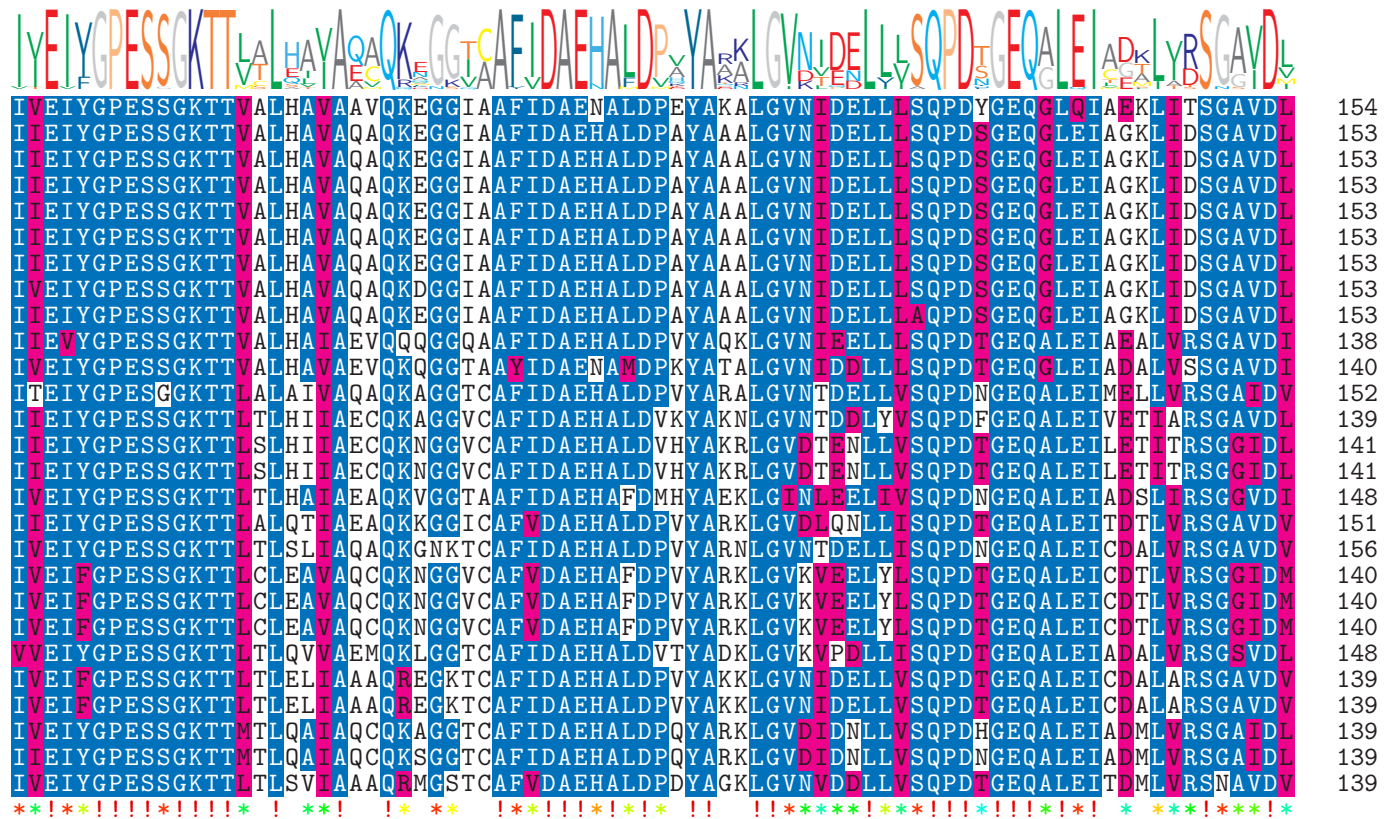


NTDB id 600 KW2 RS01765 WP 011675413.1	MATKKKT....NFDDITKKYGA	ERD	KAL	ADAL	AL	IEKD	FGKGS	SLMRLGEA	.ANQK	VSV	VSSGSL	ALDI	I	ALGAGGYP	KGR	74																								
NTDB id 269 KZH43 RS08665 WP 001085462.1	.MAKKPK....KLEEISKKFGA	ERE	KAL	NDAL	KL	IEKD	FGKGS	SIMRLGER	.AEQK	VQVM	SSGSL	ALDI	I	ALGSGGYP	KGR	73																								
NTDB id 228 SPD RS09265 WP 001085462.1	.MAKKPK....KLEEISKKFGA	ERE	KAL	NDAL	KL	IEKD	FGKGS	SIMRLGER	.AEQK	VQVM	SSGSL	ALDI	I	ALGSGGYP	KGR	73																								
NTDB id 194 SPR RS08825 WP 001085462.1	.MAKKPK....KLEEISKKFGA	ERE	KAL	NDAL	KL	IEKD	FGKGS	SIMRLGER	.AEQK	VQVM	SSGSL	ALDI	I	ALGSGGYP	KGR	73																								
NTDB id 159 SP RS09750 WP 001085462.1	.MAKKPK....KLEEISKKFGA	ERE	KAL	NDAL	KL	IEKD	FGKGS	SIMRLGER	.AEQK	VQVM	SSGSL	ALDI	I	ALGSGGYP	KGR	73																								
NTDB id 499 SM12261 RS08315 WP 078228268.1	.MAKKPK....KLDEISKKFGA	ERE	KAL	NDAL	KL	IEKD	FGKGS	SIMRLGER	.AEQK	VQVM	SSGSL	ALDI	I	ALGSGGYP	KGR	73																								
NTDB id 527 SMSK321 RS11065 WP 001085454.1	.MAKKPK....KLDEISKKFGA	ERE	KAL	NDAL	KL	IEKD	FGKGS	SIMRLGER	.AEQK	VQVM	SSGSL	ALDI	I	ALGSGGYP	KGR	73																								
NTDB id 408 SMU RS09530 WP 002262392.1	.MAKKRIK....KTEEITKKFGD	ERR	KAL	DDAL	KN	IEKD	FGKGA	VMRLGER	.AEQK	VQVM	SSGSL	ALDI	I	ALGAGGYP	KGR	73																								
NTDB id 453 Spy49 1753c ACI62003.1	.MAKKLK....KNEEITKKFGD	ERR	KAL	DDAL	KN	IEKD	FGKGA	VMRLGER	.AEQK	VQVM	SSGSL	ALDI	I	ALGAGGYP	KGR	73																								
