

NTDB id 601 KW2 RS02615 WP 021036805.1	MLCQNCNINEA.....TI	13
NTDB id 378 SMU RS02690 WP 002263569.1	MLCQNCNINEA.....TI	13
NTDB id 241 SP RS04015 WP 000882523.1	MLCQNCNINDS.....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 79980 L6497 RS00525 WP 061681772.1	..MMFGRFTERAQKVLALSQEEAIRIGHNNIGTEHILLGLVREGEGLAAKALIALGLSPEKVQKEVEALIG.....RGTEAS	75
NTDB id 85 BSU 00860 NP 387967.1	..MMFGRFTERAQKVLALAQEEALRLGHNNIGTEHILLGLVREGEGLAAKALQALGLGSEKIQKEVESLIG.....RGQEMS	75
NTDB id 610 V4T04 RS10165 WP 012897346.1	MKFENIKYPTPLDRILEKAEYEAHQYQYGTIESAHLILAAMATTSGSTAYSLLAGMNVDSDDLIDL.....EDLSSHVKVKR	77
NTDB id 290 KZH43 RS10025 WP 001109677.1	MNYSKALNECIESAYMVA GHFGARYLESWHLLIAMSNHSYSVAGATLNDYPYEMDRLE.....EVALELTETDYSQDET	75
NTDB id 289 SPD RS10700 WP 001109677.1	MNYSKALNECIESAYMVA GHFGARYLESWHLLIAMSNHSYSVAGATLNDYPYEMDRLE.....EVALELTETDYSQDET	75
NTDB id 287 SP RS11210 WP 001109712.1	MNYSKALNECIESAYMVA GHFGARYLESWHLLIAMSNHSYSVAGATLNDYPYEMDRLE.....EVALELTETDYSQDET	75
NTDB id 377 SMU RS09275 WP 002262344.1	...MTDYS LKMQEVFRLAQFEAARFESSYLESWHVLLAMVEIDSSVAGLSFAEFADVRFEDYQAAAILAIGKKPKSSSN..DI	79
NTDB id 297 STER RS00545 WP 011680614.1	...MTIYSRKMQAIFHRAQLEAERFESPFL ETWHVLLAMVEVTGSA YLTFTDFEDRIHSEEIETA AVLAMEKRPKDLSESDI	81
NTDB id 329 STU RS10020 WP 011225298.1	...MTIYSRKMQAIFHRAQLEAERFESPFL ETWHVLLAMVEVPGSA YLTFTDFEDRIHSEEIETA AVLAMEKRPKDLSESDI	81
consensus	*** * * * * *	

NTDB	id	601	KW2	RS02615	WP	021036805.1	HL	YTSVNG	QKKKQ	ID	LCQNCYQ	I	...	MKS	G	Q	EAL	L	F	G	A	N	S	N	G	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	Q		81																																			
NTDB	id	378	SMU	RS02690	WP	002263569.1	HL	YANVNC	QKKKQ	ID	LCQNCYQ	I	...	M	K	T	D	P	E	N	G	P	L	N	H	I	S	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	N		80																																	
NTDB	id	241	SP	RS04015	WP	000882523.1	HL	YTNLNG	KKKKQ	ID	LCQNCYK	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	P		77																																
NTDB	id	281	KZH43	RS03550	WP	000882517.1	HL	YTNLNG	KKKKQ	ID	LCQNCYK	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	P		77																																
NTDB	id	245	SPD	RS03860	WP	000882517.1	HL	YTNLNG	KKKKQ	ID	LCQNCYK	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	P		77																																
NTDB	id	243	SPR	RS03635	WP	000882517.1	HL	YTNLNG	KKKKQ	ID	LCQNCYK	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	P		77																																
NTDB	id	79980	L6497	RS00525	WP	061681772.1	Q	T	V	H	Y	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			146											
NTDB	id	85	BSU	00860	NP	387967.1	Q	T	I	H	Y	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			146											
NTDB	id	610	V4T04	RS10165	WP	012897346.1	S	T	L	R	F	S	P	R	A	E	E	V	M	T	A	A	S	F	L	A	I	H	N	N	S	E	A	V	G	T	E	H	L	L	Y	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	S	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	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																																																																										

