

NTDB id 601 KW2 RS02615 WP 021036805.1	MLCQNCNINEA.....TI	13
NTDB id 378 SMU RS02690 WP 002263569.1	MLCQNCNINEA.....TI	13
NTDB id 281 KZH43 RS03550 WP 000882517.1	MLCQNCNINDS.....TI	13
NTDB id 245 SPD RS03860 WP 000882517.1	MLCQNCNINDS.....TI	13
NTDB id 243 SPR RS03635 WP 000882517.1	MLCQNCNINDS.....TI	13
NTDB id 241 SP RS04015 WP 000882523.1	MLCQNCNINDS.....TI	13
NTDB id 85 BSU 00860 NP 387967.1	..MMFGRFTERAQKVLALAQEEALRLGHNNIGTEHILLGLVREGEGIAAKALQALGLGSEKIQKEVESLIG.....RGQEMS	75
NTDB id 610 V4T04 RS10165 WP 012897346.1	MKFENIKYTPTLDRILEKAEYEAHQYQYGTIESAHLLAAMATTSGSIAYSLLAGMNVDDSDLLIDL.....EDLSSHVKVKR	77
NTDB id 290 KZH43 RS10025 WP 001109677.1	MNYSKALNECIESAYMVAGHFGARYLESWHLLIAMSNHSYSVAGATLNDYPYEMDRLE....EVALELTETDYSQDET	75
NTDB id 289 SPD RS10700 WP 001109677.1	MNYSKALNECIESAYMVAGHFGARYLESWHLLIAMSNHSYSVAGATLNDYPYEMDRLE....EVALELTETDYSQDET	75
NTDB id 287 SP RS11210 WP 001109712.1	MNYSKALNECIESAYMVAGHFGARYLESWHLLIAMSNHSYSVAGATLNDYPYEMDRLE....EVALELTETDYSQDET	75
NTDB id 377 SMU RS09275 WP 002262344.1	...MTDYSLKMQEVFRLAQFEAARFESSYLESWHVLLAMVEIDSSVAGLSFAEFADVRVFEDYQAAAILAIGKKPKSSSN..DI	79
NTDB id 297 STER RS00545 WP 011680614.1	...MTIYSRKMQAIFHRAQLEAERFESPFL ETWHVLLAMVEVTGSVAYLTFTDFEDRIHSEEIETAAVLAMEKRPKDLSESDII	81
NTDB id 329 STU RS10020 WP 011225298.1	...MTIYSRKMQAIFHRAQLEAERFESPFL ETWHVLLAMVEVPGSVAYLTFTDFEDRIHSEEIETAAVLAMEKRPKDLSESDII	81
consensus	*** * *	**

NTDB id 601 KW2 RS02615 WP 021036805.1	HL YTSVNGQKKQIDLCQNCYQ...IMKSGGQALFCAGNASNGNSDEP.....FNP.FNDIFSALQGG.DFNGAASN..	80	
NTDB id 378 SMU RS02690 WP 002263569.1	HL YANVNGQKKQIDLCQNCYQ...IMKTDPENGPLNHL SQGNSSS.....INPFDDDFGDLNNFRAFNQDLP.	79	
NTDB id 281 KZH43 RS03550 WP 000882517.1	HL YTNLNGKQKQIDLCQNCYK...IIKTDPNNSLFGKMTDLNNRD.....FDP.FGDFFNDLNNFRPSSN..TP.	76	
NTDB id 245 SPD RS03860 WP 000882517.1	HL YTNLNGKQKQIDLCQNCYK...IIKTDPNNSLFGKMTDLNNRD.....FDP.FGDFFNDLNNFRPSSN..TP.	76	
NTDB id 243 SPR RS03635 WP 000882517.1	HL YTNLNGKQKQIDLCQNCYK...IIKTDPNNSLFGKMTDLNNRD.....FDP.FGDFFNDLNNFRPSSN..TP.	76	