NTDB id 115 BSU 16940 NP 389576.2	MSDRQAAL	DALK	KQ	IEK	QFGKGS	IM	KLGEK	.TDTR	IST	VP	SSGSL	ALD	T	ALGIGGYP	RGR	58																								
NTDB id 625 LCA RS02525 WP 011374196.1	MAKD	ERQAAL	DAAL	KK	IEKN	F	GKGS	IMRMGEK	.VDTQ	VST	VSSGSL	ALDE	AL	GVGGYP	RGR	60																								
NTDB id 1313 DR RS12030 WP 010888966.1	MSKDATKEISAP	TDAK	ERS	KA	TET	AMS	QIEK	A	FGKGS	IM	KLGA	E	.SKLD	VQV	VSTGSL	S	LDL	AL	GVGGIP	RGR	72																			
NTDB id 1245 Cj1673c YP 002345041.1	MDDN	KRKS	SL	DAAL	KS	LD	KT	F	GKGT	IL	RLGD	K	.EVEQ	IDS	IG	TGS	V	GLD	AL	GIGV	P	KGR	59																	
NTDB id 1214 NCTC11637 00359 SQJ03206.1	M..AIDED	KQKA	ISLA	IK	ID	KV	F	GKGA	LV	RLGD	K	.QVEK	IDA	IST	G	S	L	G	L	D	AL	GIGV	P	KGR	61															
NTDB id 1211 C694 RS00795 WP 000963128.1	M..AIDED	KQKA	ISLA	IK	ID	KV	F	GKGA	LV	RLGD	K	.QVEK	IDS	IST	G	S	L	G	L	D	AL	GIGV	P	KGR	61															
NTDB id 1334 RAO RS04870 WP 004918236.1	MAKTETT..SPND	DKKK	ALA	AVLE	KLD	KTY	V	GKGT	VM	KLGD	G	TVDHN	LEV	IP	S	G	S	L	G	L	D	AL	GVGGYP	P	KGR	68														
NTDB id 301346 DLJ82 RS04080 WP 003540131.1	MSQNSLRLVE..DKSV	D	K	S	K	A	E	A	A	S	QIER	S	F	GKGS	IM	KLGS	N	V	N	V	VE	ET	IST	G	S	L	G	L	D	AL	GV	G	GL	P	RGR	71				
NTDB id 1389 A4U84 RS07560 WP 021112712.1	.MAENKKSSKNNTVVQK..VEPE	Q	K	Q	A	E	A	A	L	A	QIEK	Q	F	GKGS	IM	KL	G	Q	T	.EQLD	IES	V	S	T	G	S	L	G	L	D	AL	G	I	G	GL	P	MGR	76		
NTDB id 1130 NGFG RS03960 WP 003688695.1	MSDD	K	S	K	A	A	A	A	L	A	QIEK	S	F	GKGA	IM	K	M	D	G	S	Q	Q	E	E	N	LEV	IST	G	S	L	G	L	D	AL	GV	G	GL	P	RGR	60
