

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	...MTDYSLKMQEVFRLAQFEAAERFESSYLESWHVLLAMVEIDSSVAGLSFAEFADVRVFEDYQAAAILAIGKKPKSSSN..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	Y	T	S	V	N	G	Q	K	K	Q	I	D	L	C	N	C	Y	Q	...	I	M	K	S	G	G	Q	E	A	L	F	G	A	G	N	A	S	N	G	N	S	D	E	P		F	N	P	.	F	N	D	.	I	F	S	A	L	Q	G	Q	.	D	F	N	G	A	A	S	N	.	80															
NTDB id 378 SMU RS02690 WP 002263569.1	H	L	Y	A	N	V	N	G	Q	K	K	Q	I	D	L	C	N	C	Y	Q	...	I	M	K	T	D	P	E	N	G	P	L	N	H	L	S	Q	Q	N	S	S		I	N	P	F	F	D	.	D	F	F	G	D	L	N	N	F	R	A	F	N	N	Q	D	L	P	.	79																		
NTDB id 281 KZH43 RS03550 WP 000882517.1	H	L	Y	T	N	L	N	G	K	Q	K	Q	I	D	L	C	N	C	Y	Q	...	I	I	K	T	D	P	N	N	S	L	F	K	G	M	T	D	L	N	N	R	D		F	D	P	.	F	G	D	F	F	N	D	L	N	N	F	R	P	S	S	N	..	T	P	.	76																			
NTDB id 245 SPD RS03860 WP 000882517.1	H	L	Y	T	N	L	N	G	K	Q	K	Q	I	D	L	C	N	C	Y	K	...	I	I	K	T	D	P	N	N	S	L	F	K	G	M	T	D	L	N	N	R	D		F	D	P	.	F	G	D	F	F	N	D	L	N	N	F	R	P	S	S	N	..	T	P	.	76																			
NTDB id 243 SPR RS03635 WP 000882517.1	H	L	Y	T	N	L	N	G	K	Q	K	Q	I	D	L	C	N	C	Y	K	...	I	I	K	T	D	P	N	N	S	L	F	K	G	M	T	D	L	N	N	R	D		F	D	P	.	F	G	D	F	F	N	D	L	N	N	F	R	P	S	S	N	..	T	P	.	76																			
NTDB id 241 SP RS04015 WP 000882523.1	H	L	Y	T	N	L	N	G	K	Q	K	Q	I	D	L	C	N	C	Y	K	...	I	I	K	T	D	P	N	N	S	L	F	K	G	M	T	D	L	N	N	R	D		F	D	P	.	F	G	D	F	F	N	D	L	N	N	F	R	P	S	S	N	..	T	P	.	76																			
NTDB id 85 BSU 00860 NP 387967.1	Q	T	I	H	T	P	R	A	K	K	V	I	E	L	S	M	D	E	A	R	K	L	G	H	S	Y	V	G	T	E	H	I	L	L	G	L	I	R	E	G	E	G	V	A	A	R	V	L	N	N	L	G	V	S	L	N	K	A	R	Q	Q	V	L	Q	L		L	G	S	N	E	T		147													
NTDB id 610 V4T04 RS10165 WP 012897346.1	S	T	L	R	F	S	P	R	A	E	V	M	T	A	A	S	F	L	A	I	H	N	N	S	E	A	V	G	T	E	H	L	V	I	A	L	L	Q	V	E	D	G	F	G	L	Q	L	L	K	L		Q	K	I	N	I	V	S	L	R	K	E	L	E	K	R	T	G	L	K	V	P	E	S	K	.	153										
NTDB id 290 KZH43 RS10025 WP 001109677.1	T	E	L	P	F	S	R	R	L	Q	I	L	F	D	E	A	E	Y	V	A	S	V	V	H	A	K	V	L	G	T	E	H	V	L	Y	A	I	L	H	D	G	N	A	L	A	T	R	I	L	E	R	A	G	F	S	Y	E	D	K	K	D	Q	V	K	I	A	A	L	R	R	N	L	E	E	R	A	G	W	T	R	E	D	L	K	A	.	160