NTDB id 241 SP RS04015 WP 000882523.1	HL YTNLNGKQKQIDLCQNCYK...IIKTDPNNSLFGKMTDLNNRD.....FDP.FGDFFNDLNNFRPSSN..TP.	76	
NTDB id 85 BSU 00860 NP 387967.1	QTIHYTPRAKKVIELSMDEARKLGHSYVGTEHTILLGLIREGEGVAARVLNNLGVSLNKARQQVLQL.....LGSNET....	147	
NTDB id 610 V4T04 RS10165 WP 012897346.1	STLRFSPRAEEVMTAASFIAHNNEAVGTEHLLYALLQVEDFGFLQLLKL.....QKINIVSLRKELEKRTGLKVPESKK	153	
NTDB id 290 KZH43 RS10025 WP 001109677.1	TELPFSRRLQILFDEAEYVASVVHAKVLGTEHVLYAILHGDGNALATRILERAGFSYEDKKDQVKIAALRRNLEERAGWTREDLKA	160	
NTDB id 289 SPD RS10700 WP 001109677.1	TELPFSRRLQILFDEAEYVASVVHAKVLGTEHVLYAILHGDGNALATRILERAGFSYEDKKDQVKIAALRRNLEERAGWTREDLKA	160	
NTDB id 287 SP RS11210 WP 001109712.1	TELPFSRRLQVLFDEAEYVASVVHAKVLGTEHVLYAILHDSNALATRILERAGFSYEDKKDQVKIAALRRNLEERAGWTREDLKA	160	
NTDB id 377 SMU RS09275 WP 002262344.1	MLLEQSHALKRTLAEEAAISQVTHAKEVGTEHVLFAMLLNPNLLATRILELVGFHAKDDGESIRLLDLRKVITERYAGFSKEDIKA	164	
NTDB id 297 STER RS00545 WP 011680614.1	DLRAQSPALEAMLQEAQEIASVTGAVEVGESEHVLMFAFLHKDLMVCRLLLEVAGFQYKDDSDKPRIIDLRRSLERNAGLSKQDLKA	166	
NTDB id 329 STU RS10020 WP 011225298.1	DLRAQSPALEAMLQEAQGIASVTGAVEVGESEHVLMFAFLHKDLMVCRLLLEVAGFQYKDDSDKPRIIDLRRSLERNAGLSKQDLKA	166	
consensus	* ** * * * * *	* * * * * * * * *	* * *

NTDB id 601 KW2 RS02615 WP 021036805.1	QTPPTQTGG.....RGPRGPQNPRAKQPKGMLEEFGINITESARRGEIDPVIGRDEEIKRVIEILNRRRTKNNPVL	151
NTDB id 378 SMU RS02690 WP 002263569.1	NTPPTQAGGGNGNGGN.N.RRPGGPQQQASQKPNGLLEEFGINLTDIARKGEIDPVIGRDEEITRVIEILNRRRTKNNPVL	158
NTDB id 281 KZH43 RS03550 WP 000882517.1	PIPTQSGGGYGGNGGYGSQNRGSAQTTPPSQEKGLEEFGINVTEIARRGIDPVIGRDDEIIRVIEILNRRRTKNNPVL	157
NTDB id 245 SPD RS03860 WP 000882517.1	PIPTQSGGGYGGNGGYGSQNRGSAQTTPPSQEKGLEEFGINVTEIARRGIDPVIGRDDEIIRVIEILNRRRTKNNPVL	157
NTDB id 243 SPR RS03635 WP 000882517.1	PIPTQSGGGYGGNGGYGSQNRGSAQTTPPSQEKGLEEFGINVTEIARRGIDPVIGRDDEIIRVIEILNRRRTKNNPVL	157
NTDB id 241 SP RS04015 WP 000882523.1	PIPTQSGGGYGGNGGYGSQNRGSAQTTPPSQEKGLEEFGINVTEIARRGIDPVIGRDDEIIRVIEILNRRRTKNNPVL	157
