

Supplementary Table 3. The GO annotation of DEGs located in chromosome 1 QTL region.

Gene ID	Length	Description	GO IDs
sunup01G0000060	207	---NA---	---NA---
sunup01G0001540	207	---NA---	---NA---
sunup01G0000510	219	---NA---	---NA---
sunup01G0000730	258	---NA---	---NA---
sunup01G0004980	336	---NA---	---NA---
sunup01G0000340	342	---NA---	---NA---
sunup01G0001660	357	---NA---	---NA---
sunup01G0000970	375	---NA---	---NA---
sunup01G0005351 .path1	381	---NA---	---NA---
sunup01G0003170	429	---NA---	---NA---
sunup01G0003530	486	---NA---	---NA---
sunup01G0005000	588	---NA---	---NA---
sunup01G0004650	1170	---NA---	---NA---
sunup01G0005700	402	glutaredoxin-C1-like	---NA---
sunup01G0005670	657	major pollen allergen Ole e 1-like	---NA---
sunup01G0002860	759	ABC transporter substrate-binding protein	---NA---
sunup01G0004780	1008	Transcription factor SPATULA like	---NA---
sunup01G0003760	12465	titin isoform X25	
sunup01G0001860	486	senescence-associated protein	C:GO:0110165
sunup01G0001640	222	hypothetical protein CDL15_Pgr027786	C:GO:0016020
sunup01G0006021 .path1	321	uncharacterized protein LOC105630199	C:GO:0016020
sunup01G0001410	363	uncharacterized protein LOC109234247	C:GO:0016020
sunup01G0004340	438	RPM1-interacting protein 4	C:GO:0005886
sunup01G0002170	846	plasmodesmata-located protein 6-like	C:GO:0009506; C:GO:0016020
sunup01G0001290	516	DUF4228 domain protein	F:GO:0016746; F:GO:0016747
sunup01G0003140	1041	DNA2/NAM7 helicase, helicase	F:GO:0003677; F:GO:0003723; F:GO:0004386
sunup01G0000850	936	core-2/I-branching beta-1,6-N-acetylglucosaminyltransferase	F:GO:0016757; C:GO:0016020
sunup01G0000370	837	probable glucan endo-1,3-beta-glucosidase BG4	F:GO:0016798
sunup01G0006470	603	heavy metal-associated isoprenylated plant protein 35-like	F:GO:0046872
sunup01G0001350	1086	S-adenosylmethionine-dependent methyltransferase	F:GO:0008168

sunup01G0001340	1098	S-adenosylmethionine-dependent methyltransferase	F:GO:0008168
sunup01G0005290	1524	cytochrome P450 94B3-like	F:GO:0004497; F:GO:0005506; F:GO:0016705; F:GO:0020037; C:GO:0016020
sunup01G0003560	324	ATP-dependent DNA helicase MER3 homolog	F:GO:0003676; F:GO:0004386; F:GO:0005524; F:GO:0016887; C:GO:0005681
sunup01G0006300	669	nudix hydrolase 12, mitochondrial-like isoform X2	F:GO:0016462; C:GO:0005634; C:GO:0005737
sunup01G0000610	876	LOB domain-containing protein 41	F:GO:0003723
sunup01G0004710	1362	lysine histidine transporter 1-like	P:GO:0006865; P:GO:0009734; P:GO:0055085; F:GO:0015293; C:GO:0005886
sunup01G0003300	618	kunitz trypsin inhibitor 5-like	P:GO:0044419; C:GO:0005576
sunup01G0001571.path1	813	heavy metal-associated isoprenylated plant protein 37	P:GO:0009058; F:GO:0003824; F:GO:0046872
sunup01G0001530	441	Heavy metal-associated isoprenylated plant protein 26	P:GO:0009058; P:GO:0050896; F:GO:0003824; F:GO:0046872
sunup01G0006270	1194	chalcone synthase	P:GO:0009813; F:GO:0016210; F:GO:0102128
sunup01G0006450	882	xyloglucan endo-transglycosylase	P:GO:0009835; P:GO:0010411; P:GO:0042546; P:GO:0071555; F:GO:0004553; F:GO:0016762; C:GO:0048046
sunup01G0001960	291	gibberellin-regulated protein 5-like	P:GO:0009740; C:GO:0005576
sunup01G0003050	1194	DJ-1/PfpI family protein	P:GO:0006541; F:GO:0016740
sunup01G0002940	276	glutathione S-transferase-like protein	P:GO:0006749; P:GO:0042221; F:GO:0004364; F:GO:0043295; C:GO:0005829; C:GO:0043231
sunup01G0005570	1257	protein LAZY 1-like	P:GO:0009630; P:GO:2000012
sunup01G0002660	1485	isocitrate dehydrogenase [NADP]	P:GO:0006102; P:GO:0006739; F:GO:0004450; F:GO:0046872; C:GO:0005739
sunup01G0000580	1500	cytokinin hydroxylase-like	P:GO:0033075; P:GO:0033466; F:GO:0004497; F:GO:0005506; F:GO:0016705; F:GO:0020037; C:GO:0016020
sunup01G0000990	294	non-specific lipid-transfer protein 2	P:GO:0006869

