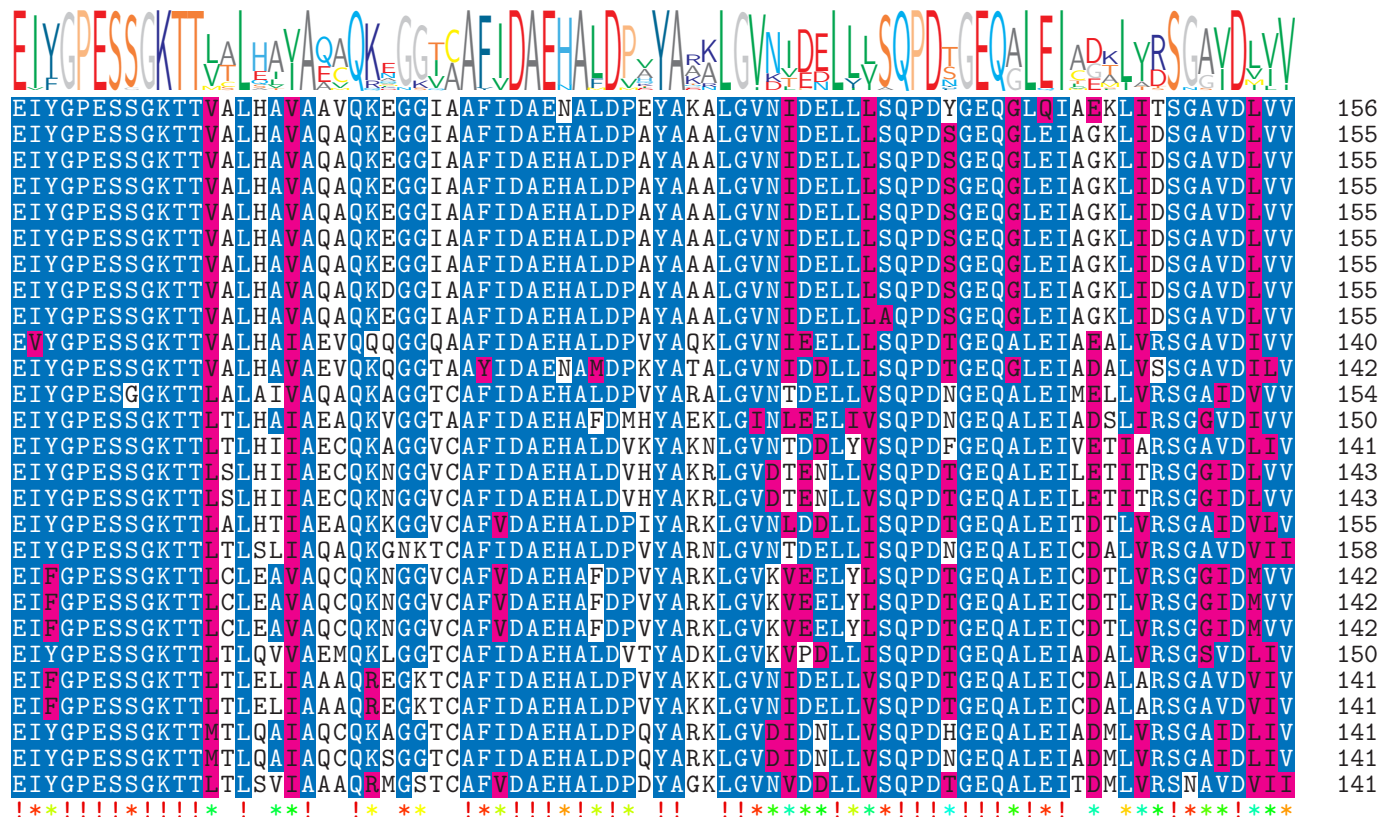
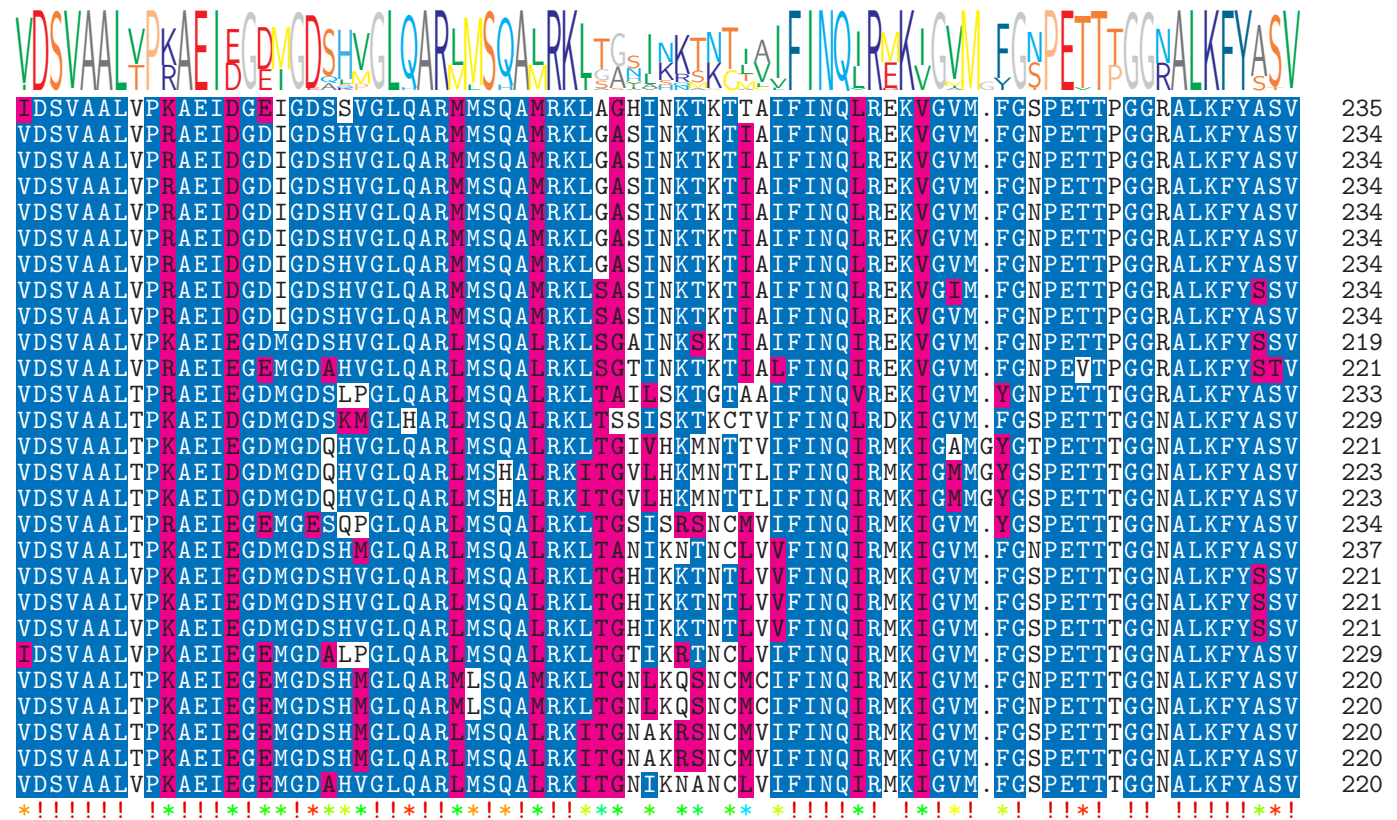


NTDB	id	600	KW2	RS01765	WP	011675413.1	MATK...	KKTNFDDITKKYGA	ERD	KAL	ADAL	AL	IEKD	FGKGS	SLMRLGE	A	.ANQK	VSV	VSSGSL	ALD	I	ALG	AGGY	PKGR	IV	76																															
NTDB	id	269	KZH43	RS08665	WP	001085462.1	.MAK...	KPKKLEEISKKFGA	ERE	KAL	NDAL	KL	IEKD	FGKGS	SIMRLGE	R	.AEQKVQV	MSSGSL	ALD	I	ALG	SGGY	PKGR	II	75																																
NTDB	id	228	SPD	RS09265	WP	001085462.1	.MAK...	KPKKLEEISKKFGA	ERE	KAL	NDAL	KL	IEKD	FGKGS	SIMRLGE	R	.AEQKVQV	MSSGSL	ALD	I	ALG	SGGY	PKGR	II	75																																
NTDB	id	194	SPR	RS08825	WP	001085462.1	.MAK...	KPKKLEEISKKFGA	ERE	KAL	NDAL	KL	IEKD	FGKGS	SIMRLGE	R	.AEQKVQV	MSSGSL	ALD	I	ALG	SGGY	PKGR	II	75																																
NTDB	id	159	SP	RS09750	WP	001085462.1	.MAK...	KPKKLEEISKKFGA	ERE	KAL	NDAL	KL	IEKD	FGKGS	SIMRLGE	R	.AEQKVQV	MSSGSL	ALD	I	ALG	SGGY	PKGR	II	75																																
NTDB	id	499	SM12261	RS08315	WP	078228268.1	.MAK...	KPKKLDEISKKFGA	ERE	KAL	NDAL	KL	IEKD	FGKGS	SIMRLGE	R	.AEQKVQV	MSSGSL	ALD	I	ALG	SGGY	PKGR	II	75																																
NTDB	id	527	SMSK321	RS11065	WP	001085454.1	.MAK...	KPKKLDEISKKFGA	ERE	KAL	NDAL	KL	IEKD	FGKGS	SIMRLGE	R	.AEQKVQV	MSSGSL	ALD	I	ALG	SGGY	PKGR	II	75																																
NTDB	id	408	SMU	RS09530	WP	002262392.1	.MAK...	RIKKTEEITKKFGD	ERR	KAL	DDAL	KN	IEKD	FGKGA	VMRLGE	R	.AEQKVQV	MSSGSL	ALD	I	ALG	AGGY	PKGR	IV	75																																
NTDB	id	453	Spy49	1753c	ACI	62003.1	.MAK...	KLKKNEEITKKFGD	ERR	KAL	DDAL	KN	IEKD	FGKGA	VMRLGE	R	.AEQKVQV	MSSGSL	ALD	I	ALG	AGGY	PKGR	IV	75																																
