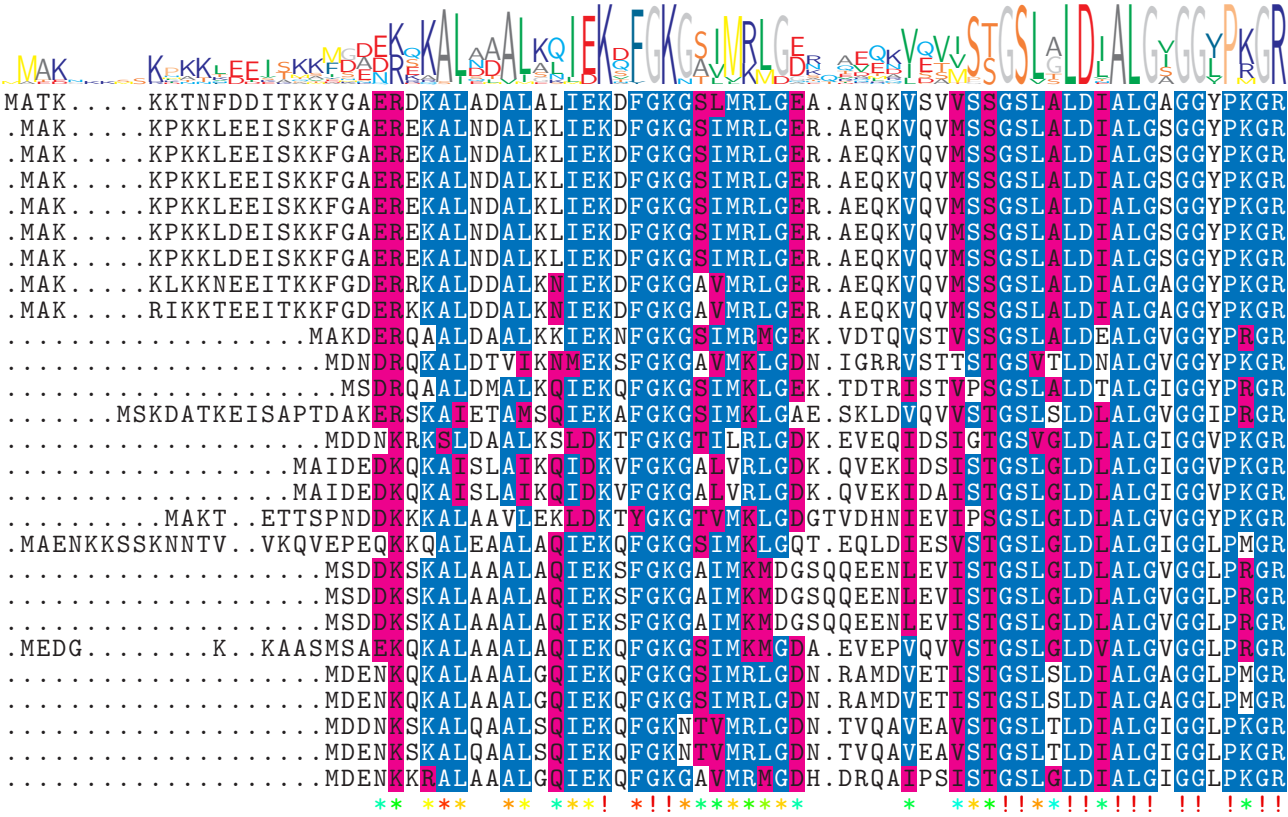


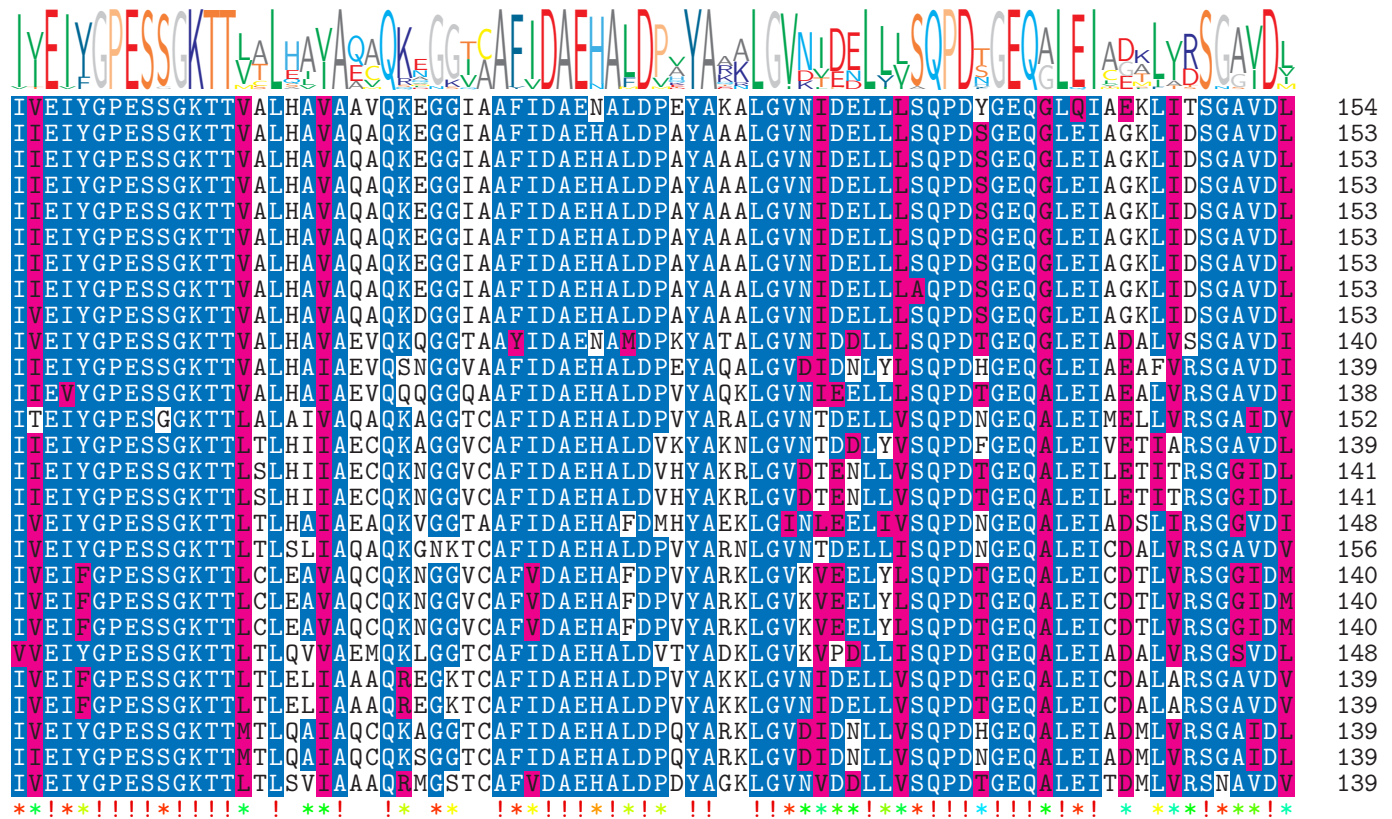
logo

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 453 Spy49 1753c ACI62003.1
NTDB id 408 SMU RS09530 WP 002262392.1
NTDB id 625 LCA RS02525 WP 011374196.1
NTDB id 971981 WOC67 RS11840 WP 000368166.1
NTDB id 115 BSU 16940 NP 389576.2
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 1205 PSJM300 05545 AFN77183.1
consensus



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

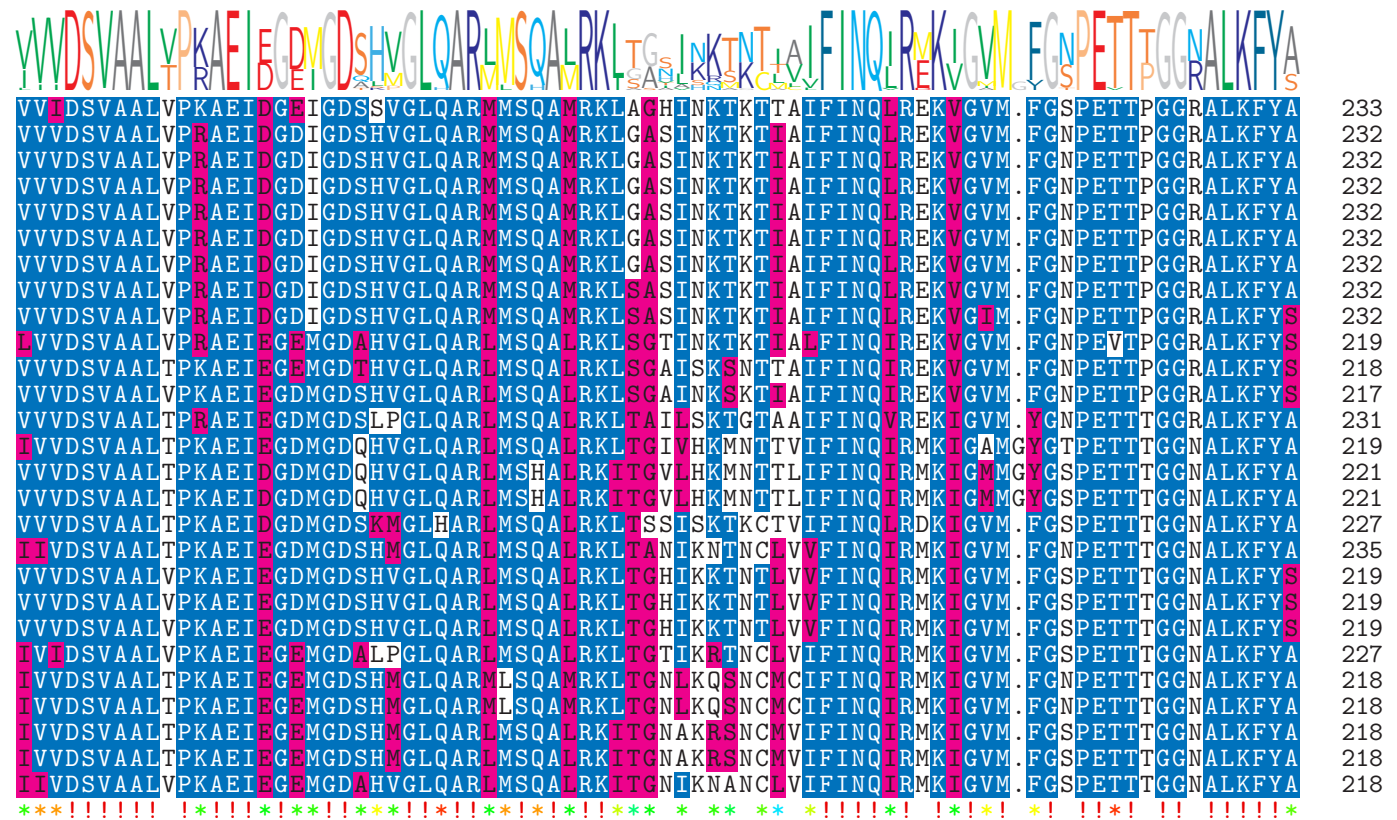
NTDB id 600 KW2 RS01765 WP 011675413.1
NTDB id 269 KZH43 RS08665 WP 001085462.1
NTDB id 228 SPD RS09265 WP 001085462.1
NTDB id 194 SPR RS08825 WP 001085462.1
NTDB id 159 SP RS09750 WP 001085462.1
NTDB id 499 SM12261 RS08315 WP 078228268.1
NTDB id 527 SMSK321 RS11065 WP 001085454.1
NTDB id 453 Spy49 1753c ACI62003.1
NTDB id 408 SMU RS09530 WP 002262392.1
NTDB id 625 LCA RS02525 WP 011374196.1
NTDB id 971981 WOC67 RS11840 WP 000368166.1
NTDB id 115 BSU 16940 NP 389576.2
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 RA0C 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 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 453 Spy49 1753c ACI62003.1
NTDB id 408 SMU RS09530 WP 002262392.1
NTDB id 625 LCA RS02525 WP 011374196.1
NTDB id 971981 WOC67 RS11840 WP 000368166.1
NTDB id 115 BSU 16940 NP 389576.2
