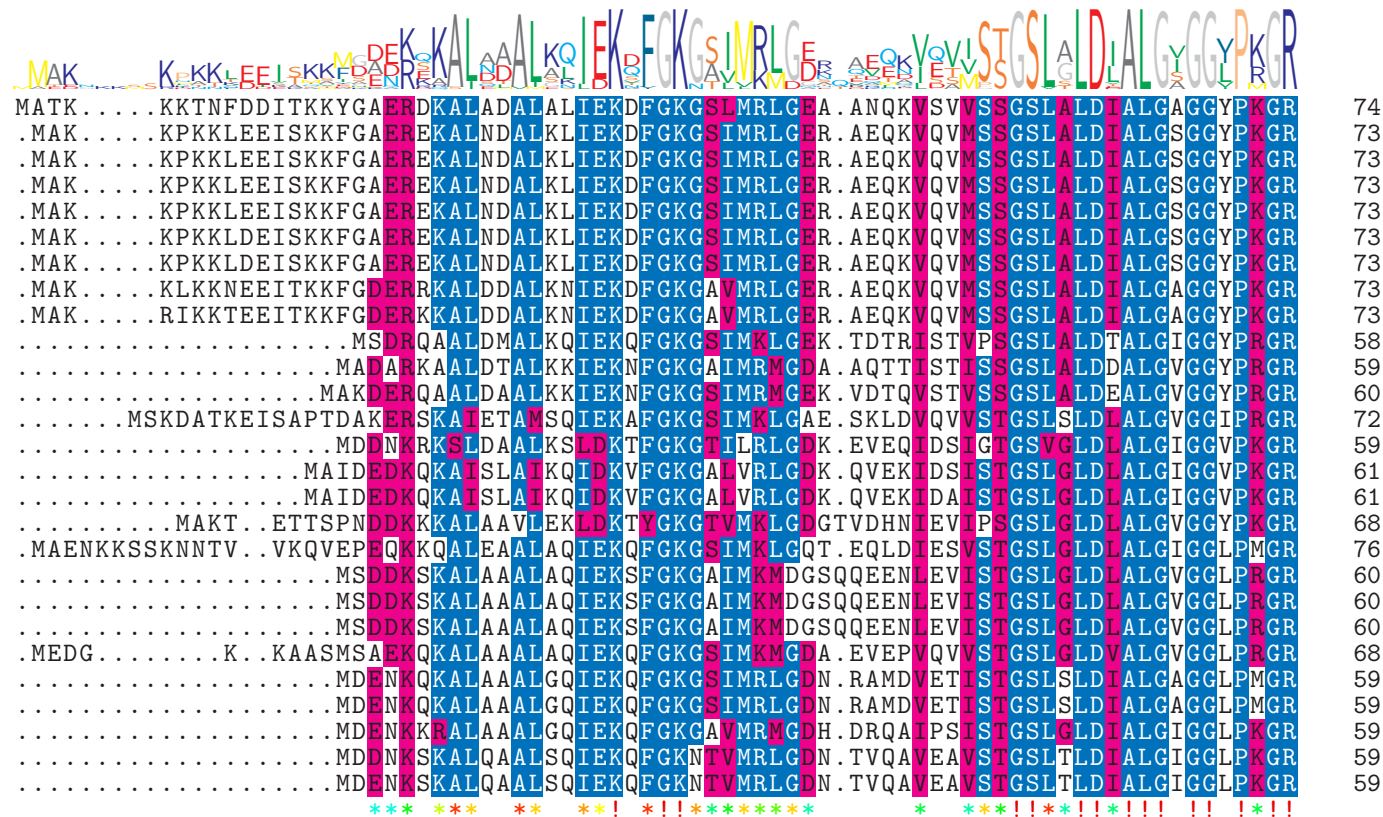


```

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 224191 GBLP1 RS09570 WP 003641504.1
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 1205 PSJM300 05545 AFN77183.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
consensus

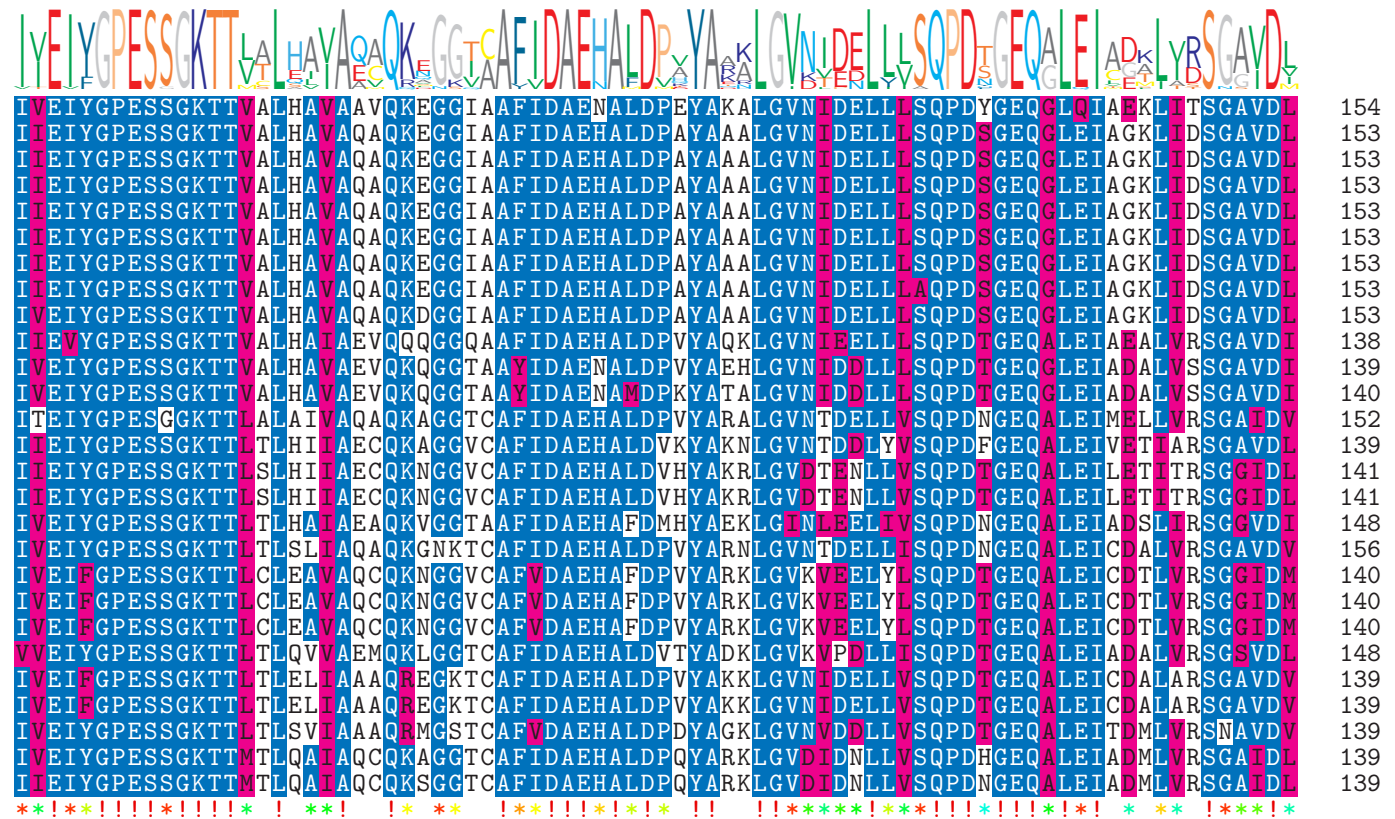
```



```

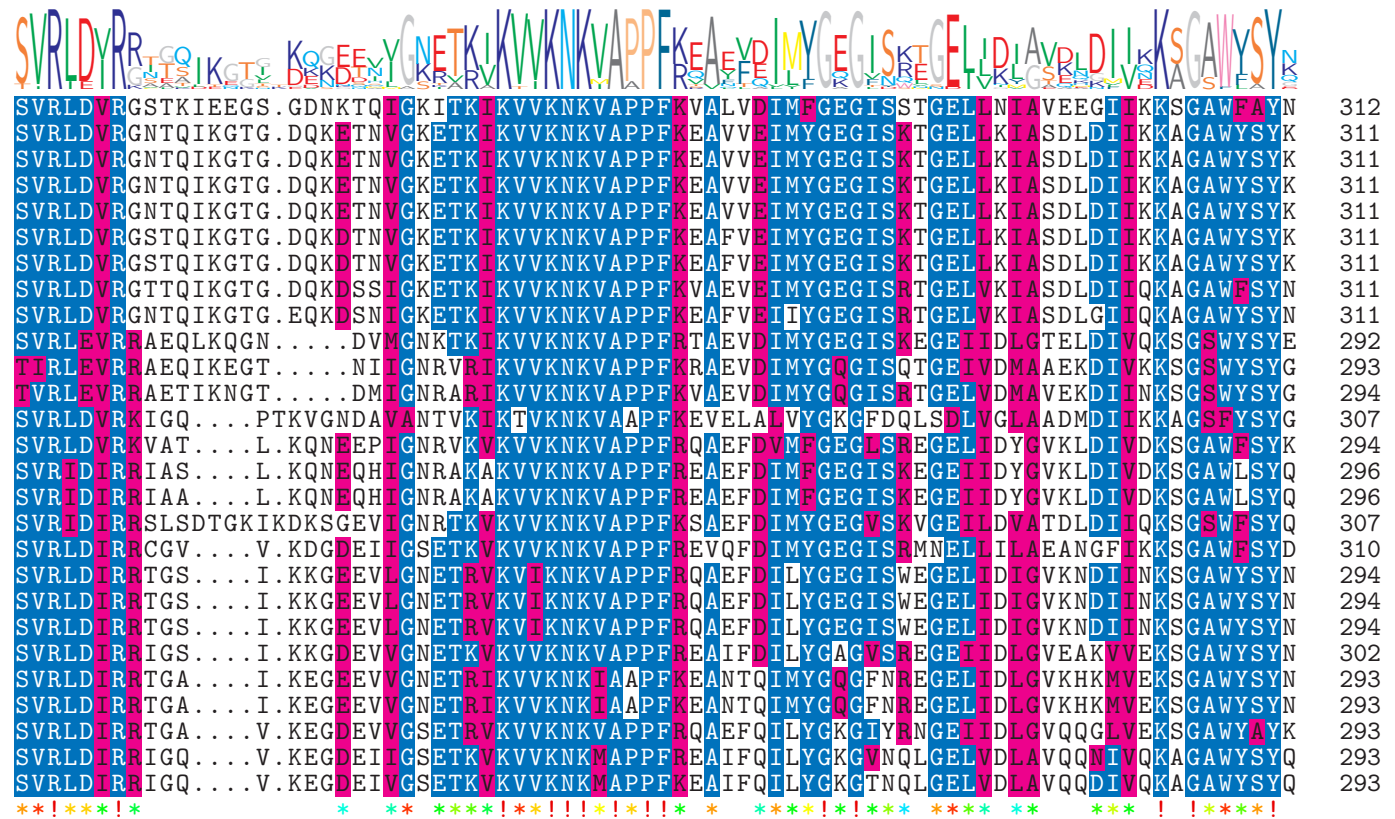
NTDB id 600 KW2 RS01765 WP 011675413.1
NTDB id 269 KZH43 RS08665 WP 001085462.1
NTDB id 228 SPD RS09265 WP 001085462.1
NTDB id 194 SPR RS08825 WP 001085462.1
NTDB id 159 SP RS09750 WP 001085462.1
NTDB id 527 SMSK321 RS11065 WP 001085454.1
NTDB id 499 SM12261 RS08315 WP 078228268.1
NTDB id 453 Spy49 1753c ACI62003.1
NTDB id 408 SMU RS09530 WP 002262392.1
NTDB id 115 BSU 16940 NP 389576.2
NTDB id 224191 GBLP1 RS09570 WP 003641504.1
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 1205 PSJM300 05545 AFN77183.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
consensus

```



NTDB	id	600	KW2	RS01765	WP	011675413.1	VV	IDSVAALVP	PKAEI	DGEI	GDSSVGLQAR	MSQAMRKL	AGH	INKTKT	TA	IFINQLREK	VGVM	.FGSP	PETTP	GGRA	LKFYA	233
NTDB	id	269	KZH43	RS08665	WP	001085462.1	VVVDS	VAAALVP	RAEII	DGDI	GDShVGLQAR	MSQAMRKL	AGS	INKTKT	TA	IFINQLREK	VGVM	.FGNP	PETTP	GGRA	LKFYA	232
NTDB	id	228	SPD	RS09265	WP	001085462.1	VVVDS	VAAALVP	RAEII	DGDI	GDShVGLQAR	MSQAMRKL	AGS	INKTKT	TA	IFINQLREK	VGVM	.FGNP	PETTP	GGRA	LKFYA	232
NTDB	id	194	SPR	RS08825	WP	001085462.1	VVVDS	VAAALVP	RAEII	DGDI	GDShVGLQAR	MSQAMRKL	AGS	INKTKT	TA	IFINQLREK	VGVM	.FGNP	PETTP	GGRA	LKFYA	232
