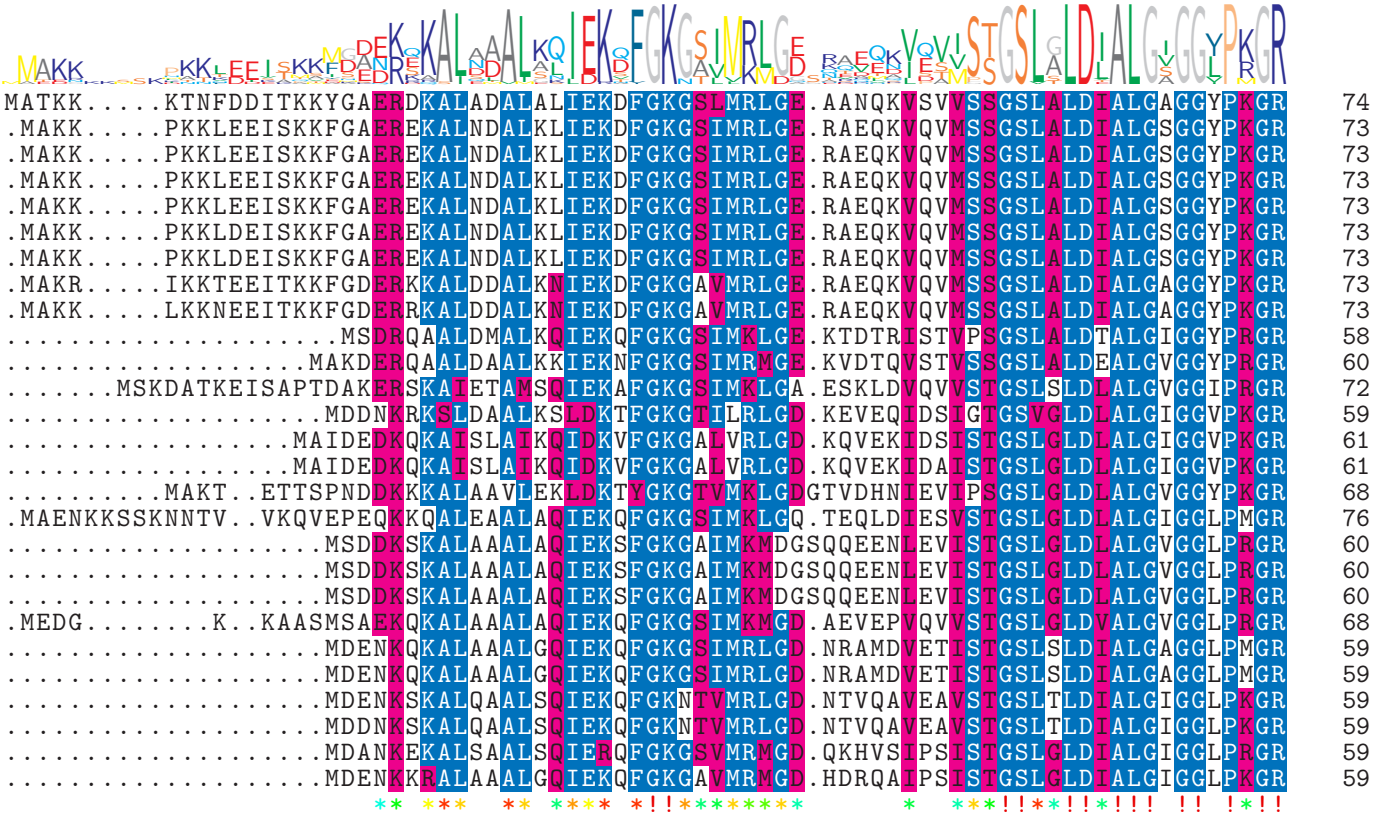


logo

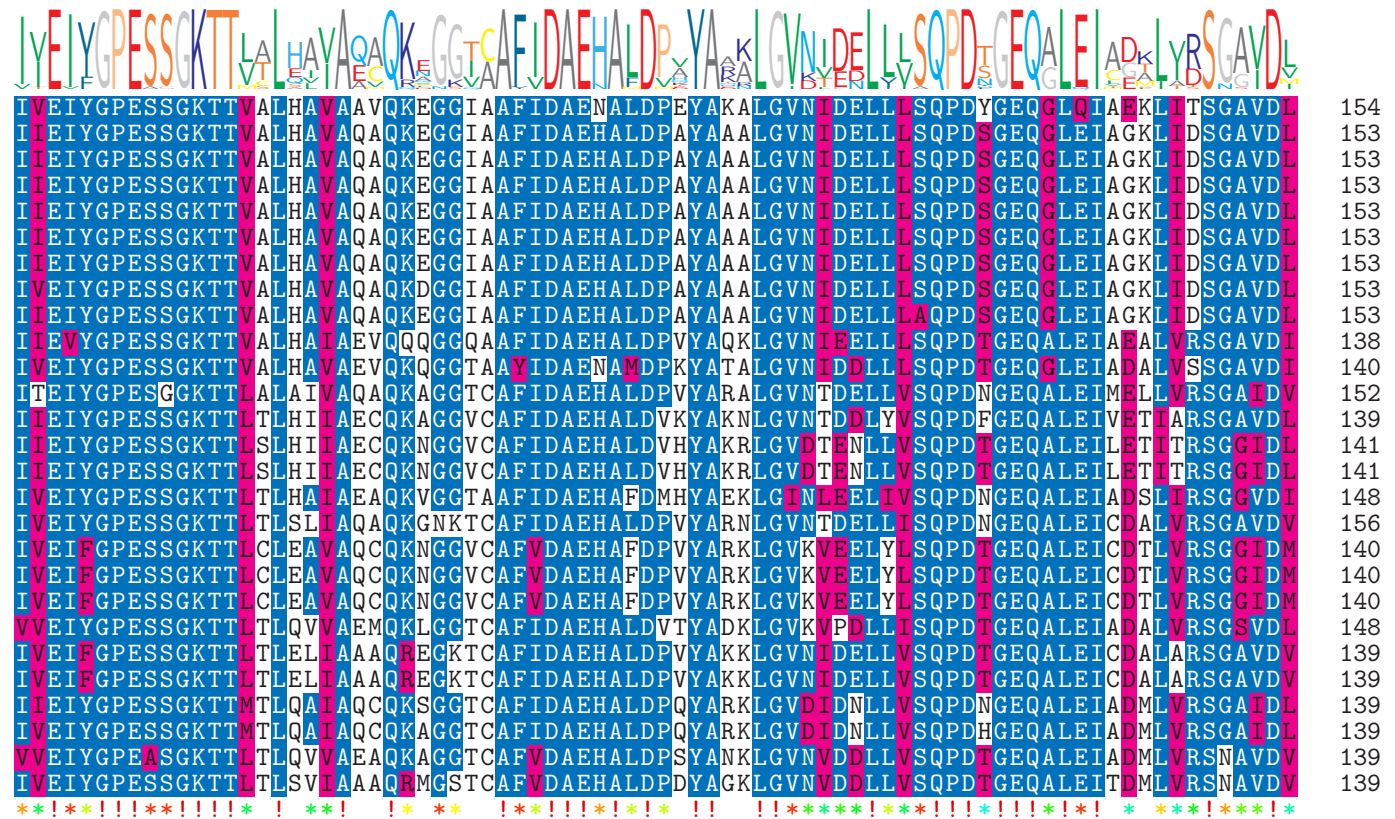
NTDB id 600 KW2 RS01765 WP 011675413.1
NTDB id 269 KZH43 RS08665 WP 001085462.1
NTDB id 228 SPD RS09265 WP 001085462.1
NTDB id 194 SPR RS08825 WP 001085462.1
NTDB id 159 SP RS09750 WP 001085462.1
NTDB id 499 SM12261 RS08315 WP 078228268.1
NTDB id 527 SMSK321 RS11065 WP 001085454.1
NTDB id 408 SMU RS09530 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 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 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 306589 DW349 RS05780 WP 108126819.1
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 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 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 011000511.1
NTDB id 1165 A1552VC RS01565 WP 000344154.1