NTDB id 289 SPD RS10700 WP 001109677.1	T	E	L	P	F	S	R	R	L	Q	I	L	F	D	E	A	E	Y	V	A	S	V	V	H	A	K	V	L	G	T	E	H	V	L	Y	A	I	L	H	D	G	N	A	L	A	T	R	I	L	E	R	A	G	F	S	Y	E	D	K	K	D	Q	V	K	I	A	A	L	R	R	N	L	E	E	R	A</											

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.....VAENSTPTLDSVSSDLTEEARLGKLDPMIGRAEAEIDRLIHILSRRTKNNPVLV	220
NTDB id 290 KZH43 RS10025 WP 001109677.1	.LRQRHRTV.ADK.....QNSMANMMMGMPQTPSGGLEDYTHDLTEQARSCKLEPVIGRDKEISRMIIQLSRKTNNPVLV	233
NTDB id 289 SPD RS10700 WP 001109677.1	.LRQRHRTV.ADK.....QNSMANMMMGMPQTPSGGLEDYTHDLTEQARSCKLEPVIGRDKEISRMIIQLSRKTNNPVLV	233
NTDB id 287 SP RS11210 WP 001109712.1	.LRQRHRTV.ADK.....QNSMANMMMGMPQTPSGGLEDYTHDLTEQARSCKLEPVIGRDKEISRMIIQLSRKTNNPVLV	233
NTDB id 377 SMU RS09275 WP 002262344.1	.IFEMRKPKKVKN.....SSSFSDLMKPP.SVTGELADFTRDLTELARQGRLEPVIGREQEISRMVQILSRKTNNPVLV	237
NTDB id 297 STER RS00545 WP 011680614.1	.IHDLRKPKKSKA.....SANFANMMQPPQSSTGELADYTKDLTALAESGNLDPVIGRDEEISRMIIQLVLSRKTNNPVLV	240
NTDB id 329 STU RS10020 WP 011225298.1	.IHDLRKPKKSKA.....SANFANMMQPPQSSTGELADYTKDLTALAESGNLDPVIGRDEEISRMIIQLVLSRKTNNPVLV	240
consensus	* * *	

NTDB	id	601	KW2	RS02615	WP	021036805.1	EVTDEDMPVITEKDI	EQIVEQKTI	QIPVGD	LKEKE	QSQLI	HLAD	DLKAHVIGQDE	AVDKI	ISKAIRRSRVGL	GKPNRP	IGSFL	FVGP	482		
NTDB	id	378	SMU	RS02690	WP	002263569.1	KLDKENTPVITEKNI	EVIVEQKTN	IPVIGEL	LKEKE	QSQLI	HLAD	DLKTRVIGQDA	AVDKI	IAKAIRNRVGL	GTPNRP	IGSFL	FVGP	489		
NTDB	id	281	KZH43	RS03550	WP	000882517.1	KITDQDTP	IIEKTI	IEHII	EQKTN	IPVGD	LKEKE	QSQLI	HLAED	LKSHVIGQDD	AVDKI	IAKAIRNRVGL	GTPNRP	IGSFL	FVGP	488
NTDB	id	245	SPD	RS03860	WP	000882517.1	KITDQDTP	IIEKTI	IEHII	EQKTN	IPVGD	LKEKE	QSQLI	HLAED	LKSHVIGQDD	AVDKI	IAKAIRNRVGL	GTPNRP	IGSFL	FVGP	488
NTDB	id	243	SPR	RS03635	WP	000882517.1	KITDQDTP	IIEKTI	IEHII	EQKTN	IPVGD	LKEKE	QSQLI	HLAED	LKSHVIGQDD	AVDKI	IAKAIRNRVGL	GTPNRP	IGSFL	FVGP	488
NTDB	id	241	SP	RS04015	WP	000882523.1	KITDQDTP	SISEKTI	IEHII	EQKTN	IPVGD	LKEKE	QSQLI	HLAED	LKSHVIGQDD	AVDKI	IAKAIRNRVGL	GTPNRP	IGSFL	FVGP	488
