

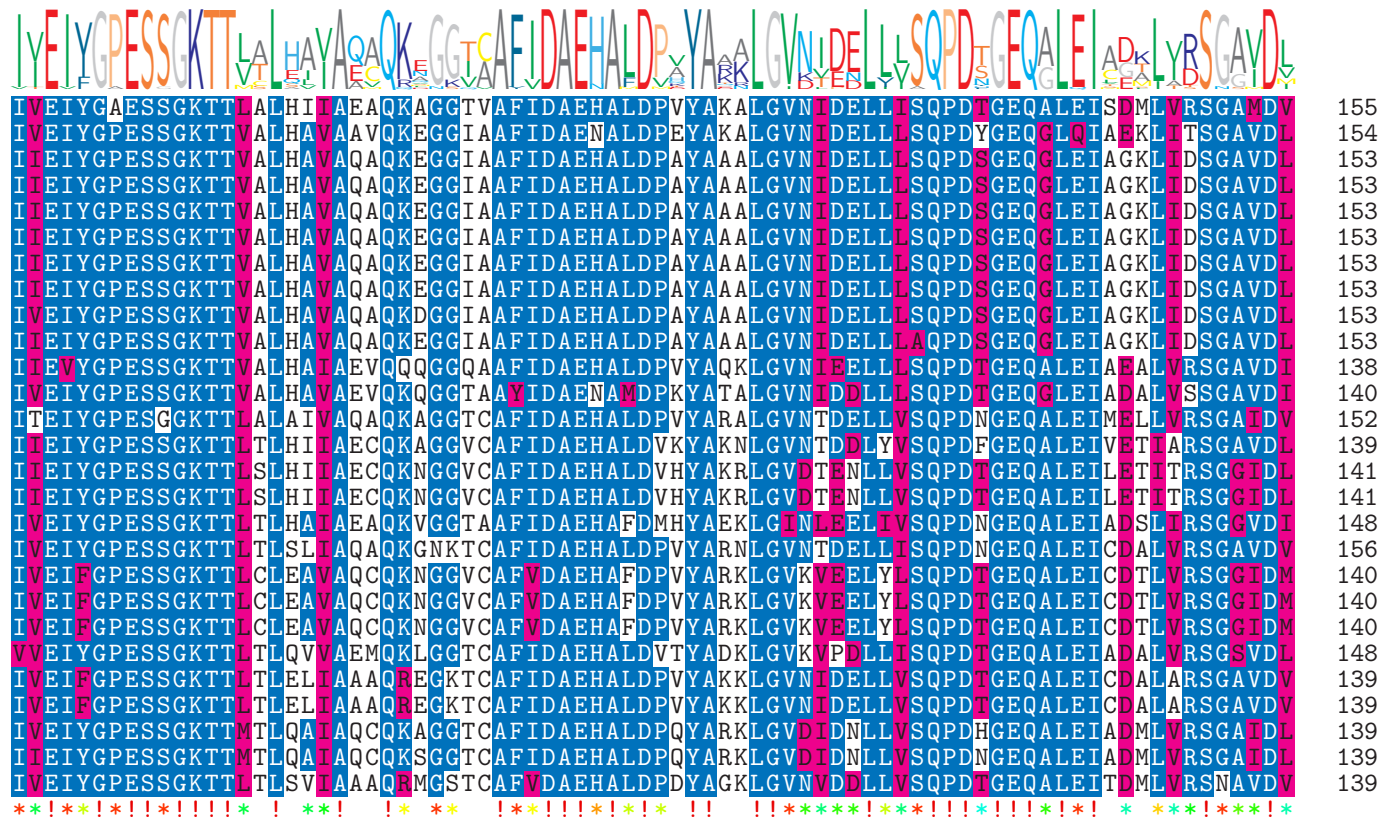
logo

NTDB id 74297 FVE77 RS04085 WP 026746688.1	.MARKK.AEE.K.EKEKDDKGLS	EKEKMLDLALKQIQKD	YGDGAVMKLGEN.QKMNTIRA	ISTGSLNLDIALGIGGVPRGR	75
NTDB id 600 KW2 RS01765 WP 011675413.1	MATKKK...T.N.FDDITKKYGA	ERDKALADALALIEKD	FGKGSIMRLGEA.ANQKVS	VSVSSGSLALDIALGAGGYPKGR	74
NTDB id 269 KZH43 RS08665 WP 001085462.1	.MAKKP...K.K.LEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER.AEQKVQ	VMSSGSLALDIALGSGGYPKGR	73
NTDB id 228 SPD RS09265 WP 001085462.1	.MAKKP...K.K.LEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER.AEQKVQ	VMSSGSLALDIALGSGGYPKGR	73
NTDB id 194 SPR RS08825 WP 001085462.1	.MAKKP...K.K.LEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER.AEQKVQ	VMSSGSLALDIALGSGGYPKGR	73
NTDB id 159 SP RS09750 WP 001085462.1	.MAKKP...K.K.LEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER.AEQKVQ	VMSSGSLALDIALGSGGYPKGR	73
NTDB id 527 SMSK321 RS11065 WP 001085454.1	.MAKKP...K.K.LDEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER.AEQKVQ	VMSSGSLALDIALGSGGYPKGR	73
NTDB id 499 SM12261 RS08315 WP 078228268.1	.MAKKP...K.K.LDEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER.AEQKVQ	VMSSGSLALDIALGSGGYPKGR	73
NTDB id 408 SMU RS09530 WP 002262392.1	.MAKRI...K.K.TEEITKKFGD	ERRKALDDALKNIEKD	FGKGAVMRLGER.AEQKVQ	VMSSGSLALDIALGAGGYPKGR	73
NTDB id 453 Spy49 1753c ACI62003.1	.MAKKL...K.K.NEEITKKFGD	ERRKALDDALKNIEKD	FGKGAVMRLGER.AEQKVQ	VMSSGSLALDIALGAGGYPKGR	73
NTDB id 115 BSU 16940 NP 389576.2	MS	DRQAALDMALKQIEKQ	FGKGSIMKLGEK.TDTRIST	VPSSGSLALDTALGIGGYPRGR	58
NTDB id 625 LCA RS02525 WP 011374196.1	MAKD	ERQAALDAALKKIEKN	FGKGSIMRMGEK.VDTQV	STVSSGSLALDEALGVGGYPRGR	60
