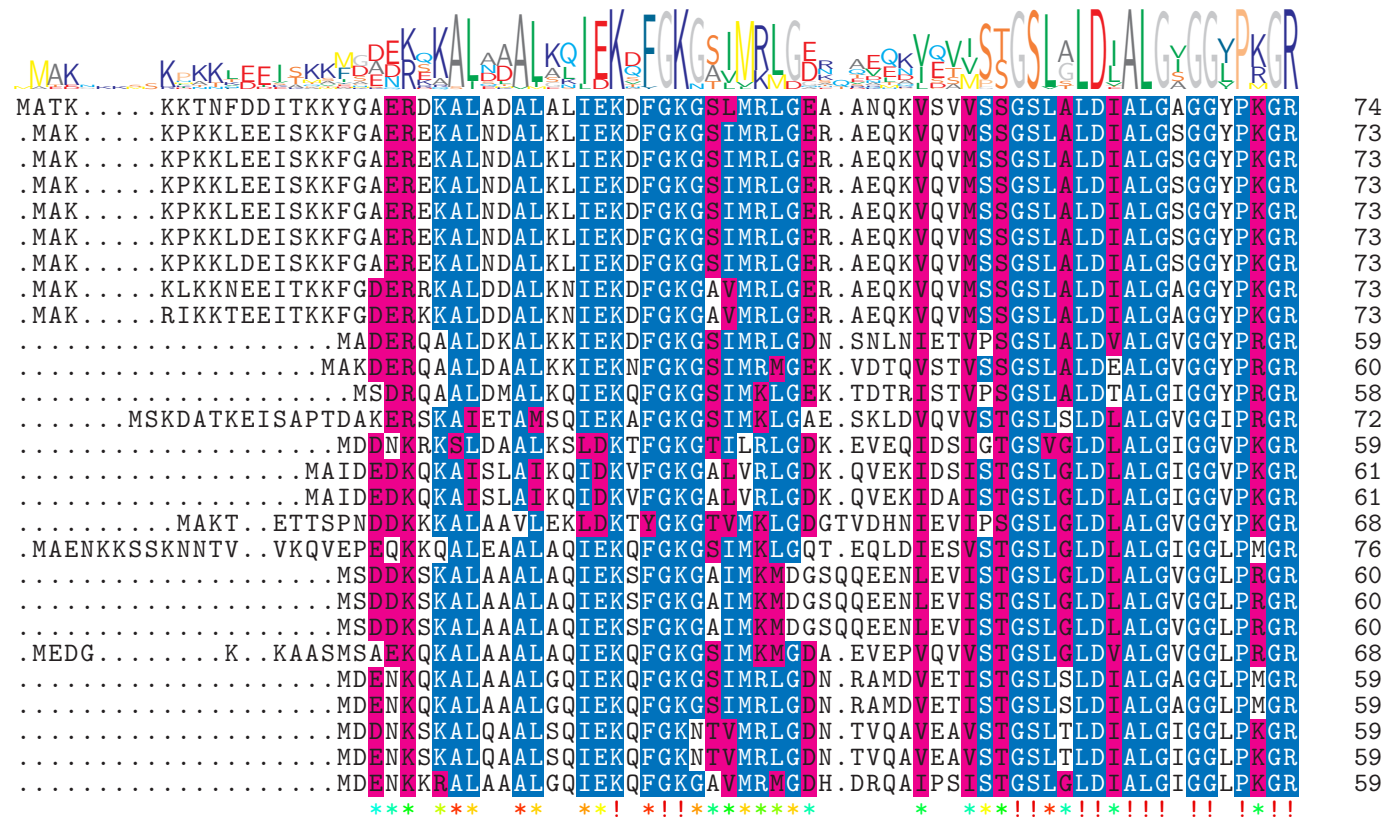


```

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 1045160 ACEPSV RS08660 WP 395390457.1
NTDB id 625 LCA RS02525 WP 011374196.1
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

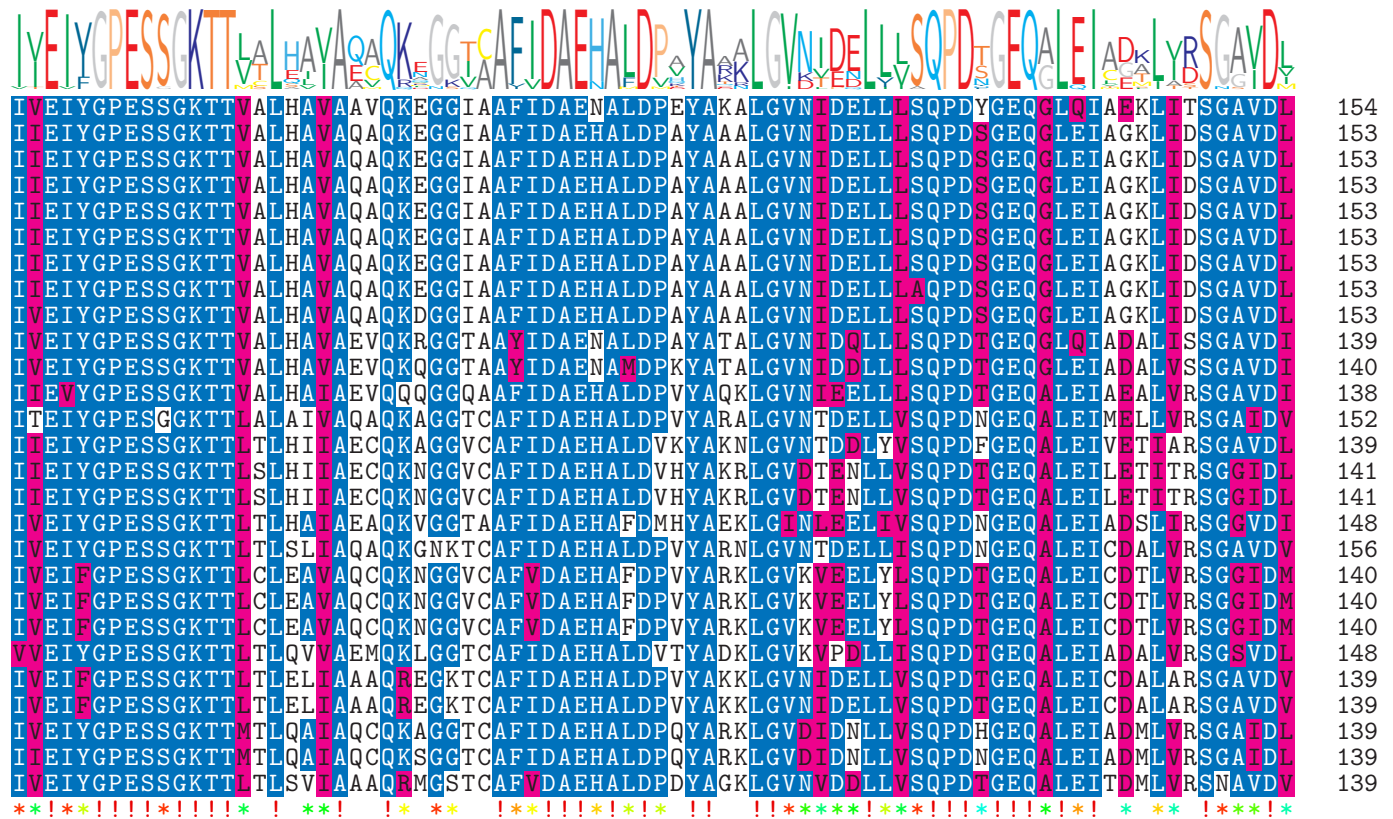
```



```

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 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 1045160 ACEPSV RS08660 WP 395390457.1
NTDB id 625 LCA RS02525 WP 011374196.1
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

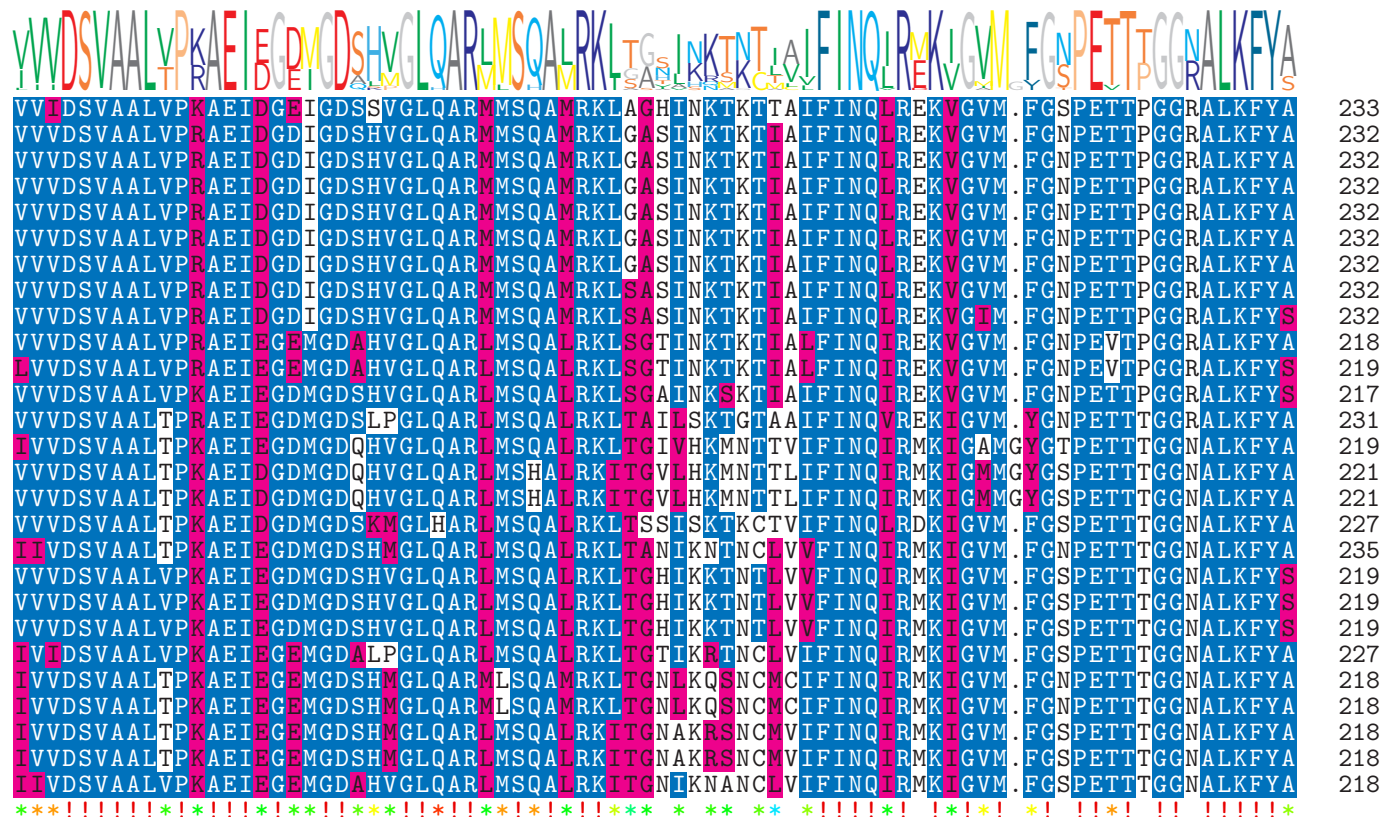
```



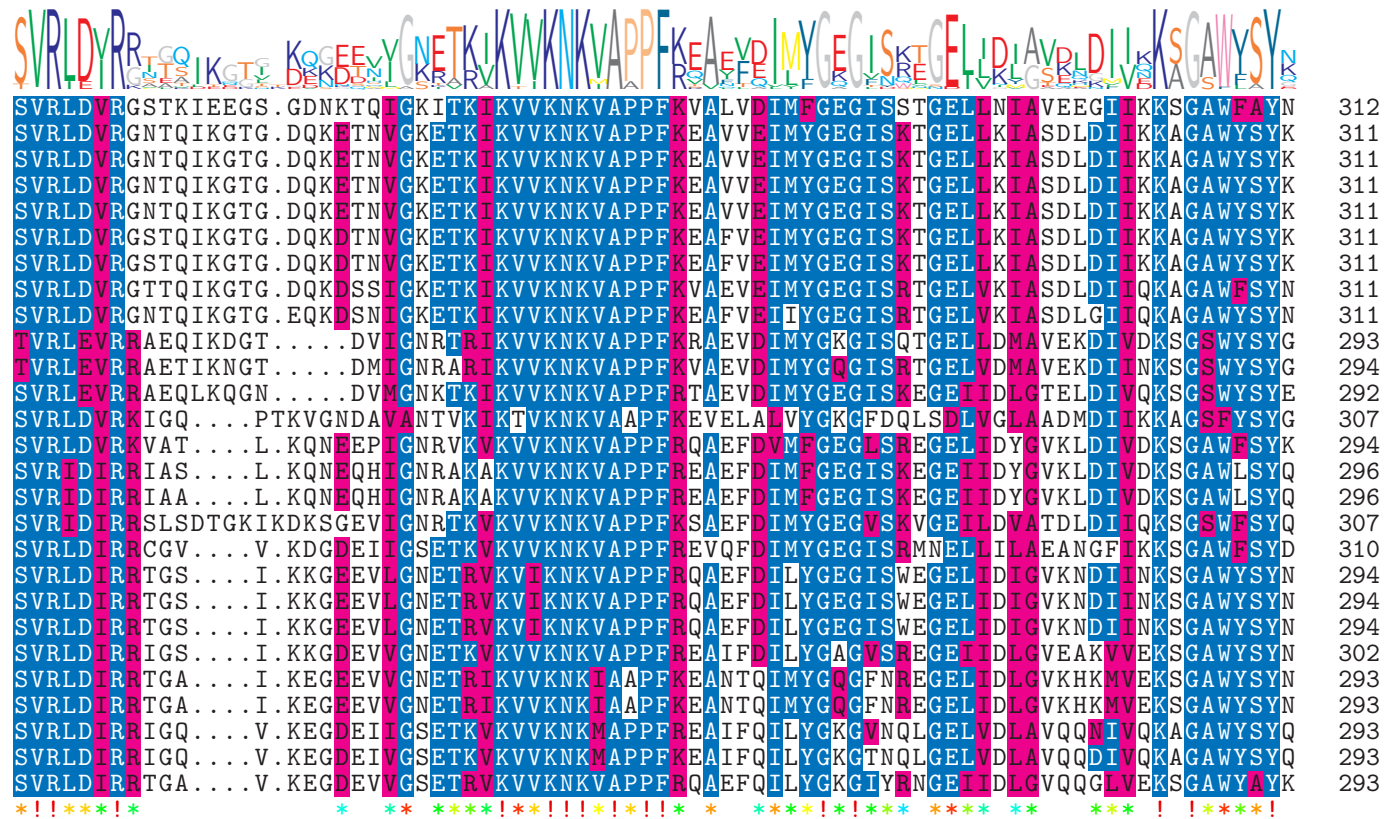
```

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 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 1045160 ACEPSV RS08660 WP 395390457.1
NTDB id 625 LCA RS02525 WP 011374196.1
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 000918236.1
