGTAATGATGGAGAAAGTTCATGCTTTTCAATTTTATGGGGTCACGATT TGTGGGTACTTAAAGTAAAGAGGGCTTTTCTGTGTGAGTGAGTGCATCTTGGTAATTCTTTTAGGCTCCATGTTCGTTGCCCTTTTAGTCTCGATTGA AAGCATCATCGATGTTATTTTTGGTAATCAACACGGATTCTTTGGCCTTTTGGTATTTTGCAAAGTTTCATCTCCTTTCCTTTGATTCGGATGATTGTC ATTCTCTTCCTTTTTACTCTCCAAGTGTTGTGATTGTCTTTTTGTCTCACTGAGGCTAAATTGCAGAAAGACGTTGCTCCAGGGAGGTTGATCGATAC CTTTGCGGCACAATGCGAAAAGTGTCACAAGTGGAGGGTGATTGATAGCCAGGAGGAGTACGAGGATATCAGAAGTAGAATGCTCGAGGACCCTTT TAGCTGCGACAAGAAACACGTGTCCTGTCAAGACCCCGCAGATCTTGACTACGATTCCTCTCGAACATGGGTCATCGACAAGCCTGGTCTGCCCAA AACCCCCAAAGGTTTCAAGAGGAGCTTAGTTCTGAGAAAAGACTACTCTAAGATGGATACTTACTATATAACTCCAACCGGGAAGAAGCTGAGGAGT CGCAATGAAGTCGCATCCTACGTTGAAGCCAATCCAGAATTCAAGAATGCACCGCTTGGAGACTTCACTTTCACTGTCCCAAAGGTGATGGAAGACA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003K14	AT3G50060.1	myb family transcription factor	GGACTTTCTTCTTCCTCCTCCTCCTTCAGCAACAAAAACTAATTCGAAAAAAACTCTCTTAAAAGATCCGATTCGATTCAATGGCGGATCGGGTT AAAGGTCCGTGGAGCCAAGAGGAAGACGAACAGCTAAGGAAGATGGTGGAGAAATACGGACCGAGGAACTGGTCGGCGATTAGCAAATCGATTCC TGGTCGATCTGGTAAATCGTGTCGATTACGTTGGTGTAATCAGTTATCTCCGGAGGTGGAGCACCGTCCGTTCTCGCCGGAGGAAGACGAGACGAT CGTCTCCGCTCGAGCCAAGTTCGGTAACAAATGGGCGACAATCGCTCGTCTTCTCAACGGCCGTACGGACAACGCCGTGAAAAACCACTGGAACT CGACGCTCAAGCGGAAATGCGGCGGCGGAGGTGGAGATGTTAGCTTCGCGACGGCGACGACGACGGAGGAGGATCAGGATCGGCCGAAGAAGA GGAGATCCGTGAGCTCTGAGTCTGCTCCACCGGTGGACACTGGATTGTATATGAGCCCGGAGAGTCCCGCCGGGATTGACGTCAGTGACTCAAGC ACGATTCCATCTCCTCGGTCTCCGGTTGCTGCTCAGCTTTTCAAGCCAATGCCGGTGACCGGCGGATTCACGGTCTCGCCGGTAGAAATGTCTTCG TCTTCGGAGGATCCGGCAACTTCGTTGAGCCTGTCACTGTCACTGCCTGGATCTGACGCTAGTCAGGAGTCGAAGAACACGAGTTCGAGCCACAG CAATTTGCTGTTTCCGCGATTTGAGAGTCAAATGAAAATCGATGTAGAGAGGAGAGGAGAAGCAGTGGTGGTCGGACGAAGAGCTGAGTTTATGAC GGTGGTGCAGGAGATGATAAAGGCGGAAGTGAGGAGTTACATGACGGAGATGCAGAAAAATAGCGGCGGCGGTGGATTCGTCGTCGGAGGTTTC
GCT-003K15	AT5G65380.1	ripening-responsive protein, putative	GGAAAATTGTTTTAATTCCAAAATTAATGTAAAATACAGGAAAAAGCAAAATTAACACACACTACTTTTCTCTCGCCTCCACCTTTCTCCACACTCCTTT TGATTTGCTAATATTTCATCCGCTAAAGAAAGACCAAAAGATTAACGATGAGAGGAAGAGAAGGAAAAGAAGAGTCGGAGTCGAGGATTCCACTGTT GAAAGGCCCTCACACGGCGGAGGAAGACGGTGGAGAATTGAAGAAGAGAGTTTGGGTTGAGACAAAAAAGCTATGGCGAATCGTTGGTCCTGCTA TGTTCAGTAGATTAACAACAAACTCGATACTTGTAATAACTCAAGCTTTCGCTGGACATCTCGGAGATCTCGAACTCGCCGCAATCTCCATCGTCACT AACGTCATCCTCAGCTTCAACTTCGGCCTCTTGCTTGGAATGGCGAGTGCGTTGGAAACGCTGTGTGGACAAGCGTTTGGAGCGAAGAAGTATTAC ATGTTGGGAGTTTACATGCAGCGTTCTTGGATTGTTCTCTTTTTTGTTGTGTCTTGTTGTTGCCGACTTATCTTTTCACAACTCCGGTTCTCAAGTTTC TCGGCCAACCGGACGATATCGCTGAGCTTTCCGGTGTCGTTTCCGTTTGGGCCATCCCTCTCCATTTCGCCTTTTGTTTGGCTTTACCGCTTCAACG TTTCCTCCAGTGCCAGCTCAAAAACCAAGTGACTGCGTTTTCAGCTGCGGTTGCATTGGTGGTTCACATATTAACGTGTTGGTTGTTCGTGAGTGGG CTTAAACTCGGAGTGATGGGGACTATGGCCACGGTTGGTATATCTTGGTGGGTCAGTGTTCTTATTCTATTAGCTTACTCCACTTGCGGTGGCTGTC CACTTACTTGGACTGGCTTCTCCTCCGAAGCCTTCACTGGACTTTGGGAGTTTCTCAAACTCTCTGCTTCTTCTGGCGTCATGCTTTGTTTGGAGAAT TGGTACTATCAAATTTTGGTAATAATGACTGGAAATCTTCAGAATCCTCGAATTGCCGTTGACTCTCTGTCTATATGCATGACGATAAATGGCTGGGA GATGATGATTCCTCTTGCTTTCTTCGCCGGGACCGGTGTACGTGTGGCGAACGAATTAGGAGCAGGTAATGGAAAAGGAGCAAGATTTGCGACGAT TGTATCAGTGACTCAGTCGTTAATAATCGGATTATTCCTTTGGGTGATAATAATGCTTTTTCATAACCAAATCGTTTGGATCTTCTCTTCAAGTGACGC GGTCTTAACGGCCGTTAATAGACTTACCATTCTGTTAGCTTTTACCGTTCTTCTTAACAGCGTTCAACCGGTTCTTTCCGGTGTCGCGGTTGGGTCG GGTTGGCAATCCTACGTGGCATATATAAACTTGGGATGTTACTATTGCCTCGGAGTTCCATTTGGGTTTTTAATGGGCTGGGTTTTTAAATTCGGCGT
GCT-003K16	AT3G02790.1	zinc finger (C2H2 type) family protein	GGGAGCACAACTAGGGTTAGGGTTAGGGGTTCGCCCTTCCTGCGAGATCGTCGCTCCCAGAGAAGTCGCCATCGAGGATGACTGGTAAGGCGAA GCCGAAGAAGCATACGGCGAAGGAGATCCAAGCTAAGATCGATGCTGCGTTGACCAACAGAGGCGGAGGAAAGGCGGGAATCGCTGATAGGACC GGAAAAGAGAAAGGTGGTCACGCTAAATACGAGTGTCCTCACTGCAAAATTACAGCTCCTGATCTCAAGACGATGCAGATCCATCACGAATCCAAG CATCCGAAGATCCCTTACGACGAATCCAAGCTCGTTAATCTCCATGCTGTTTTAGCACCAGTTGCTGAGGCGAAGCCTAAACCTGGCATTAGGGGAA GCTTGAAGAAATAATTCAATCTCCTTCAAAATTTGTGATATTTTGGTTTCGAATATTATGAACTCTTGTCCCAATCCATCATGTTGATGACCCTTATGG
GCT-003K17	AT5G10750.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT5G24990.1); similar to Os10g0455900 [Oryza sativa (japonica cultivar-group)] (GB:NP_001064750.1); similar to Os08g0152600 [Oryza sativa (japonica cultivar-group)] (GB:NP_001061005.1); similar to pleckstriny domain-containing protein, putative, expressed [Oryza sativa (japonica cultivar-group)] (GB:ABB47745.1); contains InterPro domain Protein of unknown function	GGTGTTATCATCACACACCGCACAAGTCGACTTTGGAGAGAGAGAAAAAGAAGGGCCAACGACCACATACACACCAAAACACCATGAGCCCTTCCA AGCAGCGACATCGCAGCTCCACCGGCGATAACAAGTCAAAATCAGTCAGATCCGGCTCCTCCGCCGTACCGGAATGGATTGCCGAAGCAACTAAC GGCGGATCTCTTCGCCGCGTAAATCCAGACACAGGTACCGACGGCTGGGCTTCTCCTCCCGGCGACGTCTTCTCTCTCCGCTCCAATTCTTACTTG ACCAAAAAAACAGAAATCTCCCGCCGGAGACTACCTCCTCTCTCCCGCCGGCATGGACTGGCTCAAATCAAGTGCAAAACTTGACAACGTGCTAGCT CGTCCCGATAACCGCGTGGCTCACGCGCTTAGAAAGGCTCATTCCCGAGGTCAATCTCTGAAGAGCTTCATCTTCGCCGTGAATCTCCAGATTCCA GGTAAGGACCACCACAGCGCCGTGTTCTACTTCGCGACGGAGGAACCGATTCCTTCCGGCTCGCTTCTCCACCGGTTTATTAACGGCGACGACTC GTTCCGGAATCAGAGATTCAAAATCGTTAATCGGATCGTGAAAGGGCCCTGGGTAGTGAAAGCCGCGGTTGGGAACTATAGCGCTTGCCTTCTAGG AAAGGCCCTGACGTGCAATTACCATAGAGGTCCTAATTACTTTGAGATCGATGTCGATATAAGCAGCTCGGCCATCGCAACGGCGATTCTGCGGCT GGCGTTAGGGTATGTCACGAGTGTGACGATCGATATGGGGTTCTTAGCGGAGGCGCAGACGGAGGAAGAGCTGCCGGAGAGATTAATCGGAGCT GTTAGAGTGTGTCAAATGGAGATGTCTTCGGCGTTTGTGGTCGACGCGCCACCGCCCCAGCAACCGCCATCACAACCGTGTAGAACATTGAGTTCG GCGAAAGTTAACCACGATGAGGACGAGGATTGAGATTAAAATTGAGCACATACTATCATCAAAACCAGGTCAATGGTTATCCGAATACCATTTCTCTC CTCTCTCTCTCAAATGATCTGGATCATTTTTCATCAATCTCAGTCAAATCTATATTGCTTAATTTATTTTATGGATTTTGTAAATGATTATTTTTTCTCAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003K18	AT1G54100.2	ALDH7B4 (ALDEHYDE DEHYDROGENASE 7B4); 3-chloroallyl aldehyde dehydrogenase	GAGGATACTCCCTTCTTCGATACGATCGATAATCAGAAGAGATGGGTTCTGCGAACAAAGAGTACGAGTTTCTGAGTGAGATTGGGTTGAGTTCTCA CAACCTCGGAAGTTACGTTGGTGGCAAATGGCAAGGAAACGGACCCGTTGTCTCTACTCTCAATCCCGCCAACAATCAGCCAATTGCTCAAGTTGTT GAAGCTTCTCTGGATGATTACGAGAAAGGTTTGAAAGCTTGCGAGGAAGCAGCTAAAACATGGATGCAGGTTCCTGCTCCCAAGAGAGGTGATATC GTGAGACAAATTGGAGATGCACTAAGATCCAAACTTGACTATCTTGGCCGTCTTCTTTCACTTGAAATGGGGAAGATCCTTGCTGAAGGAATTGGAG AAGTTCAGGAAGTAATTGACATGTGTGATTTTGCTGTTGGTTTGAGCCGACAACTCAATGGATCAGTCATACCTTCAGAACGCCCAAATCACATGATG TTGGAGATGTGGAATCCGCTTGGCATTGTAGGTGTTATCACAGCGTTTAACTTTCCATGTGCAGTTCTTGGTTGGAATGCTTGTATTGCACTGGTCTG CGGAAACTGTGTAGTCTGGAAAGGTGCTCCAACTACACCGTTGATAACTATCGCAATGACTAAGCTCGTGGCCGAAGTTTTAGAGAAGAACAATTTA CCCGGTGCCATTTTTACGGCCATGTGTGGTGGTGCTGAGATTGGTGAAGCAATAGCCAAAGACACACGCATTCCTCTAGTATCCTTTACTGGAAGCT CCAAGGTGGGCTTAAAGGTACAACAAACAGTGAGTGCGAGATCTGGCAAAACTCTGCTTGAATTGAGTGGAAACAATGCAATCATAGTCATGGAAG ATGCTGACATACAGTTAGCTGCTCGTTCTGTTCTGTTTGCTGCGGTTGGAACCGCTGGTCAACGTTGCACAACTTGCCGTAGGCTGCTTTTGCATGA GAGGGTCTATGATAAAGTGCTCGAGCAACTCCTTACTTCATACAAACAAGTCAAAATCGGCGATCCTCTTGAAAAAGGGACATTGTTAGGACCACTA CATACTCCTGAATCAAAGAAGAACTTTGAGAAAGGAATCGAAGTCATCAAATCCCAGGGCGGTAAAATACTAACGGGCGGTAAAGCAATCGAAGGT GAAGGAAACTTTGTGGAGCCTACGATAATCGAGATATCATCAGATGCATCTGTTGTTAAAGAAGAGCTATTTGCTCCTGTTCTATATGCTCTAAAATTT AAGTCATTTGAAGAAGCTGTTGCGATAAACAACTCGGTTCCTCAAGGTCTAAGCAGCTCGATATTCACTCGTAATCCCGAAAACATCTTTAAGTGGAT CGGACCAATGGGAAGTGATTGTGGCATTGTGAATGTGAACATACCTACGAACGGAGCTGAGATCGGAGGAGCGTTTGGAGGCGAGAAAGCGACAG GTGGTGGTCGTGAAGCTGGAAGCGATTCATGGAAGCAATACATGCGTCGTTCAACTTGTACGATCAACTATGGGAACGAGTTACCTCTAGCGCAAG
GCT-003K19	AT5G44210.1	ATERF-9/ATERF9/ERF9 (ERF domain protein 9); DNA binding / transcription factor/ transcriptional repressor	GACCATCTTTTTCTCTTATATTTCCTTAGCAAATGGCTCCAAAACAGACGAATGCGAGTTACGCCACCGTGACTGAAGGCGGCGGCGGATGGAAAAC GACGAGGAAGGAAGTGAGGTTTAGAGGAGTGAGGAAGAGGCCATGGGGAAGATACGCGGCGGAGATCCGTGACCCGGGGAAGAAAAGCCGTGTT TGGCTCGGGACATTTGATACGGCGGAGGAAGCCGCTAGAGCTTACGACGCCGCCGCGAGAGAGTTTCGTGGCTCCAAAGCAAAAACCAATTTCCC TCTTCCCGGAGAGTCTACTACGGTCAGCCATACCGCCGGTGGAAACCGTTCGCCGGTGATGGCGGCGCGTGAGATGACACGGCGAGTTGGGGTG GTGGGTAGATTTCCGTTTGCATGTCACCGGCAGCAATACGTCTCCGGCGGTTTATCACCGGCTGCTGCGGGTTTTTTCTTCGATCCGTCAAGGGCT GCTGCGTTAAGAGCGGAGCTTTCTCGGGTTTACCCGGTTCGGTTTGATCCGGTTAATATCGAGCTGAGTATTGGTATTCAACAGACCGTTAAGGTCG AACCGAGAAAGGAACTTAACCTGGATCTTAACTTAGCTCCACCGGTAGACGTTTAGATTTTTTTCTTTTTTCTTTTTAATTTGGTTTTTTTTTTGACATT
GCT-003K21	AT5G47800.1	phototropic-responsive NPH3 family protein	GAACATTACCACTTTCACATCTCTCTCTCTCTCTCTTTATTGCTCGCCATCTCTTTATCTCCTCTCCTTCTTCCTCCTCTCACATATCAACTTTGAGCAC ACAAGTTTTATGAGAAGTCTAAGATGAAGTTCATGAAAATCGGGACAAAGCCTGACACTTTCTACACTCAAGATTCTTCAAGGATTTTGATAACCGAC ACACCCAACGATCTCGTTATTAGAATCGACAGCACCACTTACCATCTCCACAGATCTTCTCTTGTTCCAAAATGTGGGCTGTTGCGAAGGCTTTGCA CTGACTCAGAGGAGTCTGATAGTGTTACCATAGAGCTGAATGACATACCTGGAGGAGCCGATGCGTTTGAGCTGTGTGCTAAGTTCTGCTACGGCA TTACCATCAACCTCTGTGCTCATAACCTTGTGAATGCCCTCTGCGCCTCCAAGTTTCTTCGGATGTCTGATTCTGTTGACAAAGGAAATCTGTTTCCA AAGCTTGAATCTTTTTTCCACTCCTGCGTTCTCCAAGGCTGGAAAGATTCCATCGTCACTTTGCAGTCCACTGCTAAATTGCCAGAATGGTGTGAGAA TCTTGGAATCATCAGAAAATGTATAGATTCGGTTGTGGAGAAGATTCTCACTCCCACTTCAGAGGTCTCCTGGTCTCATACATACACCAGACCAGGC TACCAAAAGAGAGAGCACCACTCTGTTCCAAGAGACTGGTGGACGGAGGACATATCAGACCTTGACTTGGACTTATTCCGCTGTGTTATCACAACAG TCAGGTCAACCTTCACGCTGCCGCCTCAGCTCATCGGTGAAGCTTTGCATGTATACACTTGCCGTTGGTTACCATACTTCAAATCAAACAGCCCTTC AAGTTTCTCTGTTAAAGAAAACGAAGCGGCACTGGAAAGGCATAGACGTGTTGTTAACACAGTTGTGAATATGATTCCTTCAGATAAAGGGTCGGTT TCAGAGGGTTTCTTGTTAAGACTTGTTAGCATAGCGACTTATGTGGGAGCTTCTCTTACGACAAAGACAGAGTTGATTAGAAAAGCTGGTCTGCAAC TCGAGGAGGCAGCTCTTGCAGACCTCTTGTTGCCTTCACACTCATCCTCTCATCGCCATCGTTATGATACCGACTTGGTTGCTGCAGTTCTCGAGAG TTTTCTAATGCTCTGGAGAAGACAGTCTTCTTCGCATCTTTCTAGTGACAACAATCAGTTGCTGCATTCAATCAATAAGGTGGCAAAGCTTATCGACT CCTATCTTCAGGCAGTCGCACAAGATGTCCATATGCCAGTTCCCAAATTCGTGTCTCTTGCTGAGGCAGTGCCCGACATTGCACGGGAGAGCCATG ACAGGCTTTACAAAGCAATCAACATATATCTCAAGGTGCATCCCGAGATAAGCAAAGAAGAGAAAAAACGATTATGCAGAAGTCTTGACTGCCAGAA ATTGTCTGCAGAGGTACGTGCACACGCTGTGAAGAACGAGAGGATGCCATTAAGAACGGTCGTCCAAGCCCTCTTCTTTGACCAAGAGAGCAGTTC CAAGGGCGTGTCAGGTCGATCAGAGATCCACGACCTCTTCTCAAGAGGTAAAGAGACGCCCATGGATGAACAAAGCATGATGCACAAACTTAACCT AGGTCCAGCTGAAACAGCTTCTATAGGGAAAGCTAAGAGCGTACGTGAGGGAGGAGGCAAAAGAGGAGAAGAGAAAATCACATCCAGTACAGAAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003K22	AT5G39050.1	transferase family protein	GAACTCACACCACAATATCTCCGAAAGAATAAAATGGATTCATCACTTGACGTCATCGAAGTGTCACGAGTCACTCCTTCTGACTCGTCCGAGTCAC TCACTCTCCCGCTCACTTTCTTCGACCTTCTCTGGTACAAACTCCACCCCGTCCAACGAGTCATCTTCTACCGACTCACCGACGCAACTCGTCCTTT CTTCGACTCAGTCATCGTCCCCAATCTCAAATCCTCTCTCTCCTCAACTCTCTCTCACTACCTCCCACTCGCTGGCCAACTCGTCTGGGACTCGCTC GAACAAAAGCCGAGCATCGTCTACACTCCAAACGACGCCGTTTCATTCACCATCGCCGAGTCCAACGCCGATTTCTCTAGTTTCACCGGAAACAAAC CGTTTCCCGCCACCGAGTTGTACCCATTAGCCCCCGAGTTAACCATCTCCGATGACTCGGCCACCGCCGTGTCGTTCCAAGCCACGCTATTTCCAA ACCAAGGGTTTTGCATCGGCGTAACTGCACACCATGCCGTTTTAGATGGAAAAACGACAACCAACTTTCTCAAATCCTGGGCCCACACATGCAAACG GCAACAAGAGGAAACGCCGAACGTTTCTCTACCGCAGGATCTAATCCCGATTTATGATCGTACGGTCGTCAAAGGTCCAAAAGATATCGATATGAAG ATTCTGAACCAGTGGCACACAGTGATAACATTCTTCTCCGGAGGCAAAGAACCAGAAAACCCCAAAAGCTTAAAACTTTTTCCGTCGCCGGCGATTA ATCCCGACGTTGCTCGATTCACTCTCGATCTCACACTAGAAGACATCCAATCGCTTCGCGAGCGACTCAAGAGAGAATCCTCTGCACCGTCGTCGT CATCGAAGGAGCTTCGATTGTCGACGTTTGTGGTCACGTACTCGTACGTGTTATCCTGCTTAATCAGAGCTCGAGGCGGAGATCCGAATAGACCGG TCGGGTACGGGTTTGCGGTGGATTGTCGGAGCCTCTTGGATCCGCCGATTCCGGTGAATTACTTCGGTAATTGCGTTTCGGCGACGTTTAATATGT CGTTAGCGGCGAAGACGTTTTTCGGAGAAGAAGGGTTTTTGGCGGCGGCGAGGATGGTTAGCGATTCGGTCGAGGGGTTAGATGAATCTGTGGCG TTTAACATTCCGGACGTTTTGGCAGCGTTTACGACGATTCCACCTGGATCGCAGGTTCTTTCTGTTGCCGGGTCGACCCGGTTTGGAGTTTACGGGT TGGATTTCGGGTGGGGGAGACCGGAGAGAGTGGTGGTTGTGTCGATCGATCGAGGCGAAGCGATTTCTATGGCGGAGAGTAGAGATGGAAATGG
GCT-003K23	AT3G51480.1	ATGLR3.6 (Arabidopsis thaliana glutamate receptor 3.6)	GAGTTCTGATTAGGCCTGTTAATGGAGGTCACTCCAGTAACTTGACCTTCCTCTCTCTTTACTTTCTGAAACAGGAAGCTGCTGAAATTTGAGAAGAT GAAGTGGCTTCTGCTTTTGCTCATCGTCTGCGATGCAGTTCCTCTACAAGGACTCACCACAAATGTCTCTGCGAGGCCCCAAGTTGTGAACATCGGT TCGGTTTTCACATTCACTTCTCTCATTGGTAGAGTCATCAAAGTTGCTATGGAAGCCGCTGTTGAAGACGTGAATGCCAACCCCAGCGTTCTTAACAA CACTCAACTCAGGATCATCATGCATGACACCAAATTCAATGGATTCATGAGCATCATGGAACCTCTGCGATTCATGGAATCTGAGACAGTGGCAATA ATAGGGCCTCAGAGATCAACATCCGCTCGAGTAGTAGCTCATGTTGCATCAGAACTAAAGATTCCTATACTATCCTTCACTGCCACAGACCCTACCA TGTCTCCTCTGCAATTCCCTTTCTTCATCAGAACTTCACAAAATGATCTCTATCAGATGGCCGCCATAGCAGACATTGTTCATTTCTATGGTTGGAGA GAGGTGATAGCAATATATGCGGATGATGATTATGGCCAAAATGGTGTAGCTGCCTTGGGAGACAAGTTAGCTGAGAAGCGCTGCAGAATCTCATAC AAAGCAGCTTTGCCTCCTGAACCTACCAGAGAGAACATCACTAACTTGCTGATTAAGGTAGCTTTGAGTGAGTCAAGGATCATTGTTGTTCACGCTT CTTTCATCTGGGGCTTAGAGGTTTTCAATGTGGCACAGTATCTTGGTATGATGAGCACTGGTTACGTGTGGATTGCCACCAATTGGCTTTCAACTATC ATAGATACAGACTCTCCTCTTCCCTTGGACACGATAAATAACATTCAAGGGGTCATTACACTGCGGATATACACTCCTGACTCTGTCATGAAGAAGAA CTTCACTCAAAGGTGGCATAATTTAACTCATGTTGGACTGAGCACTTATGGACTTTATGCTTATGACACTGTCTGGCTGCTTGCTCATGCCATTGATG ATTTTTTCCGCAAAGGTGGAAACGTTTCCTTTTCAAAGAATCCGATTATATCTGATCTTAGGGGTGGAAACTTGCATCTTGATGCTCTGAAAGTATTTG ATGGAGGAAATACGTTTCTTGAGAGCATCTTACAGGTTGATAGAATTGGCTTAACTGGTAGGATGAAGTTTACTAGGGACAGGAACCTTGTAAATCC AGCGTTTGATGTGCTTAATGTCATTGGGACTGGTTACAGGACCATTGGTTACTGGTACAATCATCTAGGCCTGTCTGTGATGCAGCCTGACGAGTTG GAGAACACATCTTTATCGAGACAGAAGCTTCATAGTGTTGTCTGGCCAGGACAGACAACACAAAATCCTCGTGGATGGGTGTTCTCAAACAATGGAA GGCATTTGAGGATTGGAGTACCAAATCGTTACAGATTCGAAGAGGTGGTCTCAGTTCAAAGCAACGGGATCATCACTGGCTTTTGTGTTGATGTCTT TGTTGCCGCTCAGCTTATTGCCTTATGCAGTACCGTTTGAGCTTGTAGCTTTTGGTAATGGTCATGATAATCCAAGTAACTCTGAGCTAGTCCGCTTG ATAACAGCTGGGGTCTACGATGCAGGTGTTGGTGATATCACCATTATAACAGAGAGAACCAAAATGGCAGATTTTACTCAGCCGTATGTGGAGTCAG GGTTAGTGGTTGTGGCTCCTATCCGGAAGTTGGGTTCTAATGCTATGGCGTTCTTGAGGCCGTTCACTCCCCAAATGTGGCTTATTTCAGCTTTCTC TTTCCTCATAGTCGGTGCAGTCATTTGGTTTCTGGAACACAAACACAACGACGAGTTTCGAGGCCCTCCTCGTAGACAAGTCATCACTACTTTCTGG TTCAGCTTTTCAACACTTTTCTTCTCCCATAGAGAGACGACCATCAGCAACCTTGGACGAATAGTGTTGCTAATATGGCTATTCGTAGTTCTCATAGT CAACTCAAGCTATACTGCAAGCCTCACATCAATCCTCACAGTTCATCAACTGTCTTCGCCAATCAAAGGCATAGAAACTTTGGAAACAAACAATGATC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003K24	AT2G28190.1	CSD2 (COPPER/ZINC SUPEROXIDE DISMUTASE 2); copper, zinc superoxide dismutase	GGTTTGCCCATTAGCTTCCTCCAAACGTCAAAAAGCAAATTACACAAAAGCAGCAATGGCTGCTCACACCATCCTCTCCTTCTCATCGACTTCTCGC CTCCTCATTTCTCCTTCATCCAATCCAACTTCCCCACTCCTCTCTTCTTCTTCTTCCTCCACTCTCCGTTCCTCTTTCCGCGGAGTCTCTCTCAAC CTCCACCGTCCCCAATCCGTTGTTTCCTTATCCGCCAGAGCTCCGTCGAAGAAAGCGTTGACGGTTGTTTCCGCCGCGAAGAAAGCTGTTGCGGTG CTCAAAGGAACCTCCGATGTCGAAGGAGTTGTTACTTTGACACAAGACGAAGACACAGGTCCTACAACTGTGAATGTTCGTATCACCGGGCTAGCT CCAGGGCCTCATGGATTTCACCTCCATGAGTTTGGTGATACAACAAATGGTTGCATCTCAACAGGACCACATTTCAACCCTAACAACATGACACACG GAGCTCCTGAAGACGAGATCCGTCATGCGGGTGACCTGGGAAACATAATTGCCAACGCTGATGGCGTGGCAGAAACAACAATTGTGGACAATCAG ATTCCTCTGACTGGTCCTAACTCTGTTGTTGGAAGAGCCTTTGTGGTTCACGAGCTTAAGGATGACCTCGGAAAGGGTGGGCATGAGCTTAGTCTG ACCACAGGAAACGCAGGCGGGAGATTGGCTTGCGGTGTGGTTGGTTTGACGCCGCTCTAAGTCTGGGCTAAGTAAGTACTCTTCTGTCTACTGTGT TAGCCTTGTCTGTTGAAATCAGATGTTGAATAATGTTTTGGCTGAATAAACTTTTGATGTTTTATGTTCATAAAATCATACTCTCTTGTTGGATTTGTAA
GCT-003L01	AT2G38560.1	transcription factor S-II (TFIIS) domain-containing protein	GGTAATCTCTATCTTCTCCGTCGCGACCAAAACGAAGCTCCGCCGAACAAATCTCGGATTCGAGGGACGATGGAAACTGAATTGATTGAATTGTTCG AGGGGGCAAAAAAGGCGGCCGATGCGGCAGCTCTCGACGGTGTTACCTCCTCAGGTCCGGAGATTTCTCAATGTCTCGATGCCCTGAAGCAACTC AAGAAGTTTCCTGTCACATACGACACGCTCGTTGCGACTCAGGTAGGGAAGAAGCTGAGGTCTCTTTCAAAACATCCTGTTGAGGAAATCAAAAGCG TAGCTACTGATCTGCTTGAGATATGGAAGAAAGTTGTTATTGAAGAGACATCCAAGGCTAAGAAAATCGGAAGCACAAACGGTGTCAAATCTGAAAC TGCCAAAGACGGTAAGATAGATAGGAAGGATGTTGAGAGGACTTCCAATCCCGCGCCGGTAAAAGTCCAGAAACTTCAAAGGGGTGATTCAGCTAA GAGTATCAAGGTAGAGAAAAAGGAACCAGACAACAAAGTCGGTGCAAAGATAGAGAGAAAGGAACAAGACAACAAAGTCAATACCGGAGCCAAGTT AGATCATCGTGGTCAGACTGTCAAGGATGAAAAGGTCTCAAAGGAGAACCAATCAAGTACGAAAGCTCCTGCTAAATCACCTAATGCTCCTCCAAAG CTAACTTCAATGCTCAAATGCAATGATCCCGTGCGTGACAAAATCCGTGAGATGCTTGTGGAGGCACTGTCAAGGGTTCATGGAGAATCTGATGAGT ACGATAGAGAGAAAGTGAATGGATGTGATCCATTCCGCGTTGCTGTCTCAGTGGAATCTCATATGTTTGAGAAATTAGGCCGCTCAACCGGAGCTGA GAAGGCCAAGTACAGATCTATAATGTTCAACCTGAGGGACAGTAACAACCCAGACTTAAGAAGGAGAGTTCTTACCGGGGAGGTGCCACCAGAGAA ACTCATCACACTGTCCGCTGAAGAAATGGCAAGCGACAAGAGGAAACAAGAAAACAACCAGATCAAAGAGAAATTCCTGTTTAATTGTGAGCAGGGT CCTGCACCAAAAGCAAGTACGGACCAGTTCAAGTGCGGGCGGTGTGGTCAGCGCAAATGCACCTACTATCAGATGCAAACAAGGAGTGCTGATGA GCCGATGACGACTTATGTTACATGTGTTAACTGCAACAACCACTGGAAGTTCTGTTGAGGTGAGATCTCTGTGTGTTCTTTTTATTCCATGATACCAT
GCT-003L02	AT2G24500.1	FZF; transcription factor	GGTGACTTTTGGGGAATAATCGTCGTTAACAAATTTTGCTTTTAACCTTCTTCCCTCAACCGACCTCCGAGCCATCGCCGCAAGTATATAAATAGCTC ATCCCTAACCTCTAAACACTTTTTCTTTCCTTCTTCTTCTTCATTTTCAATCGATCGAGATAGAGAGAGATGTCAGGCTTAGCTTGTAATTCGTGTAAC AAGGAGTTCGAAGACGACGCTGAGCAGAAACTCCATTACAAGTCCGAATGGCACCGTTACAATCTCAAACGCAAGATTGCTGGTGTTCCTGGAGTT ACGGAAGCACTTTTCGAAGCTAGACAAGCTGCGATTGCTCAGGAGAAGGTCAAATCTAACGAAGCACCATTGCTTTATAGTTGTGGAATCTGTGGTA AAGGTTACAGGAGCTCCAAGGCTCATGAGCAGCATCTCAAGTCGAAGAGTCACGTTTTGAAAGCTTCTTCGCAAGGGACGAGCAACGGAGACGAG GATAAAGCGATCATCAAGCAGCTTCCTCCTCGCCGTGTTGAGAAAAACGACCCTTCTCAACTAAAAGGTTCGATTGAGGAAGAGAGTGAAGAGAGT GAAGATGAATGGGTTGAGGTTGGTTCTGACGAGGATTTGGACGGTGAAGATATGGATGCAGACGAGTCTGGTTCTGGTGATGATATGGATGAGGAT GATATCGAGTTTGAATTGGATCCGGCTTGCTGTTTGATGTGTGATAAAAAGCATAAGACGATTGAGAAGTGCATGGTTCATATGCATAAGTACCATG GATTCTTCATTCCCGATATCGAATACCTAAAGGATCCAAAAGGGTTTCTAACCTACGTTGGTCTAAAGGTGAAGAGGGACTTCATATGTTTGTACTGC AATGAATTGTGCCATCCATTTAGTAGTTTGGAAGCTGTGCGGAAGCATATGGAAGCTAAGGGACATTGCAAAGTGCATTATGGTGATGGTGGCGATG AAGAAGATGCAGAACTTGAAGAGTTCTATGATTACACCAGCAGCTATGTCAACGAAGGCGAAAATCAGATGGTTGTATCCGGAGAATCAGCTAACAC CGTGGAGCTTTTTGGTGGGTCTGAGCTTGTGATCACCAAAAGAACCGATGACAAAGTGACGTCTAGGACTCTCGGGTCTCGAGAATTCATGCGCTA CTACAAACAGAAGCCACCTCCATCTTCTCAGAAGCACATTGTCAACTCATTAACCTCGAGGTACAAGAGCATGGGTCTAGCAACAGTGCACTCGAAG GAGGACATAGTGAGGATGAAGGTGATGAGAGAGATGAACAAAAGAGGAGCGAAAATGCGTGTTAAGCTTGGAATGAAGAGCAACGTCATCAGAAAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003L03	AT2G42010.1	PLDBETA1 (PHOSPHOLIPASE D BETA 1); phospholipase D	GGGTTTCTTCTGCATCAACGTCGTGAGGAGTTCGACGCAGAGAAGGAAAAAAAAGAAAAAAAGAAAAGCGTTTCCTCGCCGATTAGATCCCACCATT TCTCCAGGAAAATAAATGGAGAATTATGGTGGTGGATCACGTTATCCATACCCTTACGGTCATCAGTACCCATACCCATACGGTCAGTACACAGGAG GAGGTGGTCCTCCTCCGTATAGACCTCCCGGTACGAGTTCGGAGGCGTACCAAGCAGCAGCACCACCAGCACCTTATTATCCTTACCCACCACCTC CGTATGCAACTCCCCCGCTTCATCATTCGGGCCCATTGGACTACTCCCACCACAAGCCCCAATCATCGTCCTCCTCTGAATATCACCGCCATTCTTT CGACTACCAACCTTCTCCTTACCCTTATCATCCTGCTCATCCTCCTCCGCAAGGTAACTACAATGCTCCCTATACATATCATCAAGAGCAATACCCGC CTCCTGAAACTAAACCCCATGAATATGATCCTCCTCCACAAACTCCTCAAGCCTTTCGTAGGCAAGACTGCCTCACTTCTTATCCTCCCGTCGACCAA CTTCTAGGCGGTCTCCACATTTCCGATAACCCCTCCGTTCCTTCCAACTCCTGGCCAAGCCGTCCTCCTGGTGATTTGTATGGTTACCCTAACAGCT CTTTTCCAAGCAACTCTCACCTCCCGACCTTGGACCGAGTCGATTCCTCTGCTTCTGCCTATACTCCTACTGATTCCCCGCATAGTCCCCACTTGCA GATGACGCTCTTTGGTAAATCCTCCTTGAAGGTCCTGTTGCTGCATGGCAATTTGGACATCTGGATCTATCATGCCAGAAATCTCCCTAACATGGATA TGTTCCACAAGACTCTGGGTGATATGTTTGGCAGATTGCCTGGCAAAATCGACGGCCAGCTTAGCAGGAAAATCACCAGTGATCCTTACGTTTCCGT CTCTGTCGCTGGTGCTGTCATTGGAAGAACTTACGTCATGAGCAACAGCGAGAATCCTGTTTGGATGCAACATTTTTATGTTCCTGTCGCTCACCAT GCTGCAGAAGTTCATTTTGTCGTTAAAGACAGTGATGTCGTGGGTTCTCAGCTCATTGGATTGGTTACCATCCCGGTCGAACAGATATACTCTGGTG CCAAAGTCCAAGGAACTTATCCGATTCTAAGCAGCAGTGGGAAGCCTTGTAAACCAGGGGCTAATTTATCATTGTCCATCCAGTATACTCCTATGGA ACAACTTAGTGTTTATCATCATGGAGTTGGGGCAGGTCCTGATTACATGGGGGTACCTGGAACATATTTTCCGCTTAGAAAAGGCGGGACTGTGACA TTGTACCAAGACGCACATGTCCCTGAAGAGATGCTCCCGGGTATAAGACTGGACAATGGGATGTCTTACGAACATGGCAAGTGTTGGCATGATATG TTTGATGCCATACGCCAGGCCAGGCGTTTAATTTATATCACGGGTTGGTCTGTGTGGCACAAAGTTAGGCTGGTTCGGGATAAATTTGGCCCCGCAT CAGAATGTACTCTTGGTGAGCTCCTAAGATCAAAGTCCCAAGAAGGCGTGAGAGTCCTGCTTTTGGTTTGGGATGACCCAACTTCGCGTAGCATCTT GGGTTATAAAACAGATGGCGTTATGGCAACCCATGATGAGGAGACACGCCGTTTTTTCAAGCACTCCTCTGTTCAAGTCCTGCTCTGCCCCCGTAAT GCTGGAAAGCGACATAGTTGGGTCAAGCAGAGGGAAGTTGGGACAATCTATACACATCACCAAAAAAACGTAATAGTGGATGCCGATGCTGGTGCT AACAGAAGGAAAATTGTAGCTTTTGTCGGTGGGCTTGATCTGTGTGATGGCCGATATGACACTCCTCAACATCCCTTGTTCAGGACACTACAGACAG TTCATAAAGATGATTTTCACAACCCCACTTTTACGGGAAACCTTTCCGGATGTCCAAGAGAGCCGTGGCATGACTTACACAGTAAGATCGATGGCCC TGCTGCGTATGATGTGCTGACCAACTTCGAGGAGAGATGGTTGAAGGCTGCGAAGCCTAGCGGGATCAAGAAGTTTAAGACTTCCTATGACGATGC
GCT-003L04	AT2G34720.1	CCAAT-binding transcription factor (CBF-B/NF-YA) family protein	GACGATTTTGAAATTCTAGCTTTTGTGGTTCCCCTGTGCCTCTTGTAGTGCATCTCGTTTCCCCGGGAAATGCTTTTGCTGTTTTGTTCCTGGGAGCT TTCAGACTTCTAACTAGGATTAAGGACTGTCATGAAACATGACTTCTTCAGTGCATGAGCTCTCTGATAACAATGAAAGTCATAAGAAGCAAGAACGT TCAGATTCCCAAACCCGACCATCGGTTCCTTCAGGACGAAGTTCTGAATCTATAGATACAAACTCTGTCTACTCAGAGCCGATGGCGCATGGGCTCT ACCCGTATCCAGATCCTTACTACAGAAGTGTATTTGCACAGCAAGCGTATCTTCCACATCCATATCCTGGGGTCCATATGCAGTTAATGGGAATGCA GCAACACGGGGTTCCGTTGCAATGTGATGCAGTCGAAGAACCTGTTTTTGTTAATGCAAAGCAATATCATGGTATACTCAGGCGTAGGCAATCACGG GCAAAACTTGAGGCACGAAATAGAGCCATCAAGTCAAAGAAGCCATATATGCATGAATCTCGGCATTTGCATGCGATAAGACGGCCAAGAGGATGT GGCGGCCGGTTTCTCAATGCCAAGAAGAAAAATGGAGACCACAAGGCGGAGGAGGAGGAGGATGAGGCAACCTCTGATGAAAACGCTTCAGAAGC AAGTTCCAGCCGCAGGCCTGAGAAATTAGCCATGGCTCCTAATGGTAGATCTTGAGTAAGGTTCTTGCACAACCACGAGTTTGGTTTCTATATCGGG TGGATGTTTGCCTCATTGCATCATCGTCTTTAGTGTTTTTGGAACAGTCTTATGTAGACATCACATGTGTATAGTTTATTGCTTGGGGCAGCTAGGGT
GCT-003L05	AT2G40740.1	WRKY55 (WRKY DNA-binding protein 55); transcription factor	TGTGTGTCGTTAGATATATAATCTAAAAAAGGGCTTAAGTTACAAATGGAAGAGGTGATGTCAGTGATCTTCCAGGGATTGAATATGGTTAAGGAGCT TGAGTCAAGCTTACCGGAAAAGTCACCGGAATCTCTATCGACCTCTCTCGACGAGATCACAAAGACATTTGGTGATGCAAACGAACAGCTGAAGATA GTCCTTGAGATCAGGAACACCGCATTGAACCAACCTAAACCAGTGATTGCGTCTTGTTCAGACCAGATGCTAATGCAGATTGAACCGGATATGATGC AGGAGTATTGGTTAAGGTGTGGCGGGTCCATGTTATCTCAGGGAACCGAAGCAATGACTCAAAGGCAGCTCATGGCCCTTGATGGTGGCGGCGGA AGAATTTCGACGACTACAGAAAGATCGGGCGGCTCCGGTAGCGGTTCCTCCACGCCAAGGCAACGCAGGAGGAAGGACGAAGGACAAGAACAAA CGGTGTTGGTGGCGGCGTTAAGGACGGGAAACACAGATCTACCTCCTGACGATAACCACACTTGGCGTAAATACGGTCAAAAGGAAATTCTTGGCT CTAAGTTTCCTAGGGCCTACTATAGATGCACCCACCAAAAGTTATACAATTGTCCAGCCAAGAAGCAAGTCCAACGCCTCAATGATGATCCCTTCAC ATTCCGAGTCACTTACCGTGGCTCACACACTTGCCACATCTACTCAACCGCTCCCACCGCTTCTGCCGCCGCCCCCACCGCATTAATCTCATCAACC GCTGCCGCAACTGGCCATTCCGTTGACTACGGTCCCGCCGTCTTAGACATAGCCGACGCTATGTTTGGTAGTGGTGGGATCGGAGCCAACATGGA TTTCATATTTCCTTCCAATGATCCACCTCAGCATGATCATCACCGTTTCCGGCGAGACAAATAGGAATCATACATTTACAGAGGGAAAGGACAAAAGA TTATTATTACTAAAGTTTTCTATATTTCCCATCTACACGTGATTCTAGTTTGGGATCTAATGGGAACCAATTCTTTTAGGGTAGTTTGCCTTTTTTGACA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003L06	AT1G02010.1	SEC1A; protein transporter	GATCTAATTGTAAGCTGAGCCATACAAAACAATTCCTCCTTTCTCTCTTTCCCTCTCTTCCTCTATCAAATGAAATCACTCGCCTCTCTTCTTCTTCTTC TCCTTCATCATCATCATCTAATACTGCCTCGCATCCTTATCTCCTCTATCTCTACCAATGTCTTTTTCCGATTCTGAGTCTTCCTCCTCTCATGCCCGC GACGGCGGAGACTATAAGTTTTTCCGTCAGATCAGCCGCGATCGATTGCTACATGAGATGCTTGGATCTACGAAAACGGGGGATTCAAAAGCTTGG AAGATACTTATCATGGATAGAGTTACCGTAAAAGTCATGTCTCAGTCTTGCAAAATGGCAGATATCACAGATCAAGGCATCTCCTTGGTAGAAGAACT TTTTAAGAGAAGGGAACCAATGCCTGGCATGGACGCTATCTACTTTATCCAACCAACCAAAGAGAACATTGTTATGTTTCTATCAGACATGTCTGGGA GGGAACCCTTGTACAGGAAGGCATATATATTTTTCAGCTCAACTATCCCCAAAGAATTAGTGAATCACATCAAAAGTGATTCAAGTGTATTGCCACGC ATTGGAGCATTAAGAGAGATGAACATGGAGTACTTCCCCATAGATAATCAGGGATTTCTCACTGATCATGAGCAAGCTTTGGAAATGCTCTATGCTG AAGATGCTGAGAATTCACGCCACTTTAATATTTGTTTGAATATGATGGCAACTAGAATTGCTACCGTCTTTGCTTCATTGAAGGAGCTGCCCTTTGTT CGGTATCGAGCCGCAAAGTCCACGGCACCACGGGACTTGGTTCCCTCAAAGCTAGCTGCTGCGGTTTGGGACACTATCTCAAAATATAAAGCCATT CCTAACTTCCCCCAGACCGAAACATGTGAGCTGCTCATAGTGGATAGATCGGTGGATCAGATCGCTCCTATCATCCATGAATGGACCTATGATGCTA TGTGCCATGATTTGCTTGATATGGAAGGCAATAAACATGTTATTGAGGTTCCCAGTAAAACTGGGGGGCCTCCGGAGAAAAAGGAGATAGTGCTTGA AGATCATGATCCAGTGTGGCTCGAGCTTCGACACACGCATATAGCAGATGCTAGCGAGCGTTTGCATGAGAAAATGACCAACTTTGCCTCAAAGAA CAAAGCCGCACAAATGAGATCAAAAGATGGTAGCGAGTTGTCTACACGTGATCTGCAGAAAATAGTTCAGGCATTGCCACAATATGGAGAGCAAGT GGACAAACTATCCACTCATGTAGAGCTAGCTGGAAAAATTAACAGAATAATCAGAGACACGGGACTTAGGGATCTAGGGCAGCTGGAGCAAGACCT TGTTTTTGGAGACGCAGGTGCCAAGGACGTTATCAATTTTCTGAGGACAAATCAGGACACAAACCCGGAAAACAAATTACGACTATTGATGATATAT GCAACAGTGTACCCAGAGAAGTTCGAAGGTGACAAGGGCGTAAAGCTAATGCAGCTTGCTAGATTATCACCCGTGGATATGAAGGTTATAAGCAAC ATGCAATTGATTGCTGGATCTCCTGAAAACAAGACCAAATCCGGTAGTTTCTCCCTCAAATTTGACGCCGGAAAGACAAAACAAGCAAACAGGAAAG ATCGGTCTGGTGAAGAAGAAACATGGCAACTATTCCGGTTTTATCCAATGATCGAGGAGCTACTTGAGAAACTCGTGAAAGGCGATCTATCTAAAAG CGATTATCTGTGTATGAACCAGTCAAGTCACAAGGAGGAGATCAGTGAACCACGAGCAGGATCAGTGCGGAAGACTTGTGCTCCTACAGCGGTTCC AGAGCGGAAAGCCACCCCTCATTCTATGAGATCGAGAAGAACTGCAACTTGGGCTCGTCCTTCTTCTTCTGAAGATGCCTATTCCAGCGACTCAGTG TTGAAAAGTGCTTCTACCGACTTGAAGAAGCTGGGGAAACGCATCTTCGTATTCATTATTGGTGGCGCAACTAGATCCGAGCTCCGAGTTTGCCACA AGTTGACAAGCACCTTGAGGAGAGAAGTGGTACTAGGCTCCACGAGTTTCGACGATCCCCCACAGTACATCACGAAGCTGAAACTGCTGTCGGAGA
GCT-003L07	AT1G06070.1	bZIP transcription factor, putative (bZIP69)	GAATGTTCGTCTTCTTCCTCCCTCTCTCTCCTTGGATCTCTCTGATTTTATCTTACCGTCTTCTGCTCCCATTTCTCTCTTTCGCCATCATTTCTCAAAT TTTTTTCTGGAAATTTTTATTAACTTTCCTAGATAGTTTCTCTACACACCTTTTCTTTTGTGTCTCGCCGATCTCTCTTTGGGTCATTCTGCTTTGGTTT CTGGAGGCTTTTCCAGCTGATCAGATCTCTATTAGTGGGTTTAGGTCGAATACTGGAAATGGATAAGGAGAAATCTCCTGCACCACCTAGTGGAGGT CTTCCTCCCCCGTCGGGTCGTTACTCCGCGTTTTCGCCAAATGGAAGTGGATTTCCAATAAAATCTGAATCCTCGTTTCCTCATTTGACCCCAAGTG GGAGCAGCTCGGATGCTAACCGATTCAGCCATGATATAAGCCGAATGCTGGATAATCCACCCAAGAACCTTGGCCATCGCCGAGCTCATTCAGAGA TCCTTACTCTTCCTGATGACTTGAGCTTTGATAGTGATCTTGGTGTGGTTGGTGCTGCTGTTGGACCTTCTTTCTCTGATGAGACAGATGAGGACTTA CTGTATATGTATCTTGATATGGATAAATTCAATTCTTCGGCCACGTCTTCTTCTCAAATGGGTGAGCCATCAGAACCGGCTTGGAGGAATGAATTAGG CTCGACTTCTAACCTTCAGAGTACGCCTGGTAGCTCTAGTGAAAGACCGAGAATCAGGCACCAACACAGCCAGTCGATGGACGGTTCAACAACGAT CAAGCCTGAGATGCTTATGTCTGGGAATGAAGATGTGCCTGGAGTTGATTCTAAGAAAGCCATCTCTGCTGCTAAACTTTCTGAGCTTGCTCTCATT GACCCAAAACGTGCTAAGAGGATATGGGCAAACAGGCAGTCTGCTGCTAGGTCAAAAGAAAGGAAGATGAGATACATAGCAGAACTCGAGAGAAAA GTACAGACTTTACAAACAGAGGCGACATCTCTCTCCGCGCAGTTGACTCTGTTACAGAGAGATACAAATGGCCTGAGTGTTGAAAACAATGATCTGA AACTCCGAGTACAAACAATGGAGCAACAAGTGCACCTGCAGGATGCATTAAATGACGCACTGAAGGAGGAAGTCCAACATCTTAAGGTATTAACGG GGCAAGGTGTTTCGAATGGTGCATCGATGATGAACTATGGTTCTTATGGATCAAACCAGCAATTCTATCCCAATAATCAGTCGATGCACACTATGTTA GCCGCACAGCAGTTACAGCAGCTCCAAATCCATTCACAGAAGCAACAACAACAGCAACAACAACAACAACAACAGCAACAACAACAACAACAACAAC AACAACAGCAGCAGCAGCAATTTCAGTTTCAGCAGCAACAACTTTATCAGCTTCATCTTCAGCAGCAGCAGCAGCGAATCCAACAACAGGAACAACA AAGCGGTGTCACGGAGCTGAGAAGGCCCATGTCTTCTTCGGTTCAGAAAGAGAATGTTACATCGCCTGATCTTGAGGTCCCCTCGACGAAAGACTG AAGATTGTAGGCCGTGTTAGAGTCCAACTTAGTGAGGTACTCTTGGAAAATCTCCTCTCATTCCAATTACAGAGCCGGTGGCGTTTTCTCCCTCATC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003L08	AT1G32870.1	ANAC013 (Arabidopsis NAC domain containing protein 13); transcription factor	GGCCCTTTCCTGTAGTTTGGTCTGTTCTCAGATTCTGATTTGCTCACTGAAACAATTGTTTTCTTCTTTGTGTGTGAGTGATGGAGTCTTTGAAGACG GGTTCATGTCTGGTTGCAAACGGAGCTAAACTAGCGCCAGGTTTTAGGTTTCATCCGACCGACGAGGAACTGGTTGTGTATTATCTCAAGAGAAAGA TTCGTCGGAAAAAAATGAGAGTCGATGCAATCGGCGAGACTGATGTCTACAAGTTTGATCCCGAGGAGCTTCCCGAAAAAGCGTTATATAAGACTAG GGACCGTCAATGGTTCTTCTTCAGCCTGAGGGATAGGAAACATGGAGGTAGGTCAAGCAGAGCGACTGGCCGTGGATACTGGAAAGCAACAGGGA AAGACAGAGTCATCAAGTGCAGTTCACGCCCCGTTGGAGAGAAGAAGACGCTTGTTTTCCACAGAGGCAGGGCACCTAATGGCGAGAGGACTAAC TGGGTCATGCACGAGTACACCTTGCACGAAGAGGAGCTCAAGAGGTGCGGAGATGTGAAGGAAAGTTTCGTCCTTTACAAGATTTATAAGAAGAGC GGGTCTGGTCCTAAGAACGGTGAGCAGTATGGAGCTCCTTTTATAGAAGAAGAATGGGCAGATGATGATGATGATGTTGTTGATCAGCTCATTGCTT CAGCTGGTATTGGCAATAGCGCATTGGCGAACGGGCTTAACCAAACTGAATTGGATGATAACGATATCGAAGAGCTGATGAGACAGATCAGAGAGG AGCCTGGACATGTCAGATTGTCAACAGTGCAGCAGAATAATCTGTCCAGAGTGAACTCTAGCGTGGAAACGTATAATCAGGTGAACCAGGCAAGAG ATGCGTATTTGGAGATCGACGATCTTTTGCTCTCTGAACCTGAACCAAGTTATGCGGACAACTGGGGCCAGGATGAGTCCGGTGTCCTGAATGATA ATGATTTCTTTGATGTCGATTCATATTTCCGTGATTTGGACGCCACAGGTCCTCATCTAGAGCCTGTCAGTGTTGGTTTGGGAAATGGTTTTGAACAT AGTCTTGAGGTGAATACTTCTTCGGTGACTGACCAGGCCAATAATAACCAGTTCCAGCAGCAGACGGGGAAGAACCAAGGTAGCAACTGGCCACTT CGTAACAGCTATACCAGAAAGATAAGCAGTGGATCGTGGATGCATGAGCTAAACAGTGATGGACTTACCGCTTCCCGGTTTGGTGAGGCGCCTGGT ACAGGTGATGCATTTGAATTCATAGACCCTCTAACTTCTGGTGTAAGTATTACTAAGGAGGTAGAAGCGACAAAAGGCGAGTCGAGTCAGTTTGCTT CTAGTATATGGTCTTTCCTGGACTCGATTCCTGCAAAACCAGCGTTTGCTTCAGAGAATCCATTTGTTAACCTGAACTTAGTCAGAATGTCAAGCCGT GGTGGTCGTTACAGGCTTGCTTCTAAAAGCACAGGTAACAACAATGTTGAAAACGATTCAGCAGCGAAGAGGAAGAAGTGTCGAGGAAACAACCAC CACAAGGGTTTCTTCTGCTTATCGATCATTGGAGCTCTTTGTGCTTTGTTTTGGATGATCATAGGAATAATAGGAGTTTCAGGGAGGTCTTTGTTGTG
GCT-003L09	AT5G41920.1	scarecrow transcription factor family protein	CAGAATTTCCCTCCATTTCCCATGACCGCAAAACGCATCGACAGAGATTTCCCCTCTTCCGGCGATCCCTCCGCCGTAAAACGCCTTAAAGACCTCC ACTTTTCCGAAGATGATACCACACTCGAAGACGACGACGGCGGCGCAATCAACCTCCTTAGCCTACTGCTCCGATGCGCCGAATACGTCGCGACG GATCATCTCCGTGAAGCCTCGACCCTCCTCTCCGAAATCTCCGAGATATGTTCTCCGTTCGGCTCCTCTCCGGAGCGAGTCGTCGCCTACTTCGCC CAGGCACTGCAAGCGCGCGTGATCAGCTCCTACCTCGCCGGAGCGTGTGCTCCACTCCCGGAGAGTCCCCTCCTCACCGTTTTCCAGTCCCAGAA GATCTTCGCCGCCTTGCAGACGTTCAACTCCGTGAGCCCTCTGATCAAATTCTCCCATTTCACGGCGAATCAAGCAATCTTCCAGGCGCTTGACGG CGAGGATTCCGTCCACATCTTCGATCTCGACGTGATGCAAGGCCTTCAATGGCCTGGGCTCTTCCACATCCTCGCTTCCCGTCCTCGAAAACTCCG ATCCATCCGAATCACCGGATTCGGCTCTTCCTCCGATCTCCTCGCCTCCACTGGCCGGAGACTCGCCGATTTCGCGGCCTCCTTGTCCCTCCCGTT CGAATTTCATCCAATCGAAGGCAAAATCGGAAACCTAATCGATCCGAGCCAACTCGGGACGAGACCCGGCGAGGCTGTGGTAGTTCATTGGATGCA GCACCGGTTATACGACGTCACCGGGAGCGATCTGGATACATTAGAGATGATACGGAGGCTGAAGCCGAACCTGATAACGATGGTGGAGCAGGAAT TGAGCTGCGACGATGGAGGAGGAGGAAGCTGCTTTCTAGGGAGATTCGTGGAGGCGTTGCATTATTACAGTGCCTTGTTCGACGCGCTTGGAGAC GGATTAGGCGAGGAGAGTGGAGAGAGATTCACGGTGGAGCAGATCGTGCTCGCGACGGAGATAAGGAACGTAATAGTCGGAGGAGGAAAGAGGA GGAGGAGGATGAGGTGGAAAGAGGAGCTGAGTCGGGTCGGGTTTAGACCCGTTTCGCTTCGGGGCAACCCGGCGACGCAAGCGGGTTTGTTGTT GGGTATGTTGCCGTGGAATGGGTATACGCTGGTCGAAGAAAATGGAACCCTCCGTCTTGGCTGGAAGGATCTCTCTCTTTTGACTGCTTCCGCTTG GCAATCTCACCCGTCTGATTGATTTTACGATCTCCCATGTTTATTTTTTTCTTTCTGTAAACATTTTTTTTTTTTCCCTTTCTTCTACACTTTATTGTTGTTT TAAAGAATAACGAAAAGGTTGGAGAAAGTTAATTTTAAATAATCATGAATGTTATGATTTTTTAAGAAAAACACGGAATTACTATAATTCTGTAATTACT AAAGTTTTAGGAATGTGTTAACTGTTAACACAGGGGCGAGCCTATTAGTTGGAGTGTGAATTTAGAGTTGGATGTATTGTATAGACGACATTAGGTTC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003L10	AT1G71710.1	inositol polyphosphate 5-phosphatase, putative	GAAGCTATTTTATTTTTTTATAAAGTTTTCTTACATAAAATGATGAAAAGAAAGACGAGGACTGACTCACGCGTTTCCGAGCTCTCTCAATTCTTGAGC CTGCAAGCATGATGAAGAAAAGCTACCGTCGTCAGAAATCTCAGAAATTATGGGCAAAGCTGGTGATGAGGAAGTGGTTGAACATAAGTGCTAGAG ATCCTGAGTATGGTGCCGATACTGAAGACGAATCCGAAAACGACGACGTTACAGAGGAAAACGATGATTCCAGCTCCGATGAAGATGGTGGAGAAT CGAGGACGCGTGGAAGAGAATCGACTCTATCGAGGGTTTGTGAGAACGCGGAGGATGCTATCGCCGCCGCTTCCACCGCCGTGGACGCCGCCGC AGCTGCCGCGGAGTTTACTAGCAATGATGCTCCGTTGAAGTTAAGGAGAAGGAATTCGGAAACACTAAGAGCACAGTACATTAACAACAAAGAAATA AGAGTATGTGTTGGTACGTGGAACGTAGGAGGAATATCACCACCTTCTGATCTTGACATTGATGACTGGATTGAAATTAATCATCCTGCTGATATCTA CGTTCTTGGTTTTCAAGAGATTGTACCTTTAAATGCTGGAAACATTCTTGGAGCTGAAGATAACCGACCAGTTGTGAAATGGGAAGAAGTGATCAGA GAAGCATTGAACAGAGTCAGACCAAAAAACTCTGCGGTTAAGAGCTACAGTGATCCACCATCTCCGGGAAGATTCAAACCTTTTGAGGAAACACATG ACGTCATAGAGGAAGAAGTAGCTTTCGAGAGTGACAGCGACATGGGCGTTGAGGTTCACCCTGTAGACGAAGAGGAAGAAGAAGAAGAAAGCCTC AGCGAGCTAAAGCACGACGGTGGAGTTACCGGGGAAGTCAACACCCTCGTTGACCCTAATACCGGTTTACCGGTTATTGAGATCAAGAGACAGTTC TCTTCTCCTAGGAAGCTAGACAGACAAGTCTGTTTACGTGTTGATAGCATTGAGAGAAAGCACAACGAGGATTCATCTGAAACCGGTATGAAAACGC TAAACCGGATGCTAAGTGGGAAAGAAAGGATCGGTTTGAGCTGGCCGGAGCCTCCTTTGAACATGTTAGGACCCTCGTGCCTTCTCGATAGACAGC CGTCGATACAGACAGTGACGTCACTGAAAACAGCCAAATCTTTCAAGGCTTATAGTTCGTTTAAGTCGGTAGCCGGAAGCAACCAAGGGATTCCACC GGAGGTATTGGCTTTAGCTGAAATGGACTTGAAGTTGCTAATGGAGAGGAAACGTAGACCGGCTTATGTGAGGCTAGTGAGTAAACAAATGGTTGG GATTCTTTTGACCATTTGGGTTAAACGAAGCCTGCGAAAACACATTCAAAACGTACGTGTCTCTACGGTTGGAGTTGGCATCATGGGATATATTGGTA ACAAGGGAGCTGTGTCAGTGAGTATGTCGATAAACCAGACGTTCTTCTGTTTCATATGCACACATTTGACGGCAGGAGAAAGAGAAGTTGATCAGAT CAAGAGAAATGCAGATGTTCACGAGATACATAAAAGAACAATCTTTCACTCTGTCTCAGCTCTTGGACTTCCCAAGCTTATCCTTGATCACGAAAGAA TAATATGGTTGGGAGATCTCAACTATCGGCTTAATTTATCTTATGAGAAAACCAGAGACCTCATTTTCAAGAAAGAATGGTCTAAGTTACTTGAACATG ACCAGCTGGTGAAGGAATACAAGAAAGGTAGAGCATTTGATGGATGGTCAGAAGGAACTCCACATTTTGCACCGACCTATAAGTACCAAGCGAACT CCGATGAGTACACAGGAAACGATGGAAAGGGGACCCGGAGAACACCAGCTTGGTGTGACAGAGTATTATCCTACGGGAAAGGAATGAGGTTGGTT CATTACCGACGGACCGAACAGCTATTCTCGGATCATCGTCCGGTTACAGCGATATACATGGCTGAAGTTGAGGTGTTTTCTGCCAAAAAGCTTCAGC GAGGTTTCAGATTTAGGGATGGAGAGATTGAAAAGCAGGAAGTTGTGGCTGTAGTTGTTTAAAGAGCTAAAGAAAGAAAGAAGAAGAGAATTGAGAG
GCT-003L11	AT1G77920.1	bZIP family transcription factor	GGATTTTCTGTGGTCGGAATGAAAAATATCTCTGTTTGATCGAGAGATTCCCCAGAAATGCATTTCAAAAGTATTTTCTAACTCTTCATATCTCAACTT CGTCATGAATTCCTCTGCTTCTCGATTCAGTGAGCAAATGTAAATTTGGTTGCAAGCTATTGGGATCTACAGTTGAAGAGAGATGATGAGTTCTCCAA CTCAACTTGCATCCTTACGAGACATGGGAATCTACGAGCCATTTCAACAACTTGTCTCTTGGGGAAATGTTTTCAAATCAGACATCAGTGATCATAGT CCCAATACTGCTTCTTCCTCAATTATTCAAGTGGATGCTAGAATAGATGATCATGAGCACAACAACATCAAGGGAAACTACGTTACTTCGCATAACCA GATCGAAGCAGAACCTTCTAGTAATGATCATCAGGATGATGATGGCAGGATTCATGATAAGATGAAACGGCGTTTAGCGCAGAACCGAGAAGCTGC TCGCAAGAGTCGTTTGAGAAAGAAGGCTTATGTTCAACAGTTGGAAGAAAGTCGGTTAAAGTTATCGCAGTTAGAGCAAGAACTCGAAAAGGCTAAG CAGCAGGGATTATGCAGACGCAACTCGTCAGAGTCTAGCTATTTAGGAACCTCTGGGAGGAGCATGATTAACACAGGGATTGCTGCGTTTGAGATG GAATATTCACATTGGCTTGAAGAACAAAGCAGGAGAGTAAGCGAAATCAGAACAGCTCTTCAAGCTCATATAAGCGACATAGAGCTCAAGATGCTTG TAGAGAGTTGCTTGAATCATTACGCGAATCTCTTTCGAATGAAATCTGATGCAGCGAAAGCTGATGTTTTCTACTTGATATCTGGCATGTGGCGAACT TCAACTGAAAGATTCTTCCAATGGATCGGAGGATTCCGTCCATCTGAGCTTTTAAACGTTGTGATGCCGTATCTTCAGCCATTGACAGATCAGCAAAT CTTGGAAGTGAGAAACCTACAACAATCATCTCAACAAGCAGAGGATGCTCTGTCTCAAGGGATTGATAAACTTCAACAGAGTTTAGCAGAAAGCATC GTGATTGATGCTGTCATTGAGTCCACGGATTACCCGCCTCCTCACATGGCTGCAGCGATAGAGAATCTCCAAGCATTAGAAGGATTTGTGAATCAAG CGGATCATCTGAGGCAGCAAACTTTGCAGCAAATGGCGAAGATCTTGACGACAAGACAAGCGGCTCGAGGTTTGCTTGCTTTGGGAGAGTATCTTC ATAGGCTTCGTGCTCTTAGCTCTCTTTGGTCAGCTCGTCCACGAGAACCCACTTAAAGTGGGAAACAAGAAACAGAGTCCAAGTTTAAAGCAGACTC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003L12	AT3G47640.1	basic helix-loop-helix (bHLH) family protein	GCAATTTCACTCCTCAATTTATCAAATCCCTCTCTGAATCTCTCGTAGCTTTTAGAGAAACAATAACTCTGATCTTCAAACAATTTCCGATAGAAAATAT CACCAGTGTTGAAGGAAATATCTTCCCGCCTTGGCCTGAGAGAGGTGACTTGACAGAGAATAAAGCAAGAAGATGGGGTCGAAAACTCCTTCCACA TCGACTGATGAAGCGAATGCTTCTGTAGATGAAAGGTCTAGAAAAGGTAAAGTACCCAAAAGGATTAACAAGGCTGTTCGGGAGAGGCTTAAACGC GAGCATTTGAATGAGCTTTTCATCGAATTAGCAGATACACTTGAACTGAATCAGCAGAACAGTGGTAAAGCCTCCATTCTTTGCGAAGCTACTCGATT CTTGAAAGACGTGTTTGGTCAGATTGAGTCCCTTAGAAAGGAGCACACTTCTCTCCTCTCTGAATCTAACTACGTAACCACAGAGAAGAATGAGCTG AAGGAAGAAACATCAGTGCTTGAGACTGAGATCTCTAGACTACAAAACGAGATAGAAGCAAGAGCGAATCAGTCTAAACCCGACTTGAACACCTCTC CTGCACCTGAGTACCATCATCACTATCAACAACATCCCGAACTCGCATCTCAGTTTCCAGGACTTCCAATTTTCCAAGGCGCCGGCTTTCAACAATCT GCTGCAACTCCTCCTGGTGCCACAGTTCTTGTCCTTCCTTTGCCACCCGATCTACAGACACAAGATACTTCAGACATGACAGGGCGTGTGCAGACA CAAGCGCCAATGATGTATAGTAGCTCAAATGTGAGCAAGCCGTGTCCAAGGTATGCTAGCGCAGGTGACTCGTGGCCTTCTCGGCTACTTGGATAC AGTGACGGTCCTGGATTCTAGGCCTGTGTTTTACTATAAACCGCCTTTAAAACGTTTAGCGCTTCTCTTTTTTTGTTTGAACCTCAAATCAAACCTTCA
GCT-003L13	AT2G04160.1	AIR3 (Auxin-Induced in Root cultures 3); subtilase	TGGAAATGAAGGAAGCTGATCGGAGCAAGGTACTTCCACAAGGGCTACGCAGCCGCCGTGGGACCACTCAACTCTTCCTTCGACTCTCCACGTGAT CTCGACGGCCATGGCTCCCACACTCTCTCCACCGCCGCCGGATCTTTCGTCCCCGGCGCCAGCGTCTTCGGCCAAGGCAACGGCACAGCCAAAG GCGGCTCCCCACGCGCCAGAGTCGCCGCCTACAAAGTCTGTTGGCCGCCGGTCAAAGGCAACGAGTGCTACGACGCCGACGTTCTCGCCGCTTT CGACGCCGCCATCCACGACGGTGCTGACGTCATCTCCGTCTCGCTTGGCGGCGAGCCTACCTCGTTTTTAAACGACAGCGTCGCAATCGGGTCGT TCCACGCCGTGAAGAAGCGGATCGTAGTAGTCTGCTCTGCCGGAAACTCTGGACCGGGAGATGGTACGGTGGCGAACGTCGCGCCGTGGCAGAT CACCGTCGGAGCTAGCACCATGGATCGCGAGTTTGCTAGTAATCTCATCCTCGGTAACGGAAAGCATTACAAGGGACAAAGCTTGTCATCAACATCT TTGCCACATGCTAAGTTCTACACAGTAATGGCAGCTTCGAAAGCAAAAGCTAAGAACGTTACTGCTTCTGATGCACAATTATGCAAACTTGGATCGCT TGACCCCAAAAAGGCAAAAGGGAAGATATTAGTTTGTCTTAGAGGACAGAACGGGAGGGTGGAGAAGGGACGTGCCGTGGCTTTAGCTGGAGGCG TAGGGATGGTTCTTGAGAACACTAATGTCACTGGGAATGATCTAACCGCTGATCCGCATGTCCTCCCTGCCACACAGCTCAGTTTCAAGGACAGTCT TGCCCTGTCAAGATATATCAGTCAAACCAATAAGCCGATTGCGCATATTACTCCTTCGAGGACAGTTTTGGGAACAAAACCTGCGCCTGTAATGGCT GCTTTCTCGTCCAAGGGTCCGAGCTCGGTGGCTCCTGAGATTCTGAAGCCGGACATAACTGCGCCTGGTGTGAGTGTGATCGCTGCCTACACTGG AGCAGTATCTCCAACAAACGAACAGTTTGATGCTCGTCGTCTTCTGTTCAATGCTGTTTCAGGGACTTCCATGTCTTGTCCTCATATCTCTGGCATTG CGGGTCTTCTTAAAACCCGTTATCCTTCTTGGAGTCCTGCAGCTATCCGCTCTGCCATCATGACTACCGCAACAACAATGGATGATATTCCCGGACC CATCCAAAACTCAACCAATATGAAGGCAACACCTTTCAGTTTCGGGGCAGGACATGTCCGACCAAATCTAGCTGTGAATCCCGGTTTAGTATACGAT TCAGGCATCAAGGACTACCTCAACTTCTTATGCTCCCTTGGATACAATGCATCACAAATCTCTGTCTTCTCGGGCAAAAACTTTGCATGTAAAAGCCG TAAAACCAGTCTGTACAACCTTAACTATCCTTCCATCACAGTTCCGAACCTGTCATCGCGCAAAGTCACCGTCTCAAGGACCGTTAAAAATGTTGGAC GACCTTCAACCTATACAGTTCAGGCGAATAACCCACATGGTGTTTATGTCGCAGTTAAGCCAACAAGCTTAAATTTCACCAAAGTTGGAGAACAAAAG

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GCT-003L15	AT4G33150.2	LKR (SACCHAROPINE DEHYDROGENASE)	GAGAAGAGTACTGGATCAAATCATTGATTCGTTGACTCGATTAGCTAATCCAGATGAAGATTATATATCTCCAAGTAGAGAGACGAATAAGATCTCAC TAAAGATTGGAAAAGTCCAGCAAGAAAATGAAGTAAAAGAGAAGCCTGAAGAAATGAGGAAGAAATCAGCGGTTTTGATTCTTGGTGCTGGACGTGT GTGTCGCCCTGCAGCTGAGTTTCTAGCTTCAGTCAGAGACATTTCGTCAGAGCAATGGTACAAAACCTATTTAGGAGCAGACTCGGAAGAACAAACT GATGTTCATGTGATTGTTGCATCTCTGTATCTTAAGGATGCCAAAGAGACGGTTGAAGGTATATCAGACGTAGAAGCAGTTCAGCTAGATGTGTCAG ATAGTGAAAGCCTCCTTAAGTATGTTTCTGAGGTTGATGTTGTCCTTAGTTTATTACCTGCAAGTTGTCATGCTGTTGTAGCTAAGACATGCATTCAG CTGAAGAAGCATCTAGTCACTGCTAGCTATGTTGATGATGAAACGTCCATGTTACATGAGAAGGCTAAGAGTGCAGGGATCACGATTCTTGGCGAAA TGGGACTCGACCCTGGAATCGATCACATGATGGCGATGAAAATGATCAACGAGGCTCATATCAGAAAAGGGAAAGTGAAGTCATTTACCTCTTACTG TGGTGGCCTTCCCTCTCCTGCTGCAGCAAATAATCCATTAGCATATAAATTTAGCTGGAATCCTGCCGGAGCAATTAAAGCTGGCCGTAACCCAGCC AAATACAAAAGCAACGGCGACATAATACATGTCCATGGGGAGGATCTGTATGATTCAGCCACAAGTTTCAGAGTACCTAATCTTCCAGCTTTTGCATT GGAGTGTCTTCCAAATCGGAACTCCTTGGTTTACGGGGAACATTATGGCATCGAGAGTGAAGCATCAACCATATTTCGTGGAACCCTCAGATACGAA GGGTTTAGTATGATAATGGCAACACTTTCAAAACTCGGATTCTTTGACAGCGAATCAAATCAAGTACTCTCTACTGGGAAGAGAATTACGTTTGATGC TCTTTTAAGTAACATTCTGAAAAAGGATGCAGACAATGAATCTGAGCCTCTAGCGGGAGAGGAAGAGATCAGCAAGAGAATTATCAAGCTTGGACAT TCCAAAGAGACTGCAGCCAAAGCTGCCAAAACAATTGTATTCTTGGGGTTTAACGAAGAGAGGGAGATTCTGTCATTGTGTAAAAGCGCTTTCGATG CAAGTTGTTACCTAATGGAAGAGAAACTTGCCTATTCCGGAAATGAACAGGACATGGTGCTTCTGCATCACGAAGTAGAAGTGGAATTCCCTGAAAG CAAACGTACAGAGAAGCACAGTGCGACTCTCTTAGAATTTGGGGAAATCAAGAACGGGCAAACAACGACTGCTATGGCCAAGACCGTTGGGATCCC TGCATCCATTGGAGCTCTGCTGTTGATTGAAGACAAGATCAAGACAAGAGGAGTCTTAAGGCCTCTCGAACCAGAGGTCTATTTGCCAGCTTTGGAG ATATTGCAAGCATATGGTATAAAGCTAATGGAGAAGACAGAATGATTTTATTCTGTCTCAAGAACTCTGTATATTGTTTCTTTATCGTTTGGAGACTAA
GCT-003L16	AT5G32440.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT1G80040.1); similar to Os06g0642900 [Oryza sativa (japonica cultivar-group)] (GB:NP_001058174.1); similar to Ubiquitin system component Cue; UBA-like [Medicago truncatula] (GB:ABE77893.1); contains InterPro domain UBA-like; (InterPro:IPR009060); contains InterPro domain Ubiquitin system component Cue; (InterPro:IPR003892)	GAACAGCAAACATATAAAGCGAAAGAAAAAAGAGAGAGAGAGAGAAAAAAAAAAGAAAAGAGAAAAATGGAGGACGACAACAATAATAATAACACAA GCAACACAAACGTGATCGCACCTTTTGTTGTGAAAACGTACCAGATGGTCAACGATCCTTCTACCGATTGGCTCATCACTTGGGGACCTGCACACAA CAGCTTCATCGTCGTTGACCCTCTCGACTTCTCTCAACGGATCTTGCCTGCTTATTTCAAACACAACAATTTTAGCAGCTTCGTTCGTCAGCTCAACA CTTATGGGTTTAGGAAAGTGGATCCGGACAGGTGGGAGTTTGCAAACGAGCATTTCTTGAGAGGCCAGAAGCACCTGCTCAAGAACATAGCGCGTA GGAGACCAATTTAGATGCGAAGATGTGTAAGATCCGCTAAAAGACTTCTTCTCAAGGGTTTACTTGGTTTCCGATAATCAGAGGAATTACAAGGAAAA TAAAAAGGAAAGGTGAGATCTGAAGGAAGAAGAAGGGGGAAGCAGATAACATGTCTGCGATTGTTTGCGGTAAGAGATCTCTGTTCGAGGACTTGG CCGCCGCTTCTCCTCCCGTCTCCAAGAAAATCCGTTTCTTTTCTTCATCTTCTCCGGCTCGTTTCTCTCCTCCGATTACTCCTTCGTCTTCGCTTCTTC TCGATCACCTCGCCGCGATCTTCCCCGATATGGATAAGCAGGTGATTTTTCGATTTGCAAACGCTTTCTATTGGATTATCTTTTTCGCCCATGATTTTT TTTGCGTGTAAGATTCGGGTTTGCAAAATTGTGATTTTGTTTATATTCTTATTGGACTTTTCTTGTTTTTCGATTTCGATTCCGATCAGATGAATATTGT GATTTCTGCCAACTAAATAATCCTTTTTCTACTAATTGTTGACATTTTTGTGAGTACTAGATTCTTGAGCGGGCAATCGAGGAATGTGGAGATGATCTT GAATCAGCCATTAGATGTTTGAATCAGCTTCGTTTAGAATCTGCCAATAAGAATTCAGACTCTGCTACAAACCAATCTACTTTAACCCAAGCAAAGGT TGAAGCTCATCCGCAAGGTAGTTTTGGGGATCAGCCAAGGAGGAAGTTTTATCGAATGGAGAACCAAATGTCTTGAACTTGAATGGCACTGAGTGG GTTGAGCTGTTTGTTAGGGAAATGATGAATGCTTCTGACATGAAGGACGCCAAAGACCGTGCTTCGAGAGCATTGGAAGCTTTGGAGAAGTCCATC AATGCTCGTGCTAGTGCTGAAGCAATGCAAAGTCTCCAACAGCAGGAAAACTTGATGCTAAGGAAGCAATTAGAGGCCATTCTCCAGGAAAACAGC CTACTTAAACGAGCTGTGGTGACTCAACAGAAGCGACAGAAAGAATCTGAAGACCAAAGTCAGGAATTGCAGCATTTGAGGCAGCTAGTTACTCAAT ACCAGGAGCAATTGAGGACTCTAGAGGTAAACAACTATGCTCTGACGCTTCATCTGAAACAAGCACAGCAGAACAGTTCCATCCCGGGGCGGTACC
GCT-003L17	AT2G29450.1	ATGSTU5 (Arabidopsis thaliana Glutathione S-transferase (class tau) 5); glutathione transferase	GCACAAAAACCATTTCTAATAGACAGAGAGTGAGAGAGAAAGAAGAAAACTAATGGCTGATCAGAAAGAGGAAGTGAAGCTTTTGGGGATATGGGC AAGCCCATTCAGCCGTCGGATCGAAATGGCTCTGAAACTCAAAGGCATACCGTACGATTACGTGGAAGAAATATTGGAGCACAAAAGCCCTTTGCTT CTTGCTCTTAACCCTATTCACAAGAAGGTCCCTGTTCTTGTCCACAATGGTAAAACCGTTGTCGAGTCTCAAGTAATTCTTGAATACATCGACGAGAC TTGGAAACACAATCCTATTCTCCCCCAAGATCCTTACGAGAGATCTAAGGCTCGATTCTTCGCTAAACTCGTCGATGAGCAGATTATAGGCGTGGGT TTTGGAGCAATGGCAAAAGCAGATGAGAAAGGAAGAGAAGTTTTAGCTGAGCAGACAAGAGAACTTCTTATGTATCTAGAGAAGGAACTTGTCGGAA AAGATTTCTTCGGCGGTAAGAGTGTCGGATTCTTGGACCTAGTCGCCGGAAGTATGATTCCGTTTTGTTTGGAGAGAGGTTGGGAAGGACTTGGAT TGGAAGTTGTTACTGAGGAGAAGTTTCCAGAGTACATGAGATGGGTGAAGAATCTGGAGAAGGTTGAGTTTGTCAAGGATTGTATTCCTCCAAGAGA GAAACATGTTGAGCACATGAATTATATGGTAGAGAGAATCAGATCTTCTTAAACTATCATGAAGACTAAAATCATCTTTATGTTTTGATTTGATATGTAA

