

```

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 49562 SSGZ1 RS00350 WP 011922545.1
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 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 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1205 PSJM300 05545 AFN77183.1

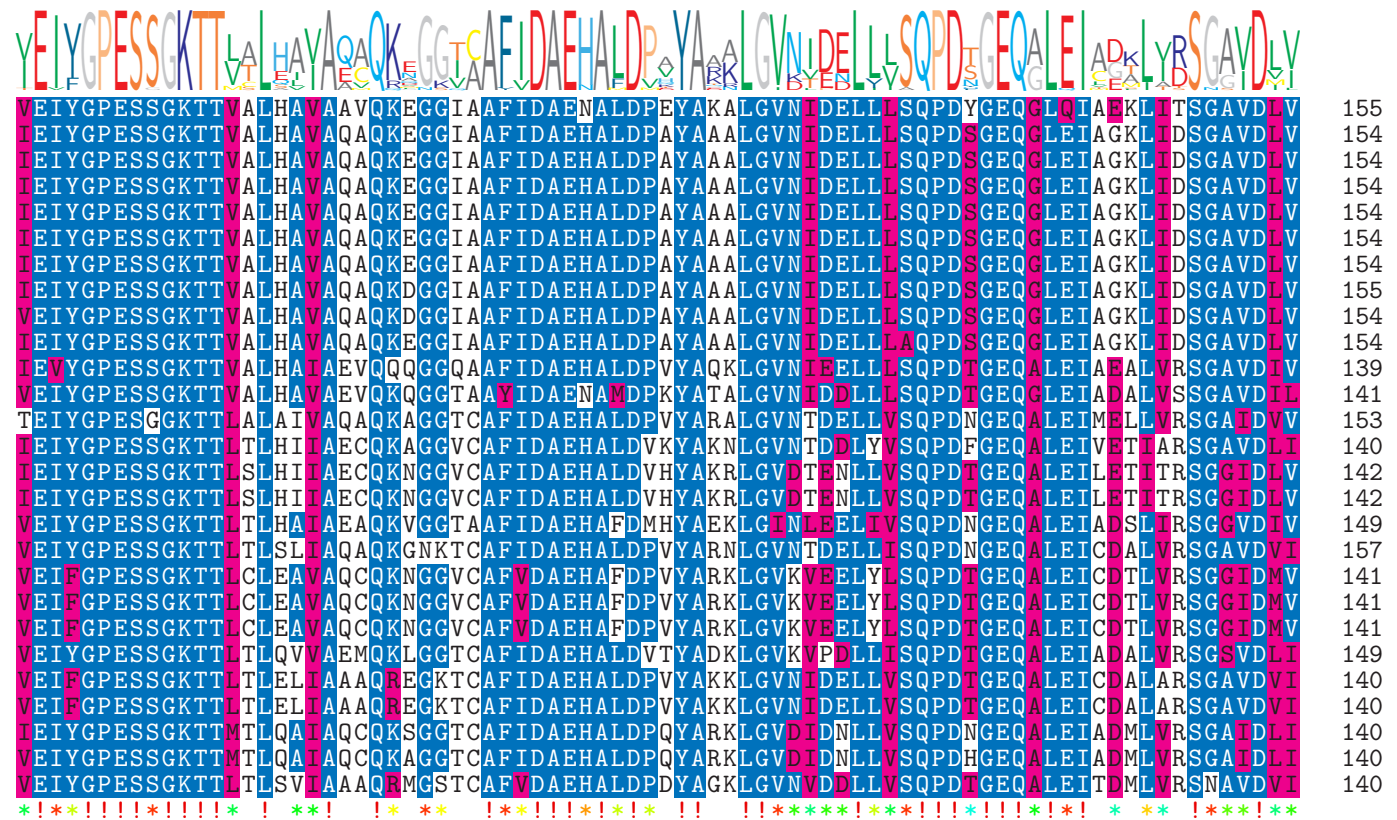
```

	MAK	K	KK	EE	SK	KK	DE	K	KAL	AA	AL	KQ	IE	FK	GK	S	IM	RL	E	AE	QK	Y	VS	ST	SL	LD	AL	GG	Y	PK	GR																			
MATK...	KKT	NFDD	IT	KKY	GA	ER	D	KAL	AD	AL	AL	IE	KD	FG	KG	S	IM	RL	GE	A	AN	QK	V	S	V	S	SG	SL	AL	D	I	AL	GAG	GP	PK	GR	75													
.MAK...	KPK	KLEE	IS	KK	FGA	ER	E	KAL	ND	AL	KL	IE	KD	FG	KG	S	IM	RL	GER	A	EQ	K	V	Q	V	M	S	SG	SL	AL	D	I	AL	GS	GG	YP	PK	GR	74											
.MAK...	KPK	KLEE	IS	KK	FGA	ER	E	KAL	ND	AL	KL	IE	KD	FG	KG	S	IM	RL	GER	A	EQ	K	V	Q	V	M	S	SG	SL	AL	D	I	AL	GS	GG	YP	PK	GR	74											
.MAK...	KPK	KLEE	IS	KK	FGA	ER	E	KAL	ND	AL	KL	IE	KD	FG	KG	S	IM	RL	GER	A	EQ	K	V	Q	V	M	S	SG	SL	AL	D	I	AL	GS	GG	YP	PK	GR	74											
.MAK...	KPK	KLEE	IS	KK	FGA	ER	E	KAL	ND	AL	KL	IE	KD	FG	KG	S	IM	RL	GER	A	EQ	K	V	Q	V	M	S	SG	SL	AL	D	I	AL	GS	GG	YP	PK	GR	74											
.MAK...	KPK	KLDE	IS	KK	FGA	ER	E	KAL	ND	AL	KL	IE	KD	FG	KG	S	IM	RL	GER	A	EQ	K	V	Q	V	M	S	SG	SL	AL	D	I	AL	GS	GG	YP	PK	GR	74											
.MAK...	KPK	KLDE	IS	KK	FGA	ER	E	KAL	ND	AL	KL	IE	KD	FG	KG	S	IM	RL	GER	A	EQ	K	V	Q	V	M	S	SG	SL	AL	D	I	AL	GS	GG	YP	PK	GR	74											