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NTDB id 601 KW2 RS02615 WP 021036805.1
NTDB id 378 SMU RS02690 WP 002263569.1
NTDB id 241 SP RS04015 WP 000882523.1
NTDB id 281 KZH43 RS03550 WP 000882517.1
NTDB id 245 SPD RS03860 WP 000882517.1
NTDB id 243 SPR RS03635 WP 000882517.1
NTDB id 79980 L6497 RS00525 WP 061681772.1
NTDB id 85 BSU 00860 NP 387967.1
NTDB id 610 V4T04 RS10165 WP 012897346.1
NTDB id 290 KZH43 RS10025 WP 001109677.1
NTDB id 289 SPD RS10700 WP 001109677.1
NTDB id 287 SP RS11210 WP 001109712.1
NTDB id 377 SMU RS09275 WP 002262344.1
NTDB id 297 STER RS00545 WP 011680614.1
NTDB id 329 STU RS10020 WP 011225298.1
consensus



151
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NTDB id 601 KW2 RS02615 WP 021036805.1
NTDB id 378 SMU RS02690 WP 002263569.1
NTDB id 241 SP RS04015 WP 000882523.1
NTDB id 281 KZH43 RS03550 WP 000882517.1
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NTDB id 287 SP RS11210 WP 001109712.1
NTDB id 377 SMU RS09275 WP 002262344.1
NTDB id 297 STER RS00545 WP 011680614.1
NTDB id 329 STU RS10020 WP 011225298.1
consensus



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NTDB id 601 KW2 RS02615 WP 021036805.1	GNMDAGNILKPALARGEELQLVGATTTLNEYR.IIEKDAALERRMQPVKKVDEPSVDETITILRGIQARYEDYHHVKYTDEAIEAAAH	320
NTDB id 378 SMU RS02690 WP 002263569.1	GNMDAGNILKPALARGEELQLVGATTTLNEYR.IIEKDAALERRMQPVKKVDEPSVAETITILKGIQPKYEDYHHVKYTDEAIEAAAN	327
NTDB id 241 SP RS04015 WP 000882523.1	GNMDAGNILKPALARGEELQLVGATTTLNEYR.IIEKDAALERRMQPVKKVDEPTVDETITILKGIQKKYEDYHHVQYTDAAIEAAAT	326
NTDB id 281 KZH43 RS03550 WP 000882517.1	GNMDAGNILKPALARGEELQLVGATTTLNEYR.IIEKDAALERRMQPVKKVDEPTVDETITILKGIQKKYEDYHHVQYTDAAIEAAAT	326
NTDB id 245 SPD RS03860 WP 000882517.1	GNMDAGNILKPALARGEELQLVGATTTLNEYR.IIEKDAALERRMQPVKKVDEPTVDETITILKGIQKKYEDYHHVQYTDAAIEAAAT	326
NTDB id 243 SPR RS03635 WP 000882517.1	GNMDAGNILKPALARGEELQLVGATTTLNEYR.IIEKDAALERRMQPVKKVDEPTVDETITILKGIQKKYEDYHHVQYTDAAIEAAAT	326
NTDB id 79980 L6497 RS00525 WP 061681772.1	GAIDASNILKPSLARGEELQCIGATTTLDEYRKYIEKDAALERRFQPIHVDEPSLDESTQILKGLRDRYEAAHHRVSIITDDAIDA AVK	377
NTDB id 85 BSU 00860 NP 387967.1	GAIDASNILKPSLARGEELQCIGATTTLDEYRKYIEKDAALERRFQPIQVDQPSVDESIQILQGLRDRYEAAHHRVSIITDDAIEAAVK	376
NTDB id 610 V4T04 RS10165 WP 012897346.1	SVNDAANILKPALARGDFQMVGATTYHEYQKYIEKDEALERRLARINVDEPSPDEAIAILQGLREKFEDYHQVKFTDQAIKSAVM	390
NTDB id 290 KZH43 RS10025 WP 001109677.1	STLDAANILKPALARGTLRTVGATTQEEYQKHIEKDAALSRRFAKVTIEEPSVADSMTILQGLKATYEKHHRVQITDEAVETAVK	403
NTDB id 289 SPD RS10700 WP 001109677.1	STLDAANILKPALARGTLRTVGATTQEEYQKHIEKDAALSRRFAKVTIEEPSVADSMTILQGLKATYEKHHRVQITDEAVETAVK	403
NTDB id 287 SP RS11210 WP 001109712.1	STLDAANILKPALARGTLRTVGATTQEEYQKHIEKDAALSRRFAKVTIEEPSVADSMTILQGLKATYEKHHRVQITDEAVETAVK	403
NTDB id 377 SMU RS09275 WP 002262344.1	STLDAANILKPALARGSLRTIGATTQEEYQKHIEKDAALSRRFAKVTIEEPSEEEAYQILLGLKKS YET YHHV IISDAAVMAAVK	407
NTDB id 297 STER RS00545 WP 011680614.1	STLDAANILKPALARGTLHMVGATTQA EYQKHIEKDAALSRRFAKITIEEPSVSEATDILNGLRSSYEDYHRVTITDAAVETAVK	410
NTDB id 329 STU RS10020 WP 011225298.1	STLDAANILKPALARGTLHMVGATTQA EYQKHIEKDAALSRRFAKITIEEPSVSEATDILNGLRSSYEDYHRVTITDAAVETAVK	410
consensus	*!!!!!!*!!!!*!!!!!! !! *!!!!*!!!! * ****!*****!! !** *!!!!!! *! !****!	