NTDB id 85 BSU 00860 NP 387967.1	GSSAAGTNSNANTPTLDSLARDLTAIAKEDSLDPVIGRSKEIQRVIEVLSRRTKNNPVL	207
NTDB id 610 V4T04 RS10165 WP 012897346.1	AVTPMSKRKMAKG.....VAENSTPTLDSVSSDLTEEARLGKLDPMIGRAEIEDRLIHLSRRTKNNPVL	220
NTDB id 290 KZH43 RS10025 WP 001109677.1	.LRQRHRTV.ADK.....QNSMANMMGMPTTPSGGLEDYTHDLTEQARSQKLEPVIGRDKEISRMIIQLSRKTNNPVL	233
NTDB id 289 SPD RS10700 WP 001109677.1	.LRQRHRTV.ADK.....QNSMANMMGMPTTPSGGLEDYTHDLTEQARSQKLEPVIGRDKEISRMIIQLSRKTNNPVL	233
NTDB id 287 SP RS11210 WP 001109712.1	.LRQRHRTV.ADK.....QNSMANMMGMPTTPSGGLEDYTHDLTEQARSQKLEPVIGRDKEISRMIIQLSRKTNNPVL	233
NTDB id 377 SMU RS09275 WP 002262344.1	.IFEMRKPKKVKN.....SSSFSFLMKPP.SVTGELADFTRDLTALARQGRLEPVIGRDEEISRMVQILSRKTNNPVL	237
NTDB id 297 STER RS00545 WP 011680614.1	.IHDLRKPKKSKA.....SANFANMMQPPQSSTGELADYTKDLTALAESGNLDPVIGRDEEISRMIIQLSRKTNNPVL	240
NTDB id 329 STU RS10020 WP 011225298.1	.IHDLRKPKKSKA.....SANFANMMQPPQSSTGELADYTKDLTALAESGNLDPVIGRDEEISRMIIQLSRKTNNPVL	240
consensus	* * *	

NTDB id 601 KW2 RS02615 WP 021036805.1	EVTDEDMPVITEKDI	EQIVEQKTI	QIPVGD	LKEKE	QTLIN	LADDL	KAHVIGQDE	AVDKI	ISKAIRRSRVGL	GKPNRP	IGSFL	FVGP	482				
NTDB id 378 SMU RS02690 WP 002263569.1	KLDKENTPVITEKNI	IEVIVEQKTN	IPVIGEL	LKEKE	EQSQLI	HLADDL	KTRVIGQDA	AVDKI	IAKAIRNRVGL	GTPNRP	IGSFL	FVGP	489				
NTDB id 281 KZH43 RS03550 WP 000882517.1	KITDQDTPVISEKTI	IEHII	EQKTN	IPVGD	LKEKE	EQSQLI	HLAEDL	KSHVIGQDD	AVDKI	IAKAIRNRVGL	GTPNRP	IGSFL	FVGP	488			
NTDB id 245 SPD RS03860 WP 000882517.1	KITDQDTPVISEKTI	IEHII	EQKTN	IPVGD	LKEKE	EQSQLI	HLAEDL	KSHVIGQDD	AVDKI	IAKAIRNRVGL	GTPNRP	IGSFL	FVGP	488			
NTDB id 243 SPR RS03635 WP 000882517.1	KITDQDTPVISEKTI	IEHII	EQKTN	IPVGD	LKEKE	EQSQLI	HLAEDL	KSHVIGQDD	AVDKI	IAKAIRNRVGL	GTPNRP	IGSFL	FVGP	488			
NTDB id 241 SP RS04015 WP 000882523.1	KITDQDTPSISEKTI	IEHII	EQKTN	IPVGD	LKEKE	EQSQLI	HLAEDL	KSHVIGQDD	AVDKI	IAKAIRNRVGL	GTPNRP	IGSFL	FVGP	488			
NTDB id 85 BSU 00860 NP 387967.1	EKQQGQNSEVTVD	DIAMVVS	SWTGV	PVSKI	IAQTETD	KLNL	MENIL	HSRVIGQDE	AVVA	VAKAV	RRARAGL	KDPK	RPIGSFI	FLGP	546		
