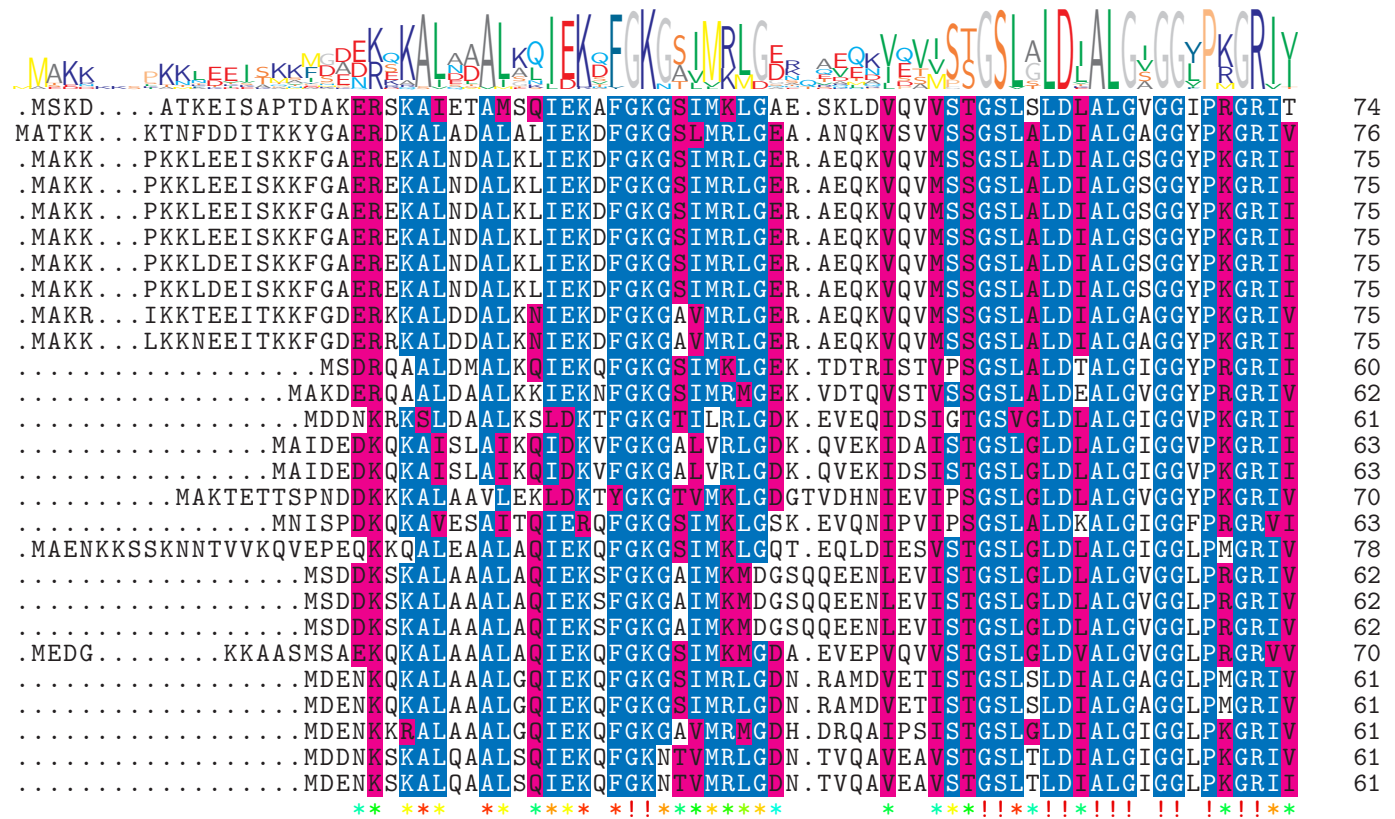


```

NTDB id 1313 DR RS12030 WP 010888966.1
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 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 179065 dmul RS04870 WP 020876955.1
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 1205 PSJM300 05545 AFN77183.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
consensus

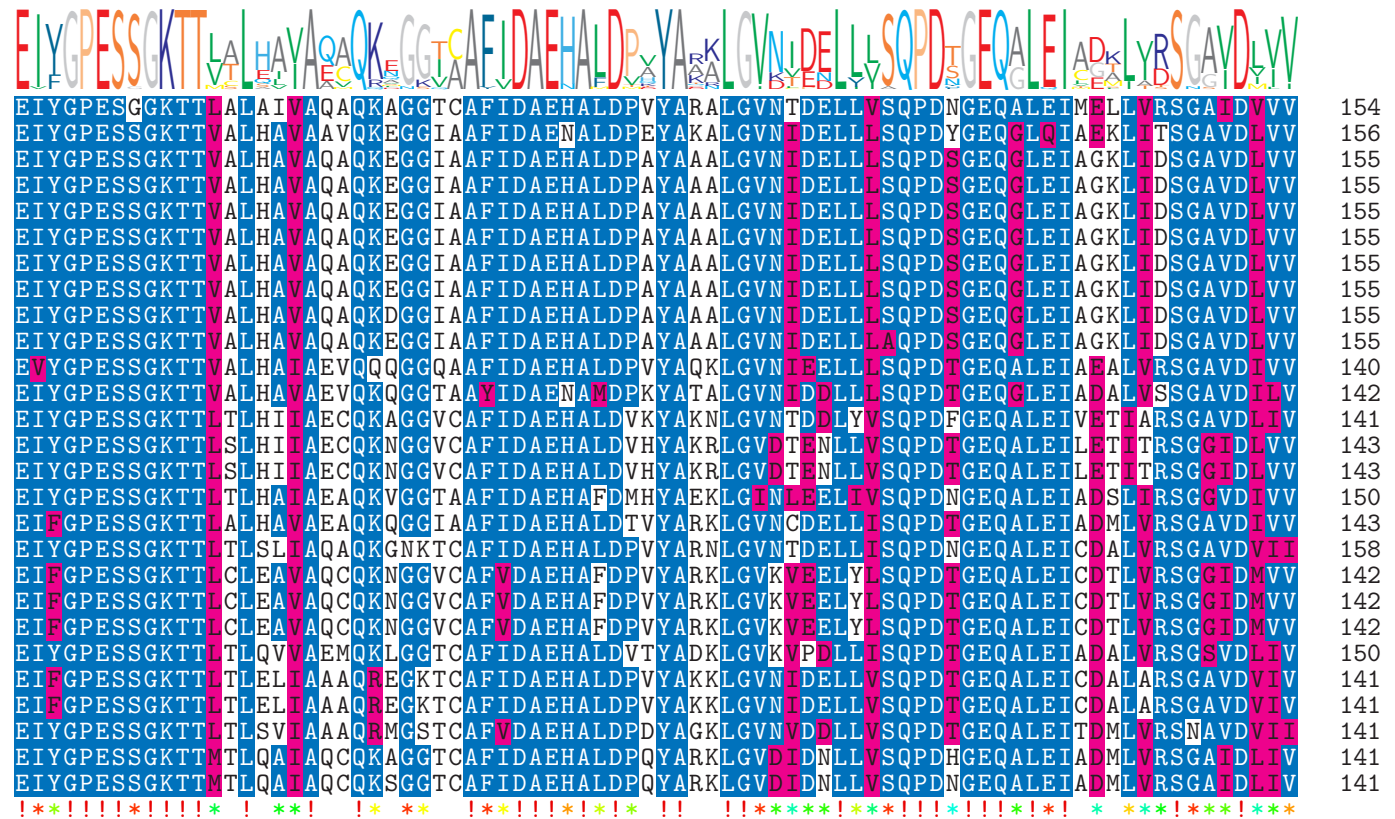
```



```

NTDB id 1313 DR RS12030 WP 010888966.1
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 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 179065 dmul RS04870 WP 020876955.1
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 1205 PSJM300 05545 AFN77183.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
consensus

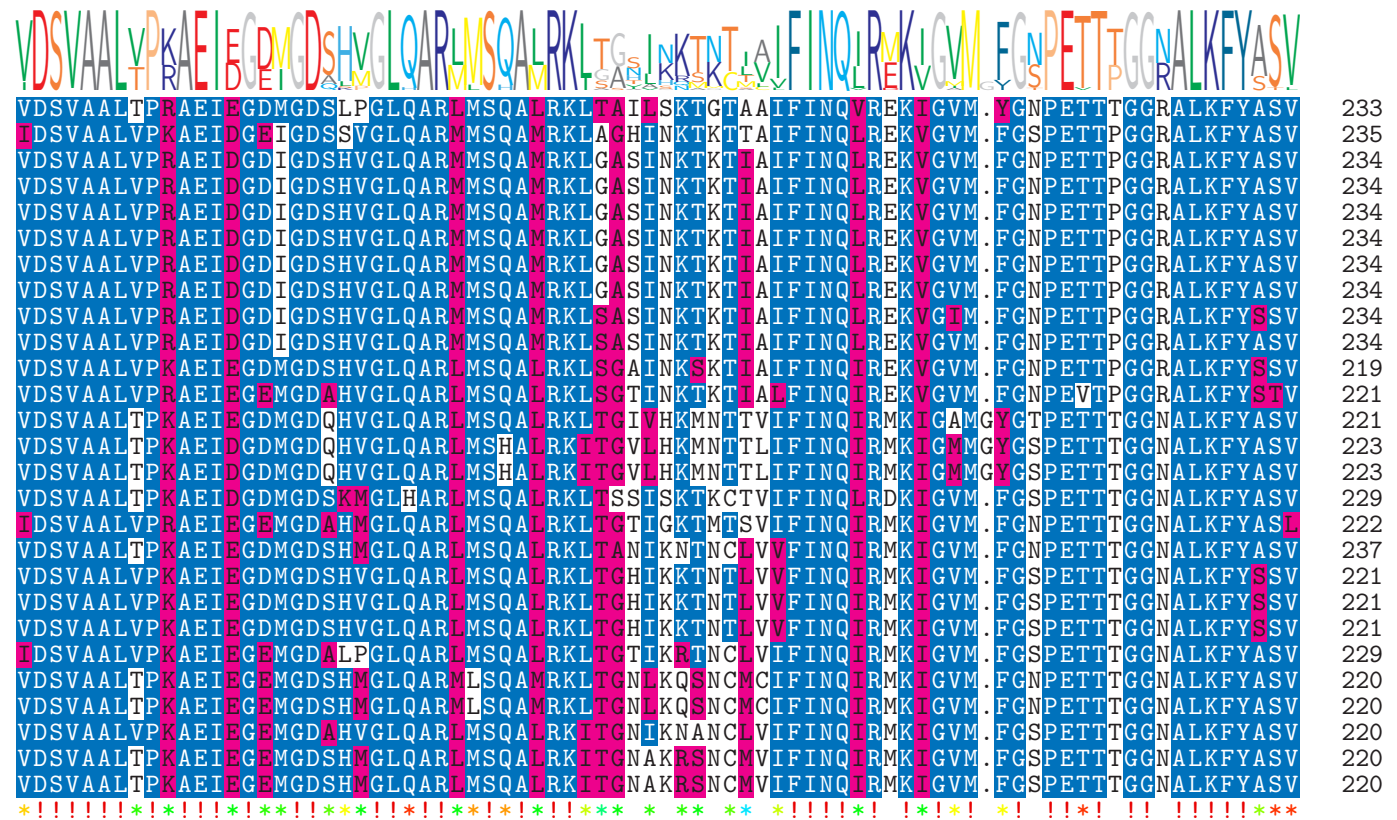
```



```

NTDB id 1313 DR RS12030 WP 010888966.1
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 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 179065 dmul RS04870 WP 020876955.1