MAKK...	PG	KKLE	DIT	KK	FG	DER	K	KAL	DD	AL	KS	IE	KD	FG	KG	A	V	M	RL	GER	A	EQ	K	V	Q	V	M	S	SG	SL	I	D	I	AL	GAG	GP	PK	GR	75											
.MAK...	RI	KKTEE	IT	KK	FG	DER	K	KAL	DD	AL	KN	IE	KD	FG	KG	A	V	M	RL	GER	A	EQ	K	V	Q	V	M	S	SG	SL	AL	D	I	AL	GAG	GP	PK	GR	74											
.MAK...	KL	KKNEE	IT	KK	FG	DER	R	KAL	DD	AL	KN	IE	KD	FG	KG	A	V	M	RL	GER	A	EQ	K	V	Q	V	M	S	SG	SL	AL	D	I	AL	GAG	GP	PK	GR	74											
.....	MS	DR	QA	AL	D	MA	L	K	Q	IE	K	Q	FG	KG	S	I	M	K	L	GE	K	TD	TR	I	ST	PS	GS	SL	AL	D	I	AL	GI	GG	YP	PK	GR	59												
.....	MAK	DER	QA	AL	D	MA	L	K	Q	IE	K	N	FG	KG	S	I	M	R	M	GE	K	VD	TQ	V	ST	V	S	GS	SL	AL	D	I	AL	GE	VG	GY	PK	GR	61											
.....	MSK	DAT	KE	IS	APT	DA	K	ERS	K	AI	ET	A	MS	Q	IE	K	A	F	G	K	S	I	M	K	L	GE	A	E	S	K	TQ	V	Q	V	ST	GS	SL	LD	I	AL	GV	GG	IP	PK	GR	73				
.....	MD	NKR	K	S	L	D	A	A	L	K	S	LD	KT	FG	KG	T	I	L	R	L	G	D	K	E	VE	Q	I	D	S	I	G	T	G	S	V	G	L	D	I	AL	GI	GG	VP	PK	GR	60				
.....	MA	ID	ED	K	Q	K	A	I	S	L	A	I	K	Q	DK	V	F	G	K	A	L	V	R	L	G	D	K	Q	VE	K	I	D	S	I	G	T	G	S	L	G	L	D	I	AL	GI	GG	VP	PK	GR	62
.....	MA	ID	ED	K	Q	K	A	I	S	L	A	I	K	Q	DK	V	F	G	K	A	L	V	R	L	G	D	K	Q	VE	K	I	D	A	I	G	T	G	S	L	G	L	D	I	AL	GI	GG				

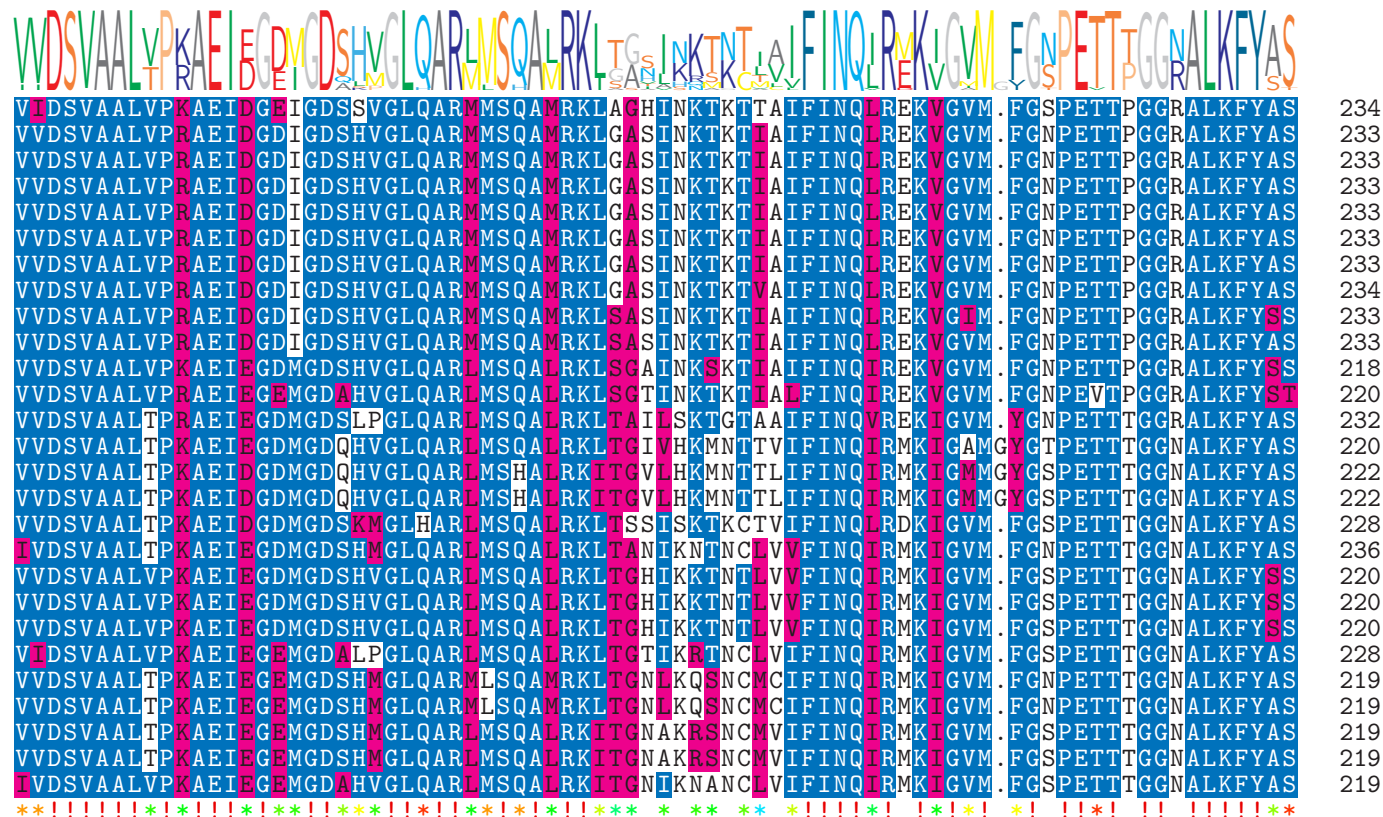
```

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 49562 SSGZ1 RS00350 WP 011922545.1
