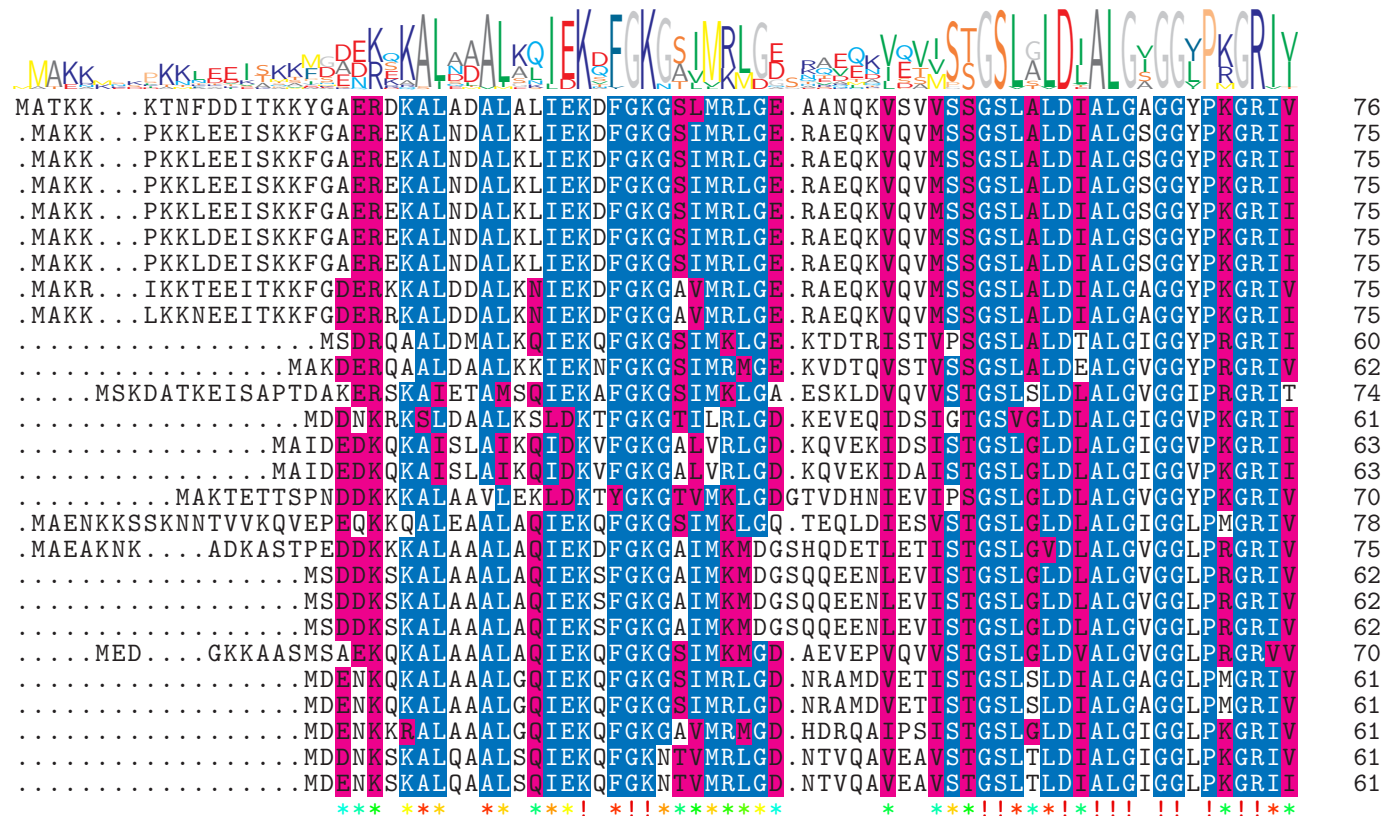


```

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 332340 ELB75 RS11080 WP 126983943.1
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 1205 PSJM300 05545 AFN77183.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
consensus

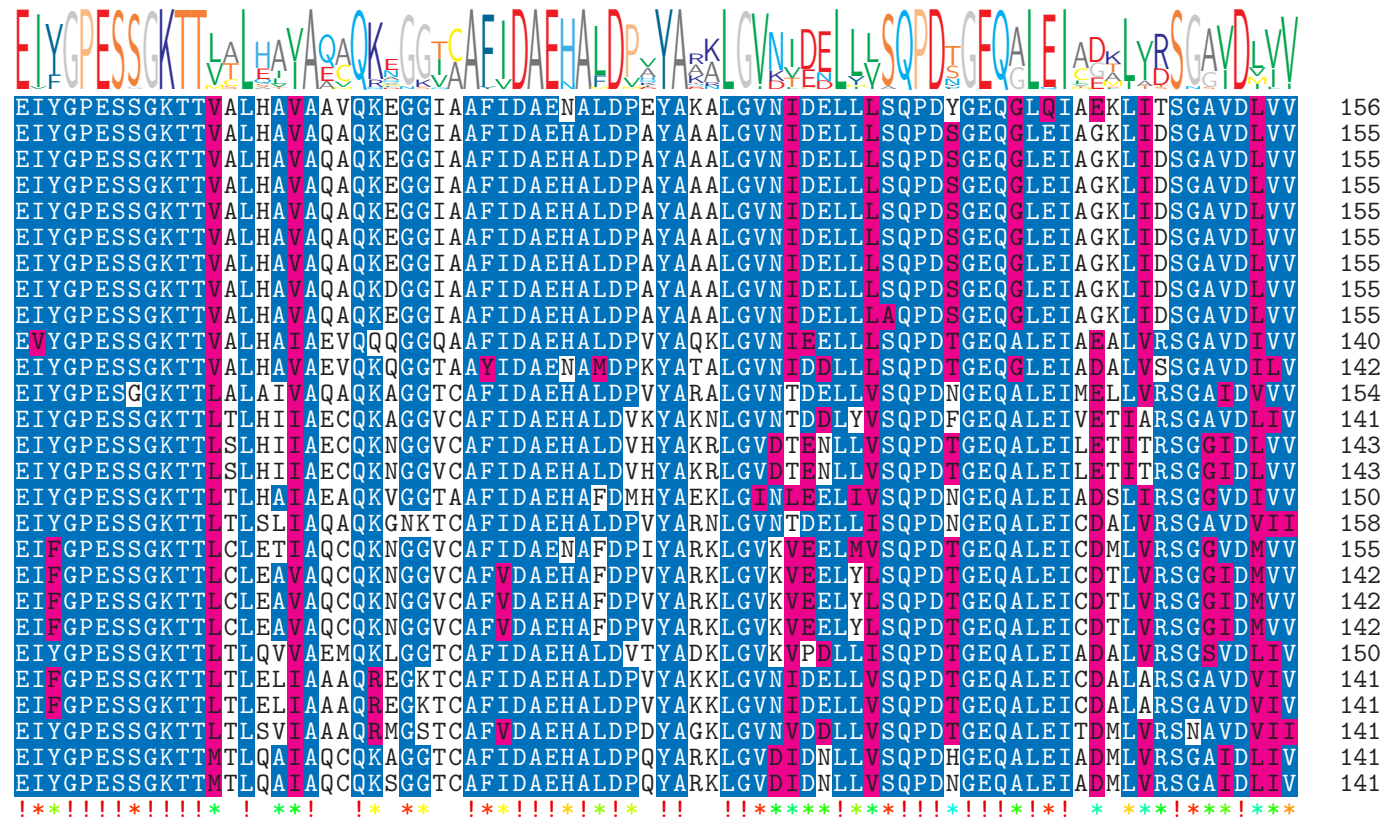
```



```

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 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 332340 ELB75 RS11080 WP 126983943.1
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 1205 PSJM300 05545 AFN77183.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
consensus

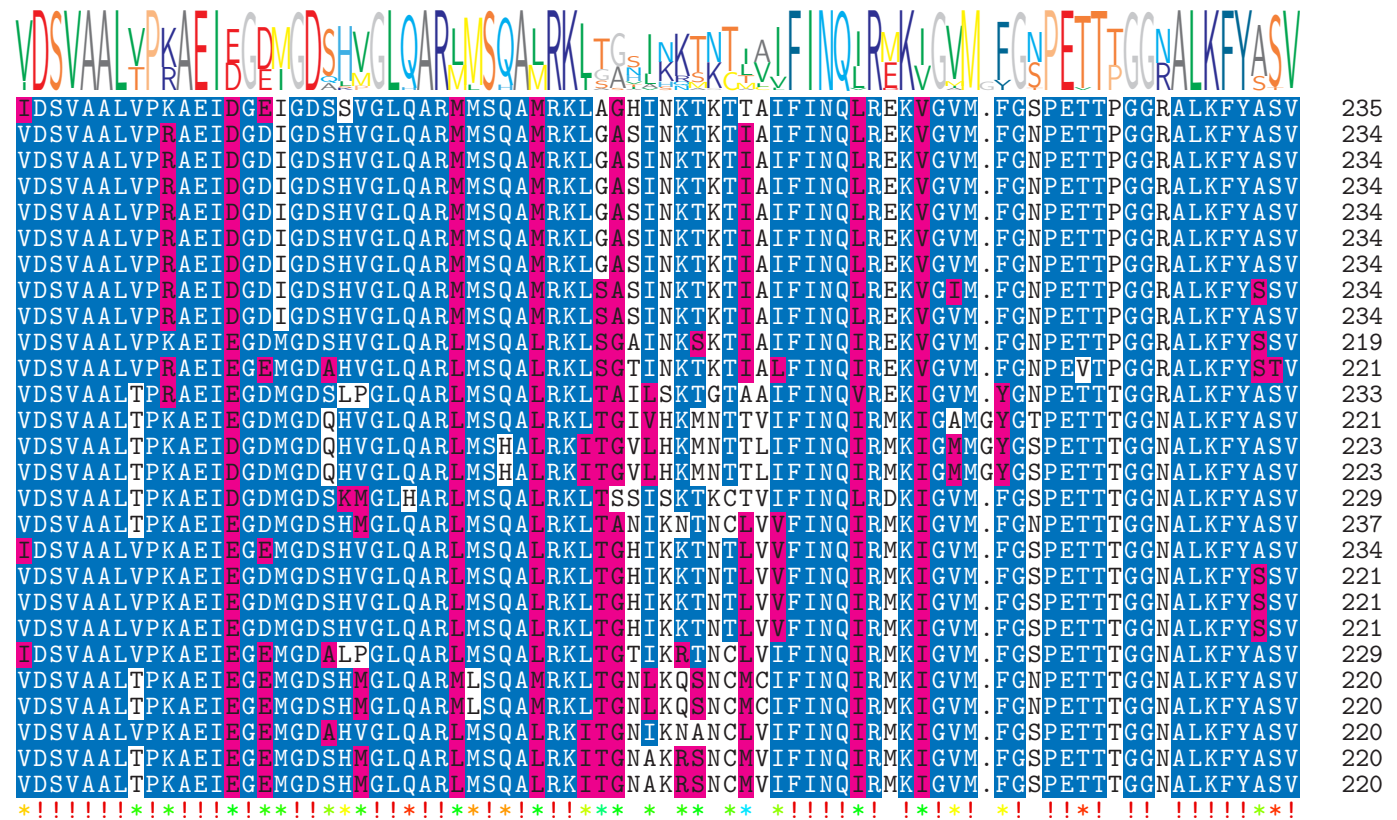
```



```

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 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 332340 ELB75 RS11080 WP 126983943.1
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 1205 PSJM300 05545 AFN77183.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
consensus

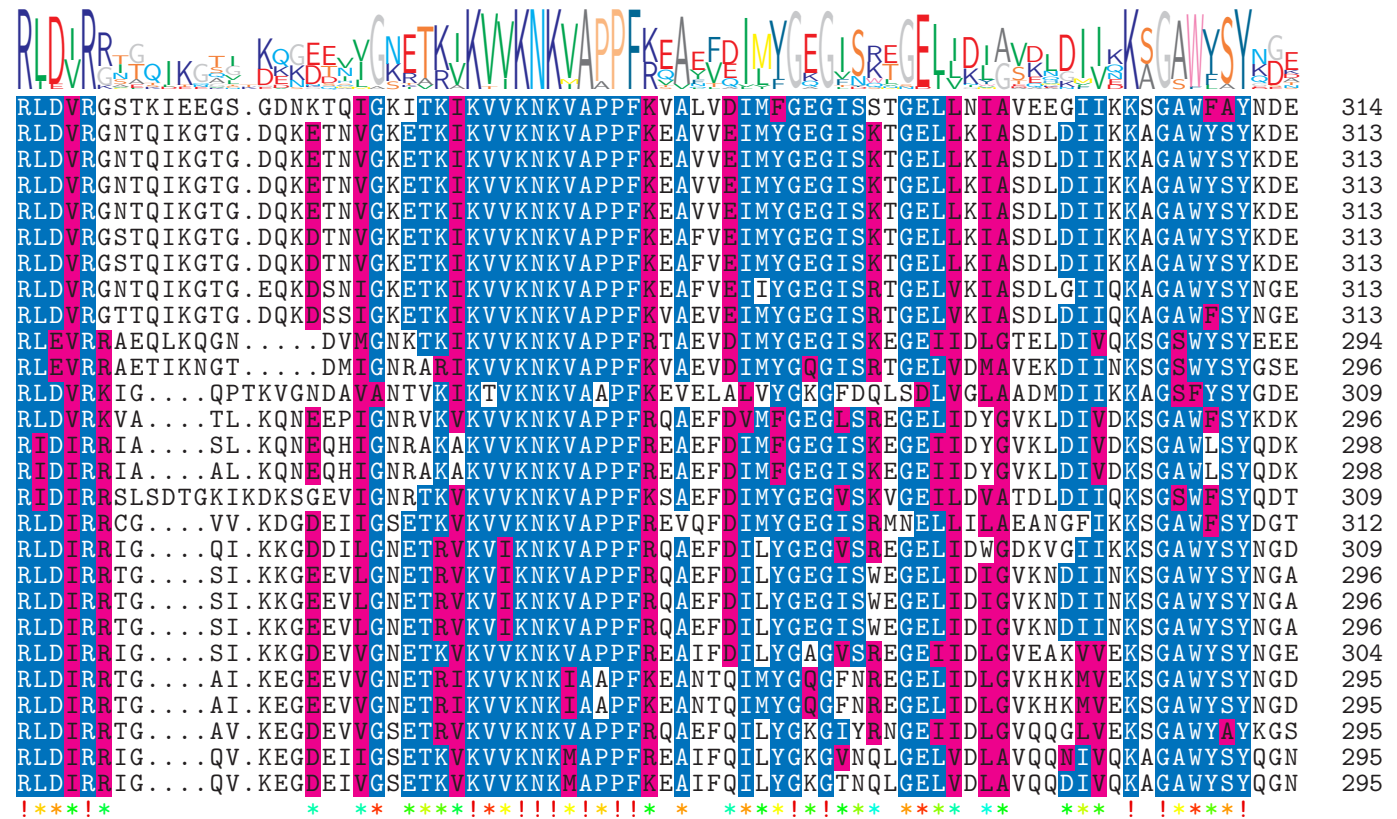
