

SupplementalTable. Putative up- and down-regulated genes during symbiosis, microaerobic growth and starvation that are estimated by macroarray analysis of *Mesorhizobium loti* MAFF303099

Condition	Gene	Gene annotation	Location	Signal ratio	M13 clone	RpoN-regulon
Bacteroid vs Free-living (Up-regulated; Bacteroid signal > 1.0, Bacteroid/Free living ratio > 20, 53 clones, 99 genes)						
	mlr9289	Unknown protein	pMLa	1588	RLB09793	-
	mlr5873	Peroxiredoxin 2 family protein	SYM	702	RLB07951	+
	mlr5875	Unknown protein	SYM	702	RLB07951	+
	mlr5876	Cytochrome P450	SYM	702	RLB07951	+
	mlr5906	Nitrogenase Mo-Fe protein alpha chain; NifD	SYM	698	RLB09405	+
	mlr5907	Nitrogenase Mo-Fe protein beta chain, NifK	SYM	698	RLB09405	+
	mlr6210	Glutamine synthetase III	SYM	577	RLB04931	+
	mlr6209	Histidine decarboxylase	SYM	577	RLB04931	+
	mlr5943	L-2,4-Diaminobutyric acid transaminase	SYM	223	RLB13370	-
	mlr5944	Unknown protein	SYM	223	RLB13370	-
	mlr6283	L-Proline 3-hydroxylase	SYM	185	RLB21690	+
	mlr6282	Phosphinothricin tripeptide synthetase B	SYM	185	RLB21690	+
	mlr6412	Cytochrome-C oxidase FixO chain	SYM	168	RLB04732	-
	msr6413	Cytochrome-C oxidase FixQ chain	SYM	168	RLB04732	-
	mlr6414	Cytochrome-C oxidase FixP chain	SYM	168	RLB04732	-
	mlr6128	Transposase	SYM	119	RLB05168	-
	mlr6129	Transcriptional regulator	SYM	119	RLB05168	-
	mlr6130	L-Threonine aldolase	SYM	119	RLB05168	-
	mlr6127	Outer membrane protein	SYM	100	RLB13143	+
	msr5972	Transposase	SYM	98	RLB21047	-
	mlr5973	Integrase / Recombinase	SYM	98	RLB21047	-
	mlr5971	L-Lysine 2,3-aminomutase	SYM	98	RLB21047	-
	mlr6211	Alanine racemase	SYM	91	RLB18566	-
	mlr6212	Hypothetical protein	SYM	91	RLB18566	-
	msl6213	Hypothetical protein	SYM	91	RLB18566	-
	mlr9125	Unknown protein	pMLa	82	RLB06536	-
	mlr9393	Nodulation protein, NoeC	pMLa	67	RLB04412	-
	mlr5864	Nitrogenase stabilizer NifW	SYM	66	RLB16489	-
	mlr5865	Nitrogenase cofactor synthesis protein NifS	SYM	66	RLB16489	-
	mlr5862	Nitrogen fixation protein, FixA	SYM	66	RLB16489	+
	mlr6207	DNA-damage-inducible protein	SYM	64	RLB23401	-
	mlr5872	RNA polymerase sigma-54 factor, RpoN	SYM	62	RLB19968	+
	mlr5869	Ferredoxin 2[4Fe-4S] III, FdxB	SYM	62	RLB19968	-
	mlr5871	Nitrogen fixation protein, NifQ	SYM	62	RLB19968	-
	mlr5923	Lysine:N6-hydroxylase	SYM	61	RLB19159	+
	mlr5908	Nitrogenase molybdenum-cofactor synthesis protein NifE	SYM	60	RLB22002	+
	mlr5924	Unknown protein	SYM	58	RLB15637	-
	msl5996	Transposase	SYM	56	RLE17977	-
	msr5997	Transposase	SYM	56	RLE17977	-
	mlr5932	1-Aminocyclopropane-1-carboxylate deaminase	SYM	53	RLB15575	+
	msl5852	Hypothetical protein (FixU protein)	SYM	52	RLB14963	+
