

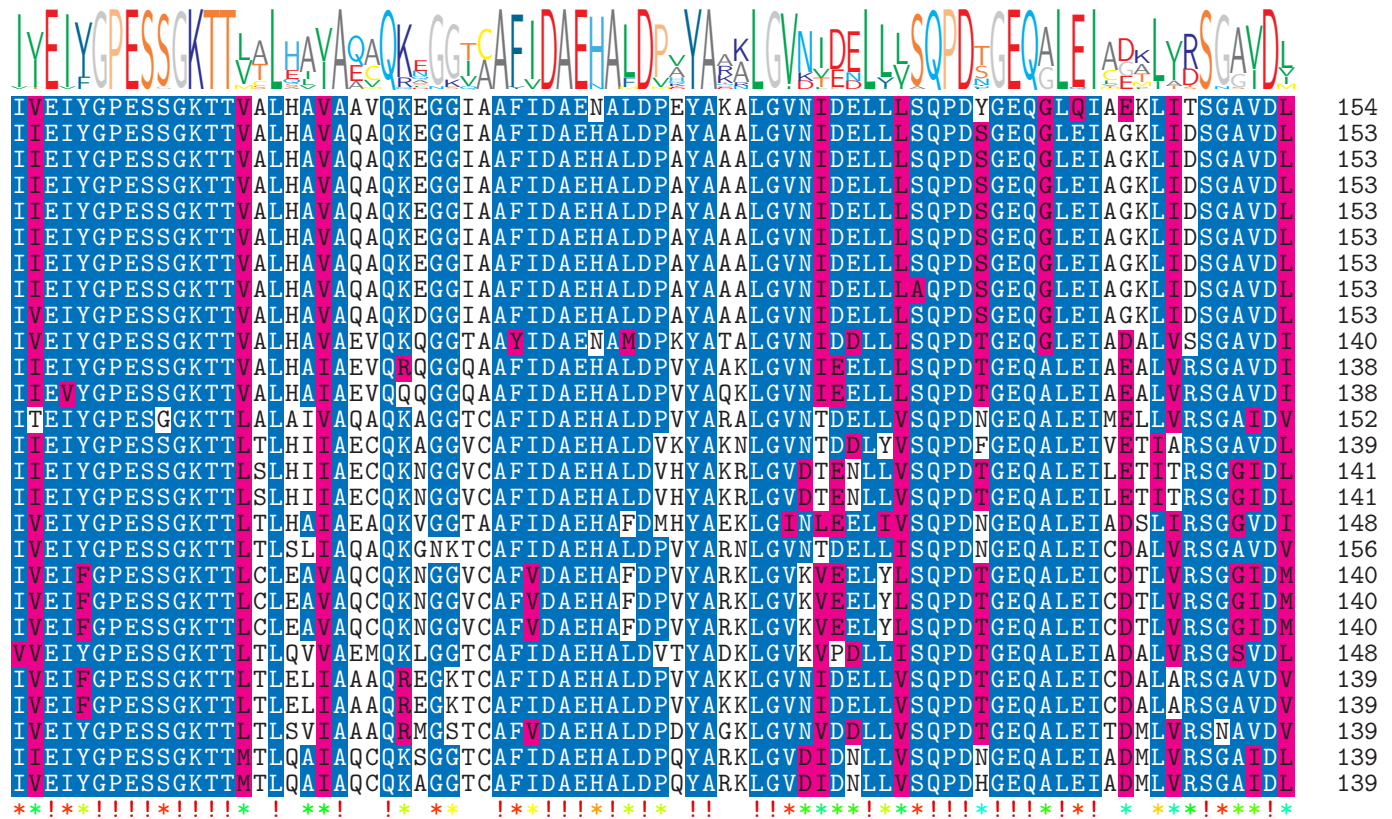
logo

NTDB id 600 KW2 RS01765 WP 011675413.1	MATKK.....KTNFDDITKKYGA	ERDKALADALALIEKD	FGKGSIMRLGEA	.ANQKVSV	VSSGSLALD	I	ALGAGGY	PKGR	74		
NTDB id 269 KZH43 RS08665 WP 001085462.1	.MAKK.....PKKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73		
NTDB id 228 SPD RS09265 WP 001085462.1	.MAKK.....PKKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73		
NTDB id 194 SPR RS08825 WP 001085462.1	.MAKK.....PKKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73		
NTDB id 159 SP RS09750 WP 001085462.1	.MAKK.....PKKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73		
NTDB id 527 SMSK321 RS11065 WP 001085454.1	.MAKK.....PKKLDEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73		
NTDB id 499 SM12261 RS08315 WP 078228268.1	.MAKK.....PKKLDEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73		
NTDB id 453 Spy49 1753c ACI62003.1	.MAKK.....LKKNEEITKKFGD	ERRKALDDALKNIEKD	FGKGAVMRLGER	.AEQKVQV	MSSGSLALD	I	ALGAGGY	PKGR	73		
NTDB id 408 SMU RS09530 WP 002262392.1	.MAKR.....IKKTEEITKKFGD	ERRKALDDALKNIEKD	FGKGAVMRLGER	.AEQKVQV	MSSGSLALD	I	ALGAGGY	PKGR	73		
NTDB id 625 LCA RS02525 WP 011374196.1	MAKD	ERQAALDAALKKIEKN	FGKGSIMRMGEK	.VDTQVST	VSSGSLALDE	A	LGVG	GGYPRGR	60		
NTDB id 970640 WN947 RS05250 WP 003385782.1	MS	DRRAALESALRQIEKQ	FGKGSIMKLGDM	.ANVQVST	VSTGALAID	I	ALGV	GGFPRGR	58		
