

	Stenotrophomonas maltophilia	194365393	IRNSQYARDMDPIEPGCGCVACT	G	GYTRSylRHLDRcNEMLAPMLGTLHLNL
	Stenotrophomonas sp. SKA14	254524329	-----	-	-----
Xanthomonadales	Xanthomonas albilineans	285018698	---AK-E--L-----Y--S	S	---A-----
	Xanthomonas oryzae	58582107	---AK-E--L-T-----H--S	S	-----
	Xanthomonas fuscans	294624101	---AK-E--L-T-----H--S	S	---A-----
	Xanthomonas axonopodis	21243246	---AK-E--L-T-----H--S	S	---A-----
	Xanthomonas perforans	325927083	---AK-E--L-T-----H--S	S	---A-----
	Xanthomonas campestris	21231815	---AK-E--L-T-----H--S	S	---A-----
	Xanthomonas gardneri	325919631	---AK-E--L-T-----H--S	S	-----
	Xanthomonas vesicatoria	325915106	---AK-E--L-T-----H--S	S	-----
	Pseudoxanthomonas spadix	357416954	---AR-EK-L-----H--R	N	-F-----
	Xylella fastidiosa	28198110	---AC---V---Q---P--V	-	---A-----S--S---
	Rhodanobacter sp. 2APBS1	352086362	---AK--S-TAV--E--D-Y--S	H	-FS-A-----I-GSQ-A-M---
	Acinetobacter lwoffii	262377442	---K-RH-QS-LD-H-D-YT-Q	NF	-A--F--EK-G--GS---I---
	Aeromonas salmonicida	145299555	---AK-RS-TSTLDAD-D-YT-K	N	-----Y---K---I-GAR-N-I---
	Aggregatibacter aphrophilus	251793023	---AK-KD-TS-LD-H-D-YT-K	H	-KA--Y---K-G-I-GAR-N-I---
	Alcanivorax borkumensis	110833362	---ARHRH-LA-L-AE-D-YT-Q	NFS	---H-----GSQ-N-I---
	Alteromonas macleodii	196156164	---AKHRN-TS-LDEN-D-YT-K	N	-S---H---K---I-GAR-N-I---
	Arsenophonus nasoniae	284006392	---AK-KS-TS-LDAH-D-YT-S	N	-S-A--H-----I-GAR-N---
	Buchnera aphidicola	219681508	---KK-KK-LSCLDKT-V-YT-R	Y	-S--H---A---I-GAR-N-I---
	Candidatus Regiella	304413741	---AKHKE-DSTLDKN-D-YT-C	H	-S-A--H-----GAR-N-I---
Cardiobacterium hominis	258544914	L--TIHK--LR---E--D-YT-R	H	-S-A--H---K---GAR-N-I---	
Citrobacter rodentium	283784224	---AK-KS-TS-LDAE-D-YT-R	N	-S-A--H-----I-GAR-N-I---	
Colwellia psychrerythraea	71278113	---AAHKT-VA-LDDT-D-YT-K	N	-S-A--H---K-K-I-GSQ-N---	
Cronobacter sakazakii	156935045	---AK-KS-TG-LD-E-D-YT-R	N	-S-A--H-----I-GAR-N-I---	
Dichelobacter nodosus	146328961	L---R-KE-LR--DET-N-YT-Q	R	-S---H---K---I-GAR-N-I---	
Edwardsiella ictaluri	238918972	---A--KE-TTALD-E-D-YT-R	N	-S-A--H-----I-GAR-N-I---	
Enhydrobacter aerosaccus	257455335	-K-AVHRF-QS-LDSA-D-YT-Q	NFS	-A--H--FK----SAQ---I---	
Enterobacter cancerogenus	261341000	---AKHKS-TS-LDSE-D-YT-R	N	-S-A--H-----I-GAR-N-I---	
Erwinia tasmaniensis	188534664	---AK-KD-IS-LDAE-D-YT-R	N	-S-A--Y-----I-GAR-N-I---	
Escherichia coli	147966	---AK-KS-TG-LD-E-D-YT-R	N	-S-A--H-----I-GAR-N-I---	
Francisella philomiragia	167627730	---AKHKD-VSLLD-N-D-YT-Q	NFS	---H---KTQ-I-GSR-N-I---	
Francisella tularensis	254369198	---K-KD-TS-LD-N-D-YT-K	NF	-K--H---KTK-I-GSR-N-I---	
Grimontia hollisae	262274807	---AK-KN-TTALD-E-D-YT-R	N	-SKA--H-----I-GAR-N-I---	
Haemophilus ducreyi	33152439	---AK-KN-TT-LDAE-D-YT-K	N	-KA--Y---K-G-I-GAR-N-I---	
Haemophilus influenzae	53732897	---AK-RD-TN-LD-E-D-YT-K	N	-KA--Y---K-G-I-GAR-N-I---	