	mlr5854	Hypothetical protein (NifZ protein)	SYM	52	RLB14963	+
	msl8750	Ferredoxin 2[4Fe-4S], fdxN	SYM	52	RLB14963	-
	msl9543	Unknown protein	pMLb	50	RLB30263	-
	msr6073	Unknown protein	SYM	49	RLB21494	-
	mlr5855	Nitrogen fixation protein NifB	SYM	47	RLB07476	-
	mlr5857	Nif-specific regulatory protein, NifA	SYM	47	RLB07476	+
	msl5859	Ferredoxin like protein, FixX	SYM	47	RLB07476	+
	mlr5860	Nitrogen fixation protein, FixC	SYM	47	RLB07476	+
	mlr5876	Cytochrome P450	SYM	46	RLB06802	-
	msr5877	Unknown protein	SYM	46	RLB06802	-
	mlr5878	gamma-BHC dehydrochlorinase	SYM	46	RLB06802	-
	mlr6114	Serine hydroxymethyltransferase	SYM	46	RLB15002	-
	mlr6115	S-Adenosylmethionine synthetase	SYM	46	RLB15002	-
	msr5997	Transposase	SYM	42	RLB05087	-
	mlr5998	Hypothetical protein	SYM	42	RLB05087	-
	mlr1030	Hypothetical protein	OUT	41	RLB23080	-
	msl1031	Unknown protein	OUT	41	RLB23080	-
	mlr6411	Cytochrome-c oxidase FixN chain	SYM	41	RLB04306	-
	mlr6412	Cytochrome-c oxidase FixO chain	SYM	41	RLB04306	-
	msr6413	Cytochrome-c oxidase FixQ chain	SYM	41	RLB04306	-
	mlr6414	Cytochrome-c oxidase FixP chain	SYM	41	RLB04306	-
	mlr9158	Unknown protein	pMLa	39	RLB12562	+
	mlr9053	Polyketide synthase	pMLa	38	RLB14939	-
	mlr9228	Hypothetical protein	pMLa	38	RLB19774	-
	mlr9229	Unknown protein	pMLa	38	RLB19774	-
	msr9403	Unknown protein	pMLa	38	RLB19774	-
	mlr6296	putative Carboxylase	SYM	37	RLB24292	-
	mlr6298	gamma-Glutamyl kinase	SYM	37	RLB24292	-
	mlr6059	Unknown protein	SYM	35	RLB09183	-
	msl6060	Unknown protein	SYM	35	RLB09183	-
	msr6061	Unknown protein	SYM	35	RLB09183	-
	msr8685	Unknown protein	SYM	35	RLB09183	-
	mlr9215	Unknown protein	pMLa	34	RLB03780	-
	mlr4566	Glycine-rich cell wall protein	OUT	33	RLE43945	-
	mlr7874	Unknown protein	OUT	33	RLB05086	-
	mlr5971	L-Lysine 2,3-aminomutase	SYM	32	RLB05022	+
	mlr6062	Hypothetical protein	SYM	29	RLB17782	-
	mlr6063	Transposase	SYM	29	RLB17782	-
	mlr5845	Hypothetical protein	SYM	28	RLB23990	-

mlr6117	Carbohydrate kinase	SYM	27	RLB10494	-
mlr9121	Unknown protein	pMLa	27	RLB12270	-
mlr9123	NTA monooxygenase component A	pMLa	27	RLB12270	-
mlr9216	probable Malate dehydrogenase	pMLa	27	RLB13072	+
mlr9217	Dibenzothiophene desulfurization enzyme	pMLa	27	RLB13072	-
mlr5882	Phosphoenolpyruvate Mutase	SYM	26	RLB24892	-
mlr5883	Aspartate transaminase	SYM	26	RLB24892	-
msl9407	Unknown protein	pMLa	26	RLB06943	-
mlr9369	Hypothetical protein	pMLa	26	RLB06943	-
mlr9370	Unknown protein	pMLa	26	RLB06943	-
mlr9371	Alanine racemase	pMLa	26	RLB06943	-
mlr6056	Hypothetical protein	SYM	24	RLB15113	-
msl6057	Unknown protein	SYM	24	RLB15113	-
