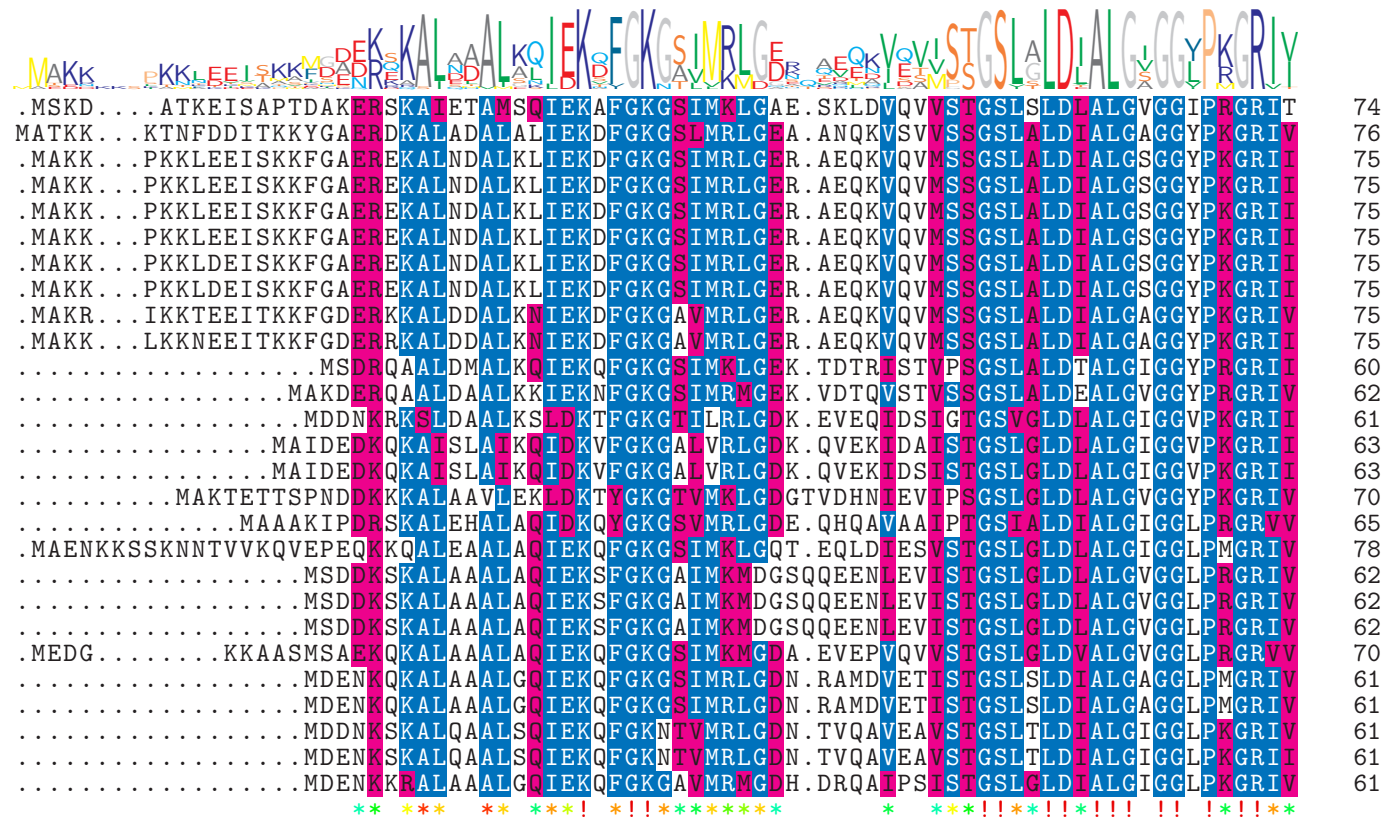


```

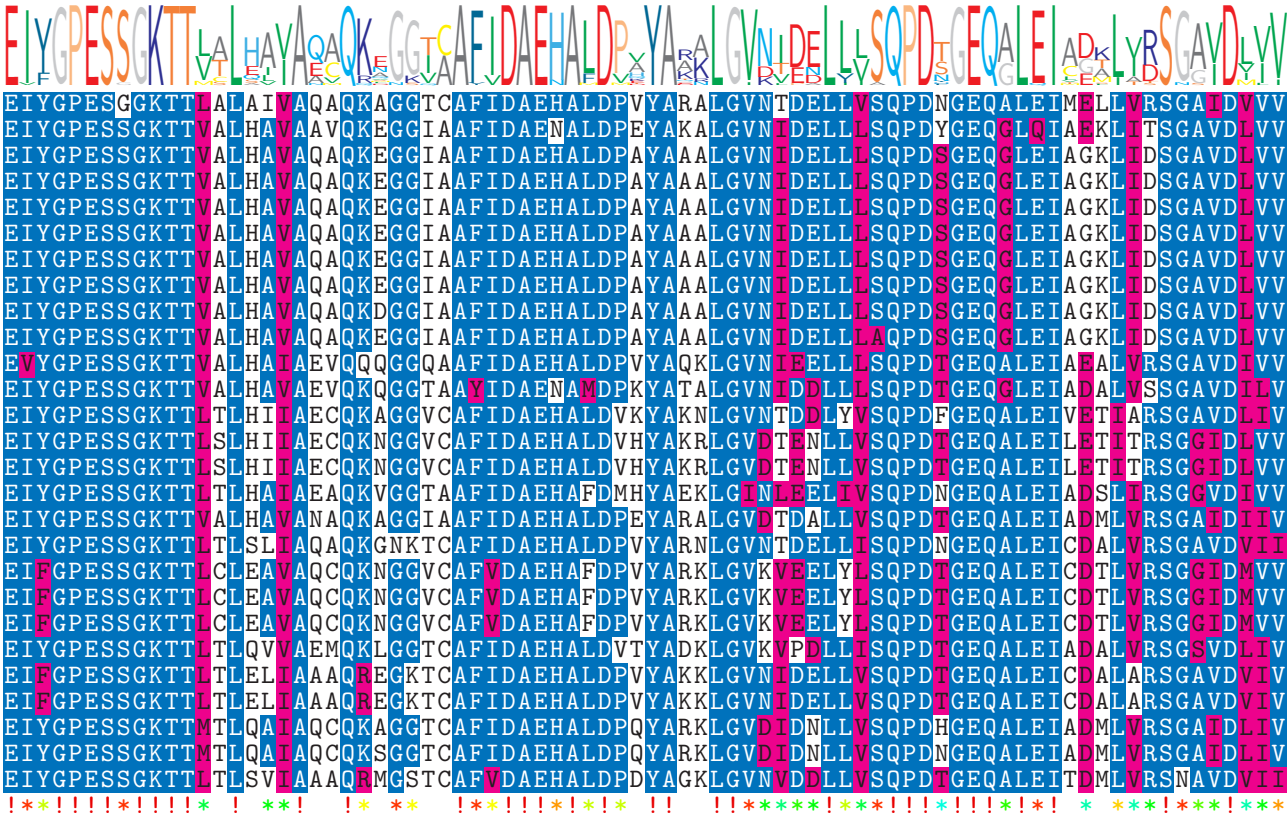
NTDB id 1313 DR RS12030 WP 010888966.1
NTDB id 600 KW2 RS01765 WP 011675413.1
NTDB id 269 KZH43 RS08665 WP 001085462.1
NTDB id 228 SPD RS09265 WP 001085462.1
NTDB id 194 SPR RS08825 WP 001085462.1
NTDB id 159 SP RS09750 WP 001085462.1
NTDB id 499 SM12261 RS08315 WP 078228268.1
NTDB id 527 SMSK321 RS11065 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 128407 IY73 RS00890 WP 053978674.1
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

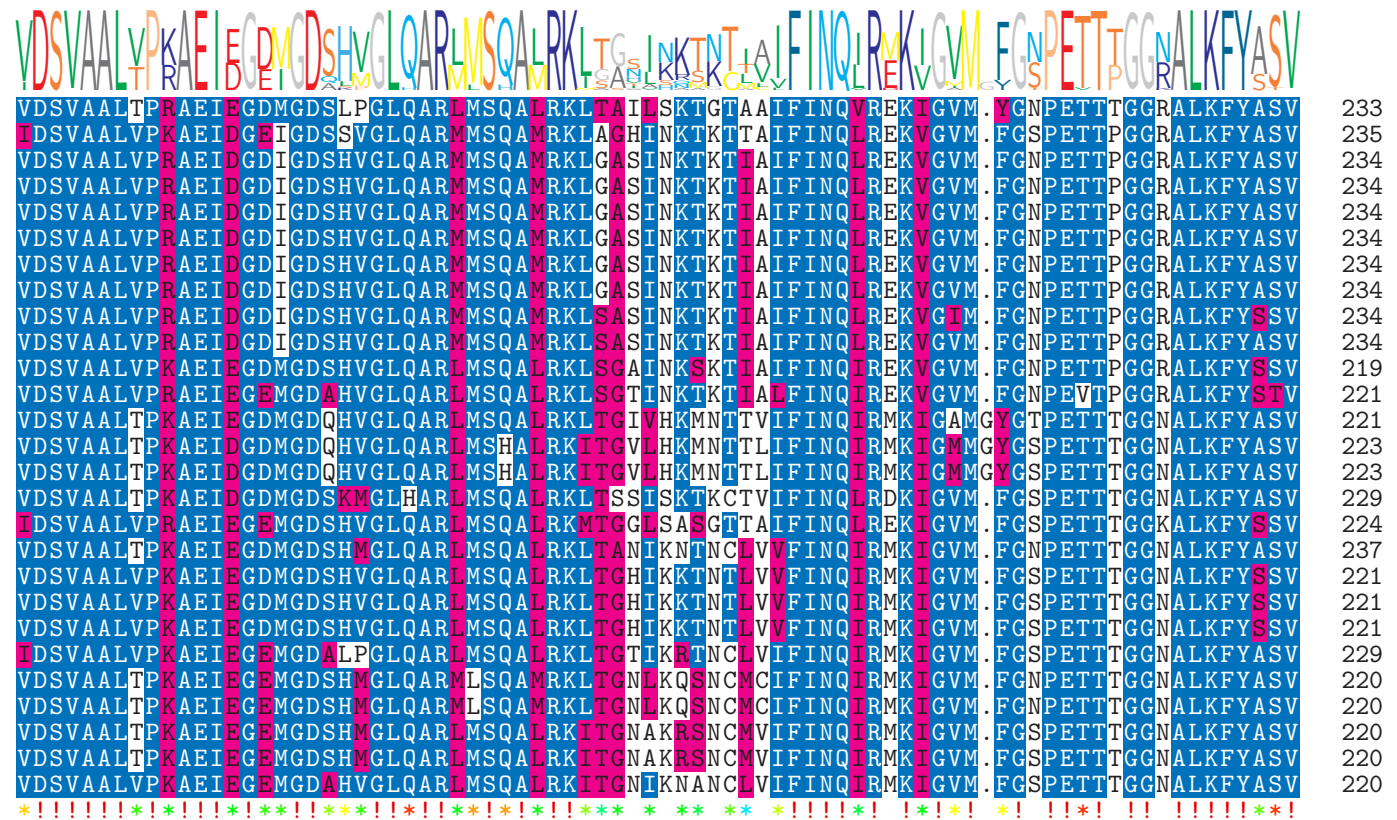
NTDB id 1313 DR RS12030 WP 010888966.1	EIYGPESSGKTT	154
NTDB id 600 KW2 RS01765 WP 011675413.1	EIYGPESSGKTT	156
NTDB id 269 KZH43 RS08665 WP 001085462.1	EIYGPESSGKTT	155
NTDB id 228 SPD RS09265 WP 001085462.1	EIYGPESSGKTT	155
NTDB id 194 SPR RS08825 WP 001085462.1	EIYGPESSGKTT	155
NTDB id 159 SP RS09750 WP 001085462.1	EIYGPESSGKTT	155
NTDB id 499 SM12261 RS08315 WP 078228268.1	EIYGPESSGKTT	155
NTDB id 527 SMSK321 RS11065 WP 001085454.1	EIYGPESSGKTT	155
NTDB id 408 SMU RS09530 WP 002262392.1	EIYGPESSGKTT	155
NTDB id 453 Spy49 1753c ACI62003.1	EIYGPESSGKTT	155
NTDB id 115 BSU 16940 NP 389576.2	EIYGPESSGKTT	140
NTDB id 625 LCA RS02525 WP 011374196.1	EIYGPESSGKTT	142
NTDB id 1245 Cj1673c YP 002345041.1	EIYGPESSGKTT	141
NTDB id 1214 NCTC11637 00359 SQJ03206.1	EIYGPESSGKTT	143
NTDB id 1211 C694 RS00795 WP 000963128.1	EIYGPESSGKTT	143
