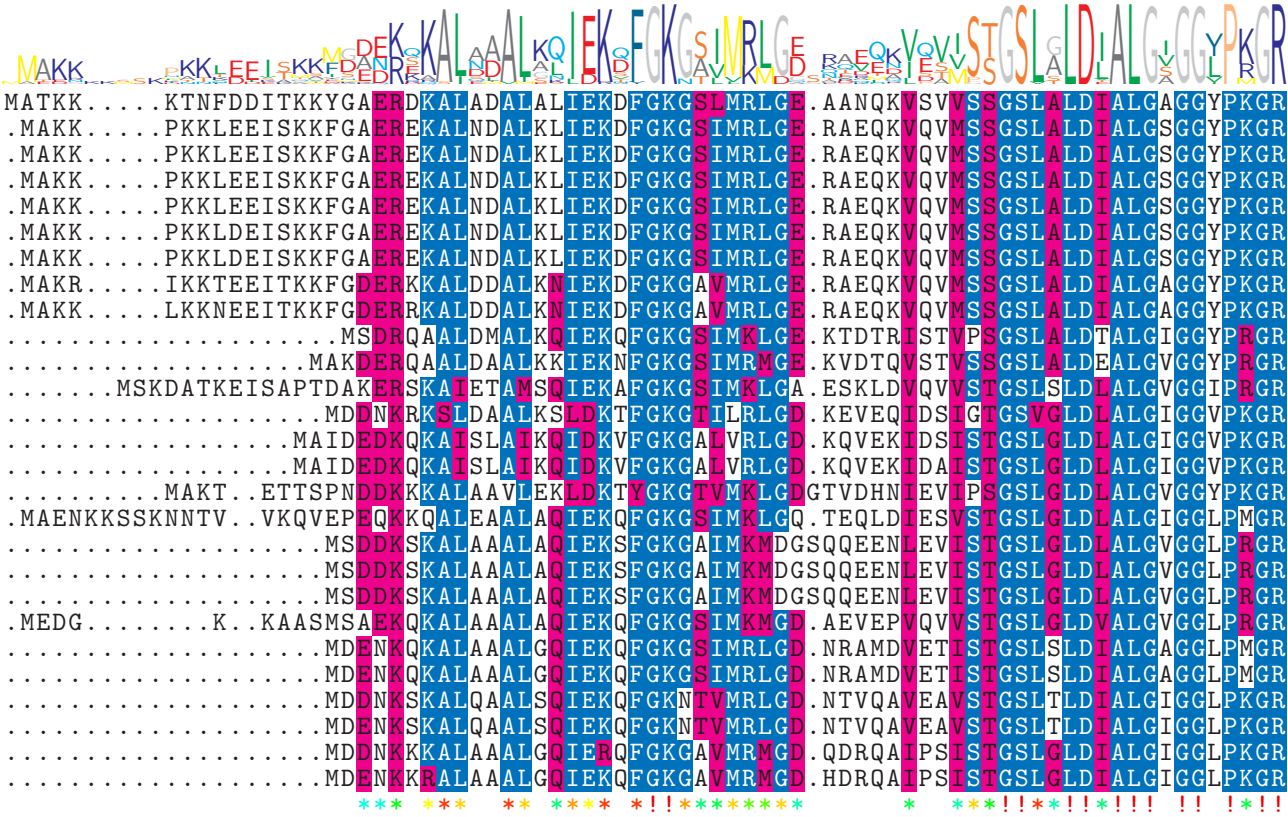


logo

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 74474 CD58 RS06095 WP 003184807.1
NTDB id 1205 PSJM300 05545 AFN77183.1
consensus

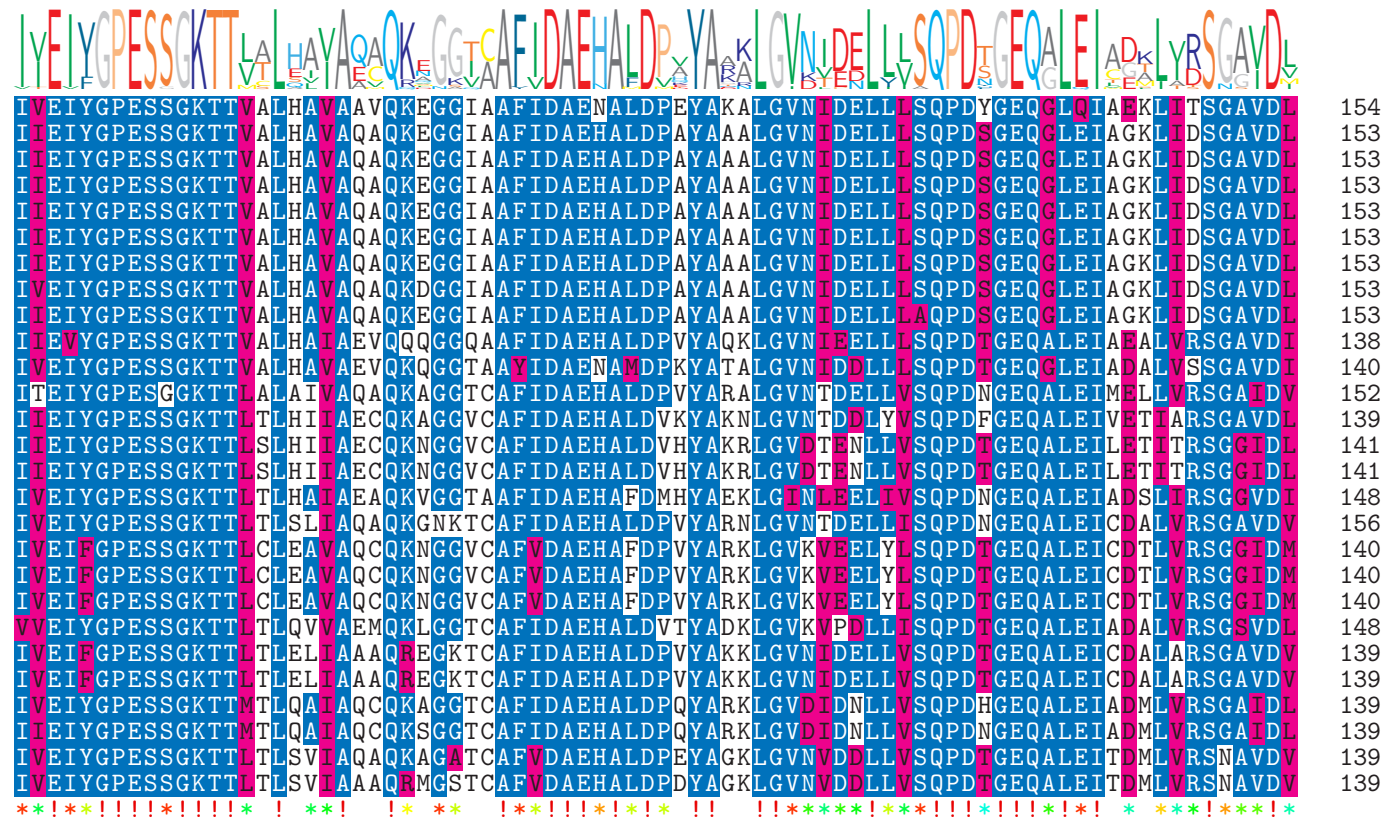


74
73
73
73
73
73
73
73
73
58
60
72
59
61
61
68
76
60
60
60
68
59
59
59
59
59
59

```

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 74474 CD58 RS06095 WP 003184807.1
NTDB id 1205 PSJM300 05545 AFN77183.1
consensus

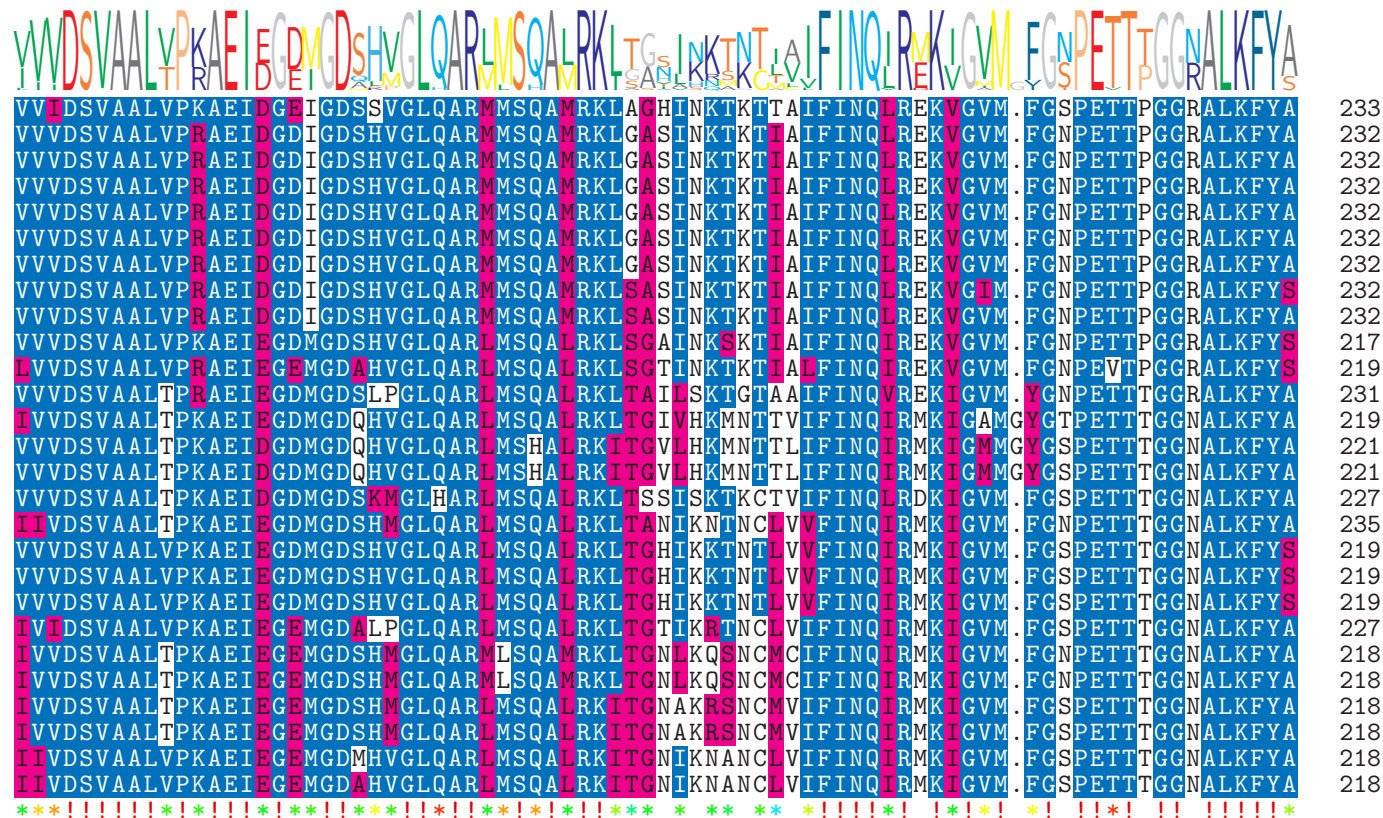
```



```

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 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 0011374196.1
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 74474 CD58 RS06095 WP 003184807.1
NTDB id 1205 PSJM300 05545 AFN77183.1
consensus

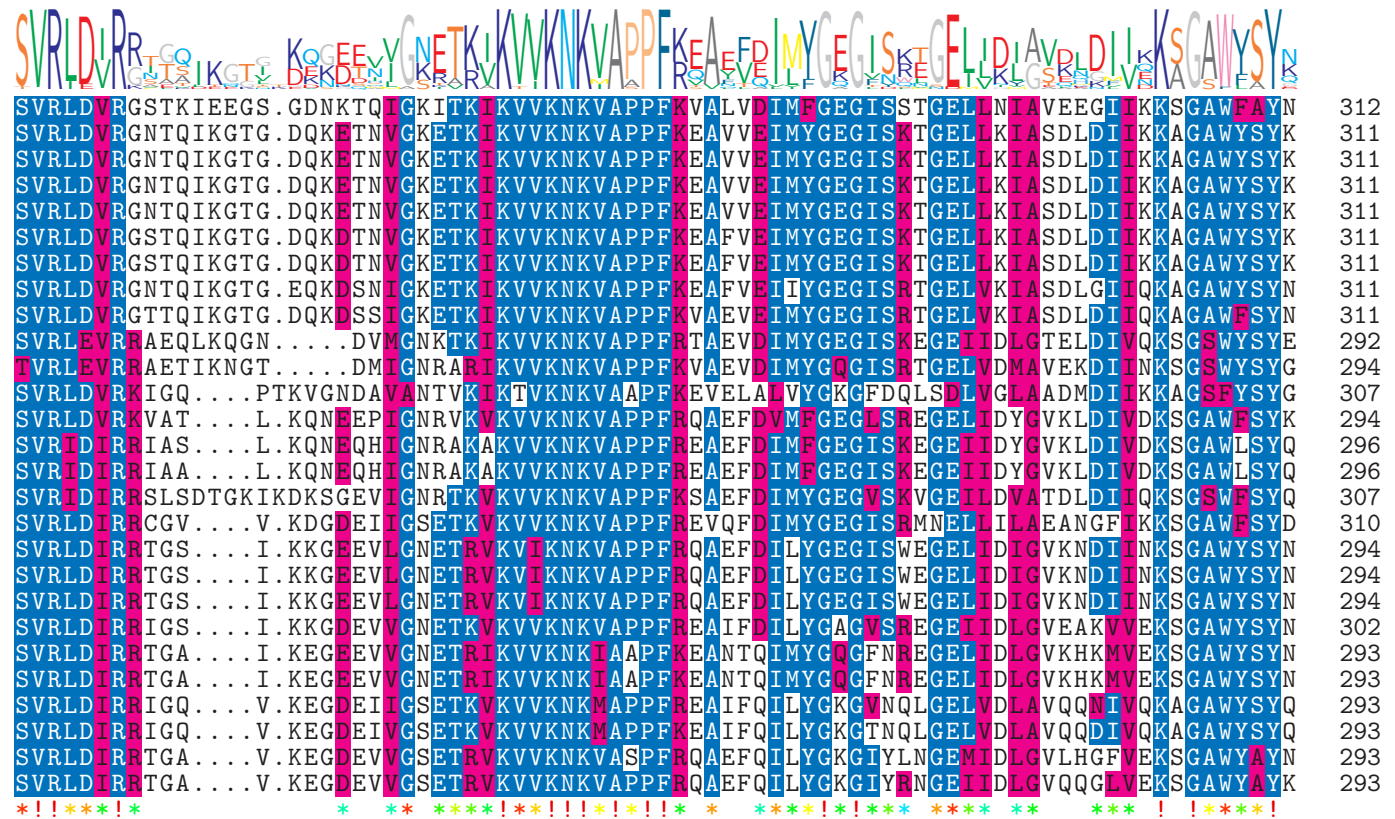
```



```