NTDB	id	115	BSU	16940	NP	389576.2		MSDRQAAL	DMALK	Q	IEK	Q	FGKGS	SIM	KLGEK	.TDTR	I	STVPSGSL	ALD	T	ALGI	GGY	PRGR	II	60																																
NTDB	id	625	LCA	RS02525	WP	011374196.1		MAKDRQAAL	DAALK	K	IEK	N	FGKGS	SIM	RMGEK	.VDTQ	V	STVSSGSL	ALDE	ALGV	GGY	PRGR	IV	62																																	
NTDB	id	1313	DR	RS12030	WP	010888966.1		MSKDATKEISAP	TDAK	ERS	KA	TET	A	MSQ	IEK	A	FGKGS	SIM	KLGA	E	.SKLD	VQV	V	STGSL	S	LDL	ALGV	GGI	PRGR	IT	74																										
NTDB	id	1334	RAOC	RS04870	WP	004918236.1		MAKTETTSPND	DKKK	KAL	AAV	LEK	LD	K	T	Y	GKGT	V	M	KLGD	G	T	V	D	H	N	I	E	V	I	P	S	G	S	L	G	L	D	L	ALGV	GGY	PKGR	IV	70													
NTDB	id	1245	Cj1673c	YP	002345041.1			MDDN	K	R	K	S	L	D	A	A	L	K	S	L	D	K	T	F	G	K	G	T	I	L	R	L	G	D	K	.E	V	E	Q	I	D	S	I	G	T	G	S	V	G	L	D	L	ALGI	GGV	PKGR	II	61
NTDB	id	1211	C694	RS00795	WP	000963128.1			MAIDED	DK	Q	K	A	I	S	L	A	T	K	Q	I	D	K	V	F	G	K	A	L	V	R	L	G	D	K	.Q	V	E	K	I	D	S	I	S	T	G	S	L	G	L	D	L	ALGI	GGV	PKGR	II	63
NTDB	id	1214	NCTC11637	00359	SQJ	03206.1			MAIDED	DK	Q	K	A	I	S	L	A	T	K	Q	I	D	K	V	F	G	K	A	L	V	R	L	G	D	K	.Q	V	E	K	I	D	A	I	S	T	G	S	L	G	L	D	L	ALGI	GGV	PKGR	II	63
NTDB	id	378759	FVA80	RS04345	WP	147907560.1	.MA....	QPALKVVD	MPP	V	D	K	S	K	A	I	D	A	A	L	S	Q	I	E	R	A	F	G	K	G	S	I	M	R	L	G	K	N	D	K	V	E	V	E	T	V	S	T	G	S	I	G	L	D	I	ALGV	

NTDB id 600 KW2 RS01765 WP 011675413.1
NTDB id 269 KZH43 RS08665 WP 001085462.1
NTDB id 228 SPD RS09265 WP 001085462.1
NTDB id 194 SPR RS08825 WP 001085462.1
NTDB id 159 SP RS09750 WP 001085462.1
NTDB id 499 SM12261 RS08315 WP 078228268.1
NTDB id 527 SMSK321 RS11065 WP 001085454.1