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 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 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1205 PSJM300 05545 AFN77183.1
consensus

```



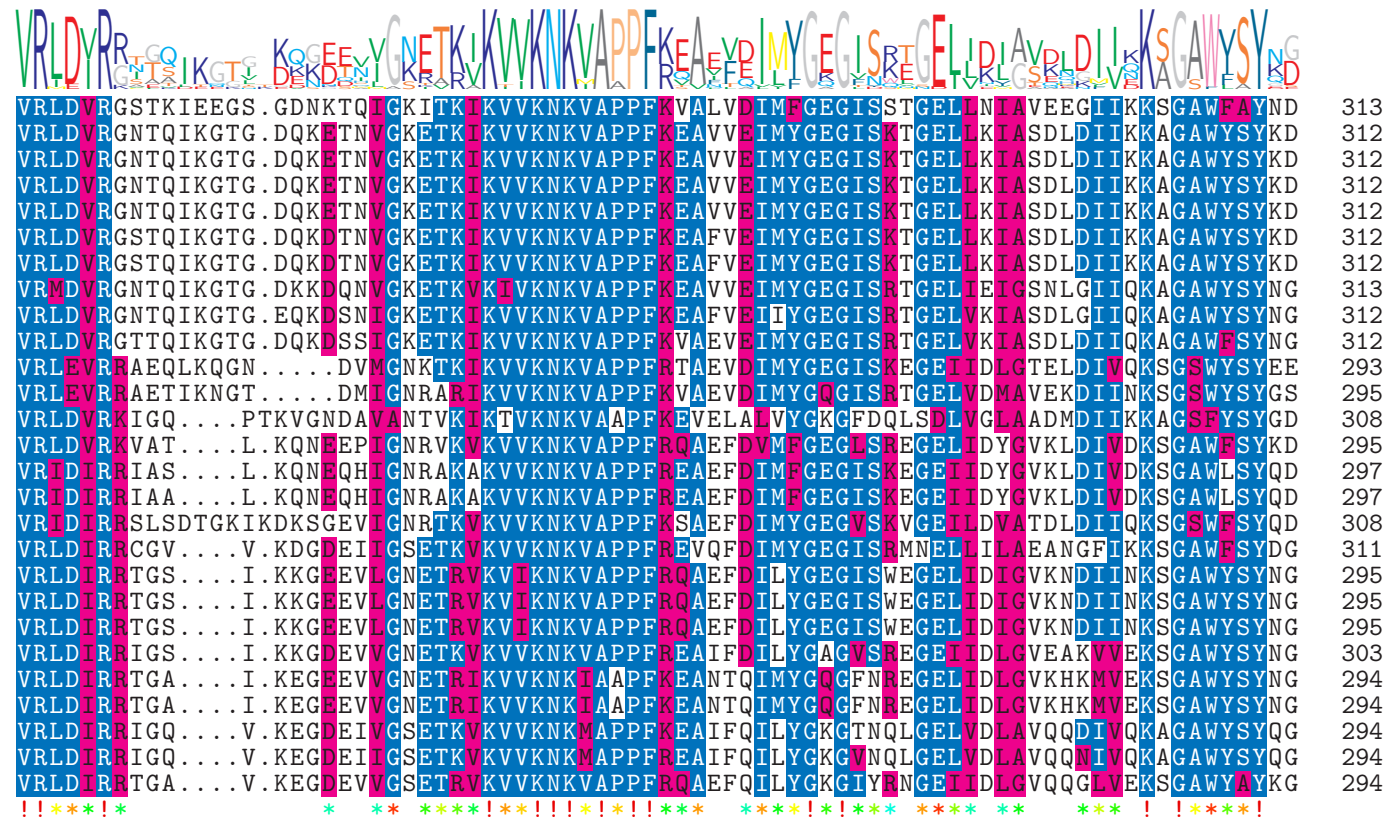
NTDB id 600 KW2 RS01765 WP 011675413.1
NTDB id 269 KZH43 RS08665 WP 001085462.1
NTDB id 228 SPD RS09265 WP 001085462.1
NTDB id 194 SPR RS08825 WP 001085462.1
NTDB id 159 SP RS09750 WP 001085462.1
NTDB id 499 SM12261 RS08315 WP 078228268.1
NTDB id 527 SMSK321 RS11065 WP 001085454.1
NTDB id 49562 SSGZ1 RS00350 WP 011922545.1
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 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 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
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 49562 SSGZ1 RS00350 WP 011922545.1
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 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 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
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 49562 SSG21 RS00350 WP 011922545.1
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 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 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1205 PSJM300 Q5545 AFN77183.1

```

Sequence	Score
EKIGQGAKAKNYLKEHQDVDEIDHKVRAAHGLDDSEVAETEE...ETTASKTAKAKKEEKAVETEEIELELED.	387
