

**S3 Table. RgsP and RgsM are mainly conserved in related species from the order Rhizobiales.**

	Phylum	BLASTP hits*		Representative species	Sequence identity (%)		Protein length (#aa)		Signature motifs		Locus				
		RgsP	RgsM		RgsP	RgsM	RgsP	RgsM	RgsP	RgsM					
Bacteria	Gram-negative bacteria	α-proteobacteria	Rhizobiales	Rhizobiaceae											
				Sinorhizobium (taxid:28105)	41	34	<i>Sinorhizobium meliloti</i> Rm2011	100	100	970	646	RxxD...GGDQF...EAL	HxxxD...H...HxH	WP_010968917.1	WP_010970071.1
							<i>Sinorhizobium medicae</i> WSM419	97	96	970	646	RxxD...GGDQF...EAL	HxxxD...H...HxH	YP_001326224.1	YP_001328163.1
							<i>Sinorhizobium fredii</i> HH103	95	88	970	651	RxxD...GGDQF...EAL	HxxxD...H...HxH	WP_014327607.1	WP_014329503.1
							<i>Rhizobium etli</i> CFN42	80	70	970	640	KxxD...AGDQF...EAL	HxxxD...H...HxH	WP_042118012.1	ABC92501.1
							<i>Agrobacterium tumefaciens</i> C58	78	65	971	648	KxxD...GGDEF...EAL	HxxxD...H...HxH	WP_006309835.1	NP_356470.1
							<i>Mesorhizobium loti</i> MAFF303099	64	53	962	680	KxxD...AGDQF...EAL	HxxxD...H...HxH	WP_032929377.1	WP_080511860.1
							<i>Brucella abortus</i> 104M	63	52	964	651	KxxD...SSDQF...EAL	HxxxD...H...HxH	WP_054173960.1	ALF30205.1
							<i>Bartonella henselae</i> str. Houston-1	50	42	961	668	NxxD...SADRF...ETI	HxxxD...H...HxH	WP_011180379.1	PNM38919.1
							<i>Methylobacterium nodulans</i> ORS 2060	54	34	959	681	RxxD...AGDEL...EAL	HxxxD...H...HxH	WP_015927027.1	WP_015932251.1
							<i>Bradyrhizobium japonicum</i> USDA110	56	34	958	684	KxxD...AGDQF...EAL	HxxxD...H...HxH	AND87158.1	AND87069.1
							<i>Azorhizobium caulinodans</i> ORS 571	52	37	965	673	KxxD...SGDQF...EAF	HxxxD...H...HxH	WP_012169020.1	BAF90194.1
							<i>Rhodopseudomonas palustris</i> TIE-1	56	36	959	676	KxxD...AGDQF...EAL	HxxxD...H...HxH	WP_011156449.1	WP_011159965.1
							<i>Hyphomicrobium zavarzinii</i>	41	32	1290	680	GxxD...SGDRF...EAV	HxxxD...H...HxH	WP_020084480.1	WP_020084044.1
							<i>Labrenzia suaetae</i> DSM 22153	57	39	969	657	GxxD...NGDQY...EVL	HxxxD...H...HxH	WP_073010793.1	WP_073014857.1
							Caulobacterales (taxid:204458)	0	0						
							Rickettsiales (taxid:766)	0	0						
							Sphingomonadales (taxid:204457)	0	0						
							Rhodospirillales (taxid:204441)	0	0						
							Pelagibacterales (taxid:54526)	0	0						
			Holosporales (taxid:1921002)	0	0										
			Betaproteobacteria (taxid:28216)	0	0										
			Gammaproteobacteria (taxid:1236)	1	1	<i>Pseudomonas bauzanensis</i> W13Z2	63	53	968	655	KxxD...AGDQF...EAL	HxxxD...H...HxH	EZQ16934.1	EZQ14393.1	
			Deltaproteobacteria (taxid:28221)	0	0										
			Gram-positive bacteria (taxid:1239)	0	0										