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 1205 PSJM300 05545 AFN77183.1
consensus

```



logo

NTDB id 600 KW2 RS01765 WP 011675413.1	SVRLDVRGSTKIEEGS.GDNKTQIGKITKIKVVKNKVAPPFKEAVALVDIMFGEGISSTGELINIAVEEGITIKKSGAWFAYN	312
NTDB id 269 KZH43 RS08665 WP 001085462.1	SVRLDVRGNTQIKGTG.DQKETNKGKETKIKVVKNKVAPPFKEAVVEIMYGGEGISKTGELLKIASDLDIKKAGAWYSYK	311
NTDB id 228 SPD RS09265 WP 001085462.1	SVRLDVRGNTQIKGTG.DQKETNKGKETKIKVVKNKVAPPFKEAVVEIMYGGEGISKTGELLKIASDLDIKKAGAWYSYK	311
NTDB id 194 SPR RS08825 WP 001085462.1	SVRLDVRGNTQIKGTG.DQKETNKGKETKIKVVKNKVAPPFKEAVVEIMYGGEGISKTGELLKIASDLDIKKAGAWYSYK	311
NTDB id 159 SP RS09750 WP 001085462.1	SVRLDVRGNTQIKGTG.DQKETNKGKETKIKVVKNKVAPPFKEAVVEIMYGGEGISKTGELLKIASDLDIKKAGAWYSYK	311
NTDB id 499 SM12261 RS08315 WP 078228268.1	SVRLDVRGSTQIKGTG.DQKDTNKGKETKIKVVKNKVAPPFKEAFVEIMYGGEGISKTGELLKIASDLDIKKAGAWYSYK	311
NTDB id 527 SMSK321 RS11065 WP 001085454.1	SVRLDVRGSTQIKGTG.DQKDTNKGKETKIKVVKNKVAPPFKEAFVEIMYGGEGISKTGELLKIASDLDIKKAGAWYSYK	311
NTDB id 453 Spy49 1753c ACI62003.1	SVRLDVRGTTQIKGTG.DQKDSIGKETKIKVVKNKVAPPFKEAEVEIMYGGEGISRTGELVKIASDLDIQKAGAWFSYN	311
NTDB id 408 SMU RS09530 WP 002262392.1	SVRLDVRGNTQIKGTG.EQKDSNIGKETKIKVVKNKVAPPFKEAFVEIIMYGGEGISRTGELVKIASDLGIQKAGAWYSYN	311
NTDB id 625 LCA RS02525 WP 011374196.1	TVRLEVRRRAETIKNGT.....DMIGNRARIKVVKNKVAPPFKEAEVDIMYGGGISRTGELVDMAVEKDIINKSGSWYSYG	294