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GCT-003L18	AT2G32400.1	GLR5 (Glutamate receptor 5)	GAGTTTGATTTCGATGTGATGACTTTGTGGGTATAATTTGGTTTCTATAGTTTTGGGTTTTTCTGTTTTCCCCTTTAGGAATCTGGCTCCTGTTCGATC ATGGCTTTTTTTTCTTTTTTCTTTTTTTTGGTTCCTCCTGTTAAAAATTCGTTGCTTTGTCGTAAAATTTCCCTTTTTTAGCTTATGCCTGCGACGTGTTT GCGTATATTTCGTAGAGAACCTGAAGCTTGCTGAAAGAGACAAGAGAACTTCTCACTGTTGAACTGATTCTTGTCTGGTGGATTGATCTCTATTCTTC TCATCCTCAATGGCTTGAAGAGCTATTTGATTAAAAGAGATGGTTCTAGCTCTAACAGGAATTTTCTGAACTGTTCCTTAGTTTGATTGCATTGTCTCC ATGGCACTGCGCATTGACCCATATATGGCTGTAACGGCATTGATTGTGGCCGTTCTGGTGGTTCCAATGTGTTGCCAAAGGCCTCAAGTGGTGAAA CTCGGTGCTGTTTTCGCATTTGATTCGGTTATTGGAAAAGCTGCAAAAATAGCTCTCGAGGCAGCTGTCTCTGATGTGAACGCAGACACAAGCGTTC TCAGAGAAACTGAGCTACGGCTGCTCATGGAGGACTCTTCCTGCAATGTCTTTCATGGGTCCTTCGGAGCTTTTCAAGTGCTTGAGAAAGAAGTGGT GGCTATGATCGGTCCAATTTCATCCTCCATCGCTCATACATTGTCAGATGTTGCCAAAGGGCTCCAGTTCCCTCTCGTCTCATTTGCAGCAACTGAT CCAACTCTCTCTGCCCTCCAATTTCCCTTCTTTCTTCGGACTACACCTGATGATGCCCACCAGATGTCTGCCCTTGTGGATCTTATCAATTACCATGG ATGGAAAGAGGTGATATCGGTTTACTCAGATGATGAACTCGGTAGAAATGGAGTTTCTGCTCTAGATGATGAACTCTACAAGAAAAGATCCAGAATTT CCTATAAAGTGCCACTTTCTGTGCATTTTGATGAAAAATCCATTACTGATGCTTTGAAAAAATCCAAGTCCCTTGGTCCTCGAGTCTATATTCTTCACT TTGGCCCTGCCCCATTGCTCAAAATTTTTAGTATAGCGCAAAAGCTGCGGATGATGACCCATGAATACGTGTGGCTAGCCACCGACTGGCTCTCAGT TACCTTAGATTCTTCTTTGATTGACAAAGGTAAATTAAAACGTCTTGAAGGAGTAGTGGGCCTTCGTCAACACATCCCAGAATCCGTAAAGATGCACC AATTCACTCAAAAACTGAAGAGTAACAGATCAATGAATGCCTACGCATTCCATGCCTATGATACAGTGTGGATGATTGCATACGGCATCGAGAAATTG CTGAATGAAAGAATCAACATAACGTTCTCCTACTCCGAGAAGTTAATTCATGCACAAGGTGATAAACTGCACCTGGAGAGAGTCAAAATTTTTGACAG CGGGAAGTTACTACTTAAGAAACTTCTGCAGGTGAACTTCACTGGTATAGCTGGTCAAGTTCAGTTTGGTTCTGGTCGAAATGTCATCAGCTGTGAC TATGAAATTATCAATGTAGACAAAGCTGGTGTTCATACTGTGGGTTTCTGGTCGAAAAATGGAGGCTTTTCGGTTGTAACCCCAGAAACTCGACAAA GACAAAAGAAGACTGCCTTGGTTTCTGATGAAAAACTTGGTAACATAACCTGGCCAGGTGGTGGCCATGAAAAGCCGCGTGGTTGGGTCATTGCAG ATTCCGCAAATCCGTTGAAGATTGTTGTCCCAAAAAGAGTGAGCTTTGTTGAGTTTGTGACCGAAGAAAAGAACAGTAGCCATCAGATCAAAGGATT TTGCATCGACATCTTCATTGAAGCATTGAAGTTCGTCCCTTACAGTGTTCCTTACATATTTGAGTCATTCGGGAATGGCAATTCAAGTCCTAACTACAA CCAGCTTATTCAAATGGTCGCAGATGGCGTATATGATGCAGCTGTTGGGGATATTGCTATAATCCCAACTCGATCCAAATTAGTAGATTTTTCGCAGC CATATGCATCCACAGGCCTTGTGGTGGTAATCCCAACTAACGACGACAATGCCACTTGGATCTTTCTGAGACCTTTCACCATTAGGTTATGGTGTGT
GCT-003L19	AT5G41750.2	disease resistance protein (TIR-NBS-LRR class), putative	GAAACCAGTAGTTTCCAGTACAGTTCTCATACGAAAATTCCTTTGAATTTTCCTCTCCTCTTTACCCGTTTGGCTTATATAGATGAACTAAGAAAGCTT GTTTCCTCAAACCACTGCTATACTTTCTTCAAACTCTCTTTTGCTCTATCTCTCTCATGGCTTCTTCTTCTCCTGCTTCTCCTTGTGCTTATATTAAGAG ATACGATGTCTTTCCAAGCTTCAACGGGCCAGATGTTCGTAAAGGACTCCTCAGTCATTTACACGATCACTTTTTAAGGAAGGAAATCAAAATGTACA GGATGATAAGATGGAGAGATGCAATACGATCAAACATGAACTCGTGAAAGCGATTAGAGAATCGAGGGTCTTGATGGTTTTGCTCTCGAAGAACTAC GCTTCTTCCATCTGGTGTTTGGACGAACTGGTGGAAATCTTGAAGTGCAGAAAAGATAAGGAACAGATTGTGATGCCTATTTTCTACGACGTTGATC CGTTCCATGTACGCACACAGAGCGGTGACTTCGGGAGCGCTTTCGAGAAAACCTGCGAAAACCAAACAGAGGAAGTGAAGCAGAGATGGGTCGAA GCTTTGAAATGTGTAACGACCATAGCTGGAGAACACTCTTGTAACTGGCCTGATGAAGCTGCGATGGTCCAAAAGCTTTGCACAGATGTCTTGTACA AACTGAGAGTGGAAGCTATTAAGGACGAATTTAGGAAGTACGATGTAGACAAGAATGGTTTCATAACTGTAGCAGAGCTTCGACGATATGTGTTGAT AAAAGATGGTGAGGAATCTACCGATAAGAAAGCTCGTAGTATCATCCGAGTAGCTGATGTTGATGGCGATGGTCAGCTCAACTGTGATGAATTTGTC GAACTCATGACTCTTAGGATGACTAGTGAAGAGCTTTACACGGACCAAGTGAAAGCGGAAATGATGAAGGAAGGCTTTAGGGAATGCGATGTAGAC CAGAATGGTTACATAACTGCACCAGAGCTTAAATACGCGTTGACAAAAGATGGGAAGGAAATTACCGATAAGCAAGTTCGTAAGATCATTCGGGTAG CTGATGTTAATGGCGATGGTCAGCTCAACTGTGATGAATTCTTCAAATTCATGAATCTCATGATGGATGCAAAGAGGAGGACTGATGAAAGAGCTGC GACGATCGAAAAGATTACCACATATGTCTCCACCAAAAAGGATAAATTTAGTCATATGCATGGTAAAATAAGCTTTATCCTGAAGAAGAAAAGAAAAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003L20	AT3G60690.1	auxin-responsive family protein	GAGACAGCCACAAAATCCATTTTTCTCTTTCCGTTCTCAATTCTTAGCCGTTGATGATCTAAATCGATCAATCAAACATAACAGAGAACCAGAGCTTTG AAACTCTGAAAAACAGAGGAAACCAGAGTAAAGAGTCTTGTTTTATTTTTGTGTCGTCAAACATTTTTCGATATACTCTTCTCTCTTTCTTTGTCTTGTC TTAACCGTCGCTTATCTGTCTCCGGTCCGAAACTAGCTCTGTTCATTGGTTTTGTCTGATCTGTTTTTGAACGATGAGGAGGTTAAGAGGGATCAAAA TTAGAAGACCGATTCAACGAATCTCGAGATGGATCCTTCGGAAAACCCGTATCCGCCGTTCGAGACACATCCGGTTAACTCCGACCCGACCGGTTT GCAAGCCGCGAGCTCGAGCCATCACAAAACTCATAAGCTGGGGTCGTAGCCTCACATCCCACAGCGCCAGGTTTCTCGGGTCTAAAAGATCAAATT CCGGGTATATACCAATTGGTCAGGAACCGATTCGAGATAAACCCGATCCGGTTCCGAAAGGTCATTCGGCGGTTTACGTTGGTAAACAAGACGGCG ACTTTCACAGAGTTCTGGTGCCCATCGTTTACTTTAACCATCCTCTGTTCGGTGAGCTTCTGAGAGAGGCAGAAGAAGAATTTGGGTTTTGTCAAGA AGGTGGAATCACCATCCCTTGTCCTTACTCTGATTTCAAACGGGTCCAGACCCGAATTGAATCCGGGTCGGGTTTCGGTAAATTTTCCTGGAGCCG GCGCCGGCAATAACGACGACTGAAGAAAACGGTTCATGATGATGATGATGAAAAAAGTTTTAACCTTTGTTATTTTTTTTGTCACTATTTTCTATGTTT TGTCACTTTGTGACCCTTTTCACTTGTCACTTTTTTTTACCCTTTTGTTAGATATATGTATATGTGAAAATGAGATTTATTTAGTTTTAAACTAAGACGAC
GCT-003L21	AT2G18300.2	basic helix-loop-helix (bHLH) family protein	GAGTTTTTCCCACCTCTTTCATCTTTTCTAAGCAACCTACCCAAACAACATTACATAAACCTAAATCTCTCCTACTGCATACATTTATAGCAAATCCTCT TTTGCTTTAACCCACCCAAAAAAAGAAAAAATATATTCAGAGCTTTTGTTCCACCATATTCTATTCTATTTGTACTTTTGGTCTGACTTTAAAGATCATA TACATATATAGAAGTTACGAGATTTCTGCAGAGAACAATATGCTGGAAGGTCTTGTCTCTCCAGATAGCTTATCCTTAAGCTCCATGGACATGTCTGT ACTTGAAAGGGTTAAATGGCTGCAAAAGCAACAGCAACAAGAACAAGTTGTGTCTCAGAGCAGTAATAATTCACCTGAACTTTTTCAGATACTTCAAT TCCACGGAAGCAACAATGATGAGTTGCTGCAGAGTACTTTCCACCATTTTCAAATGCTTGGATCTGATTTTGGACCAAACTATAACATGGGTTTTGGT CCTAATGAAGCTATGGATGGCTGCATTTCAAGAACAAGTAGCTGCCAGATGGATCAAGTGGATACAATGGGCATTATGTTGAAGAGCAGTGATGAAG ACAGAGCCGTTGCCTTGAAAAACAAGAGAAAATCAGAGATTAAGACAAAGGAAGAAGAAAAGACAGAGAAGAAGATCAAAGTAGAGGTTGAGACAG AGTCAAACATGAAAGGAAAATCAAACATGGGTAACACGGAAGCATCTTCAGACACTTCAAAGGAAATATCGAAGGGAGCTTCAGAGAGCCAGAAATT AGATTATATACACGTGAGAGCTCGTCGAGGTCAAGCCACAGACAGACACAGTTTAGCAGAGAGGGCGAGAAGAGAAAAGATCAGCAAGAAGATGAA ATATCTGCAAGATCTTGTTCCTGGATGCAACAAAGTTACTGGAAAAGCCGGTATGCTTGATGAGATCATCAATTATGTTCAATCTCTCCAGAGACAAG TAGAGTTCTTGTCGATGAAACTCGCTGTCCTAAACCCAGAACTCGAGCTAGCCGTGGAAGATTTATCAGTAAAACAGTTTCAGGCTTACTTTACAAAT CTTCCAGTAGTAGTTGATTCAAAGCCACCAATAATGGTTGATGTGCCATTGTTTCCGCTAGATCAGCAAGGATCTCTAGATTTATCTGTTATAAACCC GAACCAAACAACATCTATTGAAGCTCCATCTGCAAGCTGGGAAACTCAGTCACAGAGTCTCTACAATCCATCTACCATTGGTTTTCAGTACTAAGACA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003L22	AT1G27370.4	squamosa promoter-binding protein-like 10 (SPL10)	GAGCAGATTATTCCATTTCCCTAAGGCGATTTTGGTGTGGACTCGTCTCCCTCACAGTCGCTCCTAGTCAAACGCTTCTTCTCGGATCGGCGACCTC TAGAGATTTCTTCAGCCGTCTCTTCTCTGTTTTGCTACTTAGAGGTGTCTTCTCTTACTCCTTCTTGTATTCTGGGATAACTTTGTTTCTTCTTAGATTT GGGATTTCTTAGAATTTAGCTTTATACTTCTGTTCTGAGAGAGATCGATGAATCAATGAAATTGTTTAGTGTGAATAGCGTATGTGTAGCAATTTCTTA GAATGGCGAATCGTTTGTTTTGTTTCTTCGTTTCCATCTCCCTACGAAAAGAGAAGAAGACGTGTGTGGTTTTCTACTAGACGAATTTGATTGTAACA TTTGATTTTTTTTTTTTTTGTTTCTGTTTCTCTAATCCCTATCGTTAGTTAGATGAATTTATTGATTTCGGGGACCATTTGCTTTCATTGAAAGCCCTTAG CTGAAGGGGACCTTGATTGGGATTGAAACCTAACTTTGATGTCACATTTGATTAGTCCAGTCATTATTGCTGCAGATAGATCCCCTCGTGGTTGATCT TGGTGCCGTTTTCTTTGACATTGTTGTGTAAATTTGATAAACCCCTAAGCTAAGCTTGTAGCCCTTTTGTGTTTGATGAAATTAGTTAGGAAGCTTCTG AAAAGTACAAAGGAGGAATTGGGGGTGGAAAAGTTTTCAATTAAGATGGCTATAGGATGCCGTTTACATCGTGTTTCTTGGCAAGTTGCTCATATTCT GGGCCCAGTTGAATTAAATGCCACTTTGGTTTTTGTGTGATGGAGAGTAGAAGAGGGAGCTAAGAAAAGTAATACCCTTTCTTGTCCCCTTTTTGCT GGTCTTGGTGAAATATAGAAAGCTTTTCTCTTGCTGAGTTCCAAAATAGTAAGTTAAAAAAATAAATTCTGATGAGCTGTGTGTGGTTCTTGATACTCA CAAGGTTTTTCTGCTTTCTTTTGGTATTGATAGTTGTAGGGCGTCGTCTCTAAGGTAGCTGTTTGGCTAGCCAGAGTTATTTATAGTGTGTTTTTTTTT AATTTTGGCTTACTGAAATACAGATTCTATATTTGATATATCTTTCTTCTGCAAACTTGTGTGATTTGTCACTCTGGATTCGGTGGTAGGTCTATGAAA CCTATCTCCATCTTCAATGGACTGCAACATGAGATCTCCTTTGCCATGGGACTGGGAGAATTTGATCATGTCCAATCCGTCAAAGACTGAAAGTGAT AGAAAGCAGCTATCTACCGAGTGGGAGACTGAGAAAGGTGAAGGCATTGAATCTATAGTTCCTTATTTCTCGAGCTTTGAGAAAGTCTGTAGTGGCT CTGCCACCAGTTTCTGGCAGACTGATGTATCCAAAAGCTCACAGTCGACTTCTATCAACTCATCATCCCCGGAAGTCAAAGTATGCAAGGCTGCATC AGAAAGTTCCCCTGGAGTTTCTTGCAGCAACATAGATTTTGTCCAAGTGAAGGCATCCACAGCTCCCGAGGTATCTGCTGCCTCTGCTGAATCAGAT CTTTGTTTAGAACTAGGGAAGCGGACATACTCTGAAGAACTTTGGGGTAGAAAGAATAATGACATTTCAGCTGTTTCTATGAAGTTGCTGACTCCATC TGTTGTTGCTCGAAAGAAATCTAAGCCGTGTGGTCAGAGCATTCAAATCTCACGTTGCCAAATTGATGGCTGTGAACTTGATCTCTCTTCTGCCAAG GATTATCATCGCAAGCATAGAGTCTGCGAAAAGCATTCAAAGTCTCCAAAAGTTACTGTGAGTGGCCTGGAACGTCGATTCTGCCAACAATGTAGCA GGTTCCATGCGGTCTCTGAATTTGATGAGAAGAAACGAAGCTGCCGCAAACGTCTTTCTCATCATAATGCGAGACGTCGCAAGCCACAAGGAGTATT TCCATTGAATCCAGAGAGGATGTACGATCGAAGACAGACAAATATGGCGTGGAATGGGTTGTCCCTTAACTCGAGATCTGAAGAAAAGTATGCATG GGGTACCACTTATGATACAAAGCCTGCACAGACGGAAAGCGGCTTTACTCTGAGCTTCCAGAGAGGTAATGGCTCTGAGGAGCAGTTGTTTGCGAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003L23	AT1G08760.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT4G13370.1); similar to Os09g0516700 [Oryza sativa (japonica cultivar-group)] (GB:NP_001063674.1); similar to unknown protein [Oryza sativa (japonica cultivar-group)] (GB:BAD44860.1); similar to Os08g0541500 [Oryza sativa (japonica cultivar-group)] (GB:NP_001062388.1); contains InterPro domain Nucleic acid-binding, OB-fold; (InterPro:IPR008994); contains InterPro domain Protein of unknown function DUF936, plant; (InterPro:IPR010341)	GGTTCTTCTTTTAATTTGATTTCATTATTTATTTCTCTTTCTTCTGCTTTGTATCTCTCCCAGGCCATAATATTAATTAGTTGTCTCTCTGCGTTTGCAAT TTGTAAATCATCTCGTTGGAATCCACAATCCAAATTTGCTTCTCTTCTCTCTTCTCTCTGAGATCTGACGTCTTCTCCAGTGTGTAGATCCGTCGGTGA TGCGCTTCAGTGATGGCGAATCTAGTGCCCGGTGTTTTGCTCAAGCTTCTCCAGCACATGAACACCGACGTCAAAATCGCCGGAGAACACAGGTCC TCTCTCTTACAAGTCGTCAGTATCGTGCCTGCCCTAGCCGGAGGAGAGCTTTTCCCTAACCAGGGCTTCTATCTCAAAGTCTCTGATTCCTCTCACG CCACTTACGTCTCTCTTCCTGATGAACACGATGACTTGATTCTTAGCGATAAGCTCCAATTAGGTCAGTTTATCCATGTCGATAGGGTCGAATCCTCC TCCCCTGTCCCGATTCTCCGTGGTGTTAGGCCCATTCCTGGTAGGCATCCCTGTCTTGGCACTCCTGAAGATATCGTAGCTACTCACTCTCTAGGGT TCCTCACTGATGACAAGGTTAGTGATAATGGTGCTGTTGGTAATTGCAATGGCTCATTGAGTTCGAAACAGAAAGAGAGAGTTAAGGCAGCTTCCAA AGGAGGAGGAGTGGTTTCTAATGGGAGTGGGAATGAGGTTGAGAGACCACTAGGGAATAGACTGAGCGTTAGCATTTCTAGGGAAGATTCTTCTGA GGGTAAGAAGCCGTCTGCTCTATTCCGAGCGAAATCTGCTAAATCGGGTTTGATTTTGGATGTAAGGAAGGAATCTTTGGGGAAGTTGAAGACTTCT TCAGGTTCAAAGTCAATCCCTTCTTCCCCCACGAGCTGTTACTCACTGCCTACTTCTTTTGCAAAGTTTGCAAATGGGATTAAGCAGCAGCAGCAGG TGAAGCCAAAGGTATTGGAGAAAGGTTCTCCTAGGATGGGTTTATCTGAGAAGGGACGGTCTCTTCTCAAAGTGGAGAGTCCGAATGTCGGCAAAA AGCTTCCCATGATTAAGAACTTCGTGCAGGGGATTGAGTTTGGAGCCAAGGCGTTGAGGAAAAGCTGGGAAGGGAATTTAGATATCAGGAGTTCAG ATAGCACAAAAATGAAGCTTGCCAAACGTGATTCAACCCCTGATGCACGAAGTTTAACAGCTCCGCGGAAAAGCACATCAAGTGAGAAGTTGCCAA GCAAACAGGAGAGGGCTAATGCATTTGCAAAATCATCTAAGGATCACAATAAGATTCAGTCAACCAAGAAAATCGAGACAACCGGAATATTGGACAC CAAAGATAAAACGAGTAGACCGAAATCTACGTCCGTGGATAAGAAATCTACTGCGGAGAATGGATTGCCTGGGAATTTGGTCAAAGTCCCTGTTAAT GGTAAAAGATTAGCGGCTGCCACTATCCAATGGGGTTCACTCCCTTCATCTCTTTCGAGGCTAGGACAGGAAGTCTTGAGGCATAGAGATGCTGCT CAAGTTGTTGCTATAGAGGCCATGCAAGAAGCCTCTGCTTCGGAGAGCTTACTTCAATGCCTCGTTATGTACAACGATCTTATGTCAACGGCGAAGG AAGATGATCCATTGCCAGTCGTCGAGCAGTTCTTGAAGCTCCATTCCGGTTTGAGGAATGTTCAGAATATAACAGAGTCACTGTCTAGATTAATTTCT GCGACATCTTCCCCAGAATATGAAGAAAACAGATCTGAGGAAGCTGTAAAAGCGGCATCGGAAAAGCAGAAATTGGCAGCCTCCTGGGTCCAAGCT GCATTAATCACTAACTTATCGGCGTTCTCTGTCTACTCCAGCAAACCAGCCAAACCAGCCGCCTCCAGGAGCAAACCTGTGATCATAATCGAGAACC CGGGTAATAATTCCAGCGGTAAAACCCGTGGGAATGTCCAAAACCGGCCAACGATTGGATCTAAACTCGTGGCACAAGGCATGATCCGCAAACACA GGGAGAACAGTAGTAGCCAAAAGGCCACCACAGTAGCAGGATCAGAGTCTCCACCGCTAAACTGGGTGAAAGGGAATGGTCTGAACGAGGCAACT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003L24	AT1G53310.3	ATPPC1 (PHOSPHOENOLPYRUVATE CARBOXYLASE 1); phosphoenolpyruvate carboxylase	GGTGGATTTATTTTTTTTAAAAAATTTTGGTGCTCTTTTCCTTCAGAGGGAAGTAGGAAGACAGCGAAAATGGCGAATCGGAAGTTAGAGAAGATGG CATCTATTGATGTTCATCTTCGTCAATTGGTTCCTGGCAAAGTTAGTGAAGACGACAAACTTGTTGAGTATGATGCTTTGCTTCTAGATCGATTCCTC GACATCCTTCAGGATTTGCACGGCGAGGATCTTCGAGAAACTGTTCAAGAGCTTTATGAGCATTCTGCAGAATACGAAGGGAAGCATGACCCAAAG AAGCTAGAGGATCTAGGGAGTGTTCTAACGAGCTTGGATCCAGGAGACTCCATTGTTATCGCCAAAGCTTTCTCTCACATGCTTAACCTAGCCAATC TGGCTGAGGAAGTTCAGATCGCTTATCGCCGTAGGATCAAGAAGCTGAAGAAAGGAGATTTCGTTGATGAGAGCTCTGCTACTACTGAATCTGATCT CGAAGAAACTTTCAAAAAGCTTGTTGGAGATCTGAACAAGTCTCCTGAAGAGATCTTTGATGCTCTCAAAAATCAGACTGTGGATTTGGTTTTGACTG CTCATCCTACTCAGTCTGTCAGAAGATCATTGCTTCAGAAACATGGGAGGATAAGAGACTGTCTGGCTCAACTATATGCTAAGGATATTACTCCTGAT GACAAGCAAGAGCTCGACGAGGCTCTACAGAGAGAGATTCAAGCGGCATTCCGAACAGATGAAATCAAAAGAACACCACCGACGCCTCAAGATGA GATGAGAGCTGGCATGAGTTATTTCCATGAAACTATCTGGAAAGGTGTTCCTAAGTTTCTGCGCCGTGTAGACACTGCTCTGAAAAACATAGGGATC GAAGAACGTGTTCCATATAATGCTCCATTGATTCAGTTCTCGTCTTGGATGGGTGGTGATCGTGACGGTAATCCAAGGGTTACTCCTGAAGTCACTA GAGATGTGTGTTTGTTAGCCAGAATGATGGCGGCGACTATGTACTTTAACCAAATCGAAGATCTTATGTTTGAGTTGTCTATGTGGCGTTGCACTGA CGAGCTGCGTGTGAGAGCTGATGAACTTCACGCAAATGCGAGGAAAGACGCTGCAAAACATTACATTGAGTTCTGGAAGACAATTCCTCCAACGGA GCCATACCGAGTGATTCTCGGTCATGTAAGGGACAAGCTTTATCACACACGTGAACGCGCTCGTCAATTGCTCAGCAATGGAATCTCTGATGTCCCT GAAGAAGCTACTTTCACCAACTTGGAAGAGTTCCTGGAACCGCTTGAGCTTAGTTACCGATCTCTATGTTCGTGTGGTGACCGTCCAATAGCTGATG GAAGCCTTCTTGATTTCTTGAGGCAAGTCTCAACCTTTGGGCTCTCTCTTGTGAGACTTGACATAAGGCAAGAATCTGACCGCCACACCGATGTATT GGATGCTATCACCACGCATTTAGACATCGGATCATACAGAGAATGGTCTGAGGAACGCCGCCAAGAATGGCTTTTATCTGAGCTAAGTGGCAAACG TCCGCTTTTCGGTTCCGATCTTCCTAAAACCGAAGAAATCGCTGATGTTCTCGACACGTTTCATGTCATAGCCGAGCTACCAGCAGACTGCTTCGGT GCTTACATTATCTCAATGGCAACTGCACCATCCGATGTATTAGCCGTTGAGCTTTTACAGCGTGAATGCCACGTGAAACGGCCTTTGAGAGTTGTTC CTCTCTTTGAGAAGCTAGCGGATCTAGAAGCAGCCCCTGCGGCGGTTGCTAGGCTCTTTTCAGTTGACTGGTACAAGAACCGTATTAACGGTAAGC AAGAGGTTATGATCGGTTATTCGGATTCAGGGAAAGATGCTGGACGTTTATCCGCTGCTTGGCAGTTATACAAAGCTCAAGAAGAGCTTGTGAAGGT TGCTAAAGAATACGGTGTGAAGCTAACCATGTTTCACGGTCGTGGTGGCACGGTTGGAAGAGGAGGTGGACCGACCCATCTTGCTATATTATCACA GCCACCGGATACGATTAACGGTTCGCTCCGTGTCACTGTTCAAGGTGAAGTCATTGAGCAATCTTTTGGTGAAGAGCATTTATGCTTCAGGACGCTT
GCT-003M01	AT1G08830.1	CSD1 (copper/zinc superoxide dismutase 1); copper, zinc superoxide dismutase	GATTCACAATTTTTTGAGAGAGAATTCAGCATTTGAGAAGCTCAAACACTTTTATTCTTTCCAAAGGGGTGCCCTGAGATCACAAGAGGATACAAACT ATGGCCAAGGGAGTTGCAGTTTTGAGCAGCAGCGAGGGTGTTAAGGGGACTATCTTCTTCACCCAGGAAGGACAAGGTGAGACCACTGTGAGTGG AACAGTTTCTGGACTTAAGCCTGGTCTCCATGGTTTCCATGTCCATGCTCTCGGTGACACCACTAACGGTTGCATGTCTACCGGTCCACATTTTAAC CCTGATGGTAAACAACACGGTGCCCCCGAGGATGCTAATCGACATGCTGGCGATCTGGGAAACATCGTTGTTGGAGATGATGGAACTGCCACCTTC TCAATCACTGATTGCCAGATTCCTCTTACTGGACCAAACTCTATTATTGGAAGGGCTGTAGTTGTCCACGCAGACCCTGACGACCTCGGAAAGGGAG GCCACGAACTCAGCTTGGCAACTGGAAACGCAGGCGGCCGTGTTGCTTGCGGTATCATTGGTCTTCAGGGCTAAATTGTTCCTTCTCCGAAGAAGA GATGGATGTAATAAGGAGGTCCTTCCTCTAGACCTGGCTAGTTTGTGTGTATCTTTTGGTGTGTGGCTATGTCTGAGCATAGTGGCACCATGCATTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003M02	AT1G50280.1	phototropic-responsive NPH3 family protein	GATAATTATTGCTCTGTAAAATCCAAAATAAAACAGAGGAAGCTCCCAAGTCACAAGACTCATTAGGTTTCATAGTTCGATGAAATGTCTCCTCTCTAT GATCTTAAAATCAATATCAGTGGCCAATTCACCTTCTTACTCAATCAGGATGTTATTTCAGAGTACTGTGGAAGCTTGCTGAAGATAATAAAGCATACC AAAAAGAAGAGAAACAAGACAATGAAATCTCCAGATATTATCACTATCGAGATTGATGATTTTCCAGGTGGACCAGATGGGTTTGAGCTGGTTTCAAG ATTCTGTTACAACAACGGAGGAATCTCAATCGATGTCTCAAATGTCTCGACTTTATACTGTTGCTCTGTTTTCTTAGGCATGACAGAGAAGTTCTGTTT CTCTAATCTCTTGCTTCAGACGGAGAAGTTTCTTGAAGAAATGTTCTCCAGGTCTTGGAACGACATCGTTCTGTGTCTCAAGAACTGCGAGCAAGTG TTCCTCCACGCAGATTCGTATGGTCTCCTGGATAAACTCGTTTTCGCAGCTGTGACCAAAATCTCTCGAAATTCAGAAGCTTGTTCCTCTTCGCCGTC TTCTTCCTTTGCCTCTTCTCTTTCTCCTGAGACGGCCAAGAACACGCCGGAATCAGACAAAAGGTCGAATTTGCGAACTGTTTCTTGCGGAAGAAGC AACGAGTGGTGGTTTGACGATTTGTCGAGTCTCTCCCCGAGGATCATCTTGAAGCTAATAAGGATCATTGGAGCTTACAAAACCAACATAAAAAGAA TAGTGCTAACCAGATTTCTTCTCCATTACCTCAAGACAAAACTCCAAACCAAATCAGAGCTTGTGAGGAACAAGATAGAGTATTCCGATTTAGCTGAT GCAGCTGTTAAAGGAGTGATTTTGGCTGGGGAAACTGCGTTTTCTTGCAGGAAACTCTTCTGGGTTCTTCGGGTCTTATCGAATTTCAGGCTCAGTA AAGGGTCAAGCACCGGTTTAGAAACCCTAATCGGAGAAATACTGGATCAAGCAACACTTGATGATCTTCTGATATCTGCAGGAGGAGGACGCAGAG AGAGTGGATTCTACAATGTGGAACTTGTGATAAGGTTACTAAGAGTGTTTGTGAATAAGAGAGAAGAAGATTCAAGAGAGAAGAACATGAAAGATATT GGGAAATTGATTGACAAGTATTTGAGAGAGATATCTCCAGATCAGAATTTGAAAGTATCCAAGTTCCTTGGAGTTGCAGAGAGTTTGCCAGATTCAG CTAGAGATTGCTTTGATGGAGTCTACAGAGCCATTGACATCTATCTACAGTCTCATCCGAATCTAACATCCGAAGAACGAACAAAGATTTGTCGATGT CTCAATTACAAGAAACTAACATTGGAGACCTGCAAACAGCTCGCCAGAAACCCAAAGATCCCTCCAGATATCGCCGTTCAAGCACTCAAGTCCAGAT GTGACAATCAAGAACACAAAACTCCAGATGTGAAAATTGTAAGCAAGAGTGTGTCTCGTAGTCGTAGACATTCACAAGATAAGAAGCCTGTACTGTT GCATCTCAAAGGCTTTGAGATTTCAGCGAAATTAGCCGAGGAGTTGAAGACTGAAGGAGGATATAACTGGAGGGTTATGGATAGTTTCAGAGAAGG GTTATGAGGTCAAAATCTTCCAATTCATCCCGCAATCTCATTTGCATACCAGCGTTGTCCAGAGTCTTGAACAAATCATCAGATTCGACACATTTTTTA GTATCGAAAGCTATGAATTCATGGAGCTTACCTTTCACTTCGATCCAGCTACATCCCGGCGACTTGACCATCTGTTGATCTTTCATTTGCTTTCTCAC
GCT-003M03	AT5G39510.1	VTI11 (VESICLE TRANSPORT V-SNARE 11, vesicle transport v-SNARE 11); receptor	GGTGATTGTGATTTTTACTTTCTAGTTTCGGTATCTACATTCCTAATTATGTGCTTTAATCGCTTAATTGCTTCGGCGAACTCTTCGATCACATGAATCT CTTCAATTATTCTCGCTTGAGATCGGATTCTTTTTTAGTATTCCCTTGGAAAAATGAGTGAGGTGTTTAACGGATACGAGCGGCAATATTGCGAGCTC TCGGCGAATCTTTCAAAGAAGTGTTCCTCAGCTGTTGCTCTTGATGGAGAACAAAAGAAGCAGAAGCTCTCAGAAATAAAATCTGGACTGGAAAATG CCGAAGTTTTGATTAGGAAAATGGATCTTGAGGCGAGGAGCCTTCCACCAAATGTCAAGTCTAGCCTGCTTGTCAAACTAAGAGAATTCAAGTCTGA TCTGAACAATTTCAAAAGCGAAGTGAAGAGAATCACGTCTGCAAACTTGAACGCTGCTGCTCGAGATGAGTTGCTTGAAGCTGGTATGGCTGATACA AAGACGGCTTCAGCTGATCAAAGATCAAGATTGATGATGTCAACGGAACGTTTGGGTCGAACCACGGACAGAGTCAAGGACAGTCGTAGAACAATG ATGGAGACTGAAGAGATTGGTGTTTCAATCCTCCAAGACTTGCACAGTCAGAGACAATCTCTCCTACGAGCCGGGGACACGCTTAGTGGAGTAGAC GATAACGTTGGAAAGAGCAAGAAAATCTTGGCAGGCATGACGAGGAGGATGAACAAGAACAAATGGACCATTGGAGCCATTATCACCGCTTTGGTC TTGGCCATTATCATCATCTTGTACTTCAAACTCACCTAGTAAGCCTCTGTATCTAAAACCCGACCAAAATCTCTGTTACTTAACAATTGGTGTGTTCGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003M04	AT4G36760.1	ATAPP1 (aminopeptidase P1)	GATGTACTTTTAATATCTATCATCTCTCAAAACCTCTGAATCTGTGTTCGTCCTTGAAACAATACCCAAATAACGCAAAATTCTCTCCGAAGAGAACGC CGACATGTCTGAGATTCTATCTTCCTTGAGGTCACTAATGGCCTCTCACTCTCCTCCTCTTGATGCTTTGGTTGTGCCTTCCGAAGATTATCACCAGA GCGAGTATGTTTCTGCACGAGACAAACGCCGCGAGTTCGTCTCTGGATTCACTGGGAGTGCAGGTTTGGCACTTATCACGAAAACCGAAGCAAGGC TTTGGACTGATGGACGATACTTCCTGCAAGCAATGCAACAGCTTAGCAACGAATGGACACTAATGCGAATGGGAGAAGATCCTCTTGTTGAAGTTTG GATGTCAGAGAATCTCCCTGAAGAGGCAAACATAGGTGTTGATTCATGGTGTGTTTCCGTAGACACCGCAAATAGATGGGGAAAGTCCTTTGCCAA GAAGAGTCAGAAGCTAATCCCGACAACAACTGATCTTGTGGACCAAGTCTGGAAAAACCGTCCGGCTTCTGAGATGTGTCCGGTTATCGTTCATCC CTTGGAGTTTGCAGGGCGTTCTGTTTCCGAGAAATTGGAAGATTTGAGGGCAAAGCTTAAGCAAGAGAGTGCGCGTGGTTTGGTCATTGCTGCTCT TGATGAGGTTGCTTGGCTGTACAATATCCGTGGAACTGATGTTGCCTACTGTCCCGTTGTTCATGCGTTTGCAATTGTTACAACCGACTCTGCGTTC CTCTATGTGGACAAAAAGAAAGTATCCGATGAGGCAAGTGCTTATTTCAAAGGGCTTAGTGTAGAAGTCCGGGAGTACACAGATGTGATATCAGATG TGTCCTTGCTTGCTTCTGATCGGCTTTTCTCTTCATTTGTCTCTAAAACTGCTCAACCCGAGGCTACAAAGGACATGGAGATTGATTCTGAACAGACT GATCGGTTATGGGTTGACCCTGCTTCGTGCTGCTATGCACTTTACTCCAAGTTGGATGCAGACAAGGTCCTTCTGCAACCATCTCCTCTCTCCCTCT CAAAAGCCTTGAAGAACCCGGTTGAGCTGGAGGGACTCAAAAAGGCACATGTTCGTGATGGTGCAGCTGTTGTTCAGTACCTTGTTTGGCTCGATA AACAGATGCAGGAGCTTTATGGAGCATCTGGATACTTTTTGGAAGCAGAGGCAAACAAAAAGAAACCAACTGAGACCTCTAAGCTTACTGAAGTGAC TGTGAGCGATAAGCTGGAAAGTCTCCGAGCTGCTAAAGAGCATTTTAGAGGTTTAAGCTTTCCTACTATATCATCTGTTGGTTCAAACGCTGCGATTA TACATTATTCACCAGAGCCAGAAGCTTGTGCGGAGATGGACCCAGACAAAATTTACTTATGTGATTCAGGAGCACAGTATCTCGATGGAACAACTGA TATAACCCGAACGGTTCACTTTGGAAAACCTTCAGCTCATGAAAAGGACTGCTATACTGCGGTGCTCAAGGGTCATGTTGCTCTCGGAAATGCTCGA TTTCCTAAAGGAACAAACGGTTATACACTTGATATTCTTGCTCGAGCTCCTTTGTGGAAGTATGGCTTGGATTATCGGCATGGTACTGGCCATGGAG TCGGCTCTTACCTTTTTGTTCATGAAGGACCTCACCAAGTTAGCTTCAGACCGAGTGCTAGGAATGTGCCTCTTCAAGCTACCATGACTGTAACAGA TGAACCTGGTTACTATGAAGATGGGAACTTTGGTATTAGGTTGGAGAATGTTCTTGTTGTCAATGATGCTGAAACCGAATTCAATTTTGGCGAAAAGG GCTACTTGCAATTTGAACATATCACTTGGGCACCATATCAAGTGAAACTTATCGATCTAGACCAGTTGACACGGGAAGAGATCAATTGGCTAAACACA
GCT-003M05	AT1G73990.1	SPPA (signal peptide peptidase); protease IV/ serine-type endopeptidase	GGGAACGAAATTTCGCAGCAGAAGAGGCACAGAAACAATGGCGAAGCTGCTACTCCTTCACGCGCCTCATGTAGTACCTAGATTTAGCAGCTGTTG GTCACTTGTCTCAGCATCGGCTTTATACAGAAGACCTCTTCTCGTGAATTCCCAATTCTCCTCCTCGGATTCGTATCCATCCCATATCGGACCTCGTC TTCGTTCTCCGTACAGTCGGAGATTCTCTGCTCGTGCCTTCGACGATTCATCTGCTTCCTCGGCGGAGATGGAGAAAGAGCAGCAGGAACAGCGGC CGGACGGAGTTTCTCGGGAAAGAGATGAGGACTATCCTACCGGAGAAATGGTTTATGAGGATAGGAACGCGTGGGAGAGCTTTGTTGTGAAGTTG CGGATGCTAGTTGCTTATCCTTGCCAGCGTGTTCGCAAGGGAAGCGTCTTGACCATGACATTGCGTGGCCAGATCTCTGATCAGTTAAAGAGCCGT TTCTCTTCAGGGCTTTCCCTGCCCCAGATCTCTGAAAATTTGGTGAAAGCTGCATATGATCCTCGTATCGCTGGAGTCTACCTTCACATTGAGCCTTT GAGTTGTGGGTGGGGAAAAGTTGAAGAAATTCGAAGGCATATATTGGATTTTAAGAAATCAGGTAAATTTATTGTTGGGTATATCAACATATGTGGAC TAAAGGAATATTATCTTGGTTGTGCATGCAATGAGCTCTATGCTCCGCCTAGTGCCTATTCCTTTCTGTATGGTTTGACTGTTCAAGCATCTTTTCTTG GAGGTGTCTTCGAGAAAGTGGGGATTGAACCTCAAGTTCAAAGAATTGGAAAATACAAAAGTGCCGGAGATCAGCTTTCTCGCAAAAATATATCCGA GGAGAATTATGAGATGCTGAGCGTGCTACTTGATAACATTTATGCAAATTGGTTGGATGGTGTTTCTGATTCAACAGGAAAACAGCGAGAAGATGTT GAGAGTTTCATCAATCAAGGAGTTTACGAAATTGAAAAGCTAAAGGAAGAAGGGCTGATAAAGGATATTCGGTATGATGATGAGGTCATATCGATGC TAAAAGAGAGGCTTGGAGTCGAAAAAGACAAAAAGCTTCCTACTGTTGATTACAAGAAATACTCAGGTGTTAAGAAGTGGACTCTTGGTCTAAGCGG CGGTCGAGATCAAATAGCTATAATTAGAGCAGGGGGAAGCATTTCTCGGGTTAAGGGTCCGCTAAGCACTCCTGGTTCAGCTATCATTGCAGAACA ACTGATTGAGAAGATCCGCAGTGTAAGAGAGTCCAAAAAATATAAGGCTGCCATCATCCGAATTGACAGTCCAGGAGGCGATGCACTCGCTTCTGA TTTAATGTGGAGGGAGATCAAACTACTGGCTGAATCAAAACCCGTCATCGCATCAATGTCAGATGTGGCAGCAAGCGGAGGCTATTACATGGCAAT GGCTGCAAACACCATTGTTGCTGAAAATTTGACACTAACCGGCTCGATTGGAGTTGTCACAGCAAGATTTACCTTAGCCAAACTATATGAAAAGATTG GCTTCAACAAGGAAACTATATCTAGAGGAAAATATGCTGAGCTTCTGGGGGCTGAGGAGAGACCTTTTAAGCCAGAGGAAGCAGAACTGTTCGGGA AGTCTGCACAGCATGCATATCAGCTTTTCCGGGATAAAGCAGCCTTATCAAGATCAATGCCGGTTGACAAGATGGAAGAAGTAGCACAAGGAAGAG TGTGGACCGGTAAGGATGCACATTCTCGTGGTCTAGTCGATGCTCTTGGCGGGCTTTCCCGAGCTATAGCCATCGCTAAGAAGAAAGCTAATATTC CTCTTCACAAGAAGGTTACTCTTGTCGAGATTTCGAGACCTTCTACATCATTACCAGATATCTTAAGCGGCATAGGAAGCTCGGTGATTGGAGTGGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003M06	AT4G37520.1	peroxidase 50 (PER50) (P50) (PRXR2)	GAACTATATAATCACACACTTAAAAGAAAAGCTTATACTTATACAAAGAGAGAAAGCGAGTTAAAAACAACTAAAAAGAAATGGCTACGAACAAAACG AATCTCTTATTGCTTCTTCTCTCTCTCTTTCTCACCCTAAACCTCGTCTCGGCTCAACTCCGCCGCAACTTCTACGCCGGAAGTTGTCCCAACGTCGA ACAAATCGTCAGAAGCGCCGTTCAGCAAAAGATTCAACAAACCTTCACCACCATCCCCGCCACTCTCCGCCTCTATTTCCATGATTGTTTCGTCAAT GGTTGTGATGCATCGGTGATGATAGCGTCGACTAATAATAATAAGGCGGAGAAAGACCATCCAGATAATTTATCTTTGGCCGGAGATGGCTTCGATA CCGTCATTAAAGCTAAACAAGTTCTTGACGCCGTCGCAAATTGTCGTAACAAAGTTTCTTGCGCCGATATTCTCACGATAGCTACTCGTGACGTTGTC AATCTCGCGGGTGGACCAAGATATGAAGTTGAATTAGGGAGGCTAGATGGGCTTTCGTCGTCGGCGGCTAGCGTCGAAGGGAAGCTTCCACATCC GACGGACGATGTTAACCAACTCACTTCACTTTTTGCCAAAAACGGTCTTTCCCTTAAGGACATGATCGCTCTCTCCGGAGCGCACACATTAGGATTC GCGCATTGCACCAAAGTGTTCAATCGGATTTACAGTTTCAACAAGACAACTAAAGTGGATCCCACAGTTAACAAAGCTTACGTGGCAGAGTTACAAG CGTCTTGTCCTAGAAACATAGATCCAAGAGTGGCTATAAACATGGACCCCACAACACCTAGACAGTTCGACAACGTTTACTATAAAAACCTGCAACA AGGGAAAGGATTGTTCACGTCAGATCAAGTTTTGTTCACTGATCGTCGGTCAAAGCCAACCGTTGACTTATGGGCCAATAATGCAAAGCTGTTTAAT CAAGCTTTTGGTAACTCCATGATCAGGCTTGGTCGTGTTGGTGTTAAAACCGGACGCAATGGTAATATCCGTCGTGATTGTGGAGCTTTTAACTGAA
GCT-003M07	AT3G12620.2	protein phosphatase type 2C	GACCCCCAAATATGGAATTCTGACAGAGTCGCTGCTTAGATTTGTTTTTTTGTCATCTCTCTTCCATCTTTTCTCTTGTAATCCAACCGGAGTTACGAT TCCCCCTCTCATCGTAACTCCTCGAAACAATCTGCTTCCGATCTCGATCCCGTTTACGGCTCTGTTTGATCAGGCGGTTTCATTTCGCGGCATTTGC GACTCCAACACAAAAGGGAAGGAGGTATAGCAGAATATTGATCCGTTTTGGGGTGTTAAAAAAAGTGAGCTTTTTTCTTTAGATGAAGTGAAATTTTG AGGGGATTATGTGAGTTATGGTATCGGCAACTATTTTGCGGATGGTAGCACCATGTTGGAGGCGACCTTCTGTGAAGGGAGAACATCCAACCAGAA ATGGAGACGCTAATGGAAGGTGTGATGGGCTTCTTTGGTATAAAGATTCTGGGAATCATGTTGCTGGAGAGTTCTCCATGTCTGTGATTCAAGCCAA TAATCTTCTTGAAGATCATAGCAAACTCGAGTCTGGACCCGTTAGCATGTTTGATTCGGGTCCTCAAGCTACTTTTGTTGGTGTTTATGATGGTCACG GAGGTCCAGAAGCAGCCCGGTTTGTCAATAAACGCCTCTTTGATAACATCAGGAAGTTTACGTCGGAAAATCATGGAATGTCTGCATCTGTTATAAC GAAAGCGTTTTTAGCTACGGAAGAGGAGTTTCTTTCTCTTGTTCGGCGGCAGTGGCAGACGAAACCACAGATTGCTTCTGTTGGAGCATGTTGTCTG GTAGGGATCATATGTAGTGGATTATTGTACATTGCAAACGCGGGGGATTCTCGGGTTGTGCTAGGAAGACTTGAAAAAGCATATAAAGTTGTCAAGG CCGTTCAATTATCGTCAGAGCACAATGCAAGTCTTGAATCTGTGAGAGAGGAGTTACGGTTGTTGCATCCAAATGATCCTCAGATTGTGGTCTTGAA GCACAAAGTCTGGCGTGTCAAAGGTATTATACAGGTCTCACGGTCAATTGGTGATGCTTACTTAAAGAAAGCAGAGTTCAACCGGGAGCCGCTATTG GCAAAGTTCAGGGTGCCTGAGAGTTTTCAGACGCCAATCCTTAGAGCAGAGCCTGCAATTACAGTACACAATATCCATCCAGAAGATCAGTTTCTTA TATTTGCATCAGACGGCTTGTGGGAGCACTTGAGCAATCAGGAAGCTGTTGACATTGTGAACACTTGCCCGCGTAATGGAATTGCGAGGAAGCTCA TAAAAGCAGCTCTAAGAGAGGCAGCAAAGAAGAGAGAGATGAGATATTCGGATCTAAAAAAGATCGATAGAGGAGTGAGGAGACATTTTCATGATG ATATAACGGTCATTGTTGTGTTTCTTGATTCACATCTTGTCAGTCGCAGTACCTCACGCAGACCTCTCATCTCCATCTCAGGCGGTGGTGACTTGGCT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003M08	AT5G58270.1	STA1 (STARIK 1); ATPase, coupled to transmembrane movement of substances	GAGGACTCGCCGGCGTAAACTGTCTGAAATACTTTCAGAGAAGAAGGGATGTCGAGGGGATCTCGGCTCCTTACGGCTCCTGGCCACATACTCCG TCGCGCTTATCTGCACCCTCAAAGCAAAATCCCATCTTTTTCCTACCGTCTTCGCTCTGATTATCTTCTTCATCATCATGGCTTTTCCAGTTTCATCAC ACGTAACTCAATTCGGACATCTCCCGCTATCAATGCCTTTCTCTCCGATCCATACCCTTCCCCAATTCGTTCTGTTCAACGGAGTGCCATGGTTAACG GAAGTGCCCAGTTCTCGACTTCCAGTCCAAATTCCAATCAAGAAGCCACTAAGTCTAAGCAAATCAAGACGGTCTCGTCGGACTCAGATTCGGCTAT GGCTGACATGAAGATCCTCCGCACGCTTGCCGGATACTTGTGGATGAGAGACAACCCAGAATTCCGCTTCAGGGTCATCACTGCCTTGGGATTTCT CGTGGGGGCTAAGGTCTTGAATGTCCAGGTCCCTTTTCTCTTCAAACTGGCTGTTGATTGGCTGGCCTCAGCCACTGGTACCGGCGCCTCTATGTC CACCTTCATGGCTACAAACCCTTCTCTTGTTGCTGCGTTTGCTACTCCTTCTGCAGTTCTTATTGGATATGGCATTGCTCGGACCGGCTCTTCTGCTT TTAATGAACTTCGTACTGCTGTGTTCTCGAAGGTAGCTCTCCGCACAATACGATCTGTTTCTAGAAAGGTGTTCTCACATTTACATGATCTTGACCTT CGTTACCACCTAAGTCGAGAAACAGGTGGTTTGAACAGAATTATTGATCGTGGTAGCCGTGCAATAAATTTCATCCTCTCAGCTATGGTTTTCAATGT GGTTCCTACCATTTTGGAGATATCTATGGTATCAGGTATACTAGCATACAAGTTCGGAGCTCCGTTTGCCTGGATTACCACTCTCTCTGTTGGAGCAT ATATCGCCTTTACATTAGCTGTGACACAGTGGCGAACCAAGTTTAGAAAGGCTATGAACAAAGCTGATAATGATGCTAGCACAAGGGCCATTGATTC TCTGATAAATTATGAGACTGTTAAGTATTTTAACAATGAAGGTTATGAGGCTGAAAAGTATGACCAGTTTCTGAAAAGATATGAAGATGCTGCCCTGC AAACTCAAAGAAGTCTTGCTTTTCTAAACTTTGGACAAAGTATCATATTTAGTACAGCTCTATCAACAGCAATGGTGTTGTGCTCTCAGGGTATCTTGA ATGGCCAGATGACAGTCGGTGACTTGGTTATGGTGAACGGACTTCTCTTTCAGTTGTCTCTTCCTCTAAACTTTTTGGGTAGTGTTTACCGTGAAACC ATTCAGAGCCTTGTGGACATGAAATCAATGTTCCAGTTGCTAGAGGAGAAATCTGACATCAGAAATATAAATGACGCAAAGCCTCTTGTTCTGAAAG GTGGAAACATTCAGTTTGAAAATGTACACTTCAGTTACCTTCCAGATAGAAAAATTTTAGACGGAATTTCCTTTACCGTACCGGCAGGAAAAAGTGTG GCAATCGTTGGTACTAGCGGGAGCGGCAAGTCAACAATTCTTAGAATGCTATTTAGATTCTTCGACACAGATTCCGGAAATGTAAGGATTGACGGGC AAGATATCAAGGAAGTGAGACTAGATAGCCTCCGAAGCGCCATAGGAGTTGTCCCACAAGATACTGTGCTCTTCAATGATACAATATTTCACAACAT ACATTATGGACGTCTTTCAGCTACAGAAGAAGAGGTGTATGATGCTGCTCGGCATGCTGCAATTCATGACACGATCAGTAATTTCCCTGATAAATATT CAACGATTGTTGGGGAAAGGGGGCTCAAGTTGAGTGGTGGAGAGAAACAAAGGGTGGCACTTGCTCGGGCATTTCTGAAATCCCCTGCGATTCTG TTGTGTGATGAGGCAACGAGTGCGCTGGACAGCACAACAGAGGCAGAGATACTTAACGCACTCAGGGCATTGGCAAGTAACAGGACATCCATCTTC ATAGCCCACAGGCTGACCACTGCGATGCAATGCGATGAGATAGTAGTACTAGAAAACGGAAAGGTGGTGGAACAGGGCCCCCACGAGGTTCTGTT
GCT-003M09	AT2G39010.1	PIP2;6/PIP2E (plasma membrane intrinsic protein 2;6); water channel	GGCTCTTCTCTCTTTCTCTCTCCGACTCTGTGGCTAATTAAGTATCTATACACATAAGAAAGAAACAATGACGACGGAGGAGTTGACGGAGGAAGAC TCGTTCTCCGGCAGCAAGGACTATCAAGATCCACCGCGTGTGAAGATTTTCGAGGCGAGGGAGCTTGGGAAGTGGTCTTTCTACAGAGCAGTCATC GCTGAGTTCATAGCTACTCTCCTCTTTCTATACGTCACCGTTTTGACAGTCATCGGCTTCAAGAGCCAGACCGATATCAACTCCGGCGGCGGAGCTT GCGCTAGCGTCGGCCTCCTCGGCATTTCTTGGGCCTTTGGTGGCATGATCTTCATCCTCGTCTACTGCACTGCCGGCATCTCTGGTGGACACATTA ACCCGGCCGTGACGTTTGGGCTATTTCTGGCTAGCAAGGTGTCATTGGTGAGAGCTATATCATACATGGTGGCTCAGTGTCTTGGAGCCACTTGCG GAGTTGGTTTGGTGAAAATCTTCCAGTCGACTTATTACAATCGCTATGGTGGTGGAGCCAATGTCCTCGCCGACGGATACAATGTTGGTGTCGGTGT TGGTGCTGAGATTATCGGCACTTTTGTCCTCGTTTACACCGTCTTCTCTGCTACCGATCCCAAACGGAATGCCCGTGACTCTCACATTCCTGTACTA GCTCCATTGCCAATTGGATTTTCCGTGTTCATGGTTCATTTAGCCACAATCCCAATTACTGGCACCGGAATTAACCCGGCTAGGAGTTTTGGAGCTG CCGTTGTCTACAACAATCAAAAGGCTTGGGATGATCAATGGATCTTCTGGGTCGGTCCATTTGTGGGAGCAGCCATTGCAGCTTTCTACCATCAGTT TGTGTTGAGAGCTGGTGCTATGAAGGCTTATGGGTCAGTCAGGAGCCAGCTTCACGAGCTTCACGCTTAATTAGAGTTTGATTTTTCATACTACCGA TGAGGTGAAGAAATTCTTTGTAAGGAAAGGAGGAGAAAAGAGAACCAAATAATAATAAAAAGAAAAATTATTAAAGATGGTCGGTGAGTGACATTTTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003M12	AT5G65510.1	AIL7 (AINTEGUMENTA-LIKE 7); DNA binding / transcription factor	GGTCACCAATGGAGATGTTGAAATCACCTGATCAATCTCACTTCGTTTCTTATGACGCTTCTTCAGCTCCTTACCTCATCGATAACCTCTATGTTTTGA AAGAAGAAGCCCAGATAGAAACTGCTTCAATGGCGGATTCAACAACCCTTGCCACTTTCTTCGATTCACAAACCCATTCTCCGACTCAGGTTCCCAA GCTCGAAGATTTCTTCGGCGACTCTTCTACCTCCTTCGTCCGTTACTCCGATAACCAAACAGAGAGGCAAAACTCTTCCTCTCTCACTCGAATTTACG ATCCACGACATCACACCGGAGAAGTTACAGGTTACTTCGCTGATCATCACCACGATTTCAAGACGATTGCTTGTTTTCAGACAAACTCCGGCTCAGA AATCGTCGATGACTCTGCCTCCATCGGACGAGCTCATCTCTCAAAAGGCGGCGAATTTCACGTTGTGGATTCGTCCACGACGGCGACGGCGGAGC TAGGGTTTCACGGCGGTTGCACCAACGGAGGAGCTTTGTCTCTTGCGGTTAACAACACTGATCATCCTTTGAGCCGCAATCATGGCGAGAGAGGCA AAAACAGTAAAAAGACGATAGTCTCCAAGAAGGATACAAAGGCGGTGGAATCAACTGATGATTCGAAGAAGAAGATTGCCGAAACATTTGGACAAAG AACTTCGATTTATCGAGGAGTCACTCGACATAGATGGACGGGAAGATACGAAGCGCATCTATGGGATAACAGCTGTAGGAGGGAAGGTCAAGCCAG AAAAGGACGTCAGGTGTACTTAGGTGGATATGACAAAGAAGATAAAGCAGCTAGAGCCTATGACTTGGCAGCTTTAAAATACTGGGGTTCTGCTGCT ACTACAAATTTTCAGATAGCGAGTTATTCGAAAGAATTGGAGGAAATGAATCACATGACCAAGCAAGAATTCATTGCATCCCTTAGGAGGACAAGCA GCGGTTTCTCAAGAGGAGCATCGATATATAGAGGTGTCACAAGGCATCATCAACAAGGTCGTTGGCAAGCAAGAATCGGCCGTGTCGCAGGAAACA AAGATCTTTACCTCGGAACCTTCGCTACGGAAGAGGAAGCTGCAGAGGCTTACGACATTGCAGCCATAAAGTTCAGAGGAATCAACGCAGTGACTA ACTTTGAGATGAACCGTTACGATGTTGAAGCCGTCATGAAAAGTTCTTTCCCCGTAGGAGGAGGAGGAGCTGCGAAACGCCATAAGCTCTCTCTTG AATCTCCTCCTCCGTCTTCCTCATCTGACCGTAACCTTCAACAACATTTGCCTCCGTCTTCTTCCTCGGAATTGGACCCTAACTCAATCCCGTGTGGG ATTCCGTTTGAATCTTCAGTTCTCCACCATCACCAGGACTTATTTCAGCATTATCCTGCAGTCTCTGACTCTACTACAGTTGATGCTCCTATGAACCAA GCTGAGTTTTTCTTGTGGCCTAACCACTCTTACTAAATCATAATGGTTTCTTCCGTACTAATGTTGGTTTATGGACTCGAGGCTTATCTTCTTGATTTT
GCT-003M13	AT3G43800.1	ATGSTU27 (Arabidopsis thaliana Glutathione S-transferase (class tau) 27); glutathione transferase	GAGACTTCATATACCCCAAAAAAAAGTCATTAAGAACCAAAAGAAATATTAAAGAAAATATGTCAGAAGAGGAAGTGGTTGTGTTGAACTTCTGGCCA AGCATGTTCGGAGCAAGAGTGATCATGGCGTTAGAAGAGAAAGAGATCAAGTTCGAGTACAAGGAAGAAGATGTGTTTGGTCAAAAGACCGATCTA TTACTCCAAACCAACCCGATTCACAAGAAGATTCCGGTTCTCATCCACAACGGTAAACCAGTATGCGAGTCCAATATCATACTTGAATATATCGATGA GGTCTGGAAAGGCGATAAGACGCTCCATCTACTACCTTCTGATCCTTATCAAAAGGCACAGTGTAGATTTTGGGCTGATTTTATTGACAAAAAGGTAT TTGACGCAGGAAGAAGAACTTGGACTAAGAAAGGCAAAGAACAAGAAGAAGCGAAACAAGAGTTCATAGAGACATTAAAAATCTTAGAAACAGTGCT TGGAGAGAAGGTCTACTTTGGCGGAAACGACACCATTTCGATGGTCGACTTGGTCCTCATCTCCTACTACCCTTGGTTCCACACGTGGCAGACAATA GGTAGTTTTAGCCTAGAGTGTCACGCTCCCAAGCTAATGGGTTGGGTCCGTAAATGTTTAACCCGACCGGCTATCTCTAAATCTTTACCTGACCCGG TAAAGATCCTTGATAGAGTCTCTCAGATCATTAAGGTCCATGAGTTCTTCTATGGTTATTGATATTTCAATGTTTTTTCGGTTTTAAATAAAATAATGGG
GCT-003M14	AT1G51070.1	basic helix-loop-helix (bHLH) family protein	GGAGTCTCTCTACCACCACCATATCTCTTCTTTTTCTTCCCTTTTTCCACACAGTCTCTCTCTCTCCGTTGCCTTTTTTCAGATTTTATCAGCCGCC GCGTTTTGTGGGTTAAATTGGTTGCTGATCAATTAGGAAAATGGTCTCTCCGGAGAACACGAACTGGCTCAGTGATTACCCTTTGATTGATGGTGCT TTCTCTGATCAGAATCCCACTTTCCCTTGGCCGATTGACCAAATCGATGGCTCAGCTAGTGTCAGTGTTGAAGTTGATGGCTTCCTTTGTGATTCAGA TGTGATCAAAGAACCAGGCTCAAGGAAGAGGATCAAATCTGAAACTTGTGGTGGCTCTAGCTCGAAAGCCTGCAGGGAGAAACAAAGACGTGATAA GCTAAATGAGAAGTTTACGGAATTGAGTTCCATATTGGAACCTGGGAGACTTCCAAAAACAGACAAGGTTGCTATAATCAATGATGCAATTCGCATG GTGAATCAAGTAAGAGACGAAGCACAGAAATTGAAGGACCTGAATTCAAGCCTGCAGGAGAAAATTAAGGAGCTGAAGGATGAGAAGAACGAGCTG CGTGATGAGAAACAGAAGCTGAAGATTGAGAAGGAGAGAATCGAGCAGCAACTGAAAGCGATTAAGACACAGCCTCAGCCTCAGCCACTTTTCTTA CCGAATCCGCCAACAATGTCTCAAGGTCAAGCCCCTGGAAGCAAGCTTGTCCCTTTCACAACTTACCCTGGCTTTGCAATGTGGCAATTTATGCCTC CTGCTGCAGTTGATACCTCACAGGACCATGTCCTTCGTCCTCCGGTGGCTTAAAGCTGCCTCTCTACTATTTGACGGTTCACGTTTCTTCTTACTCTG CTTTTTCTGATGTAGTGATTCTCAAAATTCTTGTGATTGGAAACACAAATCTTATGCAACTTGAAACTATGATTATCATGCGGCTATTTGTATGTAAATG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003M15	AT5G63640.1	VHS domain-containing protein / GAT domain-containing protein	GGTTTTTTGTTTTTTGTTTTTTGTTTTTTGTTTCATTTTCTCCTGCCTATTTTCTGTTTTACCGATCTGACTCTCTGTCTTCTTCTTCTTTACGTCTCTGTG AAATGCTCAAGCTGATTAGGGTTTATCAAGTATTTCTTCGCTTTCTTGTTATCGCCTTCGTTATCCTCCCCGTCTTCGCAAGTGAATAATAAAAAATGG CTGCGGAGCTTGTAAGTTCTGCAACAAATGAAAAGCTTACTGATGTGGATTGGGCCAAAAACATTGAGATCTGTGAAATAGCTGCTCGAGATGAAAG GCAAGCAAAAGATGTTATCAAGGCTATCAAAAAACGTTTGGGAAGCAAGAACCCAAATACTCAATTATATGCTGTCCAGTTGCTGGAGATGTTAATGA ATAATATTGGAGAGAATATTCATAAGCAGGTTATAGATACAGGTGTACTCCCTACACTTGTGAAGATAGTAAAGAAAAAATCGGATTTGCCTGTAAGA GAGAGGATTTTTCTCCTTCTTGATGCAACTCAAACCTCCCTTGGCGGCGCTTCAGGGAAATTCCCTCAGTATTATACAGCATACTATGATTTGGTGAA CGCAGGAGTTAAATTTCCTCAGAGACCTGATTCTACACCACCAGTTGTGGTCACTGCACAAGCGATTCCTAGAAATACGCTGAATGAGCAACTTGTA ACTGCTAGGAATGAGGGTACTGCTATTACTCAGCAGCGAGAATCTCAAACTGCTTCTCCTTCCAGTATTCTACAAAAGGCTAGTACTGCATTAGAAGT TCTGAAGGAAGTGCTTGACGCAGTTGATTCTCAAAATCCTGAGGGGGCAAAAGATGAGTTTACGCTTGATCTTGTCGAGCAATGTTCGTTTCAGAAA GAGCGCGTAATGCACCTTGTCATGACATCGAGGGATGAAAGAGCAGTTTCTCAAGCAATCGAATTGAATGAGCAACTTCAGAGAATTCTCAATAGAC ATGAAGATTTGCTGTCTGGAAGAATCACAGTGCCAGGCAGGTCTACAACATCCAATGGTTATCATTCCAATCTCGAACCTAGCCGTTCTACCTCAAAT GGTCACCAGAAACTCGAGCTAAACGCTTCTAATGCAAATACCAAATCGAGCAGCTCTATCTCGAATTCAACCCATCTCAAGCTTGAAGAAGAGGATG AGGAAGAGGAGCCTGAGCAGTTATTCAGACGATTGCGAAAAGGGAAAGCTAGAGCTAGGCCTGAGGATGAAGAAGAGTCATCACCTCCACAAGGC TTACCTGGATCATTAATCCATAACGAAAGACTCAACCGTCCACTTATCCGTCCTTTACCATCAGAGGAGCGATCACGTGGTGGTGATAGCCATTCGC AGTCCCCACCTGTTGTGATACCACCCCCACCTGCAAAACACGTTGAGAGGGAAAAGTTCTTCAAGGAGAAAAATGTGGACGGTGCCTCGGGTTTAC CAGGTCACATGAGAGGCCTTTCTTTGCATAGCCGTGATGGCAGCAGCTCGCGCAGTGGAAGTGTAGACTTCAGTGACTGAATCACCCGAGTCTCTG
GCT-003M16	AT4G34000.2	ABF3/DPBF5 (ABSCISIC ACID RESPONSIVE ELEMENTS-BINDING FACTOR 3); DNA binding / protein binding / transcription factor/ transcriptional activator	GGTCGATTTCTCCCCTCTCTATCTCCACCTCTCTCTCTCTCTAACCCTTTCAGGGAATTTTGGAGTCATAGCTTGATTTGAGAAGAAAGTAAGAGATG GGTTCTCGAATTAACTTCAACAACTTTGTTGATGGTGTGAGTGATGAAGTGACTAACACAAAGCAGCCAACGATGGGGACTAGTCTTCCATTGACGA GACAGAACTCGGTGTTCTCGTTAACCTTTGACGAGTTTCAGAACTCCTGGGGTGGTGGGATTGGGAAAGATTTTGGTTCGATGAACATGGATGAGC TCTTGAAGAACATATGGACAGCTGAGGAAAGCCACTCAATGATGGGCAACAACACCAGTTTCAACAATGGTAATAGCGGAAACGCTGTTATGAACTG CGGTAACAACGATGGGGGTTTGTCTGTTGGTGTGGGAGGAGAAGTCAGTGGTGGTTTTTATACAGGTGGGAGTTTGCAGAGACAAGGGTCACTTAC CTTGCCTCGTACGATTAGTCAGAAAAGGGTTGATGATGTCTGGAAGGAGCTGATGAAGGAGGATGACACTGGAAATGGTGTTGCTAATGGAGGAAC AAGTGGAATCCCGCAGAGGCAACAAACGTTGGGAGAGATGACTTTGGAGGAGTTCTTGGTTAGGGCTGGTGTGGTAAGGGAAGAATCTCAACCGG TAGATAACTTCAATGGGGGCTTCTATGGATTTGGCACTAATGCAGGTCTCGGCTCAGCTCGTAATGGGTTTGGTCCTAACCAGCCTCATGATTTTTC TGGGAATGGAGCCGTGGTGAGACCGGATCTGCTGACAACTCAAACTCGGCCACTTCAGATGCAGCAGCCCCAGAAGGTGCATCAGCCGCAAGAAC TGATACAGAAGTCGGAGATACCATTTGCCAAACAGAATACTATCACGTTTTCCAACACTGTTGATGCGGACAATCGTTCTCAACCTGCAACACAGTG CCAGGAAGTGAAGCCTTCAATTCTTGGAATTCAGGACCATCCTATGAACAGAAATCTACTGCAAGCTGTTGATTTTAAAACAGGAGTTACGGTTGCT GCAGTATCTCCTGGAAGCCAGATGTCACCTGATCTGACTCCAAAGAGCGCCATGGATGCATCTTTGTCACCTGTACCTTACATGTTTGGTCGAGTAA GGAAAACAGGTGCAGTCCTGGAGAAAGTGATTGAGAGGAGGCAAAAAAGGATGATAAAGAATAGGGAATCAGCTGCAAGATCCCGCGCTCGCAAG CAAGCTTATACGTTGGAGTTGGAAGCAGAAGTTGCACAACTGAAAGAGATGAATGAAGAGTTGCAGAGGAAACAAGTTGAAATCATGGAAAAGCAG AAAAAACAGCTTCTGGAGCCAAAGCGCCAGCCATGGGGATGTAAAAGGCAATGCTTGCGAAGGACATTGACGGGTCCTTGGTAGAGAGCTTATGAA GGCGTCCAAGGAACTCAATAAAGAGCAGAAGTTATAGAACAACACAGAAAGTAGAAGCTAGATTTGTACGTGACTTAGGCAGGTGTTTCTGTGGGG
GCT-003M18	AT4G38400.1	ATEXLA2 (ARABIDOPSIS THALIANA EXPANSIN-LIKE A2)	GGTCGCATCTCTCTCTTAATAAACTTATAAAAGAAAAACATAAACAAAAAAATGGGAAGCTGTTTTCTCTTCTTCGTCGTCGCAGTCGTCTTCATCT CCTCCTCCTCTTCCGTTCACGCTTGCGACCGTTGTCTCCACCGCTCTAAGGCTTCTTATTTCTCCTCTGCTTCTTCTCTCTCCTCCGGAGCTTGTGCC TATGGTTCTCTAGCTACTGGTTTCTTCGCCGGTCACATCGCCGCCGCCGTGCCTTCCATCTTCAAAGACGGCGCCGGCTGCGGAGCTTGCTTCCAG GTGCGTTGCGTCGACCCTGCTCTCTGCACCACCAAAGGAACCACCGTCATGGTCACAGACCTCAACATCAAGAGCAACCACACCGATCTCGTCCTC AGCTCCAGAGCCTTCAGGGCTTTGGCCAAGCCTGTTCTCGGCGCCGACAGAAACCTTCTCAGACGAGGCATTGTCGACATTCAATACCAAAGAGTT CCTTGCGATTATGGAAACAAGAAGATGATGAATGTGAGAGTGGAAGAAACAAGCAAAAGCCCAAATTACTTGGCGATAAAGCTCTTGTACCAAGGTG GCCAAACCGAAGTCGTTGCCATCGACATTGCTCAGGTGGGTTCCTCGCGTTGGACCTACATGACCAGATCTCACGGTGCCGTCTGGGCCACCGAC AAAGTACCCACCGGAGCTCTGCAGTTCAGGTTCATGGTTACCGGTGGCTACGACGGCAAAATGCTCTGGTCTCCGAGTGTTCTTCCCGCCAACTGG GAACCTGGAAAGACCTACGACGCCGGCGTTCAGATCACCGACATTGCTCAGGAAGGTTGTGATCCATGCGACGCTCACATCTGGAAATAACTTACT CACTTACTTACTCGCCAACAATTCTCTTTTCTCTCTTTTTCTTTTTCTTTTACAATGACAAAGCAGAGCCTCTTTCCTTATTTATGGCTTTCATCATTTGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003M19	AT5G66090.1	similar to Os09g0541700 [Oryza sativa (japonica cultivar-group)] (GB:NP_001063816.1); contains domain no description (G3D.3.40.50.1420); contains domain Adenine nucleotide alpha hydrolases-like (SSF52402)	GGGGGAGATGGAAAAACTTTAGTAGTGTTTTCTGGAATCGTCCAGTTTCTGAAGCTAGTAGCTCCGTCGCGTTTCAATGGCATCTGCTCACTCCTTC GCCGCCGTATCTGTTCTCGCTACGGCCTCCAAGCAAGGAACAACACTTACATCGCCTTCATCTTCTTCCTCTACTCTCCACTCTCTTTCTCTTGGATT TAAAGTTAAACCCCGCGAACTCTCTGTCTTCCCTGACCATCGCAGGGCTGCGCTCAAAGGGCCAGCAAAGGCGCAGTCGAAAGAGGCTGGAGCAA GTGTTGTGGGAGATACATTTAGTAATCTCAAACATCTTCTCCTGCCTGTGATTGATCGGAATCCTTATCTTTCTGAAGGCACTAGACAGGCTGCTGCT ACAACAACTAGTTTGGCCAAAAAGTATGGAGCTGATATAACAGTTGTAGTCATCGACGAAGAAAAGAGAGAATCATCATCGGAGCATGAGACTCAAG TATCCAACATCCGGTGGCATCTATGCGAAGGTGGGTTCGAGGAGTTTAGGCTGTTGGAGAGGCTTGGGGAAGGGAAAAAGGCGACGGCCATAATA GGAGAGGTCGCAGATGAGCTGAATATGGAGCTGGTGGTGATGAGCATGGAATCCATCCACTCTAAGTTCATCGACGCCAATTTACTTGCTGAGTTC GTCCCCTGCCCCGTCCTGCTCTTGCCCTTATAATTATCAACCAACCAACCAACCAAATATCTGGTTTGGCTTTTCTTGTCTTGTGTTGTGCTCTCC AACGCTTCCTTTGAATTTCTCGAGAGTGGATCGAAACGTGTCGAGGTATTGAGATGCATGTGTCAAACATTTTCTGTCTTAATCATTACGTTGCGTTG CGTGTACTTTTGTTTGCTTTTTCCGTCAGAATTTAATCACTCTTATTAACGTGTTTTAGCCAAATTAAAACCCCCATTAGAAGAGAGAACATATTCCTTT ATCTAGTCTCGTAGATCAAAACAACATAGAGAAGGTCTTAACCCAATAAAAATAGACCTTAGGCTTATTCTGTTTTTCTTAAGCATTTGTGTTTGTGTA TTGTGCGACCCTTGGGGTTCAATGAGGTGAAATGAGAGGGTATTATTATGGTAAAAGAAAATGTGGGTTTGTAAACCTGGAAGGGCAAATACACACA CAAAGGTACTCTTCCACCACAGTCGGGATCTTTATCATCGATCATCTCTTTGCTTCTTCTTTTTTTTTTTGTTTCCCAATCCGTTGTTACAGGATGGCT ACGACGGAGTCTAGTGCTGCTAATTCGGCATCGCAAAACCCTCGCTACTCCATTGATTACTCTATCTTGCGATTATGTCTCGATTCCTCTCCTTGGAT AGCTGATGATTCTGGTTCCGGCGCGATTCATGATGATCCGGCTCTTTCCCTTTCCCTGAACGATCCCTTCTTCCATACTTCTGACCACGACAATGCT GATAAGAAGCCTGTCTGGAACCAGCTCCGCGAGATCGGCCTTGTGATGCGCACCGAATCCTGGCCTGCGTTCGTTGTCTCTATCTGCTAGGCCTTC TTCCCGATTTTTCTGATGGATCATCCCCAATTCCGCAGGTATCAGAATCACGGCCAAAGGGGTGGCTCTTACGCTTCAGGAACTAGTCGCTCCAAAG AGTGCATGACAGCAACGCTAACCCTCATGGGGATGGCCTTCACCATGGAAACAGGCTCAACTTGGACCAAACCGGTTTTTCTCACCGTAACTTTAAT GGGAGAGACATGCCTTGCAACCGCAGATGCTGATGGGGCCACCTTCTTTTCCTGCCAGTAGTGCGCAATATATGGCGGCGCCTCCTCAAATAGGTT CATATCATGCTCTATCCAGATTATGCGCCGCACCTCTTTTTGCTACATCCACGATCCACCCAAGAGTCTATGGCTTTGGTTGGACACTTCCCACCTCT ACCCATTTATTTTCCCACCTTCATCCCACCCTCTACAATAAGATATTCACACAAGTAGAATATTGTTTCACCCCTTATAACTTGACCAAACATAAACA
GCT-003M20	AT4G30935.1	WRKY32 (WRKY DNA-binding protein 32); transcription factor	GAGAAGCTTTAAGGATCAAAACGCAACGCTGGACAGGGATCGGTCGGAAAGCGGCTGCTTTTGTTGCTACCGAATTTGTTCTTTTACTCTCTCCGAC ACGAGAGAGAGATTAAAGTACAGGACAGTAGAATCGTCCCATGGAGGAGAAGGGGAGCGAAGCTGAGGTTTACGCGGTGGAGACAGACAAGAGC GAGAAAGTAGAACCGGAGAAGGAGCTGTGTAATGACGGATTGAGTCAACTCAGAGACGAAGAATCATTTGGAGTTACCGATGCGGATAAAGAAGAT TTACATGATGAGTCTGTGCGAGATACCCTAGCTAAGGATCAAGTTGAAGGTGCTCGAGAAAATTCGGCTGTGGAACCAAATGGTGAAGATGTAAAAG AGGCGAAGGAGAAAGATAGCGGCAAGGAAAATGTTGTAAGTGCGATTATGCCGGTTGATAAAGTTTCAGCTGAAAATCGCGAGGTAGAAACATCTC CTGGCCTGGCTGTATCGCCAGATCCATCAATGGTGGATCCTTCATCTGCACAAGGTGATGCACAAGGCCTATCGCTTGTTTCAGTTCCAACTAAACA AGAGCAAAAACCTGATTCCTGCGTGGTTAACAACTTGTTGGTTTCTCCGGTTCTGAGGACACCGGCTCCTGATGGCTACAATTGGAGAATATGGACA AAAGCAGGTTAAAAGTCCCAAGGGCTCCCGGAGCTACTACAGGTGCACGTATTCTGATTGTTGTGCTAAGAAAATTGAATGCTCCAATGATTCAGGA AATGTGATAGAGATTGTTAACAAAGGTTTGCATAGCCATGAACCTCCACGGAAGAGTAGCTTCTCCCTGAGAGAGATTAGAGCTGCATCAGCTATCA CTCCTGTTTCAGAGGATAATAAAGTAGTAAGAGAAACAGCAAGTGTCCCTAGCGGTTCAGATCCGTCCGTTTCAAGTAAAGAAAACATCTGTCAAAC AATCATTGAACGGAAGAGACATTTTGAGAACGAAGCTGTGGAGGAACCAGAGCCAAAACGAAGACTGAAAAAGGATAACTCACAAAGTTCAGATTTT GTCTCCAAACCTGGAAAGAAACATAAAGTCGTAGTACACGCAGCTGGTGATGTTGGGATCTCTGGTGATGGATACAGATGGCGTAAATACGGGCAG AAAATGGTGAAAGGGAATTCTAATCCGAGGAACTACTACCGATGTACATCTGCGGGTTGTCCTGTCCGTAAACACATTGAGACAGCAGTAGAGAACA AAACAGCTGTCATAATCACATACAAAGAAGTACACAACCACGACATGCCGGTGCCAAAGAAACGCCATGGTCCTCCTAGCTCAATGCTTGTGGCTG CAGCGGCTCCTACATCAATGAGAACCAGGTCAGATGATCAGGTGAACATTCCCACTTCAAGCCAGTGCTCGGTAGGGCGAGAAAATGAGAAGCAGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003M21	AT5G09810.1	ACT7 (actin 7)	GAGCTGCTGGCCGCTGTTTGTTTCTGCTTCATTTCTCTCTCTCTATCGCTGCTTCTCGAATCGTCTTCTCTTCTGTATCATCTTCTTCTTTAAGTGAAA GATGGCCGACGGTGAGGACATTCAGCCCCTTGTCTGTGACAATGGAACCGGAATGGTGAAGGCTGGTTTTGCTGGTGACGACGCCCCAAGAGCGG TGTTCCCAAGTATTGTTGGTCGTCCCAGGCACACTGGTGTCATGGTTGGGATGGGGCAGAAAGATGCTTACGTTGGTGATGAAGCTCAGTCCAAAA GAGGTATTCTTACTCTCAAGTATCCAATCGAGCATGGTATCGTAAGCAACTGGGATGACATGGAGAAGATCTGGCATCACACTTTCTACAACGAGCT CCGTGTAGCCCCTGAGGAGCACCCGGTTCTTCTCACAGAGGCGCCTCTTAACCCTAAAGCCAACAGGGAAAAGATGACTCAGATCATGTTCGAGAC ATTCAATGTCCCTGCCATGTATGTTGCCATTCAGGCCGTTCTTTCTCTCTACGCCAGTGGTCGTACTACCGGTATTGTGCTTGACTCTGGTGATGGT GTGTCTCACACCGTGCCAATCTACGAGGGATATGCTCTTCCACATGCTATCCTCCGTCTCGATCTTGCGGGTCGGGATCTCACAGATTCTCTAATGA AGATTCTCACTGAGAGAGGTTACATGTTCACCACAACCGCGGAGCGAGAAATTGTCCGTGACATAAAAGAGAAGCTTGCTTACGTCGCTCTTGACTA CGAGCAAGAGCTTGAGACAGCTAAGAGCAGTTCCTCAGTGGAGAAGAACTACGAGCTGCCTGATGGACAAGTCATCACCATCGGAGCTGAAAGATT CCGTTGCCCTGAGGTTCTTTTCCAGCCATCGCTCATCGGAATGGAAGCTCCTGGAATCCACGAAACAACTTACAACTCCATCATGAAATGTGATGTC GATATCAGGAAGGATCTCTATGGAAACATCGTCCTCAGTGGTGGTTCAACCATGTTCCCTGGAATCGCTGACCGTATGAGCAAAGAGATCACCGCA CTCGCACCTAGCAGCATGAAGATCAAGGTGGTTGCACCTCCTGAGAGAAAATACAGTGTCTGGATCGGAGGATCTATCCTTGCATCCCTCAGCACT TTCCAACAGATGTGGATCTCGAAGGGAGAGTACGATGAGTCGGGTCCATCGATTGTCCACAGGAAATGCTTCTAAGGTTCTTCTCTTGTTCGTGGTG GTGAGTTTGTTACCAATCTATTTCCCTAGTTGAGATGGGAATTGAAACTATCTGTTGTTATGTGGTTGTTTTTTTCTCTTTTTTTGGGTCTCTTTAGAAC
GCT-003M22	AT4G11220.1	BTI2 (VIRB2-INTERACTING PROTEIN 2)	GAAAGGTGGAAGAAAGCGCTAGAATACTGATTTGTTGTTGTTCTTCTTCTTGGAATCGAAAGCTACGATCTGCACGAATCGATCGGAAACAATG GCGGATGAACATAAGCACGAAGAATCTCTGCCTAATTTGGACCCAGCGGTGGAAGTTGTAGAGAGGGAATCGTTGATGGAGAAGATATCAGAGAAG GTCCATCACAAAGGTGACTCTTCGTCATCGTCGTCGTCGTCAGATGACGAAAACGAGAAGAAATCTCTGAAATCGAAGGTTTACCGTTTATTCGGCA GGGAGAGGCCCGTTCATAAGGTTCTCGGCGGCGGAAAACCGGCTGATATATTTATGTGGAAGAACAAGAAGATGTCAGGTGGTGTATTTGGTGGTG CTACAGTTGCATGGGTTCTCTTTGAATTGATCGAGTATCATCTTCTTACTCTGCTATGTCACGTTATGATCGTTCTTCTTGCTGTGCTGTTTCTATGGT CTAATGCCACTATGTTCATTCACAAGTCTCCTCCAAAGATTCCTGAAGTACATATCCCTGAAGAACCTCTTCTTCAACTTGCTTCAGGGCTCAGAATC GAAATTAACCGAGGGTTCTCTTCTCTTCGCCAGATCGCATCTGGAAGGGATCTCAAGAAATTCCTCTCTGCTATCGTCGGATTATGGGTTCTATCAG TTTTGGGTGGATGCTGTAGTTTCTTGACATTGGCATACATAGCTCTGGTTCTGCTCTTCACTCTTCCTCTTCTCTATGACAAGTACGAGGACAAAGTA GACTCATATGGTGAGAAAGCAATGGCTGAGTTGAAAAAGCAATACGCTGTGTTCGACGCAAAGGTATTGAGCAAAATCCCAAGGGGACCATTGAAG GATAAGAAGAAAGATTAGGGTTTTTGCGGGTTTTTTTTTTGGCGTGGGTGTGCACAATGCTCTGGTTTTGAAAATGTGGGTTGTGTTGTGAAATGGTA AATCCAAAAGTTGTGTTAGATCTCATCTCATTTCTCTCGAGTTTTTACTTAACACCTTTGCTTCTTTTTTTTCTTTGTTTTGTTCTGTGGTATTGGTGGT
GCT-003M23	AT1G69310.2	WRKY57 (WRKY DNA-binding protein 57); transcription factor	GGCTCTTTTAATTTCTTCTTCTCTTCCAATCACAAAGAAACCCTAGTTTTCTCTCTCTACCTATTATCTCTCTCTTTCTCTACCTTCTTAATCATGAACG ATCCTGAAAATCCCGATCTGAGCAACGAGTCAGCTTGGAGACAACTCACAGCTCCAGATTCCGACGACTTCTTTGACAGAGACACTTCCAATATCCT TTCTGACTTCTCCTGGAACCTCCACCACTCTTCTTCCGATCATCATCGGCTCGATTCCGGTGTAACCCCAACCGCCGGAGTCCGATCTCCGGTCAC GACGAATCTACACTCATCAACTTCTTCCTGTTCCTCATCTTTAGCCGTTATAGAGGTTTCAACCTCTAATAATCCCTCAGCTACTTCCAGTTCAAGCGA GGATCCAGCCGAGAACTCAACCGCCGCGAAAACACCGGACACACCAAAGAAGGAGAAGAAGAAGGCTCAAAAGCGAATTAGGCAACCGAGATTCG CATTCATGACCAAGAGTGATGTGGATAATCTTGAAGATGGATATCGATGGCGTAAATATGGACAGAAAGCTGTCAAGAATAGCCCCTTCCCAAGGAG CTACTATAGATGCACGAACAGTAGATGCACGGTGAAGAAGAGAGTCGAACGATCATCGGAAGATCCATCGGTAGTGATCACAACATACGAAGGACA ACATTGCCATCAAAATATTGGATTCCCTCGAGGTGGAATCCTCACAGCTCATGACCCTCGTAATTTCACATCTCACCACCATCTTCCTCCTCCATTGC CAAATCCTTATTACTACCAAGAACTCCTTCATCAACTTCACAGAGACAATACTTCTTCTACGCGATTACCCCAACCTACCACTGGAGATGCACCTGCA GTGTCTAATCCATCAGAAGAAGGCTTACTTGGTGATATTGTACAAACCATGCGCAATCCTTGAGGTACCATCTGAAAGTCATCATCATAACCTTGGTA ACAATAGCTAAGGAGGTGCTAACTCATTATAGAAGATATTGCAGACCGGAAAGCGATATGGCGGCAACGGGTTGTAAGCAGAGATCTATATATATTA
GCT-003N01	AT4G38840.1	auxin-responsive protein, putative	GGCAAGTTCTCACATCTTAGCTAGAGCAAAGCATTAAACTTTGAATTCAAGAAACACACAAGACAATCCATGGCGATCAGGGTTCCTCGTGTGCTGC AATCATCCAAGCAGATTCTCCGTCAAGCGAAGCTGTTCTCATCTTCTTCCTCTAGCTCTCTTGATGTTCCAAAAGGCTACTTGGCGGTTTACGTAGGA GAAACAAAGATGAAGAGATTTGTAGTTCCCATTTCGTACTTGAACCAACCTTCATTTCAAGATCTACTAAGAAAGGCCGAGGAACAGTTTGGATTTCA TCATCCAATGGGTGGCCTCACAATTCCTTGCAGCGAAGAAATCTTTATGGATCTTGCTTCTCGCCTCAACTGATAATGACTCACTCAAATAACCTTTT TTTCATTGATTTTGTACATTTTTTTTTTTATCCCCATTAGTTTTCTTCAAGAGATGAGATGACACCTCTCCTTGAAAGTGAAACAGAGACTTGTAACACT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003N02	AT1G15060.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT1G73750.1); similar to Os01g0692600 [Oryza sativa (japonica cultivar-group)] (GB:NP_001043943.1); similar to unknown protein [Oryza sativa (japonica cultivar-group)] (GB:BAD82496.1); contains InterPro domain Esterase/lipase/thioesterase; (InterPro:IPR000379)	GGGTCATCCTTCCACGTGTACCGGAGATGAGAAGATCCTTAAAATTTCCGGAGGGAACCGAGCCACCACCATTTTCCAAATCTGTCAGTGTGTGATT ACGACCCACTGTGATTTGATCGATGGCTACGATGCCTCCCCAATTCCCTTTGGAGATCCGCTCGGCTCTTCGCTGGGCTTCCTCCACCGTCTACTTC CTCCGCCCAATCGGCACCGCCACTCCTTCTTTCCGTCACCGCACGATGCCCTTTCGTCCGAGGGCCTTCTCTTCCTCCGTTAAGCTCCCCAAGAAA CCCTCGCTTTGCACTGCAGACGAGCTTCATTACGTCTCCGTCCCCAACAGCGATTGGCGCCTCGCTCTCTGGCGCTACTTGCCTTCCCCTCAGGCC CAGACGAGGAATCACCCGCTCTTGCTGTTGTCTGGAGTTGGAACTAATGCCATTGGATACGATTTATCTCCCGGTTGCTCTTTTGCAAGACATATGT CTGGTCAGGGATTTGAGACGTGGATACTTGAGGTTCGTGGAGCCGGTTTGAGTACACGAGTATCCGATCTCAAGGATGTTCAAGATTCTGCTCACA AATTGTCCGATCAGATAGAATCCACTGCTAGAGCTGCAGCTAAAGAAGCTGGTTCCCCTGAAAAGAAGGCTACTGGTAATGTGGCCAGTGCACCAT CTTCGGATGTTTTAATTGTTGGTGAAGCCTCTGCTTGGGACGAATCGCAACTTGTGGCGAGATTGACAGCAACTTTTATGCGTTTGTCAGAAAGACT TTCTGGCTTTCTCAGTGAAGGTCAGTCTGCGTTCATGTCTGCTAAGTTATTTGACAAAATTGCAATGCTTTTAGAAGATTCACAGCTGTACGAGCGCT TTAATGAAATAAGATCAAAGCTTTTGAGTTTGATCGAGTCAAGGCAAAACTCAGGACTTGGTAACCAAATCAGAGAACTGACTCAGCGCCTTGTGGA TCTTTTCGACGATGGTCAAAGGTCTGTCTCGCCTCAGTTGATTGATCTTCAAGAGCGCCTCACTTCGACCATTGAAGATTTTCAGAAGCAACTGGATT TGATGATTCAATATGACTGGGATTTTGATCATTACCTGGAAGAGGATGTCCCTGCTGCGATTGAGTATGTAAGAAGGCAAAGCAAGCCCAAGGACG GTAAACTATTCGCAATTGGACACTCCATGGGAGGTATCCTACTCTATGCAATGCTGTCACGTTGTGCTTTTGAGGGACGAGAACCTTCCCTGGCAGC TGTGGCAACTTTGGCTTCATCGGTTGATTACACAACTTCAGATTCTGCCCTCAAATTGCTCATACCTCTTGCCGATCCTGCACAAGCTCTGAGTGTTC CAGTTGTTCCTTTGGGCGCTTTGTTAACTGCAGCTTATCCTCTTTCAACACGCCCTCCATATGTATTATCTTGGCTTAATGATTTGATATCAGCAGCG GATATGATGCACCCTGAACAGTTAGAAAAGCTTGTCTTGAATAACTTCTGTACCATACCTGCAAAACTTCTTATTCAGCTGACAACAGCCTTTCGAGA GGGAGGCTTACGTGATCGTAGTGGTAAATTTTACTACAAGGATCATCTTTCCAGTACCAGTGTCCCTGTCTTAGCTCTTGCAGACACAGTTAAGCTG TTTCCCGAGAACCTGGTCACGTATAAGCTACTGGGAGAATCAGACGGACCACATTATGCACACTATGATTTGGTTGGAGGACGACTGGCCGTGGAG CAAGTGTATCCTTGCATAACCGAATTTTTTAGCAAACATGATTCAGCATAAGTGAAGCTTTCTTTTGTTTCTGGCATGCTATATGCATGTAGACGTTGC
GCT-003N03	AT1G15350.3	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT3G15770.2); similar to hypothetical protein [Glycine max] (GB:AAN03467.1)	GCTTGGAAAAAAAGCAATCATTTCAAAGCGAAAGGAAAAAGGGAAAACGTAAAGGGCAGAGCCCTTTTTCTTCTTCTTCTTCGTGAAGAAGCTGCAT CCTCAGATTTTTTCAAGGGTTTCTTTCGATGCCCAGCTGAGATAAAGGAAACGACTTTATCTAAGCCAGCGAGATTATCATCAGTGGCTGCGTGGCT TGCTACAGAAAACAAAGATCAACTGAAACCCTGAAGGATCCACCTTCCAATTCCATAGCTCAAACGATTACGAAACCGAGTGTCTCAGAAGATTTCT GGTCAACAAGCACAATTGATATGGACAACACCACCTTCCCTTCTCAGGGGAGCATATCATCAAACCAGACTTTTGATTCTCAATCCGGTGCCAGAAA CTCAAATGCTCCTCCTGAATTTGTAAACCAAGGTCTTCTTCTTTGGAATCAGACCCGGGAGCGTTGGGTGGGCAAGGAAAGACTCAATAACCCACC GGATCGCAATCAAGGAGCCAAGTTAAATTGGAACGCAGCATCTTATGATAGCTTGCTGGGGAGCAACAAGTTATTTCCCCAACCTATTCCTCTCACT GAAATGGTGGATTTTCTAGTGGACATTTGGGAACAAGAAGGTCTATATGACTGATGAACAAGACTTGAAAGACGCACAAACACACACACATACACTC TGGTTCGGACATTTCCGATTTTTTTTTGGTTTCGGCTTTGTTTTCGTTTCTGAAATCCCTTGTTGTAACCATCTTTCAGTTGGAATTGATCTGAGAAAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003N04	AT3G16857.2	ARR1 (ARABIDOPSIS RESPONSE REGULATOR 1); transcription factor/ two-component response regulator	GGATTGATTTTTGGGTTTCTACTCAAACTTCTTCAATCGAATAAAAATCGCGTCAATTTCCCCTCTTTCTGAGTATATATTCCCTTGCTCAAAGCCTTTT GCTTTTTTTCTTTTCTTCTCTTCTCGAGATGATGAATCCGAGTCACGGAAGAGGACTCGGATCGACTGGTGGGTCGAGTTCCGGTAGAAATCAAGGC GGTGAGAGCGTCGTCGAGATGTTTCCGTCCGGTCTTCGTGTTCTTGTCGTTGACGATGACCCGACATGTCTTATGATCTTAGAGAGGATGCTCAGG ACTTGTCTATACGAAGTAACGAAATGCAACAGAGCAGAGATGGCATTGTCTCTGCTCCGGAAGAACAAACATGGATTCGATATAGTAATCAGCGATG TCCATATGCCTGACATGGACGGCTTCAAGCTCCTTGAACATGTTGGTCTAGAGATGGACTTACCTGTTATCATGATGTCTGCGGATGATTCAAAGAG TGTTGTTCTAAAGGGAGTGACGCACGGTGCGGTTGACTACCTTATCAAACCAGTGCGTATGGAGGCGCTTAAGAACATATGGCAGCATGTGGTTCG GAAGAGGAGAAGCGAATGGAGCGTACCTGAACATTCTGGGAGCGTTGAGGATACAGGCGAGAGACAGCAGCAGCAACAGAGAGGAGGAGGTGGT GCAGCTGTTTCCGGTGGGGAGGATGCAGCAGATGATAACTCTTCTTCGGTTAACGAAGGGAACAACTGGAGGAGCAGCAGCAGCTCACGGAAGCG GAAAGACGAGGAAGGAGAAGAGCAAGGTGAAGATAAAGACGAAGATGCTTCGAATCTGAAGAAACCTCGTGTTGTCTGGTCTGTTGAGTTGCATCA ACAGTTTGTTGCTGCTGTTAATCAGCTCGGCGTTGAAAAGGCGGTTCCTAAGAAGATCTTGGAGCTGATGAATGTTCCTGGACTTACCCGAGAAAAC GTAGCAAGCCACCTCCAGAAATATCGGATATATCTAAGACGGCTTGGGGGAGTATCACAACACCAAGGCAACTTAAACAACTCGTTTATGACTGGTC AAGACGCGAGCTTTGGTCCTCTTTCGACATTGAATGGGTTTGATCTTCAAGCGCTAGCAGTCACAGGTCAGCTTCCTGCTCAAAGCCTTGCACAGCT TCAAGCCGCTGGTCTAGGCCGGCCTGCGATGGTCTCCAAGTCAGGATTACCTGTTTCCTCAATCGTGGACGAGAGAAGCATCTTCAGCTTTGACAA CCCGAAAACAAGATTCGGAGATGGGCTTGGCCATCACGGCCAACAACAACAGACACAACAGATGAACTTGCTTCACGGTGTCCCCACGGGTATGG AACCAAGACAGCTCGCTGGTTTACAACAACAGCTTCCTGTTGGTAATAGAATGAGCATTCAACAACAGATCGCCGCGGTTCGAGCCGGACAAAACA CCGGAATGATGATGACTCAGCCATTTCCTCGAGGACCACCACCGCCTGTGTTACCGTCGTCACAATCATCATCCATCAGGCAGCAGCCAATGTTAT CAAGAAGTGGTTTCTCGGGAAGGAGCAGTGTCCCGGAGAGCAGCAGAGTGTTACCTACAAGTTACACCAACCTCGCAACACAACACTCGTCAAGCT CAATGACCTTTAACAACTTCCAACAAGAACTCCCCGTGAACAGCTTCCCGCTACCGAGTGCACCAGGCTTATGTGTTCCGTCTCAGGTTCGGAAACC AATCTCCTCTTACCAAGAAGAGGTCAACAGCTCGGAAGCAGGTTTCACTGCCCCTAGCTACGACATGTTCAGCAGCAACAGACAGAACGATTGGGA TATAAGGAGTATCGGAATAGCCTTTGACGCGCATCAGGACGCTGAATCAGTTGCGTTTTCCAACTCGGAAGCATACTCTTCTTCGTCCATGTCAAGA AACAACACCCCCAGCCATCATCCCCCGACCCAGCAGCAGCAGCCACCCCCTGCCATGCTCTCCAATCATCAGCTTTATCGACACAGAAGCCCCC
GCT-003N05	AT5G37500.1	GORK (GATED OUTWARDLY-RECTIFYING K+ CHANNEL); cyclic nucleotide binding / inward rectifier potassium channel/ outward rectifier potassium channel	GAATCATATCTTCAACGTGACCAGAAACAACACACGAAGAAGACGAAACACAAATAAAAACACAAAAGAAGAAGAAAATAGAAAGGCACCAACAGCT CTCGTGATCTTCCCGCCTTTTTCCCCGGAAAAGTCTTATCGAGCTTTTAAACTTTCCAAAAAAGGGATTGGATCGAAGTTTCCGGTTTCGGATTCGAG ATTCGATTCGACTTTTCCCCAGAGAGATCGCCGGAGATTTGGATTCGATTGAGAAAATTGGATCGATTCACGGATTGATGGGGCGTCTCCGGCGAC GGCAAGAGAGTGTAGCCGAGGAAGATGATTTAAACGACGACGTTTCATCGAGAAGAGGTAAATTGAGCTTGGCCGAGTCGTTTCGGTGGCTAGATT CCTCCGAGCATCAGCAAATTGAATCCGATGGTTCAAAAGGCCATCGATTCATCATTCATCCCAAAAACAGGTGGTACAAGGCATGGGAACTGTTTAT ATTGGTGTGGGCAATATACTCCTCTTTGTTCACTCCCATGGAGTTTGGTTTCTTCCGTGGTCTGCCTGAGAATCTCTTTATACTTGACATCGTTGGTC AGATCGCATTTTTGGTCGATATTGTTCTTCAATTTTTCGTCGCTTTCCGTGATAGCCAGACATACAAGACTGACTATAAACCAGCACATATTGCTCTCC GGTCAGTTATATGTACTTGAAGTCGCATTTCTTCTTGGATTTTGTCAGTTGCTTCCCGTGGGATCTTATCTACAAGGCATCAGGGAAACACGAGCTG GTTAGATACATATTGTGGATAAGACTGTTTCGTGTGCGCAAAGTGATCGAGTTTTTCCAAAGGCTTGAGAAAGACACAAGAATCAACTATCTCTTCAC AAGAATCTTGAAGCTCGTCTTCGTCGAAGTTTACTGTACTCACACTGCTGCTTGCATCTTCTATTACTTGGCCACCACTCTTCCTCCTGAAAACGAGG GTTACACTTGGATCGGTAGCTTAAAGCTAGGAGACTATAGCTACGAGAATTTCCGACAAATCGATATCTGGAAACGTTACATCACGTCTCTCTACTTC GCCATTGTCACTATGGCCACTGTCGGTTATGGAGACATACACGCGGTGAATCAGAGGGAGATGATATTCGTAATGATATATGTTTCTTTTGATATGGT TCTCGGTGCGTACCTGATCGGTAACATCACTGCTTTGATTGTGAAAGGATCAAACACAGAGAGGTTTAGAGATAAAATGAATGACCTCATAAGTTTCA TGAACCGAAAGAAACTTGGGAGAGACCTTCGTGGCCAGATTACGCGTCACGTGAGATTGCAGTACGACAGTAACTACACAGATACTGTCATGCTTC AAGACATCCCTGCTTCGATCCGTGCCAAGATTGCGCAGTTGTTGTATTTGCCTTATATTGAGAAAATCCCTCTCTTTAAAGGCTGCTCATCGGAGTTT ATAAATCAGATAGTTATAAGGCTCCATGAAGAGTATTTTCTTCCAGGAGAAGTAATCACAGAGCAAGGAAACGTCGTGGATCATTTATATTTCGTCTG TGAAGGTTTACTTGAGGCTCTTGTTACAAGAACAGATGGATCAGAAGAGAGTGTGACGTTTCTTGGGCCTCACACTTCTTTTGGAGATATCTCCATCA TTTGCAACATCTCTCAGCCTTTCACAGTTAGGGTTTGTGAACTATGTCATCTTTTACGCCTCGATAAAGACTCTTTCTCGAACATACTCGAGATTTATT TCCAAGACGGACGCAAAATCTTGAACAATCTTATGGAGGGGAAGGAATCAAATGAGAGGATAAAGAAGCTAGAGTCAGACATTATGATTCACATTGG GAAACAAGAAGCAGAACTTGCATTGAAAGTAAACAGTGCAGCTTTCCAGGGAGATATTTACCAGCTTAAAAACTTAATCCAAGCAGGAGCCGATCCT AACAAAACTGATTACGATGGAAGATCACCACTTCATCTTGCAGCATCTAGGGGATATGAAGACATCACATCGTATCTTATTCAAGAAGGTGTTCATAT CAATCTAAAAGATAAATTTGGTAACACGCCATTGTTAGAGGCTGTGAAAACTGGACAAGACAGAGTGATTAGTGTTCTTGTCAAAGAAGGAGCCTCC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003N06	AT2G30870.1	ATGSTF10 (EARLY DEHYDRATION-INDUCED 13); glutathione transferase	GAGTGAAGAAGAAGAAAGAAGAAAGAGGAAAGAAGAAAGAAGAAAGAAGAAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAGAAG AAGAAGAAAATGGTGTTGACGGTGTATGCTCCTTTATACGCTTCTACGAAGAGAGCGCTTGTGACGCTAGTTGAGAAAGGCGTTGACTTCGAGACC GTCAATGTCGATCTCTTGAAAGGAGAACAGAGGCAGCCTGAGTATGTTGCGATTCAGCCTTTCGGTAAAATCCCTGTGCTCGTTGACGGAGACTAC AAAATCTTCGAGTCGCGAGCGATCATGAGGTACGTAGCAGAGAAATACAGGTCACAAGGGCCAGACTTGTTGGGGAAGACGATTGAAGAGAGAGG ACAAGTAGAGCAATGGCTTGACGTGGAGGCAACAAGCTACCACCCACCACTACTTGCTCTAACGCTCAACATTATCTTTGCACCGCTCATGGGTTTT CCTGCTGATGAGAAAGTTATAAAGGAGAGTGAAGAGAAGCTTGGAGAAGTGTTTGATGTCTATGAAGCACAGCTCTCAAAGACCGAGTACTTGGCT GGTGATTTTGTGAGTCTTGCTGATTTGGCTCACCTTCCTTTCACTTCTTACTTGGTCGGTCCTATTGGGAAGGCTTACATGATCAAGGATAGGAAGCA TGTGAGTGCGTGGTGGGATAAGATTAGCAGCCGTCCTGCGTGGAAGGAGGTTTCTGAGAAGTATGCATTGCCGGTTTAAAGGGAAGATCAAAGATA
GCT-003N07	AT5G14800.1	P5CR (PYRROLINE-5-CARBOXYLATE (P5C) REDUCTASE); pyrroline-5-carboxylate reductase	GAGATATATTTTGTATCACAACCAAACCTAAATCCTATCCTTAATCCATAGTCCATAATTTTCCGATGGAGATACTTCCGATTTCGGCGGAGAGCTTCA AGGTTGGGTTCATCGGAGCTGGAAAGATGGCGGAGAGTATAGCTAGGGGTGTGGTTGCCTCTGGTATGCTTCCTCCGCATCGTATCTCAACGGCC GTTCACTCGAATCTCAATCGCCGTCAAGTCTTCGAATCCTTTGGCGTCAATGTCTTCTCGAGTAGCGAAGAAGTCGTTAAAGAAAGCGATGTTGTGA TATTCTCTGTGAAACCCCAAGTTGTTAAGAAGGCAGTCACGGAATTAAGAACGAAGCTCTCCAAGGATAAGCTTCTGGTTTCGGTTGCAGCTGGAAT TAAGTTGAAAGATCTACAGGAATGGTCTGGTCAAGATCGATTCATAAGGGTGATGCCTAATACACCAGCCGCAGTTGGTGAGGCTGCTTCAGTGAT GAGCCTAGGAACAGCGGCAACAGAAGAAGATGGAGCACTCGTCGCTAAGTTGTTTGGCTCGGTGGGGAAGATTTTAAGAGCTGATGAGAAAATGTT TGATGCTGTCACTGGTCTCAGTGGAAGTGGACCAGCATACATATTCTTAGCCATTGAAGCTTTGGCTGATGGAGGAGTAGCTGCTGGTTTACCTAGA GAACTCGCACTGGGTTTAGCTTCACAAACCGTTCTTGGAGCTGCAACAATGGTGAGCAAAACGGGGAAGCATCCAGGTGTGTTGAAAGATGATGTC ACTTCACCTGGCGGCACTACAATAGCCGGAGTTCATGAACTGGAGAAAGGTTCTTTCCGTGCAACACTTATGAATGCTGTTGTTGCTGCAGCTAATC GAAGCCGCGAGCTCTCACAGAGCTAGATTATACATTATGTAGTTGCGCTATTGCTTCACCTCACGGATTCGTCAAAATAAAGGGTGTTGTTATATTGC
GCT-003N08	AT4G21910.2	MATE efflux family protein	GATCTTCATTTTGATTATTTCAGAAACCCCCACTGACACACATCTCCACTCCATTTCCTCCTCATTTTTTTTTTGGGTTACATTTCCTCCTCACTCCTTA TCTAACCAAAACCTTTATTTTGTTGTAAAAAAACCTAATGGATGTGTCAAATGAGACGACGGAGAGAACCGATCTCCGGCGACCGTTGGTGGAGAGG AAACCTCCGTCGGACGTCGGACTCGAGAGCGTTTTAACGGAGAGTAGTCTTCCGTACCGGAGGCGCGTGTACTTAGGCGCGTGCATAGAAATGAA ACTACTTTTCCGGTTAGCACTTCCGGCGATACTTGTCTATTTAGTCAACAGCGGAATGAATATCTCCGCTCGAATCTACGCCGGACATCTCGGCGGT CAAGAACTCGCCGCTGCGTCCATCGGAAACAGCTGCTTCAGTCTCGTCTATGGCCTCATGTTAGGTATGGGAAGTGCAGTGGAGACTTTATGTGGA CAAGCATATGGAGCCCACCGCTATGATATGCTCGGGATCTATCTCCAAAGAGCAACAATTGTCCTCGCTCTTGTTGGTTTGCCCATGACTTTACTATA CACCTTTTCGTACCCGATTCTACTCTTATTAAACGAGCCCAAAACGGTATCGTACATGGCATCTTATTACATCGCCGGACACATCCCTCAAATCTTCG CTTACGCCGTCAACTTCACGGCCCAAAAATTTCTCCAGGCCCAAAGCGTGGTGATCCCTAGCGCGTACATCTCAGGCGCCGCCTTGCTCGTCCAGA TCTCGCTGACGTGGATCACTGTTTACGTAATGGACATGGGTCTTATGGGCATAGCTTATGTTCTTACTATCTCTTGGTGGATCATAGTTGCGGCCCA GACTTTGTATATTACAACTAGTCAAAGGTTCAGACACACGTGGACTGGTCTTAGCTGGAGATCGTTCCAAGGTCTTTGGAGCTTCTTTAAACTCTCTG CTGGTTCCGCTGTTATGATTTGTCTGGAAATGTGGTATTCGCAGATTCTTGTTCTTCTTGCCGGTTTGCTTAAAGATCCTTCTCTTTCTCTAGATTCTC TCTCCATCTGTATGTCAATTTCAGCATTATCCTTCATGGTCTCCGTAGGCTTCAATGCGGCTGCAAGTGTACGGACAAGTAACGAGCTCGGAGCAGG AAATCCGAAGTCGGCGTTGTTCTCTACATGGACGGCGACTTTTGTTTCCTTCATGATCTCCGTCGCGGAGGCCATCGCCGTGATGGCGGCACGTGA TTACGTCAGCTACATTTTCACGTCGGATGCTGACGTGGCCAAGGCCGTCTCTGACCTATGTCCTTTTCTTGCCGTCACAATCATTCTCAACGGAATT CAACCCGTTTTGTCCGGAGTGGCAGTGGGATGTGGATGGCAAACGTTCGTGGCATATGTGAACGTTGGTTGTTACTATATTGTTGGTATTCCTGTTG GTTGTATCCTCGGCTTCACTTTCAATTTTCAAGCCAAGGGAATATGGACCGGGATGATTGGTGGTACCCTCATGCAAACCCTCATCTTACTTTATGTC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003N09	AT4G00950.1	MEE47 (maternal effect embryo arrest 47); transcription factor	GACACGAAACACTAGAAAGAGAGAGAAAAAGCCCTAGATAAAGACAGAGCATATAACACTTGTAGATATAAGACACACACCTCAGAGAAGAGAAGA GAGAGAGAGAGAGAGAGAGAGAGAGAAAACTTCCACATAGAACCATGGAAGCTGAAAAAGAAACAGAGCAAGGAGAAAACTTAACAGCAATGAAAC TACCAGTGTTACCAATTAAACCCAACAGTCATAGCCACTCTCTGTCATCACCAGTTCATCATAGTTCAATAGCAGCTTCAGTCCCCTTTAGCTGGGAA GAAGAGCCTGGCAAGCCCAAACAACACTCCTCTTCTTCTGCCTCCTCCTCCTCCTCCTCCTCACCACTAACTTCTTGCTCTTCATCTTCTCCTGAAAC CCACAAGTCCTTGGAGCTACCACCAAGGCTACAATCGCTTGAAAAGGATGGAGAACCAGTTACCAAACTTCTTTCTCCCATCACTGTCTTTGATGGT CCTTATAGCATGACAAGATCAAGAAGGTTGGATTCACCTTCCTTTAGGATGTTGGTAAAGGGTAGTGGTGACTGTTATGGGTCTTTCCGGAGTGACA TCTATGGGGATTTGGAGGATCTTGATGAGGAGACTAAGCACCAGAACATGAGTAGTGGCTCTTTGGCTCTTGTGAAGAAGAGAGGTAGATTAGGGT TTTTTGGGTTTAGTAAGAGGAGAGCTTTGAAGGGAAAAACAGAGTTTGGTAGATGTAGTTATGTGTTCCCATCTTCCGTGGACAGAGAGAGTGGATG CGGAAGAAAAGTGGAGGAAGAAGGACAAGACAAAAGCTTTGGTTATGGTGATGGTATTAGTTGCAGCCAAAGCAGCAGGTTTAGTGAAGTGAAGAT TACAAACATTAGCAGAACAGGGAGCTTCTCTACTCTGCCTGCACCACCTTCTTCTTCAAAGTCTCACTTCTGGACGAGACTAAAGCAAGTGGTTCCA TGGAGGAACAAGAAGACTACAGGTTAAGACTCGGCTCTATCAAAGATTTGAGATATAAAACACCCAAAGACATGAAAGCTCTTCTGATTACTACAAGT
GCT-003N10	AT5G05090.1	myb family transcription factor	GAAGTCTTTGCCTCAAAATCAAAAAAACTCTCTCTCCTCTCTCCTCTCCCTCCTTCATCATCACTTCTCAGATTGCGTTACCTTTTGATCTTTTTTTTTC TTCATCTTCACCGTATTGGTTTGAGCGAGAAAATGATAATCAAGCTTATCTCATTTGGGTGATTGCCACTTTCAGCTATAGACCCAGTTTCCTCTCAAT TTTTTTATAGTAATTTTGTTTTCTGGGAAAGTTTCTGCCTTTTTCTGTTCCTTTTAATTATCCTTCCTCTATCTAGTATGATTGCCTTTTTATGAATGCCA ACCCAAAAAAAAAAACGTAAAAATAGTTGCTAATGTAGGAGTAGCCTTCTCTCTGTAATTCCGGTTCGATTTTCAATGTTTTCGTGAAAAAAGAAAACAC TTTGTGGGGTTTGTGAGATCAAAGAGTGTGAATTTGAGATCCGAGACTTTTCTCTCTCTGTCTCTGTCTTTAAGAAGTGTTGAGGAGGATGAGAGAG GAAGATTCCAATTGGTTCGCTAAATGGGAAGAAGAGCTTCCGTCGCCGGAGGAGCTCATACCGATATCTCAATCGCTAATCACTCCCGATCTCGCC ATCGCCTTCGATCTCCGAAGCCCTAACCACCGCAGCAACGGAAATTCCGGTCAACCTCTGCCTCAAACCACGCCGTCTCAAGCCAATTCCTCCGCC GAATTCGCCGCAGATTCCGCCGGCGACGAGCCAGCTCGAACTCTGAAACGACCGCGTCTAGTGTGGACGCCGCAGCTGCACAAGCGTTTCGTAGA CGCGGTGGCTCATCTCGGGATCAAAAACGCCGTTCCCAAAACCATCATGCAGCTTATGAGCGTCGATGGATTAACCAGAGAAAACGTCGCAAGCCA TTTGCAAAAGTACCGGCTTTACCTCAAGAGGATGCAATCCGGCGGCGGCGGCGGCGGCGGAGGAAACGTCGGCGAGTCCGATCATCTCTTCGCG AGCTCACCTGTTCCTGCACATTTCCTCCACCCGATAGGTAGACAGAGCTCCGACCATTTCATGCCGTCTTTTGTCCCAATCGCGGCTCTTCAGCAAC AACCGCCTCAGTTCCTCCACCGGCAAATCTCAGCCGCGAATTTCACATCTCCGACGAGCAACGGGAAAGCGATGGACCAGTCGTTGTTCTTGGCCA GGCAGAATCAGCAGCAACCAGTTCTCATCAGACCATCTTCATTGCATTTGCATAGTCAAGTGGCTAATAACGCAGAGGATTTGGAATCAGGAGCCAA GACGGTCTTAACTCTGTTTCCATCTCGACACGACTGAATGATATATATCTCTGTTTCTAGATCGGAACATCCACAATCCGACTTCTGTTTTTTTTTTTT
GCT-003N12	AT2G17800.2	ARAC1/ATGP2/ATRAC1/AtROP3/RAC1/ROP3 (Rho-related protein from plants 3)	GAGGAGATTGTTCCTTTTGTGAACGCTTCAATTGCATAAATTTCCGGCCATCACTTTTCTACTTCCTCCTCTCTCTCTCTGTTTCTCTCTCGATACG ATTGTTTCATTCTTCTTCTTCTTCTTTGATCACCTTCTTCTCATCTCTCACATTCCCGATTTCGTTTAGGGTTTCCTGTTTTAACATTTCTAGGGTTT TTCTTGTTTGCTTTGTACCGGATATGGCGAATTGAAGCGGCAAAAACGGAGGAATTTTGTATTCTTTTGTTGTTGCTGTTTCCTCAGGTCTAGATCTG AGGTTATATTGAATTCGAACTTCGAGAGGGTTTTTTTATTTTCCTTTGCTCCAATTCTGGAGGCAATGAGCGCTTCGAGGTTCATAAAGTGCGTTACC GTTGGTGACGGAGCTGTCGGTAAAACCTGTTTGCTGATTTCATACACCAGCAACACTTTTCCTACGGATTACGTTCCGACTGTTTTCGATAACTTTAG CGCGAATGTGGTTGTTAACGGGAGCACTGTGAACCTAGGATTGTGGGATACTGCAGGACAGGAGGATTATAACAGATTAAGACCGTTGAGTTACCG CGGTGCTGACGTTTTCATATTAGCGTTCTCTCTTATCAGTAAGGCTAGTTATGAGAATGTGTCCAAGAAGTGGATTCCAGAGCTGAAACACTATGCTC CTGGTGTCCCAATAGTTCTTGTTGGAACCAAACTAGATCTTCGGGATGACAAACAGTTCTTCATTGACCACCCTGGTGCTGTACCTATTACCACTGCT CAGGGAGAGGAACTGAGGAAGCTAATTGGAGCTCCTGCATACATCGAGTGCAGTTCAAAATCACAGGAGAACGTGAAGGCGGTGTTTGATGCAGC GATCAGAGTGGTCCTTCAACCACCAAAGCAGAAGAAAAAGAAGAGCAAAGCACAAAAGGCCTGCTCCATATTGTAATTTCGCTACGCTCCCTCGTAC ACTCTTCTCTTTCTCTCTGTCTCTTCCACTCTCTAGTAAGGCTTAAGAAGAAACACACACATTGGGCTTAAATATGCTTCCAGAGTTCGTTGTTATAAG
GCT-003N13	AT5G02120.1	OHP (ONE HELIX PROTEIN)	GGGAAAATAAAAATAAAAAATGAGTTCGTCGCCATTATCGTCATCTCTCTTTCTTCCTCTTTCGAATTTGTCGGCTCATGTCCATGGTCGAAGCCGGA ACCTCTGTTTCGGTCGGAAGCATCAGTGTCTCCGCGTTCGAGCCGCTAAACTGCCAGAGGGGGTGATAGTGCCAAAAGTAGAACCCAAATCGCAAC CTGCGTTTCTAGGATTCACATATACAGCTGAGATATGGAACTCAAGAGCTTGCATGATTGGTCTCATCGGAACTTTCATCGTCGAACTGATTCTGAAC AAAGGAATACTTGAGGTGATTGGTGTAGAGATCGGAAAAGGGCTTGATCTTCCTCTGTAATATGTTCTTTGTTGCCAACTCTGGACGCAAAAATATCT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003N15	AT1G26960.1	ATHB23 (ARABIDOPSIS THALIANA HOMEOBOX PROTEIN 23); DNA binding / transcription factor	GGGCCTCACAGTAAACACCATTTTCAATAATTTATCTACTCCTCGCAATTTCTCCGATCTGCTCTGTTTTTTCAGGGTTTCTTGGTAAGAGATCTCCGA TGCCGAACGTAGAAGGATTTTGTAATTTAGAGATGAATGGAGAAGAAGAATTTTCAGACGATGGATCTAAGATGGGAGAGAAGAAGAGGAGATTGAA CATGGAGCAATTGAAGACGCTAGAGAAGAACTTCGAGATTGGTAATAAACTCGAATCAGATCGAAAATTAGAGCTGGCTCGTGCCTTGGGGTTACA GCCTAGACAAATCGCCATTTGGTTCCAAAACAGAAGGGCTCGATCCAAAACTAAACAGCTCGAGAGAGACTACGATGCGCTCAAGCGTCAATTCGA GAGTCTCAAAGACGAGAACGAAATTCTTCAAACTCAAAACCAAAAGCTTCAGGCTCAGGTAATAAATAAATAAATAAATAGACTTTATAATACAAAATG TACTCTGTTTTGCTTTGTTTTTTTTTTTTAAATTTTGGTTTCCGTAAAAATTGAATCTTTCTCCATTGCTGGTTAGATGGTAATTCTCTGCACATTGTAGC ACTGCTCTGTCACTTTTTTTTTTCAATTCGAATTTCACTAAAAAAATGAATCTTTTGTTATTGCTGAATCGAAATTCTCGGAACTTTGTAACAGTACTCT GTTTTTTTTTTTTTTTTCACTTAGATTCAAAACTCTGCTCTGTTCTTTGTTTTGCAGGTAATGGCATTGAAATGTAGAGAACCAATAGAATCAATCAATCT GAACAAAGAAACAGAAGGTTCATGTAGTAACAGAAGTGAGAACATCTCAGGTGACATCAGACTGCCGGAGATCAACAGCCAATTCGCCGGAGGCCA TCAACCTTCTTCCCCGACGACTACGACGGTGCAGTTTTTTCAGAATTCGTCTTCAGAACAGAGAATGGTGAAAGAAGAGAACAGTATCAGCAACATG TTCTGTGGAATGGATGACCAGTCTGGGTTTTGGCCATGGCTTGACCAGCAACATTACAACTGAATGTGGTCGATAATCCTTATTTGTTTTATTTTTCC
GCT-003N16	AT1G78280.1	transcription factor jumonji (jmjC) domain-containing protein	GATCGGTAATCCCGCGCACTCGGTGACCATACGAGACTCGGATCATCACGCGCCACCGCATCGAGTTGTATGAGAAAGCCGAGAATTCGAATTCCA GGAAGAAAAGAAGAATCAGATCCCAGAGAGATTTGAAACTCGTCGATGCAGCAAATGGAGGATTCAGGTGGTGCAGCGACGCCGTTTGGACAGAG AGATCGCCGACCGGAAGCTCTCGGTAGTCTCAGTGTCCTCCCAGATGAGACAATCTGTGTTCTTCTCGAATACCTTGCTCCCCGAGATATCGCTCA CCTCGCCTGCGTCAGCAGTGTCATGTATATATTATGTAACGAAGAGCCACTATGGATGAGCCTTTGTCTCAGAAGAGCAAAGGGTCCACTTGAGTAC AAAGGTTCCTGAAAAAAAACGACATTGCATCTAGAAGGAGTTACTCAGGAAAATGAGGATGCATACAGAAAACCTTTGCATTTTGATGGATTCAATTC GTTGTACTTGTATAAACGATTCTATAGGTGTAACACGTCTCTTGACGGCTTCTCTTTTGATGACGGGAATGTGGAACGTAGGAGAGAAATTTCCTTGG ATGAGTTTTCCAAGGAATACGATGCCAAGAAACCTGTCTTGCTCTCTGGCCTCGCTGATTCTTGGCCAGCCAGTAATACGTGGACAATCGACCAACT ATCAGAGAAATATGGGGAAGTCGCATTTAGAATATCTCAAAGGAGTCCCAACAAAATTTCTATGAAGTTCAAGGACTACATCTCGTATATGAAACTCC AGCGGGATGAAGATCCTCTATACGTTTTCGATGACAGATTTGGAGATGCTGCTCCTGAGTTATTGAAAGACTATAGTGTGCCTCACTTGTTTCAAGAA GATTGGTTTGAAATCTTAGACAAAGAAAACCGTCCGCCATACAGATGGCTTATAGTTGGTCCGGAGAGGTCTGGTGCATCTTGGCATGTCGATCCAG CTCTTACCAGCGCCTGGAACACCCTGCTTTGCGGTCGGAAAAGGTGGGCGTTGTATCCCCCTGGAAAAGTGCCCCTGGGTGTTACAGTCCATGTAA ATGAAGATGATGGTGATGTCAGCATCGACACCCCCTCATCTCTGCAGTGGTGGTTAGACTATTATCCTCTCCTCGCCGACGAAGACAAACCGATTGA GTGCACACTACTACCTGGTGAAACGATTTATGTTCCAAGTGGTTGGTGGCACTGTATCCTTAATCTTGAACCAACAGTGGCCGTTACCCAGAATTTT GTGAACAAAGAAAACTTTGGGTTCGTGTGTTTGGATATGGCGCCTGGTTACCAACACAAAGGGGTTTGTCGTGCCGGGCTTCTTGCTCTTGACGAT GGAAATTCTGAAGAGATGGAAGAAGAAACACACGATGAGGACGAAAATACTTTGAGCTATTCAGACCTTACCAGGAAAGAGAAGAGGGTACGGATG ATTGGAGGGGGAGAGACTGAAAACCGCGAAGAGGATGCTAATGGAGTATCAAAAAGATACAATATGTGGAAGAATGGATTCTCTTACGATATTGATT TCCTGGCGACGTTTCTTGATAAAGAAAGAGACCATTACAACTTCCCATGGTCTATGGGGAACTCTGTAGGTCAACGAGAAATGAGGGGCTGGCTAT CTAAGCTTTGGGTTCTGAAGCCTGAGATGAGAAAGCTGATATGGAAGGGAGCATGCATTGCTTTAAATGCTGAGAAATGGTTGCGATGCCTAGAGG AAGTATGTACTTTCCACAACTTGCCGTCGGTAACCGAAGATGAAAAGCTTCCAGTTGGAACTGGCAGCAATCCTGTTTATCTGTTTTTCTGACTATGC GGTAAAACTGTTTGTCGAAGGAGGGCTGGAACAATCTATGTACGGTCTTGGAACTGAGCTCGAGTTTTATGACATTCTTGGCCGCGCTGGTTCTCCT CTGAAAAGCCATATTCCTGATGTTCTGGCAAGTGGGATTCTTTACTTCGAAAAAGGATCTTACAAAGTTGTCCCTTGGGATGGCAAGAAAATCCCAG AGATTCTCACTAGCTCCAATCTCGCTTTTGATGCATCAATGTTGAAGAGCGACTTCCCATTTGGTATTTGGAACAAAACGCTACTTGAACATAGAAAC