NTDB id 1124 NGFG RS03960 WP 003688695.1	MSDD	K	S	K	A	A	A	A	L	A	QIEK	S	F	GKGA	IM	K	M	D	G	S	Q	Q	E	E	N	LEV	IST	G	S	L	G	L	D	AL	GV	G	GL	P	RGR	60
NTDB id 1123 OK783 RS03845 WP 003688695.1	MSDD	K	S	K	A	A	A	A	L	A	QIEK	S	F	GKGA	IM	K	M	D	G	S	Q	Q	E	E	N	LEV	IST	G	S	L	G	L	D	AL	GV	G	GL	P	RGR	60
NTDB id 1427 RS RS02760 WP 011000510.1	.MEDG.....KKA	A..SMSA	E	K	Q	K	A	A	A																															

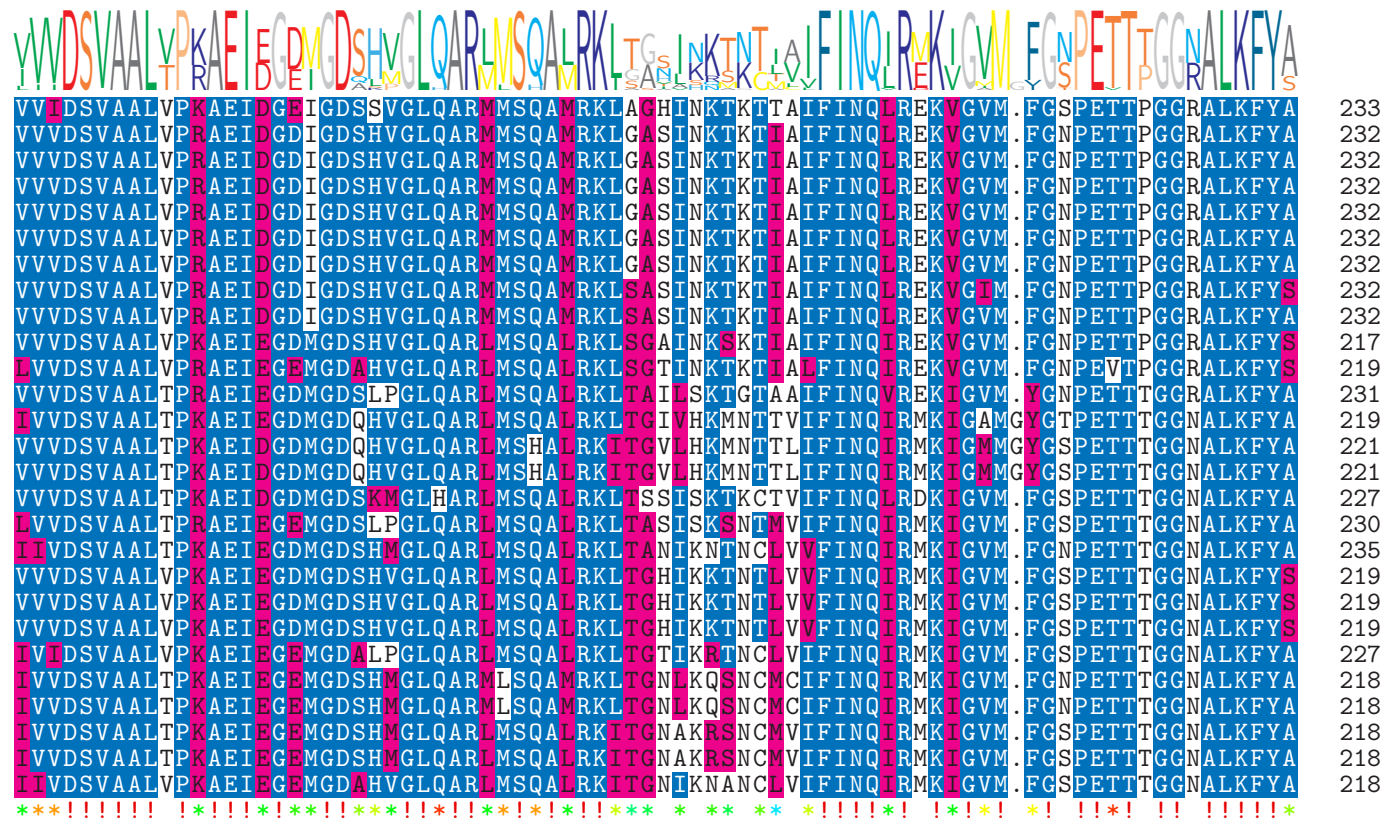
NTDB id 600 KW2 RS01765 WP 011675413.1
NTDB id 269 KZH43 RS08665 WP 001085462.1
NTDB id 228 SPD RS09265 WP 001085462.1
NTDB id 194 SPR RS08825 WP 001085462.1
NTDB id 159 SP RS09750 WP 001085462.1
NTDB id 499 SM12261 RS08315 WP 078228268.1
NTDB id 527 SMSK321 RS11065 WP 001085454.1
NTDB id 408 SMU RS09530 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 1245 Cj1673c YP 002345041.1
NTDB id 1214 NCTC11637 00359 SQJ03206.1
NTDB id 1211 C694 RS00795 WP 000963128.1
NTDB id 1334 RAOC RS04870 WP 004918236.1
NTDB id 301346 DLJ82 RS04080 WP 003540131.1
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



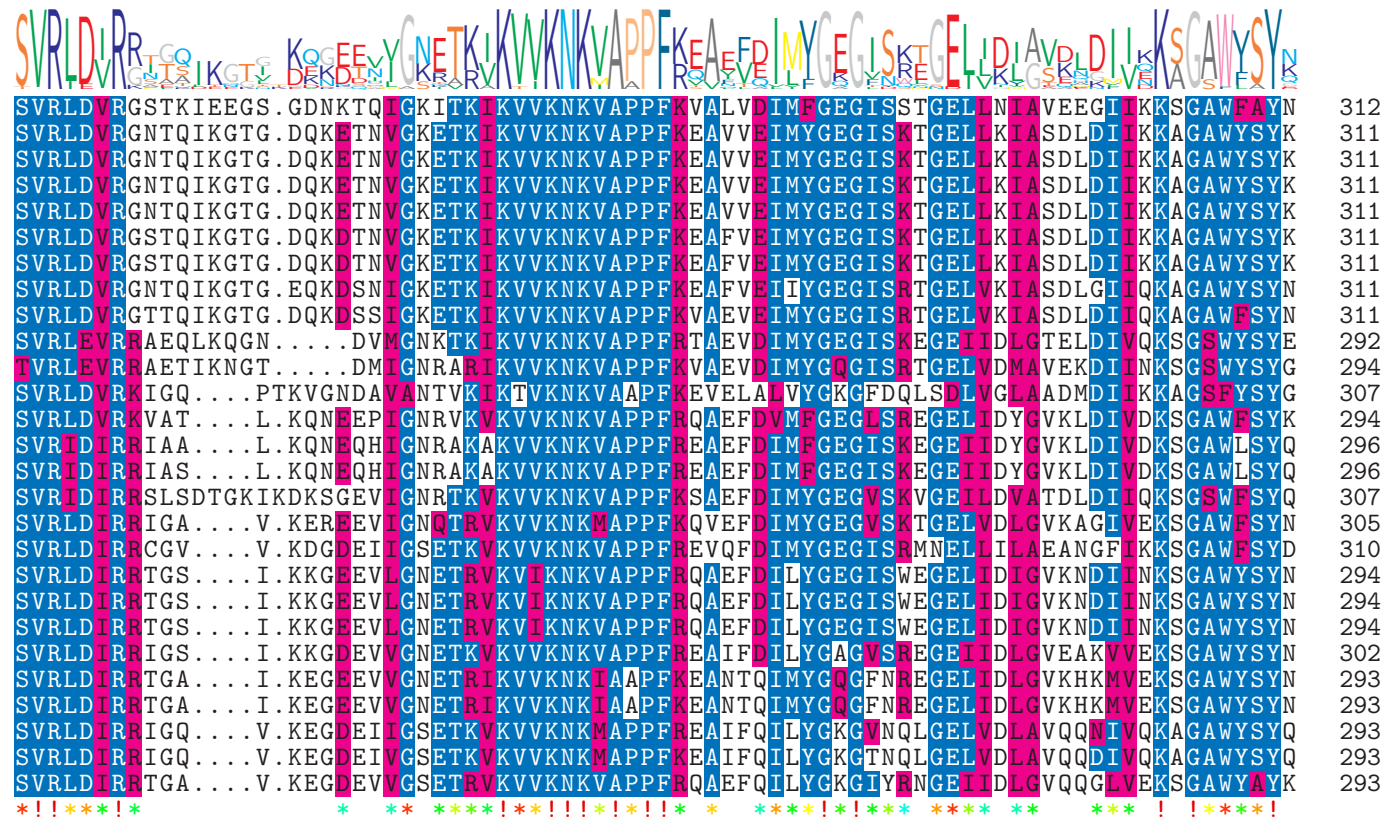
```

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
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 1245 Cj1673c YP 002345041.1
NTDB id 1214 NCTC11637 00359 SQJ03206.1
NTDB id 1211 C694 RS00795 WP 000963128.1
NTDB id 1334 RAOC RS04870 WP 004918236.1
NTDB id 301346 DLJ82 RS04080 WP 003540131.1
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
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 1245 Cj1673c YP 002345041.1
