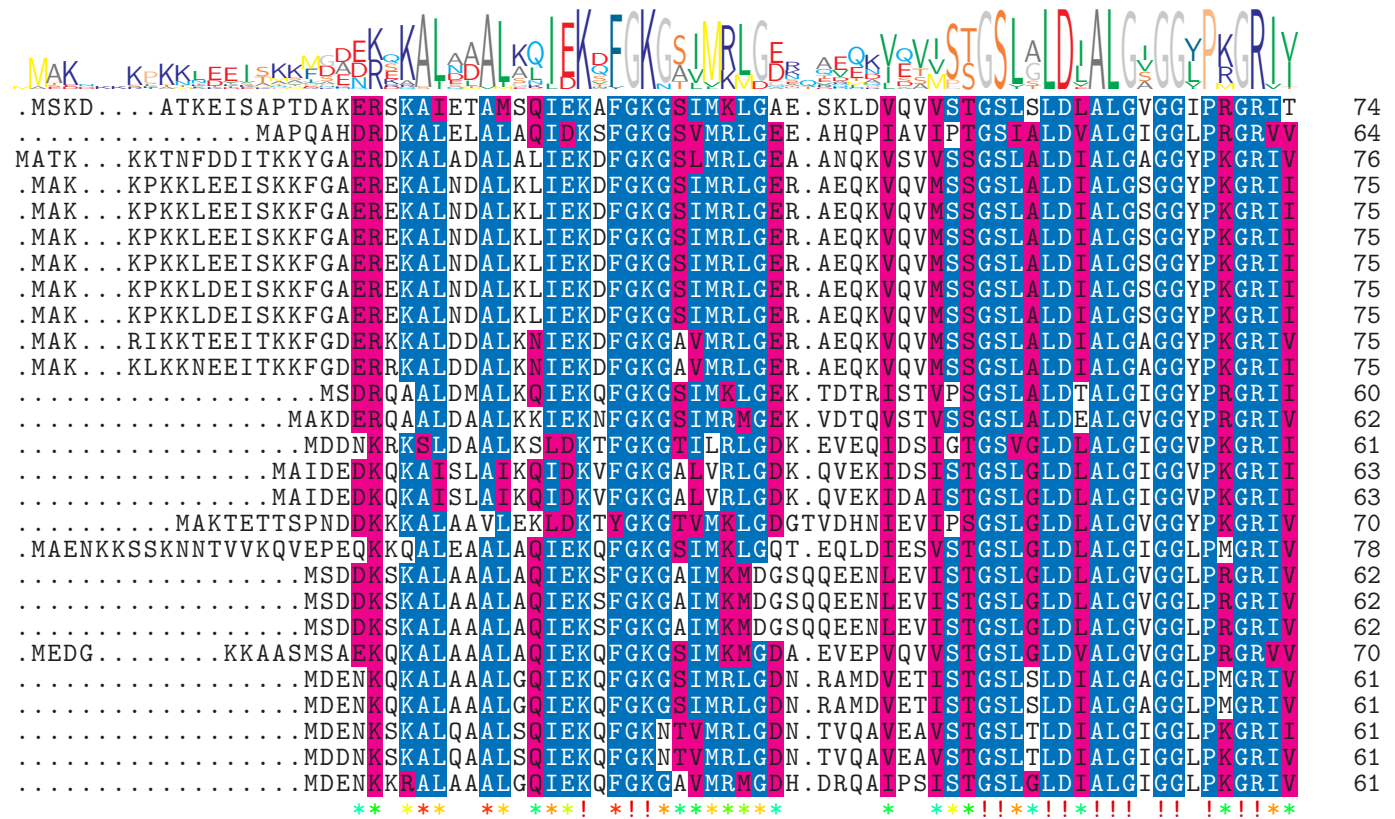


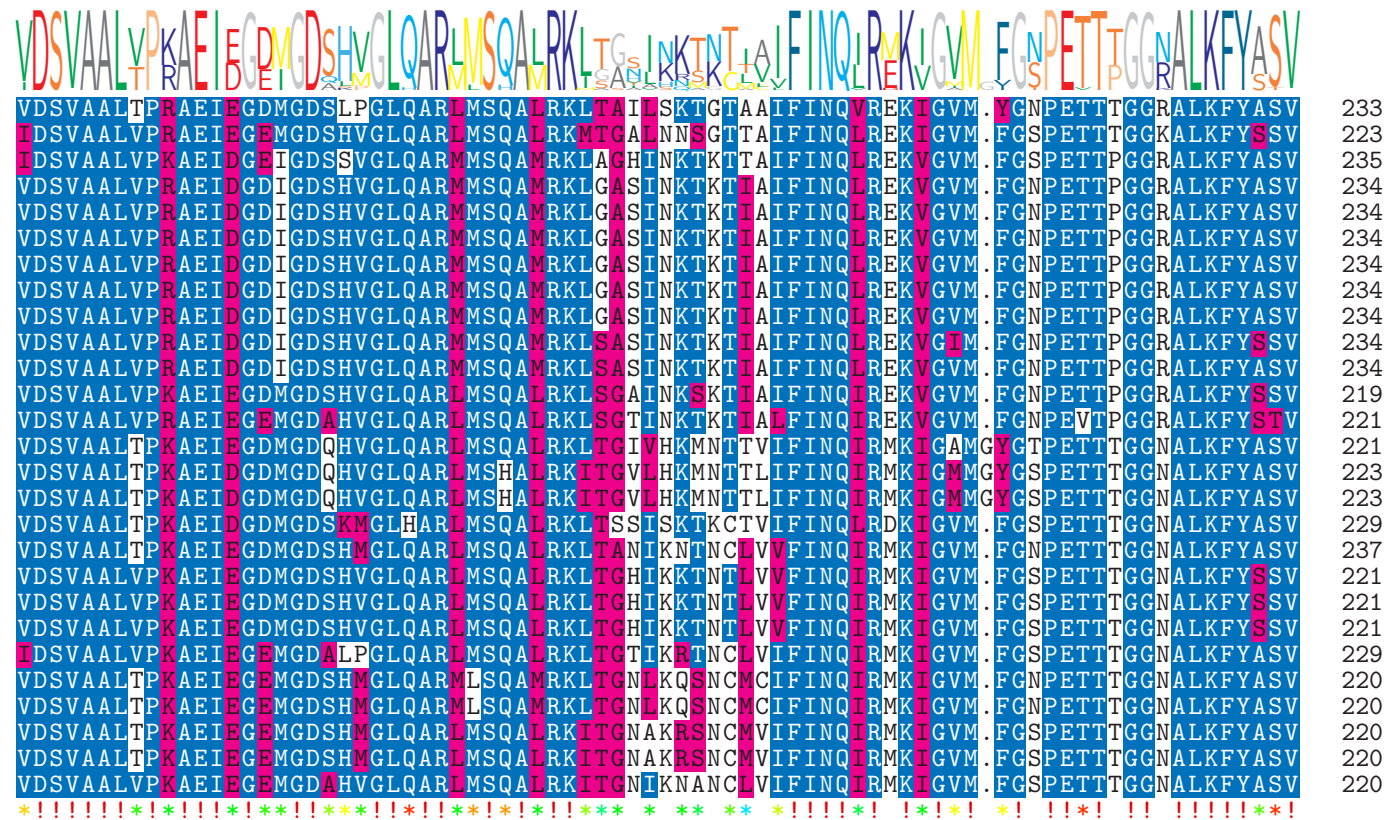
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NTDB id 339307 ERC79 RS21430 WP 131580372.1
NTDB id 600 KW2 RS01765 WP 011675413.1
NTDB id 269 KZH43 RS08665 WP 001085462.1
NTDB id 228 SPD RS09265 WP 001085462.1
NTDB id 194 SPR RS08825 WP 001085462.1
NTDB id 159 SP RS09750 WP 001085462.1
NTDB id 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 1245 Cj1673c YP 002345041.1
NTDB id 1211 C694 RS00795 WP 000963128.1
NTDB id 1214 NCTC11637 00359 SQJ03206.1
NTDB id 1334 RA0C RS04870 WP 004918236.1
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
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NTDB id 1142 GTF74 RS11550 WP 000344154.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1205 PSJM300 05545 AFN77183.1
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NTDB id 1313 DR RS12030 WP 010888966.1	EIYGPESSGKTTT	154
NTDB id 339307 ERC79 RS21430 WP 131580372.1	EIYGPESSGKTTT	144
NTDB id 600 KW2 RS01765 WP 011675413.1	EIYGPESSGKTTT	156
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NTDB id 194 SPR RS08825 WP 001085462.1	EIYGPESSGKTTT	155
NTDB id 159 SP RS09750 WP 001085462.1	EIYGPESSGKTTT	155
NTDB id 499 SM12261 RS08315 WP 078228268.1	EIYGPESSGKTTT	155
NTDB id 527 SMSK321 RS11065 WP 001085454.1	EIYGPESSGKTTT	155
NTDB id 408 SMU RS09530 WP 002262392.1	EIYGPESSGKTTT	155
NTDB id 453 Spy49 1753c ACI62003.1	EIYGPESSGKTTT	155
NTDB id 115 BSU 16940 NP 389576.2	EIYGPESSGKTTT	140
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NTDB id 1214 NCTC11637 00359 SQJ03206.1	EIYGPESSGKTTT	143
NTDB id 1334 RAOC RS04870 WP 004918236.1	EIYGPESSGKTTT	150
NTDB id 1389 A4U84 RS07560 WP 021112712.1	EIYGPESSGKTTT	158
NTDB id 1130 NGFG RS03960 WP 003688695.1	EIYGPESSGKTTT	142