NTDB id 971981 WOC67 RS11840 WP 000368166.1	SVRLEVRRAEQLKQGQ.....EIVGNRTKIKVVKNKVAPPFRVAEVDIMYGGGISKEGELIDLGVENDIVDKSGAWYSYN	293
NTDB id 115 BSU 16940 NP 389576.2	SVRLEVRRAEQLKQGN.....DVMGNKTKIKVVKNKVAPPFRTAEVDIMYGGEGISKEGETIIDLGTELIDIVQKSGSWYSYE	292
NTDB id 1313 DR RS12030 WP 010888966.1	SVRLDVRKIGQ....PTKVGNDAAVANTVKIKTVKNKVAAPFKEVELALVYGGKGFQDLSDLVGLAADMDIINKAGSFYSYG	307
NTDB id 1245 Cj1673c YP 002345041.1	SVRLDVRKVAT....L.KQNEEPIGNRVKVVKNKVAPPFRQAEFDVMFGEGLSREGELIDYGVKLDIVDKSGAWFSYK	294
NTDB id 1211 C694 RS00795 WP 000963128.1	SVRIDIRRIAS....L.KQNEQHIGNRAKAKVVKNKVAPPFREAEFDIMFGEGISKEGETIIDYGVKLDIVDKSGAWLSYQ	296
NTDB id 1214 NCTC11637 00359 SQJ03206.1	SVRIDIRRIAA....L.KQNEQHIGNRAKAKVVKNKVAPPFREAEFDIMFGEGISKEGETIIDYGVKLDIVDKSGAWLSYQ	296
NTDB id 1334 RAOC RS04870 WP 004918236.1	SVRIDIRRLSDTGKIKDKSGEVIGNRTKVVVVKNKVAPPFKSAEFDIMYGGEGVSKVGEILDVATDLDIQKSGSWFSYQ	307
NTDB id 1389 A4U84 RS07560 WP 021112712.1	SVRLDIRRCGV....V.KDGDEIIGSETKVVVVKNKVAPPFREVQFDIMYGGEGISRMNELLILAEANGFIKKSGAWFSYD	310
NTDB id 1130 NGFG RS03960 WP 003688695.1	SVRLDIRRTGS....I.KKGEVVLGNETRKKVKNKVAPPFRQAEFDILYGGEGISWEGELIDIGVKNDIINKSGAWYSYN	294
NTDB id 1124 NGFG RS03960 WP 003688695.1	SVRLDIRRTGS....I.KKGEVVLGNETRKKVKNKVAPPFRQAEFDILYGGEGISWEGELIDIGVKNDIINKSGAWYSYN	294
NTDB id 1123 OK783 RS03845 WP 003688695.1	SVRLDIRRTGS....I.KKGEVVLGNETRKKVKNKVAPPFRQAEFDILYGGEGISWEGELIDIGVKNDIINKSGAWYSYN	294