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 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 74474 CD58 RS06095 WP 003184807.1
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	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTENKKD	E	PKKEEA..VNEEVPLDLGDELEIE		385	
NTDB id 228 SPD RS09265 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTENKKD	E	PKKEEA..VNEEVPLDLGDELEIE		385	
NTDB id 194 SPR RS08825 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTENKKD	E	PKKEEA..VNEEVPLDLGDELEIE		385	
NTDB id 159 SP RS09750 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTENKKD	E	PKKEEA..VNEEVPLDLGDELEIE		385	
NTDB id 527 SMSK321 RS11065 WP 001085454.1	DEKIGQGS	ENAKKYLADNP	EVFAEIDHQVRVQFGL	IDGEEAAE	SKKD	E....VAQVDS..VNEEVTLDLGDELEIE		381	
NTDB id 499 SM12261 RS08315 WP 078228268.1	DEKIGQGS	ENAKKYLADNP	EIFDEIDHQVRVQFGL	IDGEEIAE	SKKD	E....AAQVDS..VNEEVTLDLGDELEIE		381	
NTDB id 408 SMU RS09530 WP 002262392.1	GEKIGQGS	ENAKKFLADNP	EIFDDIDHKVVRVQYGL	IEEDNTEEKQSSKEK	ETDEK	..ADKNLVLELDDTIELE		382	
NTDB id 453 Spy49 1753c ACI62003.1	GEKIGQGS	ENAKRYLADHPQLF	DEIDRKVRVKFGL	LEESEEEESAMAVASE	E	TDDLALDLDNGIEIE		377	
NTDB id 115 BSU 16940 NP 389576.2	EERLGGQ	REN	AKQFLKENKDIMLM	IQEQIREHYGL	DNNGVVQQAEETQEEL	EFE.E		348	
NTDB id 625 LCA RS02525 WP 011374196.1	SERIGQG	REN	AKNYLADHED	VEDEVRLKVR	AAYGISDVP	PEEDLPTTEDE.QI.NILPDDST	EE	355	
NTDB id 1313 DR RS12030 WP 010888966.1	DERIGQG	KEKTI	YIAERPEMEQEIR	DRVMAAIRAGNAGE	APALAPAPAAP	EAAEA		363	
NTDB id 1245 Cj1673c YP 002345041.1	DKKLGGQ	RENS	KAFLENPEIA	DEITKAIQNSMG	TEGMISGSEDD	EGEE		343	
NTDB id 1211 C694 RS00795 WP 000963128.1	DKKLGGQ	RENA	KALLKEDKAL	ADEITLKIKESIGS	NEEIMPLPDEPLEEME			347	
NTDB id 1214 NCTC11637 00359 SQJ03206.1	DKKLGGQ	RENA	KALLKEDKAL	ADEITLKIKESIGS	NEEIMPLPDEPLEEME			347	