NTDB id 1124 NGFG RS03960 WP 003688695.1	EIYGPESSGKTTT	142
NTDB id 1123 OK783 RS03845 WP 003688695.1	EIYGPESSGKTTT	142
NTDB id 1427 RS RS02760 WP 011000510.1	EIYGPESSGKTTT	150
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NTDB id 1142 GTF74 RS11550 WP 000344154.1	EIYGPESSGKTTT	141
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NTDB id 1022 ACIAD RS06390 WP 004925639.1	EIYGPESSGKTTT	141
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consensus		

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NTDB id 527 SMSK321 RS11065 WP 001085454.1
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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 1245 Cj1673c YP 002345041.1
NTDB id 1211 C694 RS00795 WP 000963128.1
NTDB id 1214 NCTC11637 00359 SQJ03206.1
NTDB id 1334 RA0C RS04870 WP 004918236.1
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NTDB id 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1205 PSJM300 05545 AFN77183.1
consensus



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NTDB id 1313 DR RS12030 WP 010888966.1	RLDVRKIGQ...PTKVGND	AVANTV	IKTVKNKVA	APPFKE	VELALV	YVGKG	FDQLS	DLVGL	AADMD	IIKK	KAGS	FYSY	GD	309
NTDB id 339307 ERC79 RS21430 WP 131580372.1	RLDVRRIETLKDGT....DA	VGNRT	RVKVVKNKV	SPPFK	QAEFD	DILYGG	GISKE	GLID	MGVEH	GFIR	KSGS	WYTY	EGD	298
NTDB id 600 KW2 RS01765 WP 011675413.1	RLDVRGSTKIEEGS.GDNKT	QIGKIT	IKVVKNKV	APPFK	VALVD	IMFGE	GISST	GELLN	IAVEEG	TIKK	SGAW	FAYN	DE	314
NTDB id 269 KZH43 RS08665 WP 001085462.1	RLDVRGNTQIKGTG.DQKE	ETNVG	KETKIK	VVKNKV	APPFK	EAVVE	IMYGE	GISK	TGELL	KIAS	DLDI	IKK	AGAWSYKDE	313
NTDB id 228 SPD RS09265 WP 001085462.1	RLDVRGNTQIKGTG.DQKE	ETNVG	KETKIK	VVKNKV	APPFK	EAVVE	IMYGE	GISK	TGELL	KIAS	DLDI	IKK	AGAWSYKDE	313