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GCT-003N17	AT3G59060.4	PIL6 (PHYTOCHROME-INTERACTING FACTOR 5); DNA binding / transcription factor	GATCTAAAGAGAGAAAACCGAGAGAGTTAGGAGAGAGAATCTTCTCTTCTTCTCTCCTAACTCTATTCTGTTACGTGTGAAGCAGAAAACAGATATAG CTAGATTCTTCTCATCATTCAGTGGCTTCTAAATCTGATCAGACATGGAACAACTATTTCCTGATTGGAATTTTGAAGAAAATTTTCACATGTCCACTA ATAAAAGATCAATCAGACCAGAAGATGAACTAGTGGAGCTATTATGGAGAGATGGTCAAGTGGTTTTACAAAGCCAAGCTCGTAGAGAGCCATCAGT CCAAGTCCAAGCCCACAAACATGATCAAACCCTAGGAAAACCCAACAATACTCTTCTTGATAACCAAGTACGAAAACCTAATGGCACTATTCTTGAAG ATCAAGAAACCGTCTCATGGATCCAGTACCCTCCTGAAGACGTAGTCGATCCTTTCGAATCCGAGTTCTCCTCCCATTTCTTTTCTTCGATCGATCAC CTCGATGGTCCCGATCGTCCAGACAAGCCTCGGACGATCGAAGAGACGGCTAAGCACGATGCTCATGATCAATCCATGGCTCCTCCTAAGTTTAGG ACCTCAGTTTTAACAGTTGGACCAAGCCATTGTGGAAGCAACCAGTCTACAAATGATCATCAGGTGACTCATCCTCCGGTTTCTATAAGTGATAGAA GCAAGAACGTCGAAGAACGACTTGATACTTCGTCAGGTGGCTCGTCCGGTTGCAGCTACGGAAGGAACAACAAAGAAACCGGAAGTGGAAGGAGC GTTACCATTGACCGTAAAAGAAAACATGTAATGGACACTGATCAGGAATCTGTGTCTCAATCTGATGTACGTTTGATGTCAATGGAAGATCAAGCCAT CGGAAACAAATCGAGCCAACGGTCAGGGTCTACTCGAAGAAGTCGTGCGGCTGAAGTTCATAATCTCTCAGAAAGGAGGAGGAGAGATCGGATTAA TGAGAGAATGAAAGCTCTTCAAGAACTCATACCTCATTGCAGTAAAACAGATAAAGCTTCAATTTTGGATGAAGCCATTGATTACTTGAAATCACTTCA AATGCAACTTCAAGTGATGTGGATGGGAAGTGGAATGGCGGCGGCGGCAGCTGCAGCAGCCTCGACTCCGATGATGTTTCCCGGTGTACAGCAAT CACCGTACATTAATCAGATGGCTATGCAGAGTCAGATGCAATTGTCTCAATTCCCGGTTATGAACCGGTCAGTTGTACAAAACCATCCGGGTTTAGT ATGTCAAAACCCGGTACAGTTGCAGATGCAAGCACAGAATCAAATCTTATCGGAGCAGCTCGCTAGGTACATGGGAGGGTTTCCACAGATGCCGGC GACGACTCAGACGCAGACGCAGACGCAGACGCAGACGCAGACGCAGGCTGATCCGACTCCGGTGGGACAGCAAAGTCAACTGTCGGCGCCGGCT
GCT-003N18	AT3G46990.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT5G58930.1); similar to Os05g0450600 [Oryza sativa (japonica cultivar-group)] (GB:NP_001055704.1); similar to Os01g0852400 [Oryza sativa (japonica cultivar-group)] (GB:NP_001044827.1); similar to unknown protein [Oryza sativa (japonica cultivar-group)] (GB:AAU90119.1); contains InterPro domain Protein of unknown function DUF740; (InterPro:IPR008004)	GGCTGACTCTATCAACTTCACTCTCTCTCTGTCTTAACTCACCGCCGCAGCAGCGATTAACGAACCATGGCCCACTCCAAGCAAACCAATCGCCG TCGTTCCTCCTCCTTATGCCACCGTCATCCTACCGCTAAACCCACCAGCGGTTTCTGCGCCTCCTGCCTCCGTGAACGCCTCGTCACCATTGAGAC TCAGTCTTCTTCCCCCACCGCCGCCGTACAGACCCCTGAGCTCCGTCGTATTCGCTCCCACTCCGTTCGCAACGCCTCCGCCGCTTGCGTCTCTGA GCAGCCGCGACGGAGATCGTGTGACGCTAGGTCAAGCGCGAGCTCTCTCCACGACCTGTTCATCGATGATGACGAAGAACGGCTCGATAGCTCGA TTCGGAAGAAGCCTCTGGTCCCGGATTTGAAAGAGGAGGAAGAAGATTACTACGACGGAGAAGATATCAAAGGCTTTGACGAGGGAAAACCGAGG AAGATCGTGGAAGAAGAAGAAGAAGAAGAAATCGACAATGTAGAAGCTGGAGAGCACAAGACGATGAAGGAGTTTATAGATCTGGATTGGGGAAAC CAAATCAAGAAGAAGAAGGAAATCGCGTCGGTTTTGAGCAGGACACTAAAGAAATTCTCACTGAAGAACAGAAGAGAAGACGAGAAATCAGAAGCC AGATTCGCCGGAGATGTAATTGGTCGTCGATCATGTGATGTAGATCCTAGATTTTCTCTCGACGGAGGAAGGATCTCGTTCGAGAAACCTAGGGCTT CATGGGATGGATGCTTAATCGAGAAATCATATCACAAGCTTACGCCATTGTCCACCGTGACGGAAGATGCTAAAACCTTCCCGGAGAAGAAATCCGA CGGAGAGGAGAGGAGCCCAGGAGGGACAGTTCAAACGAGGAACTATTACTCGGATTCTCGTCGGAGAAGAAGCTTTGATCGATCGATTTCGATCAA GAGACGAGGATTGCTCGAGGTTGATGAATTGAAAGCTATCTCGAACGCGAAGGTATCACCTGAAACTCTTGGTTTGTTCCATGGCGCAAAGTTATTA GTTACGGAGAAGGAGCTTAGGGATTCAAACTGGTACTCGATCAAAAACCAGAAACCAGAGAGCGTTGAATTAGGCTCGAAAGGCAAGATCTGTGTA GCTTCTGGTGGGAAGAAGCTGGATGGTGTAGAGTTAAAGAAACCTAGAAAGAAATGGCCCAAGGGATGGAACATTTGGGGACTGATACAGAGGAAA AACGAGATCAAAACCGAGCAAAGTTTGAAACTTGAAAGAAATGCGATCGAGGGTTCTTTGGCTGAGTCTCTGTTAAAGCTTAGGAGAGTAGCTAAAG GAGAAACCAATGGTGGTGGTGGTGTTAGTGAGAAGCTTTTGAAAAGCTACAGTGTAAGCGCGAGAAAGTCTTGCGATGGTGTGATTAGTGGTGGTG GTAACATTGTTAGTGGCGGCTTTGAAGGTGGAAGAAGCTCGTGTGATGGTCTGTTTCATGGATCTATTAATAGTGTTGAGGTCGGGAGAAGCTCGT GCGATGGATTGGTTAATGGCATTGAAGGCAAACAAAATCATTATCTTCACCAAAGAAAAGCAAATGTCGGCACTTGTGCCCGAGAAGACAACAGTTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003N19	AT4G38620.1	MYB4 (myb domain protein 4); transcription factor	GAGCTTTAAGTCAATACCCTATATAAACTATACACCAAAGCTTTGAACCTTCAACCAAACCCAAAATCCAAGTGCCCCACCAAATGCTTCAATCCTCTT CCACTACGCAAAAAAACAACTTAATCCCTTTATACCCTTTGAGCCAAAACCCTCGCTAAAAGCCAACCCCCAGTATATATAAAATAATAAGAACACAC ACTTGATCAATTTATACCACTTTTTGATATGTGAATATATATATGTAGAAGAGTTTATATCAAGACATCAAAAAATAAGATCTACACACAACCAAAAAAA AAACAGGAAGAAGAAGAAGAAAAAAAGGTATGGGAAGGTCACCATGTTGTGAAAAAGCTCACACGAACAAAGGAGCATGGACGAAAGAAGAGGAC GAGAGACTCATAGCTTACATTAAAGCTCATGGCGAAGGCTGCTGGAGATCTCTCCCTAAAGCCGCCGGCCTTCTCCGCTGTGGCAAAAGCTGCCGT CTCCGGTGGATCAACTATCTCCGGCCTGACCTTAAGCGCGGAAACTTCACCGAGGAAGAGGATGAGCTCATCATCAAGCTCCATAGCCTTCTTGGC AACAAATGGTCGCTTATCGCGGGGAGATTACCGGGAAGAACAGATAACGAGATAAAGAACTATTGGAACACACATATACGAAGAAAGCTGATAAACA GAGGGATTGATCCAACGACTCATAGACCAATCCAAGAATCATCAGCTTCTCAGGATTCTAAACCTATACAGCTAGAACCAATCACGAGTAATAACAC CATTAATATCTCCTTCACTTCTTCCTCTTCTACTCCAAAGGTCGAAACTTTCCAGGAAAGCATAAGTTTTCCGGGAAAGTCAGAGAAAATCTCAATGCT TACGTTCAAAGAAGAAAAAGATGAGCGCCCAATCGAAGAAAAGTTCCCAGATTTGAATCTTGAGCTCAGAATCAGTCTTCCTGATGTTGCTGATCGT CGCCAAGGCTTGGTGGGAGAGGGGATCTTAACGACGCCGCGTTGTTTCAACTGCAGCTTAGGGATGATAAACGGCATGGAGTGCAGATGTGGAAG AAGGAGATGCGATGTTGTCGGAGGTAGCAGCGGCAGTGGCAACGGGAGTGACATAAGCAACGGATTTGATTTTTTAGGGTTGGCAAAGAAAGAAA CGACTTCTCTTTTGCGTTTTAGAACTTTCGCAGATGAAATAATTATTCTCAATTTTTAGCGCTAAGTCTAGAATCTTTTTTTTGCGTAGACATTTTCGAAC
GCT-003N20	AT2G02390.1	ATGSTZ1 (GLUTATHIONE S-TRANSFERASE 18); glutathione transferase	GGCCACTTCTTCTCTGTACTAAACTAAACTAATCGCTTGAATCTGTGTAGAACAATTCATTTCCTTCCTGATCATGGCGAATTCCGGCGCAGAGAAGA AGGAGAAGCTTAAGCTCTACTCTTACTGGAGGAGCTCGTGCGCGCATCGTGTCCGTATCGCCCTCGCTTTAAAAGGGCTTGATTATGAGTATATACC AGTGAATTTGCTCAAGGGAGATCAATTCGATCCAGATTTCAAGAAGATCAATCCTATGGGTACCGTACCAGCGCTTGTGGATGGAGAAATTGTCATC TCTGATTCTTTTGCCATTATACTGTATCTGGATGAGAAGTATCCTGAGCCGCCTCTGTTACCTCGTGACCTCCATAAACGTGCTGTAAATTACCAGGC CGCAAGTATTGTCTTTTCTGGCATACAGCCTCATCAAAATCTAGCTGTTATTAGGTATATCGAGGAAAAGATAAATGCTGAAGCGAAAACTGCTTGGG TTAAAGATGCTATCACAAAAGGATTTACAGCTCTCGAGAAACTGTTGGTGAGCTCTGCTGGAAAGTATGCAACTGGTGATGAAGTTTACTTGGCTGA TCTCTTTCTAGCACCACAGATCCATGGAGCTGTCAACAGATTCCAGATTAACATGGAACCATACCCGACTCTTGCAAAGTGTTACGAGTCATACAAC GAGCTTCCTGTGTTTCAAAATGCAGTCCCAGAGAAGCAGCCTGATGCTCCTTCCACCATCTGATTCTGTGAACCGTAGTAAGCTACTCTCAGCTCAA TTAAAACCTCAGACGACAACAACACAAAGATGATAATAATAATTACCTTGTACTCATATATAGATGTATCATACAAACCACTTTACTTCTTAGTTCCTCT
GCT-003N21	AT3G49970.1	phototropic-responsive protein, putative	GGGCTCATATTCTTCATCGTCTCTTTTGATTGCGTGTAAAGATTGCAACTTGAAATGATCTCTCTCTCTCTCTCTCTGAAATAGTTCTCAGGTTGATTT CTTGAACAGGAAGAAACTGATTGCAAAGTGTTTATCAAATGTCCGCAAAGCAGGAGCTTATGTCCTTAGCCATGAAGAGAACTAGTGAATGGTTTCT CATTCTGTTTCTAACATTTTTTTCCTTTCTCAATTTTGATCTTCTGATTTGCAGTTCCTCTGTTTCTGATTTCAAAATCAGTATTCAACTTACTTTTTGTAA AAGAATAAAAATATTTCGTTTCTTACAAAATTGGTTTCAGGATATCTTCTCAGGAAATTCCTTGTGACATCGCTGTTCATATAGGAGAGACTTCGTTTT CACTTCACAAGTTTACAGTTGTGTCAAAATGTGGGTTTCTAAAGAAACTTGCTTCCGAAACAAGCAACGATTCCAACATCGCCGTAATCAAAATCCCA GATTTTCCCGGAGGTGCAGAAGCATTCGAGCTAGCAACCAAATTCTGCTACGGAATAAACTTCGAGATGAACACAGAGAACATTGCAATGCTGCGTT GCGCAGCAGAGTATCTAGAGATGACAGAGGAACACTCTGTTTCAAACCTCGTGGAGACAACAGAGGTTTACTTGAACGAAGTGATCCTCAAGAGTTT ATCGAATTCGGTTAAAGCTCTGCGAAAATCTGAGTGTTTGTTGCCTATGGCCGAGAGAGTGAAGCTCGTGAGCCGTTGTATAGATTCAATATCCTAT GTAACTTGTCAGGAGAGCCAGAGCAAGGAGGATATAGTTGACTGGTGGGCTGAGGATTTAGCTGTTCTAAGGATTGATATGTTTCAACGTGTATTGA TTGCGATGATGGCTAGAGGGTTTCAGCGTTACGCGCTTGGTCCAGTGCTTATGCTATATGCTCAAAACGCTCTTAGAGGGAGATTTTTGGGAATGG GACGAAGAAGACGGAGGCAGAGCAAGAACATGAGAAAAGGGTGATTCTTGAAACAATTGTTAGTCTTCTTCCGAGGGAGAGAAACGCAGTTTCAGT GAGCTTTCTTTCGATGCTTTTAAGAGCTGCGATATACCTCGAAACCACGGTAGCTTGTAGGTTTGATTTGGAGAAGAGAATGGGATTACAGTTAAGA CAGGTCGTGCTTGATGATCTCTTGATTCCTTCTTACTCATTCAACGGAGACAACACAATGTTTGATGTTGATACTGTTCAACGCATCCTCATGAATTAT CTTGAGTTTGAAGTTGAAGGAAACTCTATTAGTTTTGCCACTGATATCGGTGAATTGATGATGACTTATCTGGCTGAAATTGCTTCTGATAGAAACATA AACCTGACGAAATTCATCGGGTTAGCTGAATGCATTCCTGAACAGTCTAGGATTACTGAAGATGGGATGTATCGAGCCATAGACATCTACCTTAAGG TGCATCCGAATATAAGTGAAATGGAGAAGAAGAAACTTTGTAGCTTAATGAACTGTAAAAAGCTATCGCAAGAAGCTTGTGCTCACGCAGCTCAAAA CGAACGTCTCCCTATAAAAACCGTAGTTCAAGTTCTCTACAACGAGCAACAAAGTCTCCGCCAAGTTCTAAGTGATTCAGATTCTTCAGCAGCTGCAA CCTCATCAGAGACTCTTTATCCTTTTAAGCTAAGCTCCTACAACAATGAGCTCTCCATACTAAACCGCGAAAACCAAGAATTGAAGCTTGAGTTGCTC AAGGTGAAAATGAAGGTCAATGAGTTGGAGAAGGATAAAGATTATGAAGTCATGAGTGGTTCGGATTGGTCTCCGGTTACAACTGCTTCGGTGGTTA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003N22	AT5G39760.1	ATHB23 (ARABIDOPSIS THALIANA HOMEOBOX PROTEIN 23); DNA binding / transcription factor	GATCGTTTTTGCTAATTTTTTTTTTTGTTTGGGAAGATTATTGATGTTTTGAGAGCTATGGATATGACTCTTACAACAACAACAACAACAATTCCAAAAT CACCGGAACCCGAGTCCGAAACTCCGACCCGGATCCAACCGGCGAAACCCATTTCCTTCAGCAACGGCATCATCAAACGCCACCACCATCCTCTCC TCTTCACCTACAAAGAATGTCTCAAAAACCACGCGGCGGCGTTAGGCGGCCACGCGCTCGACGGTTGCGGCGAATTCATGCCGTCTCCGTCGTCA ATCTCCACCGATCCAACTTCTCTCAAATGCGCCGCTTGCGGTTGCCACCGTAATTTCCACCGCCGTGAACCAGACAACGATTCCTCCTCAATCCCTC CTCCTTCCTCCGTCGCCGCCGCAATTGAGTATCAACCTCACCACCGTCACCATCCACCACCACCACCACAACCACCACAATCAGCTCCTCCTCCTC CTCCACGTAGCCCTAATTCAGCTTCTCCTCCGCCGATTTCTTCCTCTTACATGCTCCTATCACTCTCCGGCAACAACAACAACAACCTATCTTTCGCC GATCTCAATTTCTCCGGCCACCAAATCGGATCTCGTAAGCGATTCCGAACGAAATTCAGCCAATTTCAGAAAGAGAAGATGCACGAGTTCGCCGATC GAGTCGGCTGGAAGATGCAGAAACGCGACGAAGACGACGTTCGTGATTTCTGCCGTCAGATCGGAGTCGACAAGAGCGTTCTCAAAGTCTGGATG CACAACAACAAAAACACCTTTAACCGCCGCGATCTTCCGTTCTCCGTCGCCGGAGCCGCCGTCGCCAAAATCGATAATGGCGGCGGAGGAGGAAA CCACGCTCCGATTCCCGCCGGCGAAACTAATAACAACGAGTTTCACCAGAGTGTTAGTAGTGGCGGCGGCGGATTTGATAGTGATAGTGGCGGCG GTGGCGGCGGAGGAGGAGGTCACGGTGGTAACGTCAATGGATCGTCGTCTTCGTGAGGTTAAAGATGAGATTCAGATTCAATAAGGAAGCTTAAG CTTTTAGCTTTTAGAGTAAGCCACTCGTATTATCATCGTTAATAACTTTCTATTAATAGTATTAATTATCTTTAGCTTTTTGTGTTTGTTTGTTTTTGTATT
GCT-003N23	AT1G23190.1	phosphoglucomutase, cytoplasmic, putative / glucose phosphomutase, putative	GAACAATCCATAGTCCAGACTAAAATCCAATTCTGATCCTCGAGGCGGATATGGTTTTCAAGGTTTCTCTCGTCTCAACATCACCTATCGATGGCCAG AAACCGGGAACTTCTGGTCTTCGTAAGAAGGTGAAAGTGTTCAAGCAACCCAATTACCTAGAGAATTTTGTCCAAGCGACATTCAATGCTCTTACAC CAGAGAAAGTCAAAGGTGCCACTCTCGTGGTCTCTGGTGATGGCCGTTATTACTCAAAGGATGCTGTTCAGATCATAATTAAGATGGCAGCAGCTAA TGGTGTACGACGCGTGTGGGTTGGTAAAAACACTCTGTTATCAACTCCTGCTGTGTCAGCTGTGATTCGTGAAAGATCAGGGGCTGATGGATCAAA AGCAACCGGAGCATTTATCTTAACAGCAAGTCACAATCCTGGTGGCCCTACAGAGGATTTTGGAATCAAATACAATATGGAAAATGGAGGACCAGCT CCTGAATCAATCACTGATAAGATTTACGAGAACACTAAGACAATCAAGGAGTACCCAATAGCAGATTTACCCAATGTTGATATTTCTTCCGTCGGTGT AACCAGTTTTGAAGGACCTGAAGGAAAATTTGATGTTGAAGTTTTTGATTCCGCAGATGACTACGTTAAATTAATGAAGTCAATCTTCGACTTTGAATC CATCCGGAAATTGCTTTCGTCTCCAAAGTTTACATTCTGCTATGATGCATTGCATGGAGTTGCTGGAGCCTATGCACATCGCATCTTTGTTGAAGAGC TCGGTGCACAAGAAAGTGCGTTATTGAACTGCATACCCAAGGAGGACTTTGGTGGAGGGCATCCAGATCCCAATCTGACATATGCTAAGGAGCTTG TGGCACGAATGGGATTAGGTAAATCCGACACCGGCGTTGAACCTCCAGAATTTGGTGCGGCTGCTGATGGTGATGCAGACCGTAACATGATCCTTG GTAAAAGGTTCTTTGTAACTCCTTCAGATTCAGTTGCCATAATTGCTGCAAATGCTATTGGGGCCATACCGTACTTCAGCTCTGGTTTGAAAGGTGTT GCAAGGAGCATGCCAACCTCAGCTGCTCTGGATGTCGTTGCAAAAAGCTTGAATCTGAAGTTCTTTGAGGTTCCAACGGGCTGGAAGTTTTTTGGTA ATCTGATGGATGCTGGGATGTGTTCTGTTTGTGGGGAAGAAAGTTTTGGAACTGGATCGGATCATATCCGCGAGAAAGACGGGATTTGGGCAGTTC TTGCATGGATGTCCATACTTGCTCATAAGAACAAGGAAAATCTTGACGGTAACACTAAACTGGTGACCGTTGAAGACATTGTCCGCCAGCATTGGGC TACGTACGGCCGTCACTATTACACTCGTTATGACTATGAGAATGTAGACGCAGGTAAAGCAAAGGACCTGATGGAGCATTTGATCAAATTGCAATCT TCAATTCCTGAAGTCAACAAGATTGTGAAAGGAATTCGTTCGGATGTGGCGAACGTCTCCAGTGCTGATGAATTCGAGTACAAAGATCCAGTTGATG GCTCCATCTCCAAGCACCAGGGAATCCGTTACTTGTTTGAGGATGGTTCGCGACTTGTTTTCCGTCTCTCTGGAACTGGCTCGGAAGGAGCAACCA TCCGACTCTACATTGAACAGTACGAGAGGGATGCTTCAAAAACCGGACGAGAGTCCCATGAAGCTCTGTCTCCTCTGGTTGAATTAGCTCTGAAGCT
GCT-003O01	AT5G54160.1	ATOMT1 (O-METHYLTRANSFERASE 1)	GGTCACATAATCCTCTCAAAACAGAGAACCCCAAAGAACAAAGAAAAAAAAACAGAGCAATCTAAATATATCTAAGAGATTTCAAGAAAATGGGATCA ACGGCGGAGACACAGATAACTCCGGTACAAGTCACCGACGACGAAGCTGCCCTCTTTGCCATGCAGCTAGCGAGTGCCTCCGTTCTTCCGATGGC TTTAAAATCGGCTTTAGAGCTCGATCTTCTCGAAATCATGGCCAAGAACACTAAACCGATGTCTCCCTCTGAGATCGCTTCTCATCTTCCGACCAAAA ACCCCGAAGCTCCGGTCATGCTCGACCGTATCCTCCGTCTTCTTACGGCTTACTCCGTCCTCACCTGCTCCAACCGTACACTCCCCAACGGAGACG GTGTCGAGAGGCTTTACGGGCTTGGTCCGGTTTGCAAGTACCTGACCAAGAACGAAGATGGTGTTTCGATTGCTGCTCTTTGTCTTATGAACCAAGA CAAGGTTCTCATGGAAAGCTGGTACCATTTGAAAGATGCAATTCTTGATGGTGGGATTCCATTCAACAAGGCTTATGGAATGAGCGCGTTCGAGTAC CACGGGAAGGACCTTAGATTCAACACTGTCTTCAACAATGGAATGTCTAACCATTCAACCATCACCATGAAGAAGATTCTCGAGACCTACAAGGGTT TTGAAGGATTGACTTCTTTGGTTGATGTTGGTGGTGGCATTGGTGCTACTCTCAAAATGATTCTCTCTAAGTACCCTAACCTTAAAGGCATCAACTTT GATCTCCCACATGTCATCGAAGAAGCTACTTCTCATCCGGGTATTGAGCATGTTGGAGGAGATATGTTTGTTAGTGTCCCCAAAGGTGATGCTATTTT CATGAAGTGGATATGCCACGATTGGAGCGATGAACACTGCGTGAAGTTCTTGAAAAACTGCTACGAGGCGCTTCCAGAAGATGGAAAAGTGATATT GGCTGAGTGTATACTTCCAGAGACACCAGACTCGAGCCTCTCGACCAAACAAGTGGTCCATGTTGACTGCATCATGTTGGCTCACAATCCCGGAGG CAAAGAACGAACTGAGAAAGAGTTTAAGGCATTAGCCAAAGGATCAGGCTTCAAAGGCATCAAAGTTGTTTGCAACGCCTTTGGTGTTTACATCATT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003O02	AT5G51100.1	FSD2 (FE SUPEROXIDE DISMUTASE 2); iron superoxide dismutase	GTCTGTATATGTTGCAGAGGTTTAATCAAAATCAATCAATAAATCAGTAACGCTTTGAGGAAAGATGATGACAGTTTCAGTGACAGCCACTTCCTCAT CTCTCTCGTCGTGCTCTCTCCTTCCTTCAAAAGTTACAGGGCCAAACTGGCGAATTCAATGGAAAACAAACGAAAAGAGACGGTTATCAAGAAAGAT GGCTGTTTCAGGTGTTATCACAGCAGGATTTGAGCTGAAGCCTCCTCCATATCCTCTTGATGCTCTGGAACCGCATATGAGCCGGGAAACCTTGGAT TATCATTGGGGCAAGCATCACAAAACTTACGTAGAGAACCTGAACAAGCAAATCGTAGGTACAGATCTAGATGGAATGTCACTGGAGGAGGTTGTG CTTCTTTCATACAACAAAGGCAATATGCTTCCTGCGTTCAATAACGCCGCACAGGCATGGAACCATGAATTCTTCTGGGAGTCTATCAAACCTGGTG GTGGAGGAAAGCCAAGTGGAGAACTCCTCAGACTGATTGAGAGAGATTTCGGGTCTTTCGATGAATTTCTAAAAATGTTCAAGTCAGCTGCAGCCTC GAACTTTGGTTCGGGTTGGACTTGGCTTGCATACAAGGCTAATAGACTTGATGTTCCAAATGCCGTAAATCCGCTCCCAAAGGAGGAAGACAAGAA GCTTGTAATAGTTAAAACTCCCAACGCAGTAAATCCACTCGTATGGGATTATTCTCCACTTCTCACCATTGATACCTGGGAGCACGCCTACTATCTGG ATTTTGAGAATCGAAGAGCTGAATACATAAATACATATATGGAAAAGCTTGTGTCATGGGAAACTGTGAGCACAAGGCTAGAATCTGCAATGGCTCG AGCTACTCAAAGAGAACAAGAAGGAACAGATACAGAAGATGAAGAGATTCCAGATGATGAAGAGCCAGAGGTTTACTTAGATAGTGATATTGATGTA
GCT-003O03	AT1G51400.1	photosystem II 5 kD protein	GGCAAATTTCATCAGATAAGCAAAGAACAGAGAGACAGATTAAGATACCACACGTGGGAATCAACTTACCATTTGCAATGGCGTCGATGACCATGAC ATCTTCATTTCTCCCGGCCGTCTCAAAACTTCCCACAGCCATCACCGGCAGCAACAGACGAAGCCTCACGGTGGTCAAAGCGTCCACGAGCGAGAA CACCACCAGCTTGGAGAACAGGAAGCAAGAACAGAGCATGAAGATGAGGAGGGACATGGTTTTCACGGCTGCAGCTGCGGCTGTCTGCTCCTTAG CCAAGGCGGCAATGGCCGACGAAGAGCCCAAGAGAGGAACAGAAGCAGCCAAGAAGAAGTATGCTCCTGTTTGTGTCACAATGCCTACGGCCAAG ATATGCCGTAACTGAGTTCACTAGTCAACCAACAAAAACTATATATCCACCCCCATGTGTCTCTCTTTTGTGTGTAAATTTTTCTCAGTTGGTATGTAA
GCT-003O04	AT2G38000.1	chaperone protein dnaJ-related	GGGAGGCACAATTTGAGGATACAAGAAAAAGATCGAATTGACCTGGGTTTTCCTTACTCTCTAAGAAAAATCTCAAATTTAATCTCTTTCGGTTCTGTT ATTTGGAAGCTCAAAAAGCGGAGAGGCAGAGAGAGATTCGTAATCCATGGATAAGCCTCTGCTTTCAGATAAAACGAAGGAATCCGAGAGGTGGGA TTCATCATACCAGTACCTGCAGAGAAACAGCTCTTCTGCTCGCAACGCCTTTTTCGCCGGAGCTGGCGTTACCGTAGAGGAAGTCCGTTCCGCTTC AGCTGTTTCCGATCCTCCGTCTCTCTATCCTCCCGTTTTAACGACCCCAGTTTCGTTGCCCACTCCTCAAGCTATTGGCTACCCGAGTGCATCTGGA GCAGGTCATGAATTGCAAAAGCAGATTCTTGATGAGATTGAAATAAGAGAGCTGCTTATTGATCATATTGGCCATCGCTGCTGTTGGGGAAGCCGTC CTGCTCGGACATGGAAGATTCTTGCTGTTGAAGACTGCAATGTTTATGTCGGAACTCTTGACACTTTCATTGAAGAGAGGGAAGCTTTAACACAGAC AGTGCCTTTCACTGGCGGGAATTTCAATGGGAAGAAAGATGGATCTGCTCCTGAGTTATGGCAACTGGACCTGAGATCGCAGTTTCCTACACTGTTT GTCCCTTACAAAGAAACTCAAGTCCCGGTCCCTAATTCTGAGACTGTTGATAAATGCACTGGTTGCACAGGAAGAGGAGAAGTAGTATGTCCAACGT GCAACGCCGATGGAGAGCCGGGGTTTTACAAGGAGAATCAGGTGATGAAGTGCTCCTCTTGCTATGGAAGAGGTTTGATTGCTCATAAAGATGGAT CCGACACAATATGCGCAGCTTGTAACGGTAAGGGAAAGCTTCCTTGCCCAAACTGCCAGTCTCGCGGGTTAATCAAATGTCAGTCTTGTAACGGTA CTGGTTCTCTTCTAACAAGCAGTATCGCAGTTGTGAGATGGAAGACTCTGTCGAAGCGAAAGGTGAGTGCAACAAGAGGAGCTGGCTCGGTACCAG AAGAAGTATTTCACAGAGCAGAAGGAGTTCAGCTTTGCAACACACAAGCTTACCAGTGCACGCCAGCTTACTTTGCAGACTCATATTTCCTCAACAA AGTCTCCTCAGAAGTCATCTCGTTGAGAGCTGAAGTTCCACCAACGGCGAACGTGGTCTGCGAGAGACACACCATATCTGTTGTGCCTGTGACTCG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003O05	AT3G51895.1	SULTR3;1 (SULFATE TRANSPORTER 1); sulfate transporter	GAACTCCTCCTATAAAAAGAAGAAACCACCTTAGCTCTTCTCCTCATTCCTAAATTCCAGCCGCCAAAAACTCCAACAAAATCTTTCCTAACCACGAA CCGAATCCGAGCGGTCTTCAAATGGGCACGGCGGACTACACATTTCCTCAAGGAGCGGAGGAGTCGCACCGCCGCCACCACACGGTGGAGGCTC CCGAGCCTCAGCCGTTCTTGAAGTCACTTCAGTACTCATTGAAGGAAACTCTGTTTCCAGACGACCCTTTTAGACAGTTCAAGAACCAGAAAGCATC TAGGAAAGTTGTATTAGGCATCAAGTACTTCTTCCCGATCTGCGAATGGGCTCCACGCTACAATCTCAAGTTCTTCAAATCGGATCTCATTGCCGGA ATCACCATCGCTAGCCTCGCCATCCCTCAGGGCATCAGTTACGCCAAACTCGCTAACTTGCCTCCCATTCTTGGCCTTTACTCGAGTTTTGTACCGC CATTGGTGTACGCGGTACTGGGGAGTTCAAAGGATTTGGCGGTCGGAACGGTTGCGGTTGCGTCTCTGTTGACAGGTGCGATGTTGAGCAAAGAA ATAGACGCTGAGAAATATCCTAAGCTTTACCTTCAAATCGCTTTCACCGCCACGTTTTTCGCCGGCGTTTTCGAAGCCTCACTCGGCTTTTTCAGGTT AGGGTTCATAGTGGATTTTCTATCGCATGCAACGATAGTGGGATTCATGGGAGGAGCAGCGACGGTGGTGAGTCTGCAACAGCTTAAGGGTATTTT CGGACTTAAACATTTCACAGAAGCCACTGATGTTATCTCTGTCATGCGTTCCGTTTTCTCCCAAACTCACCAGTGGAGATGGGAGAGTGGCGTTCTC GGCTGTGGTTTCCTTTTCTTCCTTCTCTCCACCAAATATTTCAGCACGAAGAAACCAAAATTCTTCTGGGTGGCGGCGATGGCTCCTTTGACCTCAGT GATTCTTGGAAGCCTCTTGGTTTACTTCACTCACGCTGAGAGACATGGTGTTCAAGTGATAGGGAACCTGAAGAAAGGGTTAAATCCACTGTCCGTG TCTGATCTCGTCTTCACTTCCCCTTACATGTCGACAGCTGTCAAGACTGGCCTCATCACTGGCATCATCGCCCTCGCTGAAGGTATAGCTGTGGGGA GGAGCTTTGCGATGTTCAAGAACTACAACATTGACGGGAACAAAGAGATGATAGCATTTGGAATGATGAACATCGTTGGTTCCCTCACTTCTTGTTA CCTCACAACCGGACCGTTTTCGAGGTCGGCCGTGAACTTCAACGCGGGTTGCAAGACAGCAGTGTCGAACATAGTGATGGCGATTGCGGTAATGTT CACACTGCTCTTCCTCACTCCGCTTTTCCACTACACACCACTCGTCGTCCTCTCCTCTATCATCATAGCCGCTATGCTCGGCCTCATTGACTATCAAG CTGCCTTTCATCTCTGGAAAGTCGACAAATTCGACTTCCTCGTCTGCATGAGCGCCTACTTTGGTGTTGTCTTCGGTAGTGTCGAGATCGGTCTCGT CCTCGCCGTGGCGATATCGATAGCGAGATTGTTGCTATTCATGTCGAGGCCACGGACTGCGGTGAAGGGAAACATACCAAACAGCATGATATATAG GAACACTGAGCAGTATCCTTACTCAAGAACCGTTCCTGGTCTTCTCATTTTGGAAATTGACGCTCCCATCTACTTTGCCAACGCTGGTTACTTGCGTG AGAGAATCACAAGGTGGATCGATGAAGAGGAAGAGAGAGCCAAAACATCAGGAGAAAGCAGTTTGCAATATGTTATACTCGATATGTCCGCTGTTG GTAATATCGACACGAGTGGTATAAGCATGATGGAGGAAATTAAGAAAATTATCGACAGAAGAGCGCTGAAGTTAGTATTGGCAAATCCGAAAGGAGA GCTGCTGAAGAAATTAACAAGATCCAAATTCATCGATCGTAATTTGCGCAAAGAATCGATCTTCTTAACCCTAGCAGAAGCCCTCGACCCTTCTACT
GCT-003O06	AT1G53160.1	SPL4 (SQUAMOSA PROMOTER BINDING PROTEIN-LIKE 4); DNA binding / transcription factor	GAATATCACCAAGTCCCATTCCTCAACATTGCTAAACCTACCAGAGGCTCCTTCCTCCAAGAATCATATGCTCAAGACTACAACTTAAAAGCTTTCCC TCTCTCAAAAATGGAAGGCAGAAGAACACAAGGACAAGGCTACTTGAAAAACAAGGCTAGTGTGTCTTACCTTGTGGAAGAAGAAATGGAGAATGAC ATGGATGAAAATGAGGAAGGTGGAAGGGAGGAAGAGAAGAGAAAAGGAGTGATGGATAGAGTTAGAGGGTCTAGTGGCATCAGCGATCGTGGCAC ATCGCGTTTGTGCCAGGTGGATAGATGCACCGCTGATTTGAAAGAGGCGAAGCAGTATCACCGGAGGCACAAAGTGTGTGAAGTTCATGCAAAGG CATCATCTGTCTTTCTCGCAGGAATAAGCCAACGCTTTTGTCAACAATGCAGCAGGTTTCATGAGCTCCTAGAGTTTGATGAAGCCAAAAGAAGTTG CCGGAGGCGCTTGGCTGGACACAATGAGAGGCGAAGGAAGAGCTCAGGTGAGAGTTTTGGAGAAGGGTCGGGTGGTCGAAGAGGAATCACGGGT CAGATGATCCAGAATCAAGAAAGATCAAGGGTAGAGATCATGACTACACTTCCTATGTCAAACTCTTCATTCAAGCGACCACAGATTAGATAGAGAA GCTGTCTGCTCTCTCTCTTCTGTCATCTAAAAATCCTCCTTTAAATCTATAAACAATGTAAAAAAAATATCAGCTGAGTCACGGTAATGACAACTGGTA TAGAGAAAAATAATAACTACCAGTCTCTACTCTCTATGTATTCCTCAAAATGCTAAGACTTTCGCTTAACCCTGAGTTATTCATCAAAATGTCTAGAGT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003O07	AT2G40140.2	CZF1/ZFAR1	GCTTCTCAATTCCCAAAGTTTGTAACTTGTCTACTGATTTCCTCCTGCAAGTCATCTTCTTCTCCAGGAGAGATGTGCGGCTCAAAGAGCAACCTCTG CTCTTCAAAAACACTAACCGAAGCCGAATTAATGAGGCGAAAATCAGAGGAAGAAGAAGGCGTCGCCGCCGCCACGTGTCTTCTCGAATTAGCCGC CTGCGACGATCTTCCATCGTTCAGGAGAGAGATCGAAGAGAAATCTCTGGAAATCGACGAGCCGGGTTTCTGGTATTGCAGACGGGTCGGGTCGA AAAAGATGGGTTTCGAAGAAAGAACACCTCTCATGGTCGCTGCTATGTACGGAAGCATCGATGTTCTAAATTACATAATCGCCACTGGAAAATCCGA TGTGAACAGAGTTTTCGGCGACGAGAAAGTCACTGCTCTCCACTGTGCGGTTTCTGGCTGTTCTGTCTCTATCGTTGAAGTCATCAAGATCTTGCTT GATGCTTCCGCTTCGCCTAATTGCCTTGACGCTAATGGGAACAAACCGGTCGATCTATTGGTTCGAGCTTCCCGGTTTGTACCTAACCAGAGTAGAA AAGCGGTTGAGATTCTGTTAACCGGAAACCATGGCTCGGTTAGTTTGATGGAAGATGAGGAGGAGGAAGTGAAGAGTGTTGTTATGACTAAGTATC CAGCTGATGCATCGCTTCCTGATATCAACGAAGGTGTTTACGGAACAGACGAGTTTAGGATGTATAGCTTCAAGGTTAAGCCTTGTTCGAGAGCTTA CTCGCATGATTGGACCGAATGTCCTTTTGTTCATCCAGGTGAGAACGCGAGAAGGAGAGATCCAAGGAAGTATCCTTACACTTGTGTTCCTTGCCCT GAGTTTCGTAAAGGGTCTTGTCCTAAAGGAGATTCTTGCGAGTATGCACATGGTGTTTTCGAGTCTTGGCTTCACCCAGCGCAGTATAGGACACGG CTTTGTAAAGATGAGACAGGTTGTGCAAGGAGAGTCTGTTTCTTTGCGCATAGAAGAGATGAGCTGAGACCTGTTAATGCTTCCACTGGCTCTGCAA TGGTTTCACCTAGGTCGTGTAACCAGTCTCCTGAGATGCCTGTTATGTCTCCTTTGACTCTAGGCTCATCGCCGATGAACTCTCCTATGGCTAATAAT GGTGTTCCTTTGTCTCCAAGGAACAATGGTGGGTTGTGGCAGAACAGAGTTAATAGCCTTACACCACCACCGTTACAGCTTAACAGTAGCAGATTGA AGTCGAGTTTGAGCGCTAGAGATATGGACGTTGAGATGGAGCTTAGGCTTCGCAGGCTCAGTGATTACAAGTCATCAAACCTCGAAGAGAGTTTCG GATCTTATGATTCTTCTTCTTCTGTGATGCAGCTTCAATCTCCAAGCAGGCATTCTCAGATGAACCACTATCCGTCTTCACCTGTGAGGCAAGGGTTT GAATCTTCTGCAGCCATGGCAGCTGCAGTGATGAAAGCAAGATCCTCTGCTTTTGCAAAACGGAGTTTGAGCTTCAAACCAGCTCCTGTAACTTCTT CTAATGTCTCGGATTGGGGTTCACCGAACGGGAAGCTCGAGTGGGGGATGCAGAGAGAGGAGCTGAACAAGCTTAGGAGAAGCGCCTCCTTTGGC ATTCACGGGAACGGCAACAATATGTCGCGTCCTGCTAGAGACTACAGCGACGAGCCAGATGTGTCGTGGGTGAACTCACTGGTGAAAGAGAGTGC ACCTGAGAGAGCCTTTGGAATGACTGAGAGGGTTGGGAACACGGTGAATGGAGCAGAAGGTAGAGACAGGTTTAAGCTGCCTTCGTGGGCAGAGC AAATGTACATAGACCATGAGAAGCAGCAGATTGTGGCATAAGAAGCAGAAAGAAAGAATGAGATTTGATTGCTTTTCCTCTAGGGCCTCTCTACACA
GCT-003O08	AT5G45250.1	RPS4 (RESISTANT TO P. SYRINGAE 4)	GGTCGACTTGTTTTTCGTCTTTGTGTTTAGTCTCACTTGACGGTCAACTTCCAAGCTTGCTCGTCGGAAAAAATAAACCATGGCGGCTCCCTCTTCTT CCACGGTACCTCATCCGCAACATCAAGTGTTCATCAATTTCCGGGGAAAGGATTTACGCCTTGGATTCGTCAGCCATCTCGTCCGTGCCTTTAAAAG GAATAAGATCAATGTCTTTATGGACGAATTCGAAGACCGAGGCAAACCTTTAGATTCCCTTTTAAAGAGGATAGAGGGGTCGAGGATCGCTCTGGCT ATCTTCTCTGAGAGCTACACCGAGTCAAACTGGTGCTTGAAAGAGGTGGAGAAGATGAATGATTGCATGGAACAAGGCAATCTGGTGGTGATTCCC ATTTTCTATAAGGTGGAGCCATCTACCGTGAGATATTTGAAGGGAGATTTCGGTGATAAGTTATGGATTCTGGTGAAGGGTGATGAGAAGAAGAAGA AGTGGGAGGAAGTCTTGAAGTCGATTCCTAATCTCTTCGGGATCACTGTGGACGAAAAAAGCGACGAGGGCCAAGCAGTCAATGAAATTGTGAAGG CGGTTAAGACAGTCCTGCTCAACATTTCATGTATAGCTAGCCAAAATGTCTCTGTTGATCCTTCAGAAAGTAGCAATGCTGGGACTTTCTCAGGAGG CGTAAAGCATAAGACGTTTGGTATCAAACAACGCCTGGAGGAACTGAAAGAGATGTTGGATTGTGACAAGCACAAGGGTACTCGTATCATTGGAGTT GTTGGGATGCCGGGAATTGGCAAAACCACACTCATGAAAGAGCTTTTTAAGAAATGGCAGCGTAAGTTTACAAGGCACGCGCTAGTCGATGATATC CGCAAAACAAAGGGCACCTGTATTAGTTCCTTGTCCTCATTGCTTGTGGAAGAGTTACTGCCGTTGGAAGATCCCAGTGTTGAGGACCCGTTCGAG AAGTACAAGGATCAACTGCTTAAACGTAAAGTTCTTGTCATTCTTGATGATGTTAGTAAAAGGGAACAGATAGATGCTCTTCTCGGGAGACGTGACTG GATTAGTGAAGGAAGCAGGATTGTCATTGCAACAAGTGACACGTCCTTAATAAGTGGTCTGGTTCACGATACTTACGTGGTCCAGAAATTGGACCAC AGAGACAGCTTACAACTCTTTCACTACCATGCCTTTGGAGGTGATCCTCCCAAGAAAGACTACATGAAGCTGTCAGAAGAAGTTGTACATTACGCCA GAGGCCATCCACTAGCTCTCAAAATGTTGGGTGTAGAGCTTAACAAGAAGGATATGAATCATTGGAATTCAAAACTCAAGAAACTCGCACAGACCCC ATGCCCTATTGTTGGAAGTCATGTCTTCCATGTCTTCCAAGCGAGTTATGATGAACTGAGTTCAGAGCAGAAAGATGCATTTCTCGACATAGCCTGTT TCAGATCCCAGGAAAAGGATTATGTAGAAAGTTTACTGGCTTCACCGGACCCCATATCTGCTGAAGCAACAAGTGCAGTAAAAGCTCTTGCGGATAA ATTCTTCATTAATACTTGTGACGGCCGAGTGGAGATGCATGATCTACTGTATACTTTTTCTAGGGAACTTGATCCTAAACCATCCACTCAAGATTGTA CCGGACAACGGAGGCTGTGGCTCCATCAAGACATAATCAAGGGAGGCGTAATTAATGTACTGCAAAATAAAATGAAAGCTGCCACTGTCAGAGGTA TCTTCCTAGACTTGTCTGAAGTGAAAGAGGAAACGAGCTTAGACTGCGACCACTTCATCAATATGCGTAATCTCCGGTATCTCAAGTTTTACAATTCT CATTGTCCTCACGAATGTAAAACCAAAAATAAGATCAACATTCCTGATGGACTTAAGCTACCATTGAAAGAGGTTCGATGCCTCCACTGGCTGAAATC CCCATTGAAGGAGCTTCCGAATGATTTCAACCCGATTAATCTTGTCGACCTTAAGCTGCCCTACAGCGAGATTGAACATCTTTGGGAGGACGACAAG GATACATCATCCTTAAAGTGGGTCGATCTCAATCACTCAAGTAAGCTGTTTAGCTTGTCAGGCTTATCAAAGGCTGAAAATCTTCAAAGATTGAACCT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003O09	AT3G44340.1	CEF (CLONE EIGHTY-FOUR); transporter	GACTCAAGTTTCCTCTATCAGATACACTCATATACTCGAATCTTCTTATTCTACTTCCAGATCTGATCTTCGTCTTTTGTGTAATTACCACAGATCCGA GGATTCTCTGATTTTCACAGATTTGGAAAACGTACGGGAGAATTTTGTTTGAGGAGGTTTTTAGGATTTGATCTCTCTTTGGTGTAATTCAACAATGG CTGCTCCAGTGCCTCCAGGAGCACAAAGACCCAACAATCCGCAAAACTCAGCTCCTCCTCCAAATTTCGTCCCTGGTTCACAAGGGAACCCCAATT CGTTAGCTGCTAATATGCAAAACTTGAACATTCACCGGCCACCTCCTCCCATGCCCGGTTCAGGTCCTAGACCATCTCCACCTTTTGGTCAGTCACC ACCACAACCTTTTCCTCAGTCAGCTCCTTCTTACGGTGTTCAGCAACAACAACAACAACCTAGACCTTCTCCAATGGCTAGGCCTGGACCTCCTCCT CCTGCAATGACTAGACCAGGTGGGCCTCCTCAAGTATCGCAACCTGGCGGGTTTCCATTAGGAAGACCCGGTGGTCCACCACCTCCTGGTCAGTC ACTGTTTGGCTCTAGACCACCGGGTGGGCCAATGCCTGGTGGTGGGTCGTTTCCGCAGCCTGGTGGTGGTTCATTTCCGCAGCCTGGTGGTTTCG CACCTTCAGGACCACCAGGCGGTGTAGCTGCAGCTCCTCCTTCAGGAGCACGTCCTATTGGTTTTGGTTCACCTCCAACTATGGGACCTGGCATGT CCATGCCTCCTCCTGGTATGCCTGGCGGTCCGGTGACTAATGGGCCTCCGATGATGGGTCCAGGTCCCAGAGGACCCCAGTTCACAGGTGGTGCT ATGATGGGTCCGCCACCTCCCTATGGACTGCCACCCAATGGACCTCCTCTCTCGGGAGGTTCACCATTAACTTCGCCTCCGGCTCATTCAATGCCT CCGCCAACTACTTTTCCTGGTGCCCCTTATGGTAGACCCGGAGGCTTTCCTTATGGACAGCCACCACCACAGCAGCACCCTCCTCCTCCTGGTACT CCTGGTTCAGTATATGGCATGGGTCCAGTGCCAAATCAGTCCATGACCGCTGTTTCTAGCCCCTCGAAGATTGATCTTAATCAGATCCCAAGGCCAG GTTCAAGCTCCAGCCCAATCGTGTTTGAAACTCGCCAGGAGAATCAGGCTAATCCTCCACCTCCTACTACTGTTGATTATATTGCTAGAGACACTGG AAATTGCAACCCGCGTTACATGCGATGCACAATCCATCAGATCCCATGTACTGCTGATCTTCTTTCTACATCCGGTATGCAACTGGCGTTAATAGTCC AACCGATGGCGCTTTCGCATCCATCAGAAGAGCCTATCCAAGTTGTGGACTTTGGTGAGAGTGGCCCTGTTAGATGTTCACGTTGTAAGGGATACAT AAATCCTTTCATGAAGTTCGTTGATCACGGAAAGAAGTTCATTTGTAACTTGTGTGGATTCACTGATGAAACTCCCCGTGACTACACGTGTAATCTGG GTCCAGATGGTAGACGCAGGGATGCTGATGAAAGGCCTGAGCTGTGTAGGGGAACTGTCGACTTTGTTGCTACAAAAGAATATATGATACGGGATC CAATGCCAGCAGTGTATTTCTTCCTCATTGATGTCTCAATGAATGCGATTCAAACGGGTGCAACTGCAGCTGCTTGCAGTGCCATCCAGCAAGTCCT CGCAGACCTTCCTGAAGGTCCTAGGACATTTGTTGGAATTGCCACATTTGACTCAACAATACACTTTTATAATTTGAAACGGGCACTGCAACAGCCGT TGATGCTCATTGTTCCTGATGTTCAAGATGTTTATACACCTTTAGAAACAGATGTCATTGTTCAGCTATCTGAATGCCGTCAACACCTGGAGATTTTGC TGGAAAGTATCCCAACAATGTTTCAGGAAAGTAAGAGTCCTGAATCCGCTTTTGGTGCAGCAGTTAAGGCCGCATTCTTAGCGATGAAGAGCACTGG AGGAAAGCTCATGGTGTTTCAATCAGTTTTGCCATCTGTTGGCATTGGAGCACTCTCTTCTAGAGAGGCCGATGGGAGAGCTAATGCCTCTGCAGAT
GCT-003O10	AT1G74670.1	gibberellin-responsive protein, putative	GAAGAGCTTCACTACACATCTTCTCTCTCAAGAGCCAAGTGGATCAAAGGCAGCCATGGCCAAACTCGTAACTTACCTTCTCTTTATCACCATTCTCT TCTCTTTCACCTTTCTCACTATGTCAAAAGAGGCAGAGTACCATCCAGAAAGGTATGGACCTGGAAGTCTCAAATCATACCAATGTGGAGGAGAATG CACGAGGAGGTGTAGCAACACGCAGTACCATAAGCCATGCATGTTCTTCTGCCAAAAGTGTTGTGCTAAATGCCTTTGTGTCCCTCCAGGCTTTTAC GGCAACAAACAAGTGTGTCCTTGTTACAATAACTGGAAAACTCAACAAGGTGGACCAAAATGTCCATGAGAAAAAACGAAAAGAGAGACTTCTATCT AGTACTTTCTTCAATTAGCTCTAGTATGTTTTCATTGTAATGATAATGAAAATTAATTTCAGTAATATTTGCCTGTATAACTGTATTGTAATTCCCGATCC
GCT-003O11	AT4G08250.1	scarecrow transcription factor family protein	GACCTCCATGGCCATGAATTATCCTTACGATGACTTCCTCGATCTCTTCTTCTCTAACAACAAAGCCGCAACCGCAAGCACTTCCTCCTGTGTGGAA CAGAATGATGGATCTCTTGACATGGACTGGGATGTTGACTTCCGCGATCTCATTGAATCCATGATGAGTGATGAAGGAGCTCCGACGGAATCTCCTC CAACAATTCCTTGTGACCATGGCCAAGAGGGAATTTGTAACTCTGCGTCCACGGGTTTTTCCGTCGCTGATGGGGTTGATGATGCCGAGGAGCCTA ATCCTGATGAATCAAAGGGCTTGAGGTTGGTTCACTTACTGGTGGCTGCTGCAGAGGCATCAACTGGTTTAGATAAAACCCGAGAGCTGACTCGGG TAATACTTGCAAGGCTTAAGGAGTTGGTTTCTCCCAGTGACCGAACCAACATGGAGAGATTAGCAGATCACTTCACCGATGGCCTTTCAAAGTTGCT GGAACGAGCTAATGTTCAGCGGCACAGCAGTCCCCACCAACACCGTGATGTTCATCATCAGGTGGATGTGTTATCAGCGATCCAAATGCTGCAAAA CATGTCTCCGTACGTCAACTTCGGTTACTTTACCGCCTCACAGGCTATTCTTGAAGCTGTCAAGTATGAGCGGCGAATCCATATTTTAGACTACGATA TTACAGAAGGTGTTCAATGGGCCTCATTGATGCAGGCCTTGGTATGTAAAAATACAGGCCCATTAACCCAACATCTTAGAATTACCGCTTTGTCACGA GCCACCAATGGTAAGAAATCCATTGCTGCTGTCCAAGAGGCTGGACGGCGTCTAACCGCATTTGCAGAGTCGATCGGCCAGCCATTTTCATACCAC CACTGTAAACTCGACACTGACGCATTCAGCGCTTCGTCGTTAAAACTTGTGAGAGGAGAAGCAGTGATTATCAATTGTATGTTGCATCTCCCTCGGT TTAGCCACCAAACACCTAATTCTCTCATTTCATTTCTAACCGAGGCTAAAACTCTAAATCCAAAACTGGTAACACTCGTTCACGAGGAAGTTTGTCTAA TGGGAAACCAAAGCTACCTCTATCGGTTTATGGACTTGCTACATCAATTCTCAGCCATATTCGACTCTCTTGAGGCAGGCCCGACCCGTGCCTTTGT TGAACGTGTTTTCATTGGGCCGTGGGTTTCAAGTTGGTTGACGCGTATAGCTATTACCGCTGATGACGTGGAATTCGAGTGTTTTGCTTCGTGGAAA GGGTGGTTAGAAACTAATGGGTTCAAACCGGTGGATGTTAGTTTTGCCAACCGTTGTCAAGCAAAGCTCCTCTTAAGCTTGTTTAACGATGGGTATA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003O12	AT1G80680.1	PRE (PRECOZ, SUPPRESSOR OF AUXIN RESISTANCE3)	GACGGCGTAGAGAGAGTGTAGAAGAGAAGAAGGACTTCAATAAGGTTTCAGATTTTCTCTGATCATTTGTCGCCGCCGTCCGTCCGTCAGCAATGG ATTTGTTCTAGGAATCAGCAGAGAACAAAAAAACATCAGTACGGTCACAGACTGTAAACAAGGAAAACCCTAGACTGTCGCTTTGCCTAGGTGTTTT CGACATTTCGTCAGTCATGGCGTCTCTTTCTATTCTTCCAGCTCCAGATATTTCAAATTTGGACTCGCGAAAGAAAAGAAGGATCTCTCTAGATGCAA ATCCTGTCGTATGTGAACATTACAAAGATATCAGGGATTCATTGCCTACGTTGAATTCACCTGACTACTTCTTGAAGCCAAGCATGAACGAGCTGGTT CAGCGAGAACTTGAAAACCCTGATTATTGCAGCCGGGTTCCTGATTTCACAGTTGGGCGTATTGGTTACGGTTATATCAAGTTTCTCGGATGTACAG ATGTTAGAAAGTTAGACCTGGATCAGATAGTTAAGTTTCAAAGGCACGAGGTCATTGTTTATGATGATGAGAGCTCCAAGCCAGTTGTTGGAGAGGG GCTTAACAAGGCTGCTGAGGTGACTCTGATCGTAAACATACCAAATCCAACTTTGGGGAAAGTGCGAGTCGACCAAATTTCTTATAAATTAAAACAGA GTGCTGAAAGACAAGGGGCAACTTTCATCTCCTTTGATCCTGATAGAGGTTTATGGAAGTTTTTGGTTCCTCATTTCAGCAGATTTGGGTTGTGTGAT GATGAAGCAGAAGATATTGCTATGGATGATGCCCCGGGTTTGGAGAATCATGTAGGACAGAATGGTGACATGGTTGCTGACATTGATAATGAACATC AAATGGAAACTTCCGAGCCAGAGCTTTCTCATTCTCTTCCAGCTCATCTAGGACTTGATCCTGAAAAGATGAAAGAAATGAGAATGCTGATGTTTCCT AGTGAAGATCTAGACGAAAGGGAGGGCTTTAGAGATCAAACTTCTCTTCAAATGACATCCTTGACTAAACGAAATCTAAGACCTTCACAGAAAAATTC TCAAAGAAATATTCATCAAGATACTCCACCGGTCATGCGGAAAACTCCGCTTGCTTTGCTGGAGTATAACCCTGGTAATGATAAAAGCTCCCCAAGC AGTATCCTGATGGTCCAACAAAATAAGAATCTGGCAGTGAGAAAGTCGAAAATGGGAGGTTTCGAGCTGGACATCAGCAATGTCACGCCATTAACG GATAACTATTCCCGGAATGTTGTTGATGCAGCATTGTTCATGGGAAGGTCATTCCGAGCAGGCTGGGGTCCAAATGGCGTTCTTCTTCACACTGGTA AGCCAATAGGCAGTTCTAGTTCCCAGAGGGTATTGTCTTCTGTGATCAATGTAGAAAAGATAGCAATGGACAAGGTGGTTCGGGACAAAAAGGATAC AGTTAAGAAAGAGCTTATTGACTCTACATTTGAGGCTCCCTTAAGTCTCCACAAGAAATTGGATCATGAAGAAGAAGAAGTTAGGTTTGGCTCTTTCA GTCTTAAACTTAAGAAAGTTGTCACTGATCGTGTGGTTCTTCCAGATATCTGCCGAAGCTATATCGATATACTCGAGAAACAGTTGGAGGTTGCTGG GTTGTCCACCTCCGCCAAGCTGTTTTCGATGCACCAAGTCATGGTTTGGGAACTTATAAAAGTGCTCTTTTCTGAGAGACAGAGTACTAAACGCTCG AATAATGCAGCTTCTGATAATGAGGAAGACATGATGCAGGATGTGAAAGAAGAGTCTGCAGAAGTTGATACAGAAGCTCTTCCACTTATCCGAAGAG CAGAATTCAGTTGTTGGCTTCAAGAAAGTGTCAGTCACCGTGTACAAGAAGATGTGAGTGATCTAAATGGTTCTTGCTACCTTGAGCACTTATTCTTT CTTCTAACTGGACGAGAGCTTGATTCAGCTGTGGAACTTGCCATATCTAAGGGAGATGTTAGACTTGCTTGTTTGTTGAGCCAGGCTGGTGGATCAA CTGTAAACCGCAATGATATCATGCAGCAGCTTCACCTTTGGGGAAGGAGTGGGCTGGATTTTAATTTCATTGAGAAGGAGAGAATTAAGCTTTACGA
GCT-003O13	AT2G39050.1	hydroxyproline-rich glycoprotein family protein	GATCATTTCTCTTCTCCTCCCTCCAATCATCTCGGAAATAGCTCCAATGGATCCTCCTTTTGGCCACCACCATCACCACCACCACCACCACGACGGC GAAGATGATCGTCAATCCTTCCCCCCTTCACCGCCACGCAACAATTTCGCCGGTGCTCCACCACCCCCTGGCCTTTACCAGCCACCGCCTCCTCAT TTCGATCCCTACGCGTCGTCTCCTCCAGCTCCGGCGCCTTACCGATCGGAACCTCAATTCGATCCCTACGCGCCGTCTCCGCCGGCACCGGCGCC TTACCGATCAGAACCTTATTTCGAAGCTCCGTCGCCGCCGCCTCCGTTTGGTCATGTGAGCCATGTCGGCCACCACACATCCAACGAAACCTACCC ACCGGAGCACCACCGTTACGGAGGTTACCCGCCGACTAATTCGGCTCTGGAAAGCCACGGAGACCACACTGGCGTCACGCACGTGTCTCACCATA GCTCACATCAGTCCGATACGCCTTCTGGTTTCCACCACCACCGTCCTGATCAGAACCGTCTTCCTGATAATCTCGCCGGACTCGCCGGAAGACAAA CGGTGAAGGTTTATTCCAAGGCGGAGCCTGACTACTATCTGACTATCAGAGACGGTAAGGTCATTCTCGCTCCATCCGATCCATCTGATGAAGCTCA GCACTGGTACAAAGACGAGAAGTACAGCCCTCGAGTGAAGGACGAAGAAGGTCATCCTTGTTTTGCTCTTGTAAACAAGGCCACTGGTGAAGCCAT GAAGCATTCTGTGGGAGCTACCCATCCCGTGCATCTAACCCTATATGATCCTGATAAGCTCGACGAGTCTGTACTGTGGACAGAGAGCAAGGATCT TGGAGACGGGTATCGCAAAATAAGGATGGTGAACAATGTGAGGCTAAACGTTGATGCATATCACGGTGACAGAAAATCTGGTGGTGTCCGTGATGG CACAACTATCGTCCTTTGGGACTGGAACAAAGGAGACAACCAACGTTGGAAGATCTTTCCTTTCTGAAAATCGGCGGGTGGAGTGGTTAAAAGTGG TTGTGTGTATTATATATGAATAAGAAAGAAAGAATAGTGGCCATTTGTTAATTTTTGTGTTGTAAGACTTGAGTTTGTGCCGTTTGCATCTGTAATATAT
GCT-003O14	AT1G29450.1	auxin-responsive protein, putative	GGATCATTCAAAACTTTCATTCATAGAGCTCTACAAACAGAACTTACAAATCTTCTTGTGATTTTTCGATTAAAATAATCTTTCAAGAAGATGGTGATGA ACACGAAGAAGCTAATCAAGATGGCCAAGAAATGGCAACAAAGAGCAGCCCTCCACAGGAAAAGGATCTCATTTCAGAGGTCAAGTGCTACTGCTA GCAGCTCAACTGCCGTAGAGAAGGGCTGTTTCGTGGTTTATACGTCAGATAAAACCCGCTTTGCTTTTCCAATAAGTTACCTGAGCAACTCTGTTTTC CAAGAGCTCTTGAAGATCTCTGAAGAAGGGTTTGGCATTCCAACAGGTGGACCAATCACGTTGCCATTCGATTCGGTTTTCTTGGAGTATCTCATCA AGTTGATCGAACGGCGAATGGACGGAGATACAGAAAAGGCTCTGTTAATGTCAATCTCTAGTGCTAGATGTTTTTCACAATGCTCTTTGCAACTACAA GAACAACAAAGTAGTAGTACCCAACAATTGCTTGTATATTAGATTGTAGCAAATTATGTATGTGTAAAGTCCAGAGTGTATTAGATAGAAACAGAAATA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003O15	AT3G54400.1	aspartyl protease family protein	GGTTTACTCTTATTACTTTCTCAACACACTCGTCATCACTCACTATATAAACATACACTCACACATTCACTCAAACAAACACTAAAAACCACAGAGTAT ATCAACTCAAGATCTACAAAAATGAGAACGAATCTTCTTTTCTTGTTCATCTCTCTCTTAATCTTGAAATCTGAATCCCTAAACTGCAATGAAAATAATC CACAAGGCCATCCCTCAGATCTAAGAGTGTTCCACGTTAACAGTCCTTGCTCTCCATTCAAACAACCAAACACTGTCTCATGGGAAAGCACACTTCTT AAAGACAAGGCTCGTCTCCAGTACTTGTCCAGCCTTGCCAAGAAACCTTCGGTCCCAATCGCCTCGGGACGCGCCATCGTTCAGAGCCCGACTTAC ATCGTGAGGGCTAACATTGGGACACCGGCTCAGCCCATGCTCGTGGCTCTTGACACTAGCAACGACGCTGCTTGGGTTCCTTGTTCTGGCTGTGTT GGATGTGCTTCCTCTGTTCTCTTTGACCCTTCCAAGTCTAGCTCTTCTCGCAATCTTCAATGCGATGCTCCTCAGTGTAAACAGGCTCCAAATCCAAC GTGCACCGCAGGCAAATCATGTGGTTTCAACATGACCTACGGTGGTTCAACCATCGAAGCATCTCTGACGCAAGACACACTAACATTAGCCAATGAC GTCATCAAAAGCTACACCTTTGGGTGCATTAGCAAGGCCACTGGAACATCGTTGCCAGCGCAAGGGCTCATGGGCTTAGGTCGTGGTCCATTGTCT TTAATCTCGCAGACACAAAACCTTTATATGTCCACATTCTCGTATTGCTTGCCTAATAGTAAGTCAAGCAATTTCTCCGGATCGCTAAGACTGGGACC TAAGTATCAACCAGTTCGGATCAAGACCACCCCATTGTTAAAGAACCCAAGGAGATCATCGCTTTACTATGTTAACTTGGTTGGGATTCGTGTCGGG AACAAAATTGTGGATATCCCTACAAGTGCACTTGCCTTTGATGCTTCCACCGGAGCCGGCACCATCTTTGACTCCGGAACGGTGTTCACGAGGCTA GTGGAACCAGCTTACGTGGCGGTGAGAAACGAGTTCAGGCGACGTATCAAGAACGCAAACGCAACATCACTCGGAGGTTTCGACACTTGCTACTCC GGCTCCGTCGTGTACCCGTCGGTGACGTTTATGTTCGCCGGAATGAACGTGACACTGCCTCCGGACAACCTTCTCATCCACAGCTCCTCCGGTAGC ACAAGCTGTCTGGCCATGGCCGCAGCTCCGAACAACGTAAACTCAGTCCTTAACGTCATCGCTAGTATGCAGCAACAGAACCACCGTGTCCTCATC
GCT-003O16	AT4G34190.1	SEP1 (STRESS ENHANCED PROTEIN 1)	GGAAGGATTGATTAGAAGAAGAAGAAGAAGAGGAAGAGTGGCGCCAACCGAAAATTTAGAGCGATAGATCACTGCATAGAAGGAACATGGCCTTAT CTCAAGCCTCTGCGTCTCTCGCCTTCTCTCTTCCTAATTCTGGCGCCATAAAGCTAGCTCGAATCACAAGCCCTAGTTCTACCTGTCGTGTTCATGTA CCGCAACTTGGTGGAAGCCGATCCACCTTCGCTTCTGGTTCTCCTCTCTTGCCATTGAATTTGAGCATGACTCGTGGTGGAGGAAGAAGAAGTGGA AACAGAGGAGGAGCATCAGTTTCCATCAGAAGCGAGCAAAATACAGAAGGGAGCAACGGTTTGGACATATGGCTTGGTCGTGGCGCTATGATTGGT TTTGCAGTTGCCATTACTGTTGAGATTGCCACTGGCAAAGGACTTCTTGAGAATTTTGGGGTGGCGAGTCCATTGCCTACGGTTGCTTTGGCTGTCA CAGCATTGGTCGGTGTTCTAACTGCGGTTTTCATCTTCCAATCTTCTTCTAAAAACTGATAAATCCCCCACATGTGTTTATTGTGCTCCTTTTTGTTGT
GCT-003O17	AT2G01430.1	homeobox-leucine zipper protein 17 (HB-17) / HD-ZIP transcription factor 17	GGTCTCTCTTTATTATAAGTCTTCTTCCTATCTCTAACTTTACCTTTTCTTCTTCTGCTTCTTCTTTCTTGCTGAAGAACCCTAAATTAATTAATTAATGG CGATTTTACCGGAAAACTCTTCAAACTTAGATCTTTCTATCTCCGTTCCAGGCTTCTCTTCCTCTCCTCCCTCCGATGAAGGAAGTGGCAGAGGAAGA GAACAGCTAAAGCTTGACATGAATCGATTGCCGTCGTCTGAAGAAGATGAAGAATTCAGTCACGGTGGCTCTGCTCCTCCGCGCAAGAAACTCCGT CTCACTAGAGAACAGTCTCGTCTTCTTGAAGATAGTTTCAGACAGAATCACACCCTTAATCCCAAACAAAAGGAAGCACTTGCAAAGCATTTGATGCT ACGGCCAAGACAAATTGAAGTATGGTTCCAAAACCGTAGAGCAAGGAGCAAATTGAAGCAAACGGAGATGGAATGCGAGTATCTTAAAAGGTGGTT TGGTTCATTAACCGAGCAAAACCACAGGCTCCATAGAGAAGTAGAAGAGCTTAGAACCATGAAAGTAGGTCCACCTACCGTGACCTCCACCGCGAG CCTCACCATGTGTCCTCGCTGCGAGCGAGTCACCACTGCAACGAGCCCGTACGTCGTCGATGGCGGCGGTGGCGTTCTTGCCAAGAAAACGCTTC CGACGCAAGAGCGTGAGCATTGATTTTATGTATTTTCATTATTGGATATGGTTTAGAAGTCAACGAAAGTCAACCCAAGCATGAGCCAAGAAAAAAAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003O18	AT3G45680.1	proton-dependent oligopeptide transport (POT) family protein	GGTCACGCAGAACAAACACAAGTCAAAGTAAATACTTCTTCCTCTTGTTCTCTTCCATGGCTGGTGATACAGAAATGCAATGCTCTAGCGATCCGAG CAGCAAGCGCGGTGGCTGGATCACTTTTCCGTTCATGATCGCTACGTTGTTAGGTCTGTCCATAACTTCTTTTGGATGGGTAATGAACTTGATCGTC TTCTTGATTGAGGAATTCAACATCAAGAACATCGCTGCTGCTCAGATTTCAAACATTGTCAATGGATGTCTCAGCATGTTGCCTGTTGTTGCAGCCAT TTTAGCTGATTCTTTCTTCGGAAACATTCCAGTCATCTCAGCCTCTGCTTTCATTTCTCTGTCTGGCATCATTCTCTTGACTCTGATCGCATCTTTGGA CTACTTGAGGCCTAGACCGTGTGAAACAGGTTCAATTCTATGCCAGTCTCCATCTAGACTCCAGCTAGGTGTCTTGTATGCAGCCTTAGCTCTAGTA ACCACTGGAGCAGGTGGCACACGGTTCACTTTGGCATCCGCTGGTGCAAACCAATACGAGAAACCTAAAGATCAAGGAAGCTTCTTCAACTGGTAC TTCCTCACACTATATGCTGGAGCGATTATCGGTGCGACAGGAATTGTTTACACACAGGACAATGTTAGCTGGGAGCTTGGGTTTGGTCTCTGTGCG GCTGCTAATTTGGTATGTTTCATTGTTTTTGTCTGCGGGAAGAGACTCTACAAGCATGATAAACCCATGGGAAGTCCCTTCACAAGCATGATCCGTGT CTTAGTCGCTGCAACAGCTAAAAGAAAGGCTGTGGTTTCATCCAAAGAGGAAAATTATCACCGTGGGATCGAAAAAGAGATCAAGACTTCTGCTCTA ACGCTCTCCAAGAGCTTTAGGTTCTTGAATCGTGCAGCGTTAAAGAACGAAGATGACACAAATGAGAAAGACGGCTCGGTTAATAACAAATGGAGG CTATGCTCTGTTCAAGAAGTTGAAGATTTCAAAGCCATTCTTCGAGTTCTTCCTCTGTGGATAGCCATAATCTATGTTAGTACTCCCATGGTGATGCA AACAAGCTTGATGGTGCTCCAAGCTCTACTTACTGACCGTGGACTCGGTCCTCACTTCAAAGTCCCGGCCGGGTCGCTCCAAGTCATAATACTCATA TCTGCTTCCACATTTATCATTATAAACAAGTGGCTTGTCTATCCCATGTACCAGAAGCTAACCCATAAGCGGCTAACACCGCTTCAAAAAGTTGGTAT AGGCCATGTTCTCACCATCCTAAGCATGGCAGTCTCTGCAGTTGTTGAAGCAAAGAGGCTGAAAGCAGCTCAAACGGAGCATCCCATGTCAGTGCT ATGGCTGTTTCCTCCTCTTTTCATAGTGGGAATAGGCGAGGCCTTCCAGTTTCCGGGCAATATTGAGTTATTCTATCAAGAATTCCCTGAGTCTCTGA GGAACACCGCGACGTCATTAACCTCGGTGGTGATTGGAATCTCTTTCTATCTGAGCACAGCTTTGATCCATCTGATCCAGAGGACTACAAAGTGGTT ACCAGATGATATTAACCGTGGAAGAGTTGACAACGTTTACTGGCTTTTAGTCGTTGGAGGAGTCTTGAATTTCGGTTATTTTCTTGTCTGCTCTTGGT
GCT-003O19	AT3G61110.1	ARS27A (ARABIDOPSIS RIBOSOMAL PROTEIN S27); structural constituent of ribosome	GGCCGTAGAAGAATCAGAAGTCGTCAGCTCCGGAACACCTGCAAACATGGTTCTTCAAAACGATATCGATCTTCTTAACCCACCAGCAGAGCTTGA GAAGAGGAAGCACAAGCTCAAGCGTCTTGTTCAGTCGCCTAATTCCTTCTTCATGGATGTCAAGTGCCAAGGCTGCTTCAACATTACTACCGTGTTC AGCCACTCGCAGACCGTTGTGGTATGCGGAAACTGCCAGACAATTCTGTGCCAGCCTACTGGAGGAAAGGCTAGGCTCACCGAAGGATGCTCTTT CAGGAAAAAGTGAGAGAATGATTTGAAGCTTATCATAATATCAAATCAAGGCTGCTTTCTTTCTTCTTTTTTTGGTCGCTGGATGTTAGAATAAACCTA
GCT-003O20	AT1G73840.1	ESP1 (ENHANCED SILENCING PHENOTYPE 1)	CGATACGAGAATACTCCGTTTGTCACGGTTGCGACCACCGACGAGGACAATGGCGGGTAATAAAATCGGTCGTGACGGTGGTTTACCGGCAGATCT CACCGGAATGACCAAAAGTCAGCTCTACGATATCATGTCTCAAATGAAGGCGCTGATTGATCAAAACTACCAACAAGCGAGGGAGATTTTGATTCAG AATCCTCCTTTGACGAAAACTCTTTTCCAGGCACAAATCATGCTTGGAATGGTTCAGCCTCCTCAAGTGATTCCGAAAGTTGAGCCTCAAGTCTCGC AAACTATACCACCAAAGCCAAATGTTCAAGCTCATATTTCTTCAGTTCAAGGCGGAGGCGGATTACAAGAGCCAGCACCTGCAATGCAGCCACAAGC CCCTATTAGAAAACACCCGACGCCACAACCGATGCCTATGCCTCCGCCTTCTGTTTCTACAACCATCAATGCTCCATCACAGCCACCTTTCACGCAT CCCCAGCGTCAGGGACATCTGAATCCTGCTGGCACTTCTCTGTCCCATCCACAATCTTCTCAGGTTCAAAGCGTGCCTCCTCCGGTTCCCCATCATC CGACATCCCAACCACCTCCGTTTCATCATCTTGATATGCCAGCCTCCTCGACTCAGTTGCAACAACAACAACAACAACCAATGCACTCAGGTGGAGG TTCTCATTTGGCTCAGCAACAGCCTAGACCATACCATCATCAGTTTGGACCAGCCCAGACTGGTCCAAACACTGGGTTTCAGCATCATGGCGCTCCT TCTCAGCATCATTCTCAACCTATGTTTCATTCAGGGAACAGACCCCCTGCTTCTGGTGGACCTCAATTCCCGCAGGGACAGCCACATCTGCCTAGCC AGCCACCATATCAGGGAGGAGGTCAATTTCGTGGAGACTACAACAATAACCCATTAGGAGGCCCCATGGCTGCAGACAGAGGTCCTTCTTGGATGG CTGGCCAATCGGAGAGCTCAAACATTACTCATCTCCCAGGCTTAGGACCGATTCCTCCACCAAGCCAAGTTGGCCCTGGAGGCGGCCCACCACCT CGGCCTGCACCGATATCTGCAGAGATGGAGAAGGCATTACTTCAACAGGTGATGAGCTTAACACCAGAGCAGATCAATTTGCTGCCACCAGAACAG AGAAACCAAGTCCTTCAGCTTCAACAAATTCTTCGACAGTGAATTTCATTGATACTATGGTCCTCTGGTCTCCGTGGTAGCACTTAGAATAGAGAGGT TTTGGCTTTGAATGTAGTAAGGTCGCAGAAAAGTTTGGGATAATTTGTAAAAAAGAAAAGTAATTAGTTTCTTTTTTTCAAGTTCAAGGCATCACTTAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003O21	AT3G49500.1	RDR6 (RNA-DEPENDENT RNA POLYMERASE 6); nucleic acid binding	GACTCGATTTCTGCTTATAGGAGGCCCAAAGCTAATTCCTTGCGAGAATGGGGTCAAAGGGGAACATGAAGAACTCGGTTGTGACACAAGTAAGCA TTGGTGGATTTGGGCAGTCCACTACTGCGAAAGAACTTACAGATTACCTTGAACACGAAGTAGGACATATATGGCGATGCAGATTAAAAAATTCTTG GACACCTCCGGGGTCTTATCCTAATTTTGAGATCGCTGACACTTCAAATATTCGCAATTTTAATGATTACAAGCGAGTAGAGCCTCATGCATTTGTCC ATTTCGTAAGTCCTGAATCAGCAGCTTGCGCCATGGATGCTGCAGGGCAATGCAAGCTCATCCTCGATGGCCAGCCTTTAAAAGTCAGTTTGGGGC CTGAGAACCCATATACCCTTAACCAAAGAAGAAGAACGACCACACCATTAAAGTTGTCTGGTATTTCAGTTGAGATTGGGACTTTGGTTTCTCGGGAT GAGTTTCTTGTTTCTTGGAGAGCTGAAAAGGTCGATTTCCTCGTAGACCCTTTTGACAACACATGTAGATTTTGCTTCACAAAGAGCACTGCGTTCTC TTTGAAGGACACTATGAGGCATGCTGTTATAAATTGTGACTATAAGTTGGAGTTATTGGTGAGAGACATACGAACAGTCAGGCAGTATAGAGCTTCA GATGGTTTTGTGCTTCTTTTGCAGCTGGCCTCGTCACCCCGTGTCTGGTATAGAACAGCAGATGATGATATTTACGAAACTTGCCCTGTTGATCTCTT GGATGATGATGACCCTTGGATCCGTACCACTGATTTTACCCAAGCTGGGGCAATTGGTCGATGCCTTTCATATCGAGTGCTCTTATCTCCTCGGTAT GAGAATAAATTGATATCAGCCTTAGATTATCTAAGGAGGCAGAGGGTGAAAGAGGAACGGGTGAGGTGGCCTCCCAGGATTCGTGATGAGCCCGG ATTTGGGGAAGCTGTTTCAGATCATTTCTTCTGCATTCATCACAAGGAAGGGATCTCCTTTGAAATCATGTTCCTAGTAAATTCGGTGCTGCACAGGG GGGTTTTAAACCAATTTCAGTTGACTGAGCGTTTCTTTGATCTTCTCAGAAACCAACCCAAGGATGTCAATATAGCTTCTCTCAAGCATCTCTGTACCT ATAATCGACCTGTTTTTGATGCGTACAAGAGGTTGAAGCTTGTTCAGGAATGGGTTCTGAAAAATCCAAAGCTTTTAGTGAGTCATGAACGGTCTGAT GATATCTCTGAGATCAGAAGGTTAGTGATTACCCCAACTAGAGCTTATTGCCTACCCCCAGAAGTTGAGCTCTCCAACAGGGTACTCAGGAAATACA AAGCCGTGTCTGAAAGGTTTTTGCGCGTAACGTTTATGGACGAAAGCATGCAGACCATGAATTCAAATGTTCTCTCCTACTTTGTTGCTCCGATTGTG AAGGATCTGACATCAAGTTCTTTCTCTCAGAAGACTCACGTTTTTAAAAGAGTAAAGACCCTATTAACCGATGGGTTTAAACTATGTGGTAGAAAATA CAGTTTTCTAGCATTTTCGTCCAATCAACTGAGAGACCGCTCTGCATGGTTTTTTTCTGAAGACGGTAACACAAGAGTGTCAGATATAAAGATATGGA TGGGAAAGTTCAAAGACAAGAATGTGGCAAAATGTGCTGCTAGGATGGGCTTGTGCTTTTCCTCAACATACGCCACTGTAGATGTCATGCCTCACGA GGTTGACACCGAGCTTCCAGAAATTGAGAGAAATGGGTATACTTTCTCTGATGGGATTGGTACAATCTCACCTGATCTCGCTGACGAAGTAATGGAA AAACTTAAGTTGGATGTGCACTACACCCCTTGTGCTTATCAGATCCGTTACGCAGGTTTTAAAGGAGTTGTTGCTCGTTGGCCATCAAAAGGTGATG GAATCCGGTTAGCTCTTCGACACAGTATGAACAAGTTCCATTCTAAGCATACCATCTTGGAGATCTGTTCCTGGACCAGGTTTCAACCTGGCTTTTTA AACCGGCAAATTATTTCCCTCCTTTCTGTACTAGGTGTTCCCGATGAAATATTCTGGGATATGCAGGAATCCATGCTCTGTAAACTGAACCGCATCCT
GCT-003O22	AT5G62430.1	CDF1 (CYCLING DOF FACTOR 1); DNA binding / protein binding / transcription factor	GGCCCAATCAGAAAAAAAAATCGAGAGAAACAAAAAAACCTTAAAAAAAAAAACAGAGTGAGTTGGATATAGTATTGGTCTACGGAGAAAAAAAGAA GAAGAAGAAGAAACGGAATAAAGCAAAGAAAAGAAAATAATGATGGAAAGTAAAGATCATGCGATTAAACTCTTCGGGATGAAAATTCCTCTCTCGA CGGTTTTCGAGGCTGCAGATGAAGAAGATGCAATTTCGGCAAAGAAGAAACAAGACGAGACATTAACAGATCAATCGGAGAAAGACAAAACCCTAA GGAAACCGACCAAGATTCTTCCATGTCCAAGATGCAACAGTATGGAAACAAAATTCTGTTACTACAACAATTACAACGTAAACCAACCTCGCCATTTC TGCAAAGCTTGTCAAAGATATTGGACCTCAGGTGGGACCATGAGAAGTGTCCCGGTAGGAGCCGGACGACGCAAGAACAAGAGCAACTTATCTTCT TCACATTACGGCCATGTCACCACCATCTCTGAACCAAACGGCCCGGTCCTTAGTTTCAGCCTCGGAGATGATCACAAGGTCTCGAACAATAGGTTC GGGCATCCGAAGCTAGTGGCTCGAATAGACAACAATGACCACCGCAAAAATGATGAATCTTGTAACAACGAAATGAACGGTTTGGATTGCTTTCCGG GAGTTTCGTGGCCGTACACGTGGAATCCTGGTTTTTACCCGGTTTACCCTTATTGGAACATGCCATTGTTGTCTTCTTCGCCTAATTGGTCAAGTCCT GATTCTACTTTAGGGAAGCATTCGAGAGACGAAGATGAGACGATTAAGCGAAAACAGAGGAATGGATCTGTACTGGTTCCTAAGACTTTGAGAATTG ATGATCCTAATGGAGCTGCAAAGAGTTCGATATGGACAACACTTGGGATCAAGAACGAAGTCATGTTCAAAGGGTTTGATTCGAAGAAAGAGGTTAA GATTAACAATGAAGAAACAGAGACTTCTCTAGTTCTTTCTGCGAATCCAGCTGCGTTATCAAGATCAATTAATTTCCATGAACGGATGTGATCCTATAT ATATATATATATAGTACTTACTATATATAGAATGTATAGATGTGGCTTACTTGTTTTTTTTGTTCCCCCGGCTTTCATAGGCTTTAACAGGTTTTGTACC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003O23	AT3G21690.1	MATE efflux family protein	GAAAAGACTCAACACTAGACTACACAAACCACACACATCCTCAAGCGAGCAAAATCTCCTGGCTTCTTCATGGACTCGTCTCAAAACGACGGCGTAA ACCAACCGCTTCTCCAGCCTCACGCTGATCATGGAACGGAATCAAGCAACGGCGAGCTAGAGAGAGTACTCTCCGACGTCGAAACTCCTCTGTCTA GTCGCCTTCGTAAAGCAACGATGATTGAATCGAAGCTTCTCTTCAAGCTCGCTGCTCCCGCCGTCATCGTCTACATGATAAACTACTTCATGTCCAT GTCCACTCAAATCTTCTCCGGCCACCTCGGAAACCTCGAACTCGCCGCAGCTTCTCTCGGAAACACCGGAATCCAAGTCTTCGCCTACGGTCTCAT GCTAGGAATGGGTAGTGCGGTGGAGACGCTGTGTGGACAAGCGTTTGGAGGAAGAAAATACGAGATGCTCGGCGTTTACCTCCAGAGATCCACCG TGTTGCTTACTCTCACCGGCGTTCTACTCACCATAATCTACGTCTTCTCCGAACCGATCTTGCTTTTCCTCGGAGAATCGCCGGAGATAGCTTCCGC TGCGTCTCTCTTCGTCTACGGTTTAATCCCTCAGATCTTTGCCTACGCAGTGAACTTCCCGATACAGAAATTTCTACAGTCGCAGAGCATCGTTGCAC CGAGTGCTTACATTGCGACCGCAACGCTTTTCGTTCACCTTCTCTTGAGCTGGCTCGCTGTTTACAAGCTAGGCATGGGGCTTCTTGGTGCGTCTCT CGTGCTCAGTCTCTCGTGGTGGATCATTGTGGTGGCTCAGTTTGTTTACATCGTGATGAGCGAGAGGTGTCGTGAGACGTGGAGAGGGTTTAGTGT TCAGGCGTTCTCGGGTTTGCCGAGTTTTTTCAAACTCTCCGCCGCCTCTGCCGTGATGCTCTGTCTTGAGACTTGGTATTTTCAGATCTTGGTTCTTC TCGCCGGACTTCTTGAGAATCCGGAACTTGCGCTCGACTCTCTCTCCATTTGCATGACAATTGCAGGTTGGGTGTTCATGATATCTGTTGGATTCAA TGCAGCAATAAGTGTGAGAGTGAGTAATGAACTTGGAGCTGGGAACCCTAAATCTGCAGCGTTTTCTGTAATCATCGTCAACATTTATTCCTTAATCA CAAGTGTGATCTTAGCTATCGTTATTTTGGCATGCCGTAACATTTTGAGCTATGCATTCACTGATGGTGAAAAAGTCTCGGCCGCAGTTTCTGATCTC TGCCCTCTTCTTGCTTTAACACTTGTCCTCAATGGGATCCAACCAGTTCTCTCCGGTGTCGCGGTTGGATGCGGTTGGCAAACGTTTGTGGCAAAAG TTAACGTTGGATGTTACTACTTTATCGGAATTCCTCTTGGGGCTCTCCTTGGTTTTTACTTCAATTTTGGTGCCAAGGGTATATGGACGGGGATGATA GGTGGTACGCTTATACAAACAGTTATTTTGGCGTGGGTCACGTTTAGAACAGACTGGGTAAAAGAGGTGGAAGAAGCTTCCAAAAGATTGGACATAT GGAGCAACAAGAAACTAGAAGTGAATCTCGAGTGATGAAAGTTTTTTGTGTTTTTGGTATCCAATGAACCAATTGGATACATCGGCTTAGTATCAACC
GCT-003O24	AT4G17695.1	KAN3 (KANADI 3); DNA binding / transcription factor	GAACAGAGAAGAAAGAGACTTCTCATTCCCCTCATACCTTTTGCCCATCTCTCTCTTTCTCTCTCTAACTCTTTGCAACTGCTTTTCTCTTCTCACCAA GAACACATATTCATTAAGCTAAGGAAGAAGAAAAAACAATTTTTGAAACAAATAAGGTTATAACCCCCCCCCCCCTTTCTTTCTTTTTCTTCCCCAAAA TTCAGCAATACTATCTCAAAGTCATTCAAAATAGTCTCTTGTTATGGATCTTTTCCCTTCACAACCTGACTTGTACTTGAAGATCAGCAGAAAAGAGAA AGAAGAAAATCAAGAACTACTCGAAAGGAGATTAGGGTTTGGAAGTAAAGCCTCAGATTCAGGCAGAAAGTCTTCTGACCATCTCATCCACACACTC CAATTCACTTCAAACAATGAATCTACCAAGATTGATCATAATCAAGAACACAAGGAATCTCGCAATCAAGATATGAGACCAATCTTGATGACGAGACC AATAAGAGGAACCCCTCTTTACCAAAATCAAATCCTTGACCACTACTACTACTCTCCCACTCCTCCTTTCTTCTTCAGTGAAGTCAACGGTCAACACG CAAACCCTAATTTTACTTCTAATCATCTTCACCACCGTCATCGGCGTCAAGCTCAGCCGCCGCCGCAAAGATTCACGGCCAAACGAGGAGTAAGGG CTCCGAGGATGCGGTGGACGACGACCCTTCATGCTCATTTCGTTCATGCTGTTCAATTATTGGGTGGTCATGAAAGAGCAACTCCAAAATCAGTACT TGAGCTGATGGATGTGCAAGATCTCACATTGGCTCATGTTAAATCTCATCTACAGATGTATCGGACCATCAAATCCACTGAGAAGCCTACAACATCAT CAGGACAGTCAGACACCTGTGAGAATGGATCACAATCAAATAGTGAGAGACAAGCCAGAGGGCTATGGAATAACTCCTCAAGTGAAGCTAGATTCC ATTTAAAGGCAAAGGCATCAGCTCTAGACATCTCATCCAATGAGAATGTGGATCAAAGATGTCCAAGCTACGAACGATTGTCGTCGGATTCGTCAAG CCTCACAGGGACAAGACCCGAGACTGAAACTCCCAATCTGGATTTCACTCTAGCTACACCAAACCTTCCTTCCTAATTTACTATATTCTATATACGAT
GCT-003P02	AT1G78150.2	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT1G35780.1); similar to TPA: TPA_inf: HN1-like protein isoform 1 [Oryza sativa (japonica cultivar-group)] (GB:DAA01822.1); similar to Os07g0623600 [Oryza sativa (japonica cultivar-group)] (GB:NP_001060324.1); similar to Os02g0574600 [Oryza sativa (japonica cultivar-group)] (GB:NP_001047207.1)	GGCCGTGAAAAAAGCATCAGCGTTTTGCTTCTGCGAAGTGAAGGAGATTGACATGGAGAGAAACACTCCGGTGAGAAAGCCGCACACATCAACCG CAGATCTGCTTACTTGGTCGGAGGTTCCACCGTCGGATTCTCCTTCCTTCGCTTCTCGCTCTGCCGTGCGTTCCCACCAGCCATCGGATGGAATTA GCAAAGTGGTGTTTGGAGGTCAAGTGACTGATGAAGAAGTTGAGAGCTTGAACAAAAGGAAGCCTTGCTCAGAACATAAAATGAAGGAGATAACTG GCAGTGGGATCTTTTCTCGTTACGAAGAAGATGACGCATCAGAGCTCTCTAGTGCCCCAAGTGCCCGAATATATCAGCAAGCACTTAGTGGTATAAG CCATATATCATTTGGTGAAGATGGGGACTTATCTCCTAAAAAGCCGACTACTTTACCTGAGGTTGCCAAACAGCGAGAGCTAAGCGGGACAATGGA GAGCGAATCAGATTCAAAGCTGAAGAAACAGCTCTCTGATGCTAAATACAAAGAGATCACTGGACAGAACATCTTTGCACCACCACCTGAGATAAAA CCTCGATCTGGAACAACGCGAGCTCTGGCTTTAAAGGACAATTTCAACCTCGGAGCTGAACCTCAGATCTCTGCTGATGAAGACTCATCTGTGAAGA CAGCAAAGAAGATTTATGACAAGAAATTCACAGAACTTTCAGGGAACGACATATTCAAGGGAGATGCCACATCATCTTCCGTTGAAAAGCATCTGAG TCAAGCGAAGCTGAAGGAGATAGGAGGAAACAACATATTCGCAGATGGGAAGGTAGAGTCCAGAGACTATCTAGGTGGTGTTCGTAAACCGCCAG GTGGCGAGACAAGCATCGCCCTTGTTTAAATACTCTCTTTTCCGGAAACATCTTTAAGATTGCTATTGATCGGTGTCTGTTCTTGTGGTATCCCATAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-003P03	AT2G30790.1	PSBP-2 (photosystem II subunit P-2); calcium ion binding	GACGTTGAAAACAAGAAAGAGAGAGAGAAAGAAAGTAATGGCGTACAGCGCAGGCTTCTTGCACCAAAGTGCACTTACCTCCTCAGCTGCACGATC ATCTTCCTCTTCCTCGTCGGTTCATCACGTGACCTTATCGAGACCCCTCCATTTAGTATGCAGAGCTCAACAGTCTCAAGAAGACATCAACTCCGCC GTCTCCCGCCGTCTTGCCCTCACCTTCCTCGTCGGTGCTGCCGCCGTCGGATCCAAAGTCTCTCCTGCTGATGCTGCCTATGGTGAATCCGCAAAT GTTTTTGGGAAGCCAAAGACCAACACAGACTTCATGCCGTACAATGGAGAAAGATTCAAAATCGAGATCCCATCGAAGTGGAACCCAAGCAAAGAA GTTGAGTATCCAGGACAAGTCCTAAGGTTCGAAGACAACTTCGACGCCACAAGTAATGTCTCTGTAATGGTCACTCCAACAGACAAGAAAGCCATCA CTGATTACGGTTCTCCCGAACAGTTTCTTTCTCAGGTCAATTATCTCCTTGGAAAGCAAGCTTACTTCGGAGAAACCGCCTCTGAGGGAGGGTTTGA TGCAAATGCAGTGGCAACTGCAAACATTCTTGAAACATCAACACAAGAGATCGGTGGGAAAAAGTACTATTACTTGTCGGTTTTGACAAGAACAGCT GATGGAGATGAAGGCGGGAAGCACCAGCTGATCACAGCCACTGTGAATGGTGGGAAGCTTTACATCTGCAAAGCACAAGCAGGAGACAAGAGGTG GTTTAAAGGAGCTAGGAAATTCGTCGAGAATGCTGCTACTTCCTTCAGTGTTGCTTGAAACTAACTAAATCGAAATACACTAATGGAATGCTCTGTTA
GCT-003P04	AT4G36360.1	BGAL3 (beta-galactosidase 3); beta-galactosidase	GGTCCTTCTCTTCCTTCTCCTTCGTCTTCTTCCTCTTTCCTTCTCTCTCTTCTTAAACCTTCTTCCTTCACAGAAGCAGCACAAGCACAGAAGAAGTTT ATAATAAACTCCTTCTTGTTCTTCTTCTCTGTGTGTTGTCGTTAAGGTTAATGTGGGCAATGGGAACTGGAGATTCTGCTTCGCGACTAATTCTCTGG TGTTGCTTAGGGCTTTTGATTCTAGGCGTTGGGTTTGTTCAATGCGGAGTTACTTATGACCGTAAAGCACTTCTCATTAATGGACAGAGACGAATCCT CTTCTCTGGCTCCATACATTACCCTCGAAGCACACCTGATATGTGGGAAGGTTTGATTCAGAAGGCAAAAGATGGAGGAATTGATGTGATTGAGACT TATGTGTTCTGGAATCTCCATGAGCCATCTCCTGGAAAATACGATTTTGAAGGGAGAAATGATTTGGTGAGATTCGTTAAAGCAATACACAAAGCTGG TTTATATGCTCATCTTCGAATTGGGCCTTATGTTTGTGCTGAGTGGAATTTCGGAGGATTCCCTGTTTGGCTGAAGTATGTTCCTGGCATCAGCTTCA GAACAGATAATGAGCCTTTCAAGAGAGCAATGAAAGGATTCACGGAGAGAATAGTTGAGCTGATGAAGAGTGAGAACTTGTTTGAGTCCCAGGGTG GTCCCATTATTCTTTCTCAGATTGAGAATGAGTATGGAAGACAAGGCCAGATATTGGGCGCTGAAGGTCACAACTACATGACATGGGCTGCTAAAAT GGCTATAGCAACTGAGACTGGTGTCCCGTGGGTCATGTGCAAAGAAGACGATGCCCCTGACCCTGTGATAAGCACATGCAACGGTTTCTACTGTGA TTCATTTGCTCCGAACAAGCCATACAAGCCCACGATATGGACAGAGGCATGGAGCGGCTGGTTCACTGAGTTCGGTGGGCCAATGCATCATAGACC AGTTCAGGATCTGGCTTTTGCGGTTGCACGTTTCATACAAAAAGGAGGATCCTTTGTTAACTACTACATGTATCATGGAGGAACCAACTTTGGAAGAA CAGCCGGAGGTCCATTTGTCACCACCAGCTATGACTATGATGCTCCAATCGACGAATATGGTTTAATCAGGCAACCTAAATATGGTCATTTAAAGGA GCTCCACAGAGCTATCAAGATGTGTGAAAAAGCTCTGGTTTCAACTGATCCCGTTGTTACATCATTAGGAAACAAGCAACAGGCTCATGTATACTCTT CAGAATCAGGAGATTGTTCAGCATTCCTTGCAAACTATGATACAGAATCGGCAGCAAGAGTACTGTTTAACAACGTTCATTATAACTTACCTCCTTGG TCGATCAGCATTCTTCCTGACTGTAGAAATGCAGTCTTCAATACTGCGAAGGTTGGAGTTCAAACATCACAGATGGAAATGTTGCCAACAAGCACGG GGAGTTTCCAGTGGCAGAGTTATTTAGAAGATCTTTCTTCTCTAGATGACAGCTCCACATTCACCACTCAGGGACTCTTGGAGCAGATAAATGTCAC GCGTGACACGAGTGATTATCTTTGGTACATGACTAGTGTTGATATTGGAGAAACTGAATCATTCTTGCATGGAGGAGAACTACCAACTCTCATTATTC AATCTACAGGCCATGCTGTGCATATATTTGTCAATGGACAGCTTTCGGGTTCTGCCTTTGGAACAAGGCAAAACAGGAGATTCACTTATAAGGGAAA GATCAACCTACATTCTGGAACTAACAGAATTGCGTTGTTGAGTGTTGCTGTTGGATTACCAAATGTGGGTGGACACTTCGAGTCATGGAATACTGGA ATCTTGGGTCCGGTGGCATTGCACGGGTTGTCTCAAGGGAAACGAGATTTGTCGTGGCAAAAATGGACATATCAGGTGGGGTTGAAAGGTGAAGCT ATGAATCTTGCATATCCAACTAACACTCCCTCTTTTGGGTGGATGGATGCGTCTTTAACTGTACAAAAGCCTCAGCCTCTAACATGGCACAAGACTTA TTTTGATGCACCTGAAGGAAACGAGCCGCTTGCTTTGGACATGGAAGGAATGGGAAAAGGTCAGATTTGGGTAAACGGTGAGAGCATTGGGAGATA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003P05	AT4G01690.1	PPOX (PROTOPORPHYRINOGEN OXIDASE); protoporphyrinogen oxidase	GGAGAGCTGACAAAATTGCGAATTCTCTCTCGCTCGTCGCGATTTCCATGGACATATCTCTTCTCCGTCCGGCGGCGCAGTCGCTTCTTCCATCATT TTCGAAGCCGAATCGTCGAATACATTTCTATAAGCCTCTCAAACTCCGTTGTTCAGTAGCCGGTGGTCCCACCGTCGGATCTTCAAAAACTGAAGGC GGAGGCACCACCATCACGGCGGATTGTGTGATTGTCGGCGGAGGTATTAGTGGTCTCTGCATTGCGCAGGCTCTCGCTACGAAGCACCCTGATGC TGCACCGAATCTGATTGTGACCGAGGCTAAGGACCGTGTTGGAGGAAACATCATCACTCGTGAAGAGAATGGTTTTCTCTGGGAAGAAGGTCCCAA TAGTTTTCAGCCGTCTGATCCTATGCTCACCATGGTGGTTGATAGTGGTTTGAAGGATGACTTGGTGTTGGGAGATCCTAATGCGCCAAGGTTTGTG TTGTGGAATGGGAAACTGAGGCCGGTTCCATCAAAGCCAACTGACTTACCGTTCTTCGATTTGATGAGCATTGGTGGGAAGATCAGGGCTGGTCTT GGTGCTATTGGCATTCGACCACCACCTCCAGGTCGTGAAGAGTCGGTGGAGGAGTTTGTACGGCGTAACCTAGGTGATGAGGTTTTTGAGCGCCT GATTGAGCCATTTTGTTCAGGTGTTTATGCGGGTGATCCTTCAAAATTGAGTATGAAAGCAGCATTTGGGAAGGTTTGGAAACTAGAGCAAAACGGT GGAAGCATCATAGGTGGTACTTTCAAGGCAATTCAGGAGAGGAAAAATGCTCCCAAGGCAGAACGAGACCCGCGCCTGCCAAAGCCAAAGGGCCA AACAGTTGGTTCTTTCAGAAAGGGCCTTAGAATGTTGCCAGAAGCAATATCTGCAAGGTTAGGTAGCAAAGTGAAGTTGTCCTGGAAGCTCTCGGGT ATTACTAAGATGGACGGCGGAGGATACAACTTAACCTATGAGACTCCAGATGGTGTAGTTTCCGTGCAGAGCAAAAGTGTTGTAATGACTGTGCCAT CTCATGTTGCAAGTGGTCTCTTACGCCCTCTTTCTGAATCTGCAGCGAATGCACTCTCGAAACTTTACTATCCACCCGTTGCTGCAGTATCTATCTCG TACCCGAAAGAAGCAATCCGTACAGAATGTTTGATAGAAGGTGAACTAAAGGGTTTTGGGCAATTGCATCCACGCACGCAAGGAGTTGAAACTCTAG GAACTATATATAGCTCCTCGCTCTTTCCAAATCGAGCACCGCCCGGAAGAATTTTGCTATTGAACTACATTGGCGGGTCTACCAACACGGGGATTCT ATCCAAGTCAGAAGGTGAGCTAGTGGAAGCGGTTGATAGAGATTTGAGGAAAATGCTGATAAAGCCGAATTCGACTGACCCAGTTAAACTAGGAGT TAGGGTATGGCCTCAAGCCATTCCTCAGTTTCTAGTTGGTCACTTTGATATCCTTGACGCAGCTAAATCATCTCTAACATCTTCGGGCTACGAAGGG
GCT-003P06	AT3G23570.1	dienelactone hydrolase family protein	GAGCGAAGAGAGAAATGTCGGATCATCAGTGTACCGAGAACCCGCCTAATCTGGATCCAAATAGCGGGTCGGGTCAGGTCGAGAAACTAGGCGGC CTCGACACTTACGTCTCTGGTTCCACTCATTCAAAGCTCGCCGTTGTTCTTGTCTCTCATGTTTTCGGATATGAAACTCCACAACTGAGGAAACTTGC TGACAAAGTTGCAGAAGCTGGTTTCTATGCGGTGGTTCCCGACTTCTTCCATGGAGATCCCTATAATCCGGAGAATCATGATCGACCACTTCCTGTC TGGATAAAAGATCATGGACAAGATAAGGGTTTTGAGGACTCAAAGCCAGTAGTTGAGGCCTTGAAGAACAAAGGCATAACTGCAATTGGAGCAGCA GGGTTCTGTTGGGGTGCAAAAATCGCAGTGGAATTGGCGAGGCAAGAACTTGTTGAAGCTGCTGTTTTGTTACATCCTTCTCGTGTTACGGTGGAT GATATCAAAGAGGTCAAAGTTCCAATTGCTGTATTAGGAGCTGAATTTGATCAAGTGTCTCCTCCAGAACTTGTGAAGCAATTCGAAGATATTTTTGC TACTAAACCTGAGGTGAAGAGCTTTGTGAAGATATTCCCGAGAGTCAAACATGGCTGGACTGTTAGGTACAACGAGAATGATCCATCAGAAGTTAAA GCAGCAGAGGAAGCTCACAAGGACATGCTCGCTTGGCTCATCGACCATGTCAAGTGAGAACTTGGAACTGTCTAAGCTTTTGCTCTGCACAGAATC AATAATGAGACCTAGAAGCTGTAAGAAAACTGTTATGTGTATTACTGTTGAAAACAATCAATGTGACTAGTAGTATCTTTAACCTTCCTCAGGGTTGGT
GCT-003P07	AT3G54810.1	BME3/BME3-ZF (BLUE MICROPLYLAR END3); transcription factor	GCTGATCTGCACAGCACTACGAACAGAGCTAATTACAAAAAAATTTGTGAAAAGAAGATGATTGGACAAAGCTTCCCGGAGGATCTTGATTGTGGCA ACTTCTTTGACAACATGGACGATCTGATTGATTTTCCCGGTGGTGATATTGATGTCGGTTTCGACATCGGTGACTCCGACTCTTTCCCTAACATCTGG ACCACTCATCACGACACGTGGCCCACCGCTTCTGATCCTCTCTTCTCTTCCAACACCAACTCTGACTCTTCTACTGAGCTCTATGTTCCGTTTGAAGA TATTGTTAAGGTGGAGAGGCCACCAAGCTTTGTAGAGGAATCATCATTGGTTGAGAAGAAGGAAGATTCGTTTTCAACAAACACGGATTCATCGTCT TCTCATAATAGCCAATTCAGGAGCTCAAGTCCAGTGTCGGTTCTCGAAAGCAGCTCATCATCGTCCCAAACCACCAACACAACCTCCCTTGTTCTCC CCGGAAAACATGGCCGTCCACGCACAAAACGCTCTCGTCCACCGGTCCACGAGAAAGACAGAGTCATCAGAGACAATAATGTTTGCGGTGCGGATT CACGCCTCATCATTAGAATACCAAAGCAGTTTCTCTCTGACCACAGCAAGATGATCACCAAGAAGAAGAAGAAGAAGACCAAGGTTACTTCTTCCTC TTCTTCCTCCGGGATTGATCTTGAAGTGAATGGAAACAGCAACGTTGATATTTCGTATTCTTCGGAGCAGAATCTTGTTAGGAAATGTATGCATTGTG AGGTTACAAAGACCCCACAGTGGAGGCTTGGGCCTATGGGCCCAAAGACGCTTTGCAATGCTTGCGGCGTACGTTACAAATCGGGAAGGCTTTTCC CTGAGTACCGTCCAGCTGCTAGCCCAACATTCACTCCAGCTCTTCACTCAAACTCCCACAAGAAGGTGGCTGAAATGAGAAACAAGAGATGCAGCG ATGGAAGCTACACAAACGAAGAGAATGATCTGATTCCGAACAATGCCTACATTGGTGTAGACTAAAACCAATGAGATTCAGTTTTCAAGTGTTGAAGT GATTAGAGTTGTGAGGAGTAGGAAAGAGTCAGTGAGCAGAAAAAAAAGTGTTAGCTTTAGAAGAGATGAATGAAGAGGAGCAATCAATTTGGTGGA GGATTCAAAAGTTAGATGAGAATTGATTGTGATTTGTATTTTGTATTTGTAGTGTGAATGGGCAAAACTCTTGAAACATAGGAAAAGTAAGTTGGGGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-003P08	AT5G58670.1	ATPLC1 (PHOSPHOLIPASE C 1); phospholipase C	GAGATCATTTCTCTGCTACAATTTTTTTTTCCTTTTTTTTTTTTATATTTTGTGATAAGAAAAATTTTCAACTCACTATTTATTGAGGTTTCTTGAGATCATC ACATCAGGATAAGTACTCACTTTATTTGAAGAATACATGTGTTTCACAAACATGAACAGCAAATAAAATCTCTCTATTTTCTCTTTTCCCTCTACCTGG CTTAACTTTACCAGAAAAAAAAAAACATGAAGGAATCATTCAAAGTGTGTTTCTGCTGTGTAAGAAACTTCAAGGTGAAATCAAGTGAGCCACCAGAA GAAATCAAGAAACTCTTCAACGAGTACTCCCAAGACGGCAGGATGTCTGCAGATGAGATGCTCAGATTCGTGCTCCAAGTTCAAGGAGAAACCCAC GCAGATTCAAACTACGTGAAGGATATATTCCACAGGCTCAAACACCACGGCGTTTTCCACCCTCGTGGACTTCATCTTGAAGGGTTCTACCGTTATC TGCTCAGTGATTTCAACTCTCCATTGCCTCTGACCCGTGAGGTTTGGCAAGATATGAATCAGCCTTTATCGCATTACTTCTTGTACACGGGACATAAC TCTTACTTGACTGGGAATCAACTCAACAGTAGAAGCAGCGTAGTGCCGATTGTCAAAGCTCTGAGAAGAGGAGTTCGTGTCATCGAGCTTGATTTAT GGCCTAACTCTTCTGGAAACGAAGCTGAAGTTCGTCATGGCGGGACGTTAACAAGTACCGAAGAACTGCAGAAATGTCTAAACGCGGTAAAGGAGA ACGCGTTTCAGGTGTCTGATTATCCTGTCGTGCTTACTTTAGAAGACCATTTGCCTCCAAATCTTCAGAAGAAAGTCGCTAAGATGGTGAGTAAGACT TTTGGAGGAACATTGTTTCGATGTACGGACGAACATATACAGTCTTTTCCTTCACCAGAACTACTCAAGAATAAGATTGTAATCTCAACAAAGCCACC AAAAGAGTATCTCCAGACCCAAATCTCTCAAAGTTCTACAACAGATGAATCCGTTAAATCTAAAAAAGTTGCAGATGCAGAAGAAGAGATTCAAGATG AAGATGAGGAGAGTGTAGCGGTCGAATACAGAGACTTGATCTCGATTCACGCTGGGAACCGTAAAGGAGGATTAAAGAACTGCTTGAATGGAGATC CTAACCGAGTCATACGGCTAAGCATGAGCGAGCAGTGGCTTGAGACTCTGGCTAAAACTCGTGGACCGGATTTAGTAAAGTTCACGCAGCGGAATA TTCTTAGAATTTTTCCCAAGACTACACGTTTTGACTCATCAAACTATGATCCTCTTGTTGGATGGATTCATGGTGCTCAGATGGTTGCTTTCAATATGC AAAGTCATGACAAGTATTTGTGGATGATGCAAGGAATGTTTAAAGCCAATGGTGGATGTGGCTATGTGAAAAAGCCTGATTTTATGCTCTCCAATGGT CCTAATGGTGAAATCTTTGACCCTTGCAGTCAAAACCTCCCGATCAAGACAACTCTTAAGGTAAAGATCTACACTGGAGAAGGATGGAATCTGGATT TTCCTCAAGATCACTTTGATCGATACTCTCCTCCGGATTTCTATGCTAAGATCGGAATCGCAGGGATACCTTTAGACACAAAAAGTTACAGAACAGAA ACAGATACGGACGAATGGTTTCCGGTTTGGGACAAAGAGTTCGAGTTCCCGTTGCGTGTTCCTGAGTTAGCGCTTCTTTGTATCACAGTCAAAGACT ACGACAGTAACACTCAGAACGATTTCGCCGGGCAGACGTGCCTTCCCTTGTCGGAGCTCAGGCCAGGGATTCGTGCTGTCCATCTCCACGATCGT
GCT-003P09	AT1G52990.1	thioredoxin family protein	GATGAAAACGGGTTGAGGGATTATACATAGAGAGAGAGAGAGAGATATCAAGAAAGTTCCGATGGTGCAAATTAGGGTTATGTCTCGTTTGGCAATT ATTGTAACGTGTTTGGTGTGTTTAGGGTTCAATGTTGGGATGTGTTCTGATTCAGATCTCTTGATCAAGACTTACGTGTCATCATCGCTACCGTCTAA CAATGACTTTATCTATTCCGCTAAGCTTATGGCAATTGACAGTGTCACTGAATCGGAATGGGATTCACTTGTGATCCAGTCCGAAGTCCCGGTGATG GTTATGTTCACAGCCAAATGGTGCGATCCATGTCGTATGATGCGCTCCATAATGGATGCAATGGCCTCAAATCTCACAGGTCGGTTCAAATTCTACG TAGTCGACTTTGAGCAGGAGGAAAGCATCGTATCACGTTATAATGTATTCGCTCTCCCGACCAATATTGTCTTCAAAGGCGGAGAAGAAGTGGCTAG AGTTGTCGGATTTAATGTAAGGAGAGTACGGGAGCTCGTTGATAAGTATGTGTGATTCTCCCACGTCTCTAGCTAGTCCAATTTATATATATATATATA
GCT-003P10	AT3G47670.1	pectinesterase inhibitor	CGTGGGAGATAGAGATACGTTGCTACAAAAGTCACATTCCTTCCTTCTTCCTACATTCAAAGTTTCTCTCGTTGACTTTTCGCTCCCAAATCCCAAAT CAGAGATTGATTCATCAAAAGCTTCCAAATTGTCTGTGTTTCAATGGAGTCGATCAACAACTTGAAAGGATACGGCAAAGTATCCGACCAAGAAAACC AGATTCTTCAATCTCCACTCCCTAAACCACCTTCCCGTAAAACCCTCATCGCCACCGTCTCCGTCGTATGCTTCCTCTTGATCCTCACCGTCGTCGCT TTAACCGCCGGAGCATTCACTCGTCCTTCACACCATCCTCCCGTCTCCTCCGCGTCTCTCAAGGAAGTCTGTGCCTTGACTCGTTACCCAGAGACCT GCCTCGATGCTCTATCTTCTTCTCTCAACGAATCGAACCCTGAATCAATCCTCTTGCTATCGATTCGAGTCGCTTCTCAAAAGGTCTCAAGCCTCTCC ATGTCTTTCCGATCAATCAACGATATGCCTGAGGAAGCGGCGGTCGGCGACTGCGTGAAGCTGTACACCGACGCGCTGAGTCAACTCAACGAGTC GGTATCGGAGATCGAGAAGGAGAAGAATAAGGGAGGGGATTGGTTGACGAAGAGGGTCGTCGGAGATGTCAAGACGTGGATTAGCGCCGCCATG ACTGATGGTGAGACTTGCTCCGATGGGCTTGAAGAGATGGGAACGACGGTGGGAAACGAGATCAAGAAAGAAATGGTGATGGCGAATCAGATGTT GAGCATTAGCTTGGCCATTGTTAGTGAAATGAAGAAGCTTTTGTTGATTCTTCACTAAAACCAAAACATAGAAAATCAAAAAGGTTGAAACTTTTTCTT CTTCTTCTTCTTCTTCTTCTTCTTCTCTTCTTCTTCTCTGTTTCTGTGTTTGAATGTCTTATACTCTGCTTTCTGTTCTTGCTCTGTAATTAATGACT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003P11	AT2G43570.1	chitinase, putative	GGCAGACAAAACATACACAGAAAAACAATGGCGAATCACGCTAAAACCACATCACGCAATGAACAGTTTGCCCTTTTCCTCACAACTCTCTTTTTCCT GATCCTAACCGTATCCAAATCAGTCAGCTCTCAGAACTGCGGCTGCGCCTCTGGCTTATGCTGCAGCCAACATGGTTACTGTGGTACGACCGATGA TTACTGTGGCGTGGGATGCAAAGAAGGACCTTGCAGGAGCAACGGTGGCGGAAATAATGATCCTACTGTTTCACTTGAAGGAACCGTGACACCAGA GTTCTTTAACTCTATAATTGACCAAGCAACTGGTAGTGATTGCAAAGGTAAAGGATTCTACACTCACGACGCCTTCCTCGCTGCAGCTAACTCCTACC CTAGCTTTGGTTCTTCCATCTCCAAACGCGAAATCGCTGCCTTCTTCGCTCACGTCACCCACGAAACTCAATTCATGTGCTACATTGAGGAAGTCGA TGGACCAGCCAAGGCCGCAAGGGGAGAATATTGTGACACAAGCAAAACAGACTTCCCATGTGCACCAGGAAAGGGCTACTATGGTCGTGGTGCGA TCCAGCTCTCTTGGAACTATAACTATGGTCCCTGTGGCAGAGACCTGAAGGAGGACTTGTTGGCTTCACCAGAGAAAGTTGCTCAAGACCAGGTTC TTGCCTTCAAGACCGCTTTCTGGTTCTGGACAACTAAAGCTCGCGGGGTATTTAACCAGGGCTTTGGCGCGACGATCAAAGCTGTAAATGGTATTGA GTGTAACGGAGGAGATTCTGCAAGCGTCAACAAGAGGATGGGATACTTCCGAGACTACTGTGTCAAGCTTGGAGTTGAACCTGGAGATAACCTCTC TTGTTAAGGTTTTCTCACTATCCATCCGAAACAACCAATGTTCGCAATATAATTAAAATAAGAGATCATCATATATAATAAGAGAATGTATCATATTAGT
GCT-003P12	AT5G54750.1	transport protein particle (TRAPP) component Bet3, putative	GGGTTTATTAATTTGTTCTTCTTCTTCCTCTTCACCCCGGCCGGCTGCTACGAGGTGAAATTTATCGATTTGTGGAACTGTGAAGCGATTGATAGACT AATTGTAGTTTGGTGAAATTCTGAGATGGCTCCGGTTGGTCCTCGATCCGGTGATGCGATCTTCTCCAGCATCGATCGCGTGAATGCGGAGTTGTTC ACGTTGACATATGGTGCAATTGTGCGTCAATTGCTTACTGATCTTGAAGAAGTTGAGGAAGTCAACAAGCAGCTTGATCAAATGGGATACAACATTG GAATCCGACTTATCGATGAGTTTCTAGCCAAATCTGGTGTTTCCAGATGCGTTGATTTCAGGGAAACTGCGGAAATGATTGCCAAGGTGGGTTTCAA GATGTTCTTGGGGGTCACAGCATCAGTGTCAAGCTGGGACGCGGATGGGACTTGCTGCAGTATAATCTTGGAGGATAACCCGCTCGTTGATTTCGT GGAACTTCCCGATACTTGCCAAGGTCTTTACTACTGCAATGTCTTAAGTGGAGTCATAAGAGGCGCTTTGGAAATGGTCTCAATGAAGACAGAAGTG ACATGGACACGTGATGTTCTTCGAGGAGATGATGCTTATGAGTTGCAGGTGAAGTTACTGAAGCAAGTCGCTGAGGAGTATCCTTACAAGGATGAT GAATAGAATGTCTCTCTCTTATCTTCGCTCTTACACAAAGAGAAACTATTTACTATTCGTAGTCTCTTTTGTCTCTCTGCTTTCTTAGCTTGTTTTTTTTT
GCT-003P13	AT5G20230.1	ATBCB (ARABIDOPSIS BLUE-COPPER-BINDING PROTEIN); copper ion binding	GGCAGGGGGGTGACCTGAGTTGTTTCAACACAAACACAAAAATGACCGGAGTTTTCAAAACGGTGACGTTTATGGTTTTGGTTTTCGCTGCGGTTGT TTTCGCAGAGGACTACGATGTCGGTGATGATACGGAATGGATAAGACCTACCGAGCTCGAGTTCTATACTAACTGGGCTGCCGGTAAAACTTTCCG TGTCGGCGACGAGCTCGAATTTGATTTCGCTGCTGGGAGACATGATGTGGCAGTTGTAACAAAAGATGCATATGAAAACTGCGAGAAAGAGAAACC AATCAGTCACATGACGATTCCTCCGGTCAAAATCATGCTAAACACCACCGGACCACAATACTTCATCTGCACCGTCGGTGACCATTGCCGCTTTGGT CAAAAACTTGCCATCGATGTAGTCGCTGCTGGTGGTGGAGGAAGCCGTGGCGGTTCTACCACCCCAGCACCTGGTGCCGGAGGCACCAACTCCAC CACCCCAGGAGCCGGGACCACTACACCTTCTGGTCCTACCGGGACCACTACTACTACACCTCCGGCTGGAAGTGGTGCTGCTTCTTCGTTAGGTG GTGCATCTGTTTTGGTCGCCTTTCTTTCTGCTCTTGTTGCTCTCTTTTAAATTTCATTAGACTTGAGAGAGATATTGAGTTAAATCAATATGTATGTCTA ATTTGTTTCAGCTTTGTTAGACGTACGTGAGTTTCATCATAGTCATGTGTTTTCATATTCTTTGTGGGAATAATTAAGACTCGTCTCTCTGGTCATAATT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003P14	AT1G33080.2	MATE efflux family protein	GGAACAAACTCTCTCCTCTCTCCACGACGACTCTGCTCTCTCTATTCATTCCCTCCTCAAGCCATGGCCGGAGGAGTAGAAGAAGTGACGGAAACT CTTCTGAAAAAGACGTCGGAGAACGGTGCCGGAGAAGAGGAAGAGTTGGAAATGAAGGATAAAATTTGGAATGAATCAAAGAAGCTATGGGTTGTG GCGGCGCCGGCGATCTTCACAAGATTCTCTACTTCCGGTGCATCTTTGATAACTCAAGCTTTTGTCGGCCACCTTGGCCCCACCGAGTTGGCCGCT TACTCCGTCACACTCACCGTTCTCCTCCGTTTCAGTAATGGTATCTTGGTGAGTAAACTATTCGTTTCTTGTTAATGTTATGGCCTTTGTTCTTGCACA TAAAATCATAAACAAGTTCGTTGAACTCCACTAGTAGTTGTTCTTTACCTTGTAAACAATGAATTGTTCTTTCGAAATGCGGCAAAAACTTTTCATTGT GAGCTAGAATTGAATTGGTAAAACAACAAAAATTAGAAAAATTGGAGTGTATAAAATACTTCTTTTACAAAAAAGTTGGAGAATATATTTGATTCTACC AAAAGACTCGACAAAGATGTGGTAAGAAATTACACAAATTAAATGAATGGCCCAGAAGAGTAATTTTAAAATAAGACGAAATATTCCTCTTTTTCTGTA GTGTAACAAAGACACATTGTCAACAAGTGTGACAACTGACAAGAATCATTTGGCTACCAGTGTCCAAATGGTTAGCATCCACTGTGAGATTCGTAGA ACAAAAGAAAAGCTGCGTATAATTAATGTTAAAATAAGATAGTTGTTATGCTTCTATAATTTTCTATAATTTCTTTTTACATTATCTTACATACACTATTA GAACGAATTATGGCGTCAAGGTGCGACAAAAAAAAATGGCGTCAAGGTTTTACACATATATACCACACGACTATATATAAACGCTCACCAAACATATAT AGAACTGTAGTAATATATAATTTTTTTTAACTTATGACCTTATCAAAAAATTATTGCTGTTTACCAACAAAAAATTACTGTTTACATATTGTTATCAGATT TCTAATTCTATAAAATAAAATCTATCGTGTAATAACGAACGTCAATAAAAATATTTGAAGTTAGGCATGGCTAGTGCACTCGAAACACTATGTGGTCAA GCCTATGGAGCAAAACAATATCATATGCTTGGGATTTATCTCCAAAGGTCATGGATCGTTCTCATAGGTTGTACCATTTGCCTCACGCCCATCTACAT CTTCGCTGGACCTATCCTCTTAGCTTTAGGTCAAGAGGAACGCCTCGTCCGTGTAGCTCGAACCATAGCCCTATGGGTCATAGGCATCAACTTCTCT TTCGTTCCATCCTTCACTTGCCAAATGTTCCTCCAAGCTCAGAGCAAGAACAAGATCATTGCTTACGTTGCTGCTCTCTCCTTAGGGGTCCATGTCTT CTTGTCGTGGCTCCTAATGGTTCATTTTGATTTTGGAATCGCCGGTGCTATGACCTCGTCGCTCGTAGCGCATTGGTTGCCTAACATTGCTCAGCTC TTGTTCGTCACGTGCGGTGGGTGTAAAGACACGTGGAGAGGATTCTCTTGGTTGGCTTTCAAAGATCTTTGGCCCGTCTTCAAGTTATCTATGGCTT CCGGTGGCATGACTTGCTTGGAGATATGGTATAACTCGATATTGATCTTGCTGACGGGAAACTTAAAAAACGCTGAGGTTGCTCTAAACGCACTTGC AATCTGCGTCAATATAAATGCAATGGAGATGATGGTAGCCTTCGGCTTCATGGCAGCAGCAAGGTTAATACAATCATACATATTATTAGTTATACAGA ATTTAGCTTTGATAAAAATACTATAGTCTAGTTATATATAAGACAATTATAATTTTAAAAAAGGATAATCTTGGAATTAATAAATTTGCATATTTAAAAAT ATTTCAAAGTTGTTAATATAATAAATTCTCCTATTCCTGATAACTTAATAACTAATGGAAAAATATATCTTAAAAAAAATGAGACTAAATCAATTGTTTTC ATATCCTCTCTCATGATATTTCGTTTCTACTATATATATACTTAAATTACATTGAGAAAACCTATATATTTTTGATTATGCATGCTTTATTTAAGAATCTT
GCT-003P15	AT1G43170.3	ARP1 (ARABIDOPSIS RIBOSOMAL PROTEIN 1); structural constituent of ribosome	GAGCTTTAGCCGCAGGAGTGACTCATTGAAGTTTTAGGAGAAGAAGAATGTCTCACAGGAAGTTTGAACACCCAAGGCACGGTTCACTTGGTTTCTT ACCGAGGAAGAGAGCTAACCGTCACAGAGGAAAAGTGAAGGCATTCCCTAAGGATGACCAAACCAAGCCTTGCAAGTTCACAGCCTTTATGGGTTA CAAGGCTGGTATGACCCACATTGTTAGAGAAGTCGAGAAGCCCGGATCCAAGCTTCACAAGAAGGAGACCTGTGAGGCTGTTACCATCATTGAGAC ACCTGCCATGGTGGTTGTTGGAGTTGTTGCCTATGTCAAGACTCCCCGTGGCCTGAGGTCCTTGAACACTGTCTGGGCTCAGCACTTGAGTGAGGA GGTCAGGAGAAGGTTCTACAAGAACTGGGCCAAGTCTAAGAAGAAGGCTTTCACCGGGTACGCAAAGCAGTACGAAAGCGAGGATGGCAAGAAGA GCATTCATGCTCAGCTTGAGAAGATGAAGAAATACGGAACTGTCATCCGTGTTTTGGCCCACACTCAGATCAGGAAGATGAAGGGATTGAAGCAGA AGAAGGCTCACATGATGGAGATCCAGATCAACGGTGGTACCATTGCCCAGAAAGTCGACTTTGCCTACAGTTTCTTTGAGAAGCAGATCCCTATCGA CTCAGTTTTCCAGAAGGATGAAATGATTGATGTGATTGGTGTCACCAAAGGTAAGGGTTACGAAGGTGTTGTTACCCGTTGGGGTGTGACAAGGCTT CCACGTAAGACTCACAGGGGTCTACGTAAGGTTGCTTGTATCGGTGCGTGGCATCCAGCTAGAGTCTCATACACTGTTGCCAGAGCTGGTCAGAAC GGTTACCATCACCGTACTGAACTGAACAAGAAGATTTACAGGTTGGGCAAGGTTGGTCAGGAGACACACACAGCCATGACTGAATACGACAGGACT GAGAAGGATGTGACTCCGATGGGAGGATTTGCACACTACGGTATTGTGAAGGATGACTACTTGATGATTAAGGGATGCCGCATGGGTCCAAAGAAG AGGGTTGTGACTCTGAGACAGTCACTACTCACTCAGACTTCCCGTCTTGCACTCGAGGAGATCAGACTCAAGTTCATTGACACTTCCTCGAAGATGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003P16	AT5G02810.1	PRR7 (PSEUDO-RESPONSE REGULATOR 7); transcription regulator	GGGTGGCTTATGGTCGTCTCCGATTTCCACTCTCTGGGAGACAGAAAAACCTCATAATCAAATTGTTCACTCTCCTTTATATTTGTTCTCTCTGAAGC TGAGAAGCTTCGATTCTTGTGTATTTGCTTGCCTTTTCTTGATTATGATGTCGTTTTGAGTCTATGTTTCTCTTTCCCAACCGTTAGCTGCTTTCTGCT GGATCCATTTTATTCTGGTTGAAGAGGTCCTTACTGTTGTCTTCTTGGAGTTGTTTTCCCCGAGACCATTCTACTTGAAGAGAAGCATTTAAGTGTATT AATACTTTGATCATCTGAACTCAGCGAAGTAGAGTTGGTGTGATGAATGTTAATGAGGACGGTGAGGGTTCGCGTTACCCAATCACTGATCCAAAAA CTGGAGAAACGAATTTCGAGAGGATTGAGAGTCGGACAGAGAGGCATAGTGGAGAAGATAAAGCCAATGGAAACACTTTGGATGTGAAGAACGGG AGTGCAGGGGCTGGGCAAGGCTCTGCTGGACTGCAAATTCCACAGTCGCAACAAACAGCGGCTACTGTTTGTTGGGAAAGGTTTCTTCATGTGAGA ACCATAAGAGTTCTGCTAGTTGAAAATGATGACTGCACTCGTTATATCGTTACTGCGCTTCTTCGTAATTGTAGCTATGAAGTTGTTGAGGTTGCAAA TGGTGTACAAGCTTGGAAGGTGTTAGAAGATCTAAACAATCATATTGATATTGTGCTAACGGAGGTAGTTATGCCTTACTTATCTGGTATCAGCCTCT TATGCAAGATTTTGAATCACAAATCTCGTCGGAACATCCCTGTCATCATGATGTCATCTCATGACTCAATGGGGCTCGTCTTTAAGTGCTTATCAAAA GGAGCAGTTGACTTTCTCGTTAAGCCGATAAGAAAAAACGAGCTTAAAATCCTTTGGCAACATGTTTGGAGAAGATGTCAAAGTTCTAGCGGCAGTG GGAGTGAAAGTGGAACACATCAAACTCAAAAGTCTGTGAAATCAAAGAGTATTAGAAAATCTGACAACGATTCAGGAAGTAGTGGTGAGAATGAAAA TGGGAGCATTGGCCTGAATGCTAGTGATGGAAGTAGTGATGGGAGTGGGACGCAGAGCTCTTGGACGAAAAAAGCTGTGGAGGTTGATGACAGTC CACGAACAGTATCTCCATGGGATCGAGTTGATAGCACCTGCGCACAAGTGGTACATTCCAACCCCGAGGTTCCCAGTAATCACTTGGTTGCAGCAC TTGCTGAGAAGAAGAATCAAGAACAGGATGAAAAATTTGAAGATGTCACAATGGGTAGAGATTTGGAGATTAGTATTCGTAGAAATCAGGATCTGGC ACTGGAGCCAAAAGATGAACCCCTAACTAAAACTACTGGCATTATGAGACAGGAGAATTCATTTGAAAAAAGCTCTAGTAAATGGAAAATGAAAGTTG GAAAAGGACCATTGGACCTCAGTAGCGAAAGCCCTTCAAGTAAACAAATGCATGAAGATGGAGGCTCGGGGTTCAACGCTATGTCTAGCCACCTTC AAGATAACAGAGAACCCAAGGCGCCTAACACACACTGCGACATATTAGATACAAGTGAAGCTGCTGTCAAAATTTCTGAAGTGACAATGCAAGTGGA ACATAGTTCAAAGAGGCATAGAGGACTTAAAGATGATGGGACAGTAGTTAGGGATGATCGGAATGTGCTAAGACGTTCAGAGGGTTCAGCTTTCTCA AGGTATAATCCAGCCTCAAATGCACATAAGCTTTCTGGCGGGAACTTGGGAAGCAATTCTCTTCATGATAATAATAGCCAAGATCTTATAAAAAAGAC TGAAGCGGCATGTGATTGTCACTCAAACATGAACGATAGTCTGCCCAATAATCATCACTCACGTGTCGGTAGTAATAACTTTGAAATGAGTTCCACAA CTGAGAACAACGCTTTCACAACGCCAGGAGCTCCAAAAGTAAGCTCAGCAGGATCTTCATCAGCCAAGCATTCATCGTTTCAGCCTCTACCTTGTGA TCATCACCAATCGTCCTATAATCTTGTTCACATCCCTGAGCGGAAGTTACCGCCACAAAGTGGATCCTCGAATGTGTACAATGAGGCGATTGAAGGT
GCT-003P17	AT5G03900.2	Identical to Protein At5g03900 precursor [Arabidopsis Thaliana] (GB:Q8GW20;GB:Q8L632;GB:Q8LG15;GB:Q9FFM9;GB:Q9LZB9); similar to unknown protein [Oryza sativa (japonica cultivar-group)] (GB:BAD28426.1); similar to Os02g0533000 [Oryza sativa (japonica cultivar-group)] (GB:NP_001047028.1); contains InterPro domain HesB/YadR/YfhF; (InterPro:IPR000361)	GGCTTCGATTTTGAACCATATAAACATCTCCCATGGCGGAAACTCGAAGTCGTAACTAGAGAAGAAGAAGAAGAAGATAAAGCTGTAATTAGAGAAT GACGTGTGTGTCGACATGCTTAATCGTCTCCCCTAAGTTAACCCAATCGGGTTTTTCATCAAAAAAGCCGGTGATTCGCCTCAGATCTCCCGTCGAT CGTTGTTATGCTTTTCCCGGAATCTTTACGAAGAGGTTCCCGAGCTCCCGGCGGGAGTTCACGAGCCATGGAATCGCGGTGGTGAGGGCGGCGAG TATAGATAAGGTTAGCGGCGCAATCAAACTAGGGGGATTGGTGGAGAGCGACAAGTTGCCGACTGATGTACGGAAACGAGCTATGGAAGCGGTGG ACGAGTGTGGCCGGAGAGTCACTGTTGGTGACGTGGCTAGCAGAGCCGGCTTGAAGGTTACCGAAGCTCAGAAAGCGCTTCAAGCTATCGCCGCC GACACTGATGGGTTTCTGGAGGTCTCGGATGAAGGTGATGTGCTTTATGTTTTCCCAAGGGACTATCGTTCTAAGTTGGCTACCAAGTCGTTAAGGA TACAGATTGAGCCATTTCTTGAAAAGGCAAAGGGTGCTGTAGACTATCTGACTCGTGTTTCCTTTGGCACTGCGCTTATAGCGTCTATTGTTATCGTC TACACCACAATTATAGTCTTGCTTTCAAGCAGGAGCGAGGATGATAATCGTCAAAGAAGACGCGGGCGCGGATATGATTCTGGATTCAATTTCTTTA TCAACCCCGTCGATCTATTTTGGTACTGGGATCCCAATTATTACAGTAGGCGACGAGCTCGAGAAGATGAAGGAAAGGGAATGAATTTCATTGAATC TGTTTTCTCCTTTGTATTTGGAGATGGAGACCCAAATGAAGGAACTGAAGAAGAGAGGTGGCAGATGATTGGGCGGTATATAACTTCCAGAGGAGG TGTTGTTGCAGCTGACGAACTTGCTCCATATCTTGATGTGCCATCTTCCAAGAGTGATACGAGCGATGAATCTTACATTCTACCTGTTCTTCTTCGAT TTGATGGTCAACCTGAGTTGGATGAAGAGGGAAATATTCTGTATCGTTTTCCATCCCTGCAACGCACAGCTTCTGGGTCTAGTAGAAAAAAGGAATA CGTAGGAAAATGGTTCGACTGGGTTGCAGATATGGAGAAGTTCTTCAAGGAGAGAAAATGGCAATTTAGTAAAACTAGTTCATCTGAGAGAGCAATG GTCGTTGGCCTAGGTGCGGTTAATCTCTTTGGTGTTATTGTTCTGAACGCCATGCTAAAGGAGATGGCTGTCACGCCAAGTGGATTTCTCACATTTG TTAAGAACATATATCCACTACTTCAGGTATACGCAGGCTCTTTCTTTGCCATCCCTTTGGTTCGGTGGTTTTCAGTCAAGAGAAAGAATGATCAGATA GAGAATAGAAACAAAGCTCGGCTACAGTTCGCACGAGCACTTGAATCTCCAGATATCGCACTACGGCGTAAGCTACTGAGTGCAAGGGATATGGCT CAAAATACAGTCATAGGGAAGGAGCGGATCGTTTACAGTACAGATAGAGATATGCTTGAACAAGACTATGAGGCAGACGAATGGGACAGAAGATTC CGAGAGGTGGAAAAATCAGATTGAAATGTCAACTCAACGGACTTATGACAACGTGTAGTTTCGTATCAGCTCACACATCATCTGCGACACAGAATCA TCTCAACAACTTAAGACATTCATGGACATTCCAATTTCCAGCGGATGACAAAGGCCATGGTACATATTATTTAGACATTCTTCCTCTGTTCAAGACAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-003P18	AT2G30360.1	CIPK11 (SNF1-RELATED PROTEIN KINASE 3.22, SOS3-INTERACTING PROTEIN 4); kinase	GGCGTGTTCACATTTCTGAATTACGCGCAATCAAAAAGCAGATTCGAAAATTCTCCGGCCAAGTCGTCTTCCTCCTTCTATAGATCAATCATCATCTC TCAATCGGTCTCTGGCTTCCGAAATCATGCCAGAGATCGAGATTGTCGCCGACGCCGGCGATAACAACAACACCGAAAACGCCTTGTTCGGCAAAT ACGAGCTCGGGAAGCTTCTAGGATGCGGAGCTTTCGCCAAGGTCTTTCACGCTCGCGATCGCCGCTCCGGCCAGAGCGTCGCCGTCAAAATCATC AACAAGAAGAAACTCCTCGCGAACCCAGCTCTCGCCAACAACATCAAACGCGAGATCTCGATCATGCGCCGCTTGGCTCACCCAAACATCGTCAGG CTCCACGAGGTGATGGCGACGAAAGGGAAGATCTTCTTCGCGATGGAATTCGTTAAAGGAGGAGAGCTTTTCGTTAAAATCTCCAAACACGGACGT CTCAGCGAAGATCTCAGCCGCAGGTATTTCCAGCAATTGATCTCAGCCGTCGGTTACTGCCACGCACACGGCGTTTACCACCGAGATCTCAAGCCG GAGAATCTCTTGATCGACGAGAACGGGAACCTCAAGGTATCCGATTTCGGTCTCAGCGCCTTGACGGATCAGATCCGACCCGACGGTCTCCTCCAC ACTTTGTGCGGCACGCCTGCTTACGTGGCACCGGAGATTCTCTCCAAAAAGGGATACGAAGGCGCGAAAGTCGATGTCTGGTCCTGTGGGATCAT CTTGTTCGTCCTCACCGCCGGTTATTTGCCGTTCAACGATCCGAATTTGATGAATATGTACAGGAAGATTTACAAAGGGGAGTATCGGTGTCCTCGA TGGATGTCTCCAGATCTGAAACGATTAGTTTCTCGTCTCCTCGACATCAATCCAGAGACCAGGATCACCATTGATGAGATCCTTAAGGATCCTTGGTT TGTGAAAGGAGGTGTTAAACAGATCAAATTCCACGACGAGATCGATCTCGCCAAGGGAGATGATATCAATTCCGATAAGAGAGAAGGAGGAGAATC ATCGGAAGCGGTGAAGAGTCTAAACGCGTTTGATCTGATATCTTTCTCATCGGGATTAGATCTCGCCGGATTGTTTGCGAGCAATTCGGTCGGGGA ATCGGAGAGGTTTCTCTCGGAGAAATCGCCGGAAACGCTTTGGGAGGAAGTCGAGAGATTCGCGAAGGCAGAGAAACTGAGTGCGAAGAAGAAGA AGAAGGAAGAATACGGGTTCGAGATTGAAGGGCAAAACGGGAAATTCGTGATTGGGGTTTATCTCTCGAGGCTTAACGATATGCTCGTGGTGGTGG AGGCGAGGCGGAGAGGTGGCGACGCCGATTGCTACAAGGAAATGTGGAATAACAAACTCAGGCTTATACTTACCCGCGTTTGCGATCAAACGCCA
GCT-003P19	AT3G22120.1	CWLP (CELL WALL-PLASMA MEMBRANE LINKER PROTEIN); lipid binding	GCACAAACCCAAACCCTTATTCTAAAAAAATGGGGTCTCGAACACAACACCTCTCCTTTCTCATTTTCATCCTCCTCGGCTTCCTCGCCGTCTCCTTC GCTTGCGACTGTAGCCCCCCTAAACCATCACCTCACAAACCCCCAAAACACCCCGTCAAACCGCCTAAACCACCTGTTGTCAAACCTAAACCACCG GTAAAACCGCCTAAACCACCCACCAAACCGCCCACCGTCAAACCGCACCCACACCCCAAACCACCCACCAAACCTCCCACCGTCAAACCACACCCA CCCGTTAAACCCCCCACCAAACCACCCACCGTCAAACCACACCCACACCCTAAACCTCCTACCAAACCTCATCCCACCCCGAAGCCGCCCACCGTT AAACCGCCAACAAAACCACCAACCGTTAAACCACCTCCATCCACTCCTAAACCACCAACCCACAAACCTCCACCAACACCGTGTCCACCGCCAAAG AAACCACCAACCGTTAAACCACCTCCGTCCACCCCTAAACCACCCACTCACAAGCCTCCACCAACACCGTGTCCACCGCCAACACCAACACCAACC CCACCAGTTGTAACACCGCCTACACCAACTCCACCGATTGTAACACCGCCTACACCAATGCCACCACCGGTAATAACACCACCAACTCCAACTCCAC CAGTGATAACGCCACCCACACCAACCCCACCTGTCGTGACACCACCAACACCAATGCCACCGGTGATAACACCACCAACACCAACTCCACCTAAGC CTGAAACTTGCCCAATCGACACACTGAAACTAGGTGCTTGTGTGGACGTTCTTGGAGGTTTGATTCACATCGGGCTTGGTAAAAGCCACGCCAAGG AAGAGTGTTGTCCGGTTTTGGGAGGTTTAGTTGACCTAGACGCAGCTGTTTGTCTATGTACCACCATTAAGGCCAAACTTCTGAACATCAACCTGAT CCTCCCCATTGCTCTTGAGCTTCTTCTCGACTGTGGAAAAACTCCACCACCTGGTTTCAAATGTCCCGCTTAATCAATGAAAAGTCTCTAGACAACTC TTTTAGTTTCGTTTTATTCAAGAATTTGTTGGTTTGATGAACTCTTTGGGTAATGGAAGGTAACTTTTGCGTGTGTGGGACCTTTAATCGCTTGTTTCA
GCT-003P20	AT2G37130.1	peroxidase 21 (PER21) (P21) (PRXR5)	GACACCAATCAAAAGATAGAGAGAAGAGAGGGAAAGAGAGAGAGGGATGGCCATTGCGAAGAAGCCTTTCTGCCTTTTGGCCTTCTTTTGTCTGTT ATTACAGTTATTCTCTACCTTCCATACCGGAAATGGGGAGCTGGAGATGAATTATTACAGAGAGAGTTGTCCAAAAGCGGAAGAGATAATAAGACAA CAAGTGGAGACTCTTTACTACAAACACGGCAACACCGCCGTTTCTTGGCTCCGTAATCTCTTCCATGACTGTGTCGTCAAGTCATGTGATGCGTCGC TGTTGCTAGAGACAGCAAGAGGTGTGGAATCTGAGCAAAAATCGACGAGGAGTTTTGGGATGAGAAACTTTAAGTATGTTAAGACTATCAAAGACGC ACTCGAGAAAGCGTGTCCGAACACAGTGTCTTGTGCCGATATTGTCGCTCTCTCTGCTAGAGATGGTATTGTCATGTTGAAAGGGCCAAAAATAGAG ATGATAAAGACAGGAAGGAGAGATAGCAGAGGGAGCTACTTGGGAGATGTTGAGACTCTAATTCCTAACCACAATGACTCCCTCTCCTCTGTTCTCT CAACTTTCAACTCTATCGGCATCGATGTCGAAGCCACCGTCGCTCTCTTAGGTGCTCACTCAGTGGGTAGGGTCCACTGCGTTAACCTAGTGCACC GGCTATACCCAACGATCGACCCGACCCTCGACCCAAGTTACGCCCTTTACTTGAAAAATCGTTGCCCAACTCCAAACCCGGATCCGAACGCCGTCT TGTACTCCCGCAACGACCGTGAGACTCCGATGGTTGTTGACAACATGTATTACAAGAACATCATGGCTCATAAGGGTCTCCTTGTCATCGATGACGA GCTAGCCTCTGATCCTAGGACCGCTCCTTTTGTGGCTAAGATGGCTTCCGACAATTCTTACTTCCATGAGCAGTTCTCACGCGGTGTCACGCTCTTG TCCGAGACCAACCCGCTCACTGGAGACCAAGGGGAGATCAGGAAGGATTGTCGTTATGTGAACTAATTGATTATCACATTGTGGGAAGAATTATAAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-003P22	AT1G31310.1	hydroxyproline-rich glycoprotein family protein	GAAAAGCCTCTCTCTCTCTCTCTCTACACTAATCTCTCTTTATCTCTCTCTCTCTCTCTAGTTCTTGATTTATTCCAAGATTTCAAGAAACACATGGC TGACCAAAGTGGTGGGCTGGTTATGATGAGAGAGTACAGAAAAGGGAATTGGACATTGAATGAGACGATGGTGCTCATTGAAGCCAAGAAGATGGA TGATGAGAGGAGGATGCGGCGGTCCATCGGCCTTCCACCGCCGGAGATGCAGCAAGATAGCCGGAGCAGTAGTAATAAACCGGCGGAGCTACGG TGGAAATGGATAGAAGATTACTGTTGGAGAAAAGGTTGTATGAGGAGTCAGAATCAGTGCAATGACAAGTGGGACAATCTCATGAGAGATTACAAAA AGGTCAGAGAGTACGAGAGACGGAGGGTAGAATCGTCTTTTGCTTCTTCATCTTCTTCATCTTCAGCTGCAGAAACCGGTTCGTATTGGAGTATGGA GAAGAGCGAGAGGAAAGAGAGGAACTTGCCGAGTAATATGTTGCCTCAGACATACCAAGCGTTGTACGAAGTGGTGGAGAGTAAAACGCTCCCTTC CTCAACCGCTGCAACCGCTGTAACCGCTGCAGTCGCCGCTGCCGCTGCCGCCATTGGAAGTGGAAACGGTTCGAGCGGTGGACTAGAAATCCAAA AAGCGATACAACAACAACAACAACAAGGTTTAGGATCTGTTGTTCCGAAACATCAAATGACGATTCAGCCTCCTCCTGTTATATTACCTCTTCAGCCG CCACCGTCTCAACCGCCGCAGCCGCTACCACGACCGCTTCTTCTGCCACCGCCTCCACCGCCTTCTTTTCATGCTCAGCCAATACTGCCCACAGTA GAAGGATAGTAGCTCAGATTCTGATACGAGTGAGTATTCAGACACATCTCCGGCGAAGCGAAGGAGAACAATTCCGACCGAACCCGCAGGTCCAAG CGGCGGCGGTGGCGTAAACGCCGAATCGGAAGAAGCAGTGGCGGCTGCGTTATCAAGAAGTGCGTCTGTGATCGCAAACGCGATTAAGGATAGT GAGGAGAGACAAGATCGGAGACATAAGGAAGTGATGAGTTTACAAGAGAGGAGACTGAAGATCGAAGAATCGAATGTTGAGATAAACAAAGAAGGA ATGAATGGATTAGTAGAAGCCATTAATAAGCTAGCGAGCTCCATTTTCGCTTTGGCTTCTTCTTCTACTACTACTACTTCTCGCCATAATAATCAGCAT
GCT-003P23	AT1G29930.1	CAB1 (CHLOROPHYLL A/B BINDING PROTEIN 1); chlorophyll binding	GACCCATTTCTTGGCTCACAACAACAACTAAATAAACGTTTTTTTTTATTTTGCTCCGCACTTAACCGCAATGGCTGCCTCAACAATGGCTCTCTCCTC CCCTGCCTTCGCCGGAAAGGCCGTCAAGATTTCTCCAGCGGCATCAGAAGTCCTCGGAAGCGGCCGTGTGACGATGAGGAAGACCGTAGCCAAAC CAAAGGGCCCATCAGGCAGCCCATGGTACGGATCCGACAGAGTCAAGTACTTGGGTCCATTTTCCGGCGAGCCACCAAGCTACCTCACCGGCGAG TTCCCCGGAGACTACGGATGGGACACAGCCGGTCTCTAAGCCGATCCTGAGACATTCGCAAGGAACCGTGAGCTAGAAGTTATCCACTCCAGGTG GGCCATGCTCGGAGCCCTAGGCTGCGTCTTCCCGGAGCTGCTGGCCAGGAACGGAGTCAAGTTCGGAGAGGCGGTTTGGTTCAAGGCCGGTTCA CAGATCTTCAGTGAAGGAGGACTCGACTACTTGGGAAACCCAAGCTTGGTTCACGCTCAGAGCATTCTTGCGATTTGGGCCACTCAAGTGATCTTG ATGGGAGCCGTTGAAGGTTACAGAGTCGCCGGAAATGGGCCGTTGGGAGAGGCCGATGACTTGCTTTACCCAGGTGGCAGCTTCGACCCATTGGG CCTAGCTACCGACCCAGAGGCCTTCGCTGAGCTGAAGGTGAAGGAGCTCAAGAACGGGAGATTGGCTATGTTCTCTATGTTCGGATTCTTTGTTCA AGCCATCGTCACCGGTAAGGGACCGTTGGAGAACCTTGCTGACCATTTGGCCGATCCAGTCAACAACAACGCTTGGGCCTTCGCCACCAACTTCGT TCCCGGAAAGTGAGCGACTTTTATCTGTATTTTGCTTCAGTGTTTGCTTCGTGTGAGTGCAAGAGGAGAAAGAGTGGTTGTTTAGATGTATAATTTGC
GCT-003P24	AT3G51920.1	CAM9 (CALMODULIN 9); calcium ion binding	GGACTTTTCTTTGTGAGAGATCAGATCGAAGATGGCGGATGGTTTCACGGATGAGCAGATCCAGGAGTTTTACGAAGCCTTCTGTCTCATCGACAAA GACTCCGATGGATTCATCACGAAGGAGAAGCTGAAGAAAGTGATGAAATCGATGGGGAAGAATCCAAAAGCAGAGCAGCTTCAAGAGATGATGAGC GACGTCGACATCTTCGGCAACGGTGGCATCACCTTTGATGATTTCTTGTACATAATGGCTCAAAACACTTCTCAGGAATCGGCATCGGATGAGTTAA TAGAAGTATTCAGAGTGTTCGACAGAGACGGAGACGGTTTCATATCTGCACTTGAGTTGGGAGAAGGAATGAAGGATATGGGGATGAAGATAACGG CGGAAGAGGCGGAGCATATGGTGCGAGAAGCTGATCTCGACGGTGATGGTTTTCTCTCTTTCCATGAGTTCTCCAAAATGATGATCGCTGCCTCTTA TTAGCCTTTTTTTTTTATAAAAGCTATGATATAAGGGTTTGTGTTTTGCACTTATAAGTTGGTAACTACTTTCCAATATGTTAAAGCGAGATCCTATCAT
GCT-004A01	AT5G62920.1	ARR6 (RESPONSE REGULATOR 6); transcription regulator/ two-component response regulator	GGTGTTCCCTCTTTTTTTTGTGTCTTTCTACTTATATAAACAACACCCAATCTCCATTTCTCCACATCATATCTTTTTCAATTTTCTTCCAAAATCATCCG ACTTTGATTAGAAGAACATTTATCTCCTCTCTCAATCTAATGGCTGAGGTTTTGCTGCCGAGGAAGATTGAGATCGCCAACGATCCTTCCAAGTTTGG ATCGCCGCATCTTCTTCATGTCCTCGCCGTCGACGATAGTCACGTCGATCGGAAGTTCATCGAGCGCTTGCTCAGAGTCTCTTCCTGCAAAGTTACT GTTGTTGATAGTGCGACAAGAGCTCTGCAATATCTCGGATTGGATGTAGATGAAAAAACCGTTGGTCTTGAGGATTTGAAGGTTAACCTAATTATGAC GGATTACTCGATGCCCGGTATGACTGGATATGAACTCTTGAAGAAGATCAAAGAATCCTCAGCTTTCAAAGACATACCGGTGGTGGTAATGTCCTCC GAGAACATTTTGCCTCGTATTGATAGATGTCTTGAAGAAGGTGCTGAAGATTTCTTATTAAAGCCGGTAAAGCTCTCGGATGTAAGAAGATTAAGAGA TTCTCTAATCAAAGTTGAAAATTTATCTTCCACAAAGAGTATTAAGAAGAGAGAGCTAGAAACAGAGAATGTCTACTCTTTGGATTCATCTGTTCACTC GCAGCTCAAACGCCCAAAGATCTGAGCTTCCCGATGGAAATTCCTTCAATAGCAGAAAGCTTATAGACTCAAAGCACTTGAGCCTCACTGATGATTC TCTCCAGCTTAATTACCTAAAAGTACAATTTTTTCAGCCCTCGTGGCATTTTTTTTTTGCTGAGTGAAATCAGTGGGGACAAAGTAAGAGGGGTTTTAT TACATGGTAGTAATGTAAATGGTAGAGTAAAAACAAAGCTAATATATAATTCTTTAGGAGATCATAGTTTTTTTCCTTACAAGAGAGACTGTAAGCTGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-004A02	AT4G00990.1	transcription factor jumonji (jmjC) domain-containing protein	GAGCTATCAGATACGGCGTGAAATCTCGATCGACGAGAAACGCCGGTGGTCGCTTCTCCGTCGCAGAGGGAGCCGTTTAAAGGCATGGAGAGAAG GAAGGATAAGCGAATTAGTTCAGAGGATCCCGATGAGTCAGATCGGGTAAGATCTGTCAAGGAACGTAAGACGAGGAAGAAAGACAAGGATCCTGT GAGCATAGGTTCTTCGAATTCAGGCCGAACCGGAAGAGGAAGAAGAGGAAAGAAATTCGATGGTGGAGAGGTTTCGAAGCGATCTACTACTACTCA AAGAGACGAGGTTAACTCTGATGGGACCAGAACCTATGTGGGTTTGACTTGTCATCATTGTAAGAACTTGACGAGTAAGATTGATCTTATCTTCTGTT CAAAGTGTAAGAAGAAGTGCTATTGCTATGAGTGCATCAAGAGATGGTATCCAGAGAGAACGAGTGATGAAGTTAGAGCTTTATGTCCGTTCTGTAA GGGGAATTGCAATTGCAGAGCTTGTTTGCGTCTCCCTTTGGCTGTGAAGCTACAAAGTAAAAAAGACGCCAATGTCAAGCTCAAGCAGTTGCAGTAC CTATTAGTTAAAGTTCTTCCAGTTCTTAGGGATATCTATGCAGAGCAGAACCGTGAACTAGAGGTTGAAACAACAATTAGAGGAGTCCCCGTGACAG AATCTGATATTACTTGGTGCAAACTTGACCCCAGTGAACGCATATACTGCAATGGGCAGGGATTTGTTTTCATAACTATCGGTTTCGTTGAGGGGGA CAACTGGACAAGGGTTCTGCACCTTGCTGGGATACTATTGGGTATCTTTTGGGGGTTAATCTCGGGTAGGGAAACTATCTCATCAAATTGGGCTGAC GAGACAAGAGTAACAACAAGGATGGAAGCGATAAAGAAGAACCAACAACAGATTGGCGTCTCTGGAGGAGTCCAGTCCATGTTGGCCATTGTAGAG TTGCTCTTAAAACCTTAACCAGGCTCCACAAACCTCTATCTGATCGTTCCGGTGGAAATGGGAAGCAACGTGGAAACAATTCGTTCCTTAACGGCTG ATGCGGGAACACCCTATGGGAAACTGATACTCCTTCAAGTATACAATGATTCAATGGATTCTGAGCCCACTGGATAGATAACATATTATTTGATCCAA
GCT-004A03	AT5G65730.1	xyloglucan:xyloglucosyl transferase, putative / xyloglucan endotransglycosylase, putative / endo-xyloglucan transferase, putative	GATCAACTCAAAAACAAACAAGTAAAACACAAATAAATATTTTCTTTGTCATTTTTTATTTTAATACAAAATCCCACCATGGCTAAGAAATGTTTCCTTT CTTTTCCCGAAGCTCATTCTCTTTGCATTGTCACCCTCTTTACGCTAATGTTCATCCAGATTTCCGCCCGGCCAGCAACATTTGCCGATGATTTCAAA GCCGCATGGTCCGAATCTCACATCCGTCAAATCGACGGCGGAAAAGCTATCCAACTTGTCCTCGACCAGAGCACAGGATGTGGATTTGCTTCAAAA AGAAAGTACCTATTCGGAAGAGTGAGCATGAAGATCAAACTCATTCCCGGCGACTCTGCCGGTACCGTCACCGCCTTCTACATGAACTCGGATACG GACACCGTGAGAGACGAGCTCGACTTCGAGTTCTTGGGAAACCGAAGTGGCCAGCCTTACTCGGTGCAAACAAACATATATGCTCATGGTAAAGGA GATAGAGAACAAAGAGTTAATCTTTGGTTCGATCCGGCTTTGGATTTCCACACTTACACTATCCTTTGGACACACAAACACATTGTTTTTACGTAGAC GATGTGCCAATAAGAGAATACAAAAACAAGGAGGCCAAGAACATAGCCTACCCAACCTCACAACCTATGGGAGTTTACTCAACATTATGGGAAGCTG ATGATTGGGCGACACGTGGTGGATTAGAGAAAATTGATTGGAGCAAAGCTCCGTTTTCTGCTTATTATAAAGATTTCGATATCGAAGCTTGTCCTGTT CCTGGACCCACCTTTTGTCCATCGAACCCTCACAATTGGTGGGAAGGTTACGCGTATCAGTCACTTAACGCCGTCGAAGCTAGACGTTACCGTTGG GTTAGAGTAAATCATATGGTCTATGATTATTGTACCGACCGGTCTAGGTATCCGGTCCCACCACTCGAGTGTCGTGCTTGAAAAATAATACCATGTCC
GCT-004A04	AT1G69580.2	similar to MYR1 (MYB-RELATED PROTEIN 1) [Arabidopsis thaliana] (TAIR:AT5G18240.4); similar to Os03g0325500 [Oryza sativa (japonica cultivar-group)] (GB:NP_001049984.1); similar to transfactor-like protein [Oryza sativa (japonica cultivar-group)] (GB:BAC83815.1); similar to Os05g0488600 [Oryza sativa (japonica cultivar-group)] (GB:NP_001055886.1); contains InterPro domain Homeodomain-like; (InterPro:IPR009057); contains InterPro domain Myb-like DNA-binding region, SHAQKYF class; (InterPro:IPR006447); contains	GGTAAGAAAGAATCTCCATATCTGTGCCAACAAACTCAATAATCTTAACATGGGTAATGATCACAAGGCAAGGGACACTAAGCCGAGATTGAGATGG AGTTGTGAGCTTCATCACAGATTCATCGACGCCGTTAATCAACTCGGCGGACCAAACAAGGCGACGCCTAAGGGTTTGATGGGGATTATGGAGATT CCTGAGCTTACTTTGTACCATTTCAAGAGTCATTTACAGAAATATCGGCTCGGGATAAGCGACAGATTCGTTGTTTCTTCAGCTGCAAAATCCCAAGA ATGTCAGAGTCAAAAAGATTTTGGGGATCAAATAGACATTATTGTCACCGAAGAAAAAGATGACCAACCTAGCAAAAACTTGCAAATCAAGGAGGCG ATAGAAATACAATTGGAAGTCCAGAAGAAGCTTCACGAACAATTCGAAGTGCAGAGGCAGTTACAAGTGAGGATTGAGACACACAGGAAATATTTAC AATCAGTGTTTATGAAAGCGCAAGAAACTCTCTCCGGTTACAAATCTTTGAATCTCGTTATAGACGACCTTTATGGAGAAGCATCAATGGAGAATAGA AGCTGTGTCAGTTCTTGTTTTTCCGGACTGACGCAAGCAGATGAGGAAGGAGGAGAGATAGAGGAAGAAGAACGTTTCTTGAGGTCCAAGAAATCA GAAAACAGAGGAATTGAACCGAGTAGAAGTTCAGTTGACAGATCATTGACGTCATCTGAGAGCTCAAATATCAAGAATGAATTCGATTTTCAGAGCG TTACTAGGAGATCGAACGAGCTTCAACTGATGGAGATCAAACCAGTGGAAGTGATAGAGCGGAAGAAGAGAAGGTGGAACGATGTCTTTTGTGGGG AACAACCTCTTCGAAAGAGAGCCTCTGGAAGTGAAGACGGTGAGGACTTGGGACTGAGTTTGAATAGTTTCAAGGACGTGGAAACGTATTCCAAGT CCAACTAATAGGAAGAGGGTTTATGAAACCTTTTCTTTTAATAAGAAGATGTTTAAATGCATATCGTGGGTAGATTATCCGTTCATGTATACAAATATG TAGAGTTTATGGGTGAGAATGCGAATATAAGATGTTTCCACCGTAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA AAAAAAAAAAAAAAAAAAAA

