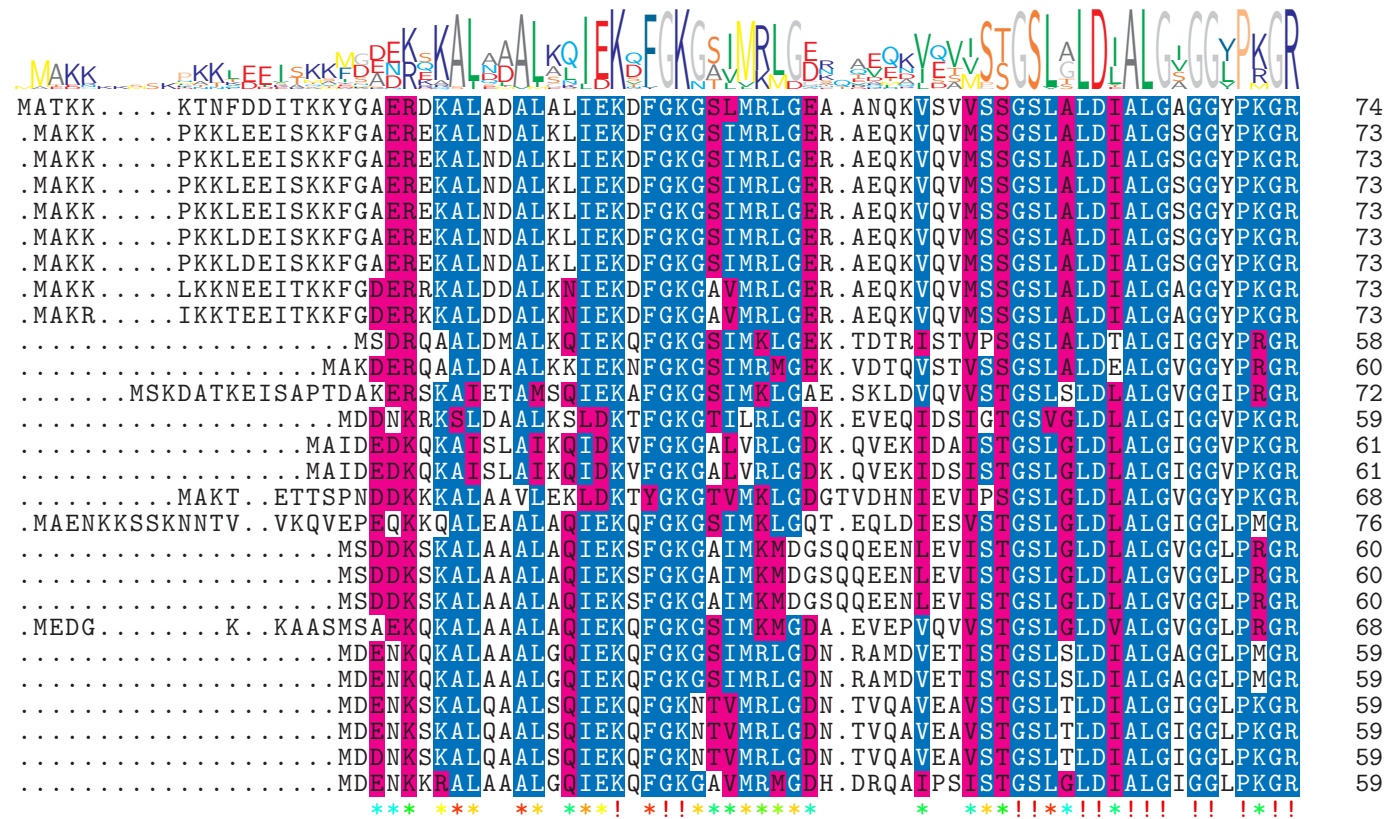


```

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 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 1165 A1552VC RS01565 WP 000344154.1
NTDB id 1142 GTF74 RS11550 WP 000344154.1
NTDB id 384262 FZ921 RS09660 WP 000344169.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1205 PSJM300 05545 AFN77183.1
consensus

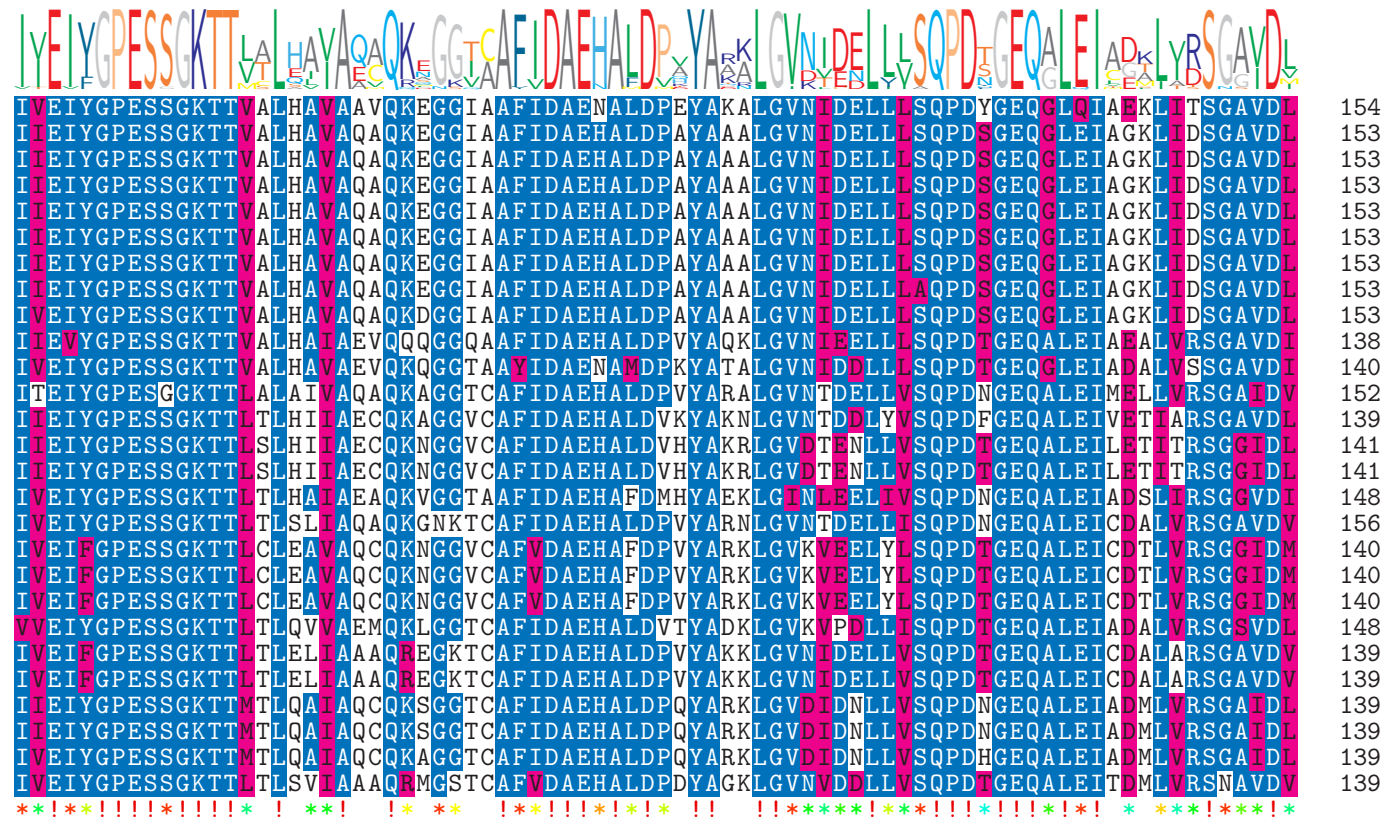
```



```

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 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 1165 A1552VC RS01565 WP 000344154.1
NTDB id 1142 GTF74 RS11550 WP 000344154.1
NTDB id 384262 FZ921 RS09660 WP 000344169.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1205 PSJM300 05545 AFN77183.1
consensus

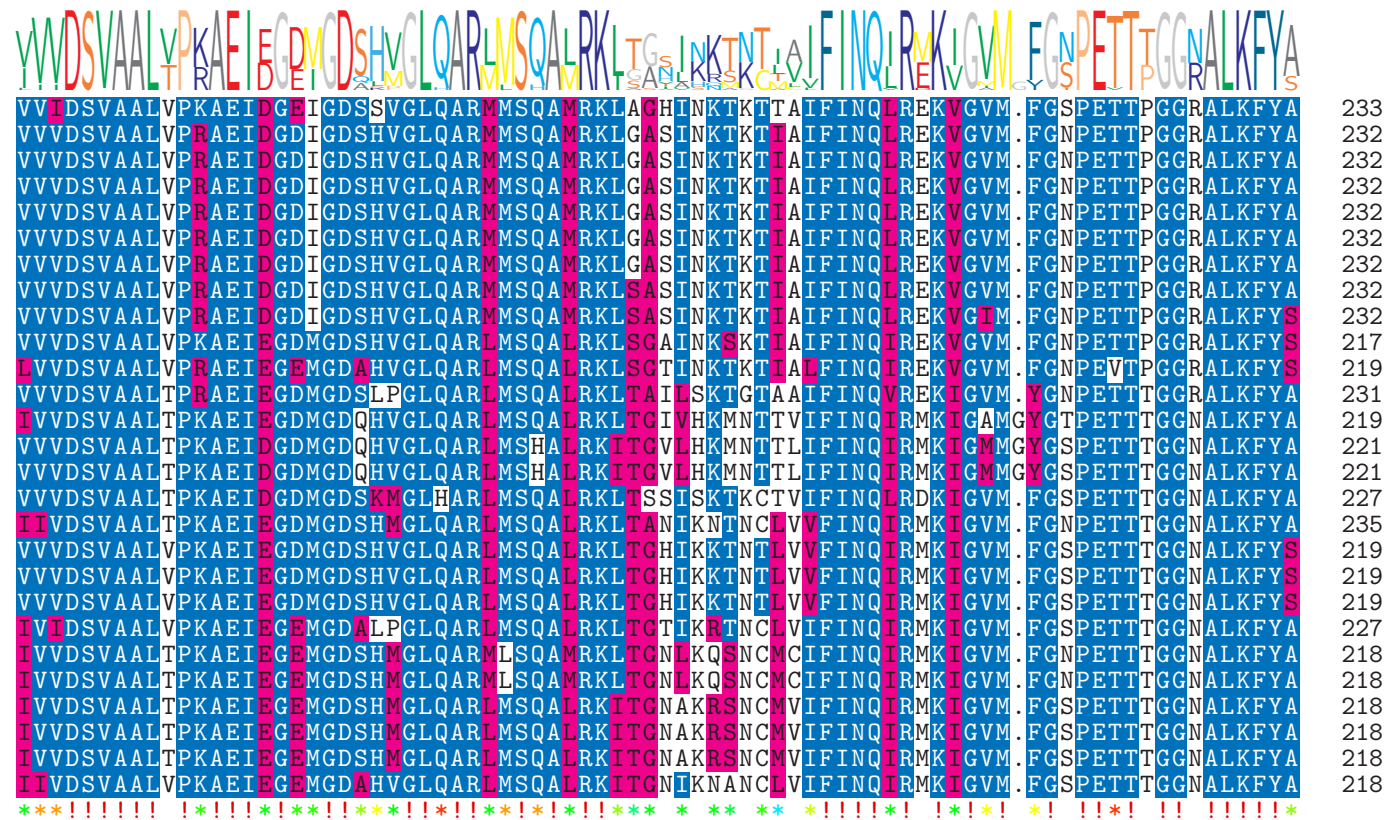
```



```

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 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 1165 A1552VC RS01565 WP 000344154.1
