

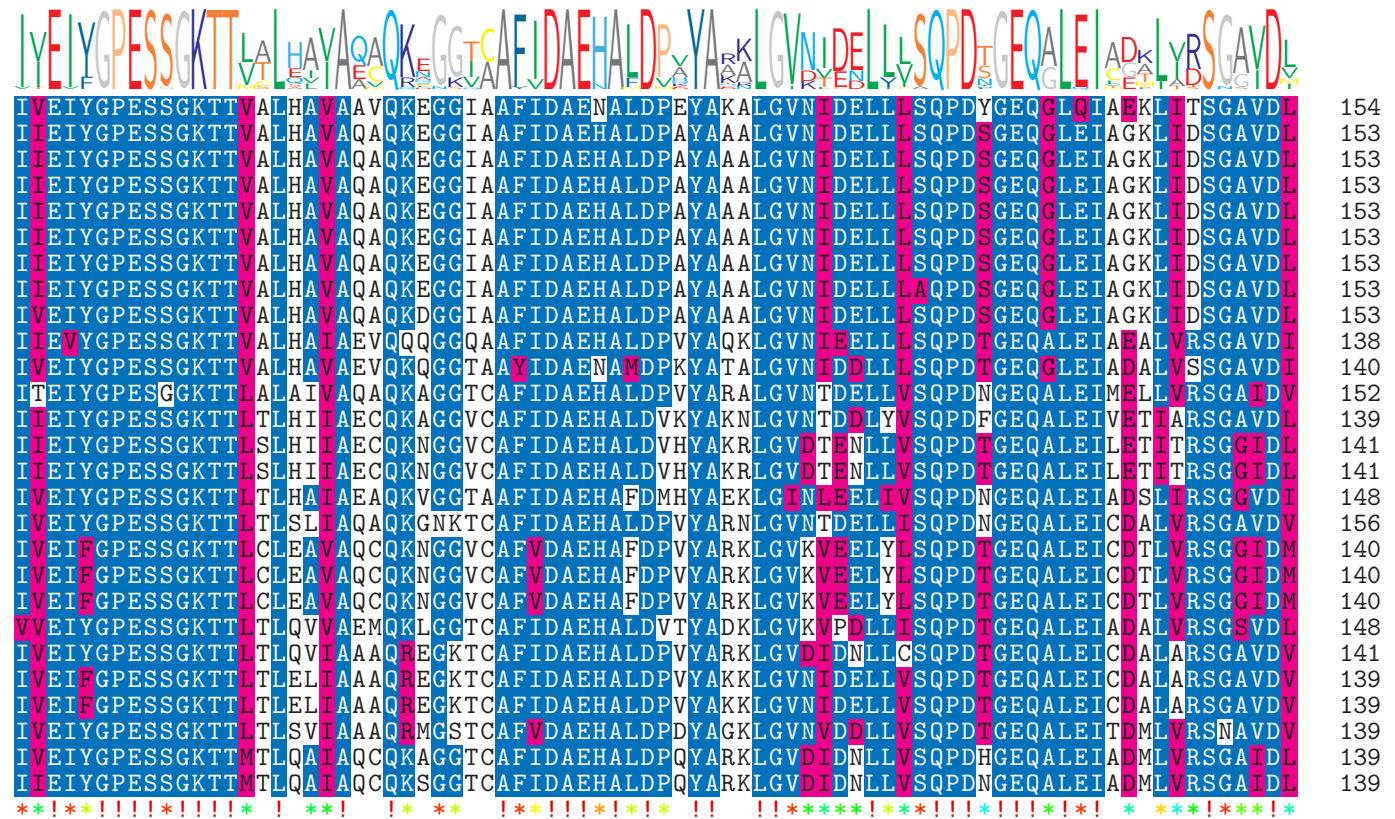
logo

NTDB id 600 KW2 RS01765 WP 011675413.1	MATKKK....TNFDDITKKYGA	ERDKALADALALIEKD	FGKGSIMRLGEA	.ANQKVS	VSSGSLALD	I	ALGAGGY	PKGR	74
NTDB id 269 KZH43 RS08665 WP 001085462.1	.MAKKP....KKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQVM	SSGSLALD	I	ALGSGGY	PKGR	73
NTDB id 228 SPD RS09265 WP 001085462.1	.MAKKP....KKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQVM	SSGSLALD	I	ALGSGGY	PKGR	73
NTDB id 194 SPR RS08825 WP 001085462.1	.MAKKP....KKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQVM	SSGSLALD	I	ALGSGGY	PKGR	73
NTDB id 159 SP RS09750 WP 001085462.1	.MAKKP....KKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQVM	SSGSLALD	I	ALGSGGY	PKGR	73
NTDB id 499 SM12261 RS08315 WP 078228268.1	.MAKKP....KKLDEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQVM	SSGSLALD	I	ALGSGGY	PKGR	73
NTDB id 527 SMSK321 RS11065 WP 001085454.1	.MAKKP....KKLDEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQVM	SSGSLALD	I	ALGSGGY	PKGR	73
NTDB id 453 Spy49 1753c ACI62003.1	.MAKKL....KKNEEITKKFG	DERRKALDDALKNIEKD	FGKGAVMRLGER	.AEQKVQVM	SSGSLALD	I	ALGAGGY	PKGR	73
NTDB id 408 SMU RS09530 WP 002262392.1	.MAKRI....KKTEEITKKFG	DERKKALDDALKNIEKD	FGKGAVMRLGER	.AEQKVQVM	SSGSLALD	I	ALGAGGY	PKGR	73
NTDB id 115 BSU 16940 NP 389576.2	MSDRQAALDMALK	QIEKQFGKGSIMKLGEK	.TDTRIST	VP	SGSLALD	T	ALGIGGY	PRGR	58
NTDB id 625 LCA RS02525 WP 011374196.1	MAKDERQAALDAALK	KIEKNFGKGSIMRMGEK	.VDTQVST	VSSGSLAL	DEALGV	GGYPRGR			60