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GCT-004A05	AT4G10310.1	HKT1 (HIGH-AFFINITY K+ TRANSPORTER 1); sodium ion transporter	GAGACCGACCCAAGAAATAAAATGGAGAGTTTTTCTTTTTTCTTGAAATCCTAGAAATTTCGTATTCCACAATCTCCTCGGATAAGAGCAGGTTTAAAA CCCCTACCCGTTTCCCGCACTCGAACCTTCGACCTCTGTCTCTCCGGTCAAAGGGTTCTCTGGTAAGATATATACAAAATGGAGAGAGTTGTGGACA AGTTAGCTAAAATCTTTTCGCAACATGCTAAATCTCTCCCCCTTTTCTTCCTTTACTTCTTCTACTTCTTGTTCTTCTCCTTCTTGGGGTTCTTGGCACT CAAGATCTCAAAGCCAAGAACCACTTCACGTCCTCATGACTTGGATCTGTTCTTCACTTCTGTCTCCGCCATCACTGTCTCCTCCATGTCAACCATCG ACATGGAAGTCTTCTCAAACACCCAACTTATCATCATTACTATCCTCATGTTTCTAGGCGGCGAGATCTTCACTTCTTTCGTGAATCTCTACTTCTCTC ATTTCATTAACTTCAAAATCAAACATCTTGTGGGCTCTTTCAACTTCGACCGTCCTATCAATGATCCGGGTAGTGATCTTGAGAATGTTACTAATCATG TCAAGCTTTCTAGTCAGATCAATGAAAGGGCCTCTAAGTGTTTGTACTCGGTGGTTCTTGGTTACCTTTTTGTAACCAACATAGCTGGTTCCACGTTG CTTCTTCTGTACGTAAATTTTGTTAAAACGGCGAGAGATGTTCTTAGTTCCAAAAAAATCTCACCTCTCACTTTCTCGGTCTTCACAGCTGTCTCTACG TTATCAGACTGTGGATTTGTCCCCACGAATGAGAACATGATCATCTTCCGAAAGAACTCTGGCCTCCTCTGGCTCTTAATCCCTCAAGTATTCATGGG AGACACTTTGTTTCCTTGCTTCTTGGTTTTGGCCATATGGGGACTTCATAAGATCACAAATCGAGAAGAATTGGGTTACATTCTCAAGAATCACAAGA AGATGGGATACTCTCATTTACTCTCCGTTCGTCTTTGTGTTCTTCTTGCTTTGACGGTGTTAGGGCTTGTGATGATACAGTTTCTTCTATTCTGCACCT TTGAATGGAACTCTGAGTCTCTTGAAGGAATGAATTCCTACGAGAAGTTGGTTGGATCGTTGTTTCAAGTTGTCAACTCGAGACACACTGGAGAAAC CGTTGTCGACCTCTCTACACTTTCTCCAGCAATCTTGGTACTCTTCATCCTCATGATGTATCTTCCTCCCTACACACTATTCATGCCGTTGACCGTAG AAAAGAATAAGAAAGAGGGTGAACACGATTCCGGAGATGAAATTAAAGGAAAGAAGAATGGGTTCTACGTGTCACAACTCACCTTTCTAGCGATATG TATCTTTCTCATTTCCACCACCGAAAGTCAAAAACTAAGACGAGATCCACTCAATTTCAACATCCTCAACATCACTTTCGAAGTTATCAGTGCATATGG AAACGTTGGGTTCACGACCGGTTACAGCTGCGAGCGGCGCCTAGACATCAGCGATGGTAGCTGTAAAGACGCAAGTTATGGGTTTGCAGGACGAT
GCT-004A07	AT5G18020.1	auxin-responsive protein, putative	GGACCAACAGCAAGCAATCCAATAACTTCCATCTGTTCATACATCTCTTCAAAACCTTTAAAAGAATTCAAACTTTCATACAAAAGAAGTAGAAATGGC TTTGGCAAGAAGTCTATTGGGTGCAAGGAAGATTCTTGGCCTCTCCGTCGCAGCAGCTTCTACGAGCAAGAGAGCAGCCTCGGCGGCACCTAAAG GGTTTCTTGCGGTGTACGTAGGAGAAAGCCAGAAGAAGAGATATATTGTGCCGATCTCATATTTGAGCCAGCCTTCGTTTCAAGCTCTTCTCAGTAA ATCCGAGGAAGAGTTTGGGTTCGATCATCCGATGGGTGGCTTAACGGTCCCCTGTCCCGAAGATACCTTCATCACCGTGACTTCTCAGCTGCAATG ATGATGAGCCAACATTTTGTTCTTTGAATTAGAGTTTTAGACTTAGTCATTGTAAATAGATGAATTTTTACTCTTTCTTGTTGAAAGAGTTATTCGAAAA
GCT-004A09	AT4G21930.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT1G61930.1); similar to Protein of unknown function DUF584 [Medicago truncatula] (GB:ABE80969.1); similar to Os07g0516300 [Oryza sativa (japonica cultivar-group)] (GB:NP_001059782.1); contains InterPro domain Protein of unknown function DUF584;	GGTATCATCCTCAAAATTAAAATGTTTTAATTTTGAATATATCCTCGATCTTTCACTCATAACACAGAGCAATACATGCTCATAATCCCCATCATAATCT AGCTGTATAACGATAATTTAGGACATTTTATACATTTTTTCTTTAGTTCACAGAGAAATATGGGAAAAGGTCGGAGATTAACGATGAGTCGGAGCGAG CGGTTTCTTGGGAGTCATCATCAGTCCGGTGATCGCCATGAGGACGGAGAAATCGCCGTCGATCTGGAGTTCACGGAAGAGGATGTCTGGTCAGT AATCGAGCCTAATGAACCAACAGAAGAAAACGCGTGGACAGCACACTCCATCGAGGCGAGTGGCAGTGAACGGAACGGAGGCCGCGAGGGTGGC CTGACCGTTAACAGCGCTGGACGGAGGAAGAGACACGTGGCGACTTCTGCGCCGGTGAATGTTCCTGATTGGAGCAAGATCCTGAAAGTGGAGTC CGTCGAGTCAATGCGTAATAATGACGTGGCGGATGGTGATTGGGAGCGTGAGATGGTTCCGCCTCATGAATACGTGGCGCGTAGCCGTCACGTTG ACGGTGGCTCGTCAGTGTTTTTGGGCGTGGGAAGGTCGTTGAAGGGACGAGACATGAGACGGGTCAGAGACGCCGTGTGGAGCCAAACCGGGTT TTATGGTTAATCTAGGTAATTAATTTGATCATTAATGGTTGCATCAAAACAAAAGTAAATTGATCATGAATGTTAAGATTATAAATGTATGATTTGTCTA
GCT-004A11	AT5G44080.1	bZIP transcription factor family protein	AGGGATCGAAAATTACCAAATCCGCTAGGGTTCACAAAAAAACCCTAAAATCTCGCGAGCTCAGGTTCTCGAGTGAATCTCTGTGTTCTCCGATTCC ATTTCGAGCCGAGTCAAAGAAAACCGAGTGATTTTCTGATCCGATTCCGGCGAGTGAGGATCAACGGACTTCTTTCATGGCGTCCTTTAAGGTGCTA CATTCTTCAAATTCTAGAAACTCGGATCTATCTCGTCGCATCCCATCTTCTTCTTCTTCCTCTATAAGACCTCAACAGTTCAGGCGAGATCCCATCGC CGATGAATCGAGGATTAGCGGCGGTTACGGCGGAAGTAACGACGGATACGGCTCTAATACGATGACGGTGGAAGGGATTCTACACGACGCCTTCG CATCGGATCCACCAGCGACTGACTCTTCACTCCTAGAAGCTTCGATAACTCTGATGGATACTCCATCAGCGCCGATGGAGATAACGACGGTTTCCG ATCTCGATCGCGGCGGCGGAGGAGGAACGGAGACGCGTGGGAAGAGTGTCGATGAGGTTTGGAGAGACATCGTGTCTGGAGAAGGGAAAGGGAT GAAGGAAGAGACGCAGGAAGAGATAATGACGTTGGAGGATTTTCTAGCGAAAGCCGCCGGGGGAGATTCAGCGACGGTGGTAGGGAACGGAGGA GGAGAATCCGACGATATGGATGTGAAGATTCCGCCGGAGAGACTCGATTACGGATTCGATCATTCAGCGCCGCCGCATAATCCGTTTCAGATGATT GATAAAGTAGAAGGATCTATCGTTGCGTTTGGGAACGGTTTGGATGTTTACGGAGGAGGAAGAGGAGGAGGAGGAGCGAGAGGGAAGAGAGCGA GAGTAATGGTGGAGCCATTGGATAAAGCAGCTGCGCAGAGACAGAGAAGGATGATTAAGAACCGTGAATCTGCTGCTAGGTCGAGAGAGAGGAAA CAAGCTTATCAAGTTGAGTTGGAGTCTTTAGCAGCGAAGCTCGAGGAAGAGAATGAAACGCTTTCGAAAGAGATTGAAGAGAAGAGGAAAGAGAGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-004A13	AT2G40460.1	proton-dependent oligopeptide transport (POT) family protein	GAAGACAAAGCTAAGCTAATCTTAAGACCTTATTTTTCCCAAATCCCATTAGAAAAAAACACCATGCAACCTTAAAATTATTTCTCTTTAGTCCCTCTTT ATAGACCTGACATCTCGTAGCTCTTTCAATTCTCAAAACATTACCAAAAATATACCCCCACAAAACAACAAATTATTAAAAAAATATTTTAACGTATCAA AATATTAATGGAGGCTGCAAAAGTTTTCACACAAGATGGCACCGTCGACCTGCAAGGCCGTCCCGTCCTCGCGTCCAAGACCGGCCGTTGGAGAG CTTGCTCTTTCCTCCTCGGGTATGAAGCGTTTGAGAGGATGGCGTTTTATGGAATAGCGTCGAACTTAGTGAACTATTTGACCACAAAACTTCATGAA GACACGATCTCTTCGGTTAGAAATGTGAATAATTGGTCCGGTGCGGTTTGGATCACTCCGATCGCCGGAGCTTACATCGCCGACTCATACATGGGC CGATTCTGGACTTTTACTGCCTCTTCTCTCATCTACGTCCTGGGGATGTTTCTCTTAACAATGGCAGTAACGGTAAAATCCTTAAGACCGAAATGTGT AAACGGAGTGTGCAACAAGGCATCCTCTTTACAAATAACATTTTTCTATATATCCCTCTATACCATAGCCATTGGAGCCGGAGGAACCAAACCTAACA TTTCCACATTTGGAGCGGACCAATTTGATAATTATAGCCTTGGAGAGAAAAAACAAAAGGTTTCATTCTTCAATTGGTGGATGTTCAGCTCCTTCTTG GGTGCTTTATTCGCGACATTGGGGCTCGTCTACATCCAAGAGAATGTCGGGTGGGGTTTAGGTTATGGTATCCCTACCATAGGACTCTTGGTTTCTC TCATTGTGTTCTATGTAGGAACACCATTCTACAGGCATAAAGTCGTCAAAACGGATAATTTGGCTAAAGATTTGATTAAAGTTCCTTTCGCGGCATAC AAAAACCGAAAGCTTCAGTGTCCTGATGACCTTTTGGAGCTTCATGAGCTTGACTCCCAGTATTACAAAAGCACTGGTAAACGTCAAGTTCACCACA CACCCATCTTCAGGTTCTTGGATAAAGCGGCCATTAAGACGTCTTCAAGAGATTTACCATGTACGGTGACAAAAGTGGAAGTGGCAAAGCGTGTACT AGGGCTTATCTTAATATGGCTTGTCACCTTAATCCCAAACACCTTATGGGCACAAGTAAATACTCTCTTCGTCAAACAAGGGACCACGCTGGACCGA AAAGTAGGATCCAGCTTCCAAATCCCTGCGGCTTCGCTGGGAAGCTTTGTTACACTCTCGATGCTTCTATCTGTGCCAATGTATGACCAATTCTTTGT TCCCCTCATGCGCAAGAAAACCGGAAACCCTAGAGGGATCACTTTACTCCAAAGGTTAGGGATAGGGTTTGTTATCCAAATTGTTGCCATCGCGGTT GCTTCGGCCGTGGAGATTAAGAGGATGCGCGTAGTAAAGGAATTTCACATAACTAGCCCGAAACAGGTTGTGCCTATGAGCATTTTTTGGTTGCTCC CTCAGTACTCTCTTCTAGGCATTGGGGATGTGTTTAACGCCATTGGTTTGCTTGAGTTTTTCTACGATCAGTCACCTGAGGAGATGCAGAGCCTTGG AACGACGTTTTTCACGAGTGGGATCGGTCTTGGGAACTTCTTGAACAGCTTCTTGGTAACAATGATTGATAAGATTACGAGTAAAGGTGGAGGGAAG AGTTGGATTGGGGATAATTTGAATGATTCTAGGCTTGATTACTATTACGGCTTTCTAGTGGTGATTTCGATTGTGAACATGGGATTGTTCTTGTGGGC
GCT-004A15	AT4G15910.1	ATDI21 (Arabidopsis thaliana drought-induced 21)	GAAGACTTCAAGAAACCATCACCGGAGATTCTAACGGCGGCTTATTACCGGCGGCTACTGCAAAAAGATTGTTGTCTTCATAAGGGTACATTACGTA CCTTGGAATTATAACATCTTTTTGCGGTAGCTAAAAGTTAAGCTCGATTCGTTAATCTATATTATATATATCAGAAATATCCAATATCTATATAATAAAA ATGGCCTCCCGTTCACTCTCTGGTGCCGTTAAATCTCTTTGCTCTGCCGCATCCGGCAATCTTTCTGGTTCCATTGTCTTAAGGAGGAACGTTGCGA CAGCACCAGGATTCAGTAAGGCAGGTTCTACCAGAGTTACGGTGGGGAAGCTCGAACAAAGAGCAAATCAAGAAGCAGAGTCTGCGTGGGCCCCA GATCCAGTCACGGGATACTATAGACCTTCTAATCGGACGGATGAGATTGATCCAGCGGAGCTCAGGGAGATGCTTCTGAAAAACAAAGCCAAGTCT TTCTGATAACGATGTTGACTTTTGATTGGTTGATTCCACGGTAGGCTGTCGTAGGCGATTTTTATGATTCCGTTTGTTATGTTTGGCTTTATATATCTG
GCT-004A17	AT1G69570.1	Dof-type zinc finger domain-containing protein	AATGGTCTTTTTTCTTTCTCTGATCTTTCAAATTAAAGAGAAAGAAAAAAAAAACAGAGGAAACGATTTAGACCTTCAATATTTCTAAACAGGAATTTG GTATATTTAAGTTGAAAAATTAGTATGTCTAAATCTGGAGATACAGAGATAAAGTTGTTTGGGAAGACAATTACATCTCTCTTCGCTGTAAATCATTAT GATCCGTCGTCTTTGTCCACTGTTCACGGTGATTCCGACCAGAGCAAGGGGGCTTCTTCGTCTTCCTCTTCTTCTTCTCCCACGATTGGACCAGACA GGGTTCCAGCTAAGAAAATTGAGCAAGACACTAGCAGATTCAAAGATCCTTACTACATATTATCCGATCTTAACGAACACCCAAAAGCAGCATCTGA GATTTCATCACCAAGAAGCTCCAAGACCAACGGCGATCAACAGAGCGAGATCACAACAAGTACATCAGAAGATAAACCAACAACTCTCAAGAAACCG GACAAGATTCTTCCGTGCCCGAGATGCGAAAGCGCAAACACCAAATTCTGTTACTACAACAACTACAACGTGAACCAGCCACGCTACTTCTGCAGGA ACTGTCAGAGGTACTGGACAGCTGGTGGATCCATGAGAAACGTTCCCGTGGGCTCAGGTCGACGCAAGAACAAAGGATGGGCTTCTTCAAACCATT ACTTGCAGGTCACTTCTGAAGATTATGAGAACAGCAACAATAACAACAATAACTCTGGAACGATCCTCAGTTTCGGTTCTTCAGAATCTTCGGTTACC GAGATTGGTAAGCATCAGTCAGGAGATACAAAGATAACCGCTGATTCACCTTCTCAAGAACATAGAACCCACCAGGGGTTTCTTCCTCCGCAAGTAA TGTTTCCTAGTAATTCTTCTCCTTGGCCTTACCAATGGAGTCCAACGGGTCCTAATGCTAATTTCTACCCTATCCCTTTCTATTGGGGCTGCACGGTT CCTATATGGCCTACCTCAGAGACTTCACCATGTTTAGGGAAACGATCAAGGGACCAAACTGAAGATGCTACTGATCTAACAAGAGCAAGATTGGTTT CAGAAGCTCTTAGAGTTAATACCAAACCAATTAACCAAGCTGCTACGAGCGTGGTGTGGTCTAAGTTGCCGACAAAACCCGAGAAAAAAACGGAAG GATTCAGTTTGTTCAATGGTTTTGAAACAAAGGGTATCAACAGAAGAAGCTTGGTCCCTGAAACGTCTCTCAATCTACAAGCAAACCCTGCAGCGAT GTCTAGATCTATGAACTTCAGGGAGAGCACACAACAATAATCAAAACACTGATATAGTCATATAGAATATATACGTATATATAATATATTCATGAACTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-004A19	AT3G13040.2	myb family transcription factor	GAAGAACTTCATCTCTTCTTCCTCTTCAAAAATATGGCTTTCCTATAACTTTGCGTGTTTTACTGGAGAAAGTTTCATTTTTTTCGTTTTCTGATGTCAC ATTTGGTGATTCTTGAGGTGATAATTCCTGTAAAGTGTTGAGTTTTTTTTTCTTTTTAAGCAGGAGTTACATAAAGGTAGAAGAGTTTATCATCCTCTC AGGCTCGTTTCTATTTATCTGTCCTTTGCTAATTACTGCTTTCGATTTTGTCTCTAACTCCTCCTACTACTTCTTTAGCCTTCTTTCTTTTGCATTTTTTG AAATTGTAAATTTTAACCACATTTTTAATCGTTGGCTTGCTCCTCTCGATATCTGAAAATCTGGATTTGTAGGTCAAAACACAAAAGCCATGTACTTTT GTTTCTCCAGTTCCACGGTTTTTAGTTCACAAGGAACATGTAAACTTGCTATGTTTACTTGGAATTTGATTGGGTTTGGCGATTTATACTCAAAATGGA ATTTAACTCAAAACTTACTCAATCATTGTCACTAACATGTTTGTTTATTGATCTCATCCCAACATTCTTATGCTAATCATTTTCCTCCATTATTGTTTGGG TCCTCAGCGACTTCAAGGCTAGTTATAAATCAGTGTACGCTGCAAACTTATGGCGGATCTTGTCAAGAGACAATTTTGATTGGTGTGAGAAAACCGA TTTTGGTCAAGAAATCATGAACAGTCATAGGCTAGTGTCAACGGCACAAGACGAATGCAATAAAGGAATTCGTCAAGCTTGCTCTTCTTCTTCTCTGT CTCCGGTCCATAACTTTCTAAATGTTGTCCAGTCAGAAAACCGGAAATCTCCTTTTATACGATCAAAATCTCCAGATTCACCTGATCAACTATGGCCA AAGAATAGTTCTCAGAGCACCTTCTCAAGATCTTCCACCTTCTGCACAAACCTCTACGTCTCATCATCTTCGAGCTCTGAGGCTCAGAAGCATCTAG GAAACAGTCTTCCTTTCCTCCCTGATCCCTCCGCTTATAGCCAGTCTGCTTCTGGTGTGGAGTCTGCAAGATCTCCATCATTTTTCAGTGAAGATTTG GGAAATCCTTTTGATGGAGACAGCTCCGGGTCGCTTGTCAAAGATTTCCTTAATCTTTCTGGGAATGCTTGTTCCGATGGCGGTTTTCATGATCTTGA CTGTTCAAATGACAGCTATTGCTTATCAGATCAAATGGAATTGCAGTTCCTGTCTGATGAACTTGAGCTGGCCATCACAGACCGTGCTGAAACTCCC AGGCTTGATGAGATTTATGAAACGCCATTGTCTTCAAATCCAGTCACCAGAACGAGTCTAAGCCAAAGCTGTGTTGCTGGAGCAACATCTACTGACG CAGTTCCGGGGTCAGCAGCCAGTCACAAGCCGAGAATGAGATGGACTCCGGAGCTCCACGAGCTTTTTGCAAAGTCGGTGACCGAACTTGAAGGG CCTGAAAAGGCCACTCCAAAGGCTGTTCTGAAGCTCATGAATGTTGAGGGCTTGACGATCTATCATGTAAAAAGCCACTTGCAGAAGTATAGACTAG CCAAGTATATGCCAGAGAAAAAAGAAGAGAAAAAGAATGTTAACTCAGAAGAAAAGAAAACGGCTTTGAGTAACAGTGAAGCTGATGAGAAAAAGAA AGGGGCAATACAGTTAACTGAAGCTCTGCGTATGCAGATGGAAGTTCAAAAGCAATTGCATGAACAACTCGAGGTGCAACGGGTGCTTCAGCTACG AATAGAAGAGCATGCTAAATACTTGGAAAAGATGTTGGAAGAACAACGCAAAACCACGGGAAGGCTAATTTCTTCTTCTTCTTCTCAGACACTGTTAT CACCTAGTGATGACTCTATACCAGAATGTCAAAACATGTCCAAAACCGAAGCATCTTCGCCTCAGCCGTCATCACCTGCGAAGAACACAGTTTCTGA
GCT-004A21	AT3G47960.1	proton-dependent oligopeptide transport (POT) family protein	TGGAGTAGAGTCATTCTCAGCCATAGAGAGAGAAGAGATAACATTAACAACAACAGAGACAGCTTCTGTAATTATACACAGATTGATACCATGGAGA GAAAGCCCTTTGAGGTTGAGACGACGACAACGACGACGGCGACGGAGGATCACAAACCCTACTCCGCCGTCGATGGTGGTGGTTCTGATTTGACA TCGACGGTCGATTCATTTGACGACGAGCAGAAAAAGCTCGTTTATAGAGGCTGGAAAGTCATGCCTTTTATCATTGGTAATGAAACATTTGAGAAGAT TGGCATCATTGGGACATTATCAAACCTTCTTGTCTACCTAACTCAAGTATTCAACCTCAAGAGTGTTACAGCTGCAACAATCATCAATGCCTTTAGTG GCACAATCAATTTCGGGACTTTCGTCGCTGCTTTTCTCTGCGACACTTACTTTGGTCGCTACAAGACTCTCAGTGTTGCTGTCATCGCTTGTTTCCTG GGATCGTTTGTGATACTAATGACTGCTGCAGTTCCTGGATTGCACCCGACTCCTTGTGGAACAAAAAGCTTTTGCCAAGGCCCAAGTGGTGGCCAG ATTGCGTTTCTGCTGATGGGTTTAGCGCTTCTTGTGGTAGGAGCAGGTGGGATCAGGCCGTGTAACTTGGCGTTTGGAGCTGATCAGTTTAACCCC AAATCCGAATCAGGAAAGAAAGGAATCAACAGTTTCTTCAACTGGTATTTCTTCACTTTCACGTTCGCTCAGATCATCTCGCTCACGCTGGTTGTGTA TATCCAGTCGAATGTGAGCTGGACGATCGGTTTGAGTATACCGGTTGGTCTAATGTTCTTGGCGTGTGTGATTTTCTTCGCTGGTGATAAGTTGTAT GTAAAAGTGAAAGCCTCTGGTAGTCCTTTGGCTAGTATCGGTCATGTTATAGTAGCAGCGATCAAGAAACGAGGATTGAAGCCAGTTAAGCAGCCTT GGCTCGAACTTTACAACCACATTCCTATTAACTATCCAAATACTACACTAAAATACACTGACCAGTTTAGATTTCTAGACAAAGCAGCGATTATGACCC CTGAGGACAAGTTGAAATCCGATGGAGCTGCTTCTGATCCATGGAAGCTATGTACGATGCAGCACGTGGAAGAAGTGAAATGCATCGTGAGAGTGA TTCCGATCTGGTTTGCTTGCGCCATTTACTACCTAGCAATAAGTATGCAAATGACTTATCCGGTCTTCCAAGCCTTCCAGGGTGACCGGAGATTAGG TTCCGGCGGCTTCAAGATTCCCGCAGCCACCTATGTAGTGTTCTTGATGACCGGTATGACTGTTTTCATCATCTTCTACGACCGTGTCCTTGTCCCG TCACTGAGAAGAGTGACCAGGCTAGACACTGGTATAACACTCTTACAGAGAATCGGAGCTGGCATTTTCTTTGCTGTGTTGAGTTTGTTGGTCTCGG CGTTCATAGAGGAACGTAGAAGAAACTTTGCGCTGACGAGACCTACACTAGGGATTGAGCCACGAAGGGGAGAGATCTCGTCCATGTCGGCTATGT GGCTGATTCCGCAGCTCTTGCTTGCAGGGGTAGCAGAAGCTTTTGCAGCTATTGGACAAATGGAGTTTTACTACAAGCAGTTTCCTGAAAACATGAA GAGCTTTGCTGGTTCCATCTTCTATGTTGGGGCAGGTGTTTCGAGCTACCTTTCTAGCTTCTTGATCTCGACTGTTCATCGAATGACTGAACATTCGC CTTCCGGGAATTGGTTAGCTGAGGATCTGAACAAAGGGAAATTGGATTACTTTTATTTCATGCTCACTGGACTCATGGTCGTTAACATGGTTTACTTC

