

Table S1 (1) Up-regulated in dark-induced and natural senescence (796 genes)

Gene ID	Gene Description
At1g01480	1-aminocyclopropane-1-carboxylate synthase 2 / ACC synthase 2 (AtACS2/AtACC1)
At1g01560	putative kinase, MAPK subfamily (AtMPK11)
At1g01720	no apical meristem (NAM) family protein
At1g01730	expressed protein
At1g02310	glycosyl hydrolase family protein 5 / cellulase family protein / (1-4)-beta-mannan endohydrolase, putative
At1g02360	chitinase, putative
At1g02390	phospholipid/glycerol acyltransferase family
At1g02470	expressed protein
At1g02660	lipase (class 3) family
At1g02816	expressed protein
At1g02860	SPX (SYG1/Pho81/XPR1) domain-containing protein / zinc finger (C3HC4-type RING finger) protein-related
At1g02920	glutathione S-transferase, putative
At1g02930	glutathione S-transferase, putative
At1g03080	kinase interacting family protein
At1g03220	extracellular dermal glycoprotein, putative / EDGP, putative
At1g03850	glutaredoxin family protein
At1g04960	expressed protein
At1g04970	lipid-binding serum glycoprotein family protein
At1g05340	expressed protein
At1g05560	UDP-glucose transferase (AtUGT1)
At1g05680	UDP-glucuronosyl/UDP-glucosyl transferase family protein
At1g05710	ethylene-responsive protein, putative
At1g06520	phospholipid/glycerol acyltransferase family
At1g06570	4-hydroxyphenylpyruvate dioxygenase (HPD)
At1g07040	expressed protein
At1g07400	17.8 kDa class I heat shock protein (HSP17.8-CI)
At1g07600	metallothionein-like protein
At1g07670	putative Ca ²⁺ -transporting P2A-type ATPase (AtECA4)
At1g07810	Ca ²⁺ /Mn ²⁺ -transporting P2A-type ATPase (AtECA1/AtACA3)
At1g08230	amino acid transporter family

At1g08320 bZIP family transcription factor
At1g08920 sugar transporter, putative
At1g08940 phosphoglycerate/bisphosphoglycerate mutase family protein
At1g09240 nicotianamine synthase, putative
At1g09480 cinnamyl-alcohol dehydrogenase family / CAD family
At1g09500 cinnamyl-alcohol dehydrogenase family / CAD family (AtSAG26)
At1g09560 germin-like protein (GLP4) (GLP5)
At1g09740 ethylene-responsive protein, putative
At1g09940 glutamyl-tRNA reductase 2 / GluTR (HEMA2)
At1g10070 branched-chain amino acid aminotransferase 2 / branched-chain amino acid transaminase 2 (BCAT2)
At1g10140 expressed protein (AtSAG103)
At1g10410 expressed protein
At1g11190 bifunctional nuclease (AtBFN1)
At1g11925 stigma-specific Stig1 family protein
At1g12200 flavin-containing monooxygenase family protein / FMO family protein
At1g13340 expressed protein
At1g13520 expressed protein
At1g13990 expressed protein
At1g14330 kelch repeat-containing F-box family protein
At1g14870 putative plant cadmium resistance protein (AtPCR2)
At1g15380 lactoylglutathione lyase family protein / glyoxalase I family protein
At1g15430 expressed protein
At1g15670 kelch repeat-containing F-box family protein
At1g17020 oxidoreductase, 2OG-Fe(II) oxygenase family protein
At1g17030 expressed protein
At1g17170 glutathione S-transferase, putative
At1g17745 D-3-phosphoglycerate dehydrogenase / 3-PGDH
At1g17860 trypsin and protease inhibitor family protein / Kunitz family protein
At1g18860 WRKY family transcription factor (AtWRKY61)
At1g19020 expressed protein
At1g19180 expressed protein
At1g19850 auxin response factor, transcription factor MONOPTEROS (AtARF5/AtMP/AtIAA24)
At1g20180 At14a-related protein

At1g20620 catalase 3 (SEN2)
At1g21000 zinc-binding family protein
At1g21310 proline-rich extensin-like family protein
2-oxoisovalerate dehydrogenase, putative / 3-methyl-2-oxobutanoate dehydrogenase, putative / branched-chain alpha-keto acid dehydrogenase E1 alpha subunit, putative
At1g21400
At1g21410 F-box family protein
At1g21550 calcium-binding protein, putative
At1g21920 phosphatidylinositol-4-phosphate 5-kinase-related
At1g22360 UDP-glucuronosyl/UDP-glucosyl transferase family protein
At1g22400 putative trans-zeatin-O- β -D-glycosyltransferase / cytokinin-O-glucoside synthesis UGT85A1
At1g22930 T-complex protein 11
At1g23040 extensin related protein
At1g23120 major latex protein-related / MLP-related
At1g23440 pyrrolidone-carboxylate peptidase family protein
At1g23550 expressed protein
At1g23710 expressed protein
At1g23870 glycosyl transferase family 20 protein / trehalose-phosphatase family protein
At1g25400 expressed protein
At1g26380 FAD-binding domain-containing protein
At1g26390 FAD-binding domain-containing protein
At1g26400 FAD-binding domain-containing protein
At1g26420 FAD-binding domain-containing protein
At1g26930 kelch repeat-containing F-box family protein
At1g27020 expressed protein
At1g27300 expressed protein
At1g27760 interferon-related developmental regulator family protein / IFRD protein family
At1g27980 pyridoxal-dependent decarboxylase family
At1g28130 auxin-responsive GH3 family protein / IAA-amino acid synthase (AtGH3.17)
At1g28190 expressed protein
At1g28480 glutaredoxin family protein
At1g28600 lipase, putative
At1g29050 expressed protein
At1g29640 expressed protein

At1g29800 zinc finger (FYVE type) family protein
At1g30040 gibberellin 2-beta-dioxygenase / GA2-oxidase (AtGA2OX2)
At1g30700 FAD-binding domain-containing protein
At1g31120 putative potassium transporter (AtKUP10/AtHAK10/AtKT10)
At1g31480 protein involved in shoot gravitropism (AtSGR2)
At1g31820 putative neutral amino acid transport protein (AtLAT3)
At1g32350 alternative oxidase, putative
At1g32450 proton-dependent oligopeptide transport (POT) protein family
At1g32460 expressed protein
At1g32740 expressed protein
At1g32920 expressed protein
At1g33720 cytochrome P450 monooxygenase
At1g34060 alliinase family protein
At1g35190 oxidoreductase, 2OG-Fe(II) oxygenase family protein
At1g35910 trehalose-6-phosphate phosphatase, putative
At1g44770 expressed protein
At1g44800 nodulin MtN21 family protein
At1g45145 thioredoxin H-type 5 (TRX-H-5) (TOUL)
At1g45150 expressed protein
At1g47128 cysteine proteinase (RD21A) / thiol protease
At1g47890 disease resistance like protein
At1g48000 myb family transcription factor
At1g48260 putative SNF1-related protein kinase 2, SnRK2 (AtSnRK3.21/AtPKS20)
At1g48490 protein kinase family protein, PvPK/NPH1/S6K subfamily
At1g49470 expressed protein
At1g51760 IAA-amino acid amidohydrolase 3 / IAA-Ala hydrolase 3 (AtIAR3)
At1g51790 putative receptor-like kinase RLK/Pelle, LRR-Ia subfamily
At1g51800 putative receptor-like kinase RLK/Pelle, LRR-Ia subfamily
At1g51890 putative receptor-like kinase RLK/Pelle, LRR-Ia subfamily
At1g52200 expressed protein
At1g52890 no apical meristem (NAM) family protein
At1g53560 expressed protein
At1g53580 hydroxyacylglutathione hydrolase, putative / glyoxalase II, putative