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 1205 PSJM300 05545 AFN77183.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
consensus

```

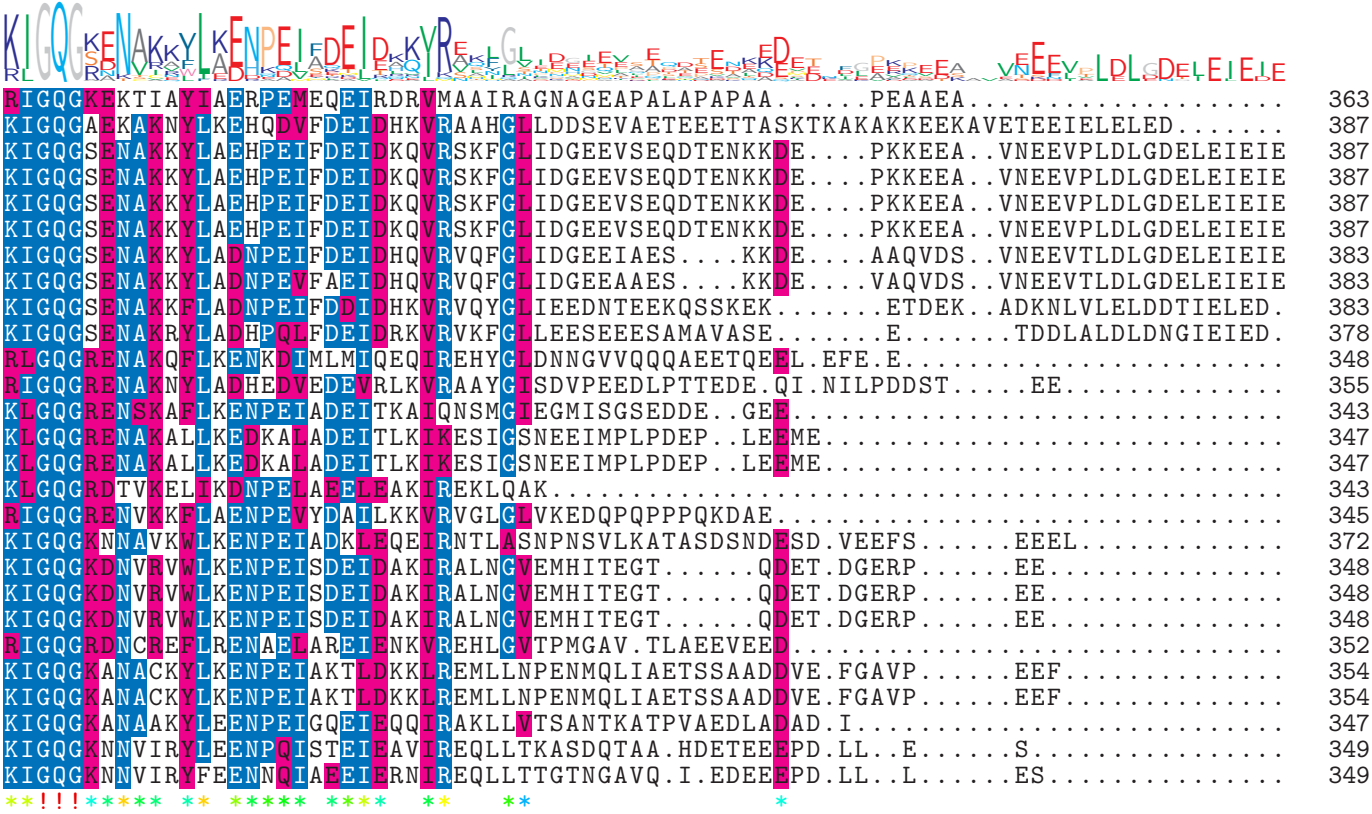


logo

NTDB id 1313 DR RS12030 WP 010888966.1	RLDVRKIGQ...PTKVGND	AVANTV	KIKTVKNKV	APPFKE	VELALVY	GKGFDQLS	DLVGLA	ADMDIT	IKKAGS	FFSYGDE	309		
NTDB id 600 KW2 RS01765 WP 011675413.1	RLDVRGSTKIEEGS.GDNKTQ	IGKITK	IKVVKNKV	APPFKE	VALVDIM	FGEGIS	STGELLN	IAVEEGI	IKKSGA	WFAYNDE	314		
NTDB id 269 KZH43 RS08665 WP 001085462.1	RLDVRGNTQIKGTG.DQKETN	VGKETK	IKVVKNKV	APPFKE	AVVEIMY	GEGISKT	GELLKIA	SDLDI	IKKAGA	WYSYKDE	313		
NTDB id 228 SPD RS09265 WP 001085462.1	RLDVRGNTQIKGTG.DQKETN	VGKETK	IKVVKNKV	APPFKE	AVVEIMY	GEGISKT	GELLKIA	SDLDI	IKKAGA	WYSYKDE	313		
NTDB id 194 SPR RS08825 WP 001085462.1	RLDVRGNTQIKGTG.DQKETN	VGKETK	IKVVKNKV	APPFKE	AVVEIMY	GEGISKT	GELLKIA	SDLDI	IKKAGA	WYSYKDE	313		