NTDB id 408 SMU RS09530 WP 002262392.1
NTDB id 453 Spy49 1753c ACI62003.1
NTDB id 115 BSU 16940 NP 389576.2
NTDB id 625 LCA RS02525 WP 011374196.1
NTDB id 1313 DR RS12030 WP 010888966.1
NTDB id 1334 RAOC RS04870 WP 004918236.1
NTDB id 1245 Cj1673c YP 002345041.1
NTDB id 1211 C694 RS00795 WP 000963128.1
NTDB id 1214 NCTC11637 00359 SQJ03206.1
NTDB id 378759 FVA80 RS04345 WP 147907560.1
NTDB id 1389 A4U84 RS07560 WP 021112712.1
NTDB id 1130 NGFG RS03960 WP 003688695.1
NTDB id 1124 NGFG RS03960 WP 003688695.1
NTDB id 1123 OK783 RS03845 WP 003688695.1
NTDB id 1427 RS RS02760 WP 011000510.1
NTDB id 1165 A1552VC RS01565 WP 000344154.1
NTDB id 1142 GTF74 RS11550 WP 000344154.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1205 PSJM300 05545 AFN77183.1
consensus



NTDB id 600 KW2 RS01765 WP 011675413.1
NTDB id 269 KZH43 RS08665 WP 001085462.1
NTDB id 228 SPD RS09265 WP 001085462.1
NTDB id 194 SPR RS08825 WP 001085462.1
NTDB id 159 SP RS09750 WP 001085462.1
NTDB id 499 SM12261 RS08315 WP 078228268.1
NTDB id 527 SMSK321 RS11065 WP 001085454.1
NTDB id 408 SMU RS09530 WP 002262392.1
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NTDB id 115 BSU 16940 NP 389576.2
NTDB id 625 LCA RS02525 WP 011374196.1
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NTDB id 1334 RAOC RS04870 WP 004918236.1
NTDB id 1245 Cj1673c YP 002345041.1
NTDB id 1211 C694 RS00795 WP 000963128.1
NTDB id 1214 NCTC11637 00359 SQJ03206.1
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NTDB id 1130 NGFG RS03960 WP 003688695.1
NTDB id 1124 NGFG RS03960 WP 003688695.1
NTDB id 1123 OK783 RS03845 WP 003688695.1