#Thalophila	AGI_CODE	Description	Sequence
GCT-004A23	AT2G18160.1	GBF5 (G-box binding factor 5); DNA binding / transcription factor	GGGAGATTTGGTTTCTATATAATCCACAACAAACCCTTCATCGAAAACCTCTTTCCCCTTCACACAAGTTCTCTTCCTTATCTCCAAAATCTTCCCTTA TATTTATCTCCTCTGTTTCTTCTTCCTCCTCAACATATTCCAAAATATATATATATTTCTATCTTCCTCTGTTTCTCTGTTCTTGCATCCAAAATCTCACA ACCGAGGAAAGAATCATTAAAAAGTTTGAGAATTTAATGATTGGAAACTGATGACTCCGGTTCTCTGCGAAATCCTGCTCTCTGGGCTCACGGTTAAA TCTGCTCTCCGCCGTAGAACCCATCTTGTTCAATCTTTCTCCGTCGTCTTCCTCTACTGGTTTTACAACGTTTCATGATTTGCCTCCCTTTTCGAAATT AAAATCTAGCTAATATCACATCAATTATATTTCAGACAAACCCACAAAAATATAATACAAAAATCTGTCTTTTTTTTTCGTTCTTGTAATTTTCTTGGTTA AAAGTTGAAACCTTTTTTGCGTCCCGAATCAATGGCATCGTCTAGCAGCACATACCGGAGCTCGAGCTCTTCCGACGGTGGTAATCCATCGGATTCC GTCGTCGCCGTCGACGAGCGAAAGCGTAAGAGAATGCTATCGAACCGTGAATCTGCACGTAGATCCAGGATGCGTAAACAGAAACACGTCGACGA TCTAACGGCTCAGATCAATCAGCTTTCAAGCGACAACCGTCAGATCTTGACGAGTCTCACCGTCACATCTCAGCTTTACATGAAGATCCAAGCCGAG AATTCCGTTTTGACCGCTCAGATGTCAGAGCTAAGCACCAGACTCGAGTCGTTGAACGAGATCGTCGATCTCGTGACGACGAACAATGGTGGTGCA GGATTCAGTGGTGTCGATCAGATCGACGGCTGTGGATTCGATGATCGTACGGTTGGGATTAATAGCGACGGATATTACGATGATATGATGGGTAGC GTTAATCATTGGGGTGGTTCGGTTTACACTAACCAACCCATCATGGCTAATGATATCAACATGTATTAAGTTAAATTTAATTATAAAAAACTAGTATTAT
GCT-004C01	AT4G25170.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT5G61490.1); similar to putative protein [Oryza sativa] (GB:CAC39077.1); similar to Os02g0657700 [Oryza sativa (japonica cultivar-group)] (GB:NP_001047631.1)	GGGAAATCCTTAAAGACTCCTGCATTTTTAATCTTATCCATCTCCTCGAAACCATCACACTGTTGGAAGAAACCTAAGAAATAGCAAAATCCAACAGA CCCATTACTCCTATTATTGATCAGACTCGGTTAGACCAAAAGACAAAACTGATCACCGAGTGGAAACGTACGAAACCTGGTCGGAAGTAAACGAATT TATATTGTCTTAATATGTTTGGTGGAGGAAGAGGACCCATGGGCGGCGGCGGAGGGATGTTACGCGCCGCCGGCCGAGCGATGACGAGGACAGG CGTAGCCAACGGCGGAATTCAAGATCCCTTTGCTTCATCACCGTCGTCTTCGTCGTCTTCTACGGCTGGAAACGCCTCTGTCTCGCATGCCCAGAA ACTGGGATCTTCTTCTGGGTCGAGCAATCTGATGATTTCGGCAGCGTCAGGGTCGCCGTTGAATCTACCGGTGGCTGCAACCTCCGGATGGAACG GAGGAGCTTTTTCGTTTATAAATTCCGGTGCTTATGAAGACTTTGAGTGGGTTTCGGAGGAAGGAACCGAAGAAGATGACTCTGTTTTTGGCTCTGT TCCCTCTGTTGATGAAGTCCAAGATGCTGTTTCTGCTCTCCAGCAGGTCTTCGATGGTAGCTCGTATCCTCAGCTGGTTAGAGACAGATATGAGAGC TATCCGGAAAATGGTGGTGGAAAGCAGAGCCCCATAGCCACAGGAATGGTTCATCAAGTTCCTTCATTTGGGTCAGATTTGGACTGGATGGAGCCT TCAATGCAACTTTGCCAATCAAGAGTCTTACAGCCTCATGCTTATGATCAGGTTTACAATGCTTTTGACCTACTCCGAACCGAACCATCCGTCCAGAG AATGGTAATATCATTGTCATCTGACAAATCAGTGTGGGAGGCTGTGATGAACAACGAGGTAGTGCGAGAGATTAAGGAGCTGTACAACAATGGCATA AGTAAAGATGAGGAGAGTTCAGATGACACTCCCGGAGAGAATAACGCAGCAATGGGTTTCATAAAATGGATATTTGATAACACAATGGTTAAGGCCA CGGAAGTGTTTGCCAAGATAACAAAGGTCGTGGTCGAGCTCTTCAATACTCACAATGACGATGGTGTTAACAGGAAGGGGAAAGATGCCAAATTCA ACAATTGGCTTGAGGAAAAGCTGATGACTTCGGTCTTGCTCTCCATCGTGGTCCTGCTGGTCGTGATGGTGTCCCGAGCCTGCAACAAGTCTTGAT
GCT-004C03	AT3G05840.1	ATSK12 (Arabidopsis thaliana SHAGGY-like kinase 12); protein kinase	GGAGAGAGAGAGAGGAAGAGAGGGAGAGGAAGAGAGAGAGAGAGAGAGGAAGAGAGAGAGAGAGAGAGAGAGAGGAAGAGAGATT CATCATCAACCTATCTCCCTCCTTCCTATGGATCTACTCATATCTTGATTCTTCCACCAATTTCTCCGTTTTCTTTGATCCAAATTTCTGGGTTTCCCG GTTGAGTTTTTGATCTGATCGAGATTTGAAGAGTGACCAAGGAAGAATCATTTTTTTCACAAATTCTTCTGCAATTTTTTGTATCCTGGAATGGCCTCG GTGGGCATAGAGCCTAGTGCCCCGGTTAGAGATACTGCTGGAAACGCGACTGATGTTGATAGATTACCTGAGGAGATGAATGACATGAAAATTCAG GATGATAAAGAAATGGAAGCTACAATCGTAAATGGCAATGTGACAGAGACTGGCCATATAATAGTAACTACTATAGGTGGAAGAAATGGCCAACCAA AACAGACAATCAGTTACATGGCAGAGCGAGTTGTTGGGCATGGCTCTTTTGGCGTTGTGTTTCAAGCGAAATGTTTAGAAACAGGAGAAACTGTGGC TATAAAGAAAGTTTTGCAAGATCGAAGGTACAAGAACCGTGAGCTTCAAACAATGAGGCTACTTGACCGTCCAAATGTGGTGTCTTTGAAACACTGC TTCTTCTCAACAACCGAAAAAGACGAGCTTTACCTCAACTTGGTCCTTGAATACGTTCCAGAAACAGTACACCGCGTTATCAAACACTACAACAAACT TAACCAACGAATGCCTCTCGTTTACGTCAAACTTTACACGTATCAGATTTTTAGGTCCTTAGCCTACATTCACCGTTGCATCGGCGTGTGCCATCGCG ACATAAAACCTCAAAACTTGTTGGTAAATCCACACACTCATCAAGTGAAGCTATGCGATTTTGGAAGTGCGAAAGTATTGGTAAAAGGAGAGCCAAA CATTTCATACATTTGTTCGAGGTATTACAGAGCACCCGAACTCATTTTTGGAGCAACCGAGTATACTACAGCCATCGATGTCTGGTCTGCAGGATGT GTTCTCGCCGAGCTTCTTCTTGGGCAGCCATTGTTCCCGGGTGAGAGCGGTGTTGATCAACTTGTGGAGATTATAAAGGTTTTGGGAACACCAACA AGGGAAGAAATCAAATGCATGAACCCCAATTACACAGAGTTCAAGTTTCCTCAGATTAAAGCTCATCCATGGCATAAGATTTTCCACAAGCGAATGCC TCCAGAAGCCGTCGATTTGGTCTCAAGGCTTCTTCAATACTCTCCCAATCTCCGTTGCGCTGCTCTCGATGCATTGGTCCACCCTTTCTTTGACGAG CTTAGAGATCCGAATGCACGATTACCCAATGGACGTTTCCTTCCACCGCTCTTCAACTTTAAGCCTCATGAGCTTAAAGGTGTGCCTGTGGAGATGG TGGCTAAGTTAGTACCCGAACATGCGAGGAAGCAGTGTCCGTGGCTCGGTTTGTGATTTATCTGCTGTTACCTGCAAACACGAAAACTAGAGCAAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-004C05	AT4G26080.1	ABI1 (ABA INSENSITIVE 1); calcium ion binding / protein phosphatase type 2C	GGTTCTTTCTTTCTCGTTATATCTGTGAAGAAGCCACAAGAAGTTCTTTAGAAGAAGAAAGGAGAGTCTTCTTTCAACTTTTAGGTAGTTGAATCCAGA AATGGTTTTAGTTAGAAATTAATTGAAGAGAGATATTACAGAATCTTTAAGGGGTCGTAACGAATTACCCACAATCCAGGAAACCCTGAATTGAAATT CAATTCATTAATTTCTTTTCTTTTGCTCTGTGGTGATTCTCCCGGGAAAAATTTGGGTATCTCTATCTGATTCTTGCGGTAGCCAAGGTTCCTTTTTTT GGGGGCAGTCATGGGTTTCTTGTCTGCATCGCTTCTAATAAAGTAGTTCTCTTAAATTTCTGTAGAAATCTGTCGAATTTTCATTTTTCTTCCATTAGA GCTCGTTTTATAGATCAACCATCTTTACAACAAAAAAAAAGCTCAAAGCTTTGCAAATTTCCGAGAAGTCAAGAGTTGAGATTCCATCAATGGAGGAA ATATCTCCGGCGGTTGCTATACCTTTCATGCCTTTCCCCGAAACCCAGATGGAGTTCGCAGGGATCATGTTGGGTAAAGGTTATTGCAACGGCCAAT ACTCAACCCAAGATTCCGAGAACGGCGATTCAAGGGTTTCGTTACCGGAGACTTCGTGCTCTGTTTCTGGGTCTCATGGAGCTGAATCTAGGAAAG TTTTGTCCTCTCGGATCAATTCCCCTAACTTCAACATGAAGAAGAAATCATCGTCGTCATCGTCAGATATAGTCGCTGATATCGCCGCCGGAGGGGA GATCAACGGATCAGATGAGAGATCGACGGTTCAGAGCGAGAAGAAGATGATCAGCAGAACAGAGAGCAGGAGTCTGTTCGAATTCAAGAGTGTGC CTTTATACGGAGTGACTTCGATCTGTGGAAGAAGACCGGAGATGGAAGATGCTGTCTCCACGATACCTAGATTCCTTCAATCTCCGACTAATTCTCT GTTAGATGGTCGTTTCAATCCCCAAACAACCGCTCATTTCTTCGGTGTCTACGACGGCCATGGCGGTTCTCAGGTAGCGAACTATTGCAGAGAGAG GATGCATCTGGCTTTAGCGGAGGAGATAGCCAAGGAGAAACCAATGCTCTGCGACGGAGACACGTGGCAGGAGAAGTGGAAGAGGGCTTTGTTCA ACTCGTTCCTCCGAGTTGACTCGGAGCTCGAGTCAGTCGCACCCGAAACGGTTGGGTCAACTTCGGTGGTCGCCGTCGTCTTCTCGACTCATATCT TCGTCGCTAACTGTGGCGACTCCAGAGCCGTTCTTTGCCGCGGCAAAACCGCGCTTCCTTTATCCACTGACCACAAACCGGACAGAGAAGATGAAG CGGCGAGGATTGAGGCAGCCGGAGGAAAAGTGATCCAGTGGAACGGAGCTCGTGTTTTCGGTGTTCTCGCCATGTCAAGATCCATTGGCGATAGA TACTTGAAACCGTCGATCATTCCCGATCCGGAAGTGACGGCTGTGAGGAGAGTCAAAGAAGATGACTGTCTGATACTGGCCAGTGACGGAGTTTGG GATGTAATGACGGATGAGGAAGCGTGTGAGATGGCGCGGAAGCGGATTCTGTTGTGGCACAAGAAGAACGCGGTGGCTGGAGAGGCGTCGTTGC TCACCGATGAACGGAGAAAAGAAGGGAAAGATCCGGCAGCGATGTCTGCGGCTGAGTACTTGTCGAAGCTGGCGTTGCAGAGAGGAAGCAAAGAC AACATAAGTGTGGTGGTGGTTGATTTGAAGCCTCAGAGGAAATTCAAGAGCAAACCCTTGAGCTGAGGCAGAGGATCCCTTTTTCTTTATTATTTTAA
GCT-004C07	AT1G55210.1	disease resistance response	GATTCCTTTATATAAACAAACCTATCCATAGTAACCAAACCACAAACAAACACATGGCTAAGCTCATTTTCTTCCTCGCCGTCCAAATCCTTCTCCTCG CCGCCGTTTCCTCAACCAGAGACGACGGAGAAAACTTCGCCAGAACCATAGATCGGAAACTCCTTGGTCTACACAAGAAAGAGAAACTAACCCATTT CAAAGTCTATTGGCACGACATCTTAAGCGGTCCAAACCCAACCTCCATTATGATCCAGCCACCGGTTACAAACACTTCCTACTTCGGAGCAATCTCT ATGATCGACAACGCTTTGACGGCGAAAGTTCCGATGAACTCAACTGTGTTGGGCCAGGCCCAAGGCTTTTACGCTGGAGCGGCCCAAAAGGAGTT GGGTTTTCTAATGGCTATGAATTTTGCTTTTAAGACAGGGAAATACAACGGAAGCACTATCACGATTCTTGGTCGGAATACGGCGATGTCGGAGGTC AGAGAAATGCCGATCGTCGGAGGAAGCGGTCTTTTCCGATTTGCTAGAGGCTATGTCGAGGCTCGAACAAAGTGGTTTAATCTCAAGAACGGTGAT GCTACTGTTGAGTATAGTTGTTATGTTTTGCATTATTGATGTTTTTGTCGTATTTTTTTTTATATTTAGTTTACGAGGTAATAATAAAACGGTTTTTTAAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-004C09	AT5G66730.1	zinc finger (C2H2 type) family protein	GTGGCTCCTTTGTCTCGGACAAACCAAAGAAAAGAAAGAAAGAAAAAATAGAAGCTTTCACACAAAGTTTCAGAAGCCGCCTTATTTTTTTTCTTCGG TGATTCTTTAGAGTGAGAAAGAAAGGATCACAATCACTTTGTTCTGGAAGAAGCCGTAAGTACGGATACTCATCTCCGGTGGAATTTTAGCCGTTGG ATCAGATCGGTGGATGGAGGAAGCGTGTGGAGAGAGTTCTGGGTTAAATGATTAGGAGATTTCTTGGGTAATGAAGTTCTGATTTTTATTTTTCCTTT TTTTAATCTTTTGGGGAAGAGAGGTCAGAGTGAGTTATCAGAAAAGTTTGGTGGCGGAAAGGGGAAAAAAGGAGGTTTTTTTACGAAAAGCAGATTG ACTGGTAGCTGAAGCAGAGAGATAGATAGAGAGAAGAAGAAGAAGCAGTTGATAAACCTTAGATTAAGCTGAGATTTGTCTCTTTTTGTGTTGAATCT GTGAGGGAAAAAGGTCGAAATTTGTGTCTTTGCACATGCCGGTTGATTTAGATAACTCCTCTACGGTTTCCGGCGATGCAAGCGTCTCGTCGACCG GAAACCAAAACCATCCTCCGAAATCGGTCGGGAAAAAGAAACGGAATCTCCCGGGAATGCCAGATCCAGACGCGGAAGTGATAGCCTTGTCACCTA AAACTCTTATGGCAACAAACCGATTTGTCTGCGAAATCTGCAACAAAGGGTTTCAACGCGACCAGAATCTTCAGCTTCATCGTCGTGGTCACAATCT ACCATGGAAACTTCGACAGAGATCGAGTAAAGAAGTGAGGAAGAAGGTCTATGTTTGTCCAGTGGCAGGGTGTGTTCATCACGACCCGTTACGTGC TCTTGGAGATCTCACTGGAATCAAGAAGCACTTTTGTCGGAAACACGGCGAGAAGAAATGGAAGTGCGAGAAATGCTCGAAGAAGTATGCTGTTCA ATCAGATTGGAAAGCTCATTCAAAGATTTGTGGCACCAAGGAGTATAGATGCGATTGCGGAACTCTGTTTTCTAGAAGAGATAGCTTCATAACGCAC AGAGCTTTCTGTGATGCGTTGGCTGAAGAGAGTGCCAAGAATCATACTCAAAGCAAGAAACTTTATCCAGAAGCAGTCACAAGGAAGAATCACCCAG AGCCTGACCAGAAATCTCCAGCCGCCGTTGATTCTCCTCCTCCTCCTCCTTCTCCGCCGTCAGTTGCTCTAGCTCCGGCACCTGCTATTTCGGCTG ACACTGAGCCTGCCAAAACCGTATCTTCCTCGGTTTTGCCGATTCGGGATACTTCAGAATCTCCAGAAAACAACCCTCCTGAAGTCATCATCGAGGA AGCTCCAAGAACAATCGGTTTCAATGTGAGCTCATCGGCTCTAAGCAACGATCATAGTAGGAACAACGGTGCATACGCAGGGATGTTTGCATCATCT ACAGCTTCGCCTAGTTTGTATGCTTCGTCAACTCCTTCCCCAAGTCTGTTTGCACCATCTTCCTCCATAGAACCCATCTCTCTCTGTCTCTCGACGAA TCCTTCTTTGTTCGGAACAACAATACAAGAAACACCACATTTCCTGACCCCTCTTCCCCCTCAACCCGCAATGTCAGCAACCGCATTGCTCCAAAAA GCTGCACAAATGGGCTCCACGGGTTCAGGAGGTTCGTTGCTTCGCGGGTTAGGCATTGTTTCAACTACTTCGTCATCCATGGAACTTAGCAATCATG ACGCGGCTTCCTTAGCTCCTCCTGGTCTTGGACTGGGACTACCTTGTAGCAGCGGTGGTAGCGGATCGGGTCTGAAAGAGCTCATGATGGGTAAC
GCT-004C11	AT1G18030.1	protein phosphatase 2C, putative / PP2C, putative	GGTCCGGGAAACAACAAATTGAGGGAAACTCAGCGAAAGAAGCTGGCTTGGTTGCAATGGAGAAACCGAACCACAAACACGCGTCTGACTCGTTTT CCAGCGAGGATTTGATCTCGCCGGTGAAGAAGGCCAAGAAGTCAGAGGAGACCGTATGTGATACTAAAGATCCGAAAATCCTCAGTGGTGCAGAA GACGAGAAGCAGGAGATTGCCGGCGGAGAAGAAGCCATAGCCGCCGTTGATAATAGAGCGGCGGAAGAAGATAGCTCGAGCTGTGTAAGTCAAG AGAAGAAGGGGTTTCTAGTTGAAGCTGGTGTTGCTGAAGACAAAGGAGCCAGGCATACAATGGAAGACGTTTGGGTTCTTTTGCCCGACGCTTCTT TGGATTTCCCAGGGAAACTAAGGTGTGCTCATTTTGCCATTTATGATGGGCATGGTGGTCGTTTAGCTGCAGAGTTTGCTAAGAAGCATCTTCACCT TAACGTTCTTTCAGCTGGGTTACCACGTGAGTTGGTCTGTTTAACTTGGTTCTGATTAAGAATGTCTTTGTCGCAAATCAAGACTGTTTTGCTGTCACT CATTATGTCTCACTTCACCTTCTTTCTCGTGCTTTTCTTGGTCCAAATGTTCGATTGCTACCTCAGCTGGACGTTAAAGTTGCTAAAAAGGCCATACTC GAAGGTTTTCGGAAAACTGATGAGTTGCTCCTGCAAGAAAGTGTTTCAGGGGGATGGCAAGATGGCGCCACAGCAGTGTGTGTCTGGATAATTGAT CAAAAGGTATGACCATGGGGATGACAAGTGGTGGGGTGCTTGTGACACTTTTTTCTACTTGGAGTTCACAAAATTTGCTCAACCTTTTCTCCACTATT CACACCCATAAACCCTCATGCATTTTAGGTTTTTATTGCCAATATTGGTGATGCTAAAGCTGTTTTAGCACGATCCTCTACCGCCAACGAATTGGAGA ACCATACAGAAGCATGTAATCCACTCAAAGCAATTCTTCTGACAAGAGAGCACAAAGCAATATATCCGCAGGAGCGTTCTCGCATTCAAAAGTCAGG TGGTGTTGTAAGCTCAAATGGACGGTTACAAGGGCGTCTTGAGGTTTCTAGGGCTTTTGGTGATCGCCAATTCAAGAAGTTTGGTGTTACTGCAACT CCAGACATTCATGCATTTGAATTAACTGAGAGAGAAAACTTCATGATTCTTGGTTGCGATGGATTGTGGGAAGTGTTTGGAACAAGTGATGCTGTTG GGTTTGTTCAGAAACTCTTGAAAGAGGGCTTGCCTGTAAGCACAATAAGTCGTCGTCTTGTTAAGGAAGCTGTGAAAGAACGTAGTTGCAAGGACAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-004C13	AT3G59380.1	FTA (FARNESYLTRANSFERASE A); protein prenyltransferase	GGTAAGACAACCTTCGTTGTTCTTCTTTCCTCTGCGCTCGAATAATCCTTCCTTCGATTTTCCCACTGAGATCCATATTTGCTTTCGCATCCGTCAGA GAACATCAGAAAGTGGGTTTCTTCATCGCCGGTAAGAAACGCAGAGCAAATGGATTCCGACGATACCGTGCCACTAAGCGAGCGGCCCGAGTGGT CGGACGTGGTCCCGTTGACTCAGAACGACGGCTCGAACCCGGTGGTTCCGATCGCCTACAAGGAAGAGTTCCGCGAGACCATGGATTACTTCCGT GCAATTTACTTCTCCGACGAGAGATCTCCTCGCGCACTACGACTCACTGAAGAAACCCTCCGCTTAAACTCCGGGAACTACACAGTCTGGCATTTCA GGCGACTAGTACTCGAGGCGCTTAATCACGACTTGTATCAAGAACTCGAATTCATCGAGCGCATCTCTGAAGATAACTCTAAGAACTACCAATTGTG GCATCATCGGCGATGGGTTGCTGAGAAACTGGGTCCTGATGTTGCGTGGAGGGAACTTGACTTTACTCGGAGGGTACTTTCACTTGATGCCAAACA TTATCATGCTTGGTCACACAGGCAGTGGACACTACAAGCATTAGGAGGATGGGAAAATGAGCTTGATTACTGTCACGAGCTCCTTGAAGCTGACGT CTTTAACAATTCTGCCTGGAATCAGAGGTATTACGTTATTACTAGATCTCCCTCGTTGGGAGGCTTACAAGCCATGAGAGAATCTGAAGTAAGCTACA CAGTCAAAGCCATTTTAGCCAATCCTGCAAACGAGAGCTTGTGGAGATACCTGAAAGGTCTTTTCAAAGACGACACAGAGTCCTGGATTAGTGATCC TAGTGTTTCCTCAGTCTGTTTGAGAGTTCTCTCTCGTACAGATTGCTTCCATGGATTTGCTCTGAGCACCCTTTTGGATCTTCTATGCAACGGATTGA GACCAACCAGCGAGCATAGAGACTCGGTGAAAGCTCTAGCTAGTGAAGAACCAGATACTGACTTGGCCAATTTGCTGTGTACCATTCTCGGTCGTG TAGATCCTATAAGAGCTAACTATTGGGCATGGAGGAAAAGCCAGATTACAGTGGCAATGTGACTAATTTACACATTTTGATTTTGATTTTTTTTCATTT
GCT-004C15	AT3G12100.1	cation efflux family protein / metal tolerance protein, putative	GTCTGTAGTTAGAAATTTAACTGGAATTTTTACACATTCAGGATCGAACTAAAAAGAAAAAGATGGAGAGATCCATTTCCTTCGATCATCGACGCGAT AAAGAAGTCCCGAATGATCGGAGCGGCGATGTCGGATATACTGCCAATGACCGGAGACTTGCTTACTCCCGCTCGTTTCAGCAGTCTCACGGCCC GCGCACGCCGGCGGTCACTGATGCGGCTAAGCCTTTTCTCGATAGGACGGTCTCCAGCATCGATATGCCGCCGGAGATATACTCCGTCGACGGAA ATGATGTTTTCTCCGGAGAAGGGAAAGCAGCAGAATTAGGAAAAGTATCTGTTTTGCATATGGTTTGGGTGATTTTTGGGGTTCTGAGAAGTGGAAA TCGACAGATGAAGAGGCTGTTTCTGCTGATTTCGCTTAACGTGGCGTATTCTACCACGGAGCTCTTAATTGGGCTCTTGACTGGGCGCGTAGGTTTG GTTTCCGATGCATTCCATCTGACATTTGGATGTGGTCTCTTGACATTTTCTTTATTTGCAATGGCAACTTCAAGGAAGAAGCCTGATCATGCTTACTCA TATGGGTACAAAAGACTTGAAGTGTTATCTGCTTTCACTAATGCTCTGTTCCTTATGTTCATGTCATTCTCCTTAGCTGTGGAAGCTCTTCATGCATTT ATACAGGATGAATCCGAGCACAAGCATTATTTGATTGTATCAGCGGTAACAAATCTGCTGGTGAACCTACTAGGTGTTTGGTTCTTCCGGAATTATGC TCGTATCAATATTGTGTACAGAAAAGCAGAAGATATGAACTACCACTCCGTTTGTTTGCATGTCATAGCAGATTCCATCCGCAGTGCAGGTTTGATAC TGGCATCTTGGCTCCTCTCTCTCGGGGTTGAAAATGCAGAGGTCCTATGTTTGGGGTTGGTATCGGTTACAGTGTTTATGCTTGTTATGCCAATCTT CAAAGCCACTGGTGGTGTCTTGCTTCAGATGGCACCTCCAAACATTCCTCCTTCCGCATTAAGCAAATGCTTGCGACAGATTACTTCTCGAGAAGAT GTCATGGAGGTTTTACAGGCACGTTTCTGGGAGGTTGTGCCTGGTCACACTGTTGGCTCACTCAGAATCCAGGTGAAGAGCGGGATAGATGAAAGG CGTTTACTCGAATTTCTCTATCATTTATACGATCATTTGCGTCTACAACACTTCACGCTCGCAAACTGATTACACGCTCACGTCTCGATCTACCTTTTCCA
GCT-004C17	AT1G17880.1	nascent polypeptide-associated complex (NAC) domain-containing protein / BTF3b-like transcription factor, putative	GGCCCGCGTCTCACTTCTTCTTCTCTCTTGATTTCTTCTTATCGCTTTTCACTCTCGGAAGAAATTAGAACCCTAATTATCAAATCTCAAGATGAATCG GGAGAAGTTGATGAAGATGGCTAACACTGTCCGCACTGGCGGAAAGGGTACAGTCAGAAGAAAGAAGAAGGCTGTGCACAAGACCAATACAACCG ATGACAAGAGGCTCCAAAGCACCCTCAAAAGAATTGGAGTTAATTCCATTCCAGCAATTGAAGAAGTTAACATCTTCAAGGATGATGTTGTTATTCAG TTCATCAGCCCCAAGGTTCAAGCTTCAATTGCTGCAAACACATGGGTGGTTAGCGGTTCGCCTCAGACAAAAAAATTGCAAGATATTCTTCCTCAGA TTATCAGCCAACTCGGACCAGACAGCATGGACAACCTGAAGAAGCTTGCAGAGCAGTTCCAGAAGCAAGCTCCTGGTGAAGGTAATGCCTCAGCAA CCATACAAGAGGAAGATGATGACGATGATGTCCCAGATCTTGTAGTTGGAGAGACATTCGAAGCTGCTGCGGAAGAGAAAGTAGCTGCTTCTTCTTA GAGAGAAAAGAGCGAGAGACCACAACAACAACAACAAAACCGCACTTGAATTTTTACATATCTTTATAAAAAAGCTGTTCGCTCGATCTTTTTGTAGT GTTTCCGACCAGATTCTTGTTTTCCCAGATAATTATTTAAGGTTTTATCCAATCGATCTTTGAATCAGGTTCTCTTTGCTTCTACTTCACTGTGGATTG
GCT-004C19	AT5G57560.1	TCH4 (TOUCH 4); hydrolase, acting on glycosyl bonds	GAAAATCACAAACCAAAACCCAATAGAAGAAGAACAACAACAAACAAATAAAAACCCCAAAAACAAAACTCTAAATGGCGACCAATTACTTCCTTCCT CTGTTTCTTTCTCTTATCATCTCCTCTGTTTCAGCTAATTTTCAAAGAGACGTCGAGATAACTTGGGGAGATGGACGTGGACAGATCAAGAACAATGG AGAGCTTCTCACTTTATCTCTTGACAAATCCTCTGGATCTGGTTTCCAGTCCAAAAACGAGTACTTGTTTGGTAAAATCGACATGCAAATGAAGCTCG TCCCTGGAAACTCCGCAGGAACAGTCACTACACTCTACCTGAAATCACCTGGAACAACATGGGACGAGATTGACTTCGAGTTTTTAGGGAATCTAAG TGGAGATCCTTACACACTTCACACGAATGTCTACACACAAGGCAAAGGAGACAAAGAACAGCAATTCAAACTCTGGTTCGACCCAACAGCTGATTTC CACACTTACACGATTCTGTGGAACCCACAACGAATCATCTTCACCGTCGATGGAACTCCGATCAGAGAATTCAAGAACATGGAATCTGTAGGCACTC TGTTTCCCAAGAACCGACCAATGAGGATGTACTCTAGTCTCTGGAACGCAGATGACTGGGCCACGAGAGGTGGTTTGGTGAAAACCGATTGGTCTA AAGCTCCTTTCACTGCTTCGTACCGTGGATTCAACCAAGAGGCTTGCGTTTGGTCTAATGGCAAGTCTTCTTGTCCAAGTGGCTCGAAACAGGGGAC TACTGGCTCGTGGCTGTCACAGGAGCTTGACTCAACTGCTCAAGAGAGGATGAGATGGGTGCAGAGAAACTACATGATCTATAATTACTGTACCGAT TCGAAAAGGTTCCCTCGAGGCCTTCCTAAAGAGTGCTTAGCTGCGTAGAGAGTAAAGAGTTGAGAAGAGAAACAAAAAAGTCTAGTTTATTATTTTTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-004C21	AT5G65410.1	ATHB25/ZFHD2 (ZINC FINGER HOMEODOMAIN 2); DNA binding / transcription factor	GGTCCAGAGAGAGAGAGAGAGAGATAGATAAAGAGAGAAGATAAAATCTTTGATGTCCACAGTCTCTCTCTCTCTCTCCTTCTCCTTGTTGAACTTC CTCTCTCAAAAACGACGTAGTTTTCTCCATCTCCGCTAGCTTTAATGGAGTTTGAAGACAACAACAACAACAACGAAGAAGAAGACGAAATGAATCTT CACGAGGAAGAAGAAGACGACGCCGTTTACGACTCTCCTTCTCTTCCTCCTCCTTCTCGTGTCCTCAAGGCCTCCACAGAGAGCCCTGAAACCGCC GGAACAACTTCCACCGGCGGTGGAGGATTCATGGTAGTTCACGGAGGTTCCGGAGGAAGCAGGTTTAGGTTCCGTGAGTGTCTCAAGAACCAAGC GGTGAACATAGGAGGACACGCGGTGGATGGTTGCGGCGAGTTTATGCCAGCTGGAATCGAAGGTACCATCGACGCGCTAAAATGCGCCGCTTGTG GCTGTCACCGTAACTTCCACCGCAAGGAACTACCTTACTTCCACCACCACGCGCCGCCGCAACAGCCTCCTCCTCCACCGCCGGGATTCTACCGTC TTCCAGCTCCGGTGAGTTATCGACCACCACCGTCACAAGCTCCTACTCTTCAGCTCGCTCTTCCTCCTCCACCACAAAGAGAGAGATCAGAAGATC GAATGGAGACTTCTTCTGCGGAGGCAGGAGGAGGAGGAGGGATTAGGAAGAGGTTTAGGACTAAATTCACGGCGGAGCAGAAAGAGAGGATGTTA GGTTTAGCTGAGAGGATTGGATGGAGAATTCAGAGACAAGACGATGAATTGATTCAGCGATTTTGTCAGGAGACTGGAGTTCCCAGACAGGTTCTTA AGGTTTGGTTACATAACAACAAACACACTCTTGGTAAGTCGTCGTCGCCACCACTTCATCATCATCATCATCATCAGAATCCAACTCCTCCTCCTCCA CAGTCTACTTCGTTTCATCATGAACAAGACCAACCATGAATCTTGCATTTTCTTGATCACTACTACTAGGGTTTTAATTTTTAGCTAATTTGTTACTTGA
GCT-004C23	AT4G21570.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT1G11200.1); similar to unknown [Medicago sativa] (GB:AAZ32885.1); similar to Os07g0506000 [Oryza sativa (japonica cultivar-group)] (GB:NP_001059733.1); contains InterPro domain Protein of unknown function DUF300; (InterPro:IPR005178)	GACCAAGAGAGATCTGATTCTCATTCTAATCACACTATCACTGTGTCTCATCTTCGTTTCTTCCGTAGTTTTTTCACTCTGGTATAGTGAGCAAAAACA ATGATGGACCTAACGAAGCTGAAGCCTCCACAGATCACTTTTTATTGCTCTGCATTCTCTGTCTTGATCACACTTCATTTGACGATACAGCTTGTATC GCAGCATCTCTTTCACTGGAAGAACCCTAAGGAACAAAAAGCTATACTCATCATTGTTCTTATGGCTCCTATCTATGCCGTTGTTTCCTTTGTTGGTTT ATTAGATGTCAAAGGAAGTGAGACCTTCTTCCTGTTTCTAGAATCCATCAAGGAATGCTACGAAGCTCTCGTCATTGCCAAGTTCTTGGCATTGATGT ATAGTTACTTAAACATATCTATCAGCAATAACATCGTACCCGATGGAATCAAAGGAAGAGAGATTCACCATTCTTTCCCAATGACTCTTTTCCAGCCTC ATGTAGTCCGTCTGGATCATCGCACTTTAAGACTTTTGAAATACTGGACATGGCAATTTGTTGTCATCCGACCCGTGTGCTCGATCTTGATGATAGCT TTACAAATCATCGGGTTTTACCCTTCTTGGTTGAGCTGGACATTCACGATCGTTCTCAATCTCTCGGTGTCTCTGGCGTTATACTCGCTTGTGATTTT CTACCACGTGTTTGCCAAAGAGCTTGCACCTCATAATCCACTGGCAAAGTTCCTCTGCATCAAAGGAATTGTCTTCTTTTGCTTTTGGCAGGGAATAG CACTAGACATTCTGGTGGCAATGGGAGTCATCAAATCTCACCATTTCTGGTTGGAGGTAGAACAAATCCAGGAAGCTATTCAGAATGTGTTGGTATG TGTTGAGATGGTTATCTTTGCCGCTGTGCAGAAGCATGCTTATGATGTTGGTCCTTATAGCGGCGAGACCAAGAAGAAACTCGATAAGAAGACCGAA TGATCATGGCCGCCCGGTTTGAGTGGAAATTATCGACTGGTTTCATCAGCCATTTACATATAGCAAATCTAGAGTTTGGAGATTGCTTGTCATGATTG
GCT-004E01	AT1G67660.2	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT1G13810.1); similar to unknown protein [Oryza sativa (japonica cultivar-group)] (GB:BAD05466.1); similar to Os08g0236700 [Oryza sativa (japonica cultivar-group)] (GB:NP_001061316.1); contains domain no description (G3D.3.90.320.10); contains domain ALPHA/BETA HYDROLASE RELATED (PTHR10992:SF3); contains domain ALPHA/BETA HYDROLASE	GCTTAAAGACACCTCTCTCTGTCTTTTGTCTTGTGTGATGACGTGATTTTTTGATGATGAGGGGAGTTCAAGTACCGTCTACTAAATCCATTTCCTCTA TTTCTTCTTCTTCGGCTGGGAATGTCGGAGTTCTCTCCCTGAAGTGTGGTACTGCCTGTGGTTTCTGTAGTGTCCTGAAGCCGAATAAAGTTGCTTT CAACACCATGATTCTTTCAGCTATGAGGACTTGCTCACACACTCTTCTCCCTAAATTAACCTCTTCGAGAAAAAGGTTGGGGAACAGAACTTCACAGT CCTTTTCAACCACTTCCTTACAAGTCATTTCTCAAGCTAGTTCACCCTTTGTTCAGTCGTTAGTTGTGTCAAACAATCTCTCCCCATCCGAGATCCCAC AGAAATCACAAGAATGGTTTGCTCTACGGAAAGACAAGTTAACCACGAGCACATTCAGCACAGCCCTCGGCTTCTGGAAAAAGAACCGTCGTTCTGA GCTCTGGCACGAGAAGGTATACGACTCAGAGTCACGAGTCGTGGAGGATTCTGCGAGGTTTGCAATGAACTGGGGTGTACAGATGGAGTCAGCTG CGATAGAGAGGTACAAAAGAATCATGGGCTGTGAGGTGGGCTCAATGGGATTTGCTCTTCACTCACAAGAACAGTTTCACTGGCTTGGTGCTTCCC CTGATGGAGTTCTCGACTGTGGTATCTTAGAAGTGAAGTGCCCTTATAACAAAGGGAAAACAGACACTGTGTTACCATGGTCCAAGGTTCCGTTTTA TTACATGCCTCAAATGCAGGGTCAAATGGAGATAATGGACCGTGAATGGGTCGACTTGTACTGCTGGACACAGAATGGGAGCACGGTTTTCCGTGT GATGAGAGACCGAAGCTATTGGAGGATAATACATGAGGTTTTAAGGGAGTTTTGGTGGGAGAATGTGATTCCTGCAAGGGAGGCTTTGTTGTTGGG GAAAGAGGATGCAGAGGTGAAAAGGTATGAGCCAACATCTACGCATAAGCGTACAGGGCTTGCCATTGCTAAAAGCATAAGTTTGGCTGCGGAATC GAAACTAGTGTGCAGAGAAATCGCTGATCACGTCGAGTTCTTTTAGATGGGTTTAGAATCATTTGATTCATGAACTGGTGATTGATTCATCTTATCATT