sunup01G0003200	1122	Nucleolar GTP-binding protein 1	P:GO:0000463; P:GO:0008156; P:GO:0008285; P:GO:0022408; P:GO:0030336; P:GO:0031397; P:GO:0050821; F:GO:0003924; F:GO:0005525; F:GO:1990275; C:GO:0005654; C:GO:0005730; C:GO:0005829; C:GO:0031965; C:GO:0048471
sunup01G0005860	1500	acyltransferase-like protein At3g26840	P:GO:0008152; F:GO:0016746
sunup01G0001370	762	S-adenosylmethionine-dependent methyltransferase	P:GO:0032259; F:GO:0008757
sunup01G0001380	1785	S-adenosylmethionine-dependent methyltransferase	P:GO:0032259; F:GO:0008757
sunup01G0003700	396	putative oleosin	P:GO:0009791; P:GO:0048608; C:GO:0012511; C:GO:0016020
sunup01G0000040	1491	proline dehydrogenase family protein	P:GO:0006562; F:GO:0004657
sunup01G0000810	819	zinc finger protein 6	P:GO:0050794
sunup01G0001300	1218	integrin-linked protein kinase 1 isoform X2	P:GO:0050794; F:GO:0000166; F:GO:0004672; C:GO:0005737
sunup01G0005800	798	NAC domain-containing protein 83-like	P:GO:0006355; F:GO:0003677; C:GO:0016020
sunup01G0005540	660	probable WRKY transcription factor 75	P:GO:0006355; F:GO:0003700; F:GO:0043565; C:GO:0005634
sunup01G0004460	783	transcription factor MYB20-like	P:GO:0006355; P:GO:0030154; F:GO:0000987; C:GO:0005634
sunup01G0002120	954	Protein ODORANT1	P:GO:0006355; P:GO:0030154; F:GO:0000976; C:GO:0005634
sunup01G0001810	714	Myb-related transcription factor	P:GO:0006355; P:GO:0010597; F:GO:0000987; C:GO:0005634
sunup01G0002720	1608	homeobox-leucine zipper protein ROC8	P:GO:0006355; P:GO:0006357; P:GO:0071704; F:GO:0000981; F:GO:0003677; F:GO:0008289; C:GO:0005634
sunup01G0002710	1956	homeobox-leucine zipper protein HDG11	P:GO:0006355; P:GO:0006357; P:GO:0071704; F:GO:0000981; F:GO:0003677; F:GO:0008289; C:GO:0005634
sunup01G0002310	336	putative small auxin-up RNA	P:GO:0009733
sunup01G0005680	2094	GRAS family protein RAM1	P:GO:0050896
sunup01G0002140	657	protein TIFY 6B isoform X2	P:GO:0009611; P:GO:0031347; P:GO:2000022; C:GO:0005634
sunup01G0003290	780	NDR1/HIN1-like protein 13	P:GO:0009863; P:GO:0098542; C:GO:0016020