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 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 1045160 ACEPSV RS08660 WP 395390457.1
NTDB id 625 LCA RS02525 WP 011374196.1
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



logo

NTDB id 600 KW2 RS01765 WP 011675413.1	DEKIGQGA	EKAKNYLKEHQDV	FEIDHKVRAAH	GLDDSEVAETEEETT	ASKTKAKAKKEEKAVE	.....	TEEIELELE	386			
NTDB id 269 KZH43 RS08665 WP 001085462.1	DEKIGQGS	ENAKKYLA	EHPEIF	FEIDKQVRSKF	GLIDGEEVSEQDTENKKDE	....	PKKEEA..V.....	NEEVPLDLG	379		
NTDB id 228 SPD RS09265 WP 001085462.1	DEKIGQGS	ENAKKYLA	EHPEIF	FEIDKQVRSKF	GLIDGEEVSEQDTENKKDE	....	PKKEEA..V.....	NEEVPLDLG	379		
NTDB id 194 SPR RS08825 WP 001085462.1	DEKIGQGS	ENAKKYLA	EHPEIF	FEIDKQVRSKF	GLIDGEEVSEQDTENKKDE	....	PKKEEA..V.....	NEEVPLDLG	379		
NTDB id 159 SP RS09750 WP 001085462.1	DEKIGQGS	ENAKKYLA	EHPEIF	FEIDKQVRSKF	GLIDGEEVSEQDTENKKDE	....	PKKEEA..V.....	NEEVPLDLG	379		
NTDB id 527 SMSK321 RS11065 WP 001085454.1	DEKIGQGS	ENAKKYLA	DNPEVFAE	IDHQVRVQF	GLIDGEEAAE	....	SKKDE....VAQVDS..V.....	NEEVTLDLG	375		