NTDB id 1334 RAOC RS04870 WP 004918236.1	DTKLGGQ	RDTV	KELIKDNPELA	ELEAKIREKLQAK				343	
NTDB id 1389 A4U84 RS07560 WP 021112712.1	GTKIGQG	KNN	AVKWLKENPEIA	DKLEQEIRNTL	ASNPN	SVLKATASD	SNDES	DVEE..FSEEL	372
NTDB id 1130 NGFG RS03960 WP 003688695.1	GAKIGQG	KDN	VRVWLKENPEIS	DEIDAKIRALNG	VEMHITEG	TQDET	DGERPEE		348
NTDB id 1124 NGFG RS03960 WP 003688695.1	GAKIGQG	KDN	VRVWLKENPEIS	DEIDAKIRALNG	VEMHITEG	TQDET	DGERPEE		348
NTDB id 1123 OK783 RS03845 WP 003688695.1	GAKIGQG	KDN	VRVWLKENPEIS	DEIDAKIRALNG	VEMHITEG	TQDET	DGERPEE		348
NTDB id 1427 RS RS02760 WP 011000510.1	GERIGQG	RDC	REFLRENAEL	AREIENKVR	REHLGVTPM	GA	VTLAEEV..EED		352
NTDB id 1165 A1552VC RS01565 WP 000344154.1	GDKIGQG	KAN	ACKYLKENPEIA	KTLDKKLREMLLN	PENMQLIAETSS	..AADDVEFG	AVPEE..F		354
NTDB id 1142 GTF74 RS11550 WP 000344154.1	GDKIGQG	KAN	ACKYLKENPEIA	KTLDKKLREMLLN	PENMQLIAETSS	..AADDVEFG	AVPEE..F		354