NTDB id 115 BSU 16940 NP 389576.2	MS	DRQAALDMALKQIEKQ	FGKGSIMKLG EK	.TDTRI	STVPSGSLALD	T	ALGI	GGYPRGR	58		
NTDB id 1313 DR RS12030 WP 010888966.1	MSKDATKEISAPTD	AKERSKATETAMSQIEKA	FGKGSIMKLGAE	.SKLDVQV	VSTGSLSLD	L	ALGV	GGIPRGR	72		
NTDB id 1245 Cj1673c YP 002345041.1	MDDN	KRKSLDAALKSLDKT	FGKGTILRLGDK	.EVEQIDS	IGTGSVGLDL	L	ALGI	GGVPRGR	59		
NTDB id 1211 C694 RS00795 WP 000963128.1	MAIDE	DKQKATISLAIKQID	KVFGKGALVRLGDK	.QVEKIDS	ISTGSLGLDL	L	ALGI	GGVPRGR	61		
NTDB id 1214 NCTC11637 00359 SQJ03206.1	MAIDE	DKQKATISLAIKQID	KVFGKGALVRLGDK	.QVEKIDA	ISTGSLGLDL	L	ALGI	GGVPRGR	61		
NTDB id 1334 RAOC RS04870 WP 004918236.1	MAKT..ETTSPND	DKKKALAAVLEKLDKT	YGKGTVMKLG	DGTVDHNI	EVIPSGSLGLDL	L	ALGV	GGYPRGR	68		
NTDB id 1389 A4U84 RS07560 WP 021112712.1	.MAENKKSSKNNTV..VKQVEPEQ	KKQALEAALAQIEKQ	FGKGSIMKLGQT	.EQLDIES	VSTGSLGLDL	L	ALGI	GGLPMGR	76		
NTDB id 1130 NGFG RS03960 WP 003688695.1	MSD	DKSKALAAALAQIEKS	FGKGAIMKMDGSQ	QEE	NLEVISTGSLGLDL	L	ALGV	GGLPRGR	60		
NTDB id 1124 NGFG RS03960 WP 003688695.1	MSD	DKSKALAAALAQIEKS	FGKGAIMKMDGSQ	QEE	NLEVISTGSLGLDL	L	ALGV	GGLPRGR	60		
NTDB id 1123 OK783 RS03845 WP 003688695.1	MSD	DKSKALAAALAQIEKS	FGKGAIMKMDGSQ	QEE	NLEVISTGSLGLDL	L	ALGV	GGLPRGR	60		
NTDB id 1427 RS RS02760 WP 011000510.1	.MEDG.....K..KAASMSA	EKQKALAAALAQIEKQ	FGKGSIMKMGDA	.EVEPVQV	VSTGSLGLD	V	ALGV	GGLPRGR	68		