NTDB id 194 SPR RS08825 WP 001085462.1	RLDVRGNTQIKGTG.DQKE	ETNVG	KETKIK	VVKNKV	APPFK	EAVVE	IMYGE	GISK	TGELL	KIAS	DLDI	IKK	AGAWSYKDE	313
NTDB id 159 SP RS09750 WP 001085462.1	RLDVRGNTQIKGTG.DQKE	ETNVG	KETKIK	VVKNKV	APPFK	EAVVE	IMYGE	GISK	TGELL	KIAS	DLDI	IKK	AGAWSYKDE	313
NTDB id 499 SM12261 RS08315 WP 078228268.1	RLDVRGSTQIKGTG.DQKD	TNVG	KETKIK	VVKNKV	APPFK	EAFVE	IMYGE	GISK	TGELL	KIAS	DLDI	IKK	AGAWSYKDE	313
NTDB id 527 SMSK321 RS11065 WP 001085454.1	RLDVRGSTQIKGTG.DQKD	TNVG	KETKIK	VVKNKV	APPFK	EAFVE	IMYGE	GISK	TGELL	KIAS	DLDI	IKK	AGAWSYKDE	313
NTDB id 408 SMU RS09530 WP 002262392.1	RLDVRGNTQIKGTG.EQK	DSNIG	KETKIK	VVKNKV	APPFK	EAFVE	ITYGE	GISR	TGELV	KIAS	DLGI	IKK	AGAWSYNGE	313
NTDB id 453 Spy49 1753c ACI62003.1	RLDVRGTTQIKGTG.DQK	DSSIG	KETKIK	VVKNKV	APPFK	KVAE	VEIMY	GEGIS	R	TGELV	KIAS	DLDI	IKKAGAWFSYNGE	313
NTDB id 115 BSU 16940 NP 389576.2	RLEVRRAEQLKQGN.....	DVMGN	KTKIK	VVKNKV	APPFRT	AEVD	IMYGE	GISKE	GE	ITID	LGTEL	DIVQ	KSGSWSYEEEE	294
NTDB id 625 LCA RS02525 WP 011374196.1	RLEVRRAEETIKNGT.....	DMIGN	RARIK	VVKNKV	APPFK	KVAE	VDIMY	GQGIS	R	TGELV	DMAVE	KDI	INKSGSWSYGSE	296
NTDB id 1245 Cj1673c YP 002345041.1	RLDVRKVAT....L.KQNE	EEP	IGNRV	KVVKNKV	APPFR	QAEF	DVMF	GEGLS	REGE	LIDY	GVKLD	IVD	KSGAWFSYKDK	296
NTDB id 1211 C694 RS00795 WP 000963128.1	RIDIRRIAS....L.KQNE	EQHIGN	RAKAK	VVKNKV	APPFRE	AEFD	IMFGE	GISKE	GE	ITIDY	GVKLD	IVD	KSGAWLSYQDK	298
NTDB id 1214 NCTC11637 00359 SQJ03206.1	RIDIRRIAA....L.KQNE	EQHIGN	RAKAK	VVKNKV	APPFRE	AEFD	IMFGE	GISKE	GE	ITIDY	GVKLD	IVD	KSGAWLSYQDK	298
NTDB id 1334 RAOC RS04870 WP 004918236.1	RIDIRRSLSDTGKIKDKS	GEVIGN	RTKV	VVKNKV	APPFK	SAEFD	IMYGE	G	VSKV	GEILD	VATD	LDII	QKSGSWFSYQDT	309
NTDB id 1389 A4U84 RS07560 WP 021112712.1	RLDIRRCGV....V.KDG	DEIIG	SETKV	VVKNKV	APPFRE	REVQ	FDIMY	GEGIS	RMNELL	ILAE	ANGFI	KKSG	AWFSYDGT	312