NTDB id 1142 GTF74 RS11550 WP 000344154.1
NTDB id 384262 FZ921 RS09660 WP 000344169.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1205 PSJM300 05545 AFN77183.1
consensus

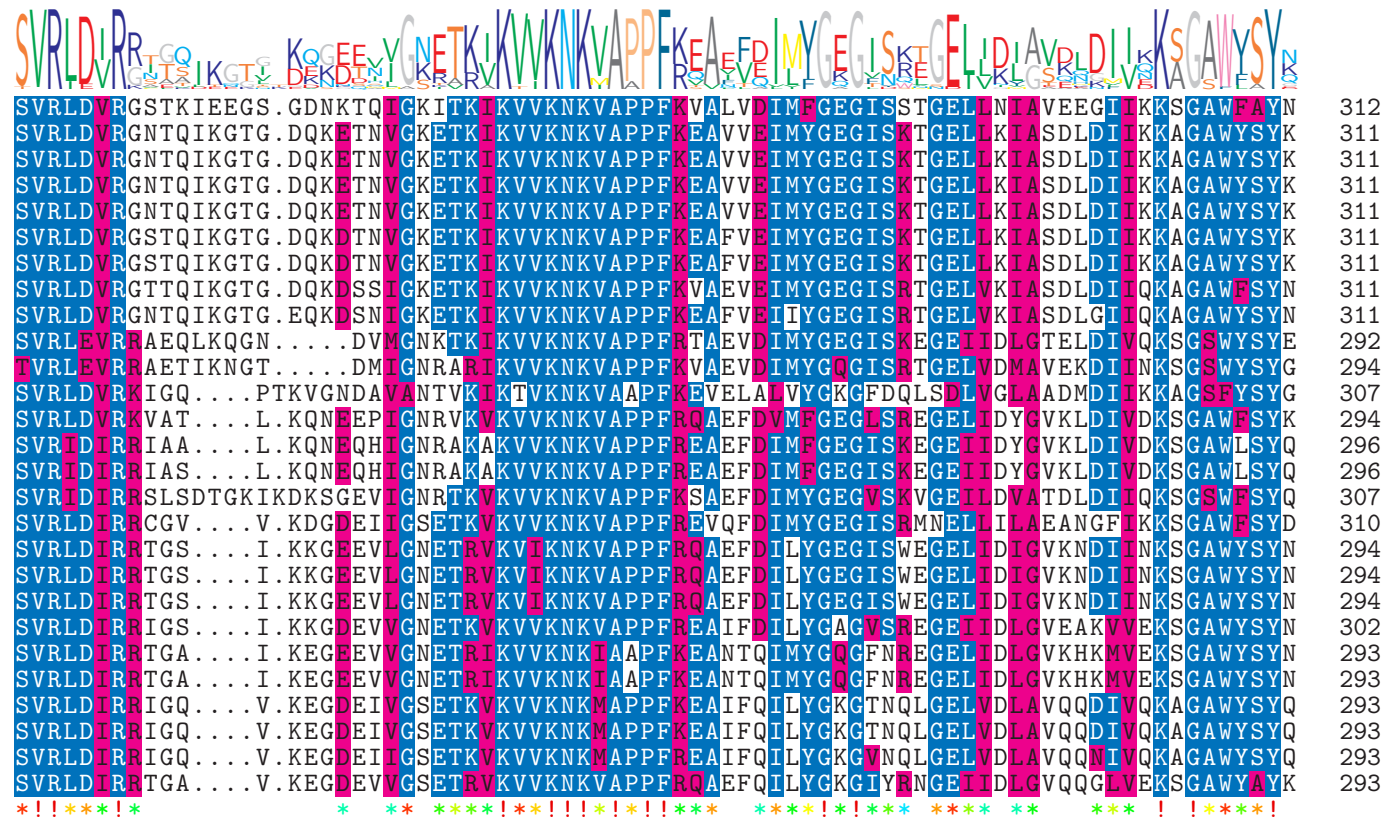
```



```

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 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 1165 A1552VC RS01565 WP 000344154.1
NTDB id 1142 GTF74 RS11550 WP 000344154.1
NTDB id 384262 FZ921 RS09660 WP 000344169.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1205 PSJM300 05545 AFN77183.1
consensus

```



logo

NTDB id 600 KW2 RS01765 WP 011675413.1	DEKIGQGA	EKAKNYLKEHQDV	DEIDHKVRAAHG	LDDSEVAETEEEE	TTASKTK..AKAKKEEKAVETEEIELELED..	387	
NTDB id 269 KZH43 RS08665 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	LIDGEEVSEQDTE	NKKDE.....PKKEEA..VNEEVPLDLGDEL	382	
NTDB id 228 SPD RS09265 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	LIDGEEVSEQDTE	NKKDE.....PKKEEA..VNEEVPLDLGDEL	382	