mlr6226	Methyltransferase	SYM	24	RLB03779	-
mlr8752	Unknown protein	SYM	22	RLB00654	+
mll6628	Cytochrome-c oxidase FixP chain	OUT	21	RLB22846	-
msl6627	Nitrogen fixation protein FixQ	OUT	21	RLB22846	-
mll6629	Cytochrome-c oxidase FixO chain	OUT	21	RLB22846	-
mll6630	Cytochrome-c oxidase FixN chain	OUT	21	RLB22846	-
Bacteroid vs Free-living (Down-regulated; Free-living signal > 1.0, Bacteroid/Free living ratio < 1/20, 14 clones, 26 genes)					
mlr5741	Unknown protein	OUT	0.013	RLB07534	-
mlr7339	Putative glycosyl transferase	OUT	0.018	RLB04438	-
mlr7338	Unknown protein	OUT	0.018	RLB04438	-
mlr2921	Flagellar L-ring protein, FlgH	OUT	0.02	RLB24577	-
mlr2924	Flagellar biosynthesis protein, FliP	OUT	0.02	RLB24577	-
mlr2923	Hypothetical protein, FliL	OUT	0.02	RLB24577	-
mlr4158	similarity to NADH oxidase	OUT	0.026	RLB07682	-
msr4160	Unknown protein	OUT	0.026	RLB07682	-
mlr8302	Transcriptional regulator	OUT	0.03	RLB08293	-
mlr8303	Homogentisate 1,2-dioxygenase	OUT	0.03	RLB08293	-
mlr1017	3-Oxoacyl-acyl carrier protein reductase	OUT	0.033	RLB14419	-
mlr1018	Probable racemase	OUT	0.033	RLB14419	-
mlr3069	ABC transporter, periplasmic binding protein	OUT	0.034	RLB12771	-
mlr3070	Dehydrogenase, (alcohol, 4-hydroxybutyrate)	OUT	0.036	RLB10653	-
mlr1028	Rhizobioicin RzcA	OUT	0.036	RLB07493	-
mlr7341	Putative O-antigen methyl transferase	OUT	0.039	RLB06910	-
mlr2925	Flagellin(FlaA)	OUT	0.041	RLB23320	-
mlr7225	Unknown protein	OUT	0.043	RLB23327	-
mlr7226	Sugar ABC transporter, permease protein	OUT	0.043	RLB23327	-
mlr2648	Probable cold shock protein	OUT	0.05	RLB18891	-
msr2651	Unknown protein	OUT	0.05	RLB18891	-
msr2650	Unknown protein	OUT	0.05	RLB18891	-
msr5593	Fimbriae associated protein	OUT	0.05	RLB04449	-
mlr5594	Type IV prepilin peptidase, CpaA	OUT	0.05	RLB04449	-
msr5592	Unknown protein	OUT	0.05	RLB04449	-
mlr7254	Glutamine synthetase	OUT	0.05	RLB05534	-
Microaerobic vs Aerobic (Up-regulated; Microaerobic signal > 0.5, Microaerobic/Aerobic ratio > 2, 37 clones, 83 genes)					
mlr6412	Cytochrome-c oxidase FixO chain	SYM		RLB04732	-
msr6413	Cytochrome-c oxidase FixQ chain	SYM		RLB04732	-
mlr6414	Cytochrome-c oxidase FixP chain	SYM		RLB04732	-
mlr6610	Unknown protein	OUT	182	RLB14558	-
mlr6611	Hypothetical protein	OUT	182	RLB14558	-
mlr6628	Cytochrome-c oxidase FixP chain	OUT	182	RLB22846	-
msl6627	Nitrogen fixation protein FixQ	OUT	182	RLB22846	-
mlr6629	Cytochrome-c oxidase FixO chain	OUT	182	RLB22846	-
mlr6630	Cytochrome-c oxidase FixN chain	OUT	182	RLB22846	-
mlr6591	Hypothetical protein	OUT	95	RLB11128	-
msl6623	Nitrogen fixation protein FixS	OUT	61	RLB14257	-
