

A

## S10 Fig

Transcript ID	Gene	Transcript ID	Gene
Phvul.002G123500	Leucine-rich repeat protein kinase family protein	Phvul.007G158400	Pyrophosphorylase 4
Phvul.010G127500	Leucine-rich repeat protein kinase family protein	Phvul.002G276700	Diacylglycerol kinase 2
Phvul.008G174900	Protein kinase superfamily protein	Phvul.007G137800	PEP1 receptor 1
Phvul.006G212500	MAPK/ERK kinase kinase 1	Phvul.005G014900	Cystein-rich RLK (RECEPTOR-like protein kinase) 10
Phvul.002G196200	Leucine-rich receptor-like protein kinase family protein	Phvul.006G200500	Concanavalin A-like lectin protein kinase family protein
Phvul.008G029500	Malectin/receptor-like protein kinase family protein	Phvul.004G040000	Malectin/receptor-like protein kinase family protein
Phvul.003G158600	S-locus lectin protein kinase family protein	Phvul.011G064400	U-box domain-containing protein kinase family protein
Phvul.004G155500	PR5-like receptor kinase	Phvul.004G155600	Protein kinase superfamily protein
Phvul.007G048700	Cystein-rich RLK (RECEPTOR-like protein kinase) 29	Phvul.010G099400	U-box domain-containing protein kinase family protein
Phvul.003G062600	Cystein-rich RLK (RECEPTOR-like protein kinase) 2	Phvul.008G029900	Malectin/receptor-like protein kinase family protein
Phvul.001G076100	Protein kinase superfamily protein	Phvul.002G220500	S-locus lectin protein kinase family protein
Phvul.003G154000	Leucine-rich receptor-like protein kinase family protein	Phvul.010G057000	S-locus lectin protein kinase family protein
Phvul.011G155800	Diacylglycerol kinase 5	Phvul.006G084400	Cystein-rich RLK (RECEPTOR-like protein kinase) 3
Phvul.008G047800	Leucine-rich repeat receptor-like protein kinase family protein	Phvul.006G194600	Receptor kinase 3
Phvul.007G048600	Cystein-rich RLK (RECEPTOR-like protein kinase) 29	Phvul.001G048200	Protein kinase superfamily protein
Phvul.005G054300	Leucine-rich receptor-like protein kinase family protein	Phvul.010G057500	S-locus lectin protein kinase family protein
Phvul.007G048800	Cystein-rich RLK (RECEPTOR-like protein kinase) 29	Phvul.006G190400	HAL2-like
Phvul.002G115900	Protein kinase superfamily protein	Phvul.008G156400	Cystein-rich RLK (RECEPTOR-like protein kinase) 42
Phvul.007G030700	Protein kinase superfamily protein	Phvul.002G318300	Protein kinase superfamily protein
Phvul.006G057900	Concanavalin A-like lectin protein kinase family protein	Phvul.005G103200	Concanavalin A-like lectin protein kinase family protein
Phvul.001G019100	Mitogen-activated protein kinase kinase kinase 5	Phvul.008G233400	Protein kinase superfamily protein
Phvul.008G174300	Protein kinase superfamily protein	Phvul.008G127000	S-locus lectin protein kinase family protein
Phvul.008G146000	Leucine-rich repeat receptor-like protein kinase family protein	Phvul.011G169300	Leucine-rich repeat transmembrane protein kinase
Phvul.007G051400	Cystein-rich RLK (RECEPTOR-like protein kinase) 23	Phvul.009G239900	Protein kinase superfamily protein
Phvul.008G175200	Protein kinase superfamily protein	Phvul.011G194700	Cystein-rich RLK (RECEPTOR-like protein kinase) 25
Phvul.008G079800	Leucine-rich repeat protein kinase family protein	Phvul.007G210500	Protein kinase superfamily protein
Phvul.010G088500	S-locus lectin protein kinase family protein	Phvul.005G103400	Protein kinase superfamily protein
Phvul.007G064200	Protein kinase superfamily protein	Phvul.002G063700	Cystein-rich RLK (RECEPTOR-like protein kinase) 2