NTDB id 194 SPR RS08825 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	LIDGEEVSEQDTE	NKKDE.....PKKEEA..VNEEVPLDLGDEL	382	
NTDB id 159 SP RS09750 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	LIDGEEVSEQDTE	NKKDE.....PKKEEA..VNEEVPLDLGDEL	382	
NTDB id 527 SMSK321 RS11065 WP 001085454.1	DEKIGQGS	ENAKKYLADNPEVFAE	IDHQVRVQFGL	LIDGEEAAE.....	SKKDE.....VAQVDS..VNEEVTLDLGDEL	378	
NTDB id 499 SM12261 RS08315 WP 078228268.1	DEKIGQGS	ENAKKYLADNPEIF	DEIDHQVRVQFGL	LIDGEEIAE.....	SKKDE.....AAQVDS..VNEEVTLDLGDEL	378	
NTDB id 453 Spy49 1753c ACI62003.1	GEKIGQGS	ENAKRYLADHPQLF	DEIDRKVRVKFGL	LEESEEEESAMAV	ASE.....E.....TDDLALDLNGI	374	
NTDB id 408 SMU RS09530 WP 002262392.1	GEKIGQGS	ENAKKFLADNPEIF	DDIDHKVRVQYGL	IEEDNTEEKQSS	KEK.....ETDEK..ADKNLVLELDDTI	379	
NTDB id 115 BSU 16940 NP 389576.2	EERLGGG	RENAKQFLKENKDIM	LMIQEQIREHYGL	DNNGVVQQAAEE	TQEEL.E..FE.E.....	348	
NTDB id 625 LCA RS02525 WP 011374196.1	SERIGQG	RENAKNYLADHEDVE	DEVRLKVR	AAYGISDVPEED	LPTE.DE.QI.N..ILPDDST....EE.....	355	