NTDB id 1427 RS RS02760 WP 011000510.1
NTDB id 1165 A1552VC RS01565 WP 000344154.1
NTDB id 1142 GTF74 RS11550 WP 000344154.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1205 PSJM300 05545 AFN77183.1
consensus



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NTDB id 600 KW2 RS01765 WP 011675413.1	RLDVRG	STKIEEGS	.GDNKTQ	IGKITK	IKVVKN	KVAPPF	KVALV	DIMF	GEGIS	STGEL	INTAVE	EETIKK	SGAW	FAYN	DE	314																						
NTDB id 269 KZH43 RS08665 WP 001085462.1	RLDVRG	NTQIKGTG	.DQKETN	VGKETK	IKVVKN	KVAPPF	KEAVV	EIMY	GEGIS	KTGEL	LKIAS	DLDI	IKKAG	AWYS	YKDE	313																						
NTDB id 228 SPD RS09265 WP 001085462.1	RLDVRG	NTQIKGTG	.DQKETN	VGKETK	IKVVKN	KVAPPF	KEAVV	EIMY	GEGIS	KTGEL	LKIAS	DLDI	IKKAG	AWYS	YKDE	313																						
NTDB id 194 SPR RS08825 WP 001085462.1	RLDVRG	NTQIKGTG	.DQKETN	VGKETK	IKVVKN	KVAPPF	KEAVV	EIMY	GEGIS	KTGEL	LKIAS	DLDI	IKKAG	AWYS	YKDE	313																						
NTDB id 159 SP RS09750 WP 001085462.1	RLDVRG	NTQIKGTG	.DQKETN	VGKETK	IKVVKN	KVAPPF	KEAVV	EIMY	GEGIS	KTGEL	LKIAS	DLDI	IKKAG	AWYS	YKDE	313																						
NTDB id 499 SM12261 RS08315 WP 078228268.1	RLDVRG	STQIKGTG	.DQKDTN	VGKETK	IKVVKN	KVAPPF	KEAFV	EIMY	GEGIS	KTGEL	LKIAS	DLDI	IKKAG	AWYS	YKDE	313																						
NTDB id 527 SMSK321 RS11065 WP 001085454.1	RLDVRG	STQIKGTG	.DQKDTN	VGKETK	IKVVKN	KVAPPF	KEAFV	EIMY	GEGIS	KTGEL	LKIAS	DLDI	IKKAG	AWYS	YKDE	313																						
NTDB id 408 SMU RS09530 WP 002262392.1	RLDVRG	NTQIKGTG	.EQKDSN	IGKETK	IKVVKN	KVAPPF	KEAFV	EIT	Y	GEGIS	R	TGEL	VKIAS	DLGI	IKKAG	AWYS	YNGE	313																				