NTDB id 1165 A1552VC RS01565 WP 000344154.1	MDEN	KQKALAAALGQIEKQ	FGKGSIMRLGDN	.RAMDVET	ISTGSLSLD	I	ALG	AGGLPMGR	59		
NTDB id 1142 GTF74 RS11550 WP 000344154.1	MDEN	KQKALAAALGQIEKQ	FGKGSIMRLGDN	.RAMDVET	ISTGSLSLD	I	ALG	AGGLPMGR	59		
NTDB id 1205 PSJM300 05545 AFN77183.1	MDEN	KKRALAAALGQIEKQ	FGKGAVMRMGDH	.DRQAIPS	ISTGSLGLD	I	ALGI	GGLPKGR	59		
NTDB id 1074 ABD1 RS10195 WP 000344167.1	MDEN	KS	KALQAALSQIEKQ	FGKNTVMRLGDN	.TVQAVEA	VSTGSLT	L	I	ALGI	GGLPKGR	59
NTDB id 1022 ACIAD RS06390 WP 004925639.1	MDDN	KS	KALQAALSQIEKQ	FGKNTVMRLGDN	.TVQAVEA	VSTGSLT	L	I	ALGI	GGLPKGR	59
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 625 LCA RS02525 WP 011374196.1
NTDB id 970640 WM947 RS05250 WP 003385782.1
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 1205 PSJM300 05545 AFN77183.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
consensus

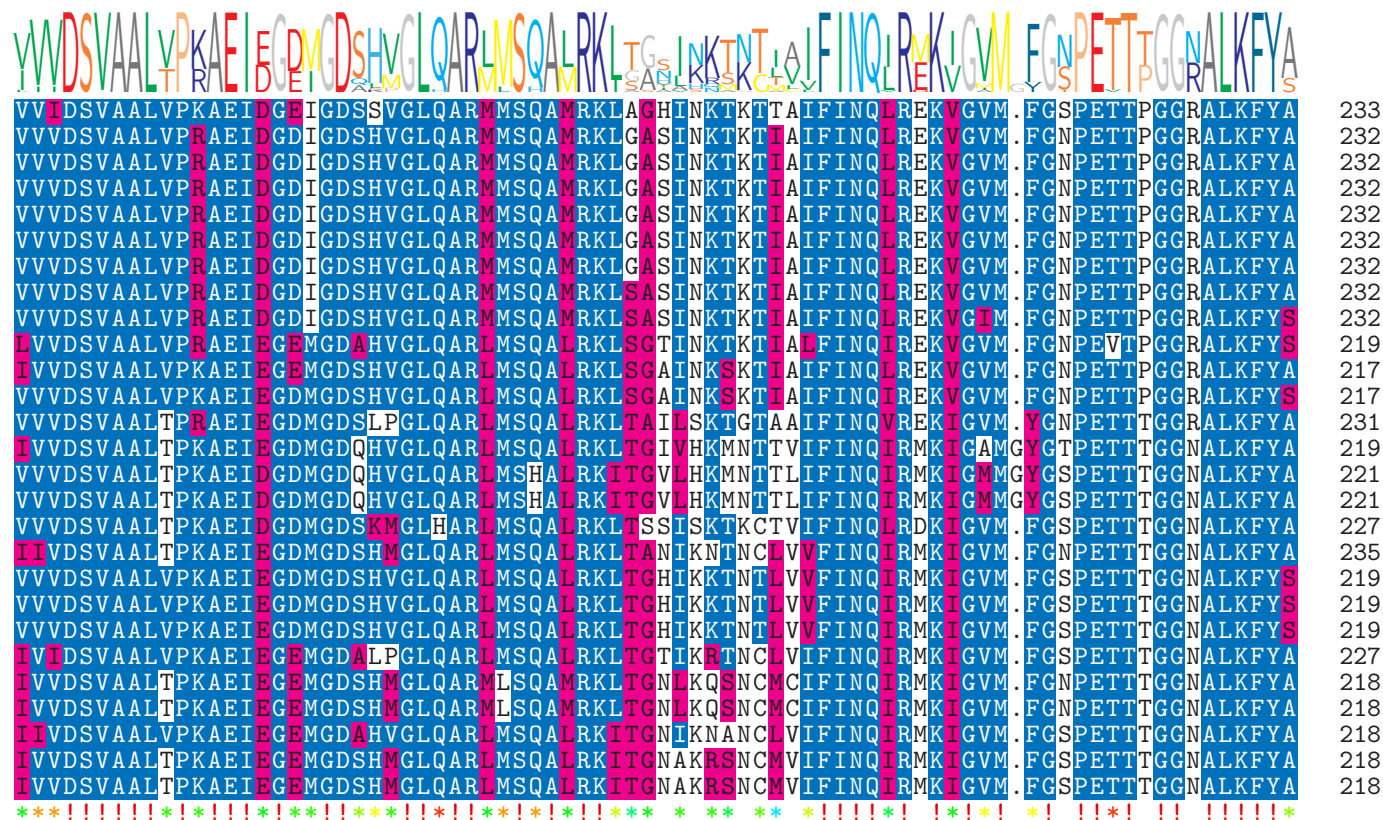
```



```

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 625 LCA RS02525 WP 011374196.1
NTDB id 970640 WN947 RS05250 WP 003385782.1
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 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 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
consensus

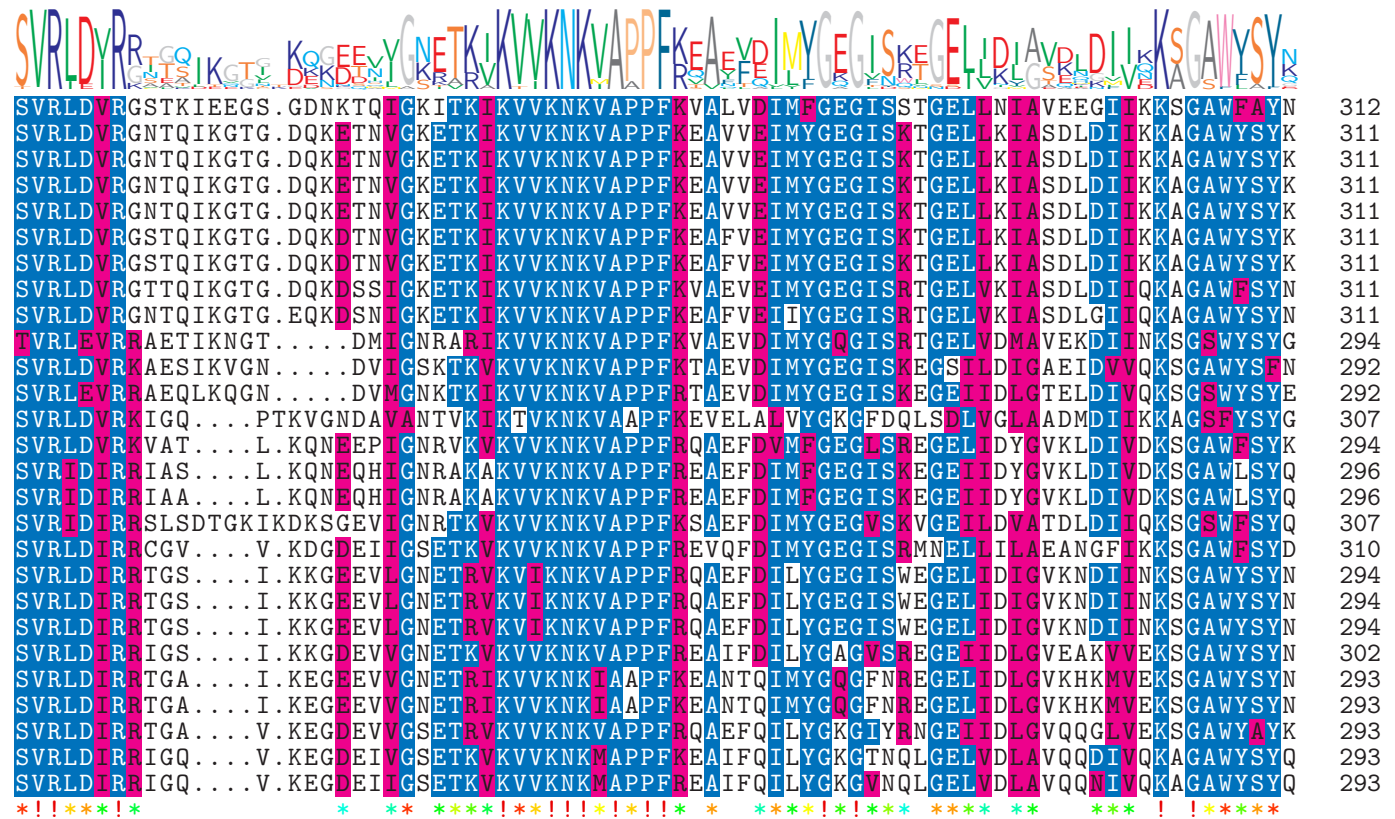
```



```

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 625 LCA RS02525 WP 011374196.1