NTDB	id	159	SP	RS09750	WP	001085462.1	VVVDS	VAAALVP	RAEII	DGDI	GDShVGLQAR	MSQAMRKL	AGS	INKTKT	TA	IFINQLREK	VGVM	.FGNP	PETTP	GGRA	LKFYA	232
NTDB	id	527	SMSK321	RS11065	WP	001085454.1	VVVDS	VAAALVP	RAEII	DGDI	GDShVGLQAR	MSQAMRKL	AGS	INKTKT	TA	IFINQLREK	VGVM	.FGNP	PETTP	GGRA	LKFYA	232
NTDB	id	499	SM12261	RS08315	WP	078228268.1	VVVDS	VAAALVP	RAEII	DGDI	GDShVGLQAR	MSQAMRKL	AGS	INKTKT	TA	IFINQLREK	VGVM	.FGNP	PETTP	GGRA	LKFYA	232
NTDB	id	453	Spy49	1753c	ACI62003.1	VVVDS	VAAALVP	RAEII	DGDI	GDShVGLQAR	MSQAMRKL	SAS	INKTKT	TA	IFINQLREK	VGVM	.FGNP	PETTP	GGRA	LKFYA	232	
NTDB	id	408	SMU	RS09530	WP	002262392.1	VVVDS	VAAALVP	RAEII	DGDI	GDShVGLQAR	MSQAMRKL	SAS	INKTKT	TA	IFINQLREK	VGIM	.FGNP	PETTP	GGRA	LKFYS	232
NTDB	id	115	BSU	16940	NP	389576.2	VVVDS	VAAALVP	KAEEI	EGDMGDS	HVGLQARL	MSQALRKL	SGAIN	SKTIA	IFINQIREK	VGVM	.FGNP	PETTP	GGRA	LKFYS	217	
NTDB	id	224191	GBLP1	RS09570	WP	003641504.1	LVVDS	VAAALVP	RAEIE	EGEMGD	AHVGLQARL	MSQALRKL	SGT	LNKTKT	IA	LFINQIREK	VGVM	.FGNP	PETTP	GGRA	LKFYA	218
NTDB	id	625	LCA	RS02525	WP	011374196.1	LVVDS	VAAALVP	RAEIE	EGEMGD	AHVGLQARL	MSQALRKL	SGT	INKTKT	IA	LFINQIREK	VGVM	.FGNP	EVTP	GGRA	LKFYS	219
NTDB	id	1313	DR	RS12030	WP	010888966.1	VVVDS	VAAALT	TPRAEII	EGDMGDS	LPGLQARL	MSQALRKL	TAIL	SKTGTA	IFINQVREK	IGVM	.YGNP	PETTT	GGRA	LKFYA	231	
NTDB	id	1245	Cj1673c	YP	002345041.1	IVVDS	VAAALT	TPKAEEI	EGDMGD	QHVGLQARL	MSQALRKL	TGIV	HKMNTTV	IFINQIRMK	IGAMG	YGT	PETTT	GGN	NALKFYA	219		