Phvul.007G048500	cystein-rich RLK (RECEPTOR-like protein kinase) 29	Phvul.002G215000	Concanavalin A-like lectin protein kinase family protein
Phvul.005G055000	Protein kinase superfamily protein	Phvul.001G135300	Calcium-dependent protein kinase 32
Phvul.006G169700	Integrin-linked protein kinase family	Phvul.004G173300	Root hair specific 16
Phvul.011G150400	S-locus lectin protein kinase family protein	Phvul.009G239800	Protein kinase family protein
Phvul.002G207000	BRH1-associated receptor kinase	Phvul.004G155300	Receptor serine/threonine kinase, putative
Phvul.006G066500	Calmodulin-binding receptor-like cytoplasmic kinase 1	Phvul.008G081000	Malectin/receptor-like protein kinase family protein
Phvul.007G048900	Cystein-rich RLK (RECEPTOR-like protein kinase) 29	Phvul.008G164500	Leucine-rich repeat protein kinase family protein
Phvul.002G018100	Mitogen-activated protein kinase kinase kinase 21	Phvul.004G164000	Proline extensin-like receptor kinase 1
Phvul.010G118300	CBL-interacting protein kinase 9	Phvul.004G154800	Protein kinase superfamily protein
Phvul.002G063600	Cystein-rich RLK (RECEPTOR-like protein kinase) 3	Phvul.009G244600	Leucine-rich repeat transmembrane protein kinase
Phvul.002G023400	Protein kinase superfamily protein	Phvul.007G049400	Cystein-rich RLK (RECEPTOR-like protein kinase) 29
Phvul.009G209200	Leucine-rich repeat protein kinase family protein	Phvul.007G049600	Cystein-rich RLK (RECEPTOR-like protein kinase) 29
Phvul.008G225000	Leucine-rich repeat protein kinase family protein	Phvul.008G077500	Cystein-rich RLK (RECEPTOR-like protein kinase) 23/25
Phvul.009G011400	Protein kinase superfamily protein	Phvul.001G096600	Protein kinase superfamily protein
Phvul.006G108300	Leucine-rich repeat protein kinase family protein	Phvul.002G063900	Cystein-rich RLK (RECEPTOR-like protein kinase) 2
Phvul.001G048400	Receptor serine/threonine kinase, putative	Phvul.002G152100	Leucine-rich repeat protein kinase family protein
Phvul.002G000200	Receptor-like protein kinase 1	Phvul.002G201400	Leucine-rich repeat protein kinase family protein
Phvul.002G002600	Protein kinase superfamily protein	Phvul.002G017700	Protein kinase superfamily protein
Phvul.002G115800	Protein kinase superfamily protein	Phvul.009G083300	Protein kinase superfamily protein
Phvul.008G029700	Malectin/receptor-like protein kinase family protein	Phvul.002G108700	Calcium-dependent protein kinase 16
Phvul.006G137300	Wall-associated kinase family protein	Phvul.005G085600	Protein kinase family protein
Phvul.003G226700	Protein kinase superfamily protein	Phvul.006G150900	Protein kinase superfamily protein
Phvul.007G051000	Cystein-rich RLK (RECEPTOR-like protein kinase) 25	Phvul.009G108500	Casein kinase I-like 3
Phvul.007G030900	Protein kinase superfamily protein	Phvul.008G263900	Calmodulin-binding receptor-like cytoplasmic kinase 1
Phvul.007G057000	With no lysine (K) kinase 1	Phvul.011G119200	Concanavalin A-like lectin protein kinase family protein
Phvul.008G030000	Malectin/receptor-like protein kinase family protein	Phvul.007G074000	Protein kinase superfamily protein

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Phvul.011G064000	Protein kinase superfamily protein	Phvul.001G049200	PR5-like receptor kinase
Phvul.001G243700	CRINKLY4 related 3	Phvul.005G164000	Leucine-rich repeat protein kinase family protein