NTDB id 453 Spy49 1753c ACI62003.1	RLDVRG	TQIKGTG	.DQKDSN	IGKETK	IKVVKN	KVAPPF	KVAEV	EIMY	GEGIS	R	TGEL	VKIAS	DLGI	IKKAG	AWF	SYNGE	313																					
NTDB id 115 BSU 16940 NP 389576.2	RLEVRRA	AEQLKQGN		DVMGN	KTIK	IKVVKN	KVAPPF	RTAEV	DIMY	GEGIS	KEGE	ITID	LGTE	LDIV	QKSG	SWSY	EEEE	294																				
NTDB id 625 LCA RS02525 WP 011374196.1	RLEVRRA	ETIKNGT		DMIGN	RARI	IKVVKN	KVAPPF	KVAEV	DIMY	Q	GIS	R	TGEL	VDMA	VEKDI	INKSG	SWSY	YGSE	296																			
NTDB id 1313 DR RS12030 WP 010888966.1	RLDVRK	IGQ....	PTKVG	ND	AVANT	VKI	IKTVKN	KVA	APFKE	VELA	L	VY	GKGF	DQLS	DLV	GLA	ADMD	IT	IKKAG	S	F	YSY	G	DE	309													
NTDB id 1334 RAOC RS04870 WP 004918236.1	RIDIR	RLSD	TGKIKDKS	GEV	IGNR	TKV	VVVKN	KVAPPF	KS	AEF	DIMY	GEGV	SKV	GE	ILD	VAT	DL	DI	IKKSG	S	W	F	SY	Q	DT	309												
NTDB id 1245 Cj1673c YP 002345041.1	RLDVRK	VAT....	L.KQNE	EEP	IGNR	VKV	VVVKN	KVAPPF	RQ	AEF	DM	F	GEG	L	S	RE	GEL	IDY	GV	KLD	IV	DKS	G	A	W	F	SY	K	DK	296								
NTDB id 1211 C694 RS00795 WP 000963128.1	RIDIR	RIAS....	L.KQNE	EQH	IGNR	AKA	VVVKN	KVAPPF	RE	AEF	DIM	F	GEGIS	KE	GE	ITIDY	GV	KLD	IV	DKS	G	A	W	L	S	Y	Q	DK	298									
NTDB id 1214 NCTC11637 00359 SQJ03206.1	RIDIR	RIAA....	L.KQNE	EQH	IGNR	AKA	VVVKN	KVAPPF	RE	AEF	DIM	F	GEGIS	KE	GE	ITIDY	GV	KLD	IV	DKS	G	A	W	L	S	Y	Q	DK	298									
NTDB id 378759 FVA80 RS04345 WP 147907560.1	RLDIRR	IST....	L.KDR	DEA	IGN	QVR	VVVKN	KVAPPF	KQ	VEF	DIM	F	GEGV	SKV	GE	LID	LG	V	KAG	I	VE	K	S	G	A	W	F	S	Y	N	S	Q	309					
NTDB id 1389 A4U84 RS07560 WP 021112712.1	RLDIRR	RCGV....	V.KDG	DEI	IGSE	TKV	VVVKN	KVAPPF	REV	QF	DIMY	GEGIS	R	M	NELL	ILAE	ANG	F	IKKSG	A	W	F	S	Y	D	G	T		312									