At1g54100 aldehyde dehydrogenase, putative / antiquitin, putative
At1g54460 expressed protein
At1g54570 esterase/lipase/thioesterase family protein
At1g54890 late embryogenesis abundant protein-related / LEA protein-related
At1g55020 lipoxygenase (AtLOX1)
At1g55850 cellulose synthase family
At1g55920 serine O-acetyltransferase, putative
At1g56010 transcription activator NAC1 (NAC1)
At1g57630 disease resistance protein (TIR class), putative
At1g57990 putative purine permease (AtPUP18)
At1g58180 carbonic anhydrase family protein / carbonate dehydratase family protein
At1g58200 mechanosensitive (MS) ion channel domain protein
At1g58340 putative MATE-related efflux carrier (AtDTX48)
At1g58360 amino acid permease 1 (AtAAP1/AtNAT2)
At1g59660 nucleoporin family protein
At1g59820 putative aminophospholipid translocase, P4-type ATPase (AtALA3)
At1g60730 aldo/keto reductase family protein
At1g60960 putative iron Fe(II) transporter (AtIRT3)
At1g61140 SNF2 domain-containing protein / helicase domain-containing protein / zinc finger protein-related
At1g61560 seven transmembrane MLO protein (AtMLO6)
At1g61800 glucose-6-phosphate/phosphate translocator (AtGPT2)
At1g61820 glycosyl hydrolase family 1 protein
At1g62200 putative oligopeptide transporter (-)
At1g62300 WRKY family transcription factor (AtWRKY6)
At1g62370 zinc finger (C3HC4-type RING finger) family protein
At1g62570 flavin-containing monooxygenase family protein / FMO family protein
At1g62660 glycosyl hydrolase family 32
At1g62763 hypothetical protein
At1g63180 UDP-glucose 4-epimerase, putative / UDP-galactose 4-epimerase, putative / Galactowaldenase, putative
At1g63720 expressed protein
At1g63840 putative RING zinc finger protein
At1g64610 WD-40 repeat family protein
At1g64950 cytochrome P450, putative

At1g65520 enoyl-CoA hydratase/isomerase family protein
At1g65690 harpin-induced protein-related / HIN1-related / harpin-responsive protein-related
At1g65840 amine oxidase family protein
At1g65970 peroxiredoxin type 2, putative
At1g66090 disease resistance protein (TIR-NBS class), putative
At1g66160 U-box domain-containing protein
At1g66400 calmodulin-related protein, putative
At1g66580 60S ribosomal protein L10 (AtRPL10C/AtSAG24)
At1g67070 phosphomannose isomerase, putative (DIN9)
At1g67360 rubber elongation factor (REF) family protein
At1g67810 Fe-S metabolism associated domain-containing protein
At1g67980 caffeoyl-CoA 3-O-methyltransferase, putative
At1g68140 expressed protein
At1g68440 expressed protein
At1g68620 expressed protein
At1g68820 putative RING-domain protein
At1g69270 putative receptor-like kinase RLK/Pelle, LRR-XV subfamily (AtRPK1)
At1g69490 no apical meristem (NAM) family protein
At1g69570 Dof-type zinc finger domain-containing protein
At1g69890 expressed protein
At1g69930 glutathione S-transferase, putative
At1g70300 putative potassium transporter (AtKUP6/AtHAK6/AtKT6)
At1g70680 Ca²⁺-binding EF-hand common family protein, putative
At1g70690 kinase-related
At1g70810 C2 domain-containing protein
At1g71910 expressed protein
At1g71960 putative white-brown complex homolog, ABC transporter (AtWBC26)
At1g72120 proton-dependent oligopeptide transport (POT) protein family
At1g72680 cinnamyl-alcohol dehydrogenase, putative
At1g72700 putative aminophospholipid translocase, P4-type ATPase (AtALA5)
At1g72800 nuM1-related
At1g73010 expressed protein
At1g73040 jacalin lectin family protein

At1g73260 trypsin and protease inhibitor family protein / Kunitz family protein
At1g73680 pathogen-responsive alpha-dioxygenase, putative
At1g73810 expressed protein
At1g74010 strictosidine synthase family protein
At1g74020 strictosidine synthase family protein
At1g74360 putative receptor-like kinase RLK/Pelle, LRR-Xb subfamily
At1g74590 glutathione S-transferase, putative
At1g75390 bZIP transcription factor family protein
At1g76070 expressed protein
At1g76390 armadillo/beta-catenin repeat family protein / U-box domain-containing protein
At1g76600 expressed protein
At1g76930 proline-rich extensin-like family protein / OBP3-responsive gene 5 (AtORG5/AtEXT1)
At1g77000 F-box family protein
At1g77370 glutaredoxin, putative
At1g77770 expressed protein
At1g77900 unknown protein
At1g77920 bZIP family transcription factor
At1g78280 transcription factor jumonji (jmjC) domain-containing protein
At1g78290 putative kinase, SnRK2 subfamily (AtSnRK2.8)
At1g78780 pathogenesis-related family protein
At1g79270 expressed protein
At1g79680 putative receptor-like kinase RLK/Pelle, WAK subfamily (AtWAKL10)
At1g79900 mitochondrial arginine-ornithine translocator (AtmBAC2)
At1g80120 expressed protein
At1g80160 lactoylglutathione lyase family protein / glyoxalase I family protein
At1g80300 plastidic ATP/ADP transporter 1 (AtAATP1/AtNTT1)
At2g01540 C2 domain-containing protein
At2g01890 purple acid phosphatase, putative
At2g02390 glutathione S-transferase zeta 1 (GSTZ1) (GST18)
At2g02710 PAC motif-containing protein
At2g02870 kelch repeat-containing F-box family protein
At2g03270 DNA-binding protein, putative
At2g03760 steroid sulfotransferase, putative

At2g03850 late embryogenesis abundant domain-containing protein / LEA domain-containing protein
At2g05260 lipase class 3 family protein
At2g05540 glycine-rich protein
At2g15220 secretory protein, putative
At2g15310 ADP-ribosylation factor, putative
At2g16700 actin-depolymerizing factor 5 (ADF5)
At2g16790 shikimate kinase family protein
At2g17720 2-oxoglutarate-dependent dioxygenase family
At2g18050 histone H1-3 (HIS1-3)
At2g18690 expressed protein
At2g18700 glycosyl transferase family 20 protein / trehalose-phosphatase family protein
At2g18950 putative homogentisate phytylprenyltransferase (tocopherol phytyltransferase) (AtHPT)
At2g19190 putative receptor-like kinase RLK/Pelle, LRR-Ia subfamily, FLG22/senescence-induced (AtSIRK/AtFRK1)
At2g19570 cytidine deaminase (CDD) / cytidine aminohydrolase
At2g19800 expressed protein
At2g19880 ceramide glucosyltransferase, putative
At2g20010 expressed protein
At2g20920 expressed protein
At2g21180 expressed protein
At2g21190 ER lumen protein retaining receptor family
At2g21560 expressed protein
At2g22470 arabinogalactan protein (AtAGP2)
At2g23150 multispecific vacuolar metal transporter (AtNRAMP3)
At2g23450 putative receptor-like kinase RLK/Pelle, WAK/LRK10L-1 subfamily (AtWAKL14)
At2g23790 expressed protein
At2g24180 cytochrome P450 family protein
At2g25450 2-oxoglutarate-dependent dioxygenase, putative
At2g25460 expressed protein
At2g25625 auxin-regulated protein
At2g26170 thromboxane-A synthase(cytochrome p450 family), putative
At2g26310 expressed protein
At2g26560 patatin, putative
At2g26670 heme oxygenase 1 (HO1) (HY1)