Phvul.001G265500	Leucine-rich repeat protein kinase family protein	Phvul.003G252900	Roline-rich extensin-like receptor kinase 4
Phvul.005G138900	Phototropin 1	Phvul.001G151100	Cyclin p1;1
Phvul.002G272100	Mitogen-activated protein kinase kinase kinase 3	Phvul.007G233900	Calcium dependent protein kinase 1
Phvul.007G049000	Cystein-rich RLK (RECEPTOR-like protein kinase) 29	Phvul.003G269700	Protein kinase superfamily protein
Phvul.005G162600	Leucine-rich repeat protein kinase family protein	Phvul.001G255800	Mitogen-activated protein kinase phosphatase 1
Phvul.001G051100	S-domain-2 5	Phvul.010G018900	S-locus lectin protein kinase family protein
Phvul.008G264400	Leucine-rich repeat transmembrane protein kinase	Phvul.011G008100	Leucine-rich repeat receptor-like protein kinase family protein
Phvul.006G043700	Calmodulin-domain protein kinase 9	Phvul.010G070100	Protein kinase superfamily protein
Phvul.007G031000	Protein kinase superfamily protein	Phvul.007G110300	CBL-interacting protein kinase 4
Phvul.001G232300	Protein kinase superfamily protein	Phvul.001G076300	Protein kinase superfamily protein
Phvul.001G049000	Protein kinase superfamily protein	Phvul.002G247900	Integrin-linked protein kinase family
Phvul.002G328300	MAP kinase 9	Phvul.001G137300	Leucine-rich repeat receptor-like protein kinase family protein
Phvul.011G167800	Leucine-rich repeat transmembrane protein kinase	Phvul.008G026700	Malectin/receptor-like protein kinase family protein
Phvul.005G167700	cystein-rich RLK (RECEPTOR-like protein kinase) 10	Phvul.008G105600	Leucine-rich repeat protein kinase family protein
Phvul.007G183000	ROP binding protein kinases 2	Phvul.003G293600	Protein kinase superfamily protein
Phvul.004G154500	Protein kinase superfamily protein	Phvul.008G084600	SOS3-interacting protein 1
Phvul.002G055600	Receptor-like protein kinase 1	Phvul.011G007200	Leucine-rich repeat protein kinase family protein
Phvul.001G129300	6-phosphogluconate dehydrogenase family protein	Phvul.008G081300	Protein kinase superfamily protein
Phvul.010G057400	Receptor-like protein kinase 4	Phvul.006G095700	ROP binding protein kinases 2
Phvul.005G078400	Leucine-rich repeat transmembrane protein kinase	Phvul.008G154200	Leucine-rich repeat protein kinase family protein
Phvul.002G215100	Leucine-rich repeat protein kinase family protein	Phvul.002G111100	Leucine-rich receptor-like protein kinase family protein
Phvul.006G187700	Protein kinase superfamily protein	Phvul.001G134600	Leucine-rich repeat protein kinase family protein
Phvul.009G133000	Protein kinase protein with adenine nucleotide alpha hydrolases-like domain	Phvul.001G083300	Receptor-like protein kinase 2
Phvul.001G048600	Protein kinase superfamily protein	Phvul.006G029000	Leucine-rich receptor-like protein kinase family protein
Phvul.008G029600	Malectin/receptor-like protein kinase family protein	Phvul.002G223600	HAL2-like
Phvul.002G242600	Receptor-like kinase in flowers 1	Phvul.007G153400	Leucine-rich repeat transmembrane protein kinase family protein
Phvul.003G120800	Protein kinase superfamily protein	Phvul.007G112100	Leucine-rich repeat protein kinase family protein
Phvul.002G292400	MAP kinase 4	Phvul.009G082500	Leucine-rich receptor-like protein kinase family protein
Phvul.005G135500	Protein kinase superfamily protein	Phvul.003G203100	Leucine-rich receptor-like protein kinase family protein