```



```

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 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 332340 ELB75 RS11080 WP 126983943.1
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 1205 PSJM300 05545 AFN77183.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
consensus

```



logo

NTDB id 600 KW2 RS01765 WP 011675413.1	KIGQGA	EKAKNYLKEHQDV	DEIDHKVRAAHG	LDDSEVAETEEETT	ASKTKAKAKKEEK	AVETEEIELELED		387
NTDB id 269 KZH43 RS08665 WP 001085462.1	KIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTENK	KDE....PKKEEA	..VNEEVPLDLGDE	LEIEIE	387
NTDB id 228 SPD RS09265 WP 001085462.1	KIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTENK	KDE....PKKEEA	..VNEEVPLDLGDE	LEIEIE	387
NTDB id 194 SPR RS08825 WP 001085462.1	KIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTENK	KDE....PKKEEA	..VNEEVPLDLGDE	LEIEIE	387
NTDB id 159 SP RS09750 WP 001085462.1	KIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTENK	KDE....PKKEEA	..VNEEVPLDLGDE	LEIEIE	387
NTDB id 527 SMSK321 RS11065 WP 001085454.1	KIGQGS	ENAKKYLADNPEV	FAEIDHQVRVQFGL	IDGEEAAE....SK	KDE....VAQVDS	..VNEEVTLDLGDE	LEIEIE	383
NTDB id 499 SM12261 RS08315 WP 078228268.1	KIGQGS	ENAKKYLADNPEIF	DEIDHQVRVQFGL	IDGEEIAE....SK	KDE....AAQVDS	..VNEEVTLDLGDE	LEIEIE	383
NTDB id 408 SMU RS09530 WP 002262392.1	KIGQGS	ENAKKFLADNPEIF	DDIDHKVVRVQYGL	IEDNTEEKQSSKE	ETDEK	..ADKNLVLELDDT	IELED	383
NTDB id 453 Spy49 1753c ACI62003.1	KIGQGS	ENAKRYLADHPQL	FDEIDRKVRVKFGL	LEESEESAMAVASE	E.....	TDDLALDLDN	NGIEIED	378
NTDB id 115 BSU 16940 NP 389576.2	RLGQGR	ENAKQFLKENKDI	MLMIQEIREHYGL	DNNGVVQQAEETQ	EEL.EFE.E.....			348
NTDB id 625 LCA RS02525 WP 011374196.1	RIGQGR	ENAKNYLADHEDV	EVRLKVRAAYGIS	SDVPEEDLPTTEDE	.QI.NILPDDST	EE.....		355
NTDB id 1313 DR RS12030 WP 010888966.1	RIGQGK	EKTIAIYTAERP	EMEQEIRDRVMAA	IRAGNAGEAPALAP	APAAPEAAEA.....			363
NTDB id 1245 Cj1673c YP 002345041.1	KLGGGR	ENSKAFLKENPEI	ADEITKAIQNSMG	TEGMI....SGSE	DE.....GE..E.....			343
NTDB id 1211 C694 RS00795 WP 000963128.1	KLGGGR	ENAKALLKEDKAL	ADEITLKIKESIG	SNEEI....MPLP	DEP.....LE..EME.....			347