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 306589 DW349 RS05780 WP 108126819.1
NTDB id 1205 PSJM300 05545 AFN77183.1
consensus

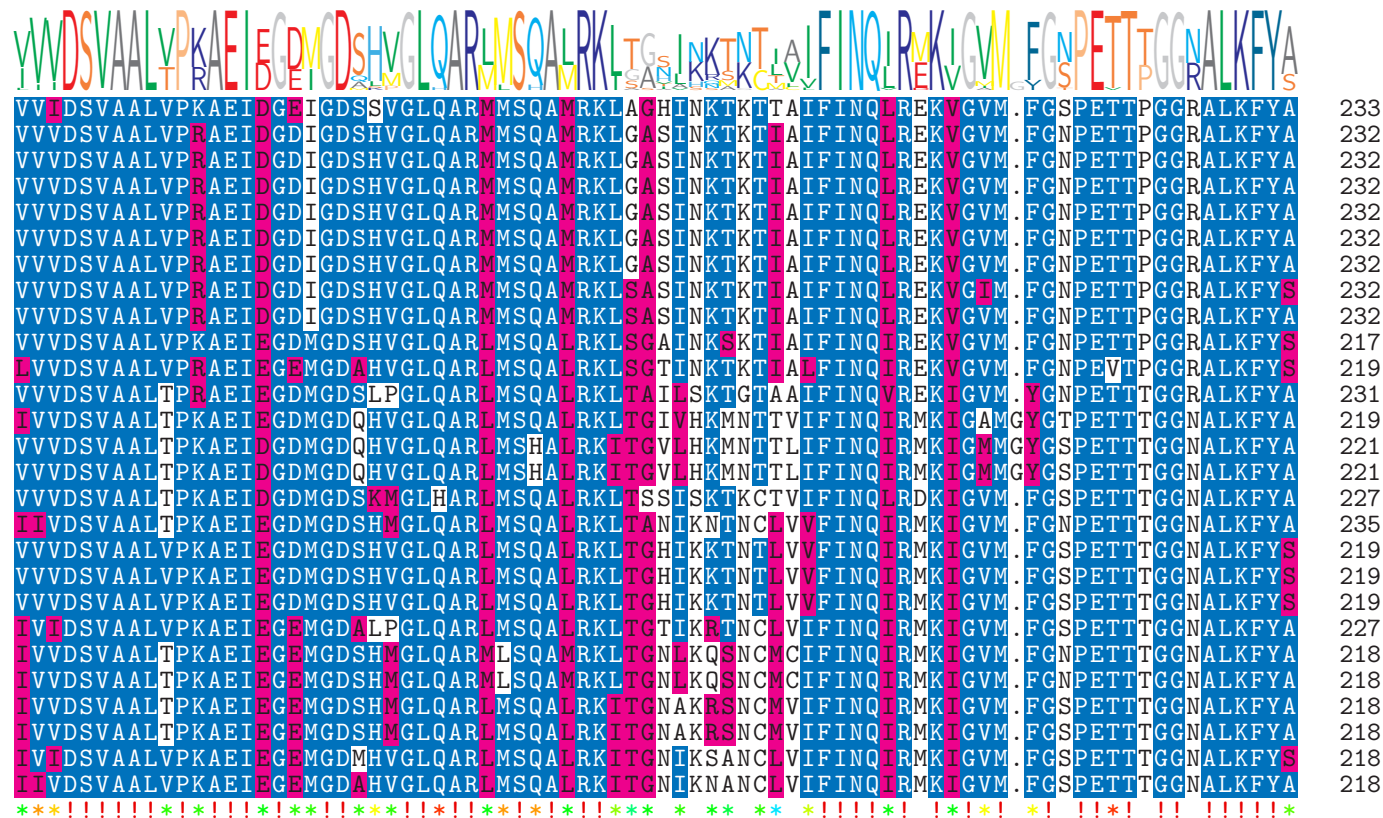
```



```

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 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 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 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 306589 DW349 RS05780 WP 108126819.1
NTDB id 1205 PSJM300 05545 AFN77183.1
consensus

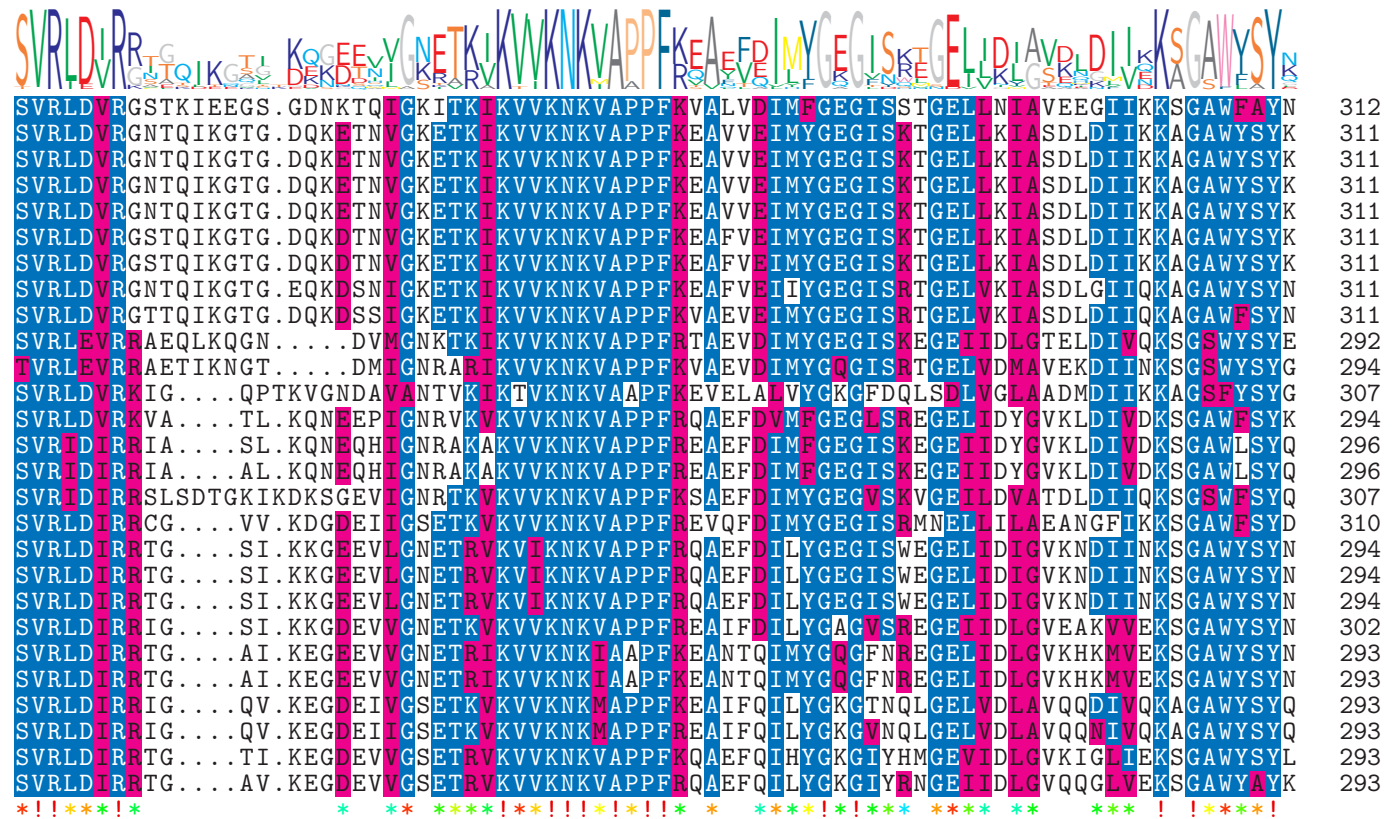
```



```

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 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 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 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 306589 DW349 RS05780 WP 108126819.1