NTDB id 1313 DR RS12030 WP 010888966.1	MSKDATKEISAPTD	AKERSKATETAM	SQIEKAFGKGSIMKLGAE	.SKLDVQV	VSTGSLSLD	I	ALGVGGI	PRGR	72
NTDB id 1245 Cj1673c YP 002345041.1	MDDNKRKSLDAALK	SLDKTFGKGTILRLGDK	.EVEQIDS	IGTGSVGLD	I	ALGIGGV	PKGR		59
NTDB id 1214 NCTC11637 00359 SQJ03206.1	MAIDEDKQKAI	SLAIKQIDKVF	FGKGALVRLGDK	.QVEKIDA	ISTGSLGLD	I	ALGIGGV	PKGR	61
NTDB id 1211 C694 RS00795 WP 000963128.1	MAIDEDKQKAI	SLAIKQIDKVF	FGKGALVRLGDK	.QVEKIDS	ISTGSLGLD	I	ALGIGGV	PKGR	61
NTDB id 1334 RAOC RS04870 WP 004918236.1	MAKT..ETTSPN	DDKKKALAAVLEKLDKT	YGKGTVMKLG	DGTVDHNI	EVIPSGSLGLD	I	ALGVGGY	PKGR	68
NTDB id 1389 A4U84 RS07560 WP 021112712.1	.MAENKKSSKNNTV..VKQVEP	EQKKQALEAALA	QIEKQFGKGSIMKLGQT	.EQLDIES	VSTGSLGLD	I	ALGIGGL	PMGR	76
NTDB id 1130 NGFG RS03960 WP 003688695.1	MSDDKSKALAAALA	QIEKSFGKGAIMKMDGSQ	QEENLEVISTGSLGLD	I	ALGVGGL	PRGR			60
NTDB id 1124 NGFG RS03960 WP 003688695.1	MSDDKSKALAAALA	QIEKSFGKGAIMKMDGSQ	QEENLEVISTGSLGLD	I	ALGVGGL	PRGR			60
NTDB id 1123 OK783 RS03845 WP 003688695.1	MSDDKSKALAAALA	QIEKSFGKGAIMKMDGSQ	QEENLEVISTGSLGLD	I	ALGVGGL	PRGR			60
NTDB id 1427 RS RS02760 WP 011000510.1	.MED.....GK..KAASMS	AEKQKALAAALA	QIEKQFGKGSIMKMDA	.EVEPVQV	VSTGSLGLD	I	ALGVGGL	PRGR	68
NTDB id 399575 GJE10 RS04955 WP 000963150.1	MAIDENKQKALAAAL	GQIEKQFGKGSIMRLGED	.RSMDVET	ISTGSLSLD	I	ALGAGGL	PMGR		61
NTDB id 1165 A1552VC RS01565 WP 000344154.1	MDENKQKALAAAL	GQIEKQFGKGSIMRLGDN	.RAMDVET	ISTGSLSLD	I	ALGAGGL	PMGR		59