NTDB id 1130 NGFG RS03960 WP 003688695.1	RLDIRR	TGS....	I.KKG	EEV	LGNET	RVKV	IK	NKVAPPF	RQ	AEF	DILY	GEGIS	WE	GEL	ID	IGV	KND	II	INKSG	A	W	S	Y	N	G	A		296										
NTDB id 1124 NGFG RS03960 WP 003688695.1	RLDIRR	TGS....	I.KKG	EEV	LGNET	RVKV	IK	NKVAPPF	RQ	AEF	DILY	GEGIS	WE	GEL	ID	IGV	KND	II	INKSG	A	W	S	Y	N	G	A		296										
NTDB id 1123 OK783 RS03845 WP 003688695.1	RLDIRR	TGS....	I.KKG	EEV	LGNET	RVKV	IK	NKVAPPF	RQ	AEF	DILY	GEGIS	WE	GEL	ID	IGV	KND	II	INKSG	A	W	S	Y	N	G	A		296										
NTDB id 1427 RS RS02760 WP 011000510.1	RLDIRR	IGS....	I.KKG	DEV	VGN	ETKV	VVVKN	KVAPPF	RE	AI	F	DILY	GAG	V	S	REGE	ITID	LG	V	EAK	V	VE	K	S	G	A	W	S	Y	N	G	E	304					
NTDB id 1165 A1552VC RS01565 WP 000344154.1	RLDIRR	TGA....	I.KEG	EEV	VGN	ETRI	KVVKN	KIA	APFKE	ANTQ	IMY	Q	G	F	N	REGEL	ID	LG	V	KHK	M	V	E	K	S	G	A	W	S	Y	N	G	D	295				
NTDB id 1142 GTF74 RS11550 WP 000344154.1	RLDIRR	TGA....	I.KEG	EEV	VGN	ETRI	KVVKN	KIA	APFKE	ANTQ	IMY	Q	G	F	N	REGEL	ID	LG	V	KHK	M	V	E	K	S	G	A	W	S	Y	N	G	D	295				
NTDB id 1022 ACIAD RS06390 WP 004925639.1	RLDIRR	IG....	V.KEG	DEI	IGSE	TKV	VVVKN	KMAP	PFRE	AI	FQ	I	LYG	KGV	N	QLGEL	V	D	LAV	Q	Q	N	I	V	Q	K	A	G	A	W	S	Y	Q	G	N	295		
NTDB id 1074 ABD1 RS10195 WP 000344167.1	RLDIRR	IG....	V.KEG	DEI	IGSE	TKV	VVVKN	KMAP	PFKE	AI	FQ	I	LYG	KGT	N	QLGEL	V	D	LAV	Q	Q	N	I	V	Q	K	A	G	A	W	S	Y	Q	G	N	295		
NTDB id 1205 PSJM300 05545 AFN77183.1	RLDIRR	TGA....	V.KEG	DEV	VGS	ETRV	VVVKN	KVAPPF	RQ	AEFQ	I	LYG	KGI	Y	R	N	GE	ITID	LG	V	Q	Q	G	L	V	E	K	S	G	A	W	Y	A	Y	K	G	S	295
consensus	!	***	!	*		*		*	*	*****	!*	*!	!!	!!	!!	!!	*	*		*****	!*	!!	***	*****	***		***	*	!	!!	***	!!						

consensus

Sequence	Score
KIGGGAEKAKNYLKEHQDVFEIDHKVRAAHGLDDSEVAETEEET.TASKTKAKAKKEEKAVETEEIELELED.....	387