NTDB id 1313 DR RS12030 WP 010888966.1	MSKDATKEISAPTD	AKERSKATETAMSQIEK	AFGKGSIMKLGAE.SKLDV	QVVSTGSLSLDLALGVGGIPRGR	72
NTDB id 1245 Cj1673c YP 002345041.1	MDDN	KRKSLDAALKSLDKT	TFGKGTILRLGDK.EVEQ	IDSIGTGSVGLDLALGIGGVPRGR	59
NTDB id 1211 C694 RS00795 WP 000963128.1	MAIDE	DKQKATISLAIKQID	KVFGKGALVRLGDK.QVEK	IDSISTGSLGLDLALGIGGVPRGR	61
NTDB id 1214 NCTC11637 00359 SQJ03206.1	MAIDE	DKQKATISLAIKQID	KVFGKGALVRLGDK.QVEK	IDAIISTGSLGLDLALGIGGVPRGR	61
NTDB id 1334 RAOC RS04870 WP 004918236.1	MAKT..ETTSPND	DKKKALAAVLEKLDKT	YGKGTVMKLGDTVDH	NIEVIPSGSLGLDLALGVGGYPRGR	68
NTDB id 1389 A4U84 RS07560 WP 021112712.1	.MAENKKSSKNNTV..VKQ	VEPEQKKQALEAALAI	QIEKQFGKGSIMKLGQT.EQLD	IESVSTGSLGLDLALGIGGLPMGR	76
NTDB id 1130 NGFG RS03960 WP 003688695.1	MSD	DKSKALAAALAIQIEKS	FGKGAIMKMDGSQ	QEEENLEVISTGSLGLDLALGVGGLPRGR	60
NTDB id 1124 NGFG RS03960 WP 003688695.1	MSD	DKSKALAAALAIQIEKS	FGKGAIMKMDGSQ	QEEENLEVISTGSLGLDLALGVGGLPRGR	60
NTDB id 1123 OK783 RS03845 WP 003688695.1	MSD	DKSKALAAALAIQIEKS	FGKGAIMKMDGSQ	QEEENLEVISTGSLGLDLALGVGGLPRGR	60
NTDB id 1427 RS RS02760 WP 011000510.1	.MEDG.....K..KAAS	MSAEKQKALAAALAI	QIEKQFGKGSIMKMGDA.EVEP	VQVVSTGSLGLDVALGVGGLPRGR	68
NTDB id 1165 A1552VC RS01565 WP 000344154.1	MDEN	KQKALAAALGQIEKQ	FGKGSIMRLGDN.RAMD	VETISTGSLSLDIALGAGGLPMGR	59
NTDB id 1142 GTF74 RS11550 WP 000344154.1	MDEN	KQKALAAALGQIEKQ	FGKGSIMRLGDN.RAMD	VETISTGSLSLDIALGAGGLPMGR	59
NTDB id 1022 ACIAD RS06390 WP 004925639.1	MDDN	KSKALQAALSQIEKQ	FGKNTVMRLGDN.TVQ	AVEAVSTGSLTLDIALGIGGLPKGR	59
NTDB id 1074 ABD1 RS10195 WP 000344167.1	MDEN	KSKALQAALSQIEKQ	FGKNTVMRLGDN.TVQ	AVEAVSTGSLTLDIALGIGGLPKGR	59
NTDB id 1205 PSJM300 05545 AFN77183.1	MDEN	KKRALAAALGQIEKQ	FGKGAVMRMGDH.DRQA	IPSISTGSLGLDIALGIGGLPKGR	59