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NTDB id 601 KW2 RS02615 WP 021036805.1	LSNRYIQDRFLPDKAIDLLDEAGSKVNLTILKEV.DPKEIDHRLIEAENLKAQATRDDEYEKAAYFRDQIAKYKEMQS.....Q	397
NTDB id 378 SMU RS02690 WP 002263569.1	LSNRYIQDRFLPDKAIDLLDEAGSKMNLTLNFV..DPKEIDHRLIEAENLKAQATRDDEYEKAAYFRDQIAKYKEMQS.....A	404
NTDB id 241 SP RS04015 WP 000882523.1	LSNRYIQDRFLPDKAIDLLDEAGSKMNLTLNFV..DPKVIDQRLIEAENLKSQATREEDFEKAAYFRDQIAKYKEMQK.....K	403
NTDB id 281 KZH43 RS03550 WP 000882517.1	LSNRYIQDRFLPDKAIDLLDEAGSKMNLTLNFV..DPKVIDQRLIEAENLKSQATREEDFEKAAYFRDQIAKYKEMQK.....K	403
NTDB id 245 SPD RS03860 WP 000882517.1	LSNRYIQDRFLPDKAIDLLDEAGSKMNLTLNFV..DPKVIDQRLIEAENLKSQATREEDFEKAAYFRDQIAKYKEMQK.....K	403
NTDB id 243 SPR RS03635 WP 000882517.1	LSNRYIQDRFLPDKAIDLLDEAGSKMNLTLNFV..DPKVIDQRLIEAENLKSQATREEDFEKAAYFRDQIAKYKEMQK.....K	403
NTDB id 79980 L6497 RS00525 WP 061681772.1	LSDRYITDRFLPDKAIDLLDEAASKVRLRSYTTTPPNLKELEVKLEEIRKEKDAAVQSQEF EKAASLRDMEQRLREKLEDTKRQWK	462
NTDB id 85 BSU 00860 NP 387967.1	LSDRYISDRFLPDKAIDLLDEAGSKVRLRSFTTPPNLKELEQKLEVRKEKDAAVQSQEF EKAASLRDTEQRLREQVEDTKKSWK	461
NTDB id 610 V4T04 RS10165 WP 012897346.1	LSVRYMTSRKLPDKAIDLLDEAAA AVKISVKNQQT KRLDLEKELAEAEQEELSEAVIKLDIKASRTKEKAVEKIADKIYKFS....	471
NTDB id 290 KZH43 RS10025 WP 001109677.1	MAHRYLTSRHLPDSAIDLLDEAAATVQNKAKHV KADDSDL....S....PADKALMDGKWKQAAQLIAKEE.....E....	467
NTDB id 289 SPD RS10700 WP 001109677.1	MAHRYLTSRHLPDSAIDLLDEAAATVQNKAKHV KADDSDL....S....PADKALMDGKWKQAAQLIAKEE.....E....	467
NTDB id 287 SP RS11210 WP 001109712.1	MAHRYLTSRHLPDSAIDLLDEAAATVQNKAKHV KADDSDL....S....PADKALMDGKWKQAAQLIAKEE.....E....	467
NTDB id 377 SMU RS09275 WP 002262344.1	GAHRYLSGNLPSAIDLLDEASATVQGLVKK..KAPAYL....T....DLDHALITNDYQLAKRLLKKEK.....K....	469
NTDB id 297 STER RS00545 WP 011680614.1	AAHRYLTSKNLPSAIDLLDEASATVQVR IKK..EDKREI....T....PLDEALISGDIGA AVKQYKANQ.....K....	472
NTDB id 329 STU RS10020 WP 011225298.1	AAHRYLTSKNLPSAIDLLDEASATVQVR IKK..EAKREI....T....PLDEALISGDIGA AVKQYKANQ.....K....	472
consensus	** !!!!! *!!!!*!!!!!!*!!!!* **** * * * **** * * !* ** *	