NTDB id 499 SM12261 RS08315 WP 078228268.1	DEKIGQGS	ENAKKYLA	DNPEIF	IDHQVRVQF	GLIDGEEIAE	....	SKKDE....AAQVDS..V.....	NEEVTLDLG	375		
NTDB id 453 Spy49 1753c ACI62003.1	GEKIGQGS	ENAKRYLA	DHPQLF	IDRKVRVKF	GLLEESEESAMAVASE	.....	E.....	TDDLALDLD	371		
NTDB id 408 SMU RS09530 WP 002262392.1	GEKIGQGS	ENAKKFLA	DNPEIF	DDIDHKVRVQY	GLIEEDNTEEKQSSKEK	.....	ETDEK..A.....	DKNLVLELD	376		
NTDB id 1045160 ACEPSV RS08660 WP 395390457.1	EDRIGQGS	ENAKAYLA	DHPDMAE	VNQVRVRAAY	GVGEGDDADDGKKAAGKDSKPTD	..	KKDAKADAPKDKSKPEQSELIPD		372		
NTDB id 625 LCA RS02525 WP 011374196.1	SERIGQGS	ENAKNYLA	DHEDVE	DEVRLKVRVRAAY	GISDVPEEDLPTTE	.....	D.....	EQINILPD	350		
NTDB id 115 BSU 16940 NP 389576.2	EERLGGGS	ENAKQFLK	ENKDI	MLMIQE	IREHYGLD	NNGVVQQQA	EETQEELEFEE	.....	348		
NTDB id 1313 DR RS12030 WP 010888966.1	DERIGQGS	KEKTIA	YIAERPE	MEQEIR	DRVMAAIRAGNAGEAPALAPAPA	PEAAEA	.....		363		