NTDB id 610 V4T04 RS10165 WP 012897346.1	.VKEDKRQEV	TDQAV	VAVAST	LTGVP	ITQMT	TKSE	ESDR	LINLEK	ELHKR	VIGQDE	AVSA	VSRAIRRAR	SGV	ADSRNR	MGSF	FLGP	555
NTDB id 290 KZH43 RS10025 WP 001109677.1	.VPV.YKDL	VTESD	ILTTLS	RSLSG	IPVQKLT	QTDA	KKYLN	LEAEL	HKR	VIGQDQ	AVSS	ISRAIRNR	QSGIR	SHKR	PIGSFM	FLGP	550
NTDB id 289 SPD RS10700 WP 001109677.1	.VPV.YKDL	VTESD	ILTTLS	RSLSG	IPVQKLT	QTDA	KKYLN	LEAEL	HKR	VIGQDQ	AVSS	ISRAIRNR	QSGIR	SHKR	PIGSFM	FLGP	550
NTDB id 287 SP RS11210 WP 001109712.1	.VPV.YKDL	VTESD	ILTTLS	RSLSG	IPVQKLT	QTDA	KKYLN	LEAEL	HKR	VIGQDQ	AVSS	ISRAIRNR	QSGIR	SHKR	PIGSFM	FLGP	550
NTDB id 377 SMU RS09275 WP 002262344.1	.PLLKKRAE	VKEED	ILATL	SKLS	GIPVKKL	TQAD	SKKYLN	LNER	ELHKR	VIGQDD	AVSS	ISRAIRNR	QSGIR	VGKR	PIGSFM	FLGP	553
NTDB id 297 STER RS00545 WP 011680614.1	.AKFPKPA	LVDADQ	IMQTL	SRLSG	IPVEKMT	QTDS	KRYLN	LESEL	HKR	VIGQDE	AVSA	ISRAIRNR	QSGIR	TGKR	PIGSFM	FLGP	556
NTDB id 329 STU RS10020 WP 011225298.1	.AKFPKPA	LVDADQ	IMQTL	SRLSG	IPVEKMT	QTDS	KRYLN	LESEL	HKR	VIGQDE	AVSA	ISRAIRNR	QSGIR	TGKR	PIGSFM	FLGP	556
consensus	*	*****	*	****	*****!	*	*	*****	*****	*****!	*****	*****!	*****	*****!	*****	*****!	*****

[illegible]

NTDB	id	601	KW2	RS02615	WP	021036805.1	QI	L	E	D	G	R	L	T	D	A	A	Q	G	R	T	V	S	F	K	D	S	L	I	I	M	T	S	N	A	G	T	G	K	.	.	V	E	A	S	V	G	F	G	A	A	R	E	G	.	.	.	.	.	.	R	T	K	S	V	L	G	Q	L	G	D	F	S	S	P	E	F	M	N	R	F	D	G	I	E	F	S	A	L	S	K		645
NTDB	id	378	SMU	RS02690	WP	002263569.1	Q	V	L	D	D	G	R	L	T	D	G	Q	G	R	T	V	S	F	K	D	T	I	I	I	M	T	S	N	A	G	T	G	K	.	.	S	E	A	N	V	G	F	G	A	S	R	E	G	.	.	.	.	.	R	T	N	S	V	L	G	E	L	G	N	F	S	S	P	E	F	M	N	R	F	D	G	I	E	F	Q	A	L	S	K		652	
NTDB	id	281	KZH43	RS03550	WP	000882517.1	Q	V	L	D	D	G	R	L	T	D	G	Q	G	R	T	V	S	F	K	D	A	I	I	I	M	T	S	N	A	G	T	G	K	.	.	T	E	A	S	V	G	F	G	A	A	R	E	G	.	.	.	.	.	R	T	N	S	V	L	G	E	L	G	N	F	S	S	P	E	F	M	N	R	F	D	G	I	E	F	K	A	L	S	K		651	
NTDB	id	245	SPD	RS03860	WP	000882517.1	Q	V	L	D	D	G	R	L	T	D	G	Q	G	R	T	V	S	F	K	D	A	I	I	I	M	T	S	N	A	G	T	G	K	.	.	T	E	A	S	V	G	F	G	A	A	R	E	G	.	.	.	.	.	R	T	N	S	V	L	G	E	L	G	N	F	S	S	P	E	F	M	N	R	F	D	G	I	E	F	K	A	L	S	K		651	