mlr6593	Hypothetical protein	OUT	49	RLB07284	-
mlr6594	Hypothetical protein	OUT	49	RLB07284	-
mlr6595	Hypothetical protein	OUT	49	RLB07284	-
mlr6596	Hypothetical protein	OUT	49	RLB07284	-
mlr6411	Cytochrome-c oxidase FixN chain	SYM	42	RLB04306	-
mlr6639	Aldehyde dehydrogenase	OUT	37	RLB12389	-
mlr6640	Transcriptional regulator	OUT	37	RLB12389	-
mlr6632	Fnr-type transcriptional regulator	OUT	22	RLB22521	-
mlr6633	Anaerobic coproporphyrinogen III oxidase	OUT	22	RLB22521	-
mlr6635	Unknown protein	OUT	22	RLB22521	-
mlr6637	Hypothetical protein	OUT	22	RLB22521	-
mlr6415	Nitrogen fixation protein FixG	SYM	16	RLB06955	-
mlr6416	Nitrogen fixation protein FixH	SYM	16	RLB06955	-
mlr6586	Hypothetical protein	OUT	16	RLB18158	-
mlr6587	Unknown protein	OUT	16	RLB18158	-
mlr6613	Hypothetical protein	OUT	15	RLB18437	-
msl6615	Unknown protein	OUT	15	RLB18437	-
mlr6631	Unknown protein	OUT	15	RLB20675	-
mlr6579	Hypothetical protein	OUT	13	RLB17832	-
mlr6580	Serine/threonine kinase	OUT	13	RLB17832	-
mlr6581	Hypothetical protein	OUT	13	RLB17832	-

mll6620	similar to Thiamine biosynthesis lipoprotein	OUT	12	RLB24929	-
mll6621	Unknown protein	OUT	12	RLB24929	-
mll6622	similar to Nodulin 21	OUT	12	RLB24929	-
mll4720	Small heat-shock protein	OUT	11	RLB17084	-
mll4721	Small heat shock protein (class I)	OUT	11	RLB17084	-
mll4722	Protoporphyrinogen oxidase	OUT	11	RLB17084	-
mll0125	Lysozyme	OUT	10	RLB12360	-
mll0127	Unknown protein	OUT	10	RLB12360	-
mll0128	Hypothetical protein	OUT	10	RLB12360	-
mll0129	Transcriptional activator AmpR	OUT	10	RLB12360	-
mll6584	Unknown protein	OUT	9.2	RLB17366	-
mll6585	Unknown protein	OUT	9.2	RLB17366	-
mll6587	Unknown protein	OUT	9.2	RLB17366	-
mll6575	Hypothetical protein	OUT	8.6	RLB15794	-
mll6576	Acetate kinase	OUT	8.6	RLB15794	-
mll6601	Unknown protein	OUT	8.2	RLB16521	-
mll6604	Unknown protein	OUT	8.2	RLB16521	-
mll6596	Hypothetical protein	OUT	7.7	RLB08379	-
mll6598	Unknown protein	OUT	7.7	RLB08379	-
mll6600	5-Aminolevulinic acid synthase (ALAS)	OUT	7.7	RLB08379	-
mll6577	Hypothetical protein	OUT	6.7	RLB04979	-
mll6578	Nitrogen fixation regulation protein FixK	OUT	6.7	RLB04979	-
mll6390	Coproporphyrinogen III dehydrogenase	SYM	6.3	RLB15745	-
mll6391	Unknown protein	SYM	6.3	RLB15745	-
mll6392	Unknown protein	SYM	6.3	RLB15745	-
mll9634	Unknown protein	pMLb	4.7	RLB30442	-
mll3429	Endopeptidase Clp ATP-binding chain B, clpB	OUT	4.5	RLB04574	-
mll5276	Succinoglycan biosynthesis transport protein ExoP	OUT	4.5	RLB17154	+
mll5277	Transcriptional regulator	OUT	4.5	RLB17154	-
mll5642	Two-component sensor histidine kinase, PhoR	OUT	4.3	RLB20679	-
