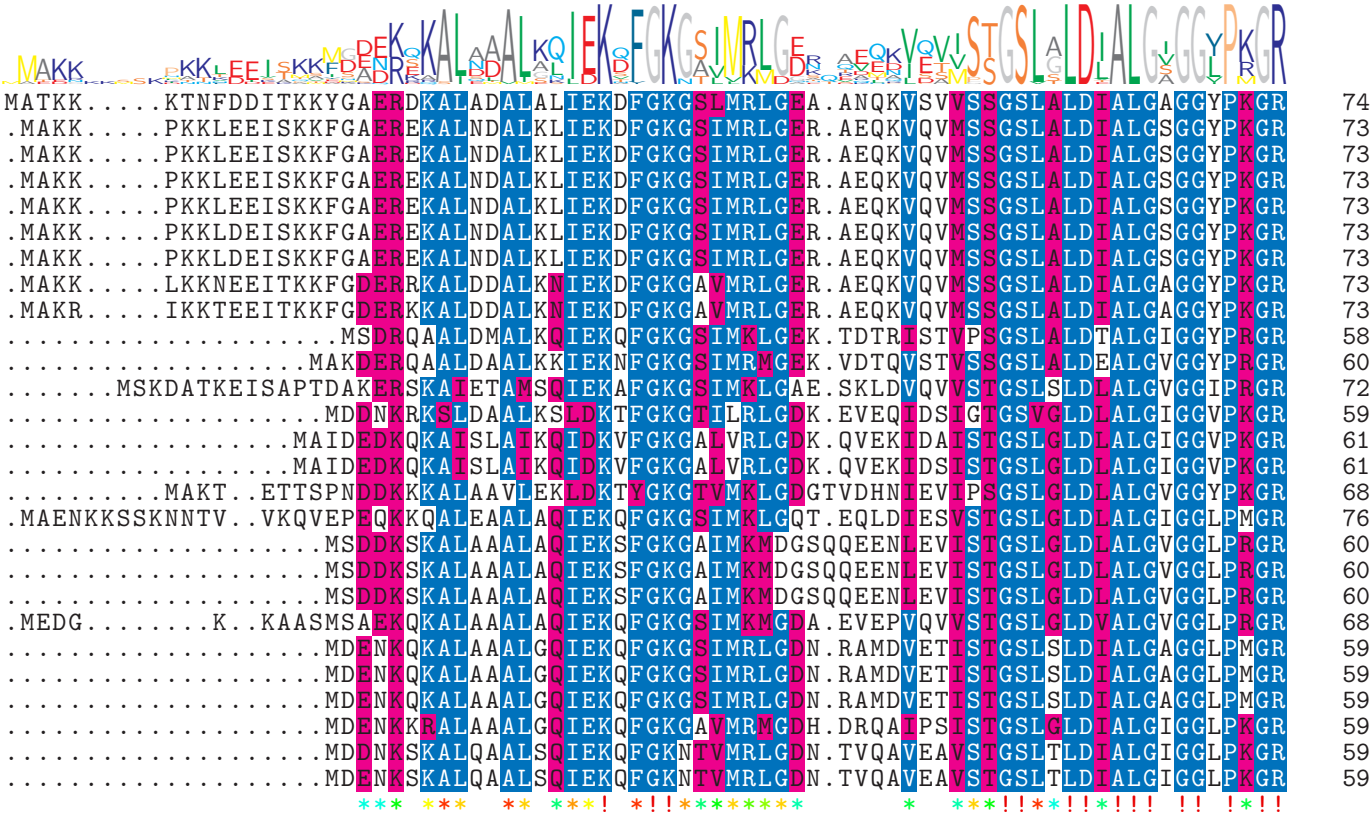


logo

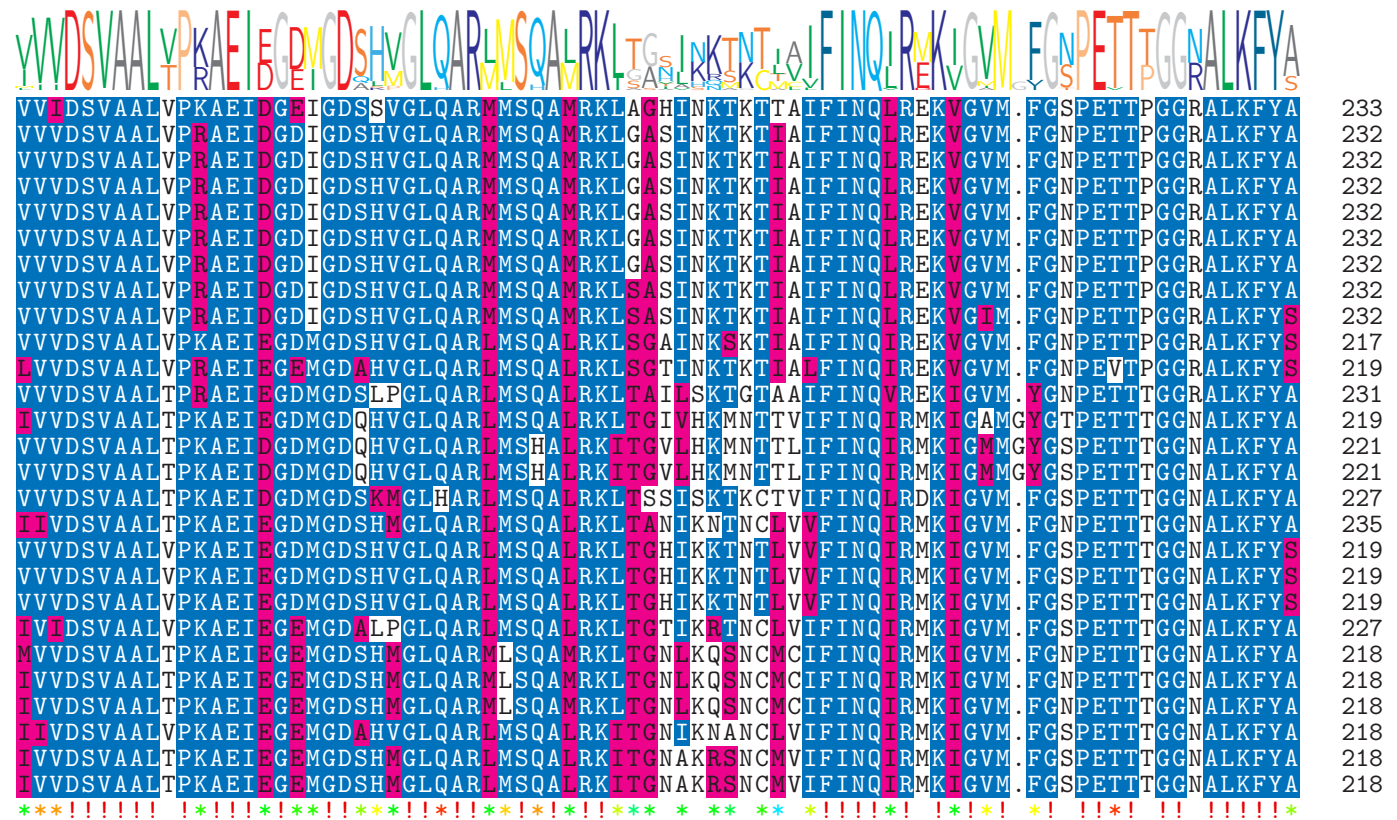
NTDB id 600 KW2 RS01765 WP 011675413.1
NTDB id 269 KZH43 RS08665 WP 001085462.1
NTDB id 228 SPD RS09265 WP 001085462.1
NTDB id 194 SPR RS08825 WP 001085462.1
NTDB id 159 SP RS09750 WP 001085462.1
NTDB id 527 SMSK321 RS11065 WP 001085454.1
NTDB id 499 SM12261 RS08315 WP 078228268.1
NTDB id 453 Spy49 1753c ACI62003.1
NTDB id 408 SMU RS09530 WP 002262392.1
NTDB id 115 BSU 16940 NP 389576.2
NTDB id 625 LCA RS02525 WP 011374196.1
NTDB id 1313 DR RS12030 WP 010888966.1
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 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 408240 GPY28 RS23675 WP 005380874.1
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	IVEIYGP	ESSGKTT	VALHAVA	AAVQKEGG	IAAFIDA	ENALDPEY	AKALGVN	IDELL	LSQPDY	GEQGL	QIAE	EKL	ITSGAVD	154
NTDB id 269 KZH43 RS08665 WP 001085462.1	IVEIYGP	ESSGKTT	VALHAVA	AAQAKKEGG	IAAFIDA	EAHALDP	AYAAA	ALGVN	IDELL	LSQPD	S	GEQGLE	IAGKL	153
NTDB id 228 SPD RS09265 WP 001085462.1	IVEIYGP	ESSGKTT	VALHAVA	AAQAKKEGG	IAAFIDA	EAHALDP	AYAAA	ALGVN	IDELL	LSQPD	S	GEQGLE	IAGKL	153
NTDB id 194 SPR RS08825 WP 001085462.1	IVEIYGP	ESSGKTT	VALHAVA	AAQAKKEGG	IAAFIDA	EAHALDP	AYAAA	ALGVN	IDELL	LSQPD	S	GEQGLE	IAGKL	153
NTDB id 159 SP RS09750 WP 001085462.1	IVEIYGP	ESSGKTT	VALHAVA	AAQAKKEGG	IAAFIDA	EAHALDP	AYAAA	ALGVN	IDELL	LSQPD	S	GEQGLE	IAGKL	153
NTDB id 527 SMSK321 RS11065 WP 001085454.1	IVEIYGP	ESSGKTT	VALHAVA	AAQAKKEGG	IAAFIDA	EAHALDP	AYAAA	ALGVN	IDELL	LSQPD	S	GEQGLE	IAGKL	153
NTDB id 499 SM12261 RS08315 WP 078228268.1	IVEIYGP	ESSGKTT	VALHAVA	AAQAKKEGG	IAAFIDA	EAHALDP	AYAAA	ALGVN	IDELL	LSQPD	S	GEQGLE	IAGKL	153