NTDB id 970640 WN947 RS05250 WP 003385782.1
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 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 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
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 625 LCA RS02525 WP 011374196.1
NTDB id 970640 WN947 RS05250 WP 003385782.1
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 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 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
consensus

```

DEKIGQGA	EKA	KNYL	KEHQ	DV	FEID	HKV	RAAH	G	LDD	SEVA	EETEE	TASK	TAKAK	KKEEK	AVETEE	IELE	ED	.....	387												
DEKIGQGS	ENAKKYLA	AH	PEIF	DEID	KQV	RSKF	G	LIDGE	EV	SEQD	TENK	KDE	...	PKKEEA	..	VNEEV	PLDL	GDELEIE	385												
DEKIGQGS	ENAKKYLA	AH	PEIF	DEID	KQV	RSKF	G	LIDGE	EV	SEQD	TENK	KDE	...	PKKEEA	..	VNEEV	PLDL	GDELEIE	385												
DEKIGQGS	ENAKKYLA	AH	PEIF	DEID	KQV	RSKF	G	LIDGE	EV	SEQD	TENK	KDE	...	PKKEEA	..	VNEEV	PLDL	GDELEIE	385												
DEKIGQGS	ENAKKYLA	AH	PEIF	DEID	KQV	RSKF	G	LIDGE	EV	SEQD	TENK	KDE	...	PKKEEA	..	VNEEV	PLDL	GDELEIE	385												
DEKIGQGS	ENAKKYLA	AD	NPEV	FAE	IDH	QVR	VQF	G	LIDGE	EA	AE	...	SKKDE	...	VAQVDS	..	VNEEV	TLDL	GDELEIE	381											
DEKIGQGS	ENAKKYLA	AD	NPEIF	DEID	HQV	RVQF	G	LIDGE	EA	AE	...	SKKDE	...	AAQVDS	..	VNEEV	TLDL	GDELEIE	381												