NTDB	id	1211	C694	RS00795	WP	000963128.1	VVVDS	VAAALT	TPKAEEI	DGDMGD	QHVGLQARL	MSHALRKL	TGVL	LHKMNTTL	IFINQIRMK	IGMMG	YGS	PETTT	GGN	NALKFYA	221	
NTDB	id	1214	NCTC11637	00359	SQJ03206.1	VVVDS	VAAALT	TPKAEEI	DGDMGD	QHVGLQARL	MSHALRKL	TGVL	LHKMNTTL	IFINQIRMK	IGMMG	YGS	PETTT	GGN	NALKFYA	221		
NTDB	id	1334	RA0C	RS04870	WP	004918236.1	VVVDS	VAAALT	TPKAEEI	DGDMGDS	KMGLHARL	MSQALRKL	TSSIS	SKTKCTV	IFINQLRDK	IGVM	.FGSP	PETTT	GGN	NALKFYA	227	
NTDB	id	1389	A4U84	RS07560	WP	021112712.1	II	IVDSVAALT	TPKAEEI	EGDMGDS	HMGLQARL	MSQALRKL	TANIK	NTNCLV	VFINQIRMK	IGVM	.FGNP	PETTT	GGN	NALKFYA	235	
NTDB	id	1130	NGFG	RS03960	WP	003688695.1	VVVDS	VAAALVP	KAEEI	EGDMGDS	HVGLQARL	MSQALRKL	TGHI	IKTNTLV	VFINQIRMK	IGVM	.FGSP	PETTT	GGN	NALKFYS	219	
NTDB	id	1124	NGFG	RS03960	WP	003688695.1	VVVDS	VAAALVP	KAEEI	EGDMGDS	HVGLQARL	MSQALRKL	TGHI	IKTNTLV	VFINQIRMK	IGVM	.FGSP	PETTT	GGN	NALKFYS	219	
NTDB	id	1123	OK783	RS03845	WP	003688695.1	VVVDS	VAAALVP	KAEEI	EGDMGDS	HVGLQARL	MSQALRKL	TGHI	IKTNTLV	VFINQIRMK	IGVM	.FGSP	PETTT	GGN	NALKFYS	219	
NTDB	id	1427	RS	RS02760	WP	011000510.1	IV	IDSVAALVP	KAEEI	EG												

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 224191 GBLP1 RS09570 WP 003641504.1
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 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 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 600 KW2 RS01765 WP 011675413.1	DEKIGQGA	EKAKNYLKEHQDV	DEIDHKVRAAHG	LDDSEVAETEEETTAS	TKA.....	KAKKEEKAVETEEI	EL	383