NTDB id 1142 GTF74 RS11550 WP 000344154.1	MDENKQKALAAAL	GQIEKQFGKGSIMRLGDN	.RAMDVET	ISTGSLSLD	I	ALGAGGL	PMGR		59
NTDB id 1205 PSJM300 05545 AFN77183.1	MDENKKRALAAAL	GQIEKQFGKGAVMRMGD	H.DRQAIPS	ISTGSLGLD	I	ALGIGGL	PKGR		59
NTDB id 1022 ACIAD RS06390 WP 004925639.1	MDDNKSKALQAALS	QIEKQFGKNTVMRLGDN	.TVQAVEA	VSTGSLTLD	I	ALGIGGL	PKGR		59
NTDB id 1074 ABD1 RS10195 WP 000344167.1	MDENKSKALQAALS	QIEKQFGKNTVMRLGDN	.TVQAVEA	VSTGSLTLD	I	ALGIGGL	PKGR		59
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 453 Spy49 1753c ACI62003.1
NTDB id 408 SMU RS09530 WP 002262392.1
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 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 399575 GJE10 RS04955 WP 000963150.1
NTDB id 1165 A1552VC RS01565 WP 000344154.1
NTDB id 1142 GTF74 RS11550 WP 000344154.1
NTDB id 1205 PSJM300 05545 AFN77183.1
NTDB id 1022 ACIAD RS06390 WP 0004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
consensus

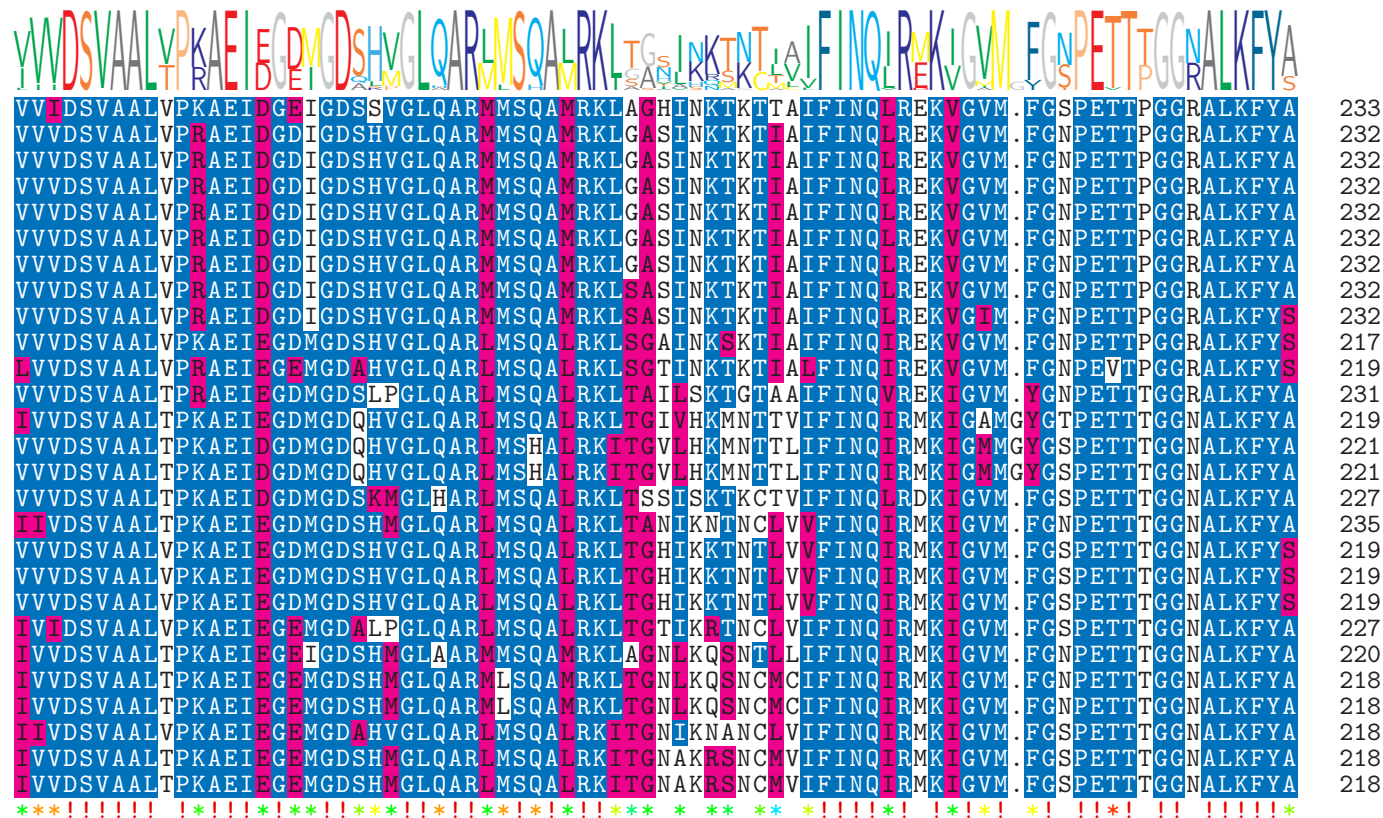
```



```

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 453 Spy49 1753c ACI62003.1
NTDB id 408 SMU RS09530 WP 002262392.1
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 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 399575 GJE10 RS04955 WP 000963150.1
NTDB id 1165 A1552VC RS01565 WP 000344154.1
NTDB id 1142 GTF74 RS11550 WP 000344154.1
NTDB id 1205 PSJM300 05545 AFN77183.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
consensus