NTDB	id	243	SPR	RS03635	WP	000882517.1	Q	V	L	D	D	G	R	L	T	D	G	Q	G	R	T	V	S	F	K	D	A	I	I	I	M	T	S	N	A	G	T	G	K	.	.	T	E	A	S	V	G	F	G	A	A	R	E	G	.	.	.	.	.	R	T	N	S	V	L	G	E	L	G	N	F	S	S	P	E	F	M	N	R	F	D	G	I	E	F	K	A	L	S	K		651	
NTDB	id	241	SP	RS04015	WP	000882523.1	Q	V	L	D	D	G	R	L	T	D	G	Q	G	R	T	V	S	F	K	D	A	I	I	I	M	T	S	N	A	G	T	G	K	.	.	T	E	A	S	V	G	F	G	A	A	R	E	G	.	.	.	.	.	R	T	N	S	V	L	G	E	L	G	N	F	S	S	P	E	F	M	N	R	F	D	G	I	E	F	K	A	L	S	K		651	
NTDB	id	85	BSU	00860	NP	387967.1	Q	V	L	E	D	G	R	L	T	D	S	K	G	R	T	V	D	F	R	N	T	I	L	I	M	T	S	N	V	G	A	S	E	L	K	R	N	K	Y	V	G	F	N	V	Q	D	E	T	Q	N	H	K	D	M	K	D	V	M	G	E	L	K	R	A	F	R	P	E	F	I	N	R	I	D	E	I	I	V	F	H	S	L	E	K		716	
NTDB	id	610	V4T04	RS10165	WP	012897346.1	Q	I	L	D	D	G	F	V	T	D	T	K	G	R	K	V	D	F	S	N	T	I	I	I	M	T	S	N	L	G	A	T	A	L	R	D	D	K	T	V	G	F	G	A	K	N	I	T	A	D	Y	S	A	M	K	S	R	I	L	E	E	L	K	R	H	Y	R	P	E	F	L	N	R	I	D	E	I	I	V	F	H	S	L	E	S		725
NTDB	id	290	KZH43	RS10025	WP	001109677.1	Q	V	L	D	D	G	V	L	T																																																																														

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NTDB id 601 KW2 RS02615 WP 021036805.1	ENLLKIVDLMLDEVNEQIGRNDIHLSTVQAAKEKLVDLGYNPAMGARPLRRTIQENTIEDSTADFYIEHPEYKQL.VADLIDDKIV	729
NTDB id 378 SMU RS02690 WP 002263569.1	DNLLQIVSLMLDDVNQRLAVNAIHLDTDKVKEKLVDLGYDPKMGARPLRRTIQEHIEDAITDFYLEHPEQKEL.KAIVMTSNGKI	736
NTDB id 281 KZH43 RS03550 WP 000882517.1	DNLLQIVELMLADVNKRLSSNNIRLDVTDKVKEKLVDLGYDPKMGARPLRRTIQDYIEDTITDYYLENPSEKDL.KAVMTSKGNI	735
NTDB id 245 SPD RS03860 WP 000882517.1	DNLLQIVELMLADVNKRLSSNNIRLDVTDKVKEKLVDLGYDPKMGARPLRRTIQDYIEDTITDYYLENPSEKDL.KAVMTSKGNI	735
NTDB id 243 SPR RS03635 WP 000882517.1	DNLLQIVELMLADVNKRLSSNNIRLDVTDKVKEKLVDLGYDPKMGARPLRRTIQDYIEDTITDYYLENPSEKDL.KAVMTSKGNI	735
NTDB id 241 SP RS04015 WP 000882523.1	DNLLQIVELMLADVNKRLSSNNIRLDVTDKVKEKLVDLGYDPKMGARPLRRTIQDYIEDTITDYYLENPSEKDL.KAVMTSKGNI	735
NTDB id 85 BSU 00860 NP 387967.1	KHLTEIVSLMSDQLTKRLKEQDLSTIELTDAAKAKVAEEGVLDLEYGARPLRRAIQKHVEDRLSEELLRGNIHKGQHTIVLDVEDGEF	801