At2g26830 choline/ethanolamine kinase family protein
At2g27150 aldehyde oxidase 3 (AtAAO3)
At2g27500 glycosyl hydrolase family 17
At2g27580 zinc finger (AN1-like) family protein
At2g28110 exostosin family protein
At2g28120 nodulin family
At2g28200 zinc finger (C2H2 type) family protein
At2g28400 expressed protein
At2g28710 zinc finger (C2H2 type) family protein
At2g29420 glutathione S-transferase, putative
At2g29460 glutathione S-transferase, putative
At2g29470 glutathione S-transferase, putative
At2g30140 UDP-glucuronosyl/UDP-glucosyl transferase family protein
At2g30250 WRKY family transcription factor (AtWRKY25)
At2g30360 putative SNF1-related protein kinase 2, SnRK2 (AtSnRK3.22/AtCIPK11/AtPKS5)
At2g30550 lipase class 3 family protein
At2g30750 cytochrome P450 71A12, putative (CYP71A12)
At2g31260 autophagy 9 (AtAPG9/AtATG9)
At2g31390 pfkB-type carbohydrate kinase family protein
At2g31570 glutathione peroxidase, putative
At2g32150 haloacid dehalogenase-like hydrolase family protein
At2g32190 expressed protein
At2g32240 putative myosin heavy chain
At2g32660 disease resistance like protein
At2g33150 putative 3-ketoacyl-CoA thiolase (AtPED1)
At2g33380 RD20 protein
At2g33480 no apical meristem (NAM) family protein
At2g34810 FAD-binding domain-containing protein
At2g35060 putative potassium transporter (AtKUP11/AtHAK11/AtKT11)
At2g35070 expressed protein
At2g35940 homeodomain-containing protein
At2g35980 similar to harpin-induced protein hin1 from tobacco
At2g36950 heavy-metal-associated domain-containing protein

At2g37130 peroxidase 21 (PER21) (P21) (PRXR5)
At2g37750 expressed protein
At2g37760 aldo/keto reductase family protein
At2g38240 oxidoreductase, 2OG-Fe(II) oxygenase family protein
At2g38340 AP2 domain-containing transcription factor, putative (DRE2B)
At2g38410 VHS domain-containing protein / GAT domain-containing protein
At2g38860 protease1 (pfpl)-like protein (YLS5)
At2g38870 protease inhibitor, putative
At2g39200 seven transmembrane MLO protein (AtMLO12)
At2g39210 nodulin family
At2g39360 putative receptor-like kinase RLK/Pelle, CrRLK1L-1 subfamily
At2g39420 esterase/lipase/thioesterase family protein
At2g39440 expressed protein
At2g39710 aspartyl protease family protein
At2g39970 36kDa-peroxisomal membrane protein (AtPMP36)
At2g41110 calmodulin-2/3/5 (CAM2) (CAL1)
At2g41380 embryo-abundant protein-related
At2g41850 endo-polygalacturonase, putative
At2g42010 phospholipase D beta 1 / PLD beta 1 (PLDBETA1)
At2g42280 basic helix-loop-helix (bHLH) family protein
At2g42360 putative RING-domain protein
At2g42790 citrate synthase, glyoxysomal, putative
At2g42890 RNA recognition motif (RRM)-containing protein
At2g43060 expressed protein
At2g43080 oxidoreductase, 2OG-Fe(II) oxygenase family protein
At2g43510 trypsin inhibitor, putative
At2g43520 trypsin inhibitor, putative
At2g43570 chitinase, putative
At2g43820 UDP-glucuronosyl/UDP-glucosyl transferase family protein
At2g44500 expressed protein
At2g45170 autophagy 8e (AtAPG8e/AtATG8e)
At2g45210 auxin-responsive protein-related
At2g45220 pectinesterase family protein

At2g45570 cytochrome P450 76C2, putative (AtCYP76C2/AtYLS6)
At2g46500 phosphatidylinositol 3- and 4-kinase family protein / ubiquitin family protein
At2g46680 homeobox-leucine zipper protein 7 / HD-ZIP transcription factor 7 (AtHB7)
At2g47000 putative multidrug-resistance protein, P-glycoprotein (AtPGP4)
At2g47190 MYB transcription factor (Atmyb2)
At2g47550 pectinesterase family
At3g01080 WRKY family transcription factor (AtWRKY58)
At3g01290 band 7 family protein
At3g01420 pathogen-responsive fatty acid alpha-dioxygenase 1 (AtalphaDOX1)
At3g01470 homeobox-leucine zipper protein 5 (HAT5) / HD-ZIP protein 5 / HD-ZIP protein (HB-1)
At3g01970 WRKY family transcription factor (AtWRKY45)
At3g02040 glycerophosphoryl diester phosphodiesterase family protein
At3g02140 expressed protein
At3g02150 TCP family transcription factor, putative
At3g02290 zinc finger (C3HC4-type RING finger) family protein
At3g02875 IAA-amino acid amidohydrolase 1 (AtILR1)
At3g03310 lecithin:cholesterol acyltransferase family protein / LACT family protein
At3g03470 cytochrome P450, putative
At3g03610 phagocytosis and cell motility protein ELMO1-related
At3g03870 expressed protein
At3g04060 no apical meristem (NAM) family protein
At3g04070 no apical meristem (NAM) family protein
At3g04350 expressed protein
At3g04520 threonine aldolase family protein
At3g04720 hevein-like protein (HEL)
At3g05165 sugar transporter, putative
At3g05400 sugar transporter, putative
At3g05630 phospholipase D, putative (PLDP2)
At3g05970 long-chain-fatty-acid--CoA ligase / long-chain acyl-CoA synthetase (LACS6)
At3g06420 autophagy 8h (AtATG8h/AtAPG8h)
At3g06780 glycine-rich protein
At3g06810 acyl-CoA dehydrogenase-related
At3g06860 fatty acid beta-oxidation multifunctional protein (AtMFP2)

At3g07700 ABC1 family protein
At3g08720 protein kinase family protein, PvPK/NPH1/S6K subfamily
At3g08860 alanine--glyoxylate aminotransferase, putative / beta-alanine-pyruvate aminotransferase, putative / AGT, putative
At3g09270 glutathione S-transferase, putative
At3g10320 expressed protein
At3g10450 serine carboxypeptidase S10 family protein
At3g10500 NAC domain / no apical meristem (NAM) protein, putative
At3g10640 SNF7 family protein
At3g10980 senescence-associated gene product, wound-induced (AtSAG20/AtWI12)
At3g11330 leucine-rich repeat family protein
At3g11780 MD-2-related lipid recognition domain-containing protein / ML domain-containing protein
At3g12500 basic endochitinase
At3g12580 heat shock protein 70, putative / HSP70, putative
At3g12740 membrane protein common family
At3g12830 auxin-responsive family protein
At3g13380 brassinosteroid receptor, receptor-like kinase RLK/Pelle, LRR-Xb subfamily (AtBRL3)
At3g13430 zinc finger (C3HC4-type RING finger) family protein
At3g13672 seven in absentia (SINA) family protein
At3g13790 beta-fructosidase (BFRUCT1) / beta-fructofuranosidase / cell wall invertase
At3g13950 expressed protein
At3g14050 RelA/SpoT protein, putative (RSH2)
At3g14270 phosphatidylinositol-4-phosphate 5-kinase family protein
At3g14280 expressed protein
At3g14770 nodulin MtN3 family protein
At3g14990 4-methyl-5(b-hydroxyethyl)-thiazole monophosphate biosynthesis protein, putative
At3g15500 no apical meristem (NAM) family protein (AtNAC3)
At3g16150 L-asparaginase, putative / L-asparagine amidohydrolase, putative
At3g17000 ubiquitin-conjugating enzyme, putative
At3g17770 dihydroxyacetone kinase family protein
At3g17790 acid phosphatase type 5 (ACP5)
At3g17810 dihydroorotate dehydrogenase family protein / dihydroorotate oxidase family protein
At3g17820 glutamine synthetase (GS1)
At3g18950 transducin / WD-40 repeat protein family