NTDB id 1245 Cj1673c YP 002345041.1	DKKLGGGS	ENSKAFLK	ENPEIA	DEITKAIQNSM	GIEGMI	....	SGSEDD..EGEE	.....	343		
NTDB id 1211 C694 RS00795 WP 000963128.1	DKKLGGGS	ENAKALLK	EDKALADE	ITLKIKESI	GSNEEI	....	MPLPDE..PLEEME	.....	347		
NTDB id 1214 NCTC11637 00359 SQJ03206.1	DKKLGGGS	ENAKALLK	EDKALADE	ITLKIKESI	GSNEEI	....	MPLPDE..PLEEME	.....	347		
NTDB id 1334 RAOC RS04870 WP 004918236.1	DTKLGGGS	GRDTV	KELIK	DNPELA	ELEAKIREKLQAK	.....			343		
NTDB id 1389 A4U84 RS07560 WP 021112712.1	GTKIGQGS	KNNAVKWL	KENPEIA	DKLEQEIR	NTLASNPNS		VLKATASDSNDES	DVEE...F.....	SE	369	
NTDB id 1130 NGFG RS03960 WP 003688695.1	GAKIGQGS	KDNVRVWL	KENPEIS	DEIDAKIRALN	GVEMHI		TEGTQDET	DGER.....	PE	347	
NTDB id 1124 NGFG RS03960 WP 003688695.1	GAKIGQGS	KDNVRVWL	KENPEIS	DEIDAKIRALN	GVEMHI		TEGTQDET	DGER.....	PE	347	
NTDB id 1123 OK783 RS03845 WP 003688695.1	GAKIGQGS	KDNVRVWL	KENPEIS	DEIDAKIRALN	GVEMHI		TEGTQDET	DGER.....	PE	347	
NTDB id 1427 RS RS02760 WP 011000510.1	GERIGQGS	GRDNC	REFLRENA	ELAREI	ENKVRHLGV	TPMG		AVTLA.EEVEED		352	