NTDB id 1427 RS RS02760 WP 011000510.1	SVRLDIRRIGS....I.KKGEDEVGNETKVVVVKNKVAPPFREAIFFDILYGAGVSREGEIIDLGVEAKVVEKSGAWYSYN	302
NTDB id 1165 A1552VC RS01565 WP 000344154.1	SVRLDIRRTGA....I.KEGEEVVGNETRIKVVKNKIAAPFKEANTQIMYGGGFNREGELIDLGVKHKMVEKSGAWYSYN	293
NTDB id 1142 GTF74 RS11550 WP 000344154.1	SVRLDIRRTGA....I.KEGEEVVGNETRIKVVKNKIAAPFKEANTQIMYGGGFNREGELIDLGVKHKMVEKSGAWYSYN	293
NTDB id 1022 ACIAD RS06390 WP 004925639.1	SVRLDIRRIGQ....V.KEGDEIIGSETKVVVVKNKMAPPFREAIFFQILYGGKGVNQLGELVDLAVQQNIVQKAGAWYSYQ	293
NTDB id 1074 ABD1 RS10195 WP 000344167.1	SVRLDIRRIGQ....V.KEGDEIIGSETKVVVVKNKMAPPFKEAIFQILYGGKGTNQLGELVDLAVQQDIVQKAGAWYSYQ	293
NTDB id 1205 PSJM300 05545 AFN77183.1	SVRLDIRRTGA....V.KEGDEVVGSETRVVVVKNKVAPPFRQAEFQILYGGKGIYRNGEIIDLGVQQGLVEKSGAWAYK	293
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	IDGEEVSEQDTEN	KKDE....PKKEEA	..VNEEVPLDLG	DELEIE	385
NTDB id 228 SPD RS09265 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTEN	KKDE....PKKEEA	..VNEEVPLDLG	DELEIE	385
NTDB id 194 SPR RS08825 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTEN	KKDE....PKKEEA	..VNEEVPLDLG	DELEIE	385
NTDB id 159 SP RS09750 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTEN	KKDE....PKKEEA	..VNEEVPLDLG	DELEIE	385
NTDB id 499 SM12261 RS08315 WP 078228268.1	DEKIGQGS	ENAKKYLAADNPEIF	DEIDHQVRVQFGL	IDGEEIAES....	KKDE....AAQVDS	..VNEEVTLDLG	DELEIE	381
NTDB id 527 SMSK321 RS11065 WP 001085454.1	DEKIGQGS	ENAKKYLAADNPEV	FAEIDHQVRVQFGL	IDGEEAAES....	KKDE....VAQVDS	..VNEEVTLDLG	DELEIE	381
