

Table S2 Annotation information of differentially expressed genes

Pathway Hierarchy1	Pathway Hierarchy2	KEGG Pathway	Pathway ID	Gene Number	Background number
Metabolism	Biosynthesis of other secondary metabolites	Phenylpropanoid biosynthesis	ko00940	66	367
Environmental Information Processing	Signal transduction	Plant hormone signal transduction	ko04075	57	344
Metabolism	Energy metabolism	Photosynthesis - antenna proteins	ko00196	13	41
Metabolism	Lipid metabolism	alpha-Linolenic acid metabolism	ko00592	19	94
Metabolism	Lipid metabolism	Cutin, suberine and wax biosynthesis	ko00073	12	48
Metabolism	Carbohydrate metabolism	Amino sugar and nucleotide sugar metabolism	ko00520	25	192
Metabolism	Biosynthesis of other secondary metabolites	Flavonoid biosynthesis	ko00941	17	107
Metabolism	Biosynthesis of other secondary metabolites	Stilbenoid, diarylheptanoid and gingerol biosynthesis	ko00945	15	90
Metabolism	Carbohydrate metabolism	Starch and sucrose metabolism	ko00500	27	267
Metabolism	Metabolism of terpenoids and polyketides	Monoterpenoid biosynthesis	ko00902	7	34
Metabolism	Carbohydrate metabolism	Fructose and mannose metabolism	ko00051	11	92
Metabolism	Carbohydrate metabolism	Pentose and glucuronate interconversions	ko00040	16	158
Metabolism	Lipid metabolism	Fatty acid elongation	ko00062	7	47
Metabolism	Amino acid metabolism	Tryptophan metabolism	ko00380	10	85
Metabolism	Energy metabolism	Photosynthesis	ko00195	11	104
Metabolism	Lipid metabolism	Biosynthesis of unsaturated fatty acids	ko01040	7	58
Metabolism	Metabolism of terpenoids and polyketides	Sesquiterpenoid and triterpenoid biosynthesis	ko00909	11	111

Organismal Systems	Environmental adaptation	Circadian rhythm - plant	ko04712	7	57
Metabolism	Amino acid metabolism	Tyrosine metabolism	ko00350	9	86
Metabolism	Carbohydrate metabolism	Butanoate metabolism	ko00650	4	25
Metabolism	Metabolism of other amino acids	Glutathione metabolism	ko00480	16	189
Metabolism	Carbohydrate metabolism	Galactose metabolism	ko00052	9	91
Metabolism	Biosynthesis of other secondary metabolites	Phenylpropanoid biosynthesis	ko00940	66	367
Metabolism	Lipid metabolism	Synthesis and degradation of ketone bodies	ko00072	2	7
Metabolism	Metabolism of other amino acids	Cyanoamino acid metabolism	ko00460	10	108
Metabolism	Metabolism of terpenoids and polyketides	Carotenoid biosynthesis	ko00906	6	53
Metabolism	Biosynthesis of other secondary metabolites	Isoquinoline alkaloid biosynthesis	ko00950	5	45
Metabolism	Glycan biosynthesis and metabolism	Other glycan degradation	ko00511	4	33
Metabolism	Overview	Fatty acid metabolism	ko01212	13	166
Metabolism	Biosynthesis of other secondary metabolites	Anthocyanin biosynthesis	ko00942	1	2
Metabolism	Biosynthesis of other secondary metabolites	Tropane, piperidine and pyridine alkaloid biosynthesis	ko00960	5	53
Metabolism	Carbohydrate metabolism	Glycolysis / Gluconeogenesis	ko00010	14	196
Metabolism	Energy metabolism	Oxidative phosphorylation	ko00190	16	229
Metabolism	Lipid metabolism	Steroid biosynthesis	ko00100	8	102
Metabolism	Metabolism of terpenoids and	Diterpenoid biosynthesis	ko00904	4	41

	polyketides				
Metabolism	Lipid metabolism	Glycerolipid metabolism	ko00561	7	87
Metabolism	Amino acid metabolism	Cysteine and methionine metabolism	ko00270	11	157
Metabolism	Biosynthesis of other secondary metabolites	Glucosinolate biosynthesis	ko00966	2	16
Metabolism	Carbohydrate metabolism	Ascorbate and aldarate metabolism	ko00053	6	75
Metabolism	Metabolism of other amino acids	Taurine and hypotaurine metabolism	ko00430	2	16
Metabolism	Metabolism of terpenoids and polyketides	Zeatin biosynthesis	ko00908	3	29
Metabolism	Amino acid metabolism	Arginine and proline metabolism	ko00330	7	95
Cellular Processes	Transport and catabolism	Phagosome	ko04145	11	163
Metabolism	Energy metabolism	Nitrogen metabolism	ko00910	4	48
Metabolism	Metabolism of other amino acids	beta-Alanine metabolism	ko00410	6	81
Metabolism	Lipid metabolism	Fatty acid degradation	ko00071	9	132
Environmental Information Processing	Membrane transport	ABC transporters	ko02010	7	103
Metabolism	Amino acid metabolism	Glycine, serine and threonine metabolism	ko00260	9	138
Metabolism	Carbohydrate metabolism	Pentose phosphate pathway	ko00030	6	86
Metabolism	Lipid metabolism	Sphingolipid metabolism	ko00600	4	53
Metabolism	Metabolism of terpenoids and polyketides	Terpenoid backbone biosynthesis	ko00900	7	104
Metabolism	Metabolism of cofactors and vitamins	Biotin metabolism	ko00780	2	23
Metabolism	Glycan biosynthesis and	Other types of O-glycan biosynthesis	ko00514	1	8