NTDB id 1334 RAOC RS04870 WP 004918236.1	EIYGPESSGKTT	150
NTDB id 128407 IY73 RS00890 WP 053978674.1	EIYGPESSGKTT	145
NTDB id 1389 A4U84 RS07560 WP 021112712.1	EIYGPESSGKTT	158
NTDB id 1130 NGFG RS03960 WP 003688695.1	EIYGPESSGKTT	142
NTDB id 1124 NGFG RS03960 WP 003688695.1	EIYGPESSGKTT	142
NTDB id 1123 OK783 RS03845 WP 003688695.1	EIYGPESSGKTT	142
NTDB id 1427 RS RS02760 WP 011000510.1	EIYGPESSGKTT	150
NTDB id 1165 A1552VC RS01565 WP 000344154.1	EIYGPESSGKTT	141
NTDB id 1142 GTF74 RS11550 WP 000344154.1	EIYGPESSGKTT	141
NTDB id 1022 ACIAD RS06390 WP 004925639.1	EIYGPESSGKTT	141
NTDB id 1074 ABD1 RS10195 WP 000344167.1	EIYGPESSGKTT	141
NTDB id 1205 PSJM300 05545 AFN77183.1	EIYGPESSGKTT	141
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 128407 IY73 RS00890 WP 053978674.1
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 1313 DR RS12030 WP 010888966.1	RLDVRKIGQ...PTKVGND	AVANTV	KIKTVKNKV	APPFKE	VELALV	YVGKG	FDQLSD	LVGL	LAADM	DI	IKKAG	SFYSG	GD	309																
NTDB id 600 KW2 RS01765 WP 011675413.1	RLDVRGSTKIEEGS.GDNKTQ	IGKITK	IKVVKNKV	APPFKE	VALVD	IMF	GEGIS	ST	GEL	LNIA	VEE	GI	IKKSGAW	FAYNDE	314															
NTDB id 269 KZH43 RS08665 WP 001085462.1	RLDVRGNTQIKGTG.DQKETN	VGKETK	IKVVKNKV	APPFKE	AVVE	IMY	GEGIS	KT	GEL	LKIAS	DL	DI	IKKAGAW	YSYKDE	313															
NTDB id 228 SPD RS09265 WP 001085462.1	RLDVRGNTQIKGTG.DQKETN	VGKETK	IKVVKNKV	APPFKE	AVVE	IMY	GEGIS	KT	GEL	LKIAS	DL	DI	IKKAGAW	YSYKDE	313															