NTDB id 1214 NCTC11637 00359 SQJ03206.1
NTDB id 1211 C694 RS00795 WP 000963128.1
NTDB id 1334 RAOC RS04870 WP 004918236.1
NTDB id 301346 DLJ82 RS04080 WP 003540131.1
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



logo

NTDB id 600 KW2 RS01765 WP 011675413.1	DEKIGQGA	EKAKNYLKEHQDV	DEIDHKVRAAHG	LDDSEVAETEEETT	ASKTKAKAKKEEK	AVETEEIELELED	.....	387
NTDB id 269 KZH43 RS08665 WP 001085462.1	DEKIGQGS	ENAKKYLA	EHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTENKKD	E....	PKKEEA..VNEEVPLDLGDELEIE	385
NTDB id 228 SPD RS09265 WP 001085462.1	DEKIGQGS	ENAKKYLA	EHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTENKKD	E....	PKKEEA..VNEEVPLDLGDELEIE	385
NTDB id 194 SPR RS08825 WP 001085462.1	DEKIGQGS	ENAKKYLA	EHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTENKKD	E....	PKKEEA..VNEEVPLDLGDELEIE	385
NTDB id 159 SP RS09750 WP 001085462.1	DEKIGQGS	ENAKKYLA	EHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTENKKD	E....	PKKEEA..VNEEVPLDLGDELEIE	385
NTDB id 499 SM12261 RS08315 WP 078228268.1	DEKIGQGS	ENAKKYLA	DNPEIF	DEIDHQVRVQFGL	IDGEEIAES...	KKD	E....AAQVDS..VNEEVTLDLGDELEIE	381
NTDB id 527 SMSK321 RS11065 WP 001085454.1	DEKIGQGS	ENAKKYLA	DNPEVFAE	IDHQVRVQFGL	IDGEEAAES...	KKD	E....VAQVDS..VNEEVTLDLGDELEIE	381
NTDB id 408 SMU RS09530 WP 002262392.1	GEKIGQGS	ENAKKFLA	DNPEIF	DDIDHKVRVQYGL	IEDNTEEEKQSSKEK	.....	ETDEK..ADKNLVLELDDTIELE	382
NTDB id 453 Spy49 1753c ACI62003.1	GEKIGQGS	ENAKRYLA	DHPQLF	DEIDRKVRVKFGL	LEESEEEESAMAVASE	.....	E.....TDDLALDLDNGIEIE	377