NTDB id 1214 NCTC11637 00359 SQJ03206.1	KLGGGR	ENAKALLKEDKAL	ADEITLKIKESIG	SNEEI....MPLP	DEP.....LE..EME.....			347
NTDB id 1334 RAOC RS04870 WP 004918236.1	KLGGGR	DTVKELIKDNPE	LAELEAKIREKLQ	AK.....				343
NTDB id 1389 A4U84 RS07560 WP 021112712.1	KIGQGG	KNNAVKWLKENPE	IADKLEQEIRNTL	ASNPN.....VL	KATASDSNDES	DVEE..FSEEL.....		372
NTDB id 332340 ELB75 RS11080 WP 126983943.1	KIGQGG	KDNVRVWLKENPE	VAAEIEAQIRKEV	GINIEI....TEG	Q.....RDDTDGE	..QPEE.....		361
NTDB id 1130 NGFG RS03960 WP 003688695.1	KIGQGG	KDNVRVWLKENPE	ISDEIDAKIRALN	GVEMHI....TEG	T.....QDET	DGE..RPEE.....		348
NTDB id 1124 NGFG RS03960 WP 003688695.1	KIGQGG	KDNVRVWLKENPE	ISDEIDAKIRALN	GVEMHI....TEG	T.....QDET	DGE..RPEE.....		348
NTDB id 1123 OK783 RS03845 WP 003688695.1	KIGQGG	KDNVRVWLKENPE	ISDEIDAKIRALN	GVEMHI....TEG	T.....QDET	DGE..RPEE.....		348
NTDB id 1427 RS RS02760 WP 011000510.1	RIGQGR	DNCREFLRENAEL	AREIENKVREHLG	VTPMG....AV	.TLAEEVEED.....			352