#Thalophila	AGI_CODE	Description	Sequence
GCT-004E03	AT5G44070.1	CAD1 (CADMIUM SENSITIVE 1)	GGAAAAAACAGTTCGTGAAAAAGTTCTCTTGCGCATCCTTTTCGAATCCACTAACGAATCTTCCACCGCAAGTCTGTAACTTTATATTAAACCCTCTG AGAAACCCGTGAAAAAATGGCTATGGCGAGTTTATATCGGCGATCTCTTCCTTCTCCTCCGGCGATTGATTTTTCTTCAGCCGAAGGAAAGCTAATC TTCAATGAAGCGCTTCAGAAAGGAACCATGGAAGGATTTTTCAGGTTGATTTCTTATTTCCAGACGCAGTCTGAGCCTGCGTATTGTGGTTTGGCTA GTCTCTCAGTTGTGTTGAATGCTCTTTCTATTGATCCTGGACGAAAATGGAAAGGGCCATGGAGATGGTTTGATGAATCAATGCTGGATTGCTGTGA GCCACTTGAAGTAGTGAAGGACAAAGGGATTTCATTTGGGAAAGTTGTGTGTTTGGCTCATTGTTCAGGAGCAAAAGTGGAAGCTTTCCGTACGAAT CAGAGCACCATCGATGATTTCCGCAAACTAGTAGTGAAATGCTCCACTTCTGATAATTGCCATATGATCTCGACATATCACAGAGGAGTATTCAAGCA GACTGGGACTGGTCACTTCTCACCTATAGGTGGCTACAATGCTGAGAGAGATATGGCTTTGATTCTTGATGTTGCACGTTTCAAGTATCCTCCTCATT GGGTTCCTCTTAAGCTTCTTTGGGAAGCCATGGACAGCATTGATCAGTCAACAGGGAAACGTAGAGGGTTCATGCTTATATCTAGACCCCACAGAGA ACCTGGTTTGCTGTATACTCTGAGCTGCAAGGATGAAAGCTGGATAAGCATAGCACAGTATTTGAAGGAAGATGTTCCTCGTCTTGTAAGTTCACAG CATGTTGATAGTGTGGAGAAAATCATATCAGTTGTGTTCAAGTCACTTCCATCAAACTTCAACCAATTCATCAGATGGGTGGCTGAGGTCAGAATAAC AGAGGACGCAAACCAAAATCTCAGCGCAGAGGAGAAATCAAGGCTCAACTTAAAGCAAGTGGTGCTGAAAGAAGTGCATGAAACTGCACTGTTCAA ACACATCAGTAAGTTCTTATCTTCAGTGAATTACGAAGACAGTCTGACATATGCGGCTGCAAAGGCTTGTTGCCAAGGAGCTCAAATCTTGTCCGGG TGCTCATCGAAAGAGTTCTGTTGTCGAGAAACTTGTGTGAAATGTGTCAAAGGTCCTGGAGAAACCGAAGGTACGGTGGTGACCGGAGTTGTGGTG CGTGACGGGAGTGAACAAAAGGTTGATCTATTGGTGCCATCTACCCAAACTGAATGTGAATGTGGTCCGGAGGCAAATTATCCAGCAGGAAACGAT GTCTTCACTGTGCTTCTGTTGGCTTTACCTCCACAGACATGGTCAGGGATCAAAGACCAAGCTCTCATGCAAGAAATGAAACAGCTCATTTCCATGG CTGCCCTCCCAACTATGCTTCAAGAAGAGGTATTGCATCTTCGACGTCAACTTCAGCTGCTAAAAAGATGCCAAGAGAACAAGGAAGAGGAAGATCT
GCT-004E05	AT3G26420.1	ATRZ-1A; RNA binding / nucleotide binding	GGTGTTTCCCAAAGTTTCTTTGCAGCTTCTCCTCTCTCCAGAAATTAGGTTTCCGTCGCAAAACCACGATCAGATCTCATACTCTCAGCTCTCTCTGC TTGTTTTAGAGAATGTCAGAAGATCCAGAGTACCGCTGCTTCATTGGTGGGCTTGCGTGGTCAACGTCTGACCGTGGCCTCAGAGATGCCTTTGAG AAGTACGGTCACCTCCTTGAGGCCAAGGTGGTTCTTGACAAGTTTTCTGGCCGTTCCCGTGGTTTTGGGTTCATCACCTTTGATGAGAAAAAAGCTA TGGATGAAGCTATTGCAGCAATGAATGGGATGGATTTAGACGGGAGAACAATAACTGTTGATAAAGCTCAGCCACATCAAGGTGGGTCAGGCAGAG ATCATGATGGTGACCGTAGTCGTGGTGATCGCGGATATGACCGTGACCGTAGCCGTCCCTCTGGTGGTGGACGAGGTTCAGGTGGTGGAGATTGC TTTAAATGTGGCAAGCCTGGACATTTTGCAAGGGAGTGTCCTTCTGAAACTAGTAGAGGTGGTGGGGGAAGGTACAGTGGAAAAGACGATAGGTAC AGTGGAAATGATGATAGGTACGGTGGAAAAGAAGATAGGTACGGTGCCAAGGAGGATAGGTATGGTGGGAAGGATGATAGGTACAGTGGAAAGGA TGATAGGTACAGTGCAAAAGACGATAGGTATGGTGCAAAGGATGATAGGTATGGTAGGGATGGTGCTAGGGATGGTGGAGGTAGTCGCTATGGGC CTGATCGCAGTGGAGAACGTTCTGGAGGACGTAGCCGGGATGGTGGCAGCCGTGGAGGTCCAGGAGGTGAGAGGCACAGCCGTGCTCCGTATGA CCGCCCCAGAGCTGGTGGCTTTCACTAGAATTCTTTTCCAGAGGTTAAGGAAAGGAGTGGAAGGTTTCTGCTTTCGGCTCTCTTGTCAAGTGCGAA GTTGAAGTTCCGCTGGATGGTCTGTTTTTCTTCAATGTATTTGGATAGCTCAAGAAAGAAGATGTGTCTCTGTTTTGGCCCTAAACTCAAGAGTCGGC TTTGTTCCTTAAGTGCTCTCCTTTTGATATGTTGGTCCGTATGGAAACCTTGTGGTTTGAGACACAATTTGAGATGTGCTACTTTATGCTTATCATAAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-004E07	AT1G29340.1	PUB17 (PLANT U-BOX17); ubiquitin-protein ligase	GAATCTCTTTTTCGCTTTCTTCTTTCTTCTCTGACTTTTTTTTTTGTTCTTCTTCGTTTTCAATTAGATTCTGTTCTTCGTATATACATCAATCTTTTGTGGA TTTTTATCTTTCGATCTGGATTAAAGGGACGGATTCGGAATCCACGAGAAAATCCCGCCGGATTCTATGGCTACCGCGGCGATATTCTCATCTCTGC GGCGGAGGAGATCGCCGTCACTAGAGGCTTTCTTGGCTCCCGTTGACCTCTCCGGCGTCGCTCTTGTTCAAACCCTAGCTTCAATCTCGACGGAGA TCGTCTCTTGTTTCAGCGGCGTACGATTCTCGTTCCAACGCCGGAACGCTCGTTCCCTGATTCGTAAGATCGAGATATTCGTCGTGTTGTTCGAGTT CCTCTCCGAATCAGGCTGGGGCTCAAGAAGAACCTCCGTCTCCTCCTCCTCCTCGTCGTCGTCGACGGCGTTGCTGTGTCTCAAGGAGCTTTATCT TCTCCTCTACAGGTCCAAGATCCTCGTCGATTACTGCGCTCAATCCAGTAAGTTATGGCTATTGCTTCAAAACCCGTCGATTTCTGGCTATTTCCATG ATTTGAATCAAGAGATTTCGACTCTTTTGGATATTTTCCCTGTCAACGACCTCGGTCTTAGCGACGACATTAGAGAGCAAATCGAGCTGTTGCAGAGA CAATCCAGGAAATCGAGGTTGTACATCGATAACAACGACGAGACGCTACGCGAAACATTCTACACGCTTCTCGACGGATTCGAGAACGGGAAGATA CCGAATCAGGTCGCTCTTAGATCCTTCTTCTTAGAGAAATTACGAATCAGGGATTCGAAGAGTTTCAGAACCGAAATCGAGTTTCTGGAAGAGCAGA TTGTGAATCACGATGGCGATTTAGAGCCCACGGGTTCGGTGATCAACGGGTTCGTGGCGATCACACGTTACTGTAGATTCTTGTTGTTCGGATTCGA AGAAGACGGATTAGAGTGGAGAATCGAGAATCCGAAGAAACCAAGAAAAGGCTTCGTCGCGCAGGAGATTGGCGACACATTCATAACAGTTCCAAA GGATTTCGTTTGTCCGATTTCTCTAGATTTGATGACGGATCCTGTGATTATCTCCACAGGGCAGACTTATGATCGGAGCTCCATAGCGAGGTGGATC GAAGAAGGTCACTGTACTTGTCCCAAAACGGGTCAAATGCTCATGGACTCTCGGATCGTTCCCAATCGAGCTCTCAAGAATTTGATAGTGCAATGGT GCACAGCGAGTGGCATATCTTACGAGTCAGAGTTCACAGATTCCCCAAACGAAGCTTTCGCGTCGGCTCTTCCGACAAAAGCTGCCGTCGAAGCAA ACAAAGCCACTGTCTTTATCCTTATCCAGTATCTAGCGGATGGCTCTGAAGCAGCTCAAACAGTGGCGGCGCGTGAAATCCGTCTTTTGGCCAAAAC CGGAAGAGAAAACCGCGCGTTCATCGCGGAAGCAGGCGCGATACCGCACTTGCGCCGCCTCCTCAGATCCCAAAACGCGATCGCGCAAGAGAAC TCTGTGACCGCGATGCTTAATCTCTCCATATACGAGAAGAACAAGAGCCGGATCATGGAGGAAGACGATTGTTTGGAGTGTATAGTAAGCGTGCTC GTCTCTGGTCTCACGGTGGAAGCGCAGGAGAACGCAGCAGCCACATTGTTCAGTCTCTCAGCAGTACACGAGTACAAGAAACGGATAGCGATCGTT GACCAATGCGTCGAGGCGTTAGCGTCTTTGCTTCAGAACGGGACGCCGAGAGGGAAGAAAGACGCGGTCACGGCGTTGTATAACTTATCGACGCA TCCTGATAACTGCAGTAGAATGATCCAAGGAGGAGGAGTGTCGAGCCTCGTCGGAGCTCTGAAGAACGAAGGCGTGGCGGAGGAAGCAGCAGGA GCTTTGGCTTTGTTAGTGAGACAGTCTCTTGGAGCTGAGGCTATAGGGAAAGAGGAATCAGCTGTGGTGGGACTCATGGGAATGATGAGATGCGG GACACCGAGAGGGAAAGAGAACGCGGTGGCTGCGTTGTTAGAACTCTGTAGGAGCGGTGGAGCCGCCGTGGCGGAGAAGGTGTTGAGAGCTCCG
GCT-004E09	AT5G49230.1	HRB1 (HYPERSENSITIVE TO RED AND BLUE)	GCATCAACAACAACGAGTTCTTCTCATAGCTCTTGCTTCCACTCACTCTCCCATCGTTCTAGGGTTAGGTTTCTTTAATTTAGATTCGATTTCTTCCTA ATCTCAAGAATATTTCCTGTAGATGATTGCATTTTCTTTTCGTAACCTGTAACAATTAGAGGAAATGGAGTCTAATTCGTGGATCAATTGTCCCTCCGT ATTTTCATCATCATCTTCTTCGCGGCGTTACCAGTCTCGATCAGATTTGTATCTGGGAGATGTCGACGGAGAAGAGAACTTGAAAGCAGAGTTTATCT GCCCGTTTTGCGCAGATGAGTTTGATATTGTTGGGCTTTGTTGTCATATTGATGAAGAGCATCCTGTGGAGGCCAAGAACGGGGTCTGTCCTGTCTG CACAAAGAGGGTTGGATTGGACATCGTTGGCCATATTACAACGCAACACGGGAACGTTTTCAAGATATCCTTTTCAAATCTGAATCTCTCTTCTATGT TTTTGTTCAGTTTTGTTCTTATACCACCCTTCATTGCTAGAGTTTGAAATTTTGTATTCCTTGATGAATGAGTAATTTACGTGCAGCGAAGGAGAAGGT TGCGTAAAGGTGGAAATATCTCTGCCTATCTTATGCTTAAAAAGGAGCTTCGAGAAGCAAACTTACAGTCTCTTGGAGGATCTTCCACTTACATTCCC TCATCCAATCTAGATTCTGATCCTTTGCTCTCATCCTTTATTTTTAATTCTCCTTTGGCTAACTCCATCACTGAAGGAGACTCGGTAACAAAAGTTTCA CACAAGGACACCCCTAAAAGCGACATACGACAAGTATCGCTTTCAAATGAAGATCAAGAGAAGACGAGAAAGAGCGAGTTTGTGCGGGGCTTGATG TGGTCAATCATGCTTGAAGACAAGTTCTAATACCCCACTAAAGACCTGGTAATGGTGACTCAAGGAATCATTACACTAGTCTCGATGTATGTAGCAAA

#Thalophila	AGI_CODE	Description	Sequence
GCT-004E11	AT1G28380.1	NSL1 (NECROTIC SPOTTED LESIONS 1)	AAATGGCTTCGCTCCTCTTCTTCTTCTTCTTCTTCATCATCACTCGCCAAAATCTTTTGAACTTTCTTCTTCTTCCCTTGTTTCGTCTCTCTCCTCCTCC TCCTCCACAACCAAGTCGATGGCTTTTAATTTCTCACGCTTCGATGCTCAATCCGCCGCCGAGAAAGCCGTATCGGTGATCGGGTTAGGTTACGATC TCTGCTCCGACGTTCGTCTCTCGTCTTGTAAAGCCACACCCGACGGGTCGAGGCTGGTCGAAATCGACCCGACCCGGAATCGAGACCTAGTTTTCC CCGGAGGGGTCGTCGTCAACAACGTCTCGAGCTCGATTAAGTGCGATAAAGGAGAACGCACTCGTTTTCGCTCCGATATACTCTCTTTTAACCAGAT GTCGGAGAAATTCAATCAGGATATGTCACTTTCCGGGAAAATCCCATCGGGGATGTTCAATACCATGTTTGAATTGAGAGAAGGTTGGCAAAAAGAT GCTAGCTCAGTGAAGACGCTAGCTTATGATGGTTGGTTTATTAGCTTGTACAGTGTAGAGCTCGTTAGGTCACAAGTTACTCTGCGTGATGAAGTGA AGCGTGAGGTGCCTTCTTCTTGGGACTCTGTTGCTCTTGCTGGGTTCATTGAAAAATATGGTACTCACATAGTTGTTGGAGTGACTATGGGAGGCAA AGACGTGGTTCACATGAAGCAGCTGCGTAAGTCGAATCACGAGCCTGATGAGGTCCAGAAGCTGTTGAAACAATTGGGTGATAAAAGATTTTCGGT TGATCCAGTCCAAAGTGTCTCTCCTGCTGGTGTTTATTCTGGAAAGCCAAAGGAGGAGAATCCTATCCAATGGGGAATTCATGGGCAGTTTGGTTCC TCGGTTAGTCGTCCTGTTATCATGCGCTCCAAGAACGAGGATTTGGTGAGCATTTGTATCAGAAGAGGAGGTGTTGATATGGGTCAAAGTCATGATC GTTGGCTCTCAACAATATCACAATCACCAAACGCCATATCCATGTGCTTTGTTCCCATAACTTCGCTGTTGAGCGGTCTCCCAGGAACAGGGTTTCTT AGTCATGCAGTGAACTTATACCTCCGATATAAGCCACCGATAGAGGAGTTGCATCAGTTTCTTGAATTTCAACTTCCACGCCAATGGGCTCCGGTGT ATGGAGATCTCCCTCTTGGACTACGCCGCAGAAAACAAAGTTCTCCGTCCCTTCAGTTCTCTTTGTTGGGTCCAAAACTATATGTCAATACATCAAAG GTTGATTCTGGTGAGCGACCAGTAACTGGACTACGCTTATTCCTGGAAGGGAAGAAAGGAGATCATCTAGCAATCCACTTGCAACACCTCTCTACAT GCCCTCCAAGTCTCCACCTCTCACACGACGACACCTATGAACCCATCGATGAACCAACCGATAAAGGATATTATGAAGCTGTGAAATGGGGGATCTT CTCACACGTATGCACCTTCCCGGTTCAATACAACGGAGCACGGTCTGATGATGCAGCATCTATTGTGACCAAAGCCTGGTTAGAAGTCAAAGGAATC GGGATGAGGAAAGTTCTGTTTTTGAGGCTCGGTTTCTCACGGGTTGCATCAGCTGTTACACGTAGGTCTGGCTGGGATAATCTCTCATCAATCTCAC GCAAATCAGGTGTTTTCTCGATGATTAGTACAAGACTAAGCGCAGGTTTAAGTCCAAACCCGACAGCAATGAAGCCACAGTCTAAGATCGATATAAA CTCAGCGGTTTATCCTGGAGGGCCATCTCCGCCTGTGAAACCGAAGCTGCTTAGTCTTGTAGACATGAAGGAGGTGGTGAGAGGTCCGGAAGTAC CACCTGGATATTGGGTTGTGACTGGGGCTAAGCTTTGTGTTAATGCAGGCAAAATCTCAATCAAAGCTAAATATTCTCTGCTCACTGTTGTGTCGGAA
GCT-004E13	AT2G30470.1	HSI2 (High-level expression of Sugar-Inducible gene 2); transcription factor/ transcriptional repressor	GGTGTGTGTGCTCAAGTGTCGTGCATGCATTTTATGCGTTTCTTTCTCTCTATCCTTTTCTCTTGCATGCTCTCTCTCTATCCTCTTCTCTCTCTCTCT ATCTGACCCATAATTTTAATTTTACATCGAAAAATTAAAAACTAAAAACCACCAAAGAAAAAAAAAAAACCTCGTTGCCTTCTTCTTCGCCGTTACAGT CCCCCCCTCTTTCTTCCAATTCGCCGTCAAATCCTTTTCTCTTCTTCTTCCCTCCGGTGATTCCTCAACCTCCTCTGATCTCTAACGCGACTTGATTTT GACCACGTCGATGCATGTTCATGACTAGTCTCTCCTCCAATTTCACGTCGATTTCACCTCCGATTCGTGCTTCCTGCTCTGTTAGGGTTTTAAGATTT GTCTAATTGAGGGTTCGGAGAATCGGGTCGGGTCTTGGGAAAAAAAAGGTTCTATTTTTTTCTCTGCCTGATGTTTGAAGTCAAAATGGGGTCAAAG ATGTGCATGAACGCATCCTGTGGCTCGACCTCTACTGTTGAATGGAAGAAAGGTTGGCCTCTTCGATCCGGTGCTCTCGCTGATCTCTGTTATCGTT GCGGATCCGCTTATGAGAGTTCTCTTTTCTGCGAAACATTCCATATGGACCAATCTGGTTGGAGGGAATGCTATTTGTGCAGCAAGCGACTTCATTG TGGATGCATTGCTTCTAAGCTCATGGTCGAGCTTATGGACTATGGTGGTGTTGGTTGTACTACTTGTGCTAGCTGCCATCAACTCAATTTGAATAAGA GAAGTGAGAATCCAGGTCTATTTAGCAGATTACCATTGAAGACGTTAGCAGAGAGGCAACATATAAATGGGGAAAGTGGAATGAGTATTGACGGAG GAAGAAACGAAGCTGATCTCTTTTCTCAGTCCCAAAGATGCGACTCTCAGCCACTAGTCCCGGGGGTAGATAAAAGAGAAGACTTCATGCCTCCTCA CCGTGGCTTTGGTATTCTGAAGTCAGAAAACTCCACTGGGTATAGGCTGGACGCTGGGGAAATGCATGAATCGTCGCCTTTGCAGCCATCTTTGAA TATGGCTTTGGCAGTACATCCTTATAGTCCATCTTTTGCTTCAACCCCTGTCGAGGGAAAGAAACACATCGGTCCTTCTCAGTCCCACATTGTTCAAT GCTCTGCGTCTAGTATACTGCAGAAACCCTCGAAATCTGTCCTTGGAACTCCTCCTGGAACTAGTAAATCTGCTCAGGCTCGCATTGGGAGGCCTC CTGTGGAAGGGAGAGGGAAAGGCCATTTACTTCCTCGGTATTGGCCCAAGTATACTGATAAAGAGGTTCAACAGATCTCCGGAAATTTGAATTTGAA CATTGTACCTCTTTTTGAGAAAACTCTTAGTGCCAGTGATGCTGGTCGCATTGGTCGTCTAGTTCTTCCAAAAGCCTGTGCAGAGGCATATTTTCCTC CCATTAGTCAATCGGAAGGGATACCTTTGAAAATCCAAGATGTGAGGGGTAAGGAGTGGACTTTCCAGTTCAGATTCTGGCCCAATAACAACAGTAG AATGTATGTCTTAGAAGGTGTCGCTCCCTGCATACAGTCCATGATGCTACTTGCCGGTGATACAGTAACATTCAGTCGGGTTGATCCTGGTGGCAAA CTAATCATGGGTTCAAGGAAGGCAGCTCATAATACCGGAGACATGCAGGGCTATGGTCTCACCAATGGTACTTCAAACGAGGACACATCATCGTCT GGTGTTACAGAGAACCCGTCCTCTATAAATGCTTCCTCGTGTCCCTCACAAATACCAGAAGAATTGAAAGGTCTGCCTGAGAATTTGAACGGTGGTA GTTGCTCGAAGAAGAGTGAGATTAATGGAGGCACGATGTGTGATGATCCACCACGTCCTAAGGACAAGAAGAGGACTCGAACCATTGGGGCGAAA AACAAGAGACTGCTTTTGCATAGTGAAGAATCTATGGAGCTGAGACTCACATGGGAAGAAGCTCAGGACTTGCTTCGTCCCGCTCCTAGTGCAAAG CCTACCATTGTCGTCATCGAGGAGCATGAATTTGAAGAATTTGACGAACCTCCTGTATTTGGAAAGAGGACGATAATTACTTCAAGACCTTCAGGTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-004E15	AT5G46180.1	delta-OAT (ornithine- delta-aminotransferase); ornithine-oxo-acid transaminase	AAGCCACGAGACGGTTGCTTCACCGTGTGTCTACCAGAATTTCTACCGCCGGAGCACGACGGAGCTATGGCGGCCTGCCGCAGTCGAACTCCAAA TCTCCGTCTTCTTCTCAGCAATTGATGGAATTGGAATCCGAATTCAGCGCCCACAATTACCATCCTGTTCCTGTTGTGTTTTCTCGCGGAAATGGCTC AACTATATGGGACCCTGAAGGAAAAAAATACATCGATTTCCTTGCAGCTTACTCTGCAGTTAATCAGGGACATTGTCATCCTAAGATCGTGAAGGCAT TGCAGGAACAAGTGGAGAAGCTCACTTTAAGCTCACGAGCATTCTATAACGACAAATTCCCGATATTCGCAGAGCGTCTCACGAACATGTTTGGTTA TGAGATGGTTCTTCCTATGAACACCGGAGCTGAAGGTGTCGAGACCGCTTTGAAAATCGCAAGAAAATGGGGTCACGAGAAGAAAAACATTCCCAA AGATGAGGCTATAATCGTCTCTTGTTGTGGTTGCTTTCATGGTCGTACATTAGCAGTTATTTCAATGAGTTGTGACAATGATGCTACGCGTGGATTCG GGCCATTGTTGCCTGGGAATCTTAAAGTTGATTTCGGTGACGCTGATTCACTTGAGAAAATCTTTAAAGAGAAAGGAGATAAAATAGCAGGGTTTCTT TTCGAGCCTATTCAAGGCGAAGCTGGAGTTGTGATTCCTCCTGATGGTTATCTGAAAGCTGTTAGAGAGCTCTGTACAAAACACAACGTTTTGATGA TCGCTGATGAAGTACAAAGCGGTCTAGCGAGATCCGGGAAGATGTTAGCTTGTGACTGGGAAGAAATCCGTCCTGACATGGTGGTATATGTTCTGT TCCTTTAGATTTCATACCTCCAAGCAAAGCTATTACATAGATTATATATCAAAATCTTGAATCTGTTTTGTGAAGATACTTGGGAAAGCATTAGGAGGA GGAGTGATTCCAGTAAGTGCAGTGCTTTCTGATAAACATGTGATGCTTCATATCAAACCTGGCCAACACGGAAGGTTCGGATCAATGTTACTTCACT CTTCTTATTGGTTTGATTGTGAATCTGTGACAAAGCTTGTTCCTTTTTTTTGTATTCTGATTGTCAAAATCAGCACATTTGGTGGGAACCCTTTAGCTA GTGCTGTAGCTATGGCTTCTTTAGACGTTATCGAAGAAGAAAAACTTGTTGAAAGATCAGCAAGACTTGGAGAAGAGCTAAGGATTCAATTGAATGA GATCAAGAAACAGTTTCCTAATGAGATAAAAGAAGTACGAGGAAGAGGATTGTTCAATGCGGTTGAGTTCAACAGCGAGAGCTTATCTCCGGTTTCA GCTTATGATATTTGCTTAAGCTTGAAGGAGAGAGGAGTATTGGCTAAACCGACTCACAACACCATTGTCCGGTTAACTCCACCTCTCTCCATAAGCT CTGATGAACTCCGAGAAGGCTCTAAGGCTCTTCATGATGTTCTTGAGGTCGATCTTCCAAATCTGAGGAAAATTAATGCCGGTAAAACCCCGGTATC
GCT-004E17	AT4G29950.1	microtubule-associated protein	GGAAAAAAATAAACCTTTTCTTTTTCTTTGTCATTCTGACTATCTTTTGCTTGGATTCGGAGAGAGGAAGGAGAATTGATTCTCTCTCTCTCTCCTATT TTATTGTGTTCCGATCTGATCGGAATTTACATTTCTTCTATTCTCATCTTCAGGTTCAATTTCCATTAAGTTTCTTCCTCTAGTGTCAAGGGAGAAATTT CCTGGTGACGTCTTAATCATTGATTTCACGAAGAATATTTATCTCTTCGTTGATTCTTTTACAATTTTGTGAAACCGGAGAAGCAAAAGCAAGAAGCTT TATGGTTCTGTCGGAGATAGAGCCATCTATGTCGGAACCACTGGTAGACGAATCTGATCGTCGTTTCGCCAATCTGAGAGGCGTACGGTGGCGCGT GAATCTCGGTGTTCTTCCGTTTCAAGCTTCATCGATCGATGATCTTCGCAAAGCTACAGCTGAATCTCGCAGAAGATATGCTGCTTTAAGGAGACGC ATCTTGATAGATCCACATTTGTCTAAAGATTTACGAAATTCCCCTGATCTCTCAATCGACAATCCCTTATCACAAAACCCAGATAGTACATGGGGTCG GTTCTTTCGTAACGCTGAGCTAGAGAAAACACTGGATCAAGACTTATCGAGGTTATATCCAGAGCATTGGAGCTACTTTCAAGCTCCTGGATGTCAA GGAATGTTAAGACGTATTCTACTCTTGTGGTGTCTTAAACATCCCGAGTACGGATATCGACAAGGAATGCATGAGCTTTTGGCTCCTCTGCTTTATGT GCTTCATGTTGATGTGGAGCGTCTCTCTGAAGTGCGTAAAAGCTATGAAGATCATTTCACGGACAGATTCGATGGGTTGTCTTTTGAGGAAAGAGAT ATTACTTACAACTTTGAGTTCAAAAAGTTTCTGGAGGATTTCACGGACGATGAGATCGGTGGTATTCAGGGAAATTCCAAGAAACTAAAGAGCCTAGA TGAGCTCGACCCCGAAATCCAATCCGTTGTGTTGCTAAGCGATGCTTATGGAGCCGAAGGAGAACTCGGGATTGTCTTGTCTGATAAATTCATGGA GCACGATGCTTACTGCATGTTTGATGCTCTGATGAGTGGAGCTCATGGTTGTGTCTCAATGGCTGGATTTTTCGCTTACTCTCCAGCTAGCGGATCC CACACGGGTTTACCTCCCGTTCTTGAAGCGTGCACTGCGTTTTACCATCTTTTATCGTTTGTTGATTCGTCTCTGCATAGCCATTTAGTGGAACTCGG AGTTGAGCCTCAGTACTTTGGTCTTCGTTGGTTACGGGTTTTGTTTGGAAGAGAGTTTTTGCTTCAGGATTTGTTGGTAGTGTGGGATGAGATATTCT CAGCAGATAACACGGCGAGAAATGATGAGGCTAACAACACAAACCAGAGCTTCAAGATCTTTGATTCTCCTCGGGGCGCTTTAATCTCTGGAATGG CGGTTTCGATGATATTATCTTTGAGATCTTCTTTGCTTGCTACTGAAAACGCAGCTTCTTGTCTCCAAAGACTGTTGAATTTCCCGGAGAAGATTGAT GTGAGGAAGATAATAGAGAAAGCTAAGTCATTACAAGCATTGGCTTTGGACGATGATGTACGATCATCAGCTCTGTTGATTAACAGTGTCTTTGATCA GAGCATCAGCCCTGCAGTACCGGCGAGAACTAGCAGCTTCCCTTCGGGATCCACTTCGCCTAAATCTCCACTGATAATTACGCCACAGAGTTATTG GGAGGAGAAATGGAGAGTTCTTCAGCAAGCCGCCGAGGAACAGAAACAGAATCCTTCAACACCGAAGAAAAAGGCATGGTTTAAGGTGAAAAGACT TTTCAGAGCAGAGTCTGAGCCAACTCATAACACCAAGACAGTAAAGGAAGCCAAGGTATCATCAGTGGCACGTAACTTGCTGGAAGATTTTAATCGG CAGGTTGTTTCTGAACCTGAGGAAGCTACTATAGTAGATGTTGTGAGCAATGAGAATAGCTCAGTTCAACAAGAAACTGAGGAAGCTAATACAGTAG ATGTTGTGAACAATGAAGATAGTTCAGTTCAAGAAACTGAGGAAGCTAGTACAGTAGATGTTGTGAACAATGAAGATGGTTCAGTTCAAGAAACCGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-004E19	AT1G32150.1	bZIP transcription factor family protein	GGCGACCAATCACCAAAGCTAAAAAAACTTCATTCATTCTCCCAATCTCACTCCAATTTCTGCAAAACTAAAGCTTTTTAATTCCTTCGCATCTCTGGG TTTGCTCAAACATTAACGATCTTGAGAACTCGTTCTGCTCTAGTGTGAAGCTTCTTCTTCTACTTGGTTGTTTAGAAGCTGGTGAATGTGGTAATGGG TAGCAGCGAGATGGAGAAATCGGGTAAAGAGAACGAACCCAAGACTCCACCACATTCGTCTTCTTCTGCTCCTGCTCCTGCTCCTGCTCCTGTTACT TCACAGGAACCTTCTTCTTCTGCTGCTGTGAGTGCTGGAATGGCTACTCCAGATTGGTCTGGTTTTCAGGCTTATTCTCCTATGCCGCCTCATGGTT ACGTGGCGTCAAGTCCTCAGCCTCACCCTTATATGTGGGGTGTTCAGCATATGATGCCTCCTTATGGAACACCGCCTCATCCTTATGTTGCAATGTA TCCGCCAGGTGGCATGTACGCTTATCCTTCAATAGCTCCGGGATCTTATCCATACAGTCCCTATGCAATGCCTTCTCCTAATGGAATGGCTGAAGCT ACTGGAAATACTGGAAGCGGTATTGACGGTGAGGCTAAACAATCTGAAGTGAAGGAAAAATTGCCAATCAAAAGATCAAAAGGAAGCTTGGGAAGTT TGAATATGATTATAGGAAAGAACAGCGAGACTGGGAAAAGCTCAGGAGCATCTGCTAATGGAGCTTGCTCTAAAAGTGCTGAGAGCGCCTCTGATG GTTCAAGTGAAGGAAGTGATGCAAATTCTCAAAATGACTCGGGATCTAGACACAACGGGAAGGATGGTGAAACAGCTTCAGATTCTGCTCATGGAC CACCTCGTAATGGAAGTAATCTACCGGTGAACCAGATCGTCCCCATCATGCCAGTGTCAGCTACAGGTGTTCCTGGCCCACCGACAAATCTAAACAT CGGAATGGATTATTGGAGCAGCCATGGGAATGTTTCTTCAGCCGTTCCTGGAGTTGTAGTAGATGGTTCCCAATCACAACCATGGTTACAGGACGA GAGAGAGCTTAAGCGACAGAGACGAAAGCAATCCAATAGAGAGTCTGCTCGTAGATCCAGGTTGCGTAAACAGGCGGAATGTGATGAGCTGGCAC AAAGAGCAGATGTGTTGAATGGAGAAAACACAAGTCTTAGAGCAGAAATAAACAAGCTTAAAAGCCAATATGAAGAGCTTCTTGCTGAAAACAGCTC TCTCAAGAATCGATTTTCGTCAGCCCCGTCACTACTCGAAGGAGTAAACTTGGACAAGAACGAGCAAGAAACAGAGACAAGCAAACGTCAGGATGT
GCT-004E21	AT2G18700.1	ATTPS11 (Arabidopsis thaliana trehalose phosphatase/synthase 11); transferase, transferring glycosyl groups	GGTAACTACGCGTTTCCTTCTCTCGATGTTATGAAATCCGAAAAAACAAAAAAACCCAGAAAAATTCTCGATTAACCCAATCTTAATTCTCTTTCGATA TACTGAAGTTTGAATTTTTGTTTTCTCTTCGTTGAGATATGTTACCGGAATCTTGGAAAGACCAGCTGAGTCTGGTCTCGGCGGATGATTATCGGATC ATGGGTCGAAATCGGATCCCTAATGCCGTCACGAAGCTTTCGGGGCTCGAAACCGACGACGGAGACGGCGAGAACGATCCAAACGGCGGCGCGT GGGGCACAAAACCGAAACGGATCGTGGTTTCGAATCAGCTTCCTCTCCGTGCTCACAGAGACATTTCGTCGAACAAGTGGTGCTTCGAATTCGACA ATGACAGTCTTTACCTGCAACTCAAAGACGGGTTTCCTCCGGAGACGGAAGTCGTCTACGTCGGGTCTTTAAACGCCGACGTTTTGCCCTCCGAGC AAGAAGACGTCTCTCAGTTCTTGCTAGACAAGTTCTCGTGCGTTCCTACTTTCCTACCTAGTGACTTGCTCAACAAGTATTATCACGGTTTCTGCAAG CACTATCTCTGGCCGATTTTTCACTATCTCCTCCCGATGACGCAAGCTCAGGGATCTCTCTTCGATCAATCGAATTGGAAGGCGTACACCAAGGTTA ACAAGATCTTCGCTGATAAGATCTTCGAAGTGCTTAACCCAGATGAGGATTACGTCTGGATTCACGATTATCATCTCATGATTTTACCCACTTTTCTGA GGAACAGGTTTCACCGGATAAAGCTAGGGATTTTTCTTCACAGCCCTTTTCCTTCCTCGGAGATTTACCGTACGCTCCCTGTGAGAGACGAGATTCT TAAAGGGTTTCTCAACTGCGATTTGATCGGATTCCACACTTTCGATTACGCTAGGCATTTCCTGTCTTGCTGCAGTAGGATGCTGGGTCTCGATTAC GAATCGAAAAGAGGCTACATTGGTCTCGAGTATCTCGGAAGAACGGTGAGCATCAAGATTTTGCCTGTTGGGATCCACATGGGGCAGATTGAGTCG ATCAAGGCTTCGGAAGAAACCGCAGAGAAAGTGAAGGGCTTGAGAGAAAGGTTCAATGGGAACATTGTGATGCTGGGTGTGGATGATTTGGATATG TTCAAAGGTATTAGCTTGAAGTTCTGGGCTATGGGTCAGCTTCTTGAACAGAACGAAGGGCTTCGTGGGAAAGTTGTCCTCGTGCAGATTACTAATC CTGCTCGGAGTTCAGGTAAGGATGTTCAAGATGTAGAGAATCAGATAAATAAGATTGCTGATGAGATCAATGATAAGTTCGGGATGCCTGGTGGTTA TAAGCCTATTGTGTTTATGAATGGACCTGTTAGTACTTTGGATAAAGTAGCTTATTACGCGGTCTCAGAGTGTGTTGTGGTGAATGCTGTGAGAGATG GGATGAATTTGGTGCCTTACAAGTACACAGTGACTAGGCAAGGGAGCCCTGCTTTGGATGCAGCCTTGGGTTTTGGTCCCGATGATGTTAGGAAGA GTGTGATTATTGTTTCTGAGTTCATCGGTTGTTCACCATCTCTGAGCGGCGCTATCCGTGTGAATCCCTGGAACATCGATGCAGTCACTGACGCGAT GAGCTCTGCCATCACAATGTCGAACAAAGAGAAAAATCTGCGCCACCAGAAGCATCACAAGTACATTAGCTCTCATGACGTGGCCTACTGGTCGCG TAGTTATGACCAAGATCTTCAAAGGGCATGCAAAGATCATTACAACAAGAGATTCTGGGGAGTTGGATTCGGTCTTGGGTTCAGGGTTGTTGCGTTA GATCCGAATTTCAGAAAACTCTGTGTTGAGACCATAGTCCCTGCGTATAAGAAAACAAGCAGCAGGTTGATCCTATTGGACTACGATGGGACAATGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-004E23	AT5G64100.1	peroxidase, putative	GACACACAACAAACAATAACAACATTTACAAAGCTCGAAATATTTTCTTATACACTAAACAAAAACACAAAATGGGTCGTGGGTATGATTTACTATTCA GTCTAGTAACGTTTTTAGTATTGGTTGCAGCAGTAACTGCACAAGGAAACCGTGGCTCGAGCCGTCGTGGTGGTCGAACACCACGTGTTGGGTTTT ATGGGAATAGATGCCGAAACGTAGAGTCTATTGTGTCATCGGTGGTTCGATCTCATGTCCGGTCTAACCCGGCTAATGCACCGGGGATTTTGCGTA TGCATTTTCACGATTGCTTTGTTCGCGGCTGCGATGGCTCGATTCTCCTCGCTGGTAACACCACGGAGAGAAACGCCATTCCTAATCGTTCATTGAG AGGGTTTGAAGCTATTGAAGAGGCTAAGGCTAGGCTTGAGGATGCTTGTCCTGGAACCGTTTCTTGTGCTGATATTCTCACCCTTGCCGCTCGCGA CGTCGTCGTTTTGACCGGTGGACAAGGCTGGAGAGTGCCATTAGGACGCCTGGACGGCCGAATCTCGCAAGCCTCAGATGTGATCTTGCCCGGAC CATTCGACTCTGTCGACAAGCAAAAGCGAGACTTCGCTGCTAAAACACTCAACACATTGGACCTCGTAACTCTTGTCGGAGGACACACGATAGGAA CTGCTGGTTGCGGTTTGGTGAGAGGCAGATTCTTTAACTTCAACGGAACAGGACAACCCGACCCATCAATCGACCCGAGTTTCGTACCACTGGTTC AGGCTCGATGCCCTCAAAACGGCGATGCAACGACCCGAGTCGACTTAGACGCCGGAAGTGCTGGTAGGTTCGACACATCGTTCCTAAGGAATGTG AGGTCAAGCCGCGTGGTTCTCCAATCCGATCTAGTCCTATGGAGTGATCCCGAGACCCGAGCCATCATAGAAAGGCTTTTAGGCTTACGCTTCCCG TTTCTGAGGTTCGGATCAGAGTTCGCGAGGTCGATGATCAAGATGAGTCTCATAGAAGTTAAGACTGGTTCAGATGGGGAGATTCGTAGGGTTTGC TCTGCTATCAATTAATTAAGAGAATATACGAAAACATAAGTTAATTTGCGGTTTGGTTTTAATTCAAGATTTGGTTGGTTAATAATCATTTGGTCTATAT
GCT-004G01	AT4G05420.1	DDB1A (UV-damaged DNA-binding protein 1A); DNA binding	GGTCTCTCCGTCTCTCTCCTTCGTTAAAATTCCCAAAGCTCGTTAGAGAAATCCAGAAGCTTCCTACAATTAGAGGAGCGAAAGGCCCTCGCGTA GACAGTGAAACTCCAATTTCTGGGGACAAATAAGCAGAAGATGAGCTCATGGAATTACGTCGTCACTGCTCACAAGCCCACCAGTGTCACTCACTCT TGCGTCGGCAACTTCACCAGTCCTCAAGAGCTCAACCTCATTGTCGCGAAATGTACTCGGATTGAGATCCATTTGCTTACCCCACAGGGACTTCAGC CTATGCTGGATGTTCCTATGTATGGAAGAATCGCTACTTTGGAGTTGTTCCGGCCCCATGGAGAAGCACAAGACTTTTTGTTTATTGCAACTGAGAG ATACAAATTCTGTGTTCTTCAGTGGGATGCTGAGTCGTCTGAGCTTATTACTAGAGCAATGGGGGATGTTTCTGATCGTATAGGTCGACCAACAGAC AATGGTCAGATTGGCATAATTGATCCAGATTGTAGATTAATTGGACTCCATCTGTATGACGGTTTGTTCAAGGTTATACCATTTGATAATAAGGGACA GCTCAAGGAAGCTTTTAATATCAGGCTGGAGGAATTGCAGGTTCTGGATATCAAGTTTCTGTTTGGATGTGCAAAGCCCACAATTGCAGTACTTTATC AGGACAACAAAGATGCTCGTCATGTCAAAACATATGAAGTCTCTCTAAAAGATAAGGATTTTGTCGAGGGTCCGTGGTCACAGAACAATCTCGACAA TGGTGCTGACTTGCTGATTCCTGTACCACCACCTCTCTGTGGCGTCCTTATTATTGGTGAAGAAACAATTGTCTATTGCAGTGCGAATGCATTCAAAG CAATACCAATAAGACCTTCCATCACTAAAGCATATGGAAGAGTTGATGTTGATGGCTCTAGGTATCTTCTTGGTGACCATGCTGGACTGATTCATCTG CTTGTTATAACGCACGAGAAAGAAAAGGTCACTGGCCTAAAAATTGAGCTTCTGGGTGAAACCTCTATTGCATCGACTATATCGTACCTTGACAATGC TGTTGTCTTTGTCGGCTCAAGCTATGGCGATTCACAGCTAGTAAAGCTAAATCTACATCCTGATGCAAAAGGCTCATATGTAGAAGTCTTGGAAAGGT ATGTCAACTTGGGGCCTATTGTCGACTTTTGTGTAGTCGACCTCGAGAGACAGGGGCAAGGTCAGGTTGTAACTTGTTCTGGAGCATTTAAGGATG GTTCCCTCCGCATAGTTCGCAATGGAATAGGAATCAATGAACAGGCGTCTGTGGAACTTCAAGGTATCAAGGGAATGTGGTCGCTGAAGTCTTCAAT TGATGAAGCCTTCGACACATTCCTCGTAGTCAGCTTTATCAGTGAAACTCGTGTATTAGCCATGAATCTTGAGGATGAACTGGAAGAAACAGAGATT GAGGGCTTCTTGTCTCAAGTGCAGACTTTATTTTGCCATGATGCTGTGTATAATCAGCTTGTACAGGTTACTTCAAATTCTGTTAGACTAGTCAGCTC TACAACTAGAGAGTTGCGAGATGAATGGCATGCCCCAGCTGGATTCACTGTCAATGTTGCAACCGCAAATGCCAGCCAGGTTCTTTTGGCGACTGG AGGTGGGCATTTGGTTTATCTAGAAATTGGAGATGGGAAATTAACAGAAGTGCAACATGCCGTTTTAGAGTACGAGGTTTCTTGCCTTGATATAAATC CTATCGGCGATAATCCTAATTACAGTCAGCTAGCTTCGGTTGGGATGTGGACAGATATAAGTGTGAGGATTTTTTCGCTGCCGGAACTGACTCTTAT TACAAAAGAGCAACTAGGAGGAGAAATAATTCCCCGATCTGTTCTGCTCTGTGCATTCGAAGGGATATCTTACTTGCTCTGTGCTCTTGGAGATGGC CATCTTTTGAACTTCCAGTTGGATACAACTACCGGGCAACTAAAAGACAGGAAAAAAGTATCACTCGGGACTCAGCCTATAACTCTGCGCACATTTTC ATCAAAAAACGCCACACATGTTTTTGCTGCATCAGATAGACCAACTGTAATCTATAGCAGCAACAAGAAGCTGTTATACAGCAATGTCAATCTTAAAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-004G03	AT3G05030.2	NHX2 (sodium proton exchanger 2)	GAGAAGCAAAGAAATTACTTTGCGTTACGTTACGTTACGAATCCTCTTAGACTCTCCCACGCATTTGACCGTACACGTGTCTCTCTCCATTCCCGTTT AATTTCTCAGTCCGCCGTGAAATTTGTTTGCCGGGAGAATCGAATCCTTTCGCTTTCTCTTCGGGTAATAGAATTCGTCTCGTTCCCAAAAGCGGGTT TAGCTTCGGAGCTTCTGAATTTAATCTTCGTCTGTGTAATCCTTTTAGCGGATTTGTTTCATAGAGCTATACGATCACCCATAAGAGCTTCAGGACCT GTTGGAATGGAGGGTCCGGAGAGATGAGAGATCTTTAATTCGCAGTTTTAGATCATTGCTGTCTTACAAAACTTAATCGAAAAAGGGAAAAAAAGTG GTTCAAGAAGATGACAATGCTGGCTTCTCATTTCAGCTCTTTAACTTCTAAAATGTTGTCGGTGTCCACCTCTGATCACGCCTCTGTTGTTTCGTTGA ATCTCTTCGTTGCCCTTCTCTGTGCTTGTATTGTGATTGGGCATCTTTTGGAGGAGAATCGATGGATGAACGAATCCATCACAGCTTTATTGATTGGG CTTTGCACTGGTGTGGTCATTTTGTTAATTACTAGAGGGAAGAACTCACATCTCCTAGTCTTCAGTGAAGATCTTTTCTTTATATATCTTTTGCCACCC ATAATATTCAATGCAGGGTTTCAAGTTAAAAAGAAGCAATTTTTCCGCAATTTTGTGACTATTATGCTTTTTGGCGCCATTGGGACTCTAATTTCTTGC ACTATAATATCTCTAGGTGTAATTCAGTTCGTTAAGAAATTGGACATTGGGACCTTTGACTTGGGCGATTTTCTTGCAATCGGCGCCATATTTGCTGC AACCGACTCTGTTTGCACACTGCAGGTTCTCAATCAAGATGAGACACCTTTGCTTTACAGTCTTGTATTTGGAGAGGGCGTTGTGAATGATGCCACA TCAGTTGTGCTCTTCAATGCGATTCAGAGCTTTGACCTCACCCACCTTAACCATGAAGCAGCTTTTCTTTTTCTTGGAAACTTTTTGTATCTGTTTTTC TTGAGCACCTTGCTCGGTGTAGCAACTGGTCTGATAAGTGCTTATGTCATCAAGAAGCTTTATTTTGGAAGGCACTCGACCGATCGAGAGGTTGCCC TCATGATGCTTATGGCATATCTTTCATACATGCTTGCTGAGCTATTCGCCTTGAGTGGTATTCTCACTGTATTTTTCTGTGGGATTGTGATGTCCCATT ACACCTGGCATAACGTAACCGAGAGCTCAAGAATAACTACTAAGCATGCCTTTGCAACTTTGTCGTTTCTAGCCGAGACTTTCATTTTCCTTTACGTC GGAATGGATGCATTGGACATCGAGAAGTGGAGATTCGTTAGTGACAGCCCGGGGACATCGGTTGCAGTAAGCTCAATTCTGATGGGTCTAGTTATG CTTGGAAGAGCAGCTTTTGTGTTTCCTCTATCCTTCTTATCAAACTTATCCAAGAAAAACCAGAGCGAGAAAATCGATATCAAGCAGCAAGTTGTGAT TTGGTGGGCTGGTCTAATGAGGGGTGCTGTATCTATGGCTCTTGCCTACAATCAGTTTACAAGATCAGGGCACACTGAATTGCGCGGGAATGCAAT CATGATTACCAGTACTATAACCGTTTGTCTTTTTAGCACCGTGGTGTTCGGTATGCTGACCAAACCGCTCATTAGATACCTACTGCCACATCAAAAAG CGACCACCAGTATGTTATCCGACGATAACACTCCGAAATCAATCCACATTCCGCTCCTCGATGGTGAACAGCATGATGATTCATTCGTCGAGTTCTC TGGAACTCACCAGGACGTGCCACGACCAGATAGCCTTCGCGGTTTCCTCTTGCGACCCACACGCACTGTCCACCACTACTGGAGACAGTTTGATGA TGCCTTCATCCGTCGTCTGTTTCGTCGTCCGCGTTTCGTTCGCTTTGTCCCTGCTTCTCCGACCGAGAAGCTCCCCTGATCTCACTAAAACCTTC
GCT-004G05	AT3G15290.1	3-hydroxybutyryl-CoA dehydrogenase, putative	GAGGATCGCCGGCGACTCGGAGAAGAAGATGGCGGAGATAAAGTGTGTCGGAGTAGTGGGTGCTGGTCAGATGGGTTCAGGAATCGCACAACTC GCCGCCACGAACGGCCTCGACGTTTGGCTGATGGACGCTGATCGGGATGCGCTCTCTCGAGCCACCGCAGCTATCTCCTCCTCCGTCAAACGTTT CGTCTCCAAAGGTCTAATCGCCAAGGAAGCTGGTGATGATGCTATGCATCGTCTACGTTTAACATCCAATCTACAAGATTTGTGTTCTGCTGATATCA TCGTTGAAGCCATTGTGGAATCCGAAGACGTCAAGAAGAAACTGTTCAAGGATTTAGATGGTATAGCCAAGAGTTCTGCGATTTTAGCTTCTAACAC AAGTTCAATCTCCATTACTCGTCTTGCATCCGCAACACAAAGACCCAGCCAGGTCATTGGAATGCACTTTATGAACCCTCCTCCGATAATGAAACTG GTTGAGATTATTCGCGGCACGGACACCTCAGACGAGACGTTTATTGCTACAAAAGCTCTTGCTGAAAGGTTTGGCAAGACAACAGTGTGCTCACAA GACTACGCGGGCTTCATCGTGAACCGGATCCTCATGCCGATGATCAATGAAGCGTTCCACACACTGTACACAGGGGTGGCTACAAAGGAAGACATT GACAGTGGAATGAAACACGGCACAAACCACCCGATGGGTCCTCTGGAGTTAGCGGACTTGATCGGTCTAGACGTGTGCTTGTCCGTAATGAAAGTG CTGCATCAGGGACTTGGAGACTCAAAATACGCACCTTGTCCTCTTCTCGTTCAGTACGTTGATGCTGGAAGATTAGGAAGAAAACGAGGAATCGGA GTTTATGATTACCGTAACGCTACACAGAAGCCTCTCACTGCATCTCCTCGTCTCTGAGAAAGCAAAAAACTAAAAGTCCACTTTCCTTTGTAAAAGAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-004G07	AT1G16030.1	HSP70B (heat shock protein 70B); ATP binding	GAAATGTGTGTGGTTTCTCCACCGTTCTACATCTCCGTAGATAGTGCCACGAGTTTTCTCCCGAAATGTCTTCTCTCTCGCGCCGCTTTCGTATATAT ATCTGCTTTCATCGACTCAGATTTCTCAATCAAGCAGATAAACAATCAATAAGATCAAAAGAAATCGAAAACACCTAGCTTTGCAATCAGCAAGTTTCA ATCACTGAAGCTTTTTTCACAGCAACAATGGCGACGAAATCAGAAAAAGCTATTGGCATCGACCTCGGCACAACATACAGTTGTGTTGGGGTTTGGA TGAACGACCGTGTGGAGATCATTCCTAACGACCAAGGAAACCGTACGACGCCGTCTTACGTCGCGTTCACAGACACCGAGCGGTTAATCGGCGAT GCAGCGAAGAATCAGGTGGTGTTGAACCCACACAACACTGTCTTCGATGCGAAACGTCTCATCGGTCGGAGATTTTCCGATCCTTCTGTTCAGAGC GATATGCGACACTGGCCGTTCAAGGTTGTTTCCGGTCCCGGTGACAAGCCGATGATAGTGGTATCGTACAAGAACGAAGAGAAGCAGTTCTCTCCT GAGGAGATTTCTTCGATGGTGCTAATCAAGATGAAGGAAGTCGCCGAGTCATTCCTAGGGAGCACCGTCAAAAACGCCGTCGTTACGGTCCCGGC GTACTTCAACGATTCTCAGAGACAGGCGACGAAGGACGCCGGATCGATTTCTGGGCTCAACGTTTTGCGTATAATCAACGAGCCGACTGCTGCAGC TATCGCTTATGGATTAGACAAGAAGGGCACGAAGACCGGTGAGAGGAATGTATTGATTTTCGATCTTGGAGGTGGAACTTTCGATGTTTCGCTGTTG ACGATTGAAGAAGGTGTCTTTGAGGTGAAGGCTACAGCTGGAGATACTCACCTCGGTGGTGAAGACTTTGACAACAGGCTTGTGAACCATTTCGTT GCGGAGTTTAAGAGGAAGCACAAGAAGGACATTAGTGGGAATGCGAGGGCACTCAGGAGGCTGAGAACAGCTTGCGAGAGAGCAAAGAGAACGC TTTCTTCCACTGCTCAGACGACTCTTGAGATAGATTCTTTGCACGAGGGTGTTGATTTCTACGCGACGATCTCACGTGCGAGGTTTGAGGAGATGAA CATGGATCTGTTCAGGAAATGTATGGATCCTGTGGAGAAAGTGCTTAGAGATGCTAAGACTGACAAGAGCAGTGTGCACGAGGTGGTTCTTGTTGG TGGATCGACGAGGATTCCGAAAATTCAGCAGCTTTTGCAAGATTTCTTCAACGGGAAGGAGCTATGCAAAAGCATAAACCCTGATGAAGCTGTTGCT TATGGAGCTGCGGTCCAGGCTGCGATTCTTACTGGTGAAGGAAGCGATAAGGTCCAAGATCTTCTGCTTCTTGATGTGGCGCCGCTAAGCCTTGGA CTTGAGACGGCCGGTGGGGTAATGACTGTGTTAATCCCGAGGAACACGACGGTTCCTTGTAAGAAGGAGCAAGTGTTCTCCACGTATGCGGACAAT CAGCCAGGCGTTCTGATCCAAGTCTACGAAGGAGAACGTGCAAGGACCAAAGACAACAACCTTCTTGGAACCTTTGAGCTCAAGGGCATTCCTCCT GCGCCACGTGGAGTTCCTCAAATTAATGTTTGCTTTGACATTGACGCGAATGGGATTTTAAATGTGTCGGCTGAGGATAAAACCGCTGGTGTAAAGA ACCAGATCACGATCACCAACGAGAAAGGAAGGTTGAGCAAAGAGGAGATAGAGAAGATGGTGCAAGACGCTGAGAAGTATAAGGCAGAGGATGAG CAAGTGAAGAAGAAAGTGGAGGCCAAGAACTCGCTGGAGAACTATGCTTACAACATGAGAAATACCGTCAAGGATGAGAAACTCGCGCAGAAGCTA GATCAAGAGGATAAGCAGAAGATCGAGAAGGCGATCAATGAAGCAATCGATTGGATTGAAGGAAACCAGCTGGCGGAAGTTGATGAGTTTGAGTAT
GCT-004G09	AT2G37570.1	SLT1 (SODIUM- AND LITHIUM-TOLERANT 1)	GAATGGTCGATTTTGTTAGCTAATGAGTAATGATGATGACGATACCATCACCATCGTGCTCCCCTTAGCTTCTTCTTCTTCTTCTTCTGGGTTTATTTG TGCTTATTCTACAAGGTAAACCATAAACCCCCCCCCCCCCAAAGGAAAAAAAAATCCTTTTTTTATCTTTCCTCCGTGTGTCCTTATCTACAAAGGCTT AATCCGATTGAGTATCTTCTCCAAGTTTCGATTTTTGTGGGTTATTTTAAGGATCTAGAAGAAAAAATTGGGGAATTTATGTGGCGATTCGTGAGTATC TAGGAAGGGTAGATAAAGTTCTTGTTATTACAAACTCACGATTAGGGTTTCTTCATTGCGGAGGATTACAGGATTGGATTTTGAAATTGGGAATTCAA GGGGTTTAAAGTCGGGTCCTTTTTCAGGAGTTTGAGGAAGATGAGAATTGCAAGTGTTATTATGGTTATTGGAGATGAAATTTGTCTCTGGTGTGAG CTGAAATGGTAGATACTTGGTTTAACGTCTTGACGATGGAGAATCATCATCCTTCAACTCTCTTGTCAATGGATTCAAGTGCTTCTTCTCATGAGGAG CTTGATTTGGAGATGAATAACAGGCAATCTCTTCTCTCTGGCCCTCCTGACATCAATCTACCTCTCTCTGCTGAGAGAAGTCCTCCTCCGCAGCCAT GGAACCTGGATTCTTGCGACATTTTGGATGTTGGGTTAGGTTCACAAGCATACGAGACTGAGAATTACATGAGTGTTGTCCCCAAGGTTGGACGTAA ATGCGCAAAACGTGTTGATAGTATCTGGGGTGCTTGGTTTTTCTTCAGCTTCTACTTCAAGCCTGCTTTGAACGATAAATCAAAGGCGAAAATAGTCC GGGACAGCAACGGGATTTCTGGTTTCGACAAGTCAGATTTGAAGCTCGACGTGTTTCTAGTTCAGCACGATATGGAGAACATGTACATGTGGGTGTT TAAAGAAAGACCTGAGAACGCTCTCGGGAAGATGCAGCTGAGGAGTTACATGAACGGACATTCTAGGCAAGGAGATCGTTTGTTTCCGTTTAGTGTT GAAAAAGGATTTGTAAGGTCTCACAGGATGCAGAGGAAGCATTACAGAGGTTTGTCGAATCCGCAGTGTGTTCACGGGATTGAGCTTGTTCCTTTGC CGAACCTGACCTGTCTTGACGAGGAAGAGAGGAAAAGATGGATGGATCTCACGGGTCGGGATTTGAACTTCACGATTCCACCTGAAGCTAGTGACT TTGGTTCTTGGAGAAACCTTCCCAATACTGACTTTGAGCTCGAGAGGCATCCACCTCCGTTGAAGAATAATAACTCTGCAAGCCACTCTAAGAAACT ACTCAATGGATCGGGGCTCAATCTCTCGACTCAACCATTAAACCATTCAAATGGTGAAGCCACCGATCTATCTCCCTCGAGCCACAAGAGGAGGAAA GACTTGTTCTCAAATGGGATCCATGAGGAGCAATGTAGCTTAACCGTGAACCCTCCACCTCCTGCTATCGAAGTTCATCAGAACGAGCTACAAAACT GGTCAAATGAGTTTAGCGGGGCCATGAAAAACGTGTATGGACCAGTTACTGCTGCGAAAACGATCTATGAGGACGAAGAAGGCTACTTGATCATAA TCAGCCTTCCTTTTGTGGATTTGAACAGCGTTAAAGTCTCGTGGAGGAACACTCTCACACACGGGATCATTAAAGTTTCTTGCGTTAGCACATCGCG GATACCTTTCATGAAGAGACATGACAGAACATTCAAGCTAACTGATCCAGCCTCTGAGCATTGTCCACCAGGAGAATTTGTCAGAGAAATCCCTTTAT CTACCCGAATCCCTGAAGATGCAAACATCGAAGCGTATTACGATGGACCCGGATCGGTTCTTGAGATTCTTGTACCGAAACTAAGAGCTGGACCTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-004G11	AT4G33920.1	protein phosphatase 2C family protein / PP2C family protein	GCAAAATTCTCCGATAATCAAATCAACCCCCTTCGATTATCTTCCAATCGAATCAAATCCCGCTTAATTGTTTTCTCTACTCTACACTTGTAATCAGTTT GTATATAGAAAAACCCTAGTAGTTGGCAGTGATGTTGCGAGCTTTAGCGCGGCCTCTCGAACGGTGTTTAGGGAGCAGAGCAAGTGGTGATGGATT ACTATGGCAGTCGGAGTTGAGGCCACACGCCGGCGGAGATTATTCGATCGCGGTGGTTCAAGCCAATTCCAGTCTCGAGGATCAGAGTCAGGTGT TTACTTCTTCCTCTGCTACTTACGTTGGCGTCTACGATGGCCATGGCGGACCCGAAGCTTCTAGATTCGTTAACAGACATCTCTTTCCTTATATTCAC AAATTTGCCAAAGAACATGGAGGATTATCTTCAGATGTTATAAAAAAAGCATTCAAAGAAACTGAAGAGGAGTTTTGCCATATGGTTAAACGATCCCT ACCGATGAAACCGCAAATGGCGACTGTAGGATCTTGCTGTCTTTTTGGTGCCATCTCTAATGGCACACTGTATGTTGCGAATCTTGGTGACTCAAGA GCCGTTCTTGGGAGCGTTGTTGCAGGGGATGATAATAATAAGAGTGCTGCAGCTGAACGGTTATCCACCGATCATAATGTTGCCGTTGAAGAAGTG AGAAAAGAGGTTAAGGCACTTAACCCCGATGATTCACAAATCGTCATTTACACGCGTGGAGTTTGGAGGATTAAAGGCATAATTCAGGTATCCAGAT CAATCGGGGATGTATACTTGAAGAAACCCGAGTTTTACAGGGATCCGATTTTCCAGCAACATGGAAATCCCATTCCTTTGAGGAGACCCGCGATGAC AGCCGAACCTTCCATTATAGTCAGGAAGCTTAAACCACAGGATTTGTTTCTGATATTTGCATCAGATGGTCTCTGGGAACATCTTAGTGATGAAGCAG CCGTAGAAATTGTACTCAAACATCCAAGAACTGGGATTGCACGGACACTTGTAAGAGCAGCTCTCGAAGAAGCTGCAAAGAAGAGAGAAATGAGAT ATGGAGATATAAAGAAAATCGCCAAGGGAATTCGACGACATTTCCATGACGACATAAGCGTCGTTGTTGTTTATCTGGATCAGCAAAAATCTGGTTCA TCGAATAGTAAATTGGTCCAGCAAGGAGGTATCACCGCTCCACCAGATATCTACTCACTACGCTCTGATGAAGCGGAGCAACGACGGCTACTGAAT GTGTTATACTGACTCTTTGATTATGGTAAAGATCCGAATAGGGAGAATACTTGTTTACGTATTTGTTAATTTTTTATAAAAAATTACGAAGAATGTCTTC TTTTTTTTTTTTTTAATATTGGAGTTGGATTTGTATATTCTTTTACCAGCAGCAAAGAACGACCAAGTCTTTTCTTTCTGGGCAAAGTAGTTTTGGTTTT
GCT-004G13	AT3G11010.1	disease resistance family protein / LRR family protein	GGACTTGAATGCCATCTTATCATTTTTCAAGTCGCTCGAAGGATTGGATCTCTCAGGCAACCATGTTTCAGCCGAAACCAAGAGCTCAGTTTCAGAT CCTCCTTCGCAAATGATACGAGAATTAAACTTGTCAGGCTGCGGTATTACCGAATTTCCAGAGATCATAAGAACCCTGCAGTCTATGGAGAGACTAG ACATTTCCGACAACAAAATCAAAGGTCAAGTGCCTGGCTGGTTATGGACTCCACCAAATCTGACGTACGTGAATCTTTCCAACAACACTTTCGTCAGT TTCGGAAGACCAACGAAACATGGACTATCCTCTGGCTTGTGGTACTTGTCTGGCTCCAGAAACAATTTCACGGGAAAGATTCCCTCCTTCATATGTG CGTTGGGCTCTCTAAGCGTTCTCGATTTATCTGAAAACAACTTCACGGGAAAGATTCCCTCCTTCATATGCGCGTTGGGCTCTCTAAGCGTTCTCGA TTTATCTGAAAACAACTTCAATGGTTCAATCCCTCTTTGTATGGAGAATCTCAAGAGTAATCTTTCGGTTCTAAACCTCCGTCAGAATCATCTTAGCGG AGGCCTTCCGGAGAATGTATTTGAAAGTCTAAGGTCCCTTGACGTTGGTCATAACCAACTGGTGGGAAAGCTTCAAAGATCTTTGATCCATTTCTCT GCCCTTGAAGTTCTAAATCTGGAAAGCAACAGATTCAACGACACCTTTCCGTTTTGGTTGAGTTCTCTACAAAACCTGCAAGTTCTTGTCTTACGCTC CAATGCATTCCATGGACCGATTCATCGAGCCTCCTTCCTTCAGCTGAAAATCATGGACATCTCGCATAATCACTTCAACGGAGTTTTACCGTCGGATT ACTTTGTGAACTGGAGTAAAATGTCATCACTTGGGACAGAAAAAGATCGGTCGGATGTAAACTACATGGGAGAAGGTACCTATTACGAAGATTCAAT GGTTTTGATGAATAAAGGCTTAGAGATGGAGCTGGTACGTATATTAAAAATCTTCACAGCACTCGACTTCTCCGGAAATAGATTTGAAGGAGAGATTC CAAGGTCCATCGGCCTATTGAGAGAGCTTCACGTGCTCAACTTGTCAAACAATGCTTTCACTGGCCACATTCCATCATCTATGGGGAACCTGACAGC TCTCGAGTCACTTGACGTTTCCCAAAACAAGCTTTCAGGTGAGATCCCACAAGAGCTAGGGAATCTCTCGTACCTTTCTTCCATGAACTTCTCTCATA ACCAGCTTGTCGGTCTAGTACCTGGAGGCACTCAGTTTCGAACGCAGTCTTGCTCTTCCTTCGAAGACAACCCTGGACTTTTTGGCCCTTCTCTTGA CGAAGTTTGCAAAGATATCCACAAGCCATCATCGCAAGAGTATGAAACACCGGAGGAGGCAGAGGAAGAAGACGAAGAGGTGTTTAGTTGGATTGC AGCTGCAATAGGATTTGGACCTGGCATTGTATTAGGATTGACGATTGGATACATATTGGCCTTCTACAAACCGAGGTGGTTCACGAGTCCTTTTGGC