NTDB id 1165 A1552VC RS01565 WP 000344154.1	GDKIGQGS	KANACKYL	KENPEIA	KTLDKKL	REMLLN	PENM		QLIAETSSAADD	VEFGA...V.....	PE	352
NTDB id 1142 GTF74 RS11550 WP 000344154.1	GDKIGQGS	KANACKYL	KENPEIA	KTLDKKL	REMLLN	PENM		QLIAETSSAADD	VEFGA...V.....	PE	352
NTDB id 1022 ACIAD RS06390 WP 004925639.1	GNKIGQGS	KNNVIRY	LEENPQ	ISTEIEA	VIREQLLT	KASD		QTAA.HDETEEEP	DLL.....	ES	349
NTDB id 1074 ABD1 RS10195 WP 000344167.1	GNKIGQGS	KNNVIRY	FEENNQ	IAEEI	ERNIREQLLT	TGTN		GAVQ.I.EDEEEP	DLL.....	LE	348
NTDB id 1205 PSJM300 05545 AFN77183.1	GSKIGQGS	KANAACKYL	LEENPEI	GQIE	EQIRAKLL	VT	SAN		TKATPVAED	LADADI	347
consensus	**!	*****	**	*	***	*****	**	*			

logo

NTDB id 600 KW2 RS01765 WP 011675413.1	DELEIEIEE	387
NTDB id 269 KZH43 RS08665 WP 001085462.1	DELEIEIEE	388
NTDB id 228 SPD RS09265 WP 001085462.1	DELEIEIEE	388
NTDB id 194 SPR RS08825 WP 001085462.1	DELEIEIEE	388
NTDB id 159 SP RS09750 WP 001085462.1	DELEIEIEE	388