NTDB id 610 V4T04 RS10165 WP 012897346.1	QEIEQIVKIMSKSLIKRLAEQDIHVKLTPSAVKLIAEVGFDPEYGARPLRKALQKEVEDLLSEQLLSGETKAGNHVSTIGASNKKI	810
NTDB id 290 KZH43 RS10025 WP 001109677.1	DHMQEVVKIMVKPLVASLAEKGIDLKLQASALKLLANQGYDPEMGARPLRRTLQTEVEDKLAELLKGDIVAGSILKIGVKAGQL	805
NTDB id 289 SPD RS10700 WP 001109677.1	DHMQEVVKIMVKPLVASLAEKGIDLKLQASALKLLANQGYDPEMGARPLRRTLQTEVEDKLAELLKGDIVAGSILKIGVKAGQL	805
NTDB id 287 SP RS11210 WP 001109712.1	DHMQEVVKIMVKPLVASLAEKGIDLKLQASALKLLANQGYDPEMGARPLRRTLQTEVEDKLAELLKGDIVAGSILKIGVKAGQL	805
NTDB id 377 SMU RS09275 WP 002262344.1	EDIRHIVKIMVAPLIAHLADQGKITLKFQPSALKHLALAGYDAEMGARPLRRTLQTEVEDKLAELLKGDIVAGSILKIGVKAGQL	808
NTDB id 297 STER RS00545 WP 011680614.1	EQLHDIVKIMVKPLISALADKGISLKFQPAALKHLAKDGYDIEMGARPLRRTIQTQVEDKLSLELLGGQVVSQQTILKIGCSKDKL	811
NTDB id 329 STU RS10020 WP 011225298.1	EQLHDIVKIMVKPLISALADKGISLKFQPAALKHLAKDGYDIEMGARPLRRTIQTQVEDKLSLELLGGQVVSQQTILKIGCSKDKL	811
consensus	*** *! *!* * **** * * * * * !*****!!!!!!***** *!! *** ** * * * * * * * *	

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NTDB id 601 KW2 RS02615 WP 021036805.1	ISNQTQETAETTDEEVP	748
NTDB id 378 SMU RS02690 WP 002263569.1	VIKASNK.VETVTKATSD.	753
NTDB id 281 KZH43 RS03550 WP 000882517.1	QIKSAKK.AEVKSSEKEK.	752
NTDB id 245 SPD RS03860 WP 000882517.1	QIKSAKK.AEVKSSEKEK.	752
NTDB id 243 SPR RS03635 WP 000882517.1	QIKSAKK.AEVKSSEKEK.	752
NTDB id 241 SP RS04015 WP 000882523.1	QIKSAKK.AEVKSSEKEK.	752
NTDB id 85 BSU 00860 NP 387967.1	VVKTTAKTN.....	810
NTDB id 610 V4T04 RS10165 WP 012897346.1	KIAQIV.....	816
NTDB id 290 KZH43 RS10025 WP 001109677.1	KFDIA.....	810
NTDB id 289 SPD RS10700 WP 001109677.1	KFDIA.....	810
NTDB id 287 SP RS11210 WP 001109712.1	KFDIA.....	810
NTDB id 377 SMU RS09275 WP 002262344.1	KFDIV.....	813
NTDB id 297 STER RS00545 WP 011680614.1	TFTVV.....	816
NTDB id 329 STU RS10020 WP 011225298.1	TFTVV.....	816
consensus		

- ⓧ non conserved
- ✖ similar
- ⓧ ≥ 50% conserved