consensus		*** **	***! *!*****	* ****!*!!*!!*!!*!!*!!*!!	

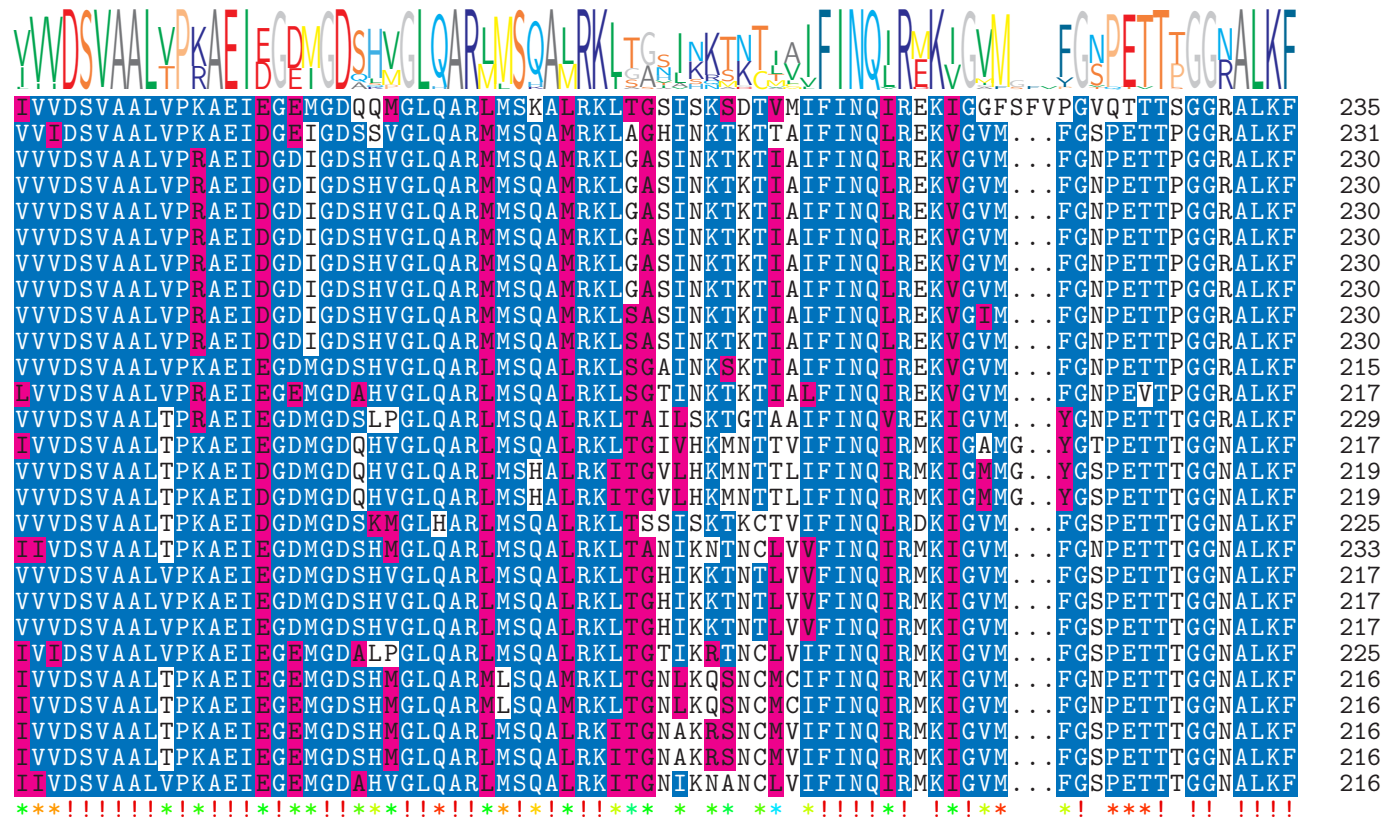
```

NTDB id 74297 FVE77 RS04085 WP 026746688.1
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 527 SMSK321 RS11065 WP 001085454.1
NTDB id 499 SM12261 RS08315 WP 078228268.1
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 1211 C694 RS00795 WP 000963128.1
NTDB id 1214 NCTC11637 00359 SQJ03206.1
NTDB id 1334 RAOC 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
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 74297 FVE77 RS04085 WP 026746688.1
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 527 SMSK321 RS11065 WP 001085454.1
NTDB id 499 SM12261 RS08315 WP 078228268.1
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 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
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 74297 FVE77 RS04085 WP 026746688.1	FSTVRLDVRG	310
NTDB id 600 KW2 RS01765 WP 011675413.1	YASVRLDVRG	310
NTDB id 269 KZH43 RS08665 WP 001085462.1	YASVRLDVRG	309
NTDB id 228 SPD RS09265 WP 001085462.1	YASVRLDVRG	309
NTDB id 194 SPR RS08825 WP 001085462.1	YASVRLDVRG	309
NTDB id 159 SP RS09750 WP 001085462.1	YASVRLDVRG	309
NTDB id 527 SMSK321 RS11065 WP 001085454.1	YASVRLDVRG	309
NTDB id 499 SM12261 RS08315 WP 078228268.1	YASVRLDVRG	309
NTDB id 408 SMU RS09530 WP 002262392.1	YSSVRLDVRG	309
NTDB id 453 Spy49 1753c ACI62003.1	YASVRLDVRG	309
NTDB id 115 BSU 16940 NP 389576.2	YSSVRLDVRG	290
NTDB id 625 LCA RS02525 WP 011374196.1	YSTVRLDVRG	292
NTDB id 1313 DR RS12030 WP 010888966.1	YASVRLDVRG	305
NTDB id 1245 Cj1673c YP 002345041.1	YASVRLDVRG	292
NTDB id 1211 C694 RS00795 WP 000963128.1	YASVRIDIRRI	294