NTDB id 1130 NGFG RS03960 WP 003688695.1	RLDIRRTGS....I.KKG	EEVLGN	ETR	VKV	IKNKV	APPFR	QAEFD	DILYGE	GISW	EGELID	IGVKN	DI	INKSGAWSYNGA	296
NTDB id 1124 NGFG RS03960 WP 003688695.1	RLDIRRTGS....I.KKG	EEVLGN	ETR	VKV	IKNKV	APPFR	QAEFD	DILYGE	GISW	EGELID	IGVKN	DI	INKSGAWSYNGA	296
NTDB id 1123 OK783 RS03845 WP 003688695.1	RLDIRRTGS....I.KKG	EEVLGN	ETR	VKV	IKNKV	APPFR	QAEFD	DILYGE	GISW	EGELID	IGVKN	DI	INKSGAWSYNGA	296
NTDB id 1427 RS RS02760 WP 011000510.1	RLDIRRIGS....I.KKG	DEVVGN	ETK	VVKNKV	APPFRE	AI	FDILY	GAGV	SREGE	IIDL	GV	EAKV	VVEKSGAWSYNGE	304
NTDB id 1165 A1552VC RS01565 WP 000344154.1	RLDIRRTGA....I.KEG	EEVVG	NETRI	KVVKNK	IAAPF	KEANT	QIMYG	QGFN	REGEL	IDL	GVKHK	MVEK	SGAWSYNGD	295
NTDB id 1142 GTF74 RS11550 WP 000344154.1	RLDIRRTGA....I.KEG	EEVVG	NETRI	KVVKNK	IAAPF	KEANT	QIMYG	QGFN	REGEL	IDL	GVKHK	MVEK	SGAWSYNGD	295
NTDB id 1074 ABD1 RS10195 WP 000344167.1	RLDIRRIGQ....V.KEG	DEIVG	SETKV	VVKNK	MAPPF	KEAIF	QILY	GKGT	NQLG	ELVD	LAVQQ	DIVQ	KAGAWSYQGN	295
NTDB id 1022 ACIAD RS06390 WP 004925639.1	RLDIRRIGQ....V.KEG	DEIVG	SETKV	VVKNK	MAPPF	KEAIF	QILY	GKGT	NQLG	ELVD	LAVQQ	DIVQ	KAGAWSYQGN	295
NTDB id 1205 PSJM300 05545 AFN77183.1	RLDIRRTGA....V.KEG	DEVVGS	ETR	VVKNKV	APPFR	QAEF	QILY	GKGI	YRNGE	IIDL	GV	QQGL	LVEKSGAWAYKGS	295
consensus	!***!*	*	**	*****!***!!*****!*	*	*****!*!*****	*****	*	*****	!*****!	*****	!*****!		

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NTDB id 1313 DR RS12030 WP 010888966.1	RIGQGKEKTIAYIAERP	MEQEIRDRVMAAIRAGNAGEAPALAPAPAA.....PEAAEA.....	363
NTDB id 339307 ERC79 RS21430 WP 131580372.1	QLGGQKENARKFMLENTDVRDEIEKKIK	KEKLGIGAVLTAEDAEP	345
NTDB id 600 KW2 RS01765 WP 011675413.1	KIGQGA	EAKKNYLKEHQDVDFEIDHKVRAAHGLDDSEVAETEEETTAS	387
NTDB id 269 KZH43 RS08665 WP 001085462.1	KIGQGS	ENAKKYLAEHPEIFDEIDKQVRSKFGLIDGEEVSEQDTENKKDE....PKKEEA..VNEEVPLDLGDELEIEIE	387