NTDB id 159 SP RS09750 WP 001085462.1	RLDVRGNTQIKGTG.DQKETN	VGKETK	IKVVKNKV	APPFKE	AVVEIMY	GEGISKT	GELLKIA	SDLDI	IKKAGA	WYSYKDE	313		
NTDB id 499 SM12261 RS08315 WP 078228268.1	RLDVRGSTQIKGTG.DQKDTN	VGKETK	IKVVKNKV	APPFKE	AFVEIMY	GEGISKT	GELLKIA	SDLDI	IKKAGA	WYSYKDE	313		
NTDB id 527 SMSK321 RS11065 WP 001085454.1	RLDVRGSTQIKGTG.DQKDTN	VGKETK	IKVVKNKV	APPFKE	AFVEIMY	GEGISKT	GELLKIA	SDLDI	IKKAGA	WYSYKDE	313		
NTDB id 408 SMU RS09530 WP 002262392.1	RLDVRGNTQIKGTG.EQKDSN	IGKETK	IKVVKNKV	APPFKE	AFVEI	IYGE	GISRTG	ELVKIA	SDLGII	QKAGAW	SYNGE	313	
NTDB id 453 Spy49 1753c AC162003.1	RLDVRGTTQIKGTG.DQKDS	IGKETK	IKVVKNKV	APPFKE	AEVEIMY	GEGISRT	GELVKIA	SDLDI	IQKAGAW	FSYNGE	313		
NTDB id 115 BSU 16940 NP 389576.2	RLEVRRAEQLKQGN.....	DVMGNKTK	IKVVKNKV	APPFRT	AEVDIMY	GEGISKE	GEIIDL	GLTELD	IVQKSG	SWSYEEE	294		
NTDB id 625 LCA RS02525 WP 011374196.1	RLEVRRAETIKNGT.....	DMIGNRARI	IKVVKNKV	APPFKE	AEVDIMY	GQGISRT	GELVDM	AVEKDI	INKSGS	WYSYGSE	296		