NTDB id 194 SPR RS08825 WP 001085462.1	RLDVRGNTQIKGTG.DQKETN	VGKETK	IKVVKNKV	APPFKE	AVVE	IMY	GEGIS	KT	GEL	LKIAS	DL	DI	IKKAGAW	YSYKDE	313															
NTDB id 159 SP RS09750 WP 001085462.1	RLDVRGNTQIKGTG.DQKETN	VGKETK	IKVVKNKV	APPFKE	AVVE	IMY	GEGIS	KT	GEL	LKIAS	DL	DI	IKKAGAW	YSYKDE	313															
NTDB id 499 SM12261 RS08315 WP 078228268.1	RLDVRGSTQIKGTG.DQKDTN	VGKETK	IKVVKNKV	APPFKE	AFVE	IMY	GEGIS	KT	GEL	LKIAS	DL	DI	IKKAGAW	YSYKDE	313															
NTDB id 527 SMSK321 RS11065 WP 001085454.1	RLDVRGSTQIKGTG.DQKDTN	VGKETK	IKVVKNKV	APPFKE	AFVE	IMY	GEGIS	KT	GEL	LKIAS	DL	DI	IKKAGAW	YSYKDE	313															
NTDB id 408 SMU RS09530 WP 002262392.1	RLDVRGNTQIKGTG.EQKDSN	IGKETK	IKVVKNKV	APPFKE	AFVE	IIY	GEGIS	RT	GEL	VKIAS	DL	GI	IKKAGAW	SYNGE	313															
NTDB id 453 Spy49 1753c AC162003.1	RLDVRGTTQIKGTG.DQKDS	IGKETK	IKVVKNKV	APPFKE	AEVE	IMY	GEGIS	RT	GEL	VKIAS	DL	GI	IKKAGAW	FSYNGE	313															
NTDB id 115 BSU 16940 NP 389576.2	RLEVRRAEQLKQGN.....	DVMGNK	TKIKVVKNKV	APPFRT	AEVD	IMY	GEGIS	KE	GEI	IDL	GT	EL	DI	VQKSG	SWSY	EEEE	294													
NTDB id 625 LCA RS02525 WP 011374196.1	RLEVRRAETIKNGT.....	DMIGNR	ARIKVVKNKV	APPFKE	AEVD	IMY	GQGIS	RT	GEL	VDMA	VEK	DI	INKSG	SWSY	YG	SE	296													
NTDB id 1245 Cj1673c YP 002345041.1	RLDVRKVAT....L.KQNEEP	IGNRVK	VVVKNKV	APPFRA	AEFD	VMF	GEG	LS	R	EGEL	IDY	GV	KLDI	V	DKSGAW	FSY	KDK	296												
NTDB id 1214 NCTC11637 00359 SQJ03206.1	RIDIRRIAA....L.KQNEQH	IGNRAK	AKVVKNKV	APPFRE	AEFD	IMF	GEGIS	KE	GEI	IDY	GV	KLDI	V	DKSGAW	LSY	QDK	298													