KIGGGSSENAKKYLAEHPEIFDEIDKQVRSKFLIDGEEVSEQDTEN.KKDE....PKKEEA..VNEEVPLDLGDELEIEI	386
KIGGGSSENAKKYLAEHPEIFDEIDKQVRSKFLIDGEEVSEQDTEN.KKDE....PKKEEA..VNEEVPLDLGDELEIEI	386
KIGGGSSENAKKYLAEHPEIFDEIDKQVRSKFLIDGEEVSEQDTEN.KKDE....PKKEEA..VNEEVPLDLGDELEIEI	386
KIGGGSSENAKKYLAEHPEIFDEIDKQVRSKFLIDGEEVSEQDTEN.KKDE....PKKEEA..VNEEVPLDLGDELEIEI	386
KIGGGSSENAKKYLADNPEIFDEIDHQVRVQFGLIDGEEIAES....KKDE....AAQVDS..VNEEVPLDLGDELEIEI	382
KIGGGSSENAKKYLADNPEIFDEIDHQVRVQFGLIDGEEIAES....KKDE....AAQVDS..VNEEVPLDLGDELEIEI	382
KIGGGSSENAKKFLADNPEIFDDIDHKVRVQGLIEEDNTEEEKQSSK.EK.....ETDEK..ADKNLVLELDDTIELED	383
KIGGGSSENAKRYLADHPQLFDEIDRKVRVKFGLLEESEEEESAMAVA.SE.....E.....TDDLALDLNNGIEIED	378
RLGQGRENAKQFLKENKDIMLMIQEQUIREHYGLDNGGVVQQAEET.QEEL.EFE.E.....	348
RIGGQGRENAKKNYLADHEDVEDEVRLKVRVQGLSDVPEEDLPTTED.E.QI.NILPDDST....EE.....	355
RIGQGKEKTIAYIAERPMEQEIRDRVMAAIRAGNAGEAPALAPAPAAPAAEA.....	363
KLGGGRDITVKELIKDNPELAELEAKIREKLQAK.....	343
KLGGGRENKSAFLKENPEIADEITKAIQNSMGIEGMISGSEDDE....GEE.....	343
KLGGGRENKALLKEDKALADEITLKIKESIGSNEEIMPLPDEP....LEEME.....	347
KLGGGRENKALLKEDKALADEITLKIKESIGSNEEIMPLPDEP....LEEME.....	347
RLGGGRENKSGFLRDNPEIAGKIEASIRQNSGLVAEKILENVKPTEDDLDEGEA.....	363
KIGGQKNNNAVKWLKENPEIADKLEQEIIRNTLASNPNSVLKA..TASDSNDESVDVEE.....FSEEEEL	372
KIGGQKDNVRVWLKENPEISDEIDAKIRALNGVEMHITEGT..QDETGDGER.....PEE.....	348
KIGGQKDNVRVWLKENPEISDEIDAKIRALNGVEMHITEGT..QDETGDGER.....PEE.....	348
KIGGQKDNVRVWLKENPEISDEIDAKIRALNGVEMHITEGT..QDETGDGER.....PEE.....	348
RIGGGRDNCREFLRENAELAREIENKVRHLGVTPMGAVTL..A.EEVEED.....	352
KIGGQKANACKYLKENPEIAKTLDDKKLREMLLNPNMQLIA..ETSSAADDVEFGA.....VPEEF..	354
