

		127		169
	Stenotrophomonas maltophilia	194367055	FPLPVEVIPMARSLIARQIRDM	TGGQPTWREGVVTDNGNQILD
	Stenotrophomonas sp. SKA14	254522924	-----V-----	-----V-----VV--
	Xanthomonas oryzae	84622680	-----V---LAL	-----V-D-----VV--
	Xanthomonas campestris	289668028	-----V---LAL	-----V-D-----VV--
	Xanthomonas axonopodis	21109766	-----V---LAL	-----V-D-----VV--
	Xanthomonas fuscans	294627128	-----V---LAL	-----V-D-----VV--
Xanthomonadales	Xanthomonas albilineans	285017577	---I-----V-E-LAR	S---V-D-I---V---
	Xanthomonas gardneri	325922299	-----V---LAL	-----V-DN-I---VV--
	Xanthomonas perforans	325927881	-----V---LAL	-----V-D-----VV--
	Xanthomonas vesicatoria	325917033	-----V---LA-	-----V-D-----VV--
	Xylella fastidiosa	71897970	---I-----V---MTL	D---V---I---V---
	Pseudoxanthomonas spadix	357418380	-----V-E-LTL	-----V-D-T---L---
	Pseudoxanthomonas suwonensis	319788230	-----V-R-LAL	-----V-D-----W---
	Rhodanobacter sp. 2APBS1	352089795	--V-I-----G-E-VKR	-H-V-D-----W-I-
	Aeromonas hydrophila	117620736	-----EYV-E-KL	-N-V-----H---
	Alcanivorax borkumensis	110835467	---I-----YV-KLVAL	---QY---FL---I---
Alcanivorax sp. DG881	254429859	-----YV-KLVAL	---EY-F-----I---	
Aliivibrio salmonicida	209695960	-----YV-ELVKL	-D-AY-----M---	
Azotobacter vinelandii	226946833	-----HV---LVML	-D-VY-----V---	
Beggiatoa sp. PS	153877568	-----YV-ELVK-	-K-V---AF-T---V---	
Candidatus Regiella	304414795	-----F---ELIKL	-M-KY-QN-L-----I-	
Cellvibrio japonicus	192361815	-----FV-ELVKL	-A-VY---I---V---	
Citrobacter koseri	157148454	-----AV---LVKL	-R-EY-Q-----V---	
Cronobacter turicensis	260599255	-----AV---LVKL	-R-EY-Q-----V---	
Dickeya zeae	251788159	-----AYV-ELVKL	---VY-D-----I---	
Edwardsiella ictaluri	238921219	-----AYV-ELVKL	---VY-Q-L---V---	
Enterobacter cloacae	296104576	-----AV-ELVKL	-R-EY-Q-----V---	
Erwinia pyrifoliae	283479656	-----YV-ELVKL	-L-EY-QD-----I---	
Escherichia coli	188494875	-----AV---LVKL	-R-EY-Q-----V---	
Other γ-Proteobacteria	Grimontia hollisae	262273693	-----YV-ELVKL	-D-CY---CI---V---
	Klebsiella pneumoniae	206578185	-----AV---LVKL	-R-EY-Q-----V---
	Marinomonas sp. MED121	87123015	-----S-YV-ELVKL	-D-VY-----V---
	Nitrosococcus watsoni	300113160	-----YV---VKL	-E-VY---FI-----V---
	Pantoea ananatis	291618750	-----YV-ELVKL	-L-EY-QN-----I---
	Pectobacterium wasabiae	261823110	-----YV-ELAKL	---VY-Q-----V---
	Photobacterium profundum	90412060	-----F-G-ELVKL	-D-EY-Q-----I-I-
	Photorhabdus asymbiotica	253988632	-----YV-ELVKL	-V-KY-QN-----V---
	Proteus mirabilis	197285883	-----YV-ELVKL	-L-EY-N-----V---
	Providencia stuartii	183599858	-----YV-ELVKL	-V-EY-QN-----V---
Pseudomonas putida	167036190	-----HV---LVKL	-D-VY-----V---	
Salmonella enterica	161506390	-----AV---LVKL	-R-EY-Q-----V---	
Shewanella violacea	294139516	-----YV---LVKL	-D-VY---CL---I---	
Shigella dysenteriae	194431760	-----AV---LVKL	-R-EY-Q-----V---	
Sodalis glossinidius	85059988	-----AWW-ELVRL	-A-VY-Q-----I---	
Tolumonas auensis	237808778	-----L-EYV-EL-KL	-N-VY---I---QC---	
Vibrio cholerae	15642476	-----YV-ELVKL	-D-VY---I---V---	
Xenorhabdus nematophila	300722096	-----AYV-ELVKL	-T-VY-N-----D---	
β-Proteobacteria	Nitrosomonas eutropha	114331805	-----YV-E-ALL	---A-QDFT---V---
	Sideroxydans lithotrophicus	291615188	---I-----Y-ELVKL	---KL---FT---V---
	Thiobacillus denitrificans	74318382	-----HV-ELVKL	---RL---FT---V---
	Laribacter hongkongensis	226939813	-----V-KLVKL	-H-E---NF---L---
	Chromobacterium violaceum	34496715	---I-----YV-ELVKL	-H-EL-Q-T---V---
	Gallionella capsiferiformans	302879703	---I-----SV---LVAL	---ML---FT---I-I-
	Thiomonas intermedia	296136750	-----V---E-V-RL-AL	-D-RE-S-Y---L---
Nitrosospira multiformis	82701570	-----GHV-E-VRL	---ML-Q-FT---V---	

Figure S21

Partial sequence alignment of a conserved region in ribose-5-phosphate isomerase A showing a 1 aa insert that is commonly shared by Xanthomonadales except *Rhodanobacter* sp. 2APBS1.

Alpha has longer insert about 8-10 aa long