NTDB id 1022 ACIAD RS06390 WP 004925639.1	GNKIGQG	KNN	VIRYLEENPQISTE	IEAVIREQLLT	TKASDQTA	AHDETEEE	PDLLES		349
NTDB id 1074 ABD1 RS10195 WP 000344167.1	GNKIGQG	KNN	VIRYFEENNQIAE	EIERNIREQLLT	TGTNGAVQI	..EDEEP	DLLLES		349
NTDB id 74474 CD58 RS06095 WP 003184807.1	GT	KIGQGS	KANSAKFLADNP	EVAAALEKQL	RLDKLLSP	ADVKAVANRE	..TVDDLADADL		350
NTDB id 1205 PSJM300 05545 AFN77183.1	GS	KIGQGS	KANA	AKYLEENPEIGQ	EIEQQIRAKLL	VTSANTKATPV	AEDLADADI		347
consensus		***!!!*****	**	*****	*****	**	**	*	

logo

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 527 SMSK321 RS11065 WP 001085454.1	IEE	384
NTDB id 499 SM12261 RS08315 WP 078228268.1	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 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 74474 CD58 RS06095 WP 003184807.1	...	350
NTDB id 1205 PSJM300 05545 AFN77183.1	...	347

consensus

 non conserved
 similar
 ≥ 50% conserved