	metabolism				
Metabolism	Lipid metabolism	Linoleic acid metabolism	ko00591	2	25
Metabolism	Carbohydrate metabolism	Glyoxylate and dicarboxylate metabolism	ko00630	6	97
Metabolism	Metabolism of cofactors and vitamins	Riboflavin metabolism	ko00740	2	28
Metabolism	Glycan biosynthesis and metabolism	Glycosphingolipid biosynthesis - globo and isoglobo series	ko00603	1	11
Metabolism	Amino acid metabolism	Phenylalanine metabolism	ko00360	5	86
Cellular Processes	Transport and catabolism	Endocytosis	ko04144	7	382
Cellular Processes	Transport and catabolism	Peroxisome	ko04146	8	224
Environmental Information Processing	Signal transduction	MAPK signaling pathway - plant	ko04016	7	263
Environmental Information Processing	Signal transduction	Phosphatidylinositol signaling system	ko04070	4	103
Genetic Information Processing	Folding, sorting and degradation	Protein export	ko03060	1	88
Genetic Information Processing	Folding, sorting and degradation	Protein processing in endoplasmic reticulum	ko04141	6	453
Genetic Information Processing	Folding, sorting and degradation	RNA degradation	ko03018	4	202
Genetic Information Processing	Folding, sorting and degradation	Ubiquitin mediated proteolysis	ko04120	7	214
Genetic Information Processing	Replication and repair	Base excision repair	ko03410	3	73
Genetic Information Processing	Replication and repair	DNA replication	ko03030	1	169

Genetic Information Processing	Replication and repair	Homologous recombination	ko03440	1	180
Genetic Information Processing	Replication and repair	Mismatch repair	ko03430	1	139
Genetic Information Processing	Replication and repair	Nucleotide excision repair	ko03420	3	168
Genetic Information Processing	Transcription	Basal transcription factors	ko03022	2	90
Genetic Information Processing	Transcription	RNA polymerase	ko03020	4	107
Genetic Information Processing	Transcription	Spliceosome	ko03040	4	457
Genetic Information Processing	Translation	Aminoacyl-tRNA biosynthesis	ko00970	2	171
Genetic Information Processing	Translation	mRNA surveillance pathway	ko03015	2	222
Genetic Information Processing	Translation	Ribosome biogenesis in eukaryotes	ko03008	2	168
Genetic Information Processing	Translation	Ribosome	ko03010	1	518
Genetic Information Processing	Translation	RNA transport	ko03013	4	298
Metabolism	Amino acid metabolism	Alanine, aspartate and glutamate metabolism	ko00250	4	95
Metabolism	Amino acid metabolism	Arginine biosynthesis	ko00220	1	52
Metabolism	Amino acid metabolism	Histidine metabolism	ko00340	1	45
Metabolism	Amino acid metabolism	Lysine biosynthesis	ko00300	1	21

Metabolism	Amino acid metabolism	Lysine degradation	ko00310	3	64
Metabolism	Amino acid metabolism	Phenylalanine, tyrosine and tryptophan biosynthesis	ko00400	4	83
Metabolism	Amino acid metabolism	Valine, leucine and isoleucine degradation	ko00280	4	90
Metabolism	Biosynthesis of other secondary metabolites	Monobactam biosynthesis	ko00261	1	18
Metabolism	Carbohydrate metabolism	Citrate cycle (TCA cycle)	ko00020	3	94
Metabolism	Carbohydrate metabolism	Inositol phosphate metabolism	ko00562	3	105
Metabolism	Carbohydrate metabolism	Propanoate metabolism	ko00640	1	62
Metabolism	Carbohydrate metabolism	Pyruvate metabolism	ko00620	4	172
Metabolism	Energy metabolism	Carbon fixation in photosynthetic organisms	ko00710	3	137
Metabolism	Energy metabolism	Sulfur metabolism	ko00920	2	60
Metabolism	Glycan biosynthesis and metabolism	Glycosaminoglycan degradation	ko00531	2	34
Metabolism	Lipid metabolism	Ether lipid metabolism	ko00565	1	36
Metabolism	Lipid metabolism	Fatty acid biosynthesis	ko00061	5	106
Metabolism	Lipid metabolism	Glycerophospholipid metabolism	ko00564	4	138
Metabolism	Metabolism of cofactors and vitamins	Nicotinate and nicotinamide metabolism	ko00760	1	29
Metabolism	Metabolism of cofactors and vitamins	Pantothenate and CoA biosynthesis	ko00770	1	52
Metabolism	Metabolism of cofactors and vitamins	Porphyrin and chlorophyll metabolism	ko00860	2	63
Metabolism	Metabolism of cofactors and vitamins	Ubiquinone and other terpenoid-quinone biosynthesis	ko00130	2	77
Metabolism	Metabolism of cofactors and vitamins	Vitamin B6 metabolism	ko00750	1	24

	vitamins				
Metabolism	Metabolism of terpenoids and polyketides	Brassinosteroid biosynthesis	ko00905	3	58
Metabolism	Nucleotide metabolism	Purine metabolism	ko00230	7	370
Metabolism	Nucleotide metabolism	Pyrimidine metabolism	ko00240	7	222
Metabolism	Overview	2-Oxocarboxylic acid metabolism	ko01210	5	119
Metabolism	Overview	Biosynthesis of amino acids	ko01230	16	439
Metabolism	Overview	Carbon metabolism	ko01200	20	466
Organismal Systems	Environmental adaptation	Plant-pathogen interaction	ko04626	14	474