NTDB id 453 Spy49 1753c ACI62003.1	IVEIYGP	ESSGKTT	VALHAVA	AAQAKKEGG	IAAFIDA	EAHALDP	AYAAA	ALGVN	IDELL	LAQPD	S	GEQGLE	IAGKL	153
NTDB id 408 SMU RS09530 WP 002262392.1	IVEIYGP	ESSGKTT	VALHAVA	AAQAKDGG	IAAFIDA	EAHALDP	AYAAA	ALGVN	IDELL	LSQPD	S	GEQGLE	IAGKL	153
NTDB id 115 BSU 16940 NP 389576.2	IVEVYGP	ESSGKTT	VALHAI	AEVQQQGG	QA	AFIDA	EAHALDP	VYAQKL	GVN	IEELL	LSQPD	TGEQALE	IAEAL	138
NTDB id 625 LCA RS02525 WP 011374196.1	IVEIYGP	ESSGKTT	VALHAVA	AEVQKQGG	TAA	YIDA	ENAM	DPKY	ATALGVN	IDDL	LSQPD	TGEQGLE	IA	140
NTDB id 1313 DR RS12030 WP 010888966.1	ITEIYGP	ESSGKTT	LALAI	VAQAQKAG	GTCA	FIDA	EAHALDP	VYARAL	GVNT	DELL	VSQPD	NGEQALE	IMELL	152
NTDB id 1245 Cj1673c YP 002345041.1	IVEIYGP	ESSGKTT	TLHI	IAECQKAG	GVCA	FIDA	EAHALD	VKYAKN	LGVT	DDL	VSQPD	FGEQALE	IVET	139
NTDB id 1214 NCTC11637 00359 SQJ03206.1	IVEIYGP	ESSGKTT	SLHI	IAECQKNG	GVCA	FIDA	EAHALD	VHYAKR	LGVD	TEN	LLVSQPD	TGEQALE	ILET	141
NTDB id 1211 C694 RS00795 WP 000963128.1	IVEIYGP	ESSGKTT	SLHI	IAECQKNG	GVCA	FIDA	EAHALD	VHYAKR	LGVD	TEN	LLVSQPD	TGEQALE	ILET	141
NTDB id 1334 RAOC RS04870 WP 004918236.1	IVEIYGP	ESSGKTT	TLHA	IAEAQKV	GGTA	AFIDA	EAHA	FDMHYA	EKLG	INLE	ELIV	SQPD	NGEQALE	148
NTDB id 1389 A4U84 RS07560 WP 021112712.1	IVEIYGP	ESSGKTT	TLSL	IAQAQKGN	KTC	AFIDA	EAHALD	PVYARN	LGVT	DELL	ISQPD	NGEQALE	ICD	156
NTDB id 1130 NGFG RS03960 WP 003688695.1	IVEIFGP	ESSGKTT	LCLEA	VACQCKNG	GVCA	AFVDA	EAHA	FDPVYAR	KLGVK	VEEL	YLSQPD	TGEQALE	ICD	140
NTDB id 1124 NGFG RS03960 WP 003688695.1	IVEIFGP	ESSGKTT	LCLEA	VACQCKNG	GVCA	AFVDA	EAHA	FDPVYAR	KLGVK	VEEL	YLSQPD	TGEQALE	ICD	140