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 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 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 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 306589 DW349 RS05780 WP 108126819.1
NTDB id 1205 PSJM300 05545 AFN77183.1

```

consensus

DEKIGQGAEKAKNYLKEHQDVFEIDHKVRAAHGLDDSEVAETEEETTASKTAKAKKEEKAVETEEIELELED 387

DEKIGQGSSENAKKYLAEHPEIFDEIDKQVRSKFLIDGEEVSEQD TENKKDE . . . PKKEEA . . VNEEVPLDLGDELEIE 385

DEKIGQGSSENAKKYLAEHPEIFDEIDKQVRSKFLIDGEEVSEQD TENKKDE . . . PKKEEA . . VNEEVPLDLGDELEIE 385

DEKIGQGSSENAKKYLAEHPEIFDEIDKQVRSKFLIDGEEVSEQD TENKKDE . . . PKKEEA . . VNEEVPLDLGDELEIE 385

DEKIGQGSSENAKKYLAHNPEIFDEIDHQVRVQFLIDGEEIAES . . . KKDE . . . AAQVDS . . VNEEVPLDLGDELEIE 381

DEKIGQGSSENAKKYLAHNPEIFDEIDHQVRVQFLIDGEEIAES . . . KKDE . . . VAQVDS . . VNEEVPLDLGDELEIE 381