mll5643	Phosphate regulon transcriptional regulator, PhoU	OUT	4.3	RLB20679	-
mll4831	Phenylalanine-4-hydroxylase (EC 1.14.16.1)	OUT	3.7	RLB16390	-
mll4832	Hypothetical protein	OUT	3.7	RLB16390	-
mll4833	Transcriptional regulator	OUT	3.7	RLB16390	-
mll8469	Sarcosine oxidase	OUT	3.0	RLB23576	-
mll8471	Unknown protein	OUT	3.0	RLB23576	-
mll4002	Filament-A precursor [Bartonella bacilliformis]	OUT	2.5	RLB17102	-
mll4004	Hypothetical protein	OUT	2.5	RLB17102	-
mll4004	Hypothetical protein	OUT	2.5	RLB17783	-
mll4005	Hypothetical protein	OUT	2.5	RLB17783	-
mll2610	Unknown protein	OUT	2.4	RLB04108	-
mll2611	Unknown protein	OUT	2.4	RLB04108	-
mll3426	Hypothetical protein	OUT	2.4	RLB16392	-
mll3427	Unknown protein	OUT	2.4	RLB16392	-
mll3428	Hypothetical protein	OUT	2.4	RLB13282	-
mll7636	Superoxide dismutase	OUT	2.3	RLB14873	-
mll7638	Cytochrome c556	OUT	2.3	RLB14873	-
mll7639	Cytochrome c-553	OUT	2.3	RLB14873	-
mll8310	Transcriptional regulator	OUT	2.3	RLB17257	-
mll8311	Hypothetical protein	OUT	2.3	RLB17257	-
mll1454	FtsH protease activity modulator HflC	OUT	2.2	RLB13449	-
Microaerobic vs Aerobic (Down-regulated; Aerobic signal > 0.5, Microaerobic/Aerobic ratio > 1/2, 12 clones, 22 genes)					
mll2692	50S Ribosomal protein L25	OUT	0.095	RLB23015	-
mll2694	Peptidyl-tRNA hydrolase	OUT	0.095	RLB23015	-
mll5090	Phosphocarrier protein HPr	OUT	0.13	RLB19253	-
mll0650	Elongation factor Ts	OUT	0.18	RLB13558	-
mll0651	30S ribosomal protein S2	OUT	0.18	RLB13558	-
mll5562	Polyribonucleotide nucleotidyltransferase	OUT	0.24	RLB21194	-
mll5035	Hypothetical protein, contains similarity to isomerase	OUT	0.28	RLB08881	-
mll5036	Xylose isomerase (EC 5.3.1.5)	OUT	0.28	RLB08881	-
mll5057	Ribosomal protein L20	OUT	0.33	RLB19461	-
mll5059	Ribosomal protein L35	OUT	0.33	RLB19461	-
mll5060	Nickel-cobalt-cadmium resistance protein NccN	OUT	0.33	RLB19461	-
mll7559	Hypothetical protein	OUT	0.35	RLB19378	-
mll7560	Hypothetical protein	OUT	0.36	RLB04376	-
mll5088	S-Adenosyl L-homocystein hydrolase	OUT	0.37	RLB06370	-
mll4273	Unknown protein	OUT	0.41	RLB14715	-
mll1767	Hypothetical protein	OUT	0.42	RLB24095	-
mll1768	Unknown protein	OUT	0.42	RLB24095	-
mll1769	Unknown protein	OUT	0.42	RLB24095	-
mll5591	Unknown protein	OUT	0.43	RLB04449	-
mll5592	Unknown protein	OUT	0.43	RLB04449	-
mll5593	Fimbriae associated protein	OUT	0.43	RLB04449	-
mll5594	Type IV prepilin peptidase, CpaA	OUT	0.43	RLB04449	-
Carbon starvation vs Unstarvation (Up-regulated; Starvation signal > 1.0, Starved/Unstarved ratio > 2, 31 clones, 56 genes)					
mll0479	Succinoglycan biosynthesis protein ExoI	OUT	18	RLB14552	-
mll0480	Unknown protein	OUT	18	RLB14552	-