Phvul.008G155300	Like SEX4 1	Phvul.005G185800	Leucine-rich repeat protein kinase family protein
Phvul.001G090800	Protein kinase superfamily protein	Phvul.011G081800	Protein kinase family/ peptidoglycan-binding LysM domain-containing protein
Phvul.005G088700	S-locus lectin protein kinase family protein	Phvul.002G215200	Concanavalin A-like lectin protein kinase family protein
Phvul.006G084800	Cystein-rich RLK (RECEPTOR-like protein kinase) 2	Phvul.004G147900	MAP kinase kinase 9
Phvul.001G130800	Wall associated kinase 5	Phvul.006G217700	Protein kinase superfamily protein
Phvul.005G106800	STRUBBELIG-receptor family 3	Phvul.009G114400	Leucine-rich repeat transmembrane protein kinase family protein
Phvul.008G127100	S-locus lectin protein kinase family protein	Phvul.008G258400	Protein kinase superfamily protein
Phvul.007G050700	Cystein-rich RLK (RECEPTOR-like protein kinase) 25	Phvul.002G184800	BRI1-like 2
Phvul.001G048700	Protein kinase superfamily protein	Phvul.008G188700	Concanavalin A-like lectin protein kinase family protein
Phvul.011G119100	Protein kinase superfamily protein	Phvul.007G279600	CBL-interacting protein kinase 7
Phvul.010G165000	Protein kinase protein with adenine nucleotide alpha hydrolases-like domain	Phvul.005G077600	Leucine-rich repeat transmembrane protein kinase
Phvul.002G049500	Cystein-rich RLK (RECEPTOR-like protein kinase) 25	Phvul.008G086400	Leucine-rich receptor-like protein kinase family protein
Phvul.008G106600	Leucine-rich repeat receptor-like protein kinase family protein	Phvul.011G054300	Crinkly4
Phvul.010G057600	Receptor-like protein kinase 1	Phvul.007G103900	Protein kinase superfamily protein
Phvul.011G142200	Protein kinase superfamily protein	Phvul.011G181900	Protein kinase superfamily protein
Phvul.005G079100	Leucine-rich repeat transmembrane protein kinase	Phvul.010G086600	Protein kinase superfamily protein
Phvul.011G198200	Receptor serine/threonine kinase, putative	Phvul.005G148800	AGC (cAMP/cGMP-dependent and protein kinase C) kinase family protein
Phvul.002G227300	Protein kinase superfamily protein	Phvul.009G087500	CBL-interacting protein kinase 25
Phvul.005G051000	Lectin protein kinase family protein	Phvul.011G035600	Protein kinase protein with adenine nucleotide alpha hydrolases-like domain
Phvul.003G187200	Leucine-rich repeat protein kinase family protein	Phvul.010G044800	Cyclin p4;1
Phvul.010G033800	Leucine-rich repeat transmembrane protein kinase family protein	Phvul.006G149700	ATPase, F1 complex, gamma subunit protein
Phvul.011G194400	Receptor kinase 1	Phvul.008G124900	S-locus lectin protein kinase family protein
Phvul.011G193900	Receptor kinase 2	Phvul.011G194200	Cystein-rich RLK (RECEPTOR-like protein kinase) 25
Phvul.003G139200	Protein kinase superfamily protein	Phvul.008G281500	Leucine-rich receptor-like protein kinase family protein

**B**

**S10 Fig. DEGs of P metabolism genes during root symbioses.** Expression profile of unique P metabolism genes in *P. vulgaris* roots colonized by (A) AMF and (B) rhizobia. Expression profile showing upregulated and downregulated DEGs obtained from GO analysis. Statistically significant DEGs were identified using an unpaired *t*-test ( $p < 0.05$ ), in symbiont treatment over controls (S3 Table). Fold-change values (over control) were used to plot heat maps. Color bar scale shows the fold-change range with red and green representing downregulation and upregulation, respectively.