At3g19260 longevity-assurance protein (LAG1) family
At3g19580 zinc finger (C2H2 type) protein 2 (AZF2)
At3g19900 expressed protein
At3g19910 zinc finger (C3HC4-type RING finger) family protein
At3g19970 expressed protein
At3g20250 pumilio/Puf RNA-binding domain-containing protein
At3g20500 calcineurin-like phosphoesterase family protein
At3g21080 ABC transporter-related
At3g21500 1-deoxy-D-xylulose 5-phosphate synthase, putative / 1-deoxyxylulose-5-phosphate synthase, putative / DXP-synthase, putative
At3g21520 expressed protein
At3g21610 expressed protein
At3g21690 putative MATE-related efflux carrier (AtDTX40)
At3g21790 UDP-glucuronosyl/UDP-glucosyl transferase family protein
At3g22160 VQ motif-containing protein
At3g22260 OTU-like cysteine protease family protein
At3g22370 alternative oxidase 1a precursor (AtAOX1a/AtHSR3)
At3g22460 cysteine synthase, putative / O-acetylserine (thiol)-lyase, putative / O-acetylserine sulfhydrylase, putative
At3g22560 GCN5-related N-acetyltransferase (GNAT) family protein
At3g22600 protease inhibitor/seed storage/lipid transfer protein (LTP) family protein
At3g22740 homocysteine S-methyltransferase 3 (HMT-3)
At3g22750 putative kinase, Raf subfamily, putative MAP kinase kinase kinase, MAPKKK
At3g22910 putative Ca²⁺-transporting P2B-type ATPase (AtACA13)
At3g23790 AMP-binding protein, putative
At3g23920 beta-amylase, putative / 1,4-alpha-D-glucan maltohydrolase, putative
At3g24500 ethylene-responsive transcriptional coactivator, putative
At3g24530 AAA-type ATPase family protein / ankyrin repeat family protein
At3g25870 expressed protein
At3g26100 regulator of chromosome condensation (RCC1) family protein
At3g26170 cytochrome P450 71B19
At3g26180 cytochrome P450 71B20
At3g26210 cytochrome P450 71B23, putative (CYP71B23)
At3g26220 cytochrome P450 family
At3g26440 expressed protein

At3g26580 expressed protein
At3g26840 esterase/lipase/thioesterase family protein
At3g28210 zinc finger (AN1-like) family protein
At3g29250 short-chain dehydrogenase/reductase (SDR) family protein
At3g29575 expressed protein
At3g30775 proline oxidase, mitochondrial / osmotic stress-responsive proline dehydrogenase (AtPOX/AtPRO1/AtERD5)
At3g43230 zinc finger (FYVE type) family protein
At3g44300 nitrilase 2 (AtNIT2)
At3g44320 nitrilase 3 (AtNIT3)
At3g44880 maize lethal leaf-spot 1 homolog, accelerated cell death 1 (AtLLS1/AtACD1)
At3g45300 isovaleryl-CoA-dehydrogenase (IVD)
At3g45730 expressed protein
At3g46080 zinc finger (C2H2 type) family protein
At3g46690 UDP-glucuronosyl/UDP-glucosyl transferase family protein
At3g48580 xyloglucan:xyloglucosyl transferase, putative / xyloglucan endotransglycosylase, putative / endo-xyloglucan transferase, putative
At3g48780 serine C-palmitoyltransferase, putative
At3g49120 peroxidase, putative
At3g49210 expressed protein
At3g49780 phytosulfokines 3 (PSK3)
At3g50260 AP2 domain-containing transcription factor, putative
At3g50480 broad-spectrum mildew resistance RPW8 family protein
At3g50770 calmodulin-related protein, putative
At3g50910 expressed protein
At3g51000 epoxide hydrolase, putative
At3g51090 expressed protein
At3g51130 expressed protein
At3g51250 senescence/dehydration-associated protein-related
At3g51430 strictosidine synthase, putative (AtYLS2)
At3g51440 strictosidine synthase family protein
At3g51660 macrophage migration inhibitory factor family protein / MIF family protein
At3g51730 saposin B domain-containing protein
At3g51840 short-chain acyl-CoA oxidase (AtACX4)
At3g51860 Ca²⁺/H⁺ antiporter/cation exchanger, CaCA subfamily (AtCAX3/AtHCX)

At3g52450 U-box domain-containing protein
At3g52780 purple acid phosphatase (PAP20)
At3g53120 expressed protein
At3g53620 inorganic pyrophosphatase, putative (soluble) / pyrophosphate phospho-hydrolase, putative / PPase, putative
At3g54150 embryo-abundant protein-related
At3g54620 bZIP transcription factor family protein
At3g54640 tryptophan synthase, alpha subunit (AtTSA1(AtTRP3))
At3g54680 proteophosphoglycan-related
At3g54950 patatin-related
At3g55270 MAP kinase phosphatase (MKP1)
At3g55430 glycosyl hydrolase family 17 protein / beta-1,3-glucanase, putative
At3g55470 C2 domain-containing protein
At3g55890 yippee family protein
At3g55910 expressed protein
At3g55970 oxidoreductase, 2OG-Fe(II) oxygenase family protein
At3g56170 Ca(2+)-dependent nuclease
At3g56200 amino acid transporter family
At3g56310 alpha-galactosidase, putative / melibiase, putative / alpha-D-galactoside galactohydrolase, putative
At3g57410 villin 3 (VLN3)
At3g57520 alkaline alpha galactosidase, putative
At3g57550 guanylate kinase 2 (GK-2)
At3g58750 citrate synthase, glyoxysomal, putative
At3g59210 F-box family protein
At3g59700 putative receptor-like kinase RLK/Pelle, L-Lectin subfamily (AtLecRK1)
At3g60130 glycosyl hydrolase family 1 protein / beta-glucosidase, putative (AtYLS1)
At3g60140 glycosyl hydrolase family 1 protein
At3g60180 uridylate kinase, putative / uridine monophosphate kinase, putative / UMP kinase, putative
At3g60690 auxin-responsive family protein
At3g61160 shaggy-related protein kinase beta / ASK-beta (ASK2)
At3g61190 BON1-associated protein 1 (BAP1)
At3g61890 homeobox-leucine zipper protein 12 (HB-12) / HD-ZIP transcription factor 12
At3g61930 expressed protein
At3g62420 bZIP transcription factor family protein

At3g62590 lipase (class 3) family
At3g62770 autophagy 18a (AtATG18a)
At3g63310 expressed protein
At3g63380 putative Ca²⁺-transporting P2B-type ATPase (AtACA12)
At4g01120 G-box binding factor 2 (GBF2)
At4g01360 expressed protein
At4g01430 nodulin MtN21 family protein
At4g01610 cathepsin B-like cysteine protease, putative
At4g01870 tolB protein-related
At4g02280 sucrose synthase, putative / sucrose-UDP glucosyltransferase, putative
At4g03320 chloroplast inner envelope translocon component (AtTic20-IV)
At4g04460 aspartyl protease family protein
At4g04490 putative receptor-like kinase RLK/Pelle, DUF26-1b subfamily (AtCRK36)
At4g04620 autophagy 8b (AtATG8b/AtAPG8b)
At4g08180 oxysterol-binding family protein
At4g08230 glycine-rich protein
At4g08290 nodulin MtN21 family protein
At4g08300 nodulin MtN21 family protein
At4g08770 peroxidase, putative
At4g10960 UDP-glucose 4-epimerase, putative / UDP-galactose 4-epimerase, putative / Galactowaldenase, putative
At4g11330 putative kinase, MAPK subfamily, MAP Kinase 5 (ATMPK5)
At4g11650 osmotin-like protein (AtOSM34)
At4g12080 DNA-binding protein family
At4g12290 copper amine oxidase, putative
At4g13030 expressed protein
At4g13110 BSD domain-containing protein
At4g13180 short-chain dehydrogenase/reductase (SDR) family protein
At4g13250 short-chain dehydrogenase/reductase family protein
At4g13530 expressed protein
At4g14020 rapid alkalization factor (RALF) family protein
At4g14630 germin-like protein (GLP9)
At4g14950 expressed protein
At4g15093 catalytic LigB subunit of aromatic ring-opening dioxygenase family