EKIGQGSENAKKYLAEHPFIDEIDKQVRSKFGLDIGEEVSEQDT...ENKKDEP...KKEEA..VNEEVPLDLGDE	381
EKIGQGSENAKKYLAEHPFIDEIDKQVRSKFGLDIGEEVSEQDT...ENKKDEP...KKEEA..VNEEVPLDLGDE	381
EKIGQGSENAKKYLAEHPFIDEIDKQVRSKFGLDIGEEVSEQDT...ENKKDEP...KKEEA..VNEEVPLDLGDE	381
EKIGQGSENAKKYLADNPEIFDEIDHQVRVQFGLDIGEEIAES...KKDEA...AQVDS..VNEEVPLDLGDE	377
EKIGQGSENAKKYLADNPEVFAIEDHQVRVQFGLDIGEEAAES...KKDEP...AQVDS..VNEEVPLDLGDE	377
EKIGQGSENAKKFLADNPATFDEIDRKIRVHYGLIEADGVEEVAT...EEA.PVV...AE..EIQDVILDLDGG	378
EKIGQGSENAKKFLADNPEIFDIDHKVRVQYGLIEEDNTEEEKQS...SKEKETD...EK..ADKNLVLELDDT	378
EKIGQGSENAKRYLADHPQLFDEIDRKVRVKFGLLEESEESASAMA...VASEE...TDDLALDLNG	373
ERIGGGRENAKQFLKENKDIIMLMIQEQIREHYGLDNGGVVQQQAE...ETQEELFE.E.	348
ERIGGGRENAKNYLADHEDVEQVRLKVRAAYSIDVPEEDLPTT...EDE.QINILPDDSTEE	355
ERIGGGKEKTIAYIAERPEMEQEETDRDRVMAAIRAGNAGEAPALAPAPAAPEAAEA	363
KKLGGGRENSKAFLEKENPEIADEITKAIQNSMGTGMI...SGSEDDE..GEE	343
KKLGGGRENAKALLKEDKALADEITLKIKESIGSNEEI...MPLPDEP..LEEME	347
KKLGGGRENAKALLKEDKALADEITLKIKESIGSNEEI...MPLPDEP..LEEME	347
TKLGGGRDTPVKELTKDNPELAELEAKIREKLQAK	343
TKIGGGKNNAVKWLKENPEIAKLEQEIINTLASNPNS...VLKATASDSNDESVDVEE...FSEEEEL	372
AKIGGGKDNVRVWLKENPEISDEIDAKIRALNGVEMHI...TEGTQDETD...GE...RPEE	348
AKIGGGKDNVRVWLKENPEISDEIDAKIRALNGVEMHI...TEGTQDETD...GE...RPEE	348
AKIGGGKDNVRVWLKENPEISDEIDAKIRALNGVEMHI...TEGTQDETD...GE...RPEE	348