NTDB	id	601	KW2	RS02615	WP	021036805.1	E	V	T	D	E	M	P	V	I	T	E	K	D	I	E	Q	I	V	E	Q	K	T	Q	I	P	V	G	D	L	K	E	K	E	Q	T	Q	L	I	N	L	A	D	D	L	K	A	H	V	I	G	Q	D	E	A	V	D	K	I	S	K	A	I	R	R	S	R	V	G	L	G	K	P	N	R	P	I	G	S	F	L	F	V	G	P		482	
NTDB	id	378	SMU	RS02690	WP	002263569.1	K	L	D	K	E	N	T	P	V	I	T	E	K	N	I	E	V	I	E	Q	K	T	N	I	P	V	G	E	L	K	E	K	E	Q	S	Q	L	I	H	L	A	D	D	L	K	T	R	V	I	G	Q	D	A	A	V	D	K	I	A	K	A	I	R	R	N	R	V	G	L	G	T	P	N	R	P	I	G	S	F	L	F	V	G	P		489	
NTDB	id	241	SP	RS04015	WP	000882523.1	K	I	T	D	Q	D	T	P	S	I	S	E	K	T	I	E	H	I	I	E	Q	K	T	N	I	P	V	G	D	L	K	E	K	E	Q	S	Q	L	I	H	L	A	E	D	L	K	S	H	V	I	G	Q	D	D	A	V	D	K	I	A	K	A	I	R	R	N	R	V	G	L	G	T	P	N	R	P	I	G	S	F	L	F	V	G	P		488
NTDB	id	281	KZH43	RS03550	WP	000882517.1	K	I	T	D	Q	D	T	P	I	I	S	E	K	T	I	E	H	I	I	E	Q	K	T	N	I	P	V	G	D	L	K	E	K	E	Q	S	Q	L	I	H	L	A	E	D	L	K	S	H	V	I	G	Q	D	D	A	V	D	K	I	A	K	A	I	R	R	N	R	V	G	L	G	T	P	N	R	P	I	G	S	F	L	F	V	G	P		488
NTDB	id	245	SPD	RS03860	WP	000882517.1	K	I	T	D	Q	D	T	P	I	I	S	E	K	T	I	E	H	I	I	E	Q	K	T	N	I	P	V	G	D	L	K	E	K	E	Q	S	Q	L	I	H	L	A	E	D	L	K	S	H	V	I	G	Q	D	D	A	V	D	K	I	A	K	A	I	R	R	N	R	V	G	L	G	T	P	N	R	P	I	G	S	F	L	F	V	G	P		488
NTDB	id	243	SPR	RS03635	WP	000882517.1	K	I	T	D	Q	D	T	P	I	I	S	E	K	T	I	E	H	I	I	E	Q	K	T	N	I	P	V	G	D	L	K	E	K	E	Q	S	Q	L	I	H	L	A	E	D	L	K	S	H	V	I	G	Q	D	D	A	V	D	K	I	A	K	A	I	R	R	N	R	V	G	L	G	T	P	N	R	P	I	G	S	F	L	F	V	G	P		488
NTDB	id	79980	L6497	RS00525	WP	061681772.1	E	Q	Q	G	K	E	N	S	E	V	T	V	E	D	I	A	N	V	V	S	T	W	T	R	I	P	V	S	K	L	A	Q	T	E	T	D	K	L	L	N	L	E	S	I	L	H	D	R	V	I	G	Q	D	E	A	V	V	A	K	A	V	R	R	A	R	A	C	L	K	D	P	K	R	P	I	G	S	F	I	F	L	G	P		547		
NTDB	id	85	BSU	00860	NP	387967.1	E	K	Q	G	K	E	N	S	E	V	T	V	D	D	I	A	M	V	V	S	S	W	T	G	V	P	V	S	K	I	A	Q	T	E	T	D	K	L	L	N	M	E	N	I	L	H	S	R	V	I	G	Q	D	E	A	V	V	A	K	A	V	R	R	A	R	A	C	L	K	D	P	K	R	P	I	G	S	F	I	F	L	G	P		546		
NTDB	id	610	V4T04	RS10165	WP																																																																																								

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NTDB id 601 KW2 RS02615 WP 021036805.1	ISNQTQETAETTDDEEVPAE	748
NTDB id 378 SMU RS02690 WP 002263569.1	VIKASNK.VETVTKATSD.	753
NTDB id 241 SP RS04015 WP 000882523.1	QIKSAKK.AEVKSSEKEK.	752
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 79980 L6497 RS00525 WP 061681772.1	VIHSAEKVK.....	811
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