mll0710	Glycerol-3-phosphate dehydrogenase	OUT	14	RLB25054	-
mll1644	probable Sterol methyltransferase	OUT	11	RLB06335	-

mlr2338	Hypothetical protein	OUT	9.5	RLB20249
mlr2341	Hypothetical protein	OUT	9.5	RLB20249
ml11629	Dihydropyrimidinase	OUT	6.0	RLB06680
ml11631	N-Carbamoyl-beta-alanine amidohydrolase	OUT	6.0	RLB06680
ml13075	Amino acid/metabolite permease	OUT	5.4	RLB08066
ml13076	Hypothetical protein	OUT	5.4	RLB08066
mlr4771	Secreted sugar-binding protein	OUT	5.0	RLB10318
ml15113	alpha-Glucosides ABC transporter, substrate-binding protein	OUT	4.1	RLB12486
ml17714	AMP nucleosidase	OUT	3.6	RLB18102
msl7716	Unknown protein	OUT	3.6	RLB18102
msl7717	Unknown protein	OUT	3.6	RLB18102
ml17718	Unknown protein	OUT	3.6	RLB18102
ml13074	Glutamine synthetase	OUT	3.4	RLB19274
msl3793	Unknown protein	OUT	3.0	RLB00215
msr3794	Unknown protein	OUT	3.0	RLB00215
ml13795	Transcriptional regulator	OUT	3.0	RLB00215
mlr6533	ABC transporter, polyamine transport protein	OUT	2.9	RLB13229
ml16710	Transcriptional regulator	OUT	2.9	RLB23708
msr6711	Neurogranin, protein kinase C substrate, calmodulin-binding protei	OUT	2.9	RLB23708
ml11646	Glutamate synthase beta subunit	OUT	2.8	RLB07742
ml11647	Hypothetical protein	OUT	2.8	RLB07742
ml15107	alpha-Glucosides ABC transporter, ATP-binding protein	OUT	2.8	RLB23389
ml11632	beta-Alanine-pyruvate transaminase	OUT	2.7	RLB17456
mlr1634	probable Transcriptional regulator	OUT	2.7	RLB17456
ml13072	Dehydrogenase	OUT	2.5	RLB12771
ml11621	Hypothetical protein	OUT	2.4	RLB06694
ml11623	Permease protein of ABC transporter	OUT	2.4	RLB06694
mlr2852	Cardiolipin synthase	OUT	2.4	RLB15975
mlr8151	Amino acid ABC transporter, permease protein	OUT	2.4	RLB13918
mlr8153	Amino acid ABC transporter, permease protein	OUT	2.4	RLB13918
mlr0545	Hypothetical protein	OUT	2.3	RLB24429
mlr0547	Molybdopterin-guanine dinucleotide biosynthesis protein A	OUT	2.3	RLB24429
mlr0548	Molybdopterin-guanine dinucleotide biosynthesis protein B	OUT	2.3	RLB24429
mlr1585	Hypothetical protein	OUT	2.3	RLB22932
ml13069	ABC transporter, periplasmic binding protein	OUT	2.3	RLB10653
ml13070	Dehydrogenase	OUT	2.3	RLB10653
mlr4713	Large conductance mechanosensitive channel	OUT	2.3	RLB04063
msl4714	Transglycosylase associated protein, (integral membrane protein)	OUT	2.3	RLB04063
mlr4715	Unknown protein	OUT	2.3	RLB04063
ml17596	Unknown protein	OUT	2.3	RLB24890
mlr7597	ABC transporter, peptide-binding protein	OUT	2.3	RLB24890
mlr0549	probable Amino acid binding protein of ABC transporter	OUT	2.2	RLB18460
mlr0550	probable Permease of ABC transporter	OUT	2.2	RLB18460
msl1345	Unknown protein	OUT	2.2	RLB09941