NTDB id 1123 OK783 RS03845 WP 003688695.1	IVEIFGP	ESSGKTT	LCLEA	VACQCKNG	GVCA	AFVDA	EAHA	FDPVYAR	KLGVK	VEEL	YLSQPD	TGEQALE	ICD	140
NTDB id 1427 RS RS02760 WP 011000510.1	VVEIYGP	ESSGKTT	TLQV	VAEMQKL	GGTC	AFIDA	EAHALD	VTYADKL	GVKVP	DDL	ISQPD	TGEQALE	IA	148
NTDB id 408240 GPY28 RS23675 WP 005380874.1	IVEIYGP	ESSGKTT	TLLEL	IAAAQ	REGKTC	AFIDA	EAHALD	PVYAKKL	GVN	ID	DALL	VSQPD	TGEQALE	139
NTDB id 1165 A1552VC RS01565 WP 000344154.1	IVEIFGP	ESSGKTT	TLLEL	IAAAQ	REGKTC	AFIDA	EAHALD	PVYAKKL	GVN	IDELL	VSQPD	TGEQALE	ICD	139
NTDB id 1142 GTF74 RS11550 WP 000344154.1	IVEIFGP	ESSGKTT	TLLEL	IAAAQ	REGKTC	AFIDA	EAHALD	PVYAKKL	GVN	IDELL	VSQPD	TGEQALE	ICD	139
NTDB id 1205 PSJM300 05545 AFN77183.1	IVEIYGP	ESSGKTT	TL	SVIAAAQ	RMGSTC	AFVDA	EAHALD	PDYAGKL	GVNV	DDL	VSQPD	TGEQALE	IT	139
NTDB id 1022 ACIAD RS06390 WP 004925639.1	IVEIYGP	ESSGKTT	MTLQ	AIACQCKAG	GTCA	AFIDA	EAHALD	PQYARKL	GVN	IDN	LLVSQPD	HGEQALE	IA	139
NTDB id 1074 ABD1 RS10195 WP 000344167.1	IVEIYGP	ESSGKTT	MTLQ	AIACQCK	SGGTC	AFIDA	EAHALD	PQYARKL	GVN	IDN	LLVSQPD	NGEQALE	IA	139
consensus	***	***	!!!!	*****	!*	***	!!	***	***	!!!!	*****	!!!!	*****	!!!!

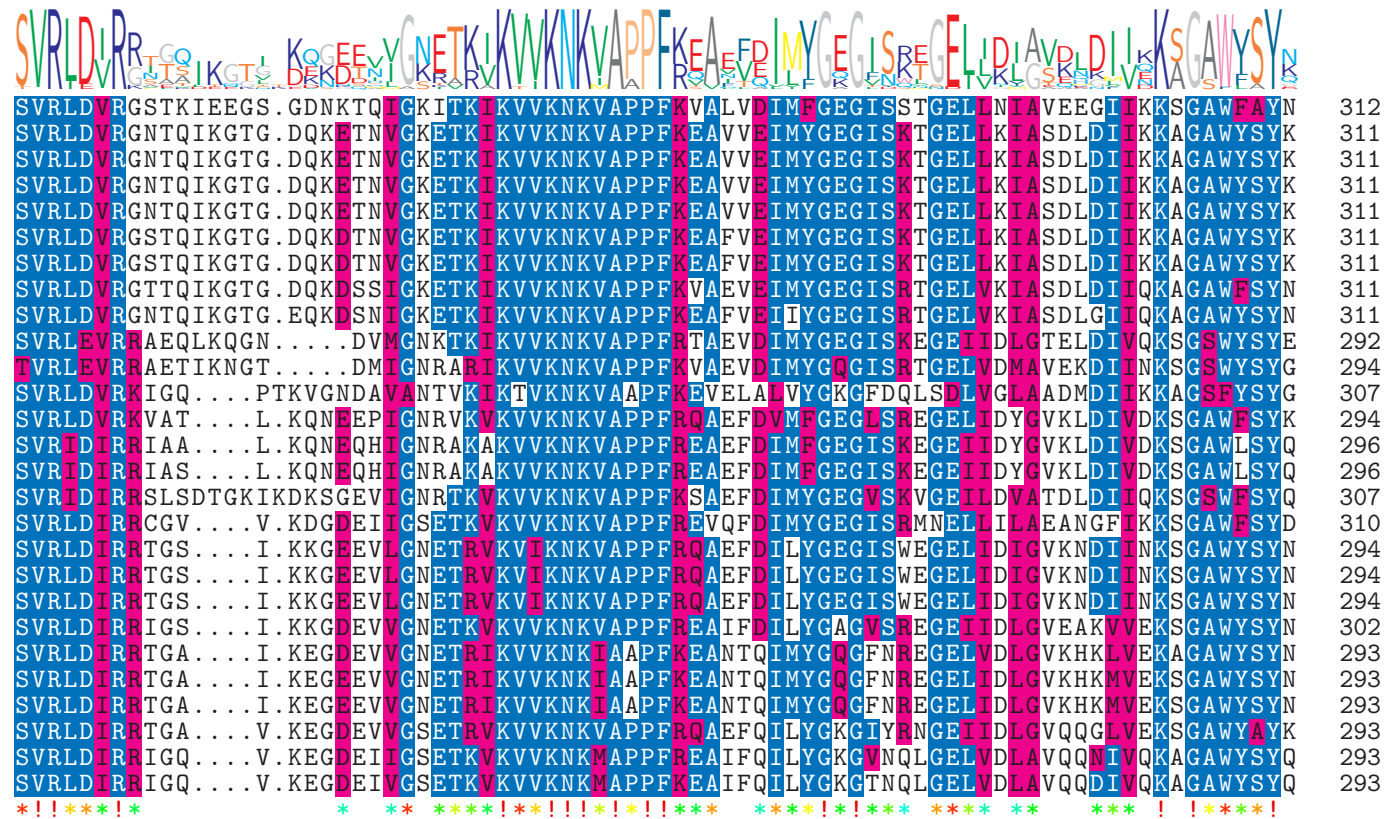
NTDB id 600 KW2 RS01765 WP 011675413.1
NTDB id 269 KZH43 RS08665 WP 001085462.1
NTDB id 228 SPD RS09265 WP 001085462.1
NTDB id 194 SPR RS08825 WP 001085462.1
NTDB id 159 SP RS09750 WP 001085462.1
NTDB id 527 SMSK321 RS11065 WP 001085454.1
NTDB id 499 SM12261 RS08315 WP 078228268.1
NTDB id 453 Spy49 1753c ACI62003.1
NTDB id 408 SMU RS09530 WP 002262392.1
NTDB id 115 BSU 16940 NP 389576.2
NTDB id 625 LCA RS02525 WP 011374196.1
NTDB id 1313 DR RS12030 WP 010888966.1
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 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 408240 GPY28 RS23675 WP 005380874.1