Kangiella koreensis	256822292	L---HNKT-TG-LDEA-D-YT--	N	-S-A--H---K---I-GAK-N-I---	
Mannheimia haemolytica	261493102	---AK-RN-IT-LD-E-D-YT-K	N	-KA--H---K-G-I-GAR-N-I---	
Methylococcus capsulatus	53805144	---AR-RD-LR--DEE--YT-R	H	-S-A-----G-I-GAR-N-I---	
Methylophaga thiooxidans	254490694	---RFKH-TG-LD-Y-D-YT-Q	N	-S-A--H---TG---G-R-N-I---	
Oceanobacter sp. RED65	94501956	L--AANKT-HG--D-E-D-YT-Q	NFS	-A--H---K-K-IQGT-N-I---	
Pantoea ananatis	291616516	---AKHKD-VS-LDAE-D-YT-R	N	-S-A--H-----I-GAR-N-I---	
Pasteurella multocida	15602094	---AK-RE-TS-LD-E-D-YT-K	H	-KA--Y---K-G-I-GAR-N-I---	
Pectobacterium carotovorum	253687414	---AK-KD-VS-LDEH-D-YT-R	N	-S-A--H-----I-GAR-N-I---	
Photobacterium damsela	269103294	---ASHKT-TT-LD-Q-D-YT-R	N	-SKA--H---K---I-GAR-N-I---	
Providencia stuartii	183601033	---AK-KS-TSTLD-E-D-YT-R	H	-S-A--H-----I-GAR-N-I---	
Pseudomonas entomophila	104780220	---AFHRH-DS-LD-T-D-YT--	NFS	-A--H---K-G--SS--N-I---	
Saccharophagus degradans	90021053	---AKHRH-TG-LD-T-D-YT-Q	NFS	-A--H---K-G-I-GAQ-N-I---	
Salmonella enterica	62179017	---AKHKS-TS-LDAE-D-YT-R	N	-S-A--H-----I-GAR-N-I---	
Serratia odorifera	270263541	---AKHKD-TS-LDKD-D-YT-R	N	-S-A--H-----I-GAR-N-I---	
Shewanella sediminis	157376027	---ARHRD-TS-LDDK-D-YT-K	N	-S-A--Y-----I-GAR-N-I---	
Shigella flexneri	24111784	---AK-KS-TG-LD-E-D-YT-R	N	-S-A--H-----I-GAR-N-I---	
Sodalis glossinidius	85058624	---AR-KD-VA-LDAE-D-YT-R	N	-S-A--H-----I-GAR-N-I---	
Tolunomas auensis	237808775	---AK-KD-VTSLDAE-D-YT-K	N	-K---H-----GAR-N-I---	
Vibrio cholerae	15640760	---AAHKT-TT-LD-H-D-YT-K	N	-SK--H-----I-GAR-N-I---	
Xenorhabdus nematophila	300721774	---AKHKE-TSSLDEH-D-YT-R	N	-S-A--H-----I-GAR-N-I---	
β-Proteobacteria	Marinomonas posidonica	333907799	---A--RH-I--LDKE-D-YT-K	NFS	-A--H---K-Q--VGAQ-N-I---
	Methylobacter tundripaludum	307822489	-----EF-TG-LDES--YT-R	N	-S-A-----K-K--GSR-N-I---
	Thiomonas sp. 3As	294338724	---ARFKQ-ER-LDDT-T-AT-R	QFS	-A--H---G--FG--A-T---
	Achromobacter xylosoxidans	311108311	---AK-RD-TR-LD-S--HT-A	NFS	-A--H--Q-A--ITGAR-N---
	Bordetella avium 197N	187477349	---AK-RD-TR-LD-S-A-HT-G	HFS	-A--H--Q-A--ITGAR-N---
α-Proteobacteria	Polynucleobacter necessarius	171464095	L---G-KD-DR-VD-T-A-YT-Q	NF	----N--QKA--I-GSQ-N-I---
	Neisseria meningitidis	218767841	-K-AKHKL-KR--DES-T-Y--Q	NFS	-A--H--H-AG-I-GAQ-N-I---
	Rickettsia prowazekii	15604558	---K--D-KE-L-HD-K-P---	N	-KA--H--V-IR-I-G--M-W---
	Acidiphilium cryptum	148260343	L--ARF-AEDR-LD-A-P-L--A	RHS	-A--H--F--D---G---L-T---
	Sphingobium chlorophenolicum	334344808	---ARF-E--G-LD-R--PV-S	TWS	-A--H--VKAG--GA--M-Q--I
Granulibacter thesedensis	114326954	M--AR--D-GR--D-A-D-P---	RHS	-A--H--F-AG--G---L-W---	

Figure S6

Partial sequence alignment of a conserved region in the queuine tRNA-ribosyltransferase showing a 1 aa insert that is specific for all Xanthomonadales.