NTDB id 1313 DR RS12030 WP 010888966.1	DERIGQG	KEKTIAYIAERPEME	QEIRDRVMAA	IRAGNAGEAPAL	AAPAAPEAAEA.....	363	
NTDB id 1245 Cj1673c YP 002345041.1	DKKLGGG	RENSKAFLENPEI	ADEITKAIQNSMG	IEGMISGS..	EDDEGE..E.....	343	
NTDB id 1214 NCTC11637 00359 SQJ03206.1	DKKLGGG	RENAKALLKEDK	ALADEITLKI	KESIGSNEEI	IMPL..PDEPLE..EME.....	347	
NTDB id 1211 C694 RS00795 WP 000963128.1	DKKLGGG	RENAKALLKEDK	ALADEITLKI	KESIGSNEEI	IMPL..PDEPLE..EME.....	347	
NTDB id 1334 RAOC RS04870 WP 004918236.1	DTKLGGQ	RDTVKELIKDNPEL	AEELEAKI	REKLQAK.....		343	
NTDB id 1389 A4U84 RS07560 WP 021112712.1	GTKIGQG	KNNAVKWLKENPEI	ADKLEQEIRNTL	ASNPNSVLK..	ATASDSND	ESDVVEEFSE.....EEL.....	372
NTDB id 1130 NGFG RS03960 WP 003688695.1	GAKIGQG	KDNVRVWLKENPEIS	DEIDAKIRALNGV	EMHITEG..	TQDET.....GERPE.....E.....	348	
NTDB id 1124 NGFG RS03960 WP 003688695.1	GAKIGQG	KDNVRVWLKENPEIS	DEIDAKIRALNGV	EMHITEG..	TQDET.....GERPE.....E.....	348	