NTDB id 228 SPD RS09265 WP 001085462.1	KIGQGS	ENAKKYLAEHPEIFDEIDKQVRSKFGLIDGEEVSEQDTENKKDE....PKKEEA..VNEEVPLDLGDELEIEIE	387
NTDB id 194 SPR RS08825 WP 001085462.1	KIGQGS	ENAKKYLAEHPEIFDEIDKQVRSKFGLIDGEEVSEQDTENKKDE....PKKEEA..VNEEVPLDLGDELEIEIE	387
NTDB id 159 SP RS09750 WP 001085462.1	KIGQGS	ENAKKYLAEHPEIFDEIDKQVRSKFGLIDGEEVSEQDTENKKDE....PKKEEA..VNEEVPLDLGDELEIEIE	387
NTDB id 499 SM12261 RS08315 WP 078228268.1	KIGQGS	ENAKKYLADNPEIFDEIDHQVRVQFGLIDGEEIAES....KKDE....AAQVDS..VNEEVTLDLGDELEIEIE	383
NTDB id 527 SMSK321 RS11065 WP 001085454.1	KIGQGS	ENAKKYLADNPEVFAEIDHQVRVQFGLIDGEEAAES....KKDE....VAQVDS..VNEEVTLDLGDELEIEIE	383
NTDB id 408 SMU RS09530 WP 002262392.1	KIGQGS	ENAKKFLADNPEIFDDIDHKVRVQYGLIEEDNTEEKQSSKEK.....ETDEK..ADKNLVLELDDTIELED.	383
NTDB id 453 Spy49 1753c ACI62003.1	KIGQGS	ENAKRYLADHPQLFDEIDRKVRVKFGLLEESEESAMAVASE.....E.....TDDLALDLNGIEIED.	378
NTDB id 115 BSU 16940 NP 389576.2	RLGGQREN	AKQFLKENKDIMLMIQEIQREHYGLDNNGVVQQAEETQEEL.EFE.E.....	348
NTDB id 625 LCA RS02525 WP 011374196.1	RIGQGRENAKNYLADHEDVEDEVRLKVRAAYGISDVPEEDLPTTEDE.QI.NILPDDST.....EE.....	355	
NTDB id 1245 Cj1673c YP 002345041.1	KLGGGRENSKAFLKENPEIADEITKAIQNSMGI	EGMISGSEDDE..GEE.....	343
NTDB id 1211 C694 RS00795 WP 000963128.1	KLGGQREN	AKALLKEDKALADEITLKIKESIGSNEEIMPLPDEP..LEEM.E.....	347
NTDB id 1214 NCTC11637 00359 SQJ03206.1	KLGGQREN	AKALLKEDKALADEITLKIKESIGSNEEIMPLPDEP..LEEM.E.....	347
NTDB id 1334 RAOC RS04870 WP 004918236.1	KLGGQRDTV	KELTKDNPELAEELEAKIREKLQAK.....	343
NTDB id 1389 A4U84 RS07560 WP 021112712.1	KIGQGGKNN	AVKWLKENPEIADKLEQEIRNTLASNPNSVLKATASDSNDES.DVEEF.....SEEEL.....	372
NTDB id 1130 NGFG RS03960 WP 003688695.1	KIGQGGKDNVRVWLKENPEISDEIDAKIRALNGVEMHITEGTQDETD.....GER.....PEE.....	348	