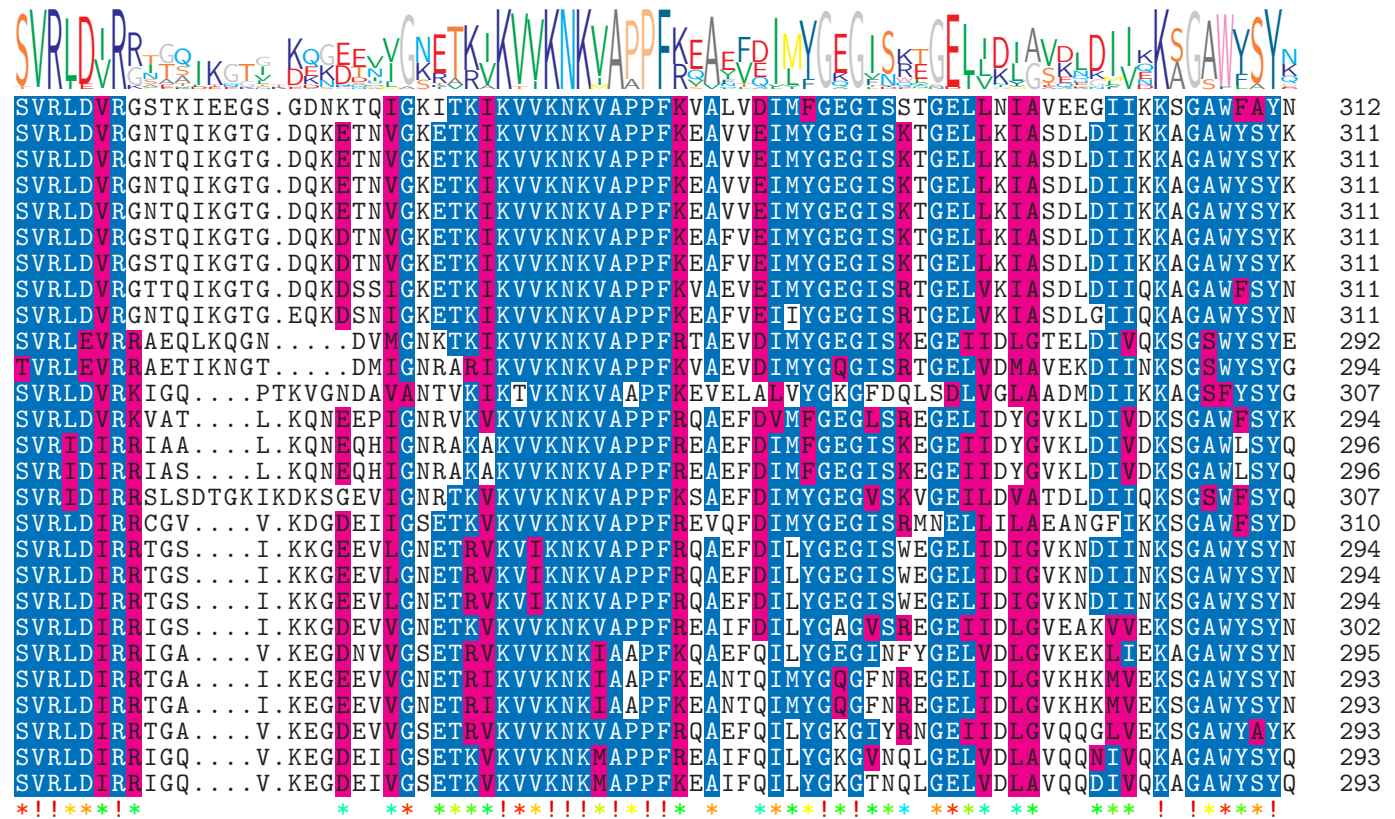
```



```

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 453 Spy49 1753c ACI62003.1
NTDB id 408 SMU RS09530 WP 002262392.1
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 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 399575 GJE10 RS04955 WP 000963150.1
NTDB id 1165 A1552VC RS01565 WP 000344154.1
NTDB id 1142 GTF74 RS11550 WP 000344154.1
NTDB id 1205 PSJM300 05545 AFN77183.1
NTDB id 1022 ACIAD RS06390 WP 0004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
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	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQD	TENKKDE....	PKKEEA..VNEEV	PLDLGDELEIE	385
NTDB id 228 SPD RS09265 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQD	TENKKDE....	PKKEEA..VNEEV	PLDLGDELEIE	385
NTDB id 194 SPR RS08825 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQD	TENKKDE....	PKKEEA..VNEEV	PLDLGDELEIE	385
NTDB id 159 SP RS09750 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQD	TENKKDE....	PKKEEA..VNEEV	PLDLGDELEIE	385
NTDB id 499 SM12261 RS08315 WP 078228268.1	DEKIGQGS	ENAKKYLADNPEIF	DEIDHQVRVQFGL	IDGEEIAES...	KKDE....AAQVDS..	VNEEV	TLDLGDELEIE	381
NTDB id 527 SMSK321 RS11065 WP 001085454.1	DEKIGQGS	ENAKKYLADNPEVFAE	IDHQVRVQFGL	IDGEEAAES...	KKDE....VAQVDS..	VNEEV	TLDLGDELEIE	381
NTDB id 453 Spy49 1753c ACI62003.1	GEKIGQGS	ENAKRYLADHPQLF	DEIDRKVRVKFGL	LEESEEE	SAMAVASE.....	E.....TDDL	ALDLN	377