NTDB id 453 Spy49 1753c ACI62003.1	GEKIGQGS	ENAKRYLADHPQLF	DEIDRKVRVKFGL	LEESEEEESAMAV	ASE.....E.....	TDDLALDLDN	GIEIE	377
NTDB id 408 SMU RS09530 WP 002262392.1	GEKIGQGS	ENAKKFLADNPEIF	DDIDHKVRVQYGL	IEEDNTEEEKQSS	KEK.....ETDEK	..ADKNLVLELD	DDTIELE	382
NTDB id 625 LCA RS02525 WP 011374196.1	SERIGQG	RENAKNYLADHED	VEDEVRLKVRAAY	GISDVPEEDLPTTE	DEQINILPDDSTEE	.....		355
NTDB id 971981 WOC67 RS11840 WP 000368166.1	GERMGQG	KENVKMYLKENPQ	IKKEEIDRKLREKL	GISDGDVEETEDA	...PKSLFDEE	.....		347
NTDB id 115 BSU 16940 NP 389576.2	EERLGQG	RENAKQFLKENKD	IMLMIQEQIREHY	GLDNNGVVQQAEET	QEELEFEE	.....		348
NTDB id 1313 DR RS12030 WP 010888966.1	DERIGQG	KEKTIAYIAERP	EMEQUEIRDRVMAA	IRAGNAGEAPALAP	APAAPEAAEA	.....		363
NTDB id 1245 Cj1673c YP 002345041.1	DKKLGQG	RENSKAFLENPEI	ADEITKAIQNSMG	IEGMI....SGSEDD	..EGEE	.....		343
NTDB id 1211 C694 RS00795 WP 000963128.1	DKKLGQG	RENAKALLKEDKA	LADAITLKIKESIG	SNEEI....MPLPDE	..PLEEME	.....		347
NTDB id 1214 NCTC11637 00359 SQJ03206.1	DKKLGQG	RENAKALLKEDKA	LADAITLKIKESIG	SNEEI....MPLPDE	..PLEEME	.....		347
NTDB id 1334 RAOC RS04870 WP 004918236.1	DTKLGQGR	DTVKELIKDNPELA	EELAKIREKLQAK	.....				343
NTDB id 1389 A4U84 RS07560 WP 021112712.1	GTKIGQG	KNNAVKWLKENPEI	ADKLEQEIRNTLAS	NPNS....VLKATAS	DSNDESD..VEEF	SEEEL	.....	372
NTDB id 1130 NGFG RS03960 WP 003688695.1	GAKIGQG	KDNVRVWLKENPEI	SDAIDAKIRALNG	VEMHI....TEGTQ	DETDGER.....	PEE	.....	348