At4g15530 pyruvate,orthophosphate dikinase
At4g15550 UDP-glucose:indole-3-acetate beta-D-glucosyltransferase (IAGLU)
At4g15610 integral membrane protein family
At4g15760 monooxygenase 1 (MO1), putative
At4g16260 glycosyl hydrolase family 17 protein
At4g16670 expressed protein
At4g16690 esterase/lipase/thioesterase family protein
At4g16760 long chain acyl-CoA oxidase (AtACX1)
At4g16790 hydroxyproline-rich glycoprotein family
At4g17030 expansin-related
At4g17500 ERF/AP2 transcription factor, subfamily B-3, ethylene response factor 1 (AtERF1b)
At4g18140 NLI interacting factor (NIF) family protein
At4g18350 9-cis-epoxycarotenoid dioxygenase, putative (AtNCED2)
At4g18430 Ras-related GTP-binding protein, putative
At4g18580 expressed protein
At4g18800 Ras-related GTP-binding family protein
At4g18910 NOD26-like intrinsic protein (AtNIP1.2/AtNLM2)
At4g18950 ankyrin protein kinase, putative
At4g18980 expressed protein
At4g19460 glycosyl transferase family 1 protein
At4g19700 expressed protein
At4g19810 glycosyl hydrolase family 18 protein
At4g19860 lecithin:cholesterol acyltransferase family protein / LACT family protein
At4g20110 spot 3 protein and vacuolar sorting receptor AtELP3
At4g20260 DREPP plasma membrane polypeptide family protein
At4g20860 FAD-binding domain-containing protein
At4g21120 cationic amino acid transporter (AtCAT1/AtAAT1)
At4g21160 zinc finger and C2 domain protein (ZAC)
At4g21580 oxidoreductase, zinc-binding dehydrogenase family protein
At4g21980 autophagy 8a (AtATG8a/AtAPG8a)
At4g22590 trehalose-6-phosphate phosphatase, putative
At4g22820 zinc finger (AN1-like) family protein
At4g22920 expressed protein

At4g23680 major latex protein-related / MLP-related
At4g23700 putative cation-proton exchanger, CPA2 subfamily (AtCHX17)
At4g24040 glycosyl hydrolase family 37 (trehalase)
At4g24120 putative Fe(III)-phytosiderophore uptake mediator (AtYSL1)
At4g24230 acyl-CoA binding protein, putative / ACBP, putative
At4g24380 expressed protein
At4g24400 putative SNF1-related protein kinase 2, SnRK2 (AtSnRK3.13/AtCIPK8/AtPKS11)
At4g24590 expressed protein
At4g25000 alpha-amylase, putative / 1,4-alpha-D-glucan glucanohydrolase, putative
At4g25030 expressed protein
At4g25170 expressed protein
At4g25390 putative receptor-like kinase RLK/Pelle, RLCK-XI subfamily
At4g25690 expressed protein
At4g25900 aldose 1-epimerase family protein
At4g26470 calcium-binding EF-hand family protein
At4g27260 auxin-responsive GH3 family protein / IAA-amino acid synthase (AtGH3.5)
At4g27740 yippee family protein
At4g28040 nodulin N21 family protein
At4g28085 expressed protein
At4g29380 protein kinase family protein / WD-40 repeat family protein
At4g29950 microtubule-associated protein
At4g30190 putative plasma membrane P3A-type H⁺-ATPase (AtAHA2)
At4g30270 endo-xyloglucan transferase / xyloglucan endo-1,4-beta-D-glucanase (AtSEN4/AtMERI5)
At4g30490 AFG1-like ATPase family protein
At4g30790 expressed protein
At4g31240 expressed protein
At4g32250 protein kinase family
At4g32480 expressed protein
At4g32870 expressed protein
At4g32940 vacuolar processing enzyme gamma / gamma-VPE
At4g33150 lysine-ketoglutarate reductase/saccharopine dehydrogenase (AtLKR/AtSDH)
At4g33565 similar to RING-H2 zinc finger protein ATL3, putative
At4g33920 protein phosphatase 2C family protein / PP2C family protein

At4g34131 UDP-glucuronosyl/UDP-glucosyl transferase family protein
At4g34135 UDP-glucuronosyl/UDP-glucosyl transferase family protein
At4g34180 cyclase family protein
At4g34230 cinnamyl-alcohol dehydrogenase, putative
At4g34990 myb family transcription factor (MYB32)
At4g35630 phosphoserine aminotransferase, chloroplast (PSAT)
At4g35770 senescence-associated protein (ATSEN1)
At4g36760 aminopeptidase P
At4g36900 AP2 domain-containing protein RAP2.10 (RAP2.10)
At4g36990 heat shock factor protein 4 (HSF4) / heat shock transcription factor 4 (HSTF4)
At4g37010 caltractin, putative / centrin, putative
At4g37150 esterase, putative
At4g37310 cytochrome P450, putative
At4g37320 cytochrome P450 family protein
At4g37370 cytochrome P450, putative
At4g37430 cytochrome P450 81F1 (AtCYP81F1/AtCYP91A2)
At4g37520 peroxidase 50 (PER50) (P50) (PRXR2)
At4g37530 peroxidase, putative
At4g37610 TAZ zinc finger family protein / BTB/POZ domain-containing protein
At4g37980 mannitol dehydrogenase, putative (ELI3-1)
At4g37990 mannitol dehydrogenase, putative (ELI3-2)
At4g38060 expressed protein
At4g38540 monooxygenase 2 (MO2)
At4g39140 expressed protein
At4g39270 putative receptor-like kinase RLK/Pelle, LRR-XIV subfamily
At4g39670 expressed protein
At4g39950 cytochrome P450 monooxygenase (AtCYP79B2)
At5g01220 UDP-sulfoquinovose:DAG sulfoquinovosyltransferase (sulfolipid synthase) (AtSQD2)
At5g01380 expressed protein
At5g01550 putative receptor-like kinase RLK/Pelle, L-Lectin subfamily
At5g01800 saposin B domain-containing protein
At5g01820 putative kinase, SnRK2/AMPK subfamily (AtSnRK3.15/AtCIPK14/AtSR1/AtPKS24)
At5g02420 expressed protein

At5g02580 expressed protein
At5g03380 heavy-metal-associated domain-containing protein
At5g03560 expressed protein
At5g03610 GDSL-motif lipase/hydrolase family protein
At5g04040 patatin-related
At5g04200 latex-abundant protein, putative (AMC9) / caspase family protein
At5g04540 expressed protein
At5g05110 cysteine protease inhibitor, putative / cystatin, putative
At5g05410 DRE-binding protein (DREB2A)
At5g05600 oxidoreductase, 2OG-Fe(II) oxygenase family protein
At5g05730 anthranilate synthase, alpha subunit, component I-1 (ASA1)
At5g06230 expressed protein
At5g07100 WRKY family transcription factor (AtWRKY26)
At5g07440 glutamate dehydrogenase 2 (GDH2)
At5g07730 expressed protein
At5g09440 phosphate-responsive protein, putative
At5g10300 hydrolase, alpha/beta fold family
At5g10650 zinc finger (C3HC4-type RING finger) family protein
At5g10740 protein phosphatase 2C-related / PP2C-related
At5g11260 bZIP protein HY5 (HY5)
At5g11520 aspartate aminotransferase, chloroplast / transaminase A (AtASP3/AtYLS4)
At5g11650 hydrolase, alpha/beta fold family
At5g11950 expressed protein
At5g12010 expressed protein
At5g13080 WRKY family transcription factor (AtWRKY75)
At5g13170 senescence-associated protein (AtSAG29)
At5g13220 expressed protein
At5g13320 auxin-responsive GH3 family protein
At5g13550 putative plastidic proton/sulfate co-transporter (AtSultr4.1/AtAST82)
At5g13750 transporter-like protein
At5g13800 hydrolase, alpha/beta fold family protein
At5g13820 telomeric DNA-binding protein 1 (TBP1)
At5g14000 no apical meristem (NAM) family protein