NTDB id 408 SMU RS09530 WP 002262392.1	GEKIGQGS	ENAKKFLADNPEIF	DDIDHKVRVQYGL	IEEDNTEEKQSSKEK		ETDEK..ADKNL	VLELDDTIELE	382
NTDB id 115 BSU 16940 NP 389576.2	EE	RLGQGREN	AKQFLKENKDIMLMIQE	QIREHYGL	DNNGVVQQAEETQEEL	EFE.E.....		348
NTDB id 625 LCA RS02525 WP 011374196.1	SERIGQGS	ENAKNYLADHEDVE	DEVRLKVRVQYGL	ISDVPEEDLPTTEDE	.QI.NILPDDST.....	EE.....		355
NTDB id 1313 DR RS12030 WP 010888966.1	DERIGQGS	KEKTIAIYIAERPEMEQE	IRDRVMAAIRAGNAGE	APALAPAPAAPEAA...	EA.....			363
NTDB id 1245 Cj1673c YP 002345041.1	DK	KLGGGREN	SKAFLKENPEIADEITKAIQNSMG	IEGM.....	ISGSEDDEG.....	EE.....		343
NTDB id 1214 NCTC11637 00359 SQJ03206.1	DK	KLGGGREN	AKALLKEDKALADEITLKI	KESIGSNEE.....	IMPLPDEPL.....	EE..ME.....		347
NTDB id 1211 C694 RS00795 WP 000963128.1	DK	KLGGGREN	AKALLKEDKALADEITLKI	KESIGSNEE.....	IMPLPDEPL.....	EE..ME.....		347
NTDB id 1334 RAOC RS04870 WP 004918236.1	DT	KLGGGRD	TVKELIKDNPELAEELEAKI	IREKLQAK.....				343
NTDB id 1389 A4U84 RS07560 WP 021112712.1	GT	KIGQGK	NNAVKWLKENPEIADKLEQE	IRNTLASNP.....	SVLKATASDSN...DESDVEEF	SHEEL.....		372
NTDB id 1130 NGFG RS03960 WP 003688695.1	GAKIGQGK	DNVRVWLKENPEISDE	IDAKIRALNGVEMH.....	ITEG.....T...QDET	DGERPEE.....			348
NTDB id 1124 NGFG RS03960 WP 003688695.1	GAKIGQGK	DNVRVWLKENPEISDE	IDAKIRALNGVEMH.....	ITEG.....T...QDET	DGERPEE.....			348
NTDB id 1123 OK783 RS03845 WP 003688695.1	GAKIGQGK	DNVRVWLKENPEISDE	IDAKIRALNGVEMH.....	ITEG.....T...QDET	DGERPEE.....			348