NTDB id 1211 C694 RS00795 WP 000963128.1	RIDIRRIAS....L.KQNEQH	IGNRAK	AKVVKNKV	APPFRE	AEFD	IMF	GEGIS	KE	GEI	IDY	GV	KLDI	V	DKSGAW	LSY	QDK	298													
NTDB id 1334 RAOC RS04870 WP 004918236.1	RIDIRRLSDTGKIKDKSGEV	IGNRTK	VVVKNKV	APPFK	SAEFD	IMY	GEG	V	SKV	GE	ILD	V	AT	DL	DI	IQKSG	SWSY	QDT	309											
NTDB id 128407 IY73 RS00890 WP 053978674.1	RLDVRRIET....L.KDGT	EPVGNR	TRVVKNKV	APPFK	QAEFD	LLY	GQGIS	R	EGS	I	ID	M	G	VE	QGF	I	R	S	G	SWY	T	YEGD	299							
NTDB id 1389 A4U84 RS07560 WP 021112712.1	RLDIRRCGV....V.KDGD	EIIG	SETKVVVKNKV	APPFRE	VQFD	IMY	GEGIS	R	M	NELL	IL	A	E	A	N	G	F	I	K	K	S	GAW	F	SYDGT	312					
NTDB id 1130 NGFG RS03960 WP 003688695.1	RLDIRRTGS....I.KKGE	EVVGN	ETRVKVI	KNKVAP	PFRAE	AFD	ILY	GEGIS	W	E	GEL	ID	I	G	V	KNDI	INKSGAW	SY	NGA	296										
NTDB id 1124 NGFG RS03960 WP 003688695.1	RLDIRRTGS....I.KKGE	EVVGN	ETRVKVI	KNKVAP	PFRAE	AFD	ILY	GEGIS	W	E	GEL	ID	I	G	V	KNDI	INKSGAW	SY	NGA	296										
NTDB id 1123 OK783 RS03845 WP 003688695.1	RLDIRRTGS....I.KKGE	EVVGN	ETRVKVI	KNKVAP	PFRAE	AFD	ILY	GEGIS	W	E	GEL	ID	I	G	V	KNDI	INKSGAW	SY	NGA	296										
NTDB id 1427 RS RS02760 WP 011000510.1	RLDIRRIGS....I.KKGD	EVVGN	ETKVVVKNKV	APPFRE	AIFD	ILY	GAG	V	S	R	E	GE	I	ID	L	G	V	E	A	K	V	V	E	K	S	GAW	SY	NGE	304	
NTDB id 1165 A1552VC RS01565 WP 000344154.1	RLDIRRTGA....I.KEGE	EVVGN	ETRIKVVKNK	IAAPFKE	ANTQ	IMY	GQGF	N	R	E	GEL	ID	L	G	V	K	H	K	M	V	E	K	S	GAW	SY	NGD	295			