At5g14180	lipase family protein
At5g14420	copine-related
At5g14730	expressed protein
At5g15640	putative mitochondrial carrier (-)
At5g16360	NC domain-containing protein
At5g16370	AMP-binding protein, putative
At5g16910	cellulose synthase family
At5g16970	NADP-dependent oxidoreductase, putative (P1)
At5g17280	expressed protein
At5g17330	glutamate decarboxylase 1 (GAD 1)
At5g17380	pyruvate decarboxylase family protein
At5g17650	glycine/proline-rich protein
At5g17760	AAA-type ATPase family protein
At5g18270	no apical meristem (NAM) family protein
At5g18490	expressed protein
At5g18630	lipase class 3 family protein
At5g18640	lipase class 3 family protein
At5g18670	beta-amylase, putative (BMY3) / 1,4-alpha-D-glucan maltohydrolase, putative
At5g18780	F-box protein family
At5g18980	expressed protein
At5g20000	26S proteasome AAA-ATPase subunit, putative
At5g20230	Phytocyanin, stellacyanin-like protein
At5g20250	raffinose synthase family protein / seed imbibition protein, putative (AtDIN10)
At5g20830	sucrose synthase / sucrose-UDP glucosyltransferase (SUS1)
At5g20960	indol-3-aldehyde oxidase 1 (AtAAO1)
At5g21990	tetratricopeptide repeat (TPR)-containing protein
At5g22300	beta-cyano-L-alanine hydratase/nitrilase 4 (AtNIT4)
At5g22850	protease-like protein
At5g23090	TATA-binding protein-associated phosphoprotein Dr1 protein, putative (DR1)
At5g23340	expressed protein
At5g23660	nodulin MtN3 family protein
At5g24160	squalene monooxygenase 1,2 (squalene epoxidase 1,2) (SQP1,2)(SE1,2)
At5g24530	oxidoreductase, 2OG-Fe(II) oxygenase family protein

At5g24870 RING finger-like protein
At5g25110 putative SNF1-related protein kinase 2, SnRK2 (AtSnRK3.25/AtPKS25)
At5g25560 zinc finger (C3HC4-type RING finger) family protein
At5g25770 expressed protein
At5g25820 exostosin family protein
At5g25930 putative receptor-like kinase RLK/Pelle, LRR-XI subfamily
At5g26340 putative monosaccharide-proton symporter (AtSTP13)
At5g26940 exonuclease family protein
At5g27350 putative MFS superfamily monosaccharide transporter (AtSFP1)
At5g27420 putative RING-domain protein
At5g27520 mitochondrial carrier protein family
At5g33290 exostosin family protein
At5g34930 arogenate dehydrogenase
At5g35370 putative receptor-like kinase RLK/Pelle, S-domain-2b subfamily
At5g37600 glutamine synthetase, putative
At5g37960 oxidoreductase-related
At5g38710 proline oxidase, putative / osmotic stress-responsive proline dehydrogenase, putative
At5g38900 DSBA oxidoreductase family protein
At5g39050 transferase family protein
At5g39520 expressed protein
At5g39610 no apical meristem (NAM) family protein
At5g40240 nodulin MtN21 family protein
At5g40690 expressed protein
At5g40720 expressed protein
At5g41080 glycerophosphoryl diester phosphodiesterase family protein
At5g41800 amino acid transporter family
At5g42010 WD-40 repeat family protein
At5g42380 calmodulin-related protein, putative
At5g43130 transcription initiation factor IID (TFIID) component TAF4 family protein
At5g43580 protease inhibitor, putative
At5g44360 FAD-binding domain-containing protein
At5g44610 DREPP plasma membrane polypeptide-related
At5g44790 putative Cu²⁺-transporting P1B-type ATPase (AtRAN1/AtHMA7)

At5g45380 high affinity urea/H⁺ symporter (AtDUR3)
At5g45410 expressed protein
At5g45890 senescence-specific SAG12 protein / cysteine proteinase, putative (AtSAG12)
At5g45900 autophagy 7 (AtATG7/AtAPG7)
At5g46050 proton-dependent oligopeptide transport (POT) protein family
At5g46180 ornithine aminotransferase, putative / ornithine--oxo-acid aminotransferase, putative
At5g46760 basic helix-loop-helix (bHLH) family protein
At5g46780 VQ motif-containing protein
At5g47200 Ras-related GTP-binding protein, putative
At5g47590 heat shock protein-related
At5g47740 expressed protein
At5g47860 expressed protein
At5g48180 kelch repeat-containing protein
At5g48400 glutamate receptor (AtGLR1.2)
At5g48410 glutamate receptor (AtGLR1.3)
At5g49360 glycosyl hydrolase family 3 protein
At5g49450 bZIP family transcription factor
At5g49480 sodium-inducible calcium-binding protein (ACP1) / sodium-responsive calcium-binding protein (ACP1)
At5g49665 zinc finger (C3HC4-type RING finger) family protein
At5g49690 UDP-glucuronosyl/UDP-glucosyl transferase family protein
At5g49710 expressed protein
At5g50200 expressed protein
At5g50260 cysteine proteinase, putative
At5g50380 exocyst subunit EXO70 family protein
At5g51070 ATP-dependent Clp protease ATP-binding subunit (AtClpD/AtERD1)
At5g51640 leaf senescence protein-related (AtYLS7)
At5g52070 agenet domain-containing protein
At5g52450 putative MATE-related efflux carrier (AtDTX16)
At5g52640 heat shock protein (AtHSP81-1/AtHSP83)
At5g53970 aminotransferase, putative
At5g54080 homogentisate 1,2-dioxygenase / homogentisicase/homogentisate oxygenase / homogentisic acid oxidase (HGO)
At5g54240 expressed protein
At5g54500 quinone reductase, putative

At5g54510 auxin-responsive GH3 family protein / IAA-amino acid synthase (AtGH3.6/AtDFL1)
At5g54870 expressed protein
At5g55970 putative RING-domain protein
At5g56870 beta-galactosidase, putative / lactase, putative
At5g56980 expressed protein
At5g57220 cytochrome P450, putative
At5g57480 AAA-type ATPase family protein
At5g57655 xylose isomerase family protein
At5g57900 SKP1/ASK1 interacting partner 1 (SKIP1) / SCF (Skp1-cullin-F-box) ubiquitin ligase
At5g57910 expressed protein
At5g58290 26S proteasome AAA-ATPase subunit (RPT3)
At5g58350 protein kinase family protein, HsWNKL subfamily
At5g59220 protein phosphatase 2C, putative / PP2C, putative
At5g59420 oxysterol-binding family protein
At5g59820 zinc finger (C2H2 type) family protein (ZAT12)
At5g61820 expressed protein
At5g61900 copine BONZAI1 (AtBON1)
At5g62020 heat shock factor protein, putative (HSF6) / heat shock transcription factor, putative (HTSF6)
At5g62150 peptidoglycan-binding LysM domain-containing protein
At5g62680 proton-dependent oligopeptide transport (POT) protein family
At5g62860 F-box family protein-related
At5g63130 octicosapeptide/Phox/Bem1p (PB1) domain-containing protein
At5g63850 amino acid permease 4 (AtAAP4)
At5g63880 SNF7 family protein
At5g63990 3(2),5-bisphosphate nucleotidase, putative / inositol polyphosphate 1-phosphatase, putative
At5g64120 peroxidase, putative
At5g64230 expressed protein
At5g64310 arabinogalactan-protein (AGP1)
At5g64370 beta-ureidopropionase, putative / beta-alanine synthase, putative
At5g64430 octicosapeptide/Phox/Bem1p (PB1) domain-containing protein
At5g64570 glycosyl hydrolase family 3 protein
At5g65110 acyl-CoA oxidase (ACX2)
At5g65210 bZIP family transcription factor (TGA1)

At5g65300	expressed protein
At5g66440	expressed protein
At5g66760	succinate dehydrogenase (ubiquinone) flavoprotein subunit, mitochondrial / flavoprotein subunit of complex II
At5g66930	expressed protein
At5g67080	protein kinase family protein, NtNPK1L subfamily
At5g67310	cytochrome P450 family protein
At5g67340	armadillo/beta-catenin repeat family protein / U-box domain-containing protein
At5g67490	expressed protein

Table S1 (2) Co-expressed with PPH (MR<500) (208 genes)