NTDB id 1165 A1552VC RS01565 WP 000344154.1	KIGQGG	KANACKYLLKENPE	IAKTLDDKKLREML	LNPNM....QLIA	ETSSAADDVEFGA	..VPEEF.....		354
NTDB id 1142 GTF74 RS11550 WP 000344154.1	KIGQGG	KANACKYLLKENPE	IAKTLDDKKLREML	LNPNM....QLIA	ETSSAADDVEFGA	..VPEEF.....		354
NTDB id 1205 PSJM300 05545 AFN77183.1	KIGQGG	KANAACKYLEENPE	IGQIEEQIRAKLL	VTSAN....TKAT	PVAEDLADADI.....			347
NTDB id 1022 ACIAD RS06390 WP 004925639.1	KIGQGG	KNNVIRYLEENPQ	ISTEIEAVIREQLL	TKASD....QTAA	.HDETEEEP	DLL....ES.....		349
NTDB id 1074 ABD1 RS10195 WP 000344167.1	KIGQGG	KNNVIRYFEENNQ	IAEEIERNIREQLL	TGTN....GAVQ	.I.EDEEEP	DLL....LES.....		349
consensus	**!!!	*****	**	*****	*****	**	**	

logo

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 527 SMSK321 RS11065 WP 001085454.1	E	384
NTDB id 499 SM12261 RS08315 WP 078228268.1	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
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 332340 ELB75 RS11080 WP 126983943.1	.	361
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 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