NTDB id 115 BSU 16940 NP 389576.2	EERLGQGR	ENAKQFL	KENKDIMLMIQE	IREHYGLDNNGVVQQAEETQEEL	EFE.E.....			348
NTDB id 625 LCA RS02525 WP 011374196.1	SERIGQG	RENAKNYL	ADHEDVEDEVRLKVR	AAYGISDVPPEEDLPTTEDE	QI.NILPDDST	.....	EE.....	355
NTDB id 1313 DR RS12030 WP 010888966.1	DERIGQG	KEKTIAYIA	ERPMEQEIRDRVMAAIRAGNAGEAPALAPAPAAP	E....	AAEA.....			363
NTDB id 1245 Cj1673c YP 002345041.1	DKKLGGQGR	ENSKAF	LKENPEIADEITKAIQNSMG	TEGMISGSSEDDEG	....	E....	E.....	343
NTDB id 1214 NCTC11637 00359 SQJ03206.1	DKKLGGQGR	ENAKALLK	EDKALADEITLKI	KESIGSNEEIMPLPDEPL	....	E....	EME.....	347
NTDB id 1211 C694 RS00795 WP 000963128.1	DKKLGGQGR	ENAKALLK	EDKALADEITLKI	KESIGSNEEIMPLPDEPL	....	E....	EME.....	347
NTDB id 1334 RAOC RS04870 WP 004918236.1	DTKLGGQR	DTVKELIK	DNPELAELEAKIREKLQAK	.....				343
NTDB id 301346 DLJ82 RS04080 WP 003540131.1	SQRLGGQGR	ENAKTFLR	DNPDAREIELSLRQNA	GLIADRFLQNGGPD	PDDG	....	GDATAEM.....	364
NTDB id 1389 A4U84 RS07560 WP 021112712.1	GTKIGQG	KNNAVKWL	KENPEIADKLEQEIRNTLAS	NPNSVLKA..TASDSND	....	ESDVVEEFSEEL	.....	372
NTDB id 1130 NGFG RS03960 WP 003688695.1	GAKIGQG	KDNVRVWL	KENPEISDEIDAKIRALNG	VMHITEGT..QDET	DGE	....	R.....PEE.....	348
NTDB id 1124 NGFG RS03960 WP 003688695.1	GAKIGQG	KDNVRVWL	KENPEISDEIDAKIRALNG	VMHITEGT..QDET	DGE	....	R.....PEE.....	348
NTDB id 1123 OK783 RS03845 WP 003688695.1	GAKIGQG	KDNVRVWL	KENPEISDEIDAKIRALNG	VMHITEGT..QDET	DGE	....	R.....PEE.....	348
NTDB id 1427 RS RS02760 WP 011000510.1	GERIGQGR	DNCREFL	RENAELAREIENKVREHLG	VTPMGAVTL..A.EEVEE	.....	D.....		352