#Thalophila	AGI_CODE	Description	Sequence
GCT-004G15	AT2G06050.1	OPR3 (OPDA-REDUCTASE 3); 12-oxophytodienoate reductase	GGCACGTTCATAAGAACCAACTTTCACTAATCTATTTAACGCACCAAAATACCAAAACTGTAAACTCCTTTCAGACTTCGTTACTCCATCTCTCTGCAA CTATATCTTTGTATTGTTCTTTTCGTATTGAAGATTTAACTACAAATCAGTCTACTGTTTTTGACCGTTGATTTTCTCAGATCTGAAATTATTTTTTTACC ATCAATTCCACAAATCTGAGATTTTTCGTTGCTTCTCTATTGAAAGTTGATCGATCATTTAGATCGGCGGAGAAATGGCGACGCAGGGGAACTCTACT GATAATCTTTTCTCTCCTTACAAGATGGGCAGATTCGATCTCTCTCATCGAGTGGTTCTTGCGCCGATGACACGATGCAGGGCGTTGAACGGCGTTC CAAACGCGGCGTTGGTGGAGTATTACGCCCAACGCACTACTCCCGGCGGTTTTCTCATTTCCGAAGGCACTATGGTCTCACCCGGATCTGCAGGAT TCCCACATGTGCCTGGAATCTATTCGGAGGAACAAGTAGAGGCATGGAAGCAAGTTGTGGAAGCAGTTCACGCCAAGGGAGGTTTCATCTTTTGTC AATTATGGCATGTTGGACGAGCTTCTCATTCATTGTATCAACCTAATGGTGGATCGCCAATATCGTCAACGGACAAACCCATTTCTGGAAGATGGCG GGTTCTGTTGCCCGATGGGTCACATGGGAAATACCCAAAACCCCGAGCTCTAGAAGCTTCCGAGATATCTCGAGTAGTGGATATTTATTGCAACTCG GCAATGAATGCAATCCGAGCTGGTTTTGATGGAATCGAGATCCACGGGGCGCACGGTTACCTCATTGATCAGTTTTTGAAGAATGGGATCAATGAC CGTACTGACCAATATGGCGGTTCCATTGCAAATCGTTGCAGATTCCTAATTGCGGTAGTGAAAGGTGTAATTTCAGCCATAGGAGCTAGTAAAGTTG GTGTGAGGATATCTCCGGCAATAGACCACCTTGATGCAACTGATTCGGATCCATTAACCCTGGGACTAGCCGTGGTTGATTTGCTGAATAAGTTACA GGATGAGAATGGCTCGAAGCTCGCTTACCTTCATGTAACACAACCTCGCTACCACGCCTACGGGCAAACCGAGTCGGGAAGGCAAGGCAGTGATG AAGAAGAAGCTAAACTAATGAAGAGCTTGCGGATGGCTTACAATGGAACATTTATGTCTAGTGGAGGATTCAACAAAGAACTGGGTATGCAAGCTGT TCAACAAGGAGATGCTGATTTGGTTTCCTTTGGCAGGCTGTTTATTGCAAACCCAGATTTGGTTTCACGGTTTAAAGGTGATGCAAAGTTGAATAAAT
GCT-004G17	AT1G30440.1	phototropic-responsive NPH3 family protein	GGTGGGGGAAAAGGTTTGAATTTGGTGTTGCAGATAAGGTTATTTGAGATTCTTGGTTTCTTTAGTGGGTTTTGGTCAAGGGATCTGTTTCACATCG GTGTGATTATTTGAGGGTTTAGGTTTAATTTCTGGAAGATTATTGTGAGCTGCTGAGTTTCTGTTACTGAATGTGGAGAAAAGAGGCAGCTTACGTGT TTGTTAAAATGTCTGAGTGAAATTGATCTGTTTTAAGTTCTTAATCGATCTGGGTACTAAGGGATGGATCCAAAGTCTCTTTCTTTCTGAGAAATTAGC AGTTTCTTGTTTGGTTGCTGTACGTTAGGGTTTGGATTTTGGTGGAGGTTTTTTTGGGGTTTTGGAAGCTCAAATATCATAGTTTCTTCGTTGAATTCT GGTAAGAGAAAGTATGGCCTGCATGAAGCTTGGATCCAAATCTGATGCTTTCCAGAGACAAGGCCAGGCTTGGTTTTGCACAACTGGACTTCCAAG TGATATCGTCGTTGAAGTTGGAGAGATGTCTTTCCATCTCCACAAGTTTCCCTTGCTCTCTAGAAGTGGAGTCATGGAAAGAAGGATTGCAGAGGCA TCAAAAGAAGGGGATGATAAATGTCTCATTGAGATTCCTGATCTTCCAGGCGGAGATAAAACCTTTGAACTAGTCGCCAAATTCTGCTACGGTGTGA AGCTCGAACTCACCGCTTCCAACGTTGTATATCTCAGATGTGCTGCTGAGCATCTCGAGATGACTGAAGAGTATGGGGAAGCAAATCTCATTTCTCA ATCCGAAACGTTTTTCAACCAAGTGGTCCTCAAAAGCTGGAAAGATTCAATCAAAGCGCTTCAAAGCTGCGACGAGGTCCTCGAGTATGCTGATGAA CTGAACATTACCAAGAAATGTATCGAGTCATTAGCCATGAGAGCATCGACAGACCCAAACTTGTTTGGATGGCCAGTTGTGGAGCATGGTGGGCCC ATGCAGAGTCCAGGTGGCAGCGTTTTATGGAACGGGATAAGCACCGGAGCTAGACCTAAACATACTAGCTCAGACTGGTGGTACGAGGATGCGTC CATGCTTAGTTTTCCTCTTTTCAAGAGACTTATCACAGTCATGGATTCCCGGGGCATAAGAGAAGACATCATTGCCGGTTCGCTTACTTATTACACGA GAAAATACTTGCCTGGCTTGAAAAGACGACGTGGTGGACCTGAATCTAGTGGTCGTTTCAGCACACCGTTGGGCTCGGGGAATGTACTGTCTGAGG AAGAGCAGAAGAACTTGCTTGAAGAGATCCAGGAGCTTCTCCGTATGCAAAAAGGTTTAGTTCCGACCAAGTTCTTCGTCGACATGCTTCGTATCGC CAAGATTTTGAAAGCTAGTCCGGCTTGCATAGCGAATTTAGAGAAGAGGATAGGGATGCAGCTTGACCAGGCGGCGTTGGAAGATCTTGTAATGCC TAGCTTTTCTCATACAATGGAGACTTTATACGACGTCGACTCTGTGCAAAGGATCTTGGACCATTTTCTTGGGATGGATCAGATTATGCCCGTTGGG GTTGGCTCTCCGTGTTCTTCAGTAGATGATGTGAATTTGATTGGATCACCACAGTCGATAACACCAATGACGGCCGTTGCAAAGCTCATCGATGGGT ATCTTGCTGAAGTTGCTCCTGATGTCAATCTCAAGCTTCCAAAGTTCCAAGCTTTAGCCGCCTCTGTTCCTGAATATGCAAGACTCTTAGACGATGGA CTCTATCGCGCAATAGACATTTATCTTAAGCATCATCCTTGGTTAGCGGAAACAGAAAGAGAGAATCTTTGCAGGTTGTTAGATTGCCAGAAGCTCTC TTTAGAAGCTTGCACACACGCGGCACAGAACGAGAGATTACCTCTAAGAATAATCGTCCAGGTCCTCTTCTTTGAGCAGCTTCAGCTCAGAACCTCT GTTGCTGGATGTTTCTTGGTTTCAGACAACCTCGATGGCGGGTCAAGACAGCTAAGAAGCGGAGGATTTGCAGGAGGATCAAATGAAGGAGGAGG TGGAGGATGGGCAACCGCAGTAAGAGAGAACCAAGTCCTGAAAGTTGGAATGGACAGTATGAGAATGCGTGTTTGCGAGTTGGAGAAAGAATGTTC

#Thalophila	AGI_CODE	Description	Sequence
GCT-004G19	AT3G47600.1	MYB94 (myb domain protein 94); DNA binding / transcription factor	GGGACAAAACCAACTACCACTTGTACCCCTTTGTCTTAAGTACTCTTAGCCCTACAATTTCCTAAGCTTCCAAGCAAAAAACCTTCGAAGGATTAACG TTTTCTTCCTCTATATATCTATCATCATCAAGACCCCTCTCACTGCTCATACCACAAACTATTCCGTTCTTCCCCTAAGCACAGAGAAATATATAGGAG ATTGTGATGGGAAGACCACCGTGCTGTGACAAGATTGGAGTGAAGAAAGGGCCATGGACACCAGAGGAAGATATCATCTTGGTTTCTTACATTCAA GAACATGGTCCTGGAAACTGGAGATCTGTGCCTACTCACACAGGTTTGAGGAGATGTAGCAAAAGCTGTAGATTGAGGTGGACTAATTATCTTCGAC CTGGGATTAAGCGTGGAAATTTCACCCAACACGAAGAGAAGATGATTCTCCATCTTCAAGCCCTTTTGGGCAACAGGTGGGCAGCTATTGCATCATA CCTTCCAGAAAGGACAGACAATGATATAAAGAACTATTGGAACACACATTTGAAGAAAAAGCTCAAGAAGATGAATGATTCTTGTGAAAGTACTATCA ATAATGGATTTGATAATAAAGACTTATCTTCATCAGACAAAAAAACTACTTCACATCAAAGCGGCAGCTCCAACAAAGGTCAATGGGAAAGAAGGCTT CAGACAGATATCAACATGGCTAAACAAGCTCTTAGTGATGCCTTGTCTCTTGACAAACCACAAAACCCTACTAGTTTCTCTATAACCGATCTTGGTTA TGGACCTTATGGTCCATCATCTTCTTCATCCTCAACAACCACCACACCCACAAGCAACACTAATCCACACCCATCTGGTGTCTATGCCTCAAGCGCT GAGAACATCGCTCGGTTGCTTCAAAACTTCATGAAAGACACACCAAAGACCGAAGTGCCCTCACCGGTTGCAGCTACCGAGATGGTTATCACCACG GCGGCTTCTAGCCCTAGCATAACAGAAGGAGGCGGAGAAGGGTTTGATCAGTCTTTATTCAGCTTCAACTCCTTGGATGAAGCTGAAGACAAGCCT AAGTTAATAGACCATGACATTGATGGTCTACTTACACAGGGTTCTCTTTCTTTGTTTGAGAAATGGCTCTTTGACGAGCAAAGCAACGACATGATCAT TAATAACAACATGTCATTAGAGAGCCAAGAAGTGTTATTCTAGAAAGAAAAACTTTGACGATTTACTTGAGGAATGAGGAGGCTTATAGCTAGCTATA AACAAAATGTATAATTAAGTACTCTTTAGTTTTGTTGTAACTTGTGATCCTCAATTATCTTTCGTATATTGCAGTAATTAGGGATTTTGGAGTCTTAAGT
GCT-004G21	AT4G13010.1	oxidoreductase, zinc-binding dehydrogenase family protein	GGAACTTCTTCCTTCAACTTTTCTCTACGATCAACAAATCTACATTCTCCGGCGTTGTTCGATTCAGTGATCGCCGTTGTTTACCAATGGCCGGAAAA CTCATGCACGCTCTTCAGTACGAGTCTTACGGCGGTGGCGCCGCCGCTTTGAAGCATGTCCAAGTTCCAGTTCCATCGCCAATGAGCAACGAAGTT TTACTAAAACTAGAAGCTACTAGTTTAAACCCTGTTGATTGGAAAATTCAAAAAGGAATGATCCGGCCGTTTCTGCCCCGCAAGTTCCCCTGTATTCC TGCTACTGATGTTGCTGGAGAGGTCATGGAAGTTGGATCAGGAGTTAAGAATTTCAAGGCTGGTGACAAAGTTGTATCGGTTCTCAGCCATCTAACC GGAGGTGGACTTGCTGAGTTTGCAGTTGCGAGCGAGAAGCTGACTGTAAGAAGACCCGAAGAAGTAGGACCAGCTGAAGCAGCCTCTTTACCTGT GGCGGGTCTAACAGCACTCCAGGCTCTAACTAATCCCGCTGGGTTGAAACTGGATGGTACAGGCCACCAGGCCAACATCCTGGTCACAGCAGCAT CAGGTGGAGTCGGCCACTATGCTGTCCAGCTGGCAAAGCTTGGTAATGCTCATGTAACCGCCACATGTGGGGCTCGGAACATAGACTTTGTAAAAT CTTTAGGAGCGGACGAGGTTCTAGACTACAAGACTCCAGAGGGAGCCGCCCTCAAGAGTCCGTCGGGTAAGAAATACGACGCTGTGATCCATTGC GCAAATGGAATACCGTTTTCGACATTCGAACCAAATTTAGCCGCAAACGGGAAGGTCATAGATATAACGCCAGGGCCTAGTGCGATGTGGACTTAT GCTGTTAAGAAAATAACCATGTCGAAGAAGCAGTTAGTTCCGCTTTTGTTGATCCCGAAAGCTGAGAATTTGGAGTTTATGGTGAATCTAGTGAAAGA AGGGAAAGTGAAGACTGTGATTGACTCGAAGCATCCTTTGAGCAAAGCAGAGGAAGCTTGGGCCAAAAGTATCGATGGTCATGCTACTGGGAAGAT TATTGTCCAGCCGTGATAGCATTTTGGTTTTGCACGTTGTTCGACTGCTTTTCTATGATTCTATAATTATAGTTTGTTTCTCGTTTTTACATTACTTTCTT
GCT-004G23	AT1G70780.1	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT1G23150.1); similar to putative senescence-associated protein [Pisum sativum] (GB:BAB33412.1)	GAATCACATCCTTCTTCTCGTCTCTCTCTCTCTGCTTCGCAACCAAAAAAGAAGTGCTTCTTCGCTTCCTCGATCTCATCCCGTCTCGCCTCTCTTCT CCAAAATTAATTTTACTGTGGAATCGTTTGTGAATGGTGGAAACGAATCCGATTGGTGGTAAGTTTATGCTCTCCCTTCCAATCCAAAGGGCGAGCTT CTTCCTCCCTCTCTCGGCTTCCTCTGCTTTCGCTTTTGGATCCTGCAAAGAAGGCTGGTACTTTCGCTGCCTCGGCCTCGACCCGTGAATCGATCGA TCGTCCGATTTGTTACATTGATTGATTGATTCGTTGTGATCTGCCGATTTTGTTTTTTGTGTCTCTCTGTAATTGAAAATTTTCTCGAAGATGTTGCTTT ACAACAAGCAGAAGAAGAACCAGAACGCTAAAGGAAACAGGATCCTAATCAGCGTTACGGTTCTGGGTAGCGCCGGTCCGATCCGGTTCGTTGCG TATGAGGAAGATCTCGTCGCTTCGGTTATCGACACTGCTCTTAAATGCTACGCTCGTGAAGGTCGTCTTCCACTTCTCGGATCCGATTTCAATGACTT TCTTCTCTATTGTCCCATGGTTGGACCTGAAGCTTTAAGCACATGGAACGCAATTGGATCGCTTGGTGCACGGAACTTTATGCTGTGTAGGAAACCG GAGGAGAAGAAGAAGGAAGCTACTAATGGAAGATCTAGCTCAACCATTAATGGAGGAGCAAGAAAAGGAGGAAGCTTGAAGGCTTGGATCAACAAG TCCTTCAGCCTCAAAGTACCCAGCCATTAAACATTATTTTCTTTCTTTCTCTCTTTGCAAACAAAACAAAGACCAAACATTGGTTATGATTATGTTTTCT

#Thalophila	AGI_CODE	Description	Sequence
GCT-004I01	AT5G58600.1	PMR5 (POWDERY MILDEW RESISTANT 5)	GAAGATATTTCCTCTCTCAATTATTTTACACATCTTTCTTTTTTCGTGGGTGTTCGGGAAATCTCCGTTAAAGCAAAGATGGGTTATCTTCTCCGAATC TCAGTCTCCGCCATTTTGTTTCTTGTTCTACTAGTGCTTCAACAAGAACCATCTTCGTCAGCCATTATACTGAGCTTGAAGAAACGCCATGGGAGCAG CAGCAGCAGCAGCAACGAATACAGCTCGAGCAGACCATCAGCTTTCCAAGGGAACAAGAGCACGTGCACTCTCTTCCTCGGCACGTGGGTCCGTG ACGACTCTTATCCTCTCTACAAACCGGCGGATTGTCCCGCCGTCGTCGAGCCTGAGTTCGATTGCCAGATGTACGGTCGTCCTGACTCCGACTACC TCAAGTATCGATGGCAACCCCAGAATTGCAACTTACCCACGTTCAATGGTGCTGCGTTTCTGTTGAAAATGAAGGGCAAAACAATAATGTTTGCGGG CGATTCATTGGGGAAGAATCAATGGGAGTCGTTGATCTGCCTCATCGTCTCATCTGCACCGTCCACTCGGACTCAGATGACCAGAGGCCTCCCTCT CTCCACCTTCAGATTCTTGGATTATGGGATAACGATGTCGTTTTACAAAGCTCCGTTCTTGGTGGACATAGACGCTGTTCAAGGCAAGCGAGTGTTG AAACTGGAGGAGATCTCCGGCAATGCTAACGCTTGGCATGACGCTGATCTACTCATCTTCAACACTGGCCACTGGTGGAGCCATACCGGATCTATG CAAGGATGGGACTTGATACAATCAGGCAACTCTTATTACCAAGACATGGACCGTTTCGTAGCAATGGAGAAAGCTCTTCGTACTTGGGCTTATTGGG TCGAAACCCACGTCGATAGATCCCGAACCCAAGTCTTCTTCCTCTCCATTTCTCCAACACACGACAACCCGAGTGACTGGGCGGCATCATCGTCTTC AGGATCCAAGAACTGCTACGGAGAGACAGAGCCGATCACAGGAGCGGCTTATCCAGTGAGTTCCTACACAGATCAGCTGAGATCAGTGATCGTTGA AGTGCTTCACGGGATGCACAATCCGGCTCTGCTTCTTGACATTACGCTCCTCTCTTCCCTTAGAAAAGATGGTCACCCGTCTGTATACAGCGGTCTG ATCAGTGGTTCGCAGCGGTCTAGACCAGACCAGTCTGCAGATTGTAGCCATTGGTGCTTGCCTGGTCTTCCTGATACATGGAACCAGTTGTTGTATA [illegible]
GCT-004I03	AT3G13820.1	F-box family protein	GGGCTCTGTAGAGTCCGTCGTCGTAGAGCCGTGCTTCATCAGGGAGAGAAATCGCTAAACTGTAGAATTTCTCCGGTTTGAGATTACCGTCCGATG CGATTTCGCCGAGAACTCCGTCGATTAGTTTCCCAACCACCGTCAGCGACGAAGATACGACGGCGATTTCGAGGAAATGACCTACGAGCCTCTCCA CCAGATCGACATCGTATAACGTCTCGTTGAGATACGAGTAACTTGGGATGAGCAGATCGTCGAGCGTCGCTTTCTCCAGCCGCGACCCGATTTTTC TCTCAAGGAACGTCCGGCATTTCTCGGAGGTGTTGAGGATGATGGCGGATCGTAATAACCCGAAGAGAGATCTCGTCGTCGTTGCGGTTTTCGAGG AGTGATTTAACGGAAGATCTGAGATTATCGTCTCCAACAATTCTCTTTGATTGTTCTCTGACGCTATGGTGGAGGAGGAGGAAGATGACGAAGACCG CGACGAGATTCCGGGGATGTGCTTCTTCGCGTAACGAATCAGAGAGCTCTCTACTAGATCGGGACTTAGATCTCTTGATTTCATGGCTAGGATTACT CGTTTGAAGATCGGGAAGTTCAATTCCGTTAGATCTTCGAGCCATAGCTCCGATTTCGAATCATTGCTCTGTTTTGTATCGGCCGATTTCGTTTTGTT TATTGGCCAACCGAACAACGACGGATCTGGTGATGAAGCTCTGGAGACGATTGATTCTATGCACTGTTTCGTTATACCGATGGATTCGGCTACAGTA GAGACTGATTCGCACGCTTTCAACGCCTTGATGGATTCTGGTATGCTATTGAAGACGGATTGTGAGAGGAACTTGTCCGTCTTTGAGATTAGGTTTT CCGGTGAGTGCTCTTCCGACATTTCGAGATCCTCCGCGGCGCACCGGAGTGGAACAGCTGTTGAAGCAGAGAGTTCGACTTTGACGCCGTAACAT ATCTTTACCACAATCTCGAAAATCTCCGAACCTCCTGGAAAATCCTCGAGTCTGATGTGAAGATAATCGTTGTTTTCTACTGATTCCTCTTGTTCATGG CGTTTCCTGTTGTCGTCACTCTCTTCTAGTCTCTGCTTATGCTCTGTAATCAGCTGGTGGAGTTTTCTGCTCTTGGATATCAGAGGAAACTGAAGGGA ACATAAAAGTTGAGTTAAGTTTTGAGAAAACTCTGAAAACAGAAAAGAAGATGAAATCTCAAGACGTATTAATGAAGACCTTATGCAGATGAAATGTC ATGTCGTCGACTTCGATTTCGATGTCACTGGGCAAGCCTGTGGTACAAAACCTGCACCGAAAGTAAGACAGAAAGAATTTTCAGAATGAACAAGAAA CATCTTTTTGACTATTGAAATGAGGTGTTTTGTCTTTCTTCACCATGCTTGCCTCTTTGAGTTCGGTTTCTCTGCTGCCATTGGTAGTGATTTTCCCTC

#Thalophila	AGI_CODE	Description	Sequence
GCT-004I05	AT4G27260.1	GH3.5/WES1; indole-3-acetic acid amido synthetase	GATACACTTTAAGCTACCAAAACCATTAAGCTTATCTACTTCTTATCTATTTCAAACCTTTTTCACCTTCTTTTACCTGAAACCAAACCATGCCTGAGGC ACCAAAGAATGAATCTTTAGAAATTTTCGATCTGACGCTCGACGAGAAGAACAAGAGGAAGCTTCAGTTAATCGAGGAACTAACCTCGAACGCCGAC CAAGTCCAGAGACGTGTTTTGGAGGAGATCTTAACCCGCAATGCTGACGTGGAGTATCTCAGACGACATGACCTCGACGGTCGCACAGACCGAGA GACCTTCAAAAACGTGATGCCGGTTATCACATACGAGGATATTCAGCCTGAGATCAACAGGATCGCTAATGGTGATAAATCCCATATCCTCTCTATAA AGCCCATCTCAGAGTTCCTCACAAGCTCTGGAACATCTGGTGGGGAGAGGAAGCTAATGCCTACAATCGAAGAGGAACTGGACAGAAGATCGCTTC TCTACAGTCTCTTGATGCCGGTGATGAGCCAGTTTGTTCCTGGCCTCGACAAAGGCAAAGGAATGTATTTCTTGTTCATCAAGTCCGAATCCAAGAC ACCAGGAGGCCTCCCTGCTCGTCCTGTCTTAACCAGCTACTACAAATCTTCCCATTTCAAAGAGAGACCCTTTGACCCTTACACCAATTACACAAGC CCCAACGAGACCATACTTTGCCCTGACTCTTACCAAAGCATGTACTCTCAGATGCTCTGTGGCTTATGCCAACACCAGGAGGTTCTTCGAGTCGGC GCTGTCTTCGCCTCTGGATTCATCAGAGCCATCAAGTTTCTTGAGAAACACTGGACCGAGCTGGTCTGTGACATCAGAACCGGTGTTCTAAGTTCCT TGATAACCGATCCTTCAGTGCGAGAGGCGGTCGCCAAGATCCTTAAACCGAACCCAAAGCTCGCAGATTTCGTGGAATCCGAGTGCAAAAAGAAGT CTTGGCAAGGGATTATCACTAGGCTGTGGCCTAATACAAAGTATGTGGATGTGATTGTGACCGGAACAATGTCTCAATACATTCCAACTTTGGATTAC TATAGCAATGGCTTGCCTCTTGTTTGCACAATGTATGCTTCTTCAGAGTGTTACTTTGGTGTGAATTTAAAGCCACTCTGCAAACCTAGCGAGGTCTC TTACACGCTCATACCAACCATGGCTTATTTCGAGTTCTTGCCTGTTCATAGAAACACAGGTGTTACTAACTCAATCAATCTACCTAAAGCACTCACTG AGAAAGAACAACAAGAGCTTGTTGATCTAGTTGATGTTAAGCTTGGTCAGGAGTACGAGCTCGTTGTCACCACTTATGCCGGGCTTTGTAGATACAG AGTTGGTGATTTGTTGAGAGTGACTGGATTCAAGAACAAGGCGCCTCAATTCAGTTTCATATGTCGCAAGAATGTGGTCTTAAGCATAGATTCCGAC AAGACCGACGAGGTTGAGCTACAGAACGCGGTGAAGAACGCAGTGACACACCTTGTCCCTTTCGACGCCTCGCTCTCTGAGTACACGAGCTATGC GGATACAAGTTCTATCCCGGGCCATTATGTCCTGTTCTGGGAGCTATGTTTGGACGGAAACACACCGATCCCTCCTTCAGTCTTTGAGGATTGCTGC TTAGCCGTAGAAGAGTCACTCAACACTGTTTATAGACAAGGAAGGGTTAGTGACAAGTCCATAGGCCCGCTCGAGATCAAGATTGTTGAGCCAAATA CATTCGATAAGCTCATGGATTACGCGATCAGCTTGGGAGCATCCATTAATCAGTATAAGACGCCGAGATGCGTTAAATTTGCTCCGATTATCGAGTT
GCT-004I07	AT3G19360.1	zinc finger (CCCH-type) family protein	GTTTCGTCTCCCAAATCTGCCGCCGCCATCGTTGATCATGTAATGGATTCTAGTTACTCTGATTCTCGTCCCATGTTCGTGCAATCGCCTTATGGTGG TTGGAATCAAACTCAGATGATTGATTCGATGGTTAATCCGATGAACAACGAACAAGTCGACTTGCACTCACAATCTGAATCACAGTCACAGTCACAGT CACAATCTCAGCCTCCTCAGCAGTTACAGCCTTCATTGAAAAGGCCAAGACTTGTCGACGATAACTTGTTTAATCCGGCTTCGTCGTTTCCTCCAAC GAGTAACAACAACAACCCTTCGATGGTTCCATCGTTAAACCCTCCTCCTGTCAACAAAGGGACGGCTAATATTTTCTACAAGACGAGAATGTGTGCG AAATTCAAGGCAGGGACTTGTAGGAATGGAGAGCTTTGCAATTTTGCTCATGGAATCGAGGATCTGAGGCAGCCTCCATCGAATTGGCAGGAGATT GTTGGACCTCCTGTTCAAGACAGGGAGAGAGAGAGGGAAAGGGAGAGGGAAAGGGAAAGGGAGAGACCGTCTTCTGTCTCTGTTGGGAATAATTG GGAAGATGATCAGAAGATAATCCTGAGGATGAAGCTTTGCAGGAAGTTTTGTTTCGGTGAGGAGTGTCCTTATGGGGAGAGGTGCAATTTCATTCAT GAGGATCTTTCAAAGTTTCGTGAGGAGTCTGGAAAACCGAGGGAGAGCTCGGTGATAAGCGTTGGTACTAGTGTTGCTGATTCACCATGTGTTGAG AATGGTACTACTGCTTATAACCAAATCGATGTAAATAGACAAGGAGGCATCCCTGTACCTGCACCTATTAACAGTAATGGTGGTGTCAAGTTCTGGAA GACGAGGTTGTGTATGAAGTTTGAGATTGGTCAATGTCCTTTTGGCGATAACTGCAGCTTTGCTCATGGCCAAGCAGAGTTGCATAATTCTCTTGGA AGGGTTGATGGAGAAGCTGTGAACGCAGTAGCGTCTGTGATTAAACAAACGGTGGCACCTGCAAATGAAGCATTTGCAATGAAACCAACTGCACAA GTAACAGCAGATTCTTCTGGCCTTAACGATGAAGGGCGTCGAAAGAAGTGTTTGCTCAAGTGGAGCGACTCCAAGAAGATTAATCGAATCTATGGA CACTCCATCCATCATTTACCCCTCCCTCAAAACTCCACCAAACCACTACACACCTCACTTTCTACTCTCCTTCCATTTTCTCTTCTCTTTCATCATCA
GCT-004I09	AT1G10200.1	transcription factor LIM, putative	GCTTCTTCTTCCGACTCTTGGTCTGATCTCTTACAAGAAACAACACACAAATGGCGTTCGCAGGGACAACCCAGAAATGCATGGCCTGTGAAAAAAC CGTTTATCTCGTGGACAAGTTAACCGCAGATAACCGGGTCTACCACAAAGCCTGCTTCCGATGTCACCATTGCAAAGGAACTCTCAAGCTTAGCAAC TACAACTCATTTGAAGGAGTTCTCTATTGCAGACCACATTTCGATCAAAATTTCAAGAGAACTGGAAGTCTTGAGAAGAGCTTCGAAGGGACACCAAA GATCGGAAAACCCGATAGGCCTTTGGAGGGAGAGAGACCTGCTGGGACCAAAGTGTCGAATATGTTTGGTGGAACACGAGAAAAATGCGTTGGCT GCGACAAAACCGTGTATCCAATTGAGAAGGTGTCGGTGAATGGGACATTGTACCACAAGAGCTGCTTCAAGTGTACACATGGAGGCTGCACAATAA GTCCTTCGAATTACATAGCTCACGAGGGGAAGCTTTATTGCAAGCATCATCATATTCAGCTGATCAAGGAGAAAGGAAATTTAAGCCAGCTCGAAGG AGGAGATAATGCCGCTAGGGAAAAAGTCGTCGCTGCTTAAAAGAAACAGTTCAATCTCCCTGGATGATTTTGACCACCTAAGAGAACCAATAGTGTC ACTACTTCTCGATCGATAACATTTATTGGTTTCGTTTCTCTTAAGTTTGTGTTCTTTCTTTTTTTTTGTTGTCTTTGATGTTGTTTCTTTTGGTAACTTTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-004I13	AT2G36740.1	DNA binding	GGCCGTGTGAATTAAAGGCGGAATCAGTGCGGCAGGTCTCCGGCGAGGACGTGCTCGTCGAAAATACCCCTCCGTCCTCATTCTCCGAAGGGTAA TCCTCGAGCGAGATTTAAGCTCATCACATATCACTTTTCACCTCTTGCTTTCGTGGGCTCTTCTTCGATCGCTGTGCTCACTCAAAATTTTGGATATTC GTTAAAATAGTGAAGTTGAAGAGCTAAGAGCGAGCAAGTTATCATGGAAAGCGATAAAGAAGAGCAAATGGTTTTCTTGGATCGTACAACCCGAGCA ACACGGGGCAAACGAATGACCAAGCTGCTTGATGACGAAGTAGAAGAGGATGAACAATTTTGGAATCAAGAAGCTCTGAAAGAGGAAGAACATGAC GATAACTATGAAGCAGAAGCAGAAGTTGCTGATGAGTTTGACAGCGACTTCAATGACGATGAGCCTGAACCTGATGCAGTAGCAGAAAATGAAAAG GAAGAGAGGGATATGCCAAAGAAGCGGCTGATTTACCCTGGTAAAACCGCTCCAAAGAAAAAGAAGAAGAAGAAGTTAGTTTCGACACTAGAAGAT ACTCTTGAAGGTGAGAAACCTGGTGACGAAGTGGGAGACAAGGAACAAGATGGAAAAGAACAGAATGAAGCACAAGAAGACATGGAAAGTGAGAA GGTCATAAGAAAATCTACGCGGACTTCAGTGATTGTACGGCAAGCAGAAAGAGATGCATTGCGTGCTGCTATACAGGCGACAACAAAGCCAATACA AAGGAAAAAAGTAGGGGAGGAAAAACGGATGACCCAAGAAGAAATGCTGCTGGAAGCTGCTCAAACAGAGATCATGAACTTGAGGAATTTAGAACG TGTCTTGGCAAGGGAAGAAGAAGTAAAAAAGAAAGCGATTGTGCATAAAGTGGTCTACAAGGGTCCTCAGATTCGGTATCTTTCAAAAGATGGATGC AACTATTTAGAATTCTGTAATGGTGCATCGTTCAGTTCAGAGCTTTCGACGAAGTCGGTTCCATATCCAGAAAAAGCTGTATGTGTGATTACTGGATT ACCTGCCAAGTACCGAGATCCAAAAACTGGTCTTCCATATGCAACTAGAGAAGCCTTTAAAGCGATACGAGAAAGGTTCATGGACGAACAGAATGGT TTGAGAAAGAAAATGGAGATGGGAGATTTGTTTGATACACTTGTGGTGAAAGGATTTGCTGTAACACAAAAGCGAACAAAGATTCCCAAGAAAGACA
GCT-004I15	AT1G69490.1	NAP (NAC-LIKE, ACTIVATED BY AP3/PI); transcription factor	GATTTCATAAACACCAGCCAAAAAAAAAAAAAAACACAGTTTCTGTCCAATAATCATGGAAGCAAATTCAAGTTCTAATCTCCCTCCAGGATTCAGATTT CATCCTACCGACGAAGAGCTCATCGTTCACTATCTCCGAAACCAAACCATGTCCAAACCATGCCCTGTCTCCATCATACCAGAAGTCGATATCTACA AATTTGACCCTTGGCAATTACCCGAGAAAACAGAGTTTGGGGAAAATGAGTGGTACTTCTTCAGCCCGAGAGACCGGAAATATCCAAACGGAGTCA GACCAAACCGGGCTGCTGTTTCCGGTTATTGGAAAGCAACCGGTACAGACAAAGCCATTCACAGTGGCTCGAGTAACGTGGGTGTGAAGAAAGCTC TCGTCTTCTACAAAGGTCGACCTCCCAAGGGAATCAAAACTGACTGGATCATGCATGAGTATCGTCTCCACGATCCACGTAAACCATCGACAAAACG TAACGGCTCGATGAGATTAGATGAATGGGTATTGTGTAGGATATACAAGAAGAAAGGAGCAGGGAAGCTTCTGGATGAAAAAGAAGGTTTCATGGAT GAAGTACAAATCGAAGAGACGTTAACAGTTGTTACGAACGAAGCAGAGAGAAGAAATGAGGAAGAGATAATGATGACGTCGACGAAAATTCCGAGG ACGTGTTCGCTTGCTCATTTGTTGGAAATGGATTACATGGGACCCATCTCTCACATTTTAACACCGTTCGATCTTCATCATCCTGATTATTCGGACAG TATGAATATGAACCAGTCTGGTTGGTTCGGAGGAGATCAACAGATTAACCAAGAAGAGGTCTTAAACCATCATTGTCAAGCTATGTTTCAGTTTTAGT GATGGGTTTAGTAAAAAAGAAGAGAAAAACATGAAAGCCCCCAAAAAAGATTTGCTTGGAAAGTTTGGTAGATATTTTTCCTTAGTTTGGGTATAGGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-004I17	AT3G60240.4	EIF4G (EUKARYOTIC TRANSLATION INITIATION FACTOR 4G)	GATCTTCCTTGCGTCGTTTCACTCCATTACAGAGCTGTAGAATTAGCTTGAAAAAGGGTGAAGATTAGGGTTTGTTATAGATGTCCTACAATCAATCA AGGCCGGATAGAAGCGAGACTCAATATCGGAGAACTGGTCGATCCACCGGCTACCATCAGCAGCAGCAACAACAGCGATCTTCCACCGCCGCTTA CGGTAGGGGAACCGGCGCTGCTACTGCGCCTGCCCCTTCCACTTCCGTCGATTCTTCCTTATCCTCCAATCGCAGTTTTAAGAAGGCAGGCAATGC CCAAGGAGGGCAGTCTAGGGTGAATCTGCCGCCTGTGAATCATTCAGTTTCTAAGGATGGTTTGCATCCTAACAATCACAATGGTCCCAATGTACAG CCTCGCTCTCAAGGAGCGTCTGGTGAACCGCTTATTGGCGGAACGGCCCATCCAACCAGTGGAGCTATTCCAAAGGCTCCAACTTCTCAGTCTCCC GCCATGAATTCCAAGAGCAATGAGACTCCAAACACAGCTAAAGCCTCTGGCGACCCTTCTAAAGCATTTGCTTTCCAATTTGGGACACTTGGTCCTG ACTTAATGAAGATTCCTGCTCGAACTAGCTCAGCACCTCCGAATATGGATGAGCAGAAACGTGCCCAGATGCAGCAAGCTTCTTTAAGAACTGCAAC AAATTTGCCAGCTTCTGTACCTAAAAAAGATTTACCAAATAAGGCTGCAGATAATCAACTGATGAGGAAAGAGGGGCACCATCCATCAAGTGAAAAA GCAGATGGCCATGTCTTACATGTACCCCCTCCAAGTCAAACACAGAAGTCTCCAGTTACAAGTATCCGCATGCCTTCGGTGCAGACACCTTATCAGC ATGCTCAGGTTGCTCACCCTGTACATTTTGGTGGCCCGACAATGCATATGCAGCCTCCCAATGTGACTCCAGGCTCGTTTCAGATGCCAATGCCTAT GGCATTATCTATGGGAAATACACCTCAAATCCAGCAGCAGGTGTTTTTTCCAGGTCTCCCGGCACATCCGATTCATCATCAGGGTATGATGCATCAG GCACAGGGACATGGTTTTGCAAATCCGATGGGTGCTCAGATTCATCCTCAGTTAGGCCACGTGGGTGTAGGTTTGAGCCCGCAATTTCCCCAGCAG CAAGGAGGAAAATTCGGTGGGGCACGTAAGACAACACCTGTCAAGATTACGCATCCTGACACACATGAAGAGCTGAGGCTTGATCGACGTGGTGA CTCGCATCCAGATGGCGAACCAGTGGCTTCAAAACCACATTCTAACACACCTCCTAGATCACAGCCAGTTTCGTCATTTGCTCCTCGACCAGCTAAT TTGGTGCAAACCTCGTATAACACCAATCCCATGATATATCCTCCAGTCTCTGTACCCTTAAACAGTGGTCCAATGTCATCCAATCAGGCACCAAGATA TCATGTTATTGATGGGTCTCAGAGGGTACAATTTATTAACCAATCTGCTCATACCGCTCCTCAGCTCATCAGACCCGCAGCTCCTGCACATGTTTCAC CTGATTCTTCTTTCTCTGTGAAAGCACGCGATGCCCAAAATGGAATGTCATCTTCTCTACCTGCAACTGCGAAGATAACTGTGAAGTCAGCTTCTGCT TCTGAAAAACTTGGATCACCTAAAGCCAGGTCACATGGAGAAGTTAACATTTCTCTGTCCAAAAAGGATGTCGAGGCAGGTTCATTGAGTTCTTCAC AGCATCCGAAACCTGGCTTTGTCTCCGGGGTACCAAATTCGTCTGCTCTGCCAGAGAAGTCATCTGTGGAGACTGCTCCAGTTGCAACAGCTGAAA TCGGAAGAGGGGTTATGGTGAATGAGTCGAACTCAGTTGAAGATCAGAAACGGACATGTAAGGTGGAACCCCCTCAGAATGTGACTAAGGATCATG GACAGACTATGTTAGACCCTCTGGTTTCTGATCTTGGTTCTCCTTCTAGCTGTTTTGCTCCTGAAGCAGAAACCATTGCTGCTAAGGAAAATTCGTCA CTTCTAGCTACCAATGGTTTTAGGAAGCAACTGATAGAGGTGACTCCTACGTCTGATTCTCCCACTGCTGACTTATTAAATACAAACAAATCTACAGA
GCT-004I19	AT3G22060.1	receptor protein kinase-related	GAAAGAAACTCTCCCAAAAGAAAACTATTATAAATCCTAAACAATGTCTCCATCCTCCCCACTAAAAGGCATCGTTTCAGTCTCTGTATTGGCCTTAG CCATACAACTTCTCTTTATACAAAGCGTTTCGTCCCAAAGCCAAAACAATGCGTTTCTATACCACAAGTGCTCTGACATTGAAGGGAACTTCACGTCG AAGAGTCCGTACGAGTCAAACCTCGACAGTCTCTTTCGTCGTATCTCTTACAGAGTTCCATCCTCCGGTTTCGCCGCCTCCTCCGCTGGTAATAGTC CAGACAACGTCAACGGATTGGCCCTTTGCCGCGGCGATGCCTCTTCCTCTGACTGTGGCTCCTGTCTCGCGACCGCCATCCCTGAGTTACGTCAGA GATGTCCCAACAACAAAGCAGGGATAATATGGTACGACAACTGTCTAGTCAAGTATTCCTCAACCAATTTCTTCGGAAAGATCGATTACGAGAACAG ATTCTATTTGTACAACGTCAACAACGTGAGCGATCCTGCATCCTTTAACACGCAGACAAAGGCTCTATTAACTGAGCTAACGCAGAAAGCGACTACT GGAGACAACCAGAAGCTGTTTGCGACAGGGGAGAAGAATCTGGAGAAGAAGAAGCTATACGGACTGGTGCAGTGTACAAGGGACTTGAGGAGAGA GAGTTGCAAGGCGTGTTTGGATGGGATTATTGGGGAGCTTCCTAATTGCTGCGACGGTAAAGAAGGAGGGAGAGTTGTAGGTGGGAGTTGTAACTT TCGGTATGAAATTTACCCTTTTGTTAAGATTGCTTGATTAGAGGTCCAAAATAAAAGTGTTCCTGAGCCAAACGTACTGTCTTAATTTATTATTGAAGC

#Thalophila	AGI_CODE	Description	Sequence
GCT-004I21	AT3G58690.1	protein kinase family protein	GGTGTCAAATTTCGTCTCCTCCTCCTCCTGGGTGACAATTTCTAGGGTTTCCACATTTTCTCGTCTTTTCCATTTCTGGATACTGGTAAAAAGCGTTCT TCTTTAGGGGAAACAAAACAAAAAATGGAGACAGATGAAGCGTACCAAAGGAAAGAGCGTGCTGCACTTGTAGCAATTGTCGTTCTTGCTTGTCTTG CTCTTTCTTCTTTGTTCGTCGCCTTCAGCTACTACTGCTATATTCGTAACAAAGTTTCTAAGCGTCACAGAATTAGCAAGAGATTTAATTGCGAGGAGA AAGGCGATTGTCAAATTGTAGAAGATGTTACTGAAAACGGACTGCAGATTTTCAATTTCAAGCAGCTGCATTCAGCAACTGGTGGGTTTAGCAAGTC TAATGTGGTTGGGCATGGTGGCTTTGGATTGGTTTACCGTGGTGTGCTTAACGATGGGAGAAAAGTTGCTATCAAGTTTATGGATAATACAGGAAAG CAAGGAGAAGACGAATTCAAGATTGAGGTTGAGTTACTGAGCCGTCTGCGTTCTCCGTACTTGTTGGCACTTCTTGGTTATTGCTCAGACAATAATC ACAAACTGCTTGTGTATGAGTTCATGGCAAATGGCGGTCTACAAGAACACCTGTATCCTAATAGCAGATCTGGTTCTGTCCCACCGAGATTAGATTG GGAAATTCGGATGAGAATAGCTCTGGAAGCTGCAAAAGGCTTGGAATATCTCCATGAAAACGTATCACCTCCAGTGATTCACAGAGACTTTAAGAGC AGCAACATTCTTCTGGACAGAAACTTCCACGCTAAAGTTTCAGATTTCGGATTGGCTAAAGTAGGATCAGATAAAGCTGGTGGACACGTTTCCACCC GCGTGTTAGGCACACAAGGATATGTTGCTCCTGAGTATGCTTTAACCGGTCACTTGACAACAAAATCAGATGTCTATAGCTACGGAATTGTCCTGTTA GAGTTACTAACCGGCAGGGTTCCAGTAGATATGAAGAGAGCTAATGGAGAAGGAGTTCTTGTATCTTGGGCTTTGCCTCAATTGGCTGACAGAGAC AAAGTAGTAGACATAATGGATCCAACACTGGAAGGACAGTACTCGACGAAAGAGGTTGTTCAAGTTGCAGCAATAGCAGCAATGTGTGTTCAAGCA GAAGCTGATTACAGACCATTGATGGCAGATGTGGTGCAGTCATTGGTTCCATTAGTGAGAAGCCGTAGGTCAGCTTCAAAGCTTAGTGGCTGCTCTA [illegible]
GCT-004I23	AT3G12560.1	TRFL9 (TRF-LIKE 9); DNA binding	GGGAGCTTTTCACGTCTTCTTCCTTCTTTCTTTTATAGGGACAACGACGGATTCATACCGCAAAACTCGAGAATTCTTCCTTCTTAAAATCTCATTTTC TCCAACTTCTGTATAGATCGATTCCAATATTTTTTTTTTTCATTTGTACATTTTCTATAATACATATAAAACATCAAATCTGTATGGGAAATTCGGGTTCC TGTTTGCGTGATCTGTAATTTATTGGTTCGGGATCGTGATCAAGGAACTGGTGGTTGATAGTGATATGCATATCTGAGAGATGGTGTTCAAGAGGAA GTTAGATTGCGTATCTGTTGGCTTTGATTACCCCAATATTCCCAGGGCTCCTCGTTCATGCAGGAGGAAGGTTTTTAACAAGAGGACCGATGATGAC AATCAGATGTGTGGAATGGACTTGCTCGCTTCTCTAGCTGGAAAGTTGCTACAGGAATGCGAGAGTTCCTCAGCGTCTTCCAATGCATTTGAAGGGA ATAATCACGAGAATTTCAGTAAAGAAATGAAACAAGAACAAGAAGAGAAATATAAGCCTTTTAAATCTGAGTCTTCTGACCTAGGAAACTCTGTGTCG AGGCCTGCATATGAAAACACTAGTGAGAAGTGTGTGGTTAACAGTTTTTCATTTCCGGATAATGACGGCATTTTGGAGCGAACTCCGATGTCCGATT ACAAGAAGATTCCTGTAGGGTGTGAAACCAACAACGGGAATTGTGACTTTCACGTCAAATCTGAAGGCATCACTGGGGAGACGGGTGATGTTAATG TTAATACTGGGTTTGAACAAGGAGAAGCAACCGATGCCTTGGGAGATGGAGGCTTGATCACTGATACTTGCAACTTAGAGGATACAACTGCATTAGG TGTGCAGTTTCCTAAATCAGTCTGCGTGGATGGTGATTTAAAATTGCCATCTTGCGTGAATAATGGTTCCTTTGCTAGACATGGGAATCATACTAACC TAGGTAGAGATGATGATGAAAAATTATATAGTTATCATAAACTTAGCAATAAATTTAAGTCGTATAGGTCTCCAACAATTCAAAGAATAAGAAAGTCGC TGTCGTCCAGATACTGGAAACAAGTTCCCAAGGATTTTGGACACAATAGAGCTGATGTTGGTGTAAAGGCTCTTTACCGCAAAAGAAGGTCATGTTA TGGATACAACGCATGGCAGCGTGAGACCATTTATAAGAGGAGAAGATCATCTGACAGAAGCTCGGTTGTAACTTCTGATGGAGGACTCAGTAGTGG AAGTGTTTCCAAGTTACCTGAGAAGCGAGATGCAGTAAAGCTTAGCATTAAGTCCTTTAAAATTCCAGAGCTTTTTATTGAAGTTCCAGAAACTGCAA CAGTAGGATCACTAAAGAGGACGGTGATGGAGGCTGTCAGTGTTTTACTCAGCGGTGGAATACGTGTTGGGGTGTTAGTTCATGGGAAGAAGGTCA GAGATGACAGGAAAACTCTGACACAGACTGGGATTTCATGTGATGAGAATCTAAGCAACCTTGGGTTCACCTTGGAGCCTGGTCCCAGCAAAGTTC CCGTGCCTTTGTGTTCTGAAGATCCTGTTGTGCCTACCGACCCTATCAACTTGTCTGAACGGTCTGAGGCTTCTCCCACGTTAGATTCTGGAATCCC CAATGCAGATGACATGATTAATTCAGGAGATATTGTGGACAATAACCTCGAATTAGTTCCATATCAGAGTGACCTATCTGTTGATGAACACTCATCAG ATTCAAGAGCGCTTGTTCCAGTGCCAGCCTTGGAAGTTAAGGCGCTTGCCATAGTTCCGTTGAACCAGAAACCTAAGCGTACTGAGCTTGCCCAGC GCAGAACCAGGAGACCCTTCTCTGTGACAGAGGTAGAAGCTCTCGTACAAGCAGTTGAGGAACTCGGGACTGGAAGATGGCGTGATGTGAAATTG CGTGCTTTCGAGAATGCAGATCATCGGACCTACGTGGACTTGAAGGACAAATGGAAGACGCTGGTTCACACGGCAAGTATATCACCGCAGCAACGA AGAGGAGAGCCAGTGCCACAAGAACTGCTAGACAGAGTCTTGAGGGCATACGGGTATTGGTCGCAGCACCAAGGAAAACATCAGGCGAGAGGAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-004K01	AT5G45710.1	AT-HSFA4C (Arabidopsis thaliana heat shock transcription factor A4C); DNA binding / transcription factor	GAAAAGAGACTGATAATAAAAATAAGACCACCAAACCCGTCGAGTTGTTGTGTTGCCATTTCATATAGCCAAAGGCAAAGCAAAGCCTCTCAAATCCT CAAAAATTCGAATTCCCCTTTTGCTTTACGTTCTTCTCTCTTCGTCTTTCTCCGAAATTTTGTTCCTTTAATCTCAAGAATCTGTCCTTAATCTTCAATC AATCAAATAGGCTTTTCAAGGTTTGCTCCCTATCGGGATCGGGTCTATCTTCTCCAATTATCTGGTTTGGTCACAACTTTCAGAGATTTTTTTGATATG GATGAAAACAGTGGAGGTTCAAGCTCACTTCCACCTTTCCTTACAAAAACATATGAAATGGTAGATGACTCTTCCTCTGATTCAATCGTTTCTTGGAG CGATAACAACAAAAGCTTCATCGTCAAGAACCCAGCAGATTTTTCCAGAGACCTTCTTCCAAGATTCTTCAAACACAAGAATTTCTCCAGTTTCATCC GCCAGCTTAACACATATGGTTTCAGAAAAATCGATCCTGAGAAATGGGAATTCGCAAATGATGACTTTGTTAGAGGCCAACCTTACCTTATGAAGAAT ATACATAGACGAAAACCGGTTCACAGCCACTCGTTACAGAACCTACAAGCGCAGAATCCTTTGACGGAATCAGAAAGACAGAGCATGAAGGATCAA ATCGAGAGACTGAGAAAGGAGAACGAAGTTCTTCTCGCGGATTTACAGAACCAAGAGCAAGAACGGAAAGTCTTTGAGCTGCAAGTAGCCACATTG AAAGAGCGGTTACAGAACATGGAGCATCGTCAGAAATCGATCGTATCATATGTTTCACAGGTTTTGGAAAAACCAGGACTTTCTCTGAATCTCGAAA CCCATGAGAGAAGAAAAAGAAAATCACAAGAGACTACTTCTCTTCTTCCTCCAAGCCGGTCAAACGCAGAGCAGGTCGAGAAGTTGGAGTCTTCTTT AACGTTTTTGGAGAATCTTGTGACAGAATCATGCGATAAGAGTGGTGTGCATTCATCAAGCATGGATCTTGATGTGAATGAGTCAACTAGTTGTGGC GAGACCAGACCCAAATCAACAAAGATTGATATGAACTCAGAGCCAGTTACCGTGGCTGCTCCAAAGACAGGAGTTAACGATGTCTTTTGGGAACAGT GTCTGACAGAGAATCCGGGATCGATCGAACAACAGGAAGTTCAGTCAGAGAGAAGAGATGTCGAAGCGAGAAATGGCGGTAATAAGATTGGAGAT
GCT-004K03	AT5G14920.1	gibberellin-regulated family protein	GGTGACTTCACCACTTCCTCATCTCCCACAAAAATGGCTTTCTCACTACTTTCAGTCTTCATCTTTCTTCAAGTCTTTACCAATGTTGTTTTTGCTGCTT CAGATGAGGAATCCAAGACACTAGTTTCTTTACCAACGCCACCACCGACGTCTCCGGCAATCAAACCGCCGTCTCCGTCGTACAAGCCACCCACGC TGCCTACTATCCCGATTAAACCACCCACCACTATACCTCCGGTTAAACCACCCACCACACTACCACCGGTCAAACCTCCCACCAGTCCGGTTACACC AACGAAACCACCGGTTAAATCGTACCCAATTCCTCCGGTCAAACCACCCACAGCACCACTGGTCAAACCACCTACGTACAAACCCCCAACGCCAAC GGTTAAACCACCCACAACACCACTGATCAAACCACCGCCGGTTCAACCACCTACGTACAAACCCCCAACGCCACTGGTTAAGCCACCCACGACAAC GCCAGTTACGACACCACCACCGGTTAAACCACCTGTCAACCCAACCCCAACACATCCGGTTAAACCACCGGTAGCACCGGCCAAACCTCCGACACC ACCTCGGATAGATTGCGTGTCTTTATGTGGGACACGGTGTGGCCAACACTCGAGGAAGAACATATGTATGAGAGCGTGCGTCACGTGCTGCTACCG CTGCAAGTGCGTGCCCCCTGGCACGTACGGTAACAAGGAAAAGTGTGGATCTTGTTACGCCAACATGAAGACACGTGGCGGAAAACCCAAGTGTC CTTAATTAAACCTTTGGTTAATTTGGAAAGGGCACTAAATCATTATATCAATGATTTAGAGGGAAAATGGTGTTTTATAAGTTTGTATTGCGTTTTATTT
GCT-004K05	AT3G12130.1	KH domain-containing protein / zinc finger (CCCH type) family protein	GAGGTTTATTTCTCTTATTCTCTCTACTTTTTTTTCCCTATTACGATTGCGATTTCGATTTGTCTTCTCCGATTCGCCCTTCATTCGCTCTCCAGACTCT AGGGTTTCTGTTTCGGATTTCGAATCGGATCTGTACTTACTCATGGATGCTCGTAAGAGAGGACGGCCTGAAGCTGGCTCATACAACTCCAATGGC GGCGGATTCAAGAAGTCTAAGCAAGAGATGGAATCATATTCAACTGGTTTAGGAAGCAAATCGAAGCCATGCACAAAATTTTTCAGCACTTCTGGCT GTCCTTTTGGAGAGAATTGCCATTTCTTGCATTATGTACCCGGAGGATACAATGCTGTAGCACAGTTAACAAATATGGGACCACCAATGCCTCAAGTT TCAAGAAACATGCAAGGACCTGTTGGTGGGGGCCGATTCTCAGGGAGAGGAGAGTCTGGACCTGGCCATGTCTCTAGCTTCGGTGCCTCAGCCAC CGCCAAAATAAGTGTTGATGCTTCATTAGCCGGCGCAATCATTGGAAAAGGTGGAGTCAGTTCGAAACAGATATGTCGTCAGACAGGGGCAAAGTT ATCGATTCAAGATCACGAGAGAGACCCGAATCTGAAGAACATTGAGCTTGAAGGAACATTTGAGCAGATAAACGAAGCCAGCGCAATGGTTAGAGA GCTGATTGGGAGGCTTAATTCGGCAGCTAGGAAACCGCCAGGTGGTGGTGGTGGCATTGGCTCTGAAGGGAAACCGCATCCAGGAAGCAACTTCA AGACGAAGATATGTGAGAGATTCTCTAAAGGAAACTGTACATTTGGTGATAGATGTCACTTTGCACACGGCGAAGCAGAGCTACGCAGGTCAGGGA TTGCCTAGTTGGTTGAGTTAGACAATTTGCTGGGAAACAAGTCTTTCTTTTGTAGTTGGTGATATCTAATATCATCATCTTCACCTGCTGTTTCTTTTTA TCTTTTGTTATGAGAATACAGTGTTGGTTTCATTGTCTTTGTAAGTTCTTTTATCTGTTTGGTGATTTTTTAGAATTTAGTTTTTGGATAAATCGAGTTTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-004K07	AT4G00150.1	scarecrow-like transcription factor 6 (SCL6)	GGTATATACCACACAGCTTCAACAACAACAACTCAAAGAAGAAGAAGAAGAAGAAGAAGAAGAGAAGAGTTTGAGAGAGATTATTAGATTTGTGTAG AGTTTGTACAAAAGTGTGCAATGCCCTTACCCTTTGAAGAGTTTCAAGGGAAAGTGATTTCTTATTTCTCTTCTTCTTTTTACGAAAAAGAGGAGGAG CTTCTTCTTCTTCCCTTCTCCTCGGAGCCCACCTCTGTTCTCAGCCCCCTCACTACCTCCTCCTCCACGGTGTCTTCTTCTCACGGCGGTCACAGCG CCGTCGGGGCCGCCATCTCCGGCGACGCCACCACCGATGAGCAATGCGGTCGGATGGGACTGCCCGGGGATTGGGAACAAGCGCTTCCGGGCG ACCAGGACCAGGACCAGAGCATCCTCAGGCTCATCATGGGAGGAGATTCCCAAGAAGATCCGTCCCTCGAATTGAACAACATTCTCCAGACTTGTT CCTCCTCCTCCTCCCAGTCTCCCGCCTTTCACCACCATTCCGCCGATTACACGTCCCTCGGCTTCGGTCTCGTCGATACCGGGTTCGGCTTAGACC ACTCGTTGTTTTCCGAGGAGGAGAAGCCGCCGCCGCCTCCTCCCCCGCTCCTAATCCACCAGAGCCAGGCTCATTTCACTCAGAGCCCGGCCATC TTCTACGGCCAGCATCCTCCTCCGGCGAAGCGGCTCAACCAAGGCCCTCCCGTGAGCAAACAGGGGGTGATAACCGAACAGCTGCTCAAGGCGG CGGAGGTGATAGAGAGCGGCGGCGACACGTGTCTGGCTCAGGGGATATTGGCGCGGCTCAATCAACAGCTCTCTTCTCCCGTAGGAGGAAATAAG CCTTTCGAGAGAGCAGCTTTCTACTTCAAAGAGGCTCTCCACAATCTCCTCCTCCACAACAACAACAACAACAACAACGCCTCACAAACCTTAAACC CTTACTCCCTCATCTTCAAGATCGCCGCCTACAAATCCTTCTCCGAGATCTCTCCCGTTCTCCAGTTCACCAACTTCACCTCCAATCAAGCCCTCCTC GAGTCCTTCCAAGGATTTTATCGCCTCCACATCGTCGATTTCGACATCGGCTACGGTGGCCAATGGGCCTCCCTCATGCAGGAGCTCGTCCTCCGC GACAATAACAACAAAGGTCCTCCCCTCTCCCTCAAAATCACCGTCTTCGCTTCTCCGGCCTCCCACGACGACCAGCTCGAACTCGGCTTCACTCAG GACAACCTCAAGCACTTGGCCTCCGAGATCAACATCTCCCTCGACATCCAAGTTCTTAGCTTTGACCTCCTCGCCTCTGTCTCCTGGCCCCACTCCT CCGACAAAGAAGCCGTCGCCGTCAATCTCTCCGCCGCATCCTTCTCTGACATGCCTTCGCACCTCCCTCTTCTCCTCCGTTTCGTCAAGCACCTCTC TCCGACCATCATCGTCTGCTCCGACAGAGGATGCGAGAGGACGGATCTGCCCTTCCCGCAGCAGCTCCTCCACTCCCTGCACTCCCACGCCGCCC TCCTCGAATCACTCGACGCCGTCAACGCCAACCTCGACGCTCTGCAGAAGATCGAGAGGTTTCTCATACAGCCCGAGATTGAGAAGCTGGTCTCGA ATCGTAGCCGCCCGATCGAGAGACCGATGATGACGTGGCAAGCCATGCTCCTGCAGATGGGGTTCTCGCCGGTGACGCACAGCAACTTCACCGAG
GCT-004K09	AT3G11820.1	SYP121 (syntaxin 121); t-SNARE	GTGTCATTGAATCAGTACGACTTTCTTCTTTCCTTATTAAGTATTTCCGTTGATCGATTCCGATCTTAATTTCTCTCTCTCCCTCCCTCTCTCTATATTT TTGATTTTGCGATGAACGATCTGTTTTCCAGCTCATTCTCTCGCTTCCGCAGCGAACCATCCCCTCGCCGAGACGGCGCCGGAGGCGGCGGCGGA GTTCAGATGGCTCACCCAGCGGGATCAACCGGCGGTGTGAACCTCGACAAGTTCTTCGAAGACGTGGAATCTGTGAAAGAGGAGTTGAAGGAGCT AGATCGGCTCAACGAAACACTCCAATCGTGTCACGAGCAGAGCAAGACGCTTCACAATGCCAAAGCCGTCAAGGATCTCCGCTCCAAGATGGACG CTGACGTCGGAGTTGCTCTGAAGAAGGCGAAGATGATCAAGGTTAAACTCGAAGCTCTCGATCGCTCCAATGCCGCTAATCGGAGCCTCCCTGGTT GTGGACCCGGATCCTCCTCCGATCGAACCCGGACGTCTGTCCTCAATGGTCTGAGGAAGAAATTGAAGGATTCCATGGACAGTTTCAACCGCTTGA GGGAGCTTATCTCGTCCGAGTATAGAGAAACTGTACAGAGGAGGTACTTCACCGTCACCGGCGAGAATCCTGATGAGGGAACCCTAGATCGACTCA TTTCTACTGGAGAAAGTGAGAGATTCTTGCAGAAAGCTATACAAGAACAAGGAAGAGGAAGGGTCTTAGACACCATTAACGAGATCCAAGAAAGGCA TGACGCGGTTAAAGACATTGAAAAGAACCTTAAGGAGCTTCACCAGGTGTTTCTAGACATGGCTGTGCTGGTCGAGCACCAGGGAGCTCAGCTGGA TGACATAGAGAGCCACGTGGGCCGAGCCAGCTCCTTTATCAGAGGCGGTACTGACCAGCTACAAACCGTTCGAGTTTACCAGAAGAACACCCGTAA ATGGACATGTTACGCTATTATCATTCTCATCATCATCATAATTGTTGTGGTTCTTGTTGTTGTTAAACCATGGGAGAGCAACGGAGGTGGCGGTGGTG GAGGAGGAGGAAATCAGCCAAATTCAGGTCAAGGGACACCACCAAGTCCTCCTCAGGCAAGGCGTCTTCTATTGCGTTGAAGTGAGTTTCGAAATT TGCAAATATATTCTTTGTTTGGAAAACCTTTAATCAAACCAGCTTTGTGTTTCTATTTTCTACGGCTGGCTATGTTGTTGATCGCCCTTTTATATGATTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-004K11	AT4G31920.1	ARR10 (ARABIDOPSIS RESPONSE REGULATOR 10); transcription factor/ two-component response regulator	GGAAAAACAAAAAAAATTACACACTTTCTTAATACTATTGTCTCTTTCTCTCTCTCTAAATCAAATCTCTTTCTTAGTCCATCCATACATTGAATCTTTAT ATAATCCACTACTACAAGTAATTCTATTTGTCTCCAACGTTGTTTTTCTACTTGAATTCATAAACTTTTGTCTCTGAGGTTCGTCGAAAAATCTCTTAAC GATGACTGTGGAACAAGATTTAGACCAGTTTCCAGTGGGGATGAGAGTTCTTGCCGTTGACGATGACCAAACTTGTCTCCGTATTCTCGAGACTTTG CTTCATCGCTGCCAATATCACGTAACAACAACGGACCAGGCACAGACGGCACTGAAGTTGTTGAGGGAGAACAAGAACAAGTTTGATCTCGTTATTA GCGATGTCGACATGCCAGACATGGATGGTTTCAAGCTGCTTGAGCTCGTTGGTCTTGAAATGGACTTACCTGTCATAATGTTATCTGCTCATAGCGA TCCAAAGTATGTGATGAAAGGAGTCAAGCACGGTGCCTGCGACTATCTGCTCAAACCGGTTCGAATTGAGGAGCTCAAGAACATATGGCAACACGT GGTGAGAAAAGGCAAGTTTAAGAAGATGAAGAGCAGCTTGAGTAATGGTGAATCTGAGGGAAACTCTGATCAGAACGGCGTAAAAGCAAACAGAAA ACGTAAAGATCAGTTTGAAGAGGAAGAAGAAGATGAAGAAAGAGGGATTGAAAACGATGATCCAACGGCTCAAAAGAAGCCTCGTGTTCTTTGGAC GCGCGAGCTGCACAATAAGTCCCTAGCTGCTGTTGATCATTTGGGCGTTGAGAAAGCTGTACCAAAGAAGATTCTTGATCTGATGAATGTTGAAAAG CTCACAAGAGAGAATGTCGCGAGCCACCTTCAGAAATTCCGCTCCGCCTTGAAGAAAATAACTAATGAAACCAATCAACAAGCTAACATGGCGGCCA TGGACTCACATTTCATGCAAATGAGTTCTCTCAAAGGACTTGGCGGCTTCCACCACCACCGTCCAATACCTCTTGGGTCCGGTCAGTTCCATGGTGG AGCTGCAACCATGAGACAGTACCCTTCAAATAGGACTCTTGGTCGCCTAAACTCCCTTGCAGGAATGTTCCCACATGTCTCATCATCGCTTCCTCGC AACCACAATGATGGAGGAGGATACATACTTCAGGGATTGCCAATCCCGCCACTACAAGGGCTTCATATTGAGAACAACAAGACTTTCCCGAGCTTTA CTTCACAACAAAGCTCTCCAGTGGTTCTTGAGGGTCACCTGCAGTCATCATCTCCATCCTCAATCCCAGGGTTTTCTCCTCACTTGGAGATGAACAA GCGTCTTGAAGATTGGTCAAACGCTGTATTGTCATCAACCAACATTCCACAGAGTGGTGCTCATTCAAAACCAGACGCCTTGGAATGGAACCAGTTC TGCGACTCAGCCAGTCCGCTAATGAACACAAACGTGGATACAAATCCGACATCTTTCTGCAGGAACACGGATTTCGGACAGTCAAACTCTGCACAAA CAGAGATTTTTAATCCATTACAGATAAAGCAGCAGTATGCAAACAACTTAGGACCAATGACAGATGCTCAACAGTTGACAAGTAACAATACAAAGGAA GGTTTAGTCATGGGACAACAGAAGGTAGAGAGCGGTTTCATGGCTTCAGATGCTGGTTCCTTGGATGATATCGTCAACTCCATGATGACACAGGAG
GCT-004K13	AT2G41710.1	ovule development protein, putative	GACTGTGCGCCTTTATTTTCTCTTTCCTAGGGTTTATTTTTGGTTAGACACGGAAGAGGTTCTGATCATGGCGTCGATGTCGTCGTCGGATCATGGA CCTAAGACAGAGACGGGATGCAGCGGAGGAGGAGTTGGAGGAGGAGAGAGCTCGGAGACTGTGGCGGCGAGCGATCAGATGATGTTATATAGAG GTTTTAAGAAGGCGAAGAAGGAGAGAGGTTGCACAGCTAAGGAGCGGATCAGTAAAATGCCGCCTTGCACCGCTGGCAAAAGAAGCTCCATATAC CGTGGAGTCACCAGGCATAGATGGACAGGTCGGTACGAAGCTCACCTTTGGGATAAGAGTACCTGGAACCAAAACCAGAACAAGAAGGGAAAACA AGTATATCTAGGAGCATATGATGATGAAGAGGCTGCTGCTAGAGCTTACGACCTTGCTGCCTTGAAATATTGGGGCCCTGGGACACTTATAAATTTT CCGGTGACTGATTATACCAGGGATTTAGAAGAAATGCAAAATCTCTCAAGGGAAGAATACCTTGCATCTCTACGTAGAAAAAGCAGCGGTTTCTCAA GGGGAATAGCGAAATATCGTGGACTTCAAAGCCGATGGGATGCATCAGGCAGTCGGATGCCTGGACCTGAATACTTCAGTAACATTCATTATGGGG CAGGTGATGATCGAGGAACAGAAGGTGATTTTCTTGGTAGCTTTTGTCTGGAAAGAAAGATCGATCTAACAGGATACATAAAGTGGTGGGGAGTCAA CAAAACACGTCAACCAGAATCTTCATCAAAAGCATCAGATGATGCAAAGGTAGAAGATGCCGGAACTGAGCTTAAAACACTGGAACACACATCCCAG GCAACAGAACCATACAAAGCGCCAAACCTTGGCGTCCTTCGTGGAACTCAGAGAAAAGAAAAACAAATATCATCACCGTCTTCCACCTCTTCTGCTT TAAGCATTTTGACTGCATCACCTGCTTACAAGAGCCTGGAGGATAAAGTGCTGAAGATCCAAGAAATTAGCAGCACTAGAGAAAATGATGAGAATGC GAATCGTAACATCATCAGTATGGAGAAGAGTCACGGCAAGGAAATAGAGAAACCGGTTGTGAGTCACGGAGTTGCTCAGGGTCGTGTCTATGTTAT GGATTGGGAAACATTGGCCTAGGGCCTATTTTAATATTTGTTAAAACCTTTAGACTTTTCTGTTTGTCTGATCGTGAGATGAATTTGTCGACTTGACAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-004K15	AT3G01470.1	ATHB-1 (Homeobox-leucine zipper protein HAT5); transcription factor	GAGCTGATACGTTGACAGAGCAAAGGCAAGGCCAAACTTAAGGACTTTTTCTCTAACTAAGTAACAAGTAATCGGGAAAGCAATCCAAGATTATGAT CTGAATCTCTCTGGTTTTTACCAAAAACTAAACTTTTTGGTCGAAAAATCGGAAAGGGTTTCCTTGGAATATTGTTCAGTGATCCCTCTGGTTCCGGA GGGGTATTGCAGTTCATGATGGGATTTTGCATCTGCCCGTTGGAGTCTCCGGCGAGATTACTATGGAGTACAAGCTTCTTCCGTCATAAGATTATGA TCTTTTAATCCTCTTTTTGTTTTTTTTAACTTCCTCTCGTTCTTCTTACTTTCAACCCGATCCTCTCTCTCTCTCTCTCTCGCTCTGTTTCATCTTTCT TTTCTTTGCTTTCGAAATCTGTGATTTGAAGAAGTTTGTTTTTTGTTTTTCCCTGGGATAATCATCGATGGAATCCAATTCGTTTTTCTTCGATCCATCT CCCTCCCATGGCAACATGTTCTTCCTTGGGAATCTCAATCCCGTCGTCCAAGGAGCAAAATCGGTGTTGAACATGGATGAAACATCAAAGCGAAGG CCTTTCTTTAGCTCGCCGGAGGATCTCTATGAGGAGGAGTATTACGACGACCAGATGCCCGAGAAAAAGCGTCGCCTCACTACCGAACAGGTGCAT CTGCTGGAGAAAAGCTTCGAGAAGGAGAACAAGCTAGAGCCAGAGCGCAAGACTCAGCTTGCCAAGAAGCTTGGTCTACAGCCAAGGCAAGTGGC CGTCTGGTTTCAAAACCGCCGAGCTCGTTGGAAAACCAAACAGCTCGAGAGAGACTTCGATCTTCTCAAGTCCACTTACGACCAACTCCTCTCTAAC TACGACTCCATCGTCAAGGAGAACGATCTGCTCAGATCCCAGATGGCTTCCCTCGCCGAGAAGCTCCAAGCCAAAGAAGAGGCAGCCATTGAGCC ACCGGGTCAAGTACCCGAACCAAACCAACTCGATCCGCTAAACATTAACCGGTTCGAACCAGCAATCAAAACAGAGGACCGGTTAAGTTCAGGGAG TGTTGGGAGTGCTGTACTAGACGAGGACGCACCTCAGCTACTAGACAGCTGTGACTCTTACTTCCCAATCATCGTACCCATCCACTCGGAAGATGAT AACAACTACAACAATCCCGGTACTGCTAATGACCGGAGCTGTTTCGCCGACGTCTTTGTGCCCACCACTTCGCCGTCGCATGACCACGGCGAATCA
GCT-004K17	AT2G39200.1	MLO12 (MILDEW RESISTANCE LOCUS O 12); calmodulin binding	GAAAGGGCATTCAATGAAATGAAAAGGAAGTTAAAAAAAAAAAAAAAAATTTCATTATATTAGCCCTTCAAAGCTTATTGCATCATACCTTTTCTTAACTA GGAAATCAAAATTTAGTCGGTATATCTCTAATATTTCTTTCCAATTTTTGTAGTGGTTTAAAAAGAAGCACAAGAAAGCTTTGTATGAAGCTCTTGAAA AGGTTAAAGCAGAACTGATGCTACTGGGATTCATATCACTTCTACTTGTTGTATTGCAAACACCAGTCTCCGAAATTTGCATCCCAAAAAGAGTTGCT GCGACTTGGCATCCTTGTAGTCGCCAACAAGAGATTGATAAATACGGTAAAGATTATATCGACGATGGTCGAAAAATTCTTGAAGACTATGACTCCAA CGACTTTTACAGTCCTCGTCGAAGTTTAGCCACCAAGGGTTATGACAAATGCGCAGAAAAGGGGAAAGTAGCATTAGTATCTGCGTATGGTATCCAC CAGCTACATATATTCATTTTTGTGCTCGCTGTTTTTCATATTCTCTACTGCATTATTACCTATGCTTTGGGAAAGACCAAGATGAAGAAATGGAAATCA TGGGAGAGAGAGACCAAAACAATTGAATACCAATATGCCAATGATCCAGAGAGGTTCAGATTTGCAAGAGATACATCGTTTGGACGTAGACATATGA ATGTATGGACCAAGTCTTCTTTTACCCTCTGGCTTACATGTTTCTTCAGACAATTCTTTGGATCAGTGACAAAAGTAGATTATCTTACACTAAGACATG GCTTTATAACGGCGCATTTGCCAGCAGGAAGTGCAGCTCGTTTCGATTTCCAAAAATACATTCAAAGATCTTTGGAAGAAGATTTCAAGGTTGTTGTT GGTATAAGCCCAGTGATATGGTGCATTGCTGTCTTGTTCTTATTGACTAATACACATGGATGGGATTCCTATCTTTGGCTGCCTTTCCTACCTTTGCT TGTGATATTAATAGTAGGAGCAAAACTTCAAATGATAATATCGAAATTAGGATTGAGGATTCAAGATAAAGGAGATGTGGTTAAAGGAGCTCCTGTGG TTGAACCGGGCGATGATCTCTTTTGGTTTGGTCGTCCTCGTTTCATTCTATTCCTCATTCACTTGGTTCTTTTCACGAATGCATTTCAACTGGCTTTCT TCGTTTGGAGCACTTACGAATTCACGCTCAGAAACTGCTTTCACCACAAAACCGAAGATATTGCAATTAGGATCACCATGGGGTTATTAATACAAGTT CTATGCAGCTACATCACTCTACCTCTCTATGCTCTTGTTACTCAGATGGGAACTTCAATGAGGCCAACCATATTCAACGATCGTGTAGCAAGTGCACT GAAAAAATGGCACCATACGGCCAAAAAACAGACGAAACATGGACAATCCGGGTCTAACACACCTCACTCAAGCCGCCCCGCCACGCCAACGCATG GCATGTCACCGGTGCATCTCCTCCACAACTACCATAACCGAGGCATGGACCATCAAACTAGTTTCACTGCCTCTCCTTCCCCTCCTAGGTTTTCTGA TTTTGGCGGCCACGGCCAAGGCCATCAGCATTTCTTTGATCCTGAATCTCAGAATGTCTCTTACCACCGTGAGATCACAGATTCTGATAACAGCAAT