NTDB id 1214 NCTC11637 00359 SQJ03206.1	YASVRIDIRRI	294
NTDB id 1334 RAOC RS04870 WP 004918236.1	YASVRIDIRRI	305
NTDB id 1389 A4U84 RS07560 WP 021112712.1	YASVRLDIRRC	308
NTDB id 1130 NGFG RS03960 WP 003688695.1	YSSVRLDIRRT	292
NTDB id 1124 NGFG RS03960 WP 003688695.1	YSSVRLDIRRT	292
NTDB id 1123 OK783 RS03845 WP 003688695.1	YSSVRLDIRRT	292
NTDB id 1427 RS RS02760 WP 011000510.1	YASVRLDIRRI	300
NTDB id 1165 A1552VC RS01565 WP 000344154.1	YASVRLDIRRT	291
NTDB id 1142 GTF74 RS11550 WP 000344154.1	YASVRLDIRRT	291
NTDB id 1022 ACIAD RS06390 WP 004925639.1	YASVRLDIRRI	291
NTDB id 1074 ABD1 RS10195 WP 000344167.1	YASVRLDIRRI	291
NTDB id 1205 PSJM300 05545 AFN77183.1	YASVRLDIRRT	291
consensus	***!*****	

logo

NTDB id 74297 FVE77 RS04085 WP 026746688.1	YGDDE	RLGQGRV	NVENML	KENKE	EVYGR	LEKQV	LEAIRPKQETEQ	LKIVETAET	.....	ENKEAG	.NNED	.....	372			
NTDB id 600 KW2 RS01765 WP 011675413.1	YNDE	KIGQGA	EAKAK	NYLKE	HQDV	FDEID	HKVRAAHG	LDDSEVAETEE	EETASKTKAKAK	KEEKAVETEE	EIELELED	...	387			
NTDB id 269 KZH43 RS08665 WP 001085462.1	YKDE	KIGQGS	ENAKKY	LAEH	PEIF	DEIDK	QVRSKFGL	IDGEEVSEQD	TENKKDE	....	PKKEEA	..VNEEVPLDLGDELE	383			
NTDB id 228 SPD RS09265 WP 001085462.1	YKDE	KIGQGS	ENAKKY	LAEH	PEIF	DEIDK	QVRSKFGL	IDGEEVSEQD	TENKKDE	....	PKKEEA	..VNEEVPLDLGDELE	383			
NTDB id 194 SPR RS08825 WP 001085462.1	YKDE	KIGQGS	ENAKKY	LAEH	PEIF	DEIDK	QVRSKFGL	IDGEEVSEQD	TENKKDE	....	PKKEEA	..VNEEVPLDLGDELE	383			
NTDB id 159 SP RS09750 WP 001085462.1	YKDE	KIGQGS	ENAKKY	LAEH	PEIF	DEIDK	QVRSKFGL	IDGEEVSEQD	TENKKDE	....	PKKEEA	..VNEEVPLDLGDELE	383			
NTDB id 527 SMSK321 RS11065 WP 001085454.1	YKDE	KIGQGS	ENAKKY	LADN	PEVFA	EIDH	QVRVQFGL	IDGEEAAE		SKKDE		VAQVDS	..VNEEVTLDLGDLE	379		