NTDB id 1165 A1552VC RS01565 WP 000344154.1	GDKIGQG	KANACKYL	KENPEIAKTLDKKLREMLLN	PENMQLIA..ETSSAAD	....	DVEFGAVPEEF	.....	354
NTDB id 1142 GTF74 RS11550 WP 000344154.1	GDKIGQG	KANACKYL	KENPEIAKTLDKKLREMLLN	PENMQLIA..ETSSAAD	....	DVEFGAVPEEF	.....	354
NTDB id 1022 ACIAD RS06390 WP 004925639.1	GNKIGQG	KNNVIRY	FEENPQISTEIEAVIREQLLT	TKASDQTA...HDETEE	....	EPDLL..ES	.....	349
NTDB id 1074 ABD1 RS10195 WP 000344167.1	GNKIGQG	KNNVIRY	FEENPQIAEIEIERNIREQLLT	TGTNGAVQ...I.EDEE	....	EPDLL..LES	.....	349
NTDB id 1205 PSJM300 05545 AFN77183.1	GSKIGQG	KANAACKY	LEENPEIGQIEEQIRAKLLV	TSANTKAT..PVAEDLA	....	DADI	.....	347
consensus	***!!!!***** ** ***** ***** ** *							*

logo

		IEE	
NTDB id 600 KW2 RS01765 WP 011675413.1	...	387	
NTDB id 269 KZH43 RS08665 WP 001085462.1	IEE	388	
NTDB id 228 SPD RS09265 WP 001085462.1	IEE	388	
NTDB id 194 SPR RS08825 WP 001085462.1	IEE	388	
NTDB id 159 SP RS09750 WP 001085462.1	IEE	388	
NTDB id 499 SM12261 RS08315 WP 078228268.1	IEE	384	
NTDB id 527 SMSK321 RS11065 WP 001085454.1	IEE	384	
NTDB id 408 SMU RS09530 WP 002262392.1	D..	383	
NTDB id 453 Spy49 1753c ACI62003.1	D..	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 1245 Cj1673c YP 002345041.1	...	343	
NTDB id 1214 NCTC11637 00359 SQJ03206.1	...	347	
NTDB id 1211 C694 RS00795 WP 000963128.1	...	347	
NTDB id 1334 RAOC RS04870 WP 004918236.1	...	343	
NTDB id 301346 DLJ82 RS04080 WP 003540131.1	...	364	
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