NTDB id 527 SMSK321 RS11065 WP 001085454.1	DELEIEIEE	384
NTDB id 499 SM12261 RS08315 WP 078228268.1	DELEIEIEE	384
NTDB id 453 Spy49 1753c ACI62003.1	NGIEIED..	378
NTDB id 408 SMU RS09530 WP 002262392.1	DTIELED..	383
NTDB id 1045160 ACEPSV RS08660 WP 395390457.1	KNKPGK...	378
NTDB id 625 LCA RS02525 WP 011374196.1	DSTEE....	355
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	EEL.....	372
NTDB id 1130 NGFG RS03960 WP 003688695.1	E.....	348
NTDB id 1124 NGFG RS03960 WP 003688695.1	E.....	348
NTDB id 1123 OK783 RS03845 WP 003688695.1	E.....	348
NTDB id 1427 RS RS02760 WP 011000510.1	.....	352
NTDB id 1165 A1552VC RS01565 WP 000344154.1	EF.....	354
NTDB id 1142 GTF74 RS11550 WP 000344154.1	EF.....	354
NTDB id 1022 ACIAD RS06390 WP 004925639.1	.....	349
NTDB id 1074 ABD1 RS10195 WP 000344167.1	S.....	349
NTDB id 1205 PSJM300 05545 AFN77183.1	.....	347
consensus		

-  non conserved
-  similar
-  ≥ 50% conserved