ERIGGGRDNCREFLRENAELAREIENKVRHLGVTPMG...AV.TLAEVEEED	352
DKIGGGKANACKYWLKENPEIAKTLDKKIREMLLNPNEM...QLIAETSSAADVEFGA...VPEEF	354
DKIGGGKANACKYWLKENPEIAKTLDKKIREMLLNPNEM...QLIAETSSAADVEFGA...VPEEF	354
NKIGGGKNNVIRYFEENNQIAEIEIERNIREQLLTGTN...GAVQ.I.EDEEEDPD..L...LLES	349
NKIGGGKNNVIRYILEENQISTEIEAVIREQLLTKASD...QTAA.HDETEEEDPD..L...LES	349
SKIGGGKANAAKYLEENPEIGQEIEQIRAKLIVTSAN...TKATPVAEDLAD..I	347

logo

NTDB id 600 KW2 RS01765 WP 011675413.1	.....	387
NTDB id 269 KZH43 RS08665 WP 001085462.1	LEIEIEE	388
NTDB id 228 SPD RS09265 WP 001085462.1	LEIEIEE	388
NTDB id 194 SPR RS08825 WP 001085462.1	LEIEIEE	388
NTDB id 159 SP RS09750 WP 001085462.1	LEIEIEE	388
NTDB id 499 SM12261 RS08315 WP 078228268.1	LEIEIEE	384
NTDB id 527 SMSK321 RS11065 WP 001085454.1	LEIEIEE	384
NTDB id 49562 SSGZ1 RS00350 WP 011922545.1	IELED..	383
NTDB id 408 SMU RS09530 WP 002262392.1	IELED..	383
NTDB id 453 Spy49 1753c ACI62003.1	IEIED..	378
NTDB id 115 BSU 16940 NP 389576.2	.....	348
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	.....	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 1074 ABD1 RS10195 WP 000344167.1	.....	349
NTDB id 1022 ACIAD RS06390 WP 004925639.1	.....	349
NTDB id 1205 PSJM300 05545 AFN77183.1	.....	347
consensus		

-  non conserved
-  similar
-  ≥ 50% conserved