NTDB id 1245 Cj1673c YP 002345041.1	RLDVRKVA...TL.KQNEEP	IGNRVK	VVVKNKV	APPFRA	AEFDVM	FGEGLS	REGELID	YGVKLD	IVDKSG	AWFSYKDK	296		
NTDB id 1214 NCTC11637 00359 SQJ03206.1	RIDIRRIA...AL.KQNEQH	IGNRAKA	VVVKNKV	APPFRA	AEFDIM	FGEGISKE	GEIIDY	GVKLDI	VDKSGA	WLSYQDK	298		
NTDB id 1211 C694 RS00795 WP 000963128.1	RIDIRRIA...SL.KQNEQH	IGNRAKA	VVVKNKV	APPFRA	AEFDIM	FGEGISKE	GEIIDY	GVKLDI	VDKSGA	WLSYQDK	298		
NTDB id 1334 RAOC RS04870 WP 004918236.1	RIDIRRLSDTGKIKDKSGEV	IGNRTK	VVVKNKV	APPFKSA	AEFDIMY	GEGVSK	VGEILD	VATDL	DI	IQKSGS	WFSYQDT	309	
NTDB id 179065 dmul RS04870 WP 020876955.1	RLDIRRMG...AI.KDGQEQ	IGNRTK	VRVVKNK	MAPPFRA	AEFDITY	GEGISRT	GDLIDM	GMVEMG	IVEKSG	SWYSHDGD	297		
NTDB id 1389 A4U84 RS07560 WP 021112712.1	RLDIRRCG...VV.KDGDEI	IGSETK	VVVKNKV	APPFREV	VQFDIMY	GEGISRM	NELLILA	EANGFI	IKKSGA	WFSYDGT	312		
NTDB id 1130 NGFG RS03960 WP 003688695.1	RLDIRRTG...SI.KKGEVL	GNETR	VKVIK	NKVAPP	FRQAEFD	DILYGE	GISWEGE	LIDIGV	KNDI	INKSGA	WYSYNGA	296	