NTDB id 1123 OK783 RS03845 WP 003688695.1	GAKIGQG	KDNVRVWLKENPEIS	DEIDAKIRALNGV	EMHITEG..	TQDET.....GERPE.....E.....	348	
NTDB id 1427 RS RS02760 WP 011000510.1	GERIGQGR	DNCREFLRENAEL	AREIENKVR	EHLGVTPMGAV..	TLAEEVEED.....	352	
NTDB id 1165 A1552VC RS01565 WP 000344154.1	GDKIGQG	KANACKYLENPEI	AKTLDKKLREMLLN	PNENMQLI..	AETSSAAD	DVEFGAVPE.....EF.....	354
NTDB id 1142 GTF74 RS11550 WP 000344154.1	GDKIGQG	KANACKYLENPEI	AKTLDKKLREMLLN	PNENMQLI..	AETSSAAD	DVEFGAVPE.....EF.....	354
NTDB id 384262 FZ921 RS09660 WP 000344169.1	GNKIGQG	KNNVIRYFEENTQ	IAEEIERNI	REQLLTGTNGAV..	Q.I.EDEE	EPD..LLE.....S.....	349
NTDB id 1074 ABD1 RS10195 WP 000344167.1	GNKIGQG	KNNVIRYFEENNQ	IAEEIERNI	REQLLTGTNGAV..	Q.I.EDEE	EPD..LLE.....S.....	349
NTDB id 1022 ACIAD RS06390 WP 004925639.1	GNKIGQG	KNNVIRYLEENP	QISTEIEAVI	REQLLTKASDQTA..	A.HDETEE	EPD..LLES.....	349
NTDB id 1205 PSJM300 05545 AFN77183.1	GSKIGQG	KANAACYLENPEI	IGQIEEQI	IRAKLLVTSANT	KA..TPVAED	LADAD..I.....	347
consensus	*****	*****	*****	*****	*****	*****	*