KIGGQKANACKYLKENPEIAKTLDDKKLREMLLNPNMQLIA..ETSSAADDVEFGA.....VPEEF..	354
KIGGQKNNVIRYLEENPQISTEIEAVIREQLLTKASDQTAA..HDETEEEPDLL.....ES.....	349
KIGGQKNNVIRYFEENNQIAEIEIERNIREQLLTTGTNGAVQ...I.EDEEIEPDLL.....LES.....	349
KIGGQKANAAKYLEENPEIQQEIRAKLLVTSANTKAT..PVAEDLADADI.....	347

logo

NTDB id 600 KW2 RS01765 WP 011675413.1	..	387
NTDB id 269 KZH43 RS08665 WP 001085462.1	EE	388
NTDB id 228 SPD RS09265 WP 001085462.1	EE	388
NTDB id 194 SPR RS08825 WP 001085462.1	EE	388
NTDB id 159 SP RS09750 WP 001085462.1	EE	388
NTDB id 499 SM12261 RS08315 WP 078228268.1	EE	384
NTDB id 527 SMSK321 RS11065 WP 001085454.1	EE	384
NTDB id 408 SMU RS09530 WP 002262392.1	..	383
NTDB id 453 Spy49 1753c ACI62003.1	..	378
NTDB id 115 BSU 16940 NP 389576.2	..	348
NTDB id 625 LCA RS02525 WP 011374196.1	..	355
NTDB id 1313 DR RS12030 WP 010888966.1	..	363
NTDB id 1334 RAOC RS04870 WP 004918236.1	..	343
NTDB id 1245 Cj1673c YP 002345041.1	..	343
NTDB id 1211 C694 RS00795 WP 000963128.1	..	347
NTDB id 1214 NCTC11637 00359 SQJ03206.1	..	347
NTDB id 378759 FVA80 RS04345 WP 147907560.1	..	363
NTDB id 1389 A4U84 RS07560 WP 021112712.1	..	372
NTDB id 1130 NGFG RS03960 WP 003688695.1	..	348
NTDB id 1124 NGFG RS03960 WP 003688695.1	..	348
NTDB id 1123 OK783 RS03845 WP 003688695.1	..	348
NTDB id 1427 RS RS02760 WP 011000510.1	..	352
NTDB id 1165 A1552VC RS01565 WP 000344154.1	..	354
NTDB id 1142 GTF74 RS11550 WP 000344154.1	..	354
NTDB id 1022 ACIAD RS06390 WP 004925639.1	..	349
NTDB id 1074 ABD1 RS10195 WP 000344167.1	..	349
NTDB id 1205 PSJM300 05545 AFN77183.1	..	347

consensus

 non conserved
 similar
 ≥ 50% conserved