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 625 LCA RS02525 WP 011374196.1
NTDB id 1313 DR RS12030 WP 010888966.1
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 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 408240 GPY28 RS23675 WP 005380874.1
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 0004925639.1
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 625 LCA RS02525 WP 011374196.1
NTDB id 1313 DR RS12030 WP 010888966.1
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 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 408240 GPY28 RS23675 WP 005380874.1
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

```

G	K	I	Q	G	E	N	A	K	Y	L	K	E	N	P	E	L	A	D	E	L	D	K	Y	R	E	L	G	L	R	E	V	E	T	E	K	K	D	E	E	F	E	E	V	E	E	V	L	D	L	G	D	E	L	E
DE	K	I	Q	G	E	N	A	K	Y	L	K	E	N	P	E	L	A	D	E	L	D	K	Y	R	E	L	G	L	R	E	V	E	T	E	K	K	D	E	E	F	E	E	V	E	E	V	L	D	L	G	D	E	L	E
DEKIGQGAEKAKNYLKEHQDVFEIDHKKVRAAHGLDDSEVAETEEETTASKTAKAKKEEKAVETEEIELELED	387																																																					
DEKIGQQSENAKKYLAEHPEIFDEIDKQVRSKFGLIDGEEVSEQDTENKKDE . . . PKKEEA . VNEEVPLDLGDELEIE	385																																																					
DEKIGQQSENAKKYLAEHPEIFDEIDKQVRSKFGLIDGEEVSEQDTENKKDE . . . PKKEEA . VNEEVPLDLGDELEIE	385																																																					
DEKIGQQSENAKKYLAEHPEIFDEIDKQVRSKFGLIDGEEVSEQDTENKKDE . . . PKKEEA . VNEEVPLDLGDELEIE	385																																																					
DEKIGQQSENAKKYLAHDNPEVFADIDHQRVRFGLIDGEEAAE . . . SKKDE . . . VAQVDS . VNEEVTLDLGDELEIE	381																																																					