logo

			E	I	E	E	
NTDB id 600 KW2 RS01765 WP 011675413.1	.....	387					
NTDB id 269 KZH43 RS08665 WP 001085462.1	EIEIEE	388					
NTDB id 228 SPD RS09265 WP 001085462.1	EIEIEE	388					
NTDB id 194 SPR RS08825 WP 001085462.1	EIEIEE	388					
NTDB id 159 SP RS09750 WP 001085462.1	EIEIEE	388					
NTDB id 527 SMSK321 RS11065 WP 001085454.1	EIEIEE	384					
NTDB id 499 SM12261 RS08315 WP 078228268.1	EIEIEE	384					
NTDB id 453 Spy49 1753c ACI62003.1	EIED..	378					
NTDB id 408 SMU RS09530 WP 002262392.1	ELED..	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 1165 A1552VC RS01565 WP 000344154.1	.....	354					
NTDB id 1142 GTF74 RS11550 WP 000344154.1	.....	354					
NTDB id 384262 FZ921 RS09660 WP 000344169.1	.....	349					
NTDB id 1074 ABD1 RS10195 WP 000344167.1	.....	349					
NTDB id 1022 ACIAD RS06390 WP 004925639.1	.....	349					
NTDB id 1205 PSJM300 05545 AFN77183.1	.....	347					
consensus							

-  non conserved
-  similar
-  ≥ 50% conserved