NTDB id 1427 RS RS02760 WP 011000510.1	GE	RIGQGRD	NCREFLRENAELAREIENK	VREHLGVTPM.....	GAVTLAE.EVE...ED.....			352
NTDB id 399575 GJE10 RS04955 WP 000963150.1	GEKIGQGS	KANATTWLKENPATAKE	IEKRVRELLLSNQN.....	ATPDFAVD.....	DSEGVAETNEDF.....			353
NTDB id 1165 A1552VC RS01565 WP 000344154.1	GD	KIGQGS	KANACKYLLKENPEIAKTLDK	KLREMLLNPN.....	MQLIAETSSAA...DDVEFG	AVPEEF.....		354
NTDB id 1142 GTF74 RS11550 WP 000344154.1	GD	KIGQGS	KANACKYLLKENPEIAKTLDK	KLREMLLNPN.....	MQLIAETSSAA...DDVEFG	AVPEEF.....		354
NTDB id 1205 PSJM300 05545 AFN77183.1	GSKIGQGS	KANAACKYLEENPEIGQ	EIEQQIRAKLLV	TSA.....NTKATP	VAEDL...ADADI.....			347
NTDB id 1022 ACIAD RS06390 WP 004925639.1	GN	KIGQGS	KNNVIRYLEENPQISTEIE	AVIREQLLT	TAS....DQTAA.HDETE...EEP	DLLES.....		349
NTDB id 1074 ABD1 RS10195 WP 000344167.1	GN	KIGQGS	KNNVIRYFEENNQIAEEIERN	IREQLLT	TGT....NGAVQ.I.EDE...EEP	DLLES.....		349
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 453 Spy49 1753c ACI62003.1	D..	378	
NTDB id 408 SMU RS09530 WP 002262392.1	D..	383	
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 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 399575 GJE10 RS04955 WP 000963150.1	...	353	
NTDB id 1165 A1552VC RS01565 WP 000344154.1	...	354	
NTDB id 1142 GTF74 RS11550 WP 000344154.1	...	354	
NTDB id 1205 PSJM300 05545 AFN77183.1	...	347	
NTDB id 1022 ACIAD RS06390 WP 004925639.1	...	349	
NTDB id 1074 ABD1 RS10195 WP 000344167.1	...	349	
consensus			

-  non conserved
-  similar
-  ≥ 50% conserved