DEKIGQQSENAKKYLAHDNPEIFDEIDHQRVRFGLIDGEEAAE . . . SKKDE . . . AAQVDS . VNEEVTLDLGDELEIE	381																																																					
GEKIGQQSENAKRYLADHPQLFDIDRKVRVKFGLLEESEEESAMAVASE E TDDLALDNLNGIEIE	377																																																					
GEKIGQQSENAKKFLADNPEIFFDIDHKVRVQYGLIEEDNTEEKQSSKE ETDEK . ADKNLVLELDDTIELE	382																																																					
EERLGGQRENAAKQFLKENKDIMLMIQEQIREHYGLDNNGVVQQAEETQEEL.EFE.E	348																																																					
SERIGGGRENAKNYLADHEDVEDEVRLKVRAAYGISDVPEEDLPPTTEDE.QI.NILPDST EE	355																																																					
DERIGGQKEKTIATYIAERPMEQEIHDRVMMAAIRAGNAGEAPALAPAAPAEAAE.A	363																																																					
DKKLGGGRENSKAFLKENPEIADITTKAIQNMGIEGMI . . . SGSEDD . EGEE . E	343																																																					
DKKLGGGRENAKALLKEDKALADEITLKIKESIGSNEEI . . . MPLPDE . PLE . EME	347																																																					
DKKLGGGRENAKALLKEDKALADEITLKIKESIGSNEEI . . . MPLPDE . PLE . EME	347																																																					
DTKLGGGRDTV KELIKDNPELAELEAKIREKLQAK	343																																																					
GTKIGQGXNNNAVWLKENPEIADKLEQIRNTLASPN . . . VLKATASDSND . ESDVEEFSEEL	372																																																					
GAKIGQXKDNVRVWLKENPEISDEIDAKIRALNGVEMHI . . . TE . . . GTQ . DETDGERPEE	348																																																					
GAKIGQXKDNVRVWLKENPEISDEIDAKIRALNGVEMHI . . . TE . . . GTQ . DETDGERPEE	348																																																					