NTDB id 1124 NGFG RS03960 WP 003688695.1	KIGQGGKDNVRVWLKENPEISDEIDAKIRALNGVEMHITEGTQDETD.....GER.....PEE.....	348	
NTDB id 1123 OK783 RS03845 WP 003688695.1	KIGQGGKDNVRVWLKENPEISDEIDAKIRALNGVEMHITEGTQDETD.....GER.....PEE.....	348	
NTDB id 1427 RS RS02760 WP 011000510.1	RIGQGRDNCREFLRENAELAREIENKVREHLGVTPMGAV.TLAEVEED.....	352	
NTDB id 1165 A1552VC RS01565 WP 000344154.1	KIGQGGKAN	ACKYLVKENPEIAKTLDDKLLREMLLNPENMQLIAETSSAADV.EFGAV.....PEEF.....	354
NTDB id 1142 GTF74 RS11550 WP 000344154.1	KIGQGGKAN	ACKYLVKENPEIAKTLDDKLLREMLLNPENMQLIAETSSAADV.EFGAV.....PEEF.....	354
NTDB id 1074 ABD1 RS10195 WP 000344167.1	KIGQGGKNNVIRYFEENNQIAEEIERNIREQLLTGTNGAVQ.I.EDEEEP.D..LL.....LES.....	349	
NTDB id 1022 ACIAD RS06390 WP 004925639.1	KIGQGGKNNVIRYLEENPQISTEIEAVIREQLLTKASDQTAA.HDETEEEP.D..LL.....ES.....	349	
NTDB id 1205 PSJM300 05545 AFN77183.1	KIGQGGKANAAKYLEENPEIGQEIEQQIRAKLLVTSANTKATPVAEDLADA.D..I.....	347	
consensus	***!!!!**	***** ** ***** ** *	*

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NTDB id 1313 DR RS12030 WP 010888966.1	.	363
NTDB id 339307 ERC79 RS21430 WP 131580372.1	.	345
NTDB id 600 KW2 RS01765 WP 011675413.1	.	387
NTDB id 269 KZH43 RS08665 WP 001085462.1	E	388
NTDB id 228 SPD RS09265 WP 001085462.1	E	388
NTDB id 194 SPR RS08825 WP 001085462.1	E	388
NTDB id 159 SP RS09750 WP 001085462.1	E	388
NTDB id 499 SM12261 RS08315 WP 078228268.1	E	384
NTDB id 527 SMSK321 RS11065 WP 001085454.1	E	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
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NTDB id 1334 RAOC RS04870 WP 004918236.1	.	343
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 1074 ABD1 RS10195 WP 000344167.1	.	349
NTDB id 1022 ACIAD RS06390 WP 004925639.1	.	349
NTDB id 1205 PSJM300 05545 AFN77183.1	.	347

consensus

 non conserved
 similar
 ≥ 50% conserved