ml11346	Hypothetical protein	OUT	2.2	RLB09941
ml11659	Permease protein of oligopeptide ABC transporter	OUT	2.2	RLB14373
ml14697	Two-component system response regulator	OUT	2.2	RLB15814
ml14698	Two-component system histidine protein kinase (FixL like)	OUT	2.2	RLB15814
ml11116	Unknown protein	OUT	2.1	RLB06668
msr2658	probable Cold shock protein	OUT	2.1	RLB19030
msl8626	Unknown protein	OUT	2.1	RLB19030
mlr2659	Unknown protein	OUT	2.1	RLB19030
Carbon starvation vs	Unstarvation (Down-regulated; Unstarvation signal > 1.0, Starved/Unstarved ratio < 1/2, 16 clones, 32 genes)			
mlr4864	Molecular chaperone, SugES homolog	OUT	0.10	RLB00744
ml14866	Unknown protein	OUT	0.10	RLB00744
mlr7582	Sugar ABC transporter, periplasmic sugar-binding protein	OUT	0.11	RLB11572
mlr7584	Sugar ABC transporter, permease protein	OUT	0.11	RLB11572
ml17583	Sugar ABC transporter, ATP binding protein	OUT	0.11	RLB11572
mlr0286	Unknown protein	OUT	0.12	RLB24404
msl0282	Two component response regulator	OUT	0.13	RLB03510
mlr0283	30S Ribosomal protein S12	OUT	0.13	RLB03510
mlr0284	30S Ribosomal protein S7	OUT	0.13	RLB03510
ml17581	Hypothetical protein, FucU	OUT	0.16	RLB11863
mlr3552	50S Ribosomal protein L28	OUT	0.21	RLB12095
ml13551	Unknown protein	OUT	0.21	RLB12095
mlr0273	50S Ribosomal protein L1	OUT	0.24	RLB23276
mlr0271	50S Ribosomal protein L11	OUT	0.24	RLB23276
mlr2692	50S Ribosomal protein L25	OUT	0.25	RLB23015
mlr2694	Peptidyl-tRNA hydrolase	OUT	0.25	RLB23015
msl5090	Phosphocarrier protein HPr	OUT	0.25	RLB19253
ml15088	S-Adenosyl L-homocystein hydrolase	OUT	0.25	RLB19253
ml15061	Translation initiation factor IF-3	OUT	0.26	RLB19461
ml15057	Ribosomal protein L20	OUT	0.26	RLB19461
msl5059	Ribosomal protein L35	OUT	0.26	RLB19461
ml15060	Nickel-cobalt-cadmium resistance protein NccN	OUT	0.26	RLB19461
ml10651	30S Ribosomal protein S2	OUT	0.27	RLB13558
ml10650	Elongation factor Ts	OUT	0.27	RLB13558
msr1062	Unknown protein	OUT	0.28	RLB07632
ml14807	histidine protein kinase sensor for nitrogen regulator II, NRII (GlnC	OUT	0.29	RLB16514
mlr5551	N Utilization substance protein A	OUT	0.29	RLB23589
mlr5550	Hypothetical protein	OUT	0.29	RLB23589
msl5548	Unknown protein	OUT	0.29	RLB23589
ml18552	Unknown protein	OUT	0.29	RLB06282
ml15213	3-Phosphoshikimate 1-carboxyvinyltransferase	OUT	0.31	RLB25092
ml15212	Cytidylate monophosphate kinase	OUT	0.31	RLB25092

a, Gene location was expressed as plasmids (pMLa and pMLb) and inside (SYM) and outside (OUT) of symbiosis island in *Mesorhizobium loti* MAFF303099 genome (Kaneko et al 2000, ref13).

b, Gene with -24/-12 type promoter consensus (Dombrecht et al. 2002, ref7)