GAKIGQXKDNVRVWLKENPEISDEIDAKIRALNGVEMHI . . . TE . . . GTQ . DETDGERPEE	348																																																					
GERIGQGRDNCREFLRENAELAREIENKRVREHLGVTPMG . . . AVTLAE.EVEE . D	352																																																					
GDKIGQXKANACNYLREHPEVAKTIDTKLREMLLPALA . . . EAPEAGEAPEQ . AEEF	347																																																					
GDKIGQXKANACKYLKENPEIAKTLDKKLREMLLNPENM . . . QLIAETSSAAD . DVEFGAVPEEF	354																																																					
GDKIGQXKANACKYLKENPEIAKTLDKKLREMLLNPENM . . . QLIAETSSAAD . DVEFGAVPEEF	354																																																					
GSKIGQXKANAAKYLEENPEIGQEIEQQIRAKLLVTSAN . . . TKATPVAEDLA . DAD . I	347																																																					
GNIKIGQXKNNVIRYLEENPEISTEIEAVIREQLLTAKSD . . . QTA . HDETTEE . EPD . LLES	349																																																					
GNKIGQXKNNVIRIFYENNQIAEIERNIEREQLLTGTN . . . GAVQ.I.EDEE . EPD . LLES	349																																																					
!!** ** * **** * *																																																						
* *																																																						

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 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 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 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 408240 GPY28 RS23675 WP 005380874.1	...		347
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 1022 ACIAD RS06390 WP 004925639.1	...		349
NTDB id 1074 ABD1 RS10195 WP 000344167.1	...		349
consensus			

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