GEKIGQGSSENAKFLADNPEIFDDIDHKVRVQGLIEEDNTEEEKSSKEK ETDEK . . ADKNLVLELDDTIELE 382

GEKIGQGSSENAKRYLADHPQLFDEIDRKVRVKFGLLEESEESAMAVASE E TDDLALDLNGIEIE 377

EERLGGQRENAKQFLKENKDIMLMIQEQUIREHYGLDNGGVVQQAEETQEEL . EFE . E 348

SERIGQGSRENAKNYLADHEDVEDEVRLKVRVQGLSDVPEEDLPTTEDE . QI . NILPDDST EE 355

DERIGQGEKTIATYIAERPMEQEIRDRVMAAIRAGNAGEAPALAPAPAAP EAAEA 363

DKKLGGGRENSKAFLENPEIADEITKAIQNSMGTIEGMISGSEDDEGEE 343

DKKLGGGRENAKALLKEDKALADEITLKIKESIGSNEEIMPLPDEPLEEME 347

DKKLGGGRENAKALLKEDKALADEITLKIKESIGSNEEIMPLPDEPLEEME 347

DTKLGGGRDTPVKELIKDNPELAELEAKIREKLQAK 343

GTKIGQGGKNNAVKWLKENPEIADKLEQIRNTLASNPNSVLKATASDSNDE SDVEEFSEEL 372

GAKIGQGGKDNVRVWLKENPEISDEIDAKIRALNGVMHITEGTQD ETDGER . PEE 348

GAKIGQGGKDNVRVWLKENPEISDEIDAKIRALNGVMHITEGTQD ETDGER . PEE 348

GAKIGQGGKDNVRVWLKENPEISDEIDAKIRALNGVMHITEGTQD ETDGER . PEE 348