Gene ID	MR	Gene Description
At5g13800	0	hydrolase, alpha/beta fold family protein
At3g44880	1.7	maize lethal leaf-spot 1 homolog, accelerated cell death 1 (AtLLS1/AtACD1)
At5g51070	1.7	ATP-dependent Clp protease ATP-binding subunit (AtClpD/AtERD1)
At1g13990	2	expressed protein
At4g22920	4.7	expressed protein
At3g03470	4.9	cytochrome P450, putative
At4g21580	7.1	oxidoreductase, zinc-binding dehydrogenase family protein
At5g46180	7.3	ornithine aminotransferase, putative / ornithine--oxo-acid aminotransferase, putative
At3g07700	7.3	ABC1 family protein
At3g21790	11.5	UDP-glucuronosyl/UDP-glucosyl transferase family protein
At2g20920	12	expressed protein
At4g32250	17.1	protein kinase family
At1g07040	18.6	expressed protein
At5g57900	20.4	SKP1/ASK1 interacting partner 1 (SKIP1) / SCF (Skp1-cullin-F-box) ubiquitin ligase
At5g05110	20.8	cysteine protease inhibitor, putative / cystatin, putative
At3g26580	21	expressed protein
At3g19900	21.2	expressed protein
At5g39520	21.5	expressed protein
At1g54100	22.4	aldehyde dehydrogenase, putative / antiquitin, putative
At1g45150	22.6	expressed protein
At2g42790	23.9	citrate synthase, glyoxysomal, putative
At3g43230	26.3	zinc finger (FYVE type) family protein
At5g54080	26.6	homogentisate 1,2-dioxygenase / homogentisicase/homogentisate oxygenase / homogentisic acid oxidase (HGO)
At1g22930	29.7	T-complex protein 11
At2g26670	30.6	heme oxygenase 1 (HO1) (HY1)
At3g17000	31.8	ubiquitin-conjugating enzyme, putative
At2g25625	34.1	auxin-regulated protein
At1g04960	34.5	expressed protein
At2g33150	35.7	putative 3-ketoacyl-CoA thiolase (AtPED1)
At3g17810	37.5	dihydroorotate dehydrogenase family protein / dihydroorotate oxidase family protein

At4g13530	39.3	expressed protein
At1g31820	40.3	putative neutral amino acid transport protein (AtLAT3)
At2g42890	41.3	RNA recognition motif (RRM)-containing protein
At1g21000	42	zinc-binding family protein
At4g31240	43	expressed protein
At4g32940	44.5	vacuolar processing enzyme gamma / gamma-VPE
At1g23440	47	pyrrolidone-carboxylate peptidase family protein
At3g20250	48.2	pumilio/Puf RNA-binding domain-containing protein
At3g23790	48.8	AMP-binding protein, putative
At3g14050	52.1	RelA/SpoT protein, putative (RSH2)
At3g51130	53.7	expressed protein
At4g39140	53.7	expressed protein
At5g10650	55.6	zinc finger (C3HC4-type RING finger) family protein
At1g06570	55.7	4-hydroxyphenylpyruvate dioxygenase (HPD)
At5g59420	56.9	oxysterol-binding family protein
At5g48180	61.9	kelch repeat-containing protein
At1g76390	64.1	armadillo/beta-catenin repeat family protein / U-box domain-containing protein
At1g04970	64.5	lipid-binding serum glycoprotein family protein
At3g62770	65.2	autophagy 18a (AtATG18a)
At1g21410	65.6	F-box family protein
At4g13250	68.2	short-chain dehydrogenase/reductase family protein
At3g02875	73	IAA-amino acid amidohydrolase 1 (AtILR1)
At1g02470	74.8	expressed protein
At4g33150	77.4	lysine-ketoglutarate reductase/saccharopine dehydrogenase (AtLKR/AtSDH)
At1g80160	78.7	lactoylglutathione lyase family protein / glyoxalase I family protein
At1g53580	78.8	hydroxyacylglutathione hydrolase, putative / glyoxalase II, putative
At4g15530	79.6	pyruvate,orthophosphate dikinase
At3g62590	80.5	lipase (class 3) family
At4g36760	81	aminopeptidase P
At3g03870	81.5	expressed protein
At1g52890	84.3	no apical meristem (NAM) family protein
At3g51430	84.8	strictosidine synthase, putative (AtYLS2)
At3g23920	92.8	beta-amylase, putative / 1,4-alpha-D-glucan maltohydrolase, putative

At5g39610	92.8	no apical meristem (NAM) family protein
At5g57910	96.4	expressed protein
At5g54870	98.3	expressed protein
At2g18950	111.3	putative homogentisate phytylprenyltransferase (tocopherol phytyltransferase) (AtHPT)
At3g45300	113.2	isovaleryl-CoA-dehydrogenase (IVD)
At3g06810	116	acyl-CoA dehydrogenase-related
At2g32150	117.4	haloacid dehalogenase-like hydrolase family protein
At4g02280	117.7	sucrose synthase, putative / sucrose-UDP glucosyltransferase, putative
At1g35190	119.6	oxidoreductase, 2OG-Fe(II) oxygenase family protein
At1g77000	120.9	F-box family protein
At5g18640	121.4	lipase class 3 family protein
At3g26100	124	regulator of chromosome condensation (RCC1) family protein
At2g23450	125.1	putative receptor-like kinase RLK/Pelle, WAK/LRK10L-1 subfamily (AtWAKL14)
At2g02390	125.7	glutathione S-transferase zeta 1 (GSTZ1) (GST18)
At3g22740	129.1	homocysteine S-methyltransferase 3 (HMT-3)
At2g46680	132.5	homeobox-leucine zipper protein 7 / HD-ZIP transcription factor 7 (AtHB7)
At1g69490	134.2	no apical meristem (NAM) family protein
At5g58350	139.2	protein kinase family protein, HsWNKL subfamily
At5g65110	141.5	acyl-CoA oxidase (ACX2)
At2g43820	143.8	UDP-glucuronosyl/UDP-glucosyl transferase family protein
At1g70810	144	C2 domain-containing protein
At2g35060	146.8	putative potassium transporter (AtKUP11/AtHAK11/AtKT11)
At1g17020	147.9	oxidoreductase, 2OG-Fe(II) oxygenase family protein
At3g17770	148.5	dihydroxyacetone kinase family protein
At3g10450	149.3	serine carboxypeptidase S10 family protein
At5g39050	150.6	transferase family protein
At2g30140	151.7	UDP-glucuronosyl/UDP-glucosyl transferase family protein
At5g24160	152.3	squalene monooxygenase 1,2 (squalene epoxidase 1,2) (SQP1,2)(SE1,2)
At4g34180	152.3	cyclase family protein
At2g31260	154.2	autophagy 9 (AtAPG9/AtATG9)
At3g02150	155.1	TCP family transcription factor, putative
At1g27980	157.8	pyridoxal-dependent decarboxylase family
At3g51730	158.9	saposin B domain-containing protein

At1g44770	159.8	expressed protein
At1g09500	161.3	cinnamyl-alcohol dehydrogenase family / CAD family (AtSAG26)
At5g66930	161.6	expressed protein
At1g58200	161.7	mechanosensitive (MS) ion channel domain protein
At1g68820	162.7	putative RING-domain protein
At1g48000	163.7	myb family transcription factor
At2g35940	167.5	homeodomain-containing protein
At4g19860	172	lecithin:cholesterol acyltransferase family protein / LACT family protein
At3g06860	172.3	fatty acid beta-oxidation multifunctional protein (AtMFP2)
At1g47128	173	cysteine proteinase (RD21A) / thiol protease
At1g27300	174.6	expressed protein
At3g60180	175.2	uridylate kinase, putative / uridine monophosphate kinase, putative / UMP kinase, putative
At3g51840	176.7	short-chain acyl-CoA oxidase (AtACX4)
At1g58180	180.1	carbonic anhydrase family protein / carbonate dehydratase family protein
At5g10300	182.7	hydrolase, alpha/beta fold family
At5g46760	183	basic helix-loop-helix (bHLH) family protein
At1g08920	183.6	sugar transporter, putative
At1g20180	191.9	At14a-related protein
At3g08860	194.3	alanine--glyoxylate aminotransferase, putative / beta-alanine-pyruvate aminotransferase, putative / AGT, putative
At2g33380	195.5	RD20 protein
At3g10320	196.7	expressed protein
At4g16760	205.6	long chain acyl-CoA oxidase (AtACX1)
At4g25170	207.3	expressed protein
At3g56310	211.7	alpha-galactosidase, putative / melibiase, putative / alpha-D-galactoside galactohydrolase, putative
At3g15500	213.1	no apical meristem (NAM) family protein (AtNAC3)
At3g51860	215.9	Ca ²⁺ /H ⁺ antiporter/cation exchanger, CaCA subfamily (AtCAX3/AtHCX)
At2g27150	216.4	aldehyde oxidase 3 (AtAAO3)
At1g72680	217.8	cinnamyl-alcohol dehydrogenase, putative
At5g50380	223.2	exocyst subunit EXO70 family protein
At5g38710	226.4	proline oxidase, putative / osmotic stress-responsive proline dehydrogenase, putative
At2g02710	230.1	PAC motif-containing protein
At4g36900	230.1	AP2 domain-containing protein RAP2.10 (RAP2.10)
At4g21980	243.6	autophagy 8a (AtATG8a/AtAPG8a)