NTDB id 269 KZH43 RS08665 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTENKK	DE.....	PKKEEA..VNEEVPL		376
NTDB id 228 SPD RS09265 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTENKK	DE.....	PKKEEA..VNEEVPL		376
NTDB id 194 SPR RS08825 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTENKK	DE.....	PKKEEA..VNEEVPL		376
NTDB id 159 SP RS09750 WP 001085462.1	DEKIGQGS	ENAKKYLAEHPEIF	DEIDKQVRSKFGL	IDGEEVSEQDTENKK	DE.....	PKKEEA..VNEEVPL		376
NTDB id 527 SMSK321 RS11065 WP 001085454.1	DEKIGQGS	ENAKKYLAADNPEV	FAEIDHQVRVQFGL	IDGEEAAE....	SKKDE.....	VAQVDS..VNEEVT	L	372
NTDB id 499 SM12261 RS08315 WP 078228268.1	DEKIGQGS	ENAKKYLAADNPEIF	DEIDHQVRVQFGL	IDGEEIAE....	SKKDE.....	AAQVDS..VNEEVT	L	372
NTDB id 453 Spy49 1753c ACI62003.1	GEKIGQGS	ENAKRYLADHPQLF	DEIDRKVRVKFGL	LEESEESAMAVASE	E.....	TDDLAL		368
NTDB id 408 SMU RS09530 WP 002262392.1	GEKIGQGS	ENAKKFLADNPEIF	DDIDHKVRVQYGL	IEEDNTEEKQSSKE		ETDEK..ADKNLVL		373
NTDB id 115 BSU 16940 NP 389576.2	EE	RLGQGREN	AKQFLKENKDIM	LMIQEQIREHYGL	DNNGVVQQAEETQ	EELEFEE.....		348
NTDB id 224191 GBLP1 RS09570 WP 003641504.1	DDRIGQGS	ENAKKYLDHEPDM	TEIRQKVRDAYGM	DATGEETSETDDQ	AK..EAKDKGTAK	NGSKGQSKSTKAT	PAETAL	371
NTDB id 625 LCA RS02525 WP 011374196.1	SERIGQGS	ENAKNYLADHEDVE	DEVRLKVRAAYG	TS	SDVPEEDLPTTE	DEQINILPDDSTE	E.....	355
NTDB id 1313 DR RS12030 WP 010888966.1	DERIGQGS	KEKTIAYIAERP	EMEQEIRDRVMAA	IRAGNAGEAPALAP	APAAPEAAE.....	A.		363