GEKIGQGS	ENAKRYL	AD	HPQL	FEID	DRK	VRVKF	G	L	EE	SE	EE	SAM	AVASE	.....	E	.....	TDDL	ALDL	NGIEIE	377											
GEKIGQGS	ENAKKFL	AD	NPEIF	DD	IDH	KVR	VQY	G	L	IE	ED	NTE	EK	QSSKE	.....	ETDEK	..	ADKN	LVLE	DDTIELE	382										
SERIGQGS	ENAKNYL	AD	HED	VE	EV	RLK	VRA	AY	G	ISD	V	PEED	LP	TTED	..	EQIN	ILP	DD	STE	.....	E	.....	355								
DERLGGG	ENAKIYL	KEN	PAT	AA	QIE	AK	VRE	YSL	NP	G	SIP	ATE	PV	VD	PEQ	DE	EP	MF	DLE	.....	.....	.....	352								
EERLGGG	ENAKQFL	KEN	DK	IM	LM	QIE	QIR	E	HY	G	LD	NN	G	V	VQ	QA	EET	..	QEE	LE	FEE			348							
DERIGGG	EKKTIA	YIA	ER	PE	ME	QIE	DR	VMA	A	I	RAG	NAGE	AP	AL	AP	A	PA	EA	EA	.....	.....	.....	363								
DKKLGGG	ENSKAFL	KEN	PEI	AD	EIT	KAI	QNS	MG	I	EGM	...	IS	G	SE	DE	..	GEE	.....	.....	.....	.....	.....	343								
DKKLGGG	ENAKALL	KED	KAL	AD	EIT	LK	IK	ES	IG	SNEE	...	IM	PL	DE	P	..	LE	EME	.....	.....	.....	.....	347								
DKKLGGG	ENAKALL	KED	KAL	AD	EIT	LK	IK	ES	IG	SNEE	...	IM	PL	DE	P	..	LE	EME	.....	.....	.....	.....	347								
DTKLGGG	RD	TVK	ELI	KD	N	PELA	E	E	L	E	A	KI	RE	LQ	A	.....	.....	.....	.....	.....	.....	.....	343								
GKIGQGG	KNN	AV	KL	KEN	PEI	AD	KLE	QIE	R	N	T	L	AS	N	P	N	...	SVL	KAT	AS	D	S	N	DESD	..	VEEF	SE	EEL		372	
GAKIGQGG	KDN	VR	VL	KEN	PEI	S	DEI	DA	KI	R	AL	N	G	V	EMH	...	ITE	G	T	Q	DE	T		D	GER	PEE			348		
GAKIGQGG	KDN	VR	VL	KEN	PEI	S	DEI	DA	KI	R	AL	N	G	V	EMH	...	ITE	G	T	Q	DE	T		D	GER	PEE			348		