NTDB id 1142 GTF74 RS11550 WP 000344154.1	RLDIRRTGA....I.KEGE	EVVGN	ETRIKVVKNK	IAAPFKE	ANTQ	IMY	GQGF	N	R	E	GEL	ID	L	G	V	K	H	K	M	V	E	K	S	GAW	SY	NGD	295			
NTDB id 1022 ACIAD RS06390 WP 004925639.1	RLDIRRIGQ....V.KEG	DEIVG	SETKVVVKNK	MAPPFRE	AI	FQ	ILY	GKGV	N	QL	GEL	VD	L	A	V	Q	Q	N	I	V	Q	K	A	GAW	SY	QGN	295			
NTDB id 1074 ABD1 RS10195 WP 000344167.1	RLDIRRIGQ....V.KEG	DEIVG	SETKVVVKNK	MAPPFRE	AI	FQ	ILY	GKGV	N	QL	GEL	VD	L	A	V	Q	Q	N	I	V	Q	K	A	GAW	SY	QGN	295			
NTDB id 1205 PSJM300 05545 AFN77183.1	RLDIRRTGA....V.KEG	DEVGS	ETRVVVKNKV	APPFRA	AEFQ	ILY	GKGI	Y	R	N	GE	I	ID	L	G	V	Q	Q	G	L	V	E	K	S	GAW	Y	A	Y	KGS	295
consensus	!***!*	*	**	*****!***!!*!!*!!*	*	*****!*	*****	*****	*****	*****	*	*****	*	!*****!																

logo

NTDB id 1313 DR RS12030 WP 010888966.1	RIGQGKEKTIA Y IAERP E MEQEIRDRVMAAIRAGNAGEAPALAPAPAAP E A A E A	363
NTDB id 600 KW2 RS01765 WP 011675413.1	KIGQGA E KAK N YLKEHQDV F DEIDHKVRAAHGLDDSEVAETEEETTA.SKTKAKAKKEEKAVETEEIELELED.....	387
NTDB id 269 KZH43 RS08665 WP 001085462.1	KIGQGS E NAKKYLA E HP E IFDEIDKQVRSKFGLIDGEEVSEQDTENKK. EPKKEEA..VNEEVPLDLGDELEIEI	386
NTDB id 228 SPD RS09265 WP 001085462.1	KIGQGS E NAKKYLA E HP E IFDEIDKQVRSKFGLIDGEEVSEQDTENKK. EPKKEEA..VNEEVPLDLGDELEIEI	386
NTDB id 194 SPR RS08825 WP 001085462.1	KIGQGS E NAKKYLA E HP E IFDEIDKQVRSKFGLIDGEEVSEQDTENKK. EPKKEEA..VNEEVPLDLGDELEIEI	386
NTDB id 159 SP RS09750 WP 001085462.1	KIGQGS E NAKKYLA E HP E IFDEIDKQVRSKFGLIDGEEVSEQDTENKK. EPKKEEA..VNEEVPLDLGDELEIEI	386