At1g05340	243.9	expressed protein
At4g22820	250.8	zinc finger (AN1-like) family protein
At1g10070	251.5	branched-chain amino acid aminotransferase 2 / branched-chain amino acid transaminase 2 (BCAT2)
At2g37760	252.2	aldo/keto reductase family protein
At5g61820	252.6	expressed protein
At1g23040	255.3	extensin related protein
At4g01610	268.2	cathepsin B-like cysteine protease, putative
At2g28400	275.5	expressed protein
At5g17380	277.4	pyruvate decarboxylase family protein
At3g03310	283.7	lecithin:cholesterol acyltransferase family protein / LACT family protein
At5g24870	285.2	RING finger-like protein
At3g01970	288.9	WRKY family transcription factor (AtWRKY45)
At5g13550	293.1	putative plastidic proton/sulfate co-transporter (AtSultr4.1/AtAST82)
At5g40690	295	expressed protein
At3g60690	295.7	auxin-responsive family protein
At3g55270	303.1	MAP kinase phosphatase (MKP1)
At5g12010	304.8	expressed protein
At3g22460	306	cysteine synthase, putative / O-acetylserine (thiol)-lyase, putative / O-acetylserine sulfhydrylase, putative
At4g08290	312.9	nodulin MtN21 family protein
At3g51000	313.9	epoxide hydrolase, putative
At2g45570	314.1	cytochrome P450 76C2, putative (AtCYP76C2/AtYLS6)
At1g54570	323.9	esterase/lipase/thioesterase family protein
At2g29460	331.2	glutathione S-transferase, putative
At3g06420	334.5	autophagy 8h (AtATG8h/AtAPG8h)
At5g18630	336	lipase class 3 family protein
At5g13820	336.3	telomeric DNA-binding protein 1 (TBP1)
At3g20500	340.3	calcineurin-like phosphoesterase family protein
At5g64370	341.5	beta-ureidopropionase, putative / beta-alanine synthase, putative
At3g13672	341.8	seven in absentia (SINA) family protein
At5g49690	342.7	UDP-glucuronosyl/UDP-glucosyl transferase family protein
At1g09240	344.7	nicotianamine synthase, putative
At4g37430	352.3	cytochrome P450 81F1 (AtCYP81F1/AtCYP91A2)
At1g05560	359.9	UDP-glucose transferase (AtUGT1)

At5g45890	370.6	senescence-specific SAG12 protein / cysteine proteinase, putative (AtSAG12)
At5g07100	378.8	WRKY family transcription factor (AtWRKY26)
At4g38540	380	monooxygenase 2 (MO2)
At5g04040	380.2	patatin-related
At3g26220	381.7	cytochrome P450 family
At2g38340	384	AP2 domain-containing transcription factor, putative (DRE2B)
At4g29380	387	protein kinase family protein / WD-40 repeat family protein
At2g47190	388.5	MYB transcription factor (Atmyb2)
At5g53970	391.8	aminotransferase, putative
At1g77370	391.9	glutaredoxin, putative
At4g37990	392.4	mannitol dehydrogenase, putative (ELI3-2)
At3g54620	393.6	bZIP transcription factor family protein
At5g33290	399.2	exostosin family protein
At1g68140	403.4	expressed protein
At5g05600	415.1	oxidoreductase, 2OG-Fe(II) oxygenase family protein
At4g14020	416.9	rapid alkalization factor (RALF) family protein
At2g34810	417.8	FAD-binding domain-containing protein
At3g25870	422.1	expressed protein
At5g45900	426.4	autophagy 7 (AtATG7/AtAPG7)
At3g60140	431	glycosyl hydrolase family 1 protein
At1g77770	433.5	expressed protein
At4g25000	436.3	alpha-amylase, putative / 1,4-alpha-D-glucan glucohydrolase, putative
At3g21690	440.1	putative MATE-related efflux carrier (AtDTX40)
At5g17650	443.4	glycine/proline-rich protein
At3g58750	444.1	citrate synthase, glyoxysomal, putative
At5g64230	445.9	expressed protein
At2g23150	446	multispecific vacuolar metal transporter (AtNRAMP3)
At3g05630	447.5	phospholipase D, putative (PLDP2)
At5g23340	450.1	expressed protein
At2g43510	452.9	trypsin inhibitor, putative
At3g61890	454.6	homeobox-leucine zipper protein 12 (HB-12) / HD-ZIP transcription factor 12
At4g03320	455.7	chloroplast inner envelope translocon component (AtTic20-IV)
At3g06780	456.2	glycine-rich protein

At2g30550	458	lipase class 3 family protein
At5g26340	459.8	putative monosaccharide-proton symporter (AtSTP13)
At5g57655	460.8	xylose isomerase family protein
At3g04070	462.9	no apical meristem (NAM) family protein
At5g59220	464.9	protein phosphatase 2C, putative / PP2C, putative
At5g27520	467.9	mitochondrial carrier protein family
At3g04350	470.5	expressed protein
At2g18050	470.8	histone H1-3 (HIS1-3)
At3g63310	472	expressed protein
At1g58360	476.8	amino acid permease 1 (AtAAP1/AtNAT2)
At4g30270	481.1	endo-xyloglucan transferase / xyloglucan endo-1,4-beta-D-glucanase (AtSEN4/AtMERI5)
At1g68620	481.5	expressed protein
At1g73040	487.8	jacalin lectin family protein
At3g04060	491.1	no apical meristem (NAM) family protein

Table S1 (3) Known senescence regulatory genes (9 genes)

Gene ID	MR	Gene Description	Reference
At3g44880	1.7	maize lethal leaf-spot 1 homolog, accelerated cell death 1 (AtLLS1/AtACD1)	Pružinská et al., 2003
At4g22920	4.7	expressed protein	Ren et al., 2007
At2g33150	35.7	putative 3-ketoacyl-CoA thiolase (AtPED1)	Castillo and León, 2008
At4g13250	68.2	short-chain dehydrogenase/reductase family protein	Horie et al., 2009
At4g15530	79.6	pyruvate, orthophosphate dikinase	Taylor et al., 2010
At5g39610	92.8	no apical meristem (NAM) family protein	Kim et al., 2009
At1g69490	134.2	no apical meristem (NAM) family protein	Guo and Gan, 2006
At2g47190	388.5	MYB transcription factor (Atmyb2)	Guo and Gan, 2011
At5g59220	464.9	protein phosphatase 2C, putative / PP2C, putative	Zhang and Gan, 2012

Table S1 (4) Containing SOC1 binding sites (7 genes)

Gene ID	MR	Gene Description	Reference
At4g22920	4.7	expressed protein	Ren et al., 2007
At2g33150	35.7	putative 3-ketoacyl-CoA thiolase (AtPED1)	Castillo and León, 2008
At4g13250	68.2	short-chain dehydrogenase/reductase family protein	Horie et al., 2009
At4g15530	79.6	pyruvate,orthophosphate dikinase	Taylor et al., 2010
At5g39610	92.8	no apical meristem (NAM) family protein	Kim et al., 2009
At1g69490	134.2	no apical meristem (NAM) family protein	Guo and Gan, 2006
At5g59220	464.9	protein phosphatase 2C, putative / PP2C, putative	Zhang and Gan, 2012