NTDB id 1245 Cj1673c YP 002345041.1	DKKL	GGRENSKAF	LKENPEIADEIT	KAIQNSMGTEGMI	SGSEDDE..	GE.....E.		343
NTDB id 1211 C694 RS00795 WP 000963128.1	DKKL	GGREN	AKALLKEDKAL	ADEITLKIKESIG	SNEEI....MPLP	DEP..LE.....	EM	346
NTDB id 1214 NCTC11637 00359 SQJ03206.1	DKKL	GGREN	AKALLKEDKAL	ADEITLKIKESIG	SNEEI....MPLP	DEP..LE.....	EM	346
NTDB id 1334 RAOC RS04870 WP 004918236.1	DTKL	GGGRD	TVKELIKDNPEL	AEELEAKIREKLQ	AK.....			343
NTDB id 1389 A4U84 RS07560 WP 021112712.1	GTKIGQGS	KNNVAVKWLKEN	PEIADKLEQEIR	NTLASNPNS....	VLKATASDSND	ES		362
NTDB id 1130 NGFG RS03960 WP 003688695.1	GAKIGQGS	KDNVRVWLKEN	PEISDEIDAKIR	ALNGVEMHI....	TEGT.....Q	DE		340
NTDB id 1124 NGFG RS03960 WP 003688695.1	GAKIGQGS	KDNVRVWLKEN	PEISDEIDAKIR	ALNGVEMHI....	TEGT.....Q	DE		340
NTDB id 1123 OK783 RS03845 WP 003688695.1	GAKIGQGS	KDNVRVWLKEN	PEISDEIDAKIR	ALNGVEMHI....	TEGT.....Q	DE		340
NTDB id 1427 RS RS02760 WP 011000510.1	GERIGQGS	RDNCREFLRENA	ELAREIENKVREH	LGVTPMG....	AV.TLAEVEVEE	D.		352
NTDB id 1165 A1552VC RS01565 WP 000344154.1	GDKIGQGS	KANACKYLLKEN	PEIAKTLDDKKL	REMLLNPENM....	QLIAETSSAAD	DV		345
NTDB id 1142 GTF74 RS11550 WP 000344154.1	GDKIGQGS	KANACKYLLKEN	PEIAKTLDDKKL	REMLLNPENM....	QLIAETSSAAD	DV		345
NTDB id 1205 PSJM300 05545 AFN77183.1	GSKIGQGS	KANAAYLEENPEI	GIEEQIRAKLLV	TSAN.....	TKATPVAEDLA	DA		345
NTDB id 1022 ACIAD RS06390 WP 004925639.1	GNKIGQGS	KNNVIRYLEENP	QISTEIEAVIREQ	LLTKASD....	QTAA.HDETEE	EP		344
NTDB id 1074 ABD1 RS10195 WP 000344167.1	GNKIGQGS	KNNVIRYFEENN	QIAEEIERNIREQ	LLTTGTN....	GAVQ.I.EDEE	EP		343