NTDB id 499 SM12261 RS08315 WP 078228268.1	KIGQGS E NAKKYLA D NPEIFDEIDHQVRVQFGLIDGEEIAES....KK. EAAQVDS..VNEEVTLDLGDELEIEI	382
NTDB id 527 SMSK321 RS11065 WP 001085454.1	KIGQGS E NAKKYLA D NPEVFAEIDHQVRVQFGLIDGEEAAES....KK. EVAQVDS..VNEEVTLDLGDELEIEI	382
NTDB id 408 SMU RS09530 WP 002262392.1	KIGQGS E NAKKFLA D NPEIFDDIDHKVVRVQYGLIEEDNTEEEKQSSKEK.....ETDEK..ADKNLVLELDDTIELED	383
NTDB id 453 Spy49 1753c ACI62003.1	KIGQGS E NAKKRYLA D HPQLFDEIDRKVRVKFGLLEESEEEESAMAVASE.....E.....TDDLALDLNNGIEIED	378
NTDB id 115 BSU 16940 NP 389576.2	RLGQGR E NAKQFLKENKDIMLMIQE Q IREHYGLDNNGVVQQQAETQE. E L.EFE.E.....	348
NTDB id 625 LCA RS02525 WP 011374196.1	RIGQGR E NAKNYLA D HEDVEDEVRLKVR A AAYGTS DVPEEDLPTTEDE..QI.NILPDDST.....EE.....	355
NTDB id 1245 Cj1673c YP 002345041.1	KL G QGR E NSKAFLKENPEIADEITKA I QNSMGIEGMISGSEDDEGEE.....	343
NTDB id 1214 NCTC11637 00359 SQJ03206.1	KL G QGR E NAKALLKEDKALADEITLKIKESIGSNEEIMPLPDEPLEEME.....	347
NTDB id 1211 C694 RS00795 WP 000963128.1	KL G QGR E NAKALLKEDKALADEITLKIKESIGSNEEIMPLPDEPLEEME.....	347
NTDB id 1334 RAOC RS04870 WP 004918236.1	KL G QGRD T VKELIK D NPELA E ELEAKIREKLQAK.....	343
NTDB id 128407 IY73 RS00890 WP 053978674.1	QL G QGGKEKV R TNLRENPA L CDEIEEKILRKLKIGAYANEPDDDAATTDDGSVDF.....	353
NTDB id 1389 A4U84 RS07560 WP 021112712.1	KIGQGGK N NAV K WLKENPEIADKLEQEIRNTLASNPNSVLKATAS..DSNDES D VEEF.....SEEEL.....	372
NTDB id 1130 NGFG RS03960 WP 003688695.1	KIGQGGK D NVRVWLKENPEISDEIDAKIRALNGVEMHITEGTQDE..TDGER.....PEE.....	348