NTDB id 499 SM12261 RS08315 WP 078228268.1	YKDE	KIGQGS	ENAKKY	LADN	PEIF	DEIDH	QVRVQFGL	IDGEEIAE		SKKDE		AAQVDS	..VNEEVTLDLGDLE	379		
NTDB id 408 SMU RS09530 WP 002262392.1	YNGE	KIGQGS	ENAKK	FLADN	PEIF	DDIDH	KVRVQYGL	IEEDNTEEK	QSSKEK	.....	ETDEK	..ADKNLVLELDDTIE	380			
NTDB id 453 Spy49 1753c ACI62003.1	YNGE	KIGQGS	ENAKR	YLADH	PQLF	DEIDR	KVRVKFGL	LEESEES	SAMAVASE		E		TDDLALDLNGIE	375		
NTDB id 115 BSU 16940 NP 389576.2	YEEE	RLGQGR	ENAKQ	FLKEN	KDIM	LMIQE	QIREHYGL	DNNGVVQ	QAEETQEEL	.EFE	.E	.....	348			
NTDB id 625 LCA RS02525 WP 011374196.1	YGSE	RIGQGR	ENAKN	YLADH	EDVE	DEVRL	KVRAAYG	ISDVPEED	LPTTEDE	.QI	.NILPDDST		EE		355	
NTDB id 1313 DR RS12030 WP 010888966.1	YGDDE	RIGQGR	KEKTI	YIA	ERPE	MEQE	IRDRVMAA	IRAGNAGE	APALAPAPA	AAPEAAEA	.....	363				
NTDB id 1245 Cj1673c YP 002345041.1	YKDK	KLGGGR	ENSKA	FLKEN	PEIA	DEITK	AIQNSMG	IEGMI	....	SGSEDD	.EGEE	.....	343			
NTDB id 1211 C694 RS00795 WP 000963128.1	YQDK	KLGGGR	ENAK	ALLKED	KALADE	ITLK	IKESIG	SNEEI	....	MPLPDE	..PLEEME	.....	347			
NTDB id 1214 NCTC11637 00359 SQJ03206.1	YQDK	KLGGGR	ENAK	ALLKED	KALADE	ITLK	IKESIG	SNEEI	....	MPLPDE	..PLEEME	.....	347			
NTDB id 1334 RAOC RS04870 WP 004918236.1	YQDT	KLGGGR	DTVKEL	IKDN	PELA	EEL	EAKIREKL	LQAK	.....	343						
NTDB id 1389 A4U84 RS07560 WP 021112712.1	YDGT	KIGQGR	KNNAV	KWLKEN	PEIA	DKLE	QEIRNT	LASNPN	S....	VLKATASDS	NDSD	..VEEFSEEEL		372		
NTDB id 1130 NGFG RS03960 WP 003688695.1	YNGA	KIGQGR	KDNVR	RVWLKEN	PEIS	DEIDA	KIRALNG	VEMHI		TEGTQDET	DGER		PEE		348	
NTDB id 1124 NGFG RS03960 WP 003688695.1	YNGA	KIGQGR	KDNVR	RVWLKEN	PEIS	DEIDA	KIRALNG	VEMHI		TEGTQDET	DGER		PEE		348	