NTDB id 1124 NGFG RS03960 WP 003688695.1	RLDIRRTG...SI.KKGEVL	GNETR	VKVIK	NKVAPP	FRQAEFD	DILYGE	GISWEGE	LIDIGV	KNDI	INKSGA	WYSYNGA	296	
NTDB id 1123 OK783 RS03845 WP 003688695.1	RLDIRRTG...SI.KKGEVL	GNETR	VKVIK	NKVAPP	FRQAEFD	DILYGE	GISWEGE	LIDIGV	KNDI	INKSGA	WYSYNGA	296	
NTDB id 1427 RS RS02760 WP 011000510.1	RLDIRRIG...SI.KKGEDEV	VGNETK	VVVKNKV	APPFRE	AI	FIDILY	GAGVS	REGEI	IDL	GV	EAKVVEKSGA	WYSYNGE	304
NTDB id 1165 A1552VC RS01565 WP 000344154.1	RLDIRRTG...AI.KEGEDEV	VGNETR	IKVVKNK	IAAPFKE	ANTQIMY	GQGFN	REGELID	LG	VKHKM	VVEKSGA	WYSYNGD	295	
NTDB id 1142 GTF74 RS11550 WP 000344154.1	RLDIRRTG...AI.KEGEDEV	VGNETR	IKVVKNK	IAAPFKE	ANTQIMY	GQGFN	REGELID	LG	VKHKM	VVEKSGA	WYSYNGD	295	
NTDB id 1205 PSJM300 05545 AFN77183.1	RLDIRRTG...AV.KEGEDEV	VGSETR	VVVKNKV	APPFRA	EFQILY	GKGIY	RNGE	IIDL	GV	QGLVEKSGA	WAYAYKGS	295	
NTDB id 1022 ACIAD RS06390 WP 004925639.1	RLDIRRIG...QV.KEGDEI	IGSETK	VVVKNK	MAPPFRA	E	IFQILY	GKGVN	QLGEL	VDLAV	QQNIV	QKAGAW	SYQGN	295
NTDB id 1074 ABD1 RS10195 WP 000344167.1	RLDIRRIG...QV.KEGDEI	VGSETK	VVVKNK	MAPPFKE	A	IFQILY	GKGTN	QLGEL	VDLAV	QQDIV	QKAGAW	SYQGN	295
consensus	!***!*	*	**	*****!!*!!*!!*	*****	*****!*	*****	*****	***	***	!*	*****	

logo

NTDB id 1313 DR RS12030 WP 010888966.1
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 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 179065 dmul RS04870 WP 020876955.1
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 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 1313 DR RS12030 WP 010888966.1	.	363
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 499 SM12261 RS08315 WP 078228268.1	E	384
NTDB id 527 SMSK321 RS11065 WP 001085454.1	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 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 179065 dmul RS04870 WP 020876955.1	.	345
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 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