GAKIGQGG	KDN	VR	VL	KEN	PEI	S	DEI	DA	KI	R	AL	N	G	V	EMH	...	ITE	G	T	Q	DE	T		D	GER	PEE			348		
GERIGGG	RDN	CR	E	FL	RENA	E	LA	R	E	I	EN	KV	RE	HL	G	VTM	...	GAV	T	L	..	EE	VEED						352		
GDKIGGG	KAN	ACK	YL	KEN	PEI	AKT	L	DKK	L	RE	M	LL	N	PEN	...	MQL	I	A	E	T	S	S	A	ADD	VE	..	FG	AV	PEEF		354
GDKIGGG	KAN	ACK	YL	KEN	PEI	AKT	L	DKK	L	RE	M	LL	N	PEN	...	MQL	I	A	E	T	S	S	A	ADD	VE	..	FG	AV	PEEF		354
GSKIGQGG	KANA	AK	YLE	EN	PEI	G	QIE	EQ	I	R	A	K	L	L	VTSA	...	NT	K	A	T	P	V	A	E							

logo

		IEE	
NTDB id 600 KW2 RS01765 WP 011675413.1	...		387
NTDB id 269 KZH43 RS08665 WP 001085462.1	IEE		388
NTDB id 228 SPD RS09265 WP 001085462.1	IEE		388
NTDB id 194 SPR RS08825 WP 001085462.1	IEE		388
NTDB id 159 SP RS09750 WP 001085462.1	IEE		388
NTDB id 527 SMSK321 RS11065 WP 001085454.1	IEE		384
NTDB id 499 SM12261 RS08315 WP 078228268.1	IEE		384
NTDB id 453 Spy49 1753c ACI62003.1	D..		378
NTDB id 408 SMU RS09530 WP 002262392.1	D..		383
NTDB id 625 LCA RS02525 WP 011374196.1	...		355
NTDB id 970640 WN947 RS05250 WP 003385782.1	...		352
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	...		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 1074 ABD1 RS10195 WP 000344167.1	...		349
NTDB id 1022 ACIAD RS06390 WP 004925639.1	...		349
consensus			

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