GERIGQGGKDNCRFLRENAELAREIENKVRHGLVTPMGAVTLAAEEVEED 352

GDKIGQGGKANACKYLKENPEIAKTLDKKLREMLLPENMQLIAETS . SAAD DVEFGAV . PEEF 354

GDKIGQGGKANACKYLKENPEIAKTLDKKLREMLLPENMQLIAETS . SAAD DVEFGAV . PEEF 354

GNKIGQGGKNNVIRYFEENNQIAEIEIERNIREQLLTTGTNGAVQI . EDEEEP DLLLES 349

GNKIGQGGKNNVIRYLEENPQISTEIEAVIREQLLTKASDQTAAHDETEEEP DLLES 349

GDKIGQGGKANAAKFLEDNREVAEATESKIREAFLVTNKAPEESEAAAEPKA DADKPQV . EA 353

GSKIGQGGKANAACKYLENPEIQEIEQQIRAKLLVTSANTKATPV . AEDLA DADI 347

!!** **

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 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 1074	ABD1 RS10195 WP 000344167.1	...	349
NTDB id 1022	ACIAD RS06390 WP 004925639.1	...	349
NTDB id 306589	DW349 RS05780 WP 108126819.1	...	353
NTDB id 1205	PSJM300 05545 AFN77183.1	...	347
consensus			

-  non conserved
-  similar
-  ≥ 50% conserved