#Thalophila	AGI_CODE	Description	Sequence
GCT-004K19	AT3G01420.1	ALPHA-DOX1 (ALPHA-DIOXYGENASE 1)	GGGTTTTTCTTGTGTGCGATTTTTTTTTTTTTTTTTTTTTTTGAAGTTATTGAAGCCAGACCCGATGGTGGTGGCGACAAAACTATTAACAAGAAGAAA GATGATCGACACAGGGAAGCAATTCAATATGATTGCAGCTTCTTGGATTCAATTCATGATCCATGATTGGGTTGACCATCTTGAAGACACTGATCAGA TCGAGCTCTCGGCTCCAAAAGAAGCAGCGAAAGGGTGTCCCTTAAGCTCCTTTAGGTTCTTCAAGACAAAGGAAGTCCCTACCGGTTTCTTCGAGAT CAAGACCGGTTCGCTAAATACTCGTACACCTTGGTGGGATTCGAGCGTGATATACGGAAGCAACTCGAAAACATTGGAGAGGGTGAGAACTTACAA AGATGGGAAGCTAAAGATATCGGAGGAGACAGGTCTCCTCCTCCACGACGACGACGGTTTAGCAATTTCCGGCGACATACGTAACAGTTGGGTCG GCGTCTCCGCTTTGCAAGCTCTCTTCATCAAAGAGCACAACGCAGTATGCGACCTCCTCAAGAAGGAGTATGAAGATTTGGAAGACGAAGATTTGTA CCGTCATGCTAGACTAGTGACGTCAGCAGTGATTGCCAAGATTCACACTATAGATTGGACCGTTGAGCTTCTCAAAACCGACACTTTACTTGCTGGG ATGCGAGCCAACTGGTACGGATTATTAGGAAAGAAATTTAAAGATACTTTCGGACATGTAGGCAGTTCCATCTTTGGAGGTGTCGTGGGTATGAAAA AACCGCAAAACCATGGAGTCCCATATTCTCTAACCGAAGAATTCACTAGCGTCTATCGAATGCACTCTCTCTTACCCGATCAACTCCACATGCGTGA CATTGATGTTACACCAGGACCTAATAAATCACTTCCCTTGACTCAAGAGGTTTCTATGGAAAAATTGATTGGTCGTGAGGGAGAAGAAACCATGTCTC AGATTGGATTCACTAAGCTAATGGTGTCAATGGGTCACCAAGCATGTGGGGCCCTTGAACTAATGAATTATCCAGCGTGGTTTAGGGATCTTGTCCC CCAAGACCCCAACGGCCACGATCGTCCCGACCACATCGACTTAGCTGCTTTAGAGATCTATAGGGACAGGGAGAGGAATGTTGCACGGTACAACG ATTTTAGGAGAGCTATGTTTATGATTCCGATAAAGACTTGGGAAGATCTAACGGACGATAAGGAAGCAATTGAATTGCTAGATGACGTCTACGGTGG TGATGTGGACGAGCTTGATCTTCTGGTGGGACTCATGGCAGAGAAGAAAATCAAAGGGTTCGCTATTAGCGAGACCGCATTTAACATTTTCCTTCTC ATGGCCACAAGGAGATTAGAAGCGGATCGATTTTTCACGAGCGATTTCAACGAAATGACATATACGAAAAAAGGTCTTGAATGGGTGAATACTACAG
GCT-004K21	AT3G53270.5	similar to novel protein (zgc:56450) [Danio rerio] (GB:CAH68915.1); similar to Os10g0493800 [Oryza sativa (japonica cultivar-group)] (GB:NP_001064940.1); contains domain SUBFAMILY NOT NAMED (PTHR15131:SF6); contains domain FAMILY NOT NAMED (PTHR15131); contains domain LDH C-terminal domain-like (SSF56327)	GGGGGGTGATAAAAAAAAAAAAAAAATAGTCTACTAAATCCCTAATCTCTCAAATCGCAGACGATACTTGTCTCTCTCATCTCCAGCGTCGGATCAAT CTCTCTCTCCATCGCCGAACGGCGATAAAACTCTTAAACCTCTAATCCCGCTCTTTTTTTTCAAATTACTTAGTAATCTCATCTCACTTCCTCCATTTTC TGGTTTCGTCTTTAATTCTTCCGATTTCCGCCATGAAAGCGGCGGAGATCAGAGCCCGAGGTCGTCGAATGTTCGTGAGCAAGATAGGTTTCTTCCC ATCGTTAACATAAGCCGTATCATGAAGAGGGGTTTACCTGCCAATGGCAAAATTGCCAAAGATGCCAAAGAGACCATGCAGGAATGCGTCTCTGAAT TCACCAGCGACAAAAAGGAAAGCGAAACCATACTGAACCGGAAGCTAGTTCTCGTGAATGGAAAGCCGCAAAGGAAGAAGAAGTCTCATGCTTCAG GAATAAATCTTTCTCTGTTCAAGAGAGATATCGATGAACTCATAGACGAGTTTGTGGAGGGTGATTTGACAACGTTCGCTGAAATGAAGAGGGTGTG GCTATCCCGAAAGTTTTCTTATATATATGAAGCCAATCGTAACACCAGCTTAGCCTTTTTCATGCAGTCACTATATGCTCATACCATCGGTCACATGGT TAATACTGGAGATTCTTTTTCACGAAGACTTGGAGGTCTTTACTGTCTCTATTGCCTTCATGAGACCCAACCTTTTAAACCCAAGTTCAGAATCTATAC CTCACTTCGTCAGTGTTTACCTTTGGTTGTTTTGAAGAGCTTGGGAAACTTAGGGATCTTATAGTTGAGGCAAAAGATAAAGGTGTAGAGATAGCTAC TGCTGTGGCAAAACAACTGCTTGATAAAAACGTGTTCATATACGGAGCTGTGGAAGTTGATGAAGCGTCTGTAACCGAGAAACTCAATCAATCAACC GAGCTACAGAATGCACTTGTGCGTTGTGCATATGAAAAATTAAACTCTAACACCGAGATTGAGCAATTTATTCATCTGGATATGGGTAATGAAGTTGA TCTGAGTTCCCTACATAAAATGTCTATAGAATATGCAGAGGCCAAGAAGCGCGCAATCAAAGGCGCAGGAGAAATAGTGGAGATTGAGGACATAAA GCACATAGCGGAAGAGAAAGAGTTGATGGGAGAGAGAGTGGAGAAACTGAAAGAGGAATGGGATTCGCAAAAACTCTCATTTTATGAAAAAACAAA GCTTGATTCTCTTGATACGACACAGAAACTTGTGAAAGATGTTGCACATGATGAAGGTGATGGGTTTGATGAGCTTGACCGCTTGCTTTCTGAGAGC TGATTTAGCTATTGCAATCACCGGTCAAAGTTTTTTTTTATCAAATGCCGGCAGCAAATGAAAAGCAATGGAATTTTACTGGTTAAGTGTCAGGAGCT ACAATACAGTCTAATAAAATCAAGAGAGCAAGGGGTTGATTAGGAGAATATATTGGTTAAGTCTTGTTGTGAACTTAGTATTGAACAATGGGATCAAG

#Thalophila	AGI_CODE	Description	Sequence
GCT-004K23	AT2G42200.1	squamosa promoter-binding protein-like 9 (SPL9)	GGTGTTTCTCTCTCTTCTTTCTCTAAACCCAAAACAGTCAAAATCAGGGAAGCCAAAAATTTTCTTTGCTTTCTTCTCCTTTCGTCCTTTCTTTAAACCG AGACAGTTAGGTTTAAGAGAGAGAGAGAGAGAGGGAGAGAGAGAATGATGCTGTCTGAGTAAGAGGAAACCAAAATGGAGATGGGTTCCAACTCG GGTCTGGGTCTTGGTCCGGGTCAGGCAGAGTCGGGTGGTTCATCGACTGAGTCTTCCTCTTTCAGCGGAGGGCTCATGTTTGGCCAAAAGATCTAC TTCGAGGACGCTGGAGGTGGATCCGGGTCTTCTTCCTACGGTGGGACAAACAGACGGGTCCGTGGAGGCGGGTCGGGTCAAACGGGTCAGATAC CAAGGTGCCAAGTGGAAGGTTGTGGGATGGATCTAACCAATGCAAAGGGTTATTACTCTAGGCACAGAGTTTGTGGAATACACTCTAAAACACCCAA AGTCATTGTCGCTGGTCTCGAACAGAGGTTTTGTCAACAGTGCAGCAGGTTTCATCAGCTTCCGGAGTTTGACCTAGAGAAAAGAAGTTGCCGTAG GAGACTCGCTGGCCATAATGAGCGTCGGAGAAAGCCACAGCCTGCGTCGCTCTCCGTGTTGTCTTCTCGTTACGGGAGGATCACACCTTCGCTTTA CGGAAACGCTGAAAGTGGAATGAATGGGAGCTTTCTTGGGAACCAAGAGATGGGATGGACAAGTGGAAGAACGTTGGATACAAGAGTGATGAGAC GGCCTGTGTCAGCACCATCGTGGCAGATCAATCCGATGAATGTATTTAGTCAAGGATCAGTCGGAGGAGGAGGGACAAGCTTCTCTTCTCCAGAGA CTATGGACACAAAACTAGAGAGCTACAAGGGAATTGGCGACTCAAACTGTGCTCTCTCTCTTCTGTCAAACCCGCATCAGCCACAGGACAACAACA GCAACAACAACAACAGCACTTGGCGAACTTCTTCAGGTTTTGGTCCCATGACGGTTACAATGGCTCAGCCACCACCTGCACCTAGCCAGCATCAGT ATCTGAACCCGCCTTGGGTGTTCAAAGACGAAGATAACACCTGTCCGAATGAAATGTCCCCTGTTTTGAATTTAGGTCGATTCACCGAGCCGGATAA TTGCCAGATAAGCGGTGGCACGACGATGGGTGAGTTTGAGTTATCTGATCACCATCATCAAAGTAGGAGGCAGTACATGGAAGCTGAGAATACAAG GGCTTATGACCCTTCTTCTCACCATACCAACTGGTCTCTCTGAGTCTCTCTTTGCTTTAAGACTAAGACTACTCTTTGCATTAGACAGAGAATCTTGTT
GCT-004M01	AT3G16800.1	protein phosphatase 2C, putative / PP2C, putative	GAGCTCAGAAAGTCCGATCAAGAATATTCACCGGAGAAAAGGATCATAAGAGCATTTGAGAATGGTGCTTTTGCCTGCATTTTTGGACGGGTTTGCA AGAAGCGTGTCGACAAAGAAAGCCAAACATCTATCAGAAGATGAAGATGGAGGGAGAGAGATCGCTAAATCGATGATTAAAGATTCAAAGAAGAATT CGACTTTGCTTGGTTCTTCAGGGTTTGTCAACTCTGAAACCTCCAAGAGATTTACCTCTATTTGTTCTAATAGAGGTGAGAAAGGAATTAACCAAGAT CGTGCCATTGTTTGGGAGGTACTCTTAATATAAATACAATATATGTTAGGTAATTTTTTCCTCCCATGAAACTGATTATATAGTAATGATGTCTATGAAT AAGTAGGAAAAAAATATAATGGTTAAATGGAACCATGATCTAGTTAGTTAACAACTTATGTATATATGAGAGTTAAAAAACTAAAACTTGTTTTTAACGA ATATATATGCATGATATATAGGGATTTGGTTGCCAAGAAGACATAACATTTTGTGGGATGTTCGATGGACATGGACCATGGGGACATGTGATATCCAA AAGAGTCAAAAAGTCATTTCCATCTTCTCTGCTTTGCCAATGGCAACAAACTCTTGCCTCCTTATCGTCGTCGCCGGAATGTTTCTCTCCGTTTGATC TCTGGAAGCAATCTTGCCTGAAAACATTCTCCATCATCGATCTTGATCTCAAGATCAATCCTTCCATTGATTCTTACTGCAGCGGCTGCACCGCTCTC ACCGCCGTCTTGCAGGGTGATCATCTTGTTGTAGCAAATGCTGGTGACTCACGAGCAGTAATAGCAACTACTTCTGATGACGGTAACGGTTTAGTGC CGGTTCAGCTCTCGGTAGACTTTAAACCGAACATTCCCGAAGAAGCAGAACGGATAAAACAATCAGATGGACGATTGTTCTGCCTAGCAGATGAACC GGGAGTGTATCGAGTGGGTATGCCAAATGGAGAATCACTCGGTTTAGCTGTTTCAAGAGCATTCGGAGATTACTGCCTTAAAGACTTTGGTTTAGTC TCAGTACCGGCAGTGACATACCGAAAGATAACCGAAAAGGACCAGTTCCTCATCTTGGCAACCGATGGGATGTGGGATGTGATGACAAACGATGAG GCAGTGGAGATAGTAAGAGGAGTTAGAGACAGGAGAAAGAGCGCAAAGAGATTGGTGGAGAGAGCTATGATACTTTGGCGTAGGAAGAGAAGAAG
GCT-004M03	AT1G53320.1	AtTLP7 (TUBBY LIKE PROTEIN 7); phosphoric diester hydrolase/ transcription factor	GATCACGGTCCCTCCTATCGCGGAGGATCTCGATTTCGTTCAGGGATCAGGGAAAGACGACACCGGAAGCCGATTCGTACGAATCGCCGATGCTT CCGCCGTCGTCGGATACGCCTGGGTCATGGTCGGCGATGCTCCCTGAGTTATTGGGCGAGATCATACGCCGCGTGGAGGAGAGCGAAGACCAGT GGCCTCAACGTCGAGACGTCGTCACTTGCGCCTGCGTCTCGAAGAAGTGGAGAGGAATTACCCAGGATATTGTTAAATTCCCTAATAACTCCGGCA AAATTACTTTCCCTTCTTGCCTAAAACTGCCAGGTCCCCGAGAGTTTTCTAATCAGTGCTTGATAAAGAGGAACAAGAAGACATCAACCTTTTACTTG TATCTCTCTCTAACACCATCATTCACTGATAAGGGAAAGTTTCTTCTGGCGGCACGGAGGTTCAGGACCGGTGCTTACACTGAGTACATTATATCTCT TGATGCTGATGATTTCTCTCAAGGAAGTAATGCCTACGTTGGGAAATTAAGATCGGATTTTCTTGGGACCAACTTTACAGTATACGATAGCCAACCGC CACATAACGGAGCAAAGCCTTCAAATGGCAAAGCCAGTCGCAGATTCGCATCGAAGCAGATAAGCCCTCAAGTTCCAGCAGGCAACTTTGAAGTCG GTCACGTTTCTTATAAATTCAACCTCTTGAAATCAAGAGGTCCTAGAAGAATGGTAAGCACGCTCCGTTGCCCATCCTCATCACCACCATCGTCACC GTCGTCATCATCATCATCTTCCACTGGACTTTGTTCCGACCAGAAGCCATGTGATGTCACCAAGATGATGAAAAAACCCAACAAGGACGGTTCAGGC TTCACTATACTAAAGAACAAAGCTCCTAGATGGCACGAGCACTTACAATGTTGGTGTCTGAACTTCCATGGACGAGTAACTGTTGCTTCGGTCAAGA ACTTTCAGCTGGCTGCGACCGTTGACCAGAGCCAACCGAGCGGTAAAGGAGATGAAGAGACGGTGCTTCTTCAGTTTGGTAAAGTTGGAGATGACA CTTTCACCATGGATTATAGACAGCCTCTCTCTGCTTTTCAGGCTTTTGCTATCTGTCTCACAAGTTTCGGCACTAAACTTGCTTGCGAGTGAAAACCA

#Thalophila	AGI_CODE	Description	Sequence
GCT-004M05	AT1G02920.1	ATGSTF7 (GLUTATHIONE S-TRANSFERASE 11); glutathione transferase	GCCATCAACTTCAAAGATCTCTCTACTTTAATTAATCTCTTCAATATTGTTACAAAAAAAAATATATAGTATTAATTAATGGCAGGAATCAAAGTTTTTG GCCACCCTGCTTCAACAGCCACGAGACGAGTTCTCATCGCTTTGCACGAGAAAGATCTTGACTTTGAGCTTGTTCATATCGAGCTCAAAGATGGTGA ACACAAGAAAGAGCCTTTCCTCTCCCGCAACCCTTTTGGTAAAATTCCAGCCTTTGAAGATGGAGACTTCAAGCTTTTCGAATCAAGAGCAATTACTC AATACATAGCTCATGAATACTCAGACAAAGGAAACCAACTTCTGTCACTTGGCTCCAAGAACATGGCAATCTTGGCCATGGGCATGGAGATAGAAGC TCACGAGTTTGACTCAGTTGCTTCAAAGCTTGGCTGGGAGCAAATCTTCAAGCATTTCTTCGGTTTGACCACCGACCAAGCCGTTGTTGAAGCAGAA GAGCTGAAGTTAGCCAAAGTGCTTGACAACTACGAAGCTAGGCTTGGTGAGTCTAAGTATTTGTCTTGTGATCACTTCACTTTGGTCGATCTTCACCA TATCCCTGTGATTCAATACTTGCTTGATACTCCAACCAAGAAGCTCTTTGATGAACGTCCACATGTCAGTGCTTGGGTTGCTGACATCACTGCTAGGC CTTCTTCTCAGAAGGTCCTTTAAATGGATTTCACTCAAACTGTTAATCCACACATATTGAATAAGTGGCGGCGACTTCATTGCCCAATCCTCATAAATT
GCT-004M07	AT5G45420.1	myb family transcription factor	GATGGCAATGGAGTTCTTCGACGAAGACAGGCCTAGATTCGTCTTCCAATCACGTCCATCCTCTTCTCGCAAGACGGAGGAGGATGATCCCAAAAC CTCCAACAAGATCTTTATCTCAATCTCCGTCACTATCGCTCTCCTCATTTTATCACTCTCATTCTTCTACTTCGAATCCGAACCTTCCAAATCGCTCCT CTTATGGCTTTCCATCTCCTTCCTCGTCGGTCCTTTCGCGCCTTCTTCGCTCACTGGTGGTAAGATTCGCGTCGGTTATGGCCAGATAATTGAGCCA GAACAGATCCACGGCGGTGAGCTGTCGACTGATAACGAGCGCGAATCGAGGAGGAAATCGGTGAATAAGCGATCTAATAAGGGGACGAAGAACGA TAATCCGCCGGAAAATCCTTCTCCGGCGACGGAAGTTTCGAGAAAAGTGGATCGAGGTGGGATTCCACAAACTAATGAGAATGGATCTGTGAAGGA AACCAAGGATTGGACTGAAGAAGAGATCGAGGTTTTGAAGAAGCAGCTGATAAAGCATCCCGCCGGTAAGCCTGGGAGGTGGGAAGCGGTTGCTG CGGCGTTCGGGGGAAGATACAGGACGGAGAATGTGATCAAGAAAGCGAAAGAGATCGGAGAGAAGAAAATCTACGAGAGTGACGATTATGCTCAG TTTCTGAAGAATAGGAAAGCTTCGGATCCTAGATTGGGTGAAGAAGAAGATGAGAACTCTGGAGCTGGCGGAGATGACGAAGCTAATAAGGAGAGT TGGAGTAATGGAGAAGACATTGCACTGCTCAGTGCTCTAAAAGCTTTTCCAAAGGAAGCAGCTATGAGATGGGAAAAGATAGCAGCTGCAGTTCCT GGGAAGTCGAAGGCAGCTTGTATGAAGAGAGTTACAGAGCTTAAGAAAGGGTTTAGGAGCTCAAAATCTGGAGCAAATTAGCTATAAGGAGAATCC GATGAGGGAAATCTGGTCAGATTACGGCGAGAATCAGGAGAGGAAGAACAGGTTTTGTTGTTGCTACTTGAGTTTATAACTTGAAGTCCTAGAAGTA ATCAAAGATTTCCGCAGGAAGTTTCGTTAGAGACAGGCAAAAGGGAATATCACTCACTATGCCAAAGAAACTAACATAGATTTATTTCTTCTTCACTT CAACGTTTCGTTCATATTACAACACTTGCTCATCTCTCTACGAAAACTTACGTTTTTACTATAAATATACGATCAATATTCTTAAGCGAAAATAGCATTT
GCT-004M09	AT3G46060.1	ARA3; GTP binding	GAGAAGTAAATAGAAGAAGCGGGGAAAAAACCAGAAGAGAGGGAAGCTAAATCGGGACTGGCGCATTTTAGCCGTCCGCCATATCCTTCGCTGTC GCTTCTCCTTTCCGATTACATCGGTTTCTTCTCTGCCTCCTTTCATCCGATTCGATGGCTGCTCCACCTGCTAGGGCTAGAGCCGATTACGATTATCT CATAAAGCTTCTTCTGATTGGAGATAGTGGTGTCGGTAAAAGTTGCCTCCTCCTACGTTTCTCTGATGGGTCTTTCACCACTAGCTTCATTACCACCA TTGGCATTGACTTTAAGATAAGAACGATTGAACTTGATGGCAAACGTATCAAGCTCCAGATTTGGGACACAGCTGGTCAAGAACGGTTTCGTACAAT CACCACTGCTTATTACCGTGGGGCAATGGGCATTCTGCTGGTGTACGATGTCACAGACGAGTCATCATTTAACAACATTAGGAACTGGATTCGTAAC ATCGAACAGCATGCGTCAGATAATGTTAACAAGATCTTGGTAGGGAACAAGGCTGATATGGATGAAAGCAAGAGGGCGGTGCCTACAGCAAAGGGT CAGGCTCTTGCTGATGAGTACGGAATTAAGTTCTTCGAAACAAGTGCCAAGACAAACCTAAACGTGGAAGAAGTTTTCTTCTCTATTGGGAGGGACA TTAAGCAGAGGCTTTCCGACACGGACGCGAGAGCAGAGCCTGCAACGATCAGGATAAGCCAAACGGACCAAGCAGCTGGAGCTGGCCAGGCTAC TCAGAAGTCTGCATGCTGTGGAAGTTAAAAAAGTTCTTAAAAGTGAAGAGATTTAAGAATCAACAAAAGTTTGGTGGTGAAGTGAAAAACAAAACTAA GAATTTTTTGTTTTATTTCAAAATTCCTGATTCGTTCCTCTAAATTTGCCTTTTTCTATTTGTACGAAGGTTTAATCGAAACTTGTATTTTTCATTTTCTGT

#Thalophila	AGI_CODE	Description	Sequence
GCT-004M11	AT2G18170.1	ATMPK7 (MAP KINASE 7); MAP kinase/ kinase	GAACACAACGTATTGCTTCCTCTTCTTCCTCTTCTCTACCATTCCAACGTATGGGTCTCACCACTTCCTAACTTTCTCTCTCTATCTCTCTTATATCTTC TTGATAACTATGAAGAAGCCATCTCAATTCAGATCCAATCATACCCTTCTCTTCTTTCTCTGATCACCAAACTAGCACACAACAACAACAACGACTCG GGTTCTGTATTACAATTTGGCAGAAGGATGGCGATGTTAGTTGAGCCACCAAATGGGATTAAACAACAAGGGAAACATTACTACACGATGTGGCAAA CATTGTTCGAAATCGATACTAAGTATGTTCCAATTAAACCCATTGGAAGAGGAGCTTACGGTGTGGTTTGTTCTTCCATCAACCGAGAGACCAACGA GAGAGTCGCCATTAAAAAGATTCACAATGTGTTTGAGAATCGAGTTGATGCTTTGAGAACGTTGAGAGAACTCAAACTTCTTAGGCATGTGAGGCAC GATAATGTCATCGCGCTTAATGATGTCATGTTGCCTTCGAATAGATCGAGTTTCAAAGATGTTTATTTGGTTTATGAGCTAATGGATACTGATCTTCAT CAGATCATCAAATCCTCTCAGACTCTCTCTGATGATCACTGCAAATACTTCTTGTTCCAGTTGCTTAGAGGATTGAAGTATCTTCACTCAGCAAACATC CTTCACCGAGATTTGAAGCCTGGAAACCTCTTAGTCAATGCCAATTGCGATCTAAAGATCTGTGACTTCGGTTTAGCGAGAACGAGCAGAGGCAATG AACAGTTCATGACAGAGTATGTGGTTACACGTTGGTACCGAGCACCAGAGCTTCTTCTATGCTGTGATAACTACGGAACCTCCATTGATGTCTGGTC AGTTGGATGCATATTCGCAGAGATTCTTGGCAGAAAACCGATTTTCCCGGGAACTGAATGTCTCAACCAGCTTAAGCTGATCATTAATGTCGTTGGT AGCCAACAAGAGTCAGATATCAGGTTCATAGACAACCCAAAAGCTCGGAGATTTATAAAGTCTCTTCCTTTCTCGAGGGGTACGCATCTATCAAATCT CTACCCGCAAGCCAATCCTCTAGCTATAGATTTGTTACAGAGGATGCTCGTGTTTGATCCAACCAAGAGAATCTCTGTAACTGATGCGCTGTTACAC CCTTACATGGCCGGACTGTTTGATCCTGGATCAAATCCGCCTGCACATGTCCCCATCTCTCTTGACATAGACGAGAACATGGAGGAACGAATGATCA GAGAGATGATGTGGAACGAAATGCTTTATTACCACCCTGAAGCTGAAACCCCAAACGCCTAATCATCATCATCATCATCAACAAGAGTAAGCTTTGTT
GCT-004M15	AT4G39890.1	AtRABH1c (Arabidopsis Rab GTPase homolog H1c); GTP binding	GGAAATTTGATCGGTGTTGCAAACTCTTGGCGCGTGGCGAAAGGAGATATCAGCTTTGTGTGCGACCGCGTCTTCGTCGTCGTCGTGCTCGCCTTC TCTTTCTTTCTTTTCGAAAGCTAAGAAGAAGAAATCTGCTCTAATTTCGGATCTCTACCACTTTCTTTCTCTTTTCCATTTCCTTGTCCTTTCTCCTTCA AATGGCGGCGGTTTCTGCTTTGGCCAAGTTTAAGCTGGTGTTCTTAGGTGATCAATCTGTCGGAAAAACCAGCATCATCACCCGTTTCATGTATGAT AAATTCGATACCACTTACCAGCCTACCATTGGGATTGATTTTCTGTCGAAAACAATGTACCTCGAAGATCGAACAGTTCGTTTGCAGCTATGGGATAC GGCTGGGCAAGAAAGATTCAGGAGTCTAATCCCAAGTTACATCAGAGATTCTTCTGTTGCCATAGTTGTATATGATGTAGCCAATAGGCAAACGTTT CTGAATATATCGAAATGGATCGATGATGTACACAGAGAAAGAGGTTCAGGGGACGTTATTATTGTTCTTGTTGGAAACAAAACTGATCTTGTTGAGAA AAGGCAAGTATCGATCAGTGAAGGGGAAGACAAGGGTAAAGAGCATGGAGTGATGTTCATCGAAACCAGCGCGAAAGAAAATTTCAACATTAAGGC TTTGTTCCGGAAGATTGCTGCAGCATTACCTGGGATGGATTCATATTCATCGGCGACAAAATCAGAGGACATGGTCGATGTGAACCTAAAGACCACT TCAAATTCATCGCAAGGTGAGCAACAAGGAGGAGGTGGTGGAGGAGGCTGTTCTTGTTGATTCAAAAATAAACATTTTCTGTTTAAGAAACATATTCT
GCT-004M17	AT4G02640.2	BZO2H1 (basic leucine zipper O2 homolog 1); DNA binding / transcription factor	GCGGAGAGCGAGAGGAGGAAGAGATGAACAGTATCTTCTCGATTGACGATTTTTCCGATCCCTTTTGGGAAGCACCTCCGCCTCTTAATTCGAACC CGGCGAAGGTTGTTACGGCGGAGGAAGTTAGCCAGAGTCAGTCCGAATGGACTTTCGAGATGTTTCTCGAAGAGATTTCATCGTCGGTGAGCTCG GAGCCAGTGGGAAACAACAACGCGATCGTCGGAGTTTCGTCGGCGCAATCTCTTCCTTCTGTTTCGGGACAGAATGATTTCGAGGAAGACAGTCGA TTCCGCCGCGATCGTCACGATCGCGATTCGGGAAATCGGGATTACGCTCCGCCACCATCGACGGTGATTGTTCATTCCGATGATTACCATCGCGTT CTTAAGAACAAGCTTGAAACTGAGTGCGCTACTGTTGTAGCTCTTAGGACTGGGTCTGTTAAGCCTGAAGATTCGTCTACTTCTCCTGAAACTCAATT TCAACCAGCTCAATCCAGTCCTCTTGCTCAAGGTTCTTTGATGACACCTGGGGAACTTGGTGTCTCTTCTTCATCACCGGCTGAGCTGAAAAAAACT GGTGTACTAGCAAAGCAGGTTACGAGTGGATCATCGAGAGAATATTCTGATGATGATGACCTTGATGAAGAGAATGAAACCACTGGTTCCTTGAAGC CAGAGGACGTAAAAAAATCTAGAAGGATGCTGTCAAATCGAGAGTCAGCTAGGCGATCTAGAAGGAGAAAGCAGGAGCAAACAAGTGATCTCGAAA CACAGGTTAATGAGCTAAAGGGTGAACATTCATCACTTCTGAGGCAACTTAGCAACATGAACCACAAGTATGATGACGCTGCTGTTGGCAATAGAAT ACTAAAAGCTGACATTGAGACATTAAGAGCAAAGGTGAAAATGGCGGAAGAAACCGTTAAGAGAGTAACGGGAATGAATCCGATGCTTCTCGGGAG ATCAAACGGACATAGCAATAACAACAGAATGCCATTAACTGGTAACAATAGGATGGATTCTTCTTGCATTCCAGCTTTTCAACCACAATCAAACCTAA ACCATTTGCCAAATCCCAACATTGGAATTCCAGCGATTCTACCTCCAAGGCTAGGAAACAATTTCGTTGCTCCTCCTTCCTTAAACTCCCAAACTAAC TCTCAGTTGCAGAGAATAAGAAATTCACAAAATCACCATGTTGCTCCAACAAGCACAAACCCGTATGGCTGGAATACTGAACCTCAGAACGATTCTG

#Thalophila	AGI_CODE	Description	Sequence
GCT-004M19	AT3G07370.1	ATCHIP/CHIP (CARBOXYL TERMINUS OF HSC70-INTERACTING PROTEIN); ubiquitin-protein ligase	GACAATGACCTTTTTGCTTTTCTTTTATCCTTTCTGTGAAATTTCGCGGCTTCTTCTTCTAGTCTGCAAAACTCCGGGAGATTCTTCGCACGCGTCGC CGGAGAAAGATAGAGAGGAGTAGGAATAGAGGAGCGATTCGTTTGTGTCCGATTGGCTTAGACGGTGACAGGCGCTGTCTCCGCCATGGCGGCAA ATCAAGCCGAGCGGTTAAAGGAAGATGGTAACAGTTGCTTTAAGAAAGAACGTTTCGGTGCGGCCATTGATGCTTATACTGAGGCGATTACCTTGTC ACCAAAGGTTCCTGTATATTGGACTAATCGAGCTCTTTGCCACATGAAGCGAAAGGATTGGATTAGGGTTGAAGAGGATTGTCGCAAAGCTATTCAG CTTGACCACAATTCTGTCAAGGCCCATTACATGCTAGGACTTGCATTATTGCAGAGTAAACAATATTCTGATGGAGTCAAAGAGTTGCAAAGGGCTTT AGATCTTGGAAGAGGCGCAAATCCAACAGGATATATGGTAGAAGAAATATGGGAAGAGCTTGCTAAAGCAAAATACATGGAGTGGGAACTGGATTC TGCGAGGCGCTCGTGGGAACTGAATAGTTTGAAGGAAACTTGTGAGGCTGCTCTTAATCAACAACGTGCTTTAGATATGTCTCGAACAGAGGAGTC CTCGGAAGAAGCTTATTCTTTCCATACTGAGCGATTGAAAGCTCTTGATCGAGTGTTTGAGAAAGCTGCAGAAGACGACAAACCAGCTGAGGTGCCA GATTATTTGTGTTGCAACATTACACTTGAGATATTCCGGGATCCTGTGATTTCTCCAAGTGGGGTTACATATGAAAGAGCAGCGATCCTTGAACATAT TAAGAAGGTGGGGAGGTTTGATCCTATTACGCGTGAAAAACTCGACCCATCCAAACTCGTTCCAAATCTGGCTATCAAAGAGGCAGTGGCTGCTTAT CTAGACAAACACGTTTGGGCTTACAAAGTGGGCTGTTGATTCAAATGGGGCTTTGCATACAAGCAATGAAACGGAAGAGAGATCAAATATACTCAGT GACTGAACAAAACAGACGTTTACGTTTTTCAGTTTCGTTTTTTTTTTCTTGCTTGCCAATGTTTTTCGTGTAAGATTCTCTGCCGTGTATTGCTCACTTT
GCT-004M21	AT5G08330.1	TCP family transcription factor, putative	GATCTGCTTCAGAGTATACTAGTCAAGACACTGAGCAACAAGTTTATCTCTTCCAAAAATCAACACAAAAACCAGATCGTCTCATGTCGAATAACACC GAAGGAGTTATGATCTCGAACGGAGCAGCTATACAGAGACAACAACAGCAACAGCAGCAATCCTCCGACGGAGCTCTTGTCGTGAAGAAACCTCCG GCGAAGGATCGACACAGCAAAGTCGACGGAAGAGGGAGGAGGATCCGTATGCCAATCATATGCGCAGCTCGTGTTTTCCAGCTAACCAGAGAGCT TGGCCACAAATCCGATGGCCAAACTATCGAGTGGCTACTCCGTCAAGCCGAGCCTTCTATCATAGCCGCCACAGGAACCGGCACAACGCCGGCGA GTTTCTCCACCGCATCTGTCTCAATCCGCGGCAACTCCACCACCAATTCGACTTCTTCAACCTGCACTTTGTCCTCTTCTCTTCTTGATCATAAACCT TTGCTTGGATCCTCGCCGTTTATACTCGGAAAACGTGTGAGAGCCGATGAGGATACCGGAGGAGGTAAAGACGAGACAATGGGATCTTTTGCTACG CCGGCTGGGTTCTGGGCGGTTCCGGCGAGGCCAGATTTCGGACAAGTTTGGAGCTTTGCCACTGGAGCTCCACAAGAGATGTTCTTACAACAACAT CAACAACAACAACAACCAGGAGCTGCGCTTTTCGTCCACCAGCAGCAACAGCAACAAGCTGCGATGGGTGAAGCTTCTGCAGCTAGAGTCGGGAA TTATCTTCCGGGTCATCTTAATTTGCTTGCTTCTTTATCCGGTGGACCTCCCGGGTCGGGTCGGAGAGAGGATGACCCACGTTAATGGTGAATATTA AGACCCTTTTATTAGTTTGGTATATATTATTATATATCTCTCTGTTTCTCTCTATTGTCATTGATCAATCTCCTGCCTTTTTTTTTCTTCTTTACTTGAGT
GCT-004M23	AT1G07470.1	transcription factor IIA large subunit, putative / TFIIA large subunit, putative	GACTCCTCCCGATCTCTGATCTCTGATTCCTCTGCTCTGTCTTCGCTTCGTCGCCGATACCTGCCCGGCTCCGTCCTACTGCCTCCGTTAACCCCGA GATTCACGGAGGACGAATCTCGTTTTTCGCCGGAATCAAGATTAGGAGATTTTAGGGGCTGAGAAGATGGCTACAACGACGACAACAAGCGCTGTG TATATCCATGTCATCGAGGACGTCGTCAACAAAGTCCGTGAGGAGTTCATTAACAACGGAGGTCCCGGCGAGAGTGTTCTCAACGAGCTCCAAGGA GTAAGCTTCATTAAATGTCTTCTTTCGTTTGGAAAAAGATTGAAATTTTGACATTTGTAGTGGAATCGGAGTCGTGGGTTTCTTGGATTTGTTCCGCTG TAGCTTAGGGTTTCTGGGAGCTCACCTCTTTTAGTTGGCTTAAATCCATGATCTCTTGAGCTTGATTAGACGGATGCTGCTGTGTGTTTTTTTTAAATG TTTTCCGAGTAGATTTGGGAGATGAAGATGATGCAAGCTGGAGTCTTGTCTGGACCGATAGAGAGGTCATCGGCTCAGAAGCCAACACCTGGAGGT CCATTGACTCATGATCTGAATGTTCCTTATGAAGGCACTGAGGAGTATGAGACTCCCACTGCTGAAATGCTCTTCCCTCCGACACCATTGCAGACCC CCCTTCCGACGCCGCTTCCGGGTACTGCTGATAACTCCTCCATGTATAACATCCCTACTGGCTCAAGTGATTATCCAACTCCTGGAACTGAGAACGG AAGCAACCCTGATGCTAAAGGAAGACCCAGTCCTTATATGCAACCACCTTCTCCATGGACAAATCCAAGGCTTGATGTTAATGTTGCTTATGTGGAT GGCCGTGATGAGCCTGAGCGAGGAAACTCTAATCAGCAGTTTACGCAGGACTTATTTGTGCCATCTAATGGGAAACGAAAGCGCGATGATTCTTCT GCACAATATCAAAATGGTGGGTCTATACCACAACAGGATGGTGCAAGCGATGCTATGCCTAAGGCAAACATTGAGGGTGATACACTCTGCATTACCT TAGTTGGCAATAGAAAATTCCCACGGGATTTCATCTGTTCCTCTTCAAAAATTCCTCAAGTTGATGGTCCAATGCCTGACCCCTATGATGAGATCTTG TCGACGCCAAATATATACAGCTATCAAGGACCCAGTGAAGACTTTAATGATGGCAGAACTCCTGCTCCAAACGAGATCCAAGCGAGCACTCCCGTT GCTGCACAAAACGATATCATTGAAGATGATGAAGAATTGTTGAACGAAGATGATGACGATGACGAGTTGGATGACCTAGAGAGTGGTGAGGATATG AACACACAGCATCTGGTTCTGGCTCAATTTGACAAGGTGACTCGCACAAAGAGCAGGTGGAAGTGCAATCTGAAAGACGGGATCATGCATATAAAC

#Thalophila	AGI_CODE	Description	Sequence
GCT-004O01	AT2G34690.1	ACD11 (ACCELERATED CELL DEATH 11)	GGCCGAAGAAAACTGAAATCACGAGATCGGAGAGAGAGAGAGAAAGAGAGATCTTCAATGGCGGATTCGGACGCCGAGAGGCCGCTGAGAAAAAT CTCGACCGCTTTCAAGGAACTAGCGGCCACCGTGAATTCGCCGAGTCCAGAAGTGCCTGTGGCGCAATTCTCTCACGCTTGCTCTCTAGTATCGCC TCTCTTTGGTTGCCTCGGTATAGCCTTCAAGTTCGCAGAGATGGATTATGTTGCCAAGGTTAATGATCTTGCGAGGGCGTCGAGTTCAGTGTCGACA TTACTGGTAATGGTGGATAAAGATATTGAGGCAAACTGTGTAAGGAAAGCTGGTAGTCATACAAGAAACCTCTTGAGGGTAAAGCGTGGTCTTGACA TGGTTAGGGTTCTCTTTGAACAGATAATAGCTTCTGAAGGTGATAACTCCTTAAAGGATCCAGCATCTAAATCTTATGCTCAAGTGTTTGCTCCCCAC CATGGATGGGCTATACGGAAAGCTGTTTCTGTAGGGATGTACGCTCTTCCCACAAGGGCTCACCTACTTAAGATGCTCAATGAGGATGAGGCAGCG GCTAAGATAGAGATGCAAAGCTATGTAAATGCATCGGCACCAGTAATCACGTATCTTGATAATCTATTTCTCTCCAAGCAACTTGGTATTGATTGGTG AAGAACCTGAATGAAGACTTTATAAGAATCTATTTTTCTCATACTAAAATAACTTATGTTCTCATCAAGCCATGTACTGTCATAACAACAGCTAGAAGC CAGATGAACGAATTTGATTCGGTCCTTATCTTGGTCTGTGCGTGCATTTGTCTAATGTGGCAGTAACACACTTCTCATGTGTTCTGTTCATGTAATGA
GCT-004O03	AT3G51870.1	mitochondrial substrate carrier family protein	GAAACCTTCGCCTTATCTCTTTTCCCTCTTAACCATGGAGGAAGAAGACACAGCGACTCTCACATTTCACCGTATCCCTTCCCTCAGTTCCTCCATAC TAACCTCTTCTCCGGCCAAATCCGGCACCGTACAGTTATGCCGCCGTGTGCGGCGGAATTCGGCTCTCGGAGATGCCGGTTTGGTTAATAGATTCG CCTGCATTTCTCTGGTGGAGAAGTGCGACCAGAGGGAATTCGCTCCGACGTCGACTCAGCTACTGAACAACCCGCTTGCTATCCTTGCTCTTGTCC CCAAAGATGCCGCCATCTTCGCCGCCGGTGCTATTGCCGGAGCCGCCGCGAAAACGGTTACGGCTCCGCTTGACCGTATCAAGCTTCTTATGCAG ACACATGGTATACGAATTGGACATCAGAGTGCAAAAAAGGCTATTGGATTTATCGAGGCAATCACTTTGATAGCCAAAGAAGAAGGAGTGAAAGGTT ACTGGAAGGGAAATTTGCCACAGGTGATAAGAGTGTTACCTTACAGTGCGGTCCAGCTTTTGGCTTACGAGAGTTACAAGAAATTGTTCAAGGGTAA AGATGATCAACTCTCAGTAATAGGAAGACTTGCAGCTGGTGCTTGTGCTGGTATGACGTCTACTTTGTTGACATACCCACTAGACGTTTTGAGATTAA GGTTGGCAGTAGAACCTGGCTACCGAACAATGTCTCAGGTTGCTTTGAGTATGCTCCGTGAAGAAGGAATTGCATCTTTCTATTACGGTCTGGGACC TTCTCTAGTGGGGATAGCTCCATATATTGCTGTTAACTTTTGTATTTTCGATCTAGTGAAGAAGTCTTTACCGGAGGAATATAGACAAAAGGCACAAT CGTCTCTATTGACAGCTGTTCTTTCGGCCGGTATTGCAACACTGACATGTTACCCTCTCGACACTGTGAGACGGCAAATGCAAATGAGAGGAACTCC ATACAAATCAATCCCGGAAGCATTTGCTGGAATTATAGACCGTGATGGGCTTATAGGCTTGTACCGTGGCTTTTTACCCAATGCATTGAAAACTCTAC CAAACAGCAGCATTAGGCTTACAACCTTCGATATGGTAAAACGCCTTATCGCCACAAGTGAGAAGCAGCTTCAAAAGATCAACGATGATAATCGTAA CGCAGAGGAAACTCGATAGCGATTTCTTAACTTTTGCCTAGATTAAAATTTTGCAGCTCGTCGAATATTTTTCGTTGAGTGACTACTTTTACTTTTTTC
GCT-004O05	AT3G11100.1	transcription factor	GGGGGTAATCGCCGTTGCTGACGTCACCGCCGGTAATCAATCAATCTCCTCCCCCACCCATTAACCGTTTTTCTCTATTACTTTACCAACAAATCCG ATTTCTCTGCCTCCTCCACAGATTCTTATCCTCCTCCTCCCTCAAAATGGAGACGACGCCGGAGACTCAGTCGAAGCCCCAGTCCCAGAGCGGGTC TCACCGTCTGCCGGCGGGACGAGAGGACTGGTGGAGCGAGGACGCGACGGCGACTTTGATCGAGGCCTGGGGAGAACGCTACGTCCATCTCAAC CGTGGAAATCTCCGGCAGAACGATTGGAAAGAAGTCGCCGACGCCGTCAATTCGAGCCACGGGAATGGCCGGCCAAAGACCGACGTCCAGTGTAA GAACCGGATCGACACCTTGAAGAAGAAGTACAAAACGGAGAAAGCCAAACCCTCTTCGTCCTGGTGCTTCTTCGATAGGCTCGATTTCCTAATCGGT CCCGTTGTCAAGAAATCTTCCGGCGCCGGCGTGGTCAAACCGGCGTTGATGAACCCTAATTTGCATCCCACCGGATCTAAATCGACTGGAAGCTCT CTTGACGACGACGATGATGACGATGATGACGACGTGGGTGATTGGGGGTTTGTGGTGAGGAAGCATCGTCGAGTGGAAGATGTAGATCCGAGTGA AGGGTCGTCTTGTAGGGATCTAGCGAGAGCGATTCTCAAGTTAGGAGAAGTCTACGAGAGAATCGAAGGTACGAAGCAGCAGATGATGATTGAATT GGAGAAGCAGAGAATGGAAGTTGCCAAGGAGCTTGAGTTACAACGAATGAACATGTTGATGGAGATGCAAATGGAGCTTGAGAAGTCCAAGCTTGG GAAACGCAGAGCTGGTTCAGGTAAGAAGTTGTAGGATTAGCCTCTGTGGTGAAGCAACGAGCAATGGTTGGATCTAAAAGCTCATCGAAATTGGAG AAGCTGTTATTATTCTTAATCCCTAGGTTTCAAGTTATAGCAATGCTTTTTTTATTTTCCTCTTCTTTTTTTTTTCCTTTATCTCCTCTAGTGTTGTAGGG

#Thalophila	AGI_CODE	Description	Sequence
GCT-004O07	AT5G59400.2	similar to unknown protein [Arabidopsis thaliana] (TAIR:AT4G11960.1); similar to unknown protein [Oryza sativa] (GB:AAK73156.1); contains domain DNA ligase/mRNA capping enzyme, catalytic domain (SSF56091)	GAAGACGATTACTACTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTTTTTGGTTCATGGCGGGCACTTGTACGTCGATTAGGCCTCGCCTCT TAGGCTCTTGTTCGATTGCTGAGCTCTCCAGGTTGATCAATCGAGCCGGAGTTCCTTTCTCTGTTCGGATCTCCACCAGAAGGTCCAGAACCCGAG GCCACGGAGGTGGTTTCACGGCACGGACCTTACGTGAGGAAGGTCCTTCTTGCATCTTCGTCGGTCCGATTGATTCCGCCCGGAAAGAAACCTTAG AAGCTCTCTACCGCCAAGCGAGGGATGCGTATTACAACGGCAAGCCTTTGATAGTTGATGACATGTTTGACAGAGTTGAGCTAAAGCTTCGGTGGT ATGGTTCGAAATCGGTTGTCAAGTACCCTCGGTGCAGCCTCCTGCGACAGTCAACTTATGCTGATGCAGAGGTACAATTTGGGAGTCAAATTCACTT CTTTTTGTAACTCCTTGAGATTTTGGATTCGTTTCATCATAGCTTTTCAGAATTTGAGATGGTCATCTTGTGGACAGGATGATGCATCTCAAGTTCTCC TGTTAGCTACCATATGGATCTTGATTCTCTTGTTTGGTAGCTCAGCATGCGTTTTGCCCGCGATGTATGGCCTCGGCTTAGTCTATGGAGGAGATCC GTTTGACTCAGGGCTTGTCTATACAGGCCAATTGTCATCTTCTGTGCCTCTTTTGTCAAAGTTTAACGGCATCCTCCTCACCGTGCTAGGACCTGCTT TTGGATATCCGATTGCATCTTCTGCAATGAGAGTACTTGAAGGCCTATGGAGAAATGACTTAACGGCTCTAAAAGGAGACTGCCCAAATTGCGGGGA AGAGGTCAAATCTTTTGTTTGTTCACTCTTTTGCTGGAACATTGTTTTGTTTTTCAGTTCTCGTCACATTTGAGTTTGATGAACTTGTGTAGGTTTTTGC ATTCGTGAGATCCGATCAATCAAACCGATCAGCTCACAAAGCCGACTGTCATGTCTGTGAGTGCACCCTGGAGTTCCGTACCAAAGTGGAGAAATCT GTGTCACCATTGGGTAGAAAATGGGTTTACGGCAGGATATACCTTGTTTCACGGCCAAGGAGGAACCGGCGTTCCAAGTATACATAATTCTGACAAA GACAAATAGAATTTTTTGGTTTCTACTCAATTGTGTATCTTTTTATTTAAAAGAAAGAAGGATATTAGAAACTAGAAAGGTGTTTGTATCATTCAAAATA TTCATAAAAGTTTTACTATGTAACGTTTTGTCTCTTGTAGCCTTTTTCTTCCCACAGTTTACAAAAAGGAAAAGAAGAAAAACAGAGATTCGTTCCGGG ACTCCCAGGTATTGCAAAACTGGCATTAGCTGCTGAGTAAAAAAGAATGTTTCTCAGCTTTTTCTCAGAAGTGTGCCAAACTATAGACAAGAATCCAT GCGAGCTGAAGACAAGATATGAAATAGATTTTAATTACTGTTGTTAAGGAGGAAAGAGTTTAAATAGTTGAGATGGAAAACAAACTTACCAAAAAGAG AGTAACTGACGCGAAGAGACCCTCTTGGAGTAAAGCTGCGTGGCCTCCGAAGTCTTCTTCATCAACCTTGAGAATCATTGCATAGTAACCATAAACT ATCCCTGACGATATCGCCAAAAACCTGCAAAAAATCTTCATCATTATGTTTTGCTAATCCTCGAGATTTTTAAAGCAATGTTGTCAAAAAGAAGATCCC AATATGTCTTCTTCTCTCATTTGCTCTAATCAGAATTGTGTTCTAGCCGGGTGAAAATGAATCAAAGACATTATTACTTTATCAAGAAGATAAAACTAG AAATACCAAGAGCCAAAGCTGGAACAGGATTTTGAGAAGAAGACTGTTTCTTTTGCGTTTGCGTTACCATCAAATCATTATAACATAGGAAACAAAGC AAATAAACAAATTGTAGCTATAAGTTTTCAGCTTACAGGATGATCCAAATGCCTCCAACAAGTGGAATTGAGCCCCATAACAATCCACAGATCAATCC CACCACTTGTCGGATCCAATGCAACACGTCTCCCAATTGATCCTGCATCATCAACAAATTACAAAATCTGTTTCTAGAAATCTAACCTATCCTGTAGTA

#Thalophila	AGI_CODE	Description	Sequence
GCT-004O09	AT5G18830.2	SPL7 (SQUAMOSA PROMOTER BINDING PROTEIN-LIKE 7); DNA binding / transcription factor	GAACTTCCTTAACAACCGATGGGTCCTTTAACAATTCTCTGAATTTATGATTGAAGACGCTTCAGATGTCTTCTATGTCGCAATCGCCATCGGCGCCG GAGATGGAAATTCAACCTCCGACATTGGTGAACGATGATCCTTCCACCTATTCCTCCGCTATGTGGGATTGGGGAGATCTCCTTGACTTCACCGCAG ACGACCGACTTCTCGTCTCTTTTGACTCCGAAACCCCTTTCTCTCCCGTTCCTCCTCCTCCTCCTCCTCCTCCGCCGCCGATGATTGCGACGCAACC CCCGGTGGAATCTGAATCGTATCCGTCTCCGGATGAATCGGGCTCAGGCTCCGATCGGGTTAGGAAGCGGGACCCGAGGTTGATTTGTTCCAATTT CCTCGAAGGTATGCTCCCGTGCTCGTGTCCGGAGCTCGATCAGAAACTGGAGGAGGCTGAGCTGCCGAAGAAGAAGCGGGTTCGAGGCGGGTCG GGCGTGGCTCGATGTCAGGTTCCGGGTTGTGAAGCGGACATAAGCGAGCTCAAAGGGTACCATAAGAGGCATAGGGTTTGCCTCCGGTGTGCCAA CGCCAGCTCCGTTGTGCTTGACGGAGAGAATAAGAGATACTGTCAACAGTGTGGAAAGTTCCACGTACTCTCGGACTTTGACGAGGGGAAACGTAG CTGTCGGAGAAAGCTAGAGCGTCACAATAACAGACGGAAAAGGAAACCTGTAGATAAAGGGGGCGTTGCTCCAAAACAACAACAAGTGTCATCACA GAATGATAACAGCGTAATTGATGTTGATGATGCAAAAGATAATACATACTCTAGTGACCAGAGAGCAGAACAAGAGGCTTCAATGAATTTTGAAGATC GGCATATTCCCGCTCAGGGGTCTGTACCCTTTACCCATAGCATCAACGCAGACAACTTTGTCTCTGTTACAGGCTCGGGTGAAGCTCAACCAGAAG AAGGAATCAATGACACAAAGTTTGAACTTTCACCTTCCTGTGGTGAAAACAAAAGTGCTTACTCAACTGTGTGCCCTACTGGTCGGATCTCCTTCAAG CTCTACGATTGGAATCCAGCGGAGTTCCCACGGAGACTACGGCATCAAATATTCCAATGGTTGGCCACCATGCCTGTTGAGCTGGAAGGCTACATC CGTCCAGGATGTACAATTTTGACTGTATTTATAGCAATGCCAGAGATTATGTGGGCTAAGTTGTCTAAAGATCCTGTGGCATATCTGGATGAATTTAT TCTTAAACCTGGAAAAATGCTATTTGGAAGAGGCTCGATGACTGTCTATTTGAACAACATGATTTTCCGTCTTATGAAAGGCGGGACAACTTTAAAGA GAGTCGATGTAAAATTAGAATCACCAAAACTTCAGTTTGTGTATCCTACATGTTTTGAAGCTGGAAAACCAATTGAACTCGTTGTATGTGGACATAAC CTTCTGCAACCCAAATGCCGGTTTCTTGTGTCTTTTTCTGGGAAGTACTTACCACATAACTATTCTGTTCTACCTGCACCGGGCCAAGATGGGAAGC GTTCTTGTGATAACAAGTTCTACAAGATCAATATTGTGAATTCTGACCCTAATCTCTTTGGCCCTGCATTTGTCGAGGTTGAGAATGAATCTGGACTAT CAAATTTCATACCTCTAATAATTGGAGATAAAGCTATTTGTTCCGAAATGAAATTAATAGAGCAGAAGTTCAACGCTACACTCTTTCCAGAGGGACAA GGAGTTACCGCATGCTGTTCTTTGACTTGCTGTTGCAGGGATTTCGAAGAGAGACAGAGCACCTTTACAGGTCTCTTGTTGGATATTGCATGGTCAG TGAAGATGCCCTCTTCAGAATGCACTGAGCAAACCGTGAACAGATGTCAGATAAAAAGATACAACAGAGTTTTGAACTATCTGATACAGAGTAACTC GGCCTCAATCTTAGGAAATGTACTGCACAATCTGGAAAAGTTGGTGAAGAAGATGGATCCAGACAGTCTTGTTCACTGTACCTGTGACTGCGACGTG AGGCTTCTACATGAAAATATGAATGTAGCCAGAAAGCAGCAAAGCTATGAAGATTCAAAGTTGAAACCAGGAATATCAGGGTGCTGTTGTGAGAGCA
GCT-004O11	AT1G33970.4	GTP binding	GATCTAAAGAGTTGTACATTATATCTTACATTTCTCGTCGCTTCAGCTTTCCTCTTTTCAAGCAAGAAAAAAGGTATATGACTTTGTTCAAGATGGGTG GAGATTTGATGGAAGATGATTGGGAATTTGCCTCATCGTCAAACCCTAGCAGAACCCTAGTTCTTGTGGGCCGTACTGGAAACGGAAAGAGCGCAA CAGGGAATAGCATCCTTGGAAAGAAAGCGTTTAGGTCAAGAGTAAGTACTCTAGGAGTGACAAGCACATGCGAGTCACACAGAGTTGTCCAAGAAG ATGGGCAGGTCATCAATGTCGTTGACACTCCTGGTCTGTTTGATTTGTCAATGGCAGCTGCTGTTATCTGTAAAGAGATTGTGAGATGCATGACTCT GGCTGAAGATGGAATCAGTGCTGTTCTGTTGGTGTTCTCTGTGAGGGGTCGTCTCTCAGAAGAGGAGAAATCCGCGGTTTATCACTTGCAAACGCT GTTTGGGAGTAAAATTGCTGATTATCTGATCGTTGTTTTCACGGGTGGCGATGAGTTGGAAGAGAATGAAGAGACATTGGAGGAGTATTTGGCTCAG GCTTGCCCTGAGTTTCTGAAAGAGATTCTTGAGCTATGTGACAACCGAATGGTACTGTTTGATAACAAGACTGCGGATAAGAGCAAGAAAGCTGAGC AAGTTGAGAAGCTTCTCTCACTGGTTGATTCTATTGCTAGAAAGAACAATGGAGAACCGTTTACAGATGAATTGTTCCAGGAGCTACAGGAAGAGGC TATCAAGCTACGTGACCAGAAAAAGGAGGTTGAATCGCTGAAGGGTTATTCAAAGAATGAGATATCTGAATTCAAGAAGCAGATAGAGATATCGTAT GACCGGCAACTTAATCGCATCACAGAGATGGTGGAGACAAAGCTGAGAGAAACATCAAACAGGCTAGAGCAGCAGCTGGGTGAAGAACAAGCCGC AAGACTTGAAGCAGAAAAGAGAGCAAACGAAGTCCAGAAACGGTCAAGCGATGAGATTAAGAAGCTTAGAGAGAATCTGGAGAGGGCGGAAAAAG AGACAAAGGAGCTCCAGAAAAAACTGGGAAAGTGTATCAATCTGTAATTGAGAAATGGAAGCTTCGTTGAAGCCTGATAAGAAGGGTGCTACAACTT

#Thalophila	AGI_CODE	Description	Sequence
GCT-004O13	AT5G51630.1	disease resistance protein (TIR-NBS-LRR class), putative	GGCTACTGTTACAATACTGTCCACACTTCGTCTCTATACGAGTTTCAAAATCTCTTCTCTATCATTTTCCATGGGGCTTCTTCTTCCTCTTCTCGTACC TGGAGATACGATGTTTTCCCGAGTTTCAGCGGTGAAGATGTACGCAAATCATTCCTCAGCCACCTTCTCGAGAAGCTCAATCGCAAATTGATCATTA CATTCATAGACCATGGCATCGAGAGAAGCAGACCCATCGCACATGAGCTTTTATCGGCGATTAATCGTTTTCTCAAAGAACTACGCTTCTTCGACCT GGTGTTTGAATGAATTGGTGGAGATCCACATGTGCTTTAAGGAACTGAATCAAATGGTGATTCCGATTTTTTACGATGTGGATCCTTCTGATGTTAGA AAACAGACCGGAGAATTCGGAGAAGGGTTTGAAAAAACTTGCAAAGGCAAATCAGATGATCATAAAGAAAGATGGATCCGAGCTTTAACAGAGGTA GCAAATTTGGCCGGAGAGGATTCTCGGAATTGGTATGTTGCTTTTTAATTGTCTTTGCATAGATTTCGATTGTTCTTACGATTACTTCTTGATTGGGTT TTTCACCATTAATATTTAGGAGTGATGAAGCAAACATGATTGAAAAAAATCGCCAAGGATGTGTTGAATAAGCTCATGACATCATCAAATGATTTTGGT GACTTTGTTGGGATTACAGCTCATTTAGAGAAATTGAATTCGGTTTTGAGTTTGGAATCTGAGGAAGTGAGAATGGTAGGAATTGTGAGGGCTTCAG GGATTGGTAAGAGTACCATAGGAAGAGCTCTATACAGTCAACTTTCTGGTAGATTCCACCATCATGCTTTCGTCTCTTATACGTGATACGATCATGGA CCCGGAGGACGACCCAGACAAGGGAATCGAGGTTCCGGAAGCACATTTGGCCGTACCGGATGGACCTATGACGCGATCCAGAGCTAAGAAGCTG GCAGGGACGGTTCAGGCTGTTCTTAATGGGATCAAGATCGGACCAGGCGACCCAGCATCACCCAAGATTGTGACCGTGCTCATGAACGCCGTAAC TAATCCGGTCCGGGTGATGGCTTAATACTCTTTTTCCTTACACCCGGGTTTGTCCCAATGGGTTTACCGGGTGGGGATTTAATGAGGTTAAGTCCAT TCGCGATCTCTCGACCTAGCTTTCTTCGCCTCTCGCTTCATCGATCGCCGAACGCGAAGACTCATTTCGCCTTCGCAATTCAAGACTCACTCAAACGC
GCT-004O15	AT1G20980.1	SPL14 (SQUAMOSA PROMOTER BINDING PROTEIN-LIKE 14); DNA binding / transcription factor	GTTGAAGACATGAGCAGAACAAGGAAAAGCTTAACGAGAAGTGGAAGACGAAGAAGGAGAATCTGTCTGAATAAGGTCGGTCGAAGAGAGAGAGA AGCTTGTGAGGAGAAAAAATCCATCTTTTTTCTTGCTTCCTGGATTGGATCGGGAAAATCTACAAGCTGAAGATTCGTTTTTGAAAAATAGTTCGAAT CTGAAGAAACTTCTCTGGTTGTTTTTACATTCGATTTTTTTTACCGAATTCTTCTTGGGTTGAGGAAAAGTTGAAAGCTTTAAGCTACGATTCTGCATC AGATTTCTGGGTTCACTGATTGGACCTCTTAGCTATCAGTAGAAATGATAGGTTCGTTCTCCCGTTAGATTCACTGAAGATGTTCTTCTCCAACTGAA TCTTCTTCCACCTGATCTAATTTACTTTTGGAGGGTCGAATCTTGAAAGAGGAGCGATTTTCAGAGAAAGAGAGAGAAAGAGAGAGAGGGAGATATG GATGAGGTGGGCGCTCAGGTGGCTGCTCCGATTTTCATTCACCAATCGCTATCTCCGATGGGGAGAAAACGCAATCTTTATTACCAGATGTCGAATC GTGTGGCTCCATCTCAGCCGCAGCCGCAACGTAGAGACGAGTGGAACTCTAAGATGTGGGATTGGGATAGCCGGAGATTCGAAGCTAAACCGGTG GACGCGGAGGTTCATCTCCGGCTTGGGAACGAGACACAGTTTGATTTGAACTCGCGGAAGGAGGGAGAAGAAAGGGGGCTTGATTTGAATCTGGG AAGTTGTCTGAACGCCGTGGAAGACATGACGCAGGCAACTAGACCAAGCAAGAAGGTTCGGTCTGGATCTCCGGGAAGCGGAGGGAACTATCCGG TGTGTCAGGTGGACAATTGTACCCAAGATTTGTCTCATGCTAAGGACTACCATAGAAGGCATAAAGTGTGTGAACTTCATAGTAAAGCTACTAAAGCT CTTGTTGGGAAACAGATGCAGAGGTTCTGCCAACAGTGCAGCAGGTTTCATCTTCTTTCTGAGTTTGATGAGGGGAAAAGAAGTTGTAGGCGTAGAT TGGCTGGCCACAACAGACGGAGGAGGAAAACAACGCAGCCTGAGGAGATTGCATCTGGAGTTGGAGTTCCCGGGAACAGCGATAATACCTCTATC CCCAATATGGATCTTATGGCTTTGTTAACCACATTAGCTTGTGCACAAGGTAAGAATGAGGTAAAGCCAATGGGGTCTCCAGCTGTGCCTAACAGAG AGCAGCTTCTTCAGATACTTAACAAGATAAATGCGTTGCCTTTGCCTATGGATCTCGTCTCTAAGTTGAACAATATTGGAAGTTTAGCCAGGAAAAAT CTGGATCGCCCAATGGTGAACCCCCAAAATGATATGAATGGGGCTTCTCCTTCTACCATGGATTTGCTTGCTGTTCTCTCGGCAACGTTAGGCTCAT CTTCACCTGATGCGCTAGCGATATTGTCTCAAGGTGGGTTTGGTAATAAAGACAGTGACATGACTAAGTTATCTTCTTATGACCACGGTGCTACAAC CAATTTGGAAAAGAAAACTGTTGGGGGAGAGAGGAGCAGTAGCAGTAACCAATCTCCTTCTCAGGATTCAGATTCGCATGCTCAAGACACTAGGTCT AGCTTGTCTCTACAACTATTCACCTCCTCACCGGAGGATGAGAGCCGACCGACCGTGGCATCCTCGAGAAAGTATTATTCTTCTGCCAGCAGTAACC CTGTCGAGGATAGATCGCCATCTTCATCTCCAGTCATGCAGGAGTTATTCCCATTGCAAACGTCTCCTGAAACCATGAGGTCCAAGAATCACAAAAA CACAAATCCAAGGACTGGGGGTTGCTTGCCTCTTGAGCTCTTTGGTGCATCAAATAGAGGAGCTGCAAATCCTAACTTTAAAGGATTCGGGCAACAG TCTGGTTATGCGTCTTCTGGTTCTGACTACTCTCCTCCTAGCTTAAACTCTGATGCTCAGGACCGCACTGGAAAGATAGTCTTTAAACTACTTGATAA AGATCCAAGTCAGCTCCCTGGAACATTACGAACTGAGATCTATAACTGGCTTTCGAGCATTCCATCAGAAATGGAGAGTTATATCAGGCCTGGTTGT

#Thalophila	AGI_CODE	Description	Sequence
GCT-004O17	AT5G46690.1	BHLH071 (BETA HLH PROTEIN 71); DNA binding / transcription factor	GGAGTACGTCGTAAAGAGAAATGACACTAGAAGCTTTATCATCAAACGGTCTCTTAAACTTTTTACTCTCTGAGACTCTTTCACCAACCCCATTCAAG TCTCTCGTCGATCTCGAGCCATCGCCGGAAAATGATATCATCATCTCCAAGAACACAATTCCGGCGATATCCCACCAAGAACCGTCCTCGCGGCAG CCACCACCAGCTAGCAGAGGGAAGAAGCGGAGGAGGAGGAAGCCTAGGGTTTGCAAAAACGAAGAAGAAGCTGAGAATCAACGAATGACTCACAT CGCCGTAGAGAGAAATCGGAGAAGACAAATGAATCAACATCTCTCTGTCTTAAGATCTCTCATGCCTCAACCTTTTGCTCAAAAGGGCGACCAAGCT TCAATAGTTGGTGGAGCCATAGATTTCATCAAAGAACTTGAACATCAATTACTATCTCTTGAAGCTCAAAAGCTTCAAAAGGCTAAACTAAACCAGAC GGTTACTTCTTCAACAAGTCAAGACACTAACGGCGATCCGGAGATTCCCCATCAACCTTCCTCGCTGTCACAGTTCTTTCTTTACTCGTACGATCCGA GCCAGGAGAATATGAACGGCTCAACAAGCTCGGTGAAAACCGCTATGGAAGATCTCGAAGTGACTCTAATCGAAACTCATGCTAACATCAGAATCTT GTCAAGAAGAAACGGTTTCCGGTGGACCGCGGTGACCACCACCGGGCCACCGCAGCTTTCGAAGCTGGTGGCTGCTCTACAATCACTCTCCCTCT CCGTGCTTCACCTCAGTGTCACAACATTGGAAACTTTTGCTATATACTCCATCAGCACTAAGGTGGAAGAGAGTTGCCAGCTAAGTTCAGTAGATGA CATTGCAGGAGCAGTCCATCACATGCTAAGTATCATTGAAGAGGAGCATTTGTGTTGCTCATCAATATCAGAATTACCCTTTGATTTCCCTTTAAATCA CACAAATGCCACTCATTCTCTTTAAGGACACTTTTTTTTTTATCAGAAGCACATCCTTAAGTTTTTTTTTTCTTTCAAAATAAAAAGAAAGTTAATTTTTT
GCT-004O19	AT2G01980.1	SOS1 (SALT OVERLY SENSITIVE 1); sodium:hydrogen antiporter	GGTCTCCCAGCTGCCTGAATCGACTCAAGGAGCTTCTTCTTCTTCTTCTTCTCCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCATCGTCATCATCA TCATCATCATCATCATCTTCAATATTCGAAGAAAATGGCGACTGTAATCGAAGCGGTGATGCCGTATAGACTTCTGGAGGACGAGACCGGTTCGCCG GAAGGAGAATCTAGCCCCGTTGACGCCGTTCTCTTCGTCGGGATGTCTCTGGTGCTCGGTATAGCTTCCAGGCATTTGCTTCGCGGGACTAGGGTT CCTTACACCGTCGCTCTACTCGTTATCGGGATTGCTCTTGGATCTCTCGAATATGGAACCCATCATAACCTTGGGAAGCTCGGCCATGGAATTCGTA TATGGAACGAAATCAACCCTGAACTTCTTTTGGCCGTTTTTCTTCCGGCTCTTCTTTTCGAGAGTGCCTTCTCGATGGAAGTTCACCAGATCAAGAGA TGTCTGGGACAAATGGTGCTACTTGCTGGGCCTGGAGTTCTCATTTCAACCTTTTGTCTGGCATCGCTTGTTAAGCTCACGTTTCCGTATGACTGGG ACTGGAAAACGTCGTTGTTGCTTGGGGGACTTTTAAGTGCTACTGATCCTGTTGCTGTTGTTGCTTTGCTTAAAGAGCTTGGTGCTAGTAAGAAGCT AAGCACAGTCATTGAAGGGGAATCCCTGATGAATGATGGGACGGCTATTGTGGTTTTCCAGTTATTCTTAAAGATGGTTATGGGTCATAGTTCTGGC TGGTCTTCTATAATCACATTTCTGATTAGAGTCGCACTTGGAGCTGTTGGCATTGGTATCGCTTTTGGCATTGCCTCGGTTCTTTGGCTCAAGTTCAT ATTCAACGACACAGTAATTGAGATTACTCTTACGATTGCAGTGAGCTACTTCGCATATTACACTGCTCAAGAGTGGGCTGGGGCTTCTGGTGTTTTG ACGGTGATGACTTTGGGCATGTTTTATGCTGCATTTGCAAGAACAGCATTTAAAGGGGACAGTCAAAGAAGTTTGCATCACTTCTGGGAAATGGTCG CATATATTGCAAATACTTTGATTTTTATCCTCAGTGGTGTTGTCATTGCTGAAGGCATTCTCGACAGCGATAAGATTGCGTACCAAGGGAGTTCATGG GGATATCTTTTTCTACTATACTTATACATCCAACTATCGCGTTGTGTTGTTGTAGGAGTTCTGTATTCATTTTTATGTCGTGTTGGCTATGGCTTGGAT TGGAAAGAAGCCATTATACTCGTATGGTCTGGTTTGAGGGGTGCAGTGGCGCTCTCACTTTCTTTATCCGTGAAGCAATCAAGCGGAAATTCATTTC TCAGCACCGAGACAGGAACAATGTTTATTTTCTTCACTGGTGGAATCGTGTTCCTGACTCTGATAGTTAATGGATCCACTACCCAATTTGCTCTGCGC CTTCTTCGCATGGACGGTTTACCAGCCTCAAAGGGAAACTGTGGTTATGCCCCTGTCTTCCTGGCGTTTGAGTCCTTGAGCGGGCATAGTTAGGTG TATGCGTCAGCCAGTAATAGCTACTAGCTAGCTAGTCCCAAGACTGGCCCAAAAAGTTCTGCATTTCTTATCTCGAAATGCTCAACCCCCATTATTTA TTCAAAATTCTCCACTTTTCTTGTTGACAGATACGAATATTGGATTATACAAAGTATGAAATGCTGAATAAGGCCTTACAAGCGTTTGAAGATCTAGGA GACGATGAAGAGTTAGGACCTGCTGACTGGCCTACAGTTGAGAGTTATATTTCGAGCTTAAAAGATTCAGAAGGGGAACAAGTTCATCCTCATAGTG GCTCTAAGCCTGGAAATCTTGGCCATACGAGTTTAAAGGACATACGTATACGTTTCTTAAATGGTGTTCAGGCAGCTTACTGGGAGATGCTTGATGA AGGAAGAATATCTGAAAGTACTGCTAATATTTTGATGCGGTCAGTGGATGAGGCGTTGGATCATATTTCGACGGAGCCTTTATGTGACTGGAGAGGT CTAAAATCGCATGTTAAGTTCCCGGGCTACTACAACTTTCTTCATTCTAAGATTATCCCTGGGAAGTTGGTCATATACTTTGCTGTCGATAGACTGGA

#Thalophila	AGI_CODE	Description	Sequence
GCT-004O21	AT4G21670.1	CPL1 (FIERY 2); double-stranded RNA binding	GATTCACAATCTTGACTCTTTGGTTATCTCTGGATCTAGGGTTTCTCTCGCAATATCGTCCGCTTCTGATTTTAGAACGAAAAAAAAAACCCCAAATAT CTAATATCACCCAATAAACTTTTTTCCTATCAACAACAGATTCATCGGAGAAGAAGAAGAATTAGAGTTATTTTCTCTTTGGATTCATCGGTATTACAG ATCTACATTCAAAGGGAACAAAATCTAAAAAAACAAACACTAAATTTCCATCCTTTTCTTTATCCATCCATCAAATCGACTCTTTTTTTTTCTTGATTTTT GCTAAGATAAACTCGGATCCAATTCAAAAACTTGTGTGGACTGGTCATCAATCAATCAATCAAGCCAAGGGACAACGAAAAAAAGTAAAGATTTTGTT GAACGAATTTGAGATGAGACAAAAGACATCCATTGATCTGTAAACTTTCTGATTAAGAAGGAAGAAGGAGAAGTCAAGTTATGTACAATAGTAATAGA GTAGAAGTGTACCATGAAGATGGGAGAGTTGGAGAATTGGAGATTTACCCTCCAACTGAATCACAGCAGCAGCAAGAAGACGATGTTACCAAGCAG AGGAAGAAGAAAGTAATGGAGCAAGTGAAGATGGGAATCAGAATTAGCCATTTTTCTCAACCCAGCGAGAGATGTCCTCCTCTTGCAGTACTCACTA CAGTTTCATCTTGTGGCCTTTGTTTCAAATTGGAAGCTTCGGCTTCTCCTGCTCAGGAGCCACTCAGTCTCTTCTACTCGTCCTGCCTCAGGGACAA CAAGACAGCAGTGATGCTCCTGGGTGACGAAGAGCTCCATTTGGTTGCCATGTATTCGGAAAATATCAAGAATGACCGTCCTTGTTTCTGGGGATTT AGTGTTGCTCCTGGAATATACGATTCCTGTCTGGTCATGCTGAACCTTAGATGTCTGGGTATTGTCTTTGATCTTGATGAGACCCTCGTAGTGGCAAA TACCATGCGCTCATTTGAGGATAGGATTGAGGTGTTGCAGCGGAGAATAAACAACGAGGTGGACCCTCAACGCATTGCCGTTATGGGGGCTGAGAT GAAGCGTTATCAAGATGACAAAAATCTATTGAAGCAATATGTTGAAAGTGACCAGGTTATTGAAAACGGGGAGGTGATTAAGGTTCAATCTGAAATTG TACCTGCCTTGTCTGACAACCATCAGCCTCTTGTTCGCCCCCTGATAAGGTTGCAAGAAAAGAATATTATCCTGACTCGCATTAATCCGATGATTCGT GATACAAGTGTTCTTGTGAGGTTGAGGCCTTCATGGGAGGAACTTCGAAGCTATTTGACCGCAAAAGGGCGCAAGCGTTTTGAAGTATATGTTTGCA CGATGGCTGAAAGAGATTACGCCTTAGAGATGTGGAGGCTCCTTGATCCAGAAGGGAATTTGATCAACGTAAACGACTTGCTGACTCGCATTGTTTG TGTGAAACCTGGTTTAAAAAAATCACTGTTCAATGTGTTTCTCGATGCAACCTGCCATCCAAAGATGGCACTGGTAATTGATGATCGACTGAAAGTTT GGGATGAGAAGGATCAGCCGAGGGTGCATGTGGTTCCTGCATTTGCTCCCTATTATTCTCCTCAGGCTGAAAATCCACATTGTATAGAAGGAAACAA ATCCAAGCCTTATAAGACCTAAGCGCATCCTAAGCTGTAGGGTAGCTCTTGTGGCTGCTGCAACACCGGTGCTATGTGTTGCCAGAAATGTTGCTTG TGGTGTCAGAGGTGGATTTTTCAGGGATTTCGATGATAGTCTGCTACAAAGGATTGCTGAAATATCTTATGAGAATGATGTTGAGGATATTCCCTCTC CGCCTGATGTCAGCCATTACTTGGTCTCCGAGGATGAAACATCGGGTTTAAATGGGAACAAAGATCCACTTACTTTTGATGGGATGGCTGATGCTGA AGTGGAGAGAAGACTAAAGGAGGCAATTTCTGCATCTTCAGTTGTCCTTCCGGCAGCAAATATAGACCCAAGGATAAGTGCTCCCGTTCAGTACCC CATGGCTTCTGCTTCTTCTGTTTCAGTTCCAATACCAGTACCAGTACCAGTCGTGCAACAAGCACCACAGCCGTCAGCTATGGCCTTTCCAAGTATT
GCT-004O23	AT3G48000.1	ALDH2B4 (ALDEHYDE DEHYDROGENASE 2); 3-chloroallyl aldehyde dehydrogenase/ aldehyde dehydrogenase (NAD	GGGAGATAAACCCAAGAAAAAAGATAAGAACTTTGAAGTTTGCATCCATGGCAGCTCGTAGAGTGTCTTCTCTATTATATCGATCCTTTTCTGCTTCC TCTCCTTTTCTGTTTCGTTCTCAAGGGAGAAATTGTTACAATGGAAGTAGGATCGCAAGGAGATTCGGAACCTCTTCTGCAGCTGAAGAAATCATAAG CCCGTCGGTTCAAGTTTCTCACACACAGCTCCTCATCGATGGGAACTTCGTAGACGCTGCTTCTGGTAAGACGTTTCCAACTCTTGATCCGCGCACA GGCGAAGTCATTGCTCACGTAGCTGAAGGTGATGCTGAAGATATCAATCGAGCTGTGAAAGCTGCAAGGAAGGCCTTTGATGAAGGACCTTGGCCT AAGATGACTGCTTATGAAAGGTCAAGGATAATGCTGAGGTTCGCAGATCTTGTTGAGAAACACAGCGAACAGCTCGCGTCACTAGAGTCATGGGAC AATGGGAAGACTTATGAGCAAGCCAAAACATCAGAGATTCCAATGCTCGCAAGATTGTTCCGCTACTATGCTGGATGGGCGGATAAGATTCATGGG CTTACAGTTCCAGCTGATGGAAACTATCATGTCCAGACACTGCATGAACCGATAGGAGTAGCTGGACAAATCATTCCGTGGAACTTTCCGCTTTTGA TGTTTGCTTGGAAAGTTGGTCCTGCTCTTGCTTGTGGTAACACCATTGTCCTCAAAACCGCTGAACAAACGCCTCTCACTGCTTTCTACGTTGGCAA GCTTTTCCTTGAAGCGGGTCTTCCTCCAGGTGTTCTGAATATAGTTTCTGGATTCGGTCCAACCGCAGGTGCTTCCCTCGCGAGTCACATGGATGTA GACAAGCTTGCTTTCACAGGATCGACTGATACAGGCAAAGTTATACTTGGATTGGCTGCTAACAGCAATCTCAAGCCGGTAACTCTGGAACTTGGAG GGAAATCGCCGTTCATAGTATTTGAAGATGCTGATATCAATAAAGCTGTAGAGCTTGCACACTTTGCTCTCTTCTTCAACCAGGGGCAATGTTGCTGC GCGGGGTCTCGGACATATGTTCATGAGAAAGTGTATGATGAGTTTGTTGAGAAAGCAAAGGCACGCGCATTGAAACGTGTGGTTGGTGATCCTTTC AAGAAAGGCACTGAACAGGGTCCTCAGATCGATTTAAAACAATTCGAGAAAGTGATGAAGTACATAAGGTCAGGTGTGGAAAGCAATGCTACTCTTG AATGTGGTGGTGACCAGTTTGGGAAAAAAGGCTACTTCATTCAACCTACAGTCTTCTCTAACGTTAAGGACGACATGCTTATCGCTCAAGACGAGAT TTTCGGTCCAGTCCAATCAATCTTGAAGTTCAGGGATGTGGATGAGGTGATTAAGAGGGCAAACGAGACGAGGTACGGTCTAGCCGCAGGGGTATT CACAAAGAGCCTGGACACTGCGAATAGGGTTTCGAGGGCATTGAAAGCTGGAACCGTTTGGGTTAACTGCTTCGACGTCTTTGACGCAGCCATTCC CTTTGGTGGTTACAAGATGAGTGGCAATGGAAGAGAGAAAGGCATTTACAGTCTCAATAATTACTTGCAGGTCAAGGCAGTTGTCACTCCTCTTAAT