NTDB id 1124 NGFG RS03960 WP 003688695.1	GAKIGQG	KDNVRVWLKENPEI	SDAIDAKIRALNG	VEMHI....TEGTQ	DETDGER.....	PEE	.....	348
NTDB id 1123 OK783 RS03845 WP 003688695.1	GAKIGQG	KDNVRVWLKENPEI	SDAIDAKIRALNG	VEMHI....TEGTQ	DETDGER.....	PEE	.....	348
NTDB id 1427 RS RS02760 WP 011000510.1	GERIGQGR	DNCREFLRENAEL	AREIENKVREHLG	VTPMG....AVTLA	..EEVEED	.....		352
NTDB id 1165 A1552VC RS01565 WP 000344154.1	GDKIGQG	KANACKYLLKENPEI	AKTLDKKLREMLLN	PENM....QLIAET	SSAADDVE..FGAV	PEEF	.....	354
NTDB id 1142 GTF74 RS11550 WP 000344154.1	GDKIGQG	KANACKYLLKENPEI	AKTLDKKLREMLLN	PENM....QLIAET	SSAADDVE..FGAV	PEEF	.....	354
NTDB id 1022 ACIAD RS06390 WP 004925639.1	GNKIGQG	KNNVIRYFEENNQ	IAEIEIERNIREQL	LTTKASD....QTAA	..HDETEEEPD	..LL..ES	.....	349
NTDB id 1074 ABD1 RS10195 WP 000344167.1	GNKIGQG	KNNVIRYFEENNQ	IAEIEIERNIREQL	LTTKASD....GAVQ	..I..EDEEEPD	..LL..LES	.....	349
NTDB id 1205 PSJM300 05545 AFN77183.1	GSKIGQG	KANAACKYLLKENPEI	GQIEIEQQIRAKLL	VTSAN....TKATP	VAAEDLADAD..I	.....		347
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 625 LCA RS02525 WP 011374196.1	...	355	
NTDB id 971981 WOC67 RS11840 WP 000368166.1	...	347	
NTDB id 115 BSU 16940 NP 389576.2	...	348	
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 1205 PSJM300 05545 AFN77183.1	...	347	
consensus			

- X non conserved
- X similar
- X ≥ 50% conserved