consensus	***!!!	*****	**	*	***	*****	**	**

logo

NTDB id 600 KW2 RS01765 WP 011675413.1	ELED.....	387
NTDB id 269 KZH43 RS08665 WP 001085462.1	DLGDELEIEIEE	388
NTDB id 228 SPD RS09265 WP 001085462.1	DLGDELEIEIEE	388
NTDB id 194 SPR RS08825 WP 001085462.1	DLGDELEIEIEE	388
NTDB id 159 SP RS09750 WP 001085462.1	DLGDELEIEIEE	388
NTDB id 527 SMSK321 RS11065 WP 001085454.1	DLGDELEIEIEE	384
NTDB id 499 SM12261 RS08315 WP 078228268.1	DLGDELEIEIEE	384
NTDB id 453 Spy49 1753c ACI62003.1	DLDNIEIEED..	378
NTDB id 408 SMU RS09530 WP 002262392.1	ELDDTIELED..	383
NTDB id 115 BSU 16940 NP 389576.2		348
NTDB id 224191 GBLP1 RS09570 WP 003641504.1	DLGDQPTTEK...	380
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	E.....	347
NTDB id 1214 NCTC11637 00359 SQJ03206.1	E.....	347
NTDB id 1334 RAOC RS04870 WP 004918236.1		343
NTDB id 1389 A4U84 RS07560 WP 021112712.1	DVEEFSEEEEL..	372
NTDB id 1130 NGFG RS03960 WP 003688695.1	TDGERPEE....	348
NTDB id 1124 NGFG RS03960 WP 003688695.1	TDGERPEE....	348
NTDB id 1123 OK783 RS03845 WP 003688695.1	TDGERPEE....	348
NTDB id 1427 RS RS02760 WP 011000510.1		352
NTDB id 1165 A1552VC RS01565 WP 000344154.1	EFGAVPEEF...	354
NTDB id 1142 GTF74 RS11550 WP 000344154.1	EFGAVPEEF...	354
NTDB id 1205 PSJM300 05545 AFN77183.1	DI.....	347
NTDB id 1022 ACIAD RS06390 WP 004925639.1	DLL..ES.....	349
NTDB id 1074 ABD1 RS10195 WP 000344167.1	DLL..LES....	349
consensus	*	

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