NTDB	id	85	BSU	00860	NP	387967.1	EKQQGQNSE	VTVDDI	IAMVVS	SWTGV	PVSKI	IAQTETD	KLNL	MNENIL	HSRVIGQDE	AVVA	VAKAVRRAR	AGLKDP	KRPIGS	FIFLGP	546
NTDB	id	610	V4T04	RS10165	WP	012897346.1	.VKEDKRQEV	TVDA	VAVAST	LTGVP	ITQMT	TKSESD	RLINLEK	ELHKKRVIGQEE	AVSA	VSRAIRRAR	SGVADSR	NRPMGS	FMF	FLGP	555
NTDB	id	290	KZH43	RS10025	WP	001109677.1	.VPV.YKDL	VTESD	ILTTLS	RSLSG	IPVQKLT	QTDA	KKYLNLEA	ELHKKRVIGQDQ	AVSS	ISRAIRRNQSG	IRSHKR	PIGSF	MF	FLGP	550
NTDB	id	289	SPD	RS10700	WP	001109677.1	.VPV.YKDL	VTESD	ILTTLS	RSLSG	IPVQKLT	QTDA	KKYLNLEA	ELHKKRVIGQDQ	AVSS	ISRAIRRNQSG	IRSHKR	PIGSF	MF	FLGP	550
NTDB	id	287	SP	RS11210	WP	001109712.1	.VPV.YKDL	VTESD	ILTTLS	RSLSG	IPVQKLT	QTDA	KKYLNLEA	ELHKKRVIGQDQ	AVSS	ISRAIRRNQSG	IRSHKR	PIGSF	MF	FLGP	550
NTDB	id	377	SMU	RS09275	WP	002262344.1	.PLLKKRAE	VKEED	ILATLS	SKLSG	IPVKKLT	QAD	SKKYLNLER	ELHKKRVIGQDD	AVSS	ISRAIRRNQSG	IRVGKR	PIGSF	MF	FLGP	553
NTDB	id	297	STER	RS00545	WP	011680614.1	.AKFPKPA	LVDADQ	IMQTL	SRLSG	IPVEKMT	QTDS	KRYLNLE	SELHKKRVIGQDE	AVSA	ISRAIRRNQSG	IRTGKR	PIGSF	MF	FLGP	556
NTDB	id	329	STU	RS10020	WP	011225298.1	.AKFPKPA	LVDADQ	IMQTL	SRLSG	IPVEKMT	QTDS	KRYLNLE	SELHKKRVIGQDE	AVSA	ISRAIRRNQSG	IRTGKR	PIGSF	MF	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	ENLLKIVDLMLDEVNEQIGRNDIHLSTVQAAKEKLVDLGYNPAMGARPLRRTIQENTEDSIAIFYIEHPEYKQL.VADLIDDKIV	729
NTDB id 378 SMU RS02690 WP 002263569.1	DNLLQIVSLMLDDVNQRLAVNAIHLDTDKVKEKLVDLGYDPKMGARPLRRTIQEHIEDIAITDFYLEHPEQKEL.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	DHMQEVVKIMVKPLVASLAEKGIIDLKLQASALKLLANQGYDPEMGARPLRRTLQTEVEDKLAELLKGDIVAGSILKIGVKAGQL	805
NTDB id 289 SPD RS10700 WP 001109677.1	DHMQEVVKIMVKPLVASLAEKGIIDLKLQASALKLLANQGYDPEMGARPLRRTLQTEVEDKLAELLKGDIVAGSILKIGVKAGQL	805
NTDB id 287 SP RS11210 WP 001109712.1	DHMQEVVKIMVKPLVASLAEKGIIDLKLQASALKLLANQGYDPEMGARPLRRTLQTEVEDKLAELLKGDIVAGSILKIGVKAGQL	805
NTDB id 377 SMU RS09275 WP 002262344.1	EDIRHIVKIMVAPLIAHLADQGITLKFQPSALKHLALAGYDAEMGARPLRRTLQTEVEDKLAELLKGDIVAGSILKIGVKAGQL	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