NTDB id 1124 NGFG RS03960 WP 003688695.1	KIGQGGK D NVRVWLKENPEISDEIDAKIRALNGVEMHITEGTQDE..TDGER.....PEE.....	348
NTDB id 1123 OK783 RS03845 WP 003688695.1	KIGQGGK D NVRVWLKENPEISDEIDAKIRALNGVEMHITEGTQDE..TDGER.....PEE.....	348
NTDB id 1427 RS RS02760 WP 011000510.1	RIGQGRD N CREFLRENAELAREIENKVREHLGVTPMGAVTLA.E..EVEED.....	352
NTDB id 1165 A1552VC RS01565 WP 000344154.1	KIGQGGK A NA C KYLKENPEIAKTLDKKLREMLLNPENMQLIAETS..SAADDVEFGAV.....PEEF.....	354
NTDB id 1142 GTF74 RS11550 WP 000344154.1	KIGQGGK A NA C KYLKENPEIAKTLDKKLREMLLNPENMQLIAETS..SAADDVEFGAV.....PEEF.....	354
NTDB id 1022 ACIAD RS06390 WP 004925639.1	KIGQGGK N NVIRYLEENPQISTEIEAVIREQLLTKASDQTA A .HD..ETEEEPDLL.....ES.....	349
NTDB id 1074 ABD1 RS10195 WP 000344167.1	KIGQGGK N NVIRYFEENNQIAEEIERNIREQLLTGTNGAVQ.I...EDEE E PDLL.....LES.....	349
NTDB id 1205 PSJM300 05545 AFN77183.1	KIGQGGK A NA A KYLEENPEIGQEIEQQIRAKLLVTSANTKATPVA..EDLADADI.....	347
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	EE	388
NTDB id 228 SPD RS09265 WP 001085462.1	EE	388
NTDB id 194 SPR RS08825 WP 001085462.1	EE	388
NTDB id 159 SP RS09750 WP 001085462.1	EE	388
NTDB id 499 SM12261 RS08315 WP 078228268.1	EE	384
NTDB id 527 SMSK321 RS11065 WP 001085454.1	EE	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 128407 IY73 RS00890 WP 053978674.1	..	353
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

 non conserved
 similar
 ≥ 50% conserved