NTDB id 1123 OK783 RS03845 WP 003688695.1	YNGA	KIGQGR	KDNVR	RVWLKEN	PEIS	DEIDA	KIRALNG	VEMHI		TEGTQDET	DGER		PEE		348	
NTDB id 1427 RS RS02760 WP 011000510.1	YNGE	RIGQGR	DNCRE	FLRENA	EELARE	EIENK	VREHLG	VTPMG	....	AVTLA	.EEVEED	.....	352			
NTDB id 1165 A1552VC RS01565 WP 000344154.1	YNGD	KIGQGR	KANACK	YLKEN	PEIA	AKTLD	DKKLRE	MLLNPEN	M....	QLIAETSSA	ADDVE	..FGAVPEEF		354		
NTDB id 1142 GTF74 RS11550 WP 000344154.1	YNGD	KIGQGR	KANACK	YLKEN	PEIA	AKTLD	DKKLRE	MLLNPEN	M....	QLIAETSSA	ADDVE	..FGAVPEEF		354		
NTDB id 1022 ACIAD RS06390 WP 004925639.1	YQGN	KIGQGR	KNNVIR	YLEEN	PQISTE	IEAV	IREQLLT	TKASD		QTAA	.HDETEEEP	D..LL	..ES		349	
NTDB id 1074 ABD1 RS10195 WP 000344167.1	YQGN	KIGQGR	KNNVIR	YLEEN	NQIAE	EIERN	IREQLLT	TGTN		GAVQ	.I	.EDDEEP	D..LL	..LES		349
NTDB id 1205 PSJM300 05545 AFN77183.1	YKGS	KIGQGR	KANA	AKYLE	ENPEI	GQIE	IEQQIR	AKLLV	TSAN		TKATPVAED	LADAD	..I		347	
consensus	!	**	!!	!!	*****	**	*****	*****	**	**	**	.....				

logo

NTDB id 74297 FVE77 RS04085 WP 026746688.1	.....	372
NTDB id 600 KW2 RS01765 WP 011675413.1	.....	387
NTDB id 269 KZH43 RS08665 WP 001085462.1	IEIEE	388
NTDB id 228 SPD RS09265 WP 001085462.1	IEIEE	388
NTDB id 194 SPR RS08825 WP 001085462.1	IEIEE	388
NTDB id 159 SP RS09750 WP 001085462.1	IEIEE	388
NTDB id 527 SMSK321 RS11065 WP 001085454.1	IEIEE	384
NTDB id 499 SM12261 RS08315 WP 078228268.1	IEIEE	384
NTDB id 408 SMU RS09530 WP 002262392.1	LED..	383
NTDB id 453 Spy49 1753c ACI62003.1	IED..	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 1211 C694 RS00795 WP 000963128.1	.....	347
NTDB id 1214 NCTC11637 00359 SQJ03206.1	.....	347
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 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