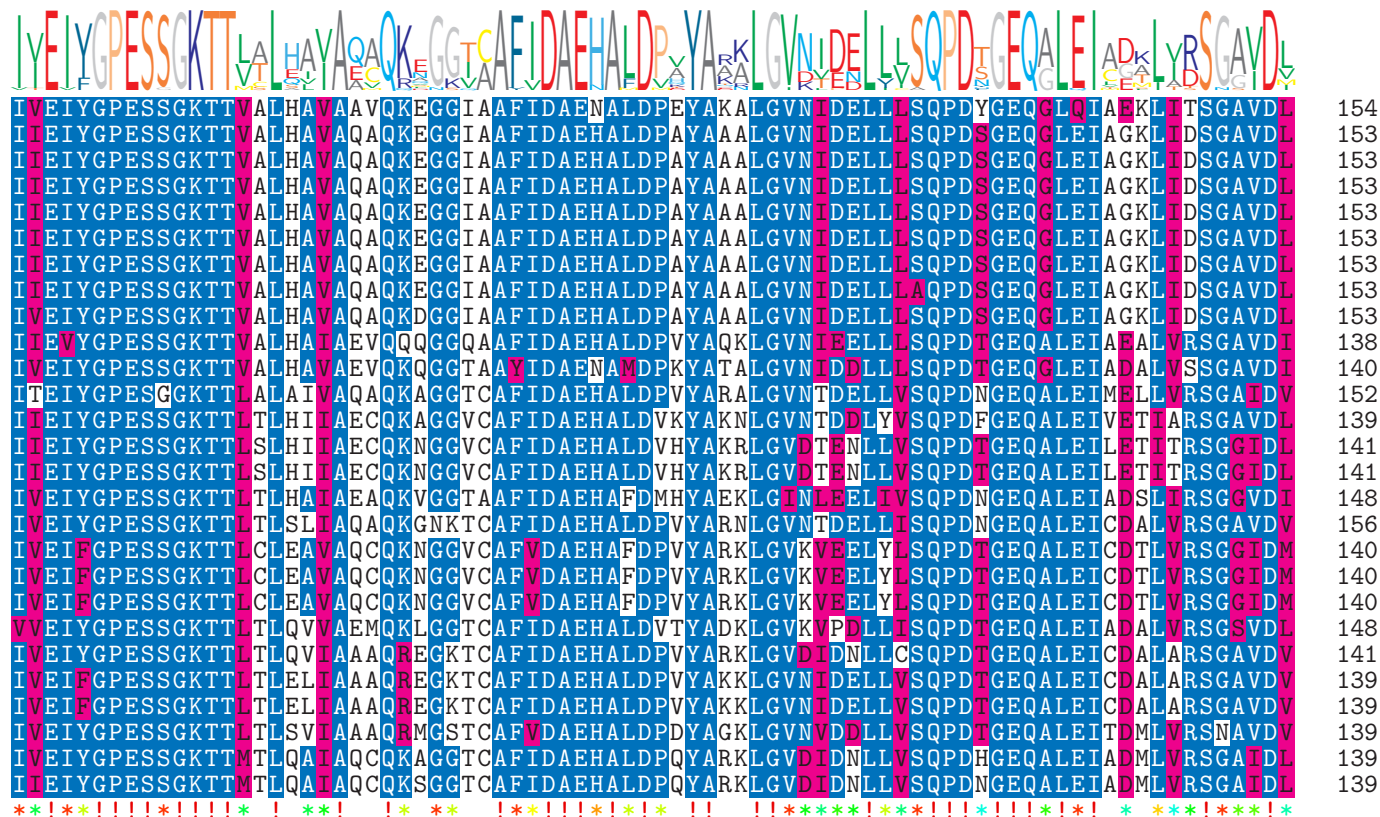


logo

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 110478 BBB54 RS05465 WP 004205686.1
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 110478 BBB54 RS05465 WP 004205686.1
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	IDSVAAL	VP	KA	EID	GE	IGDSSV	GLQAR	MSQAM	RKL	GA	CH	INKT	KT	TA	IFIN	QLREK	VGV	M	FGS	PETT	P	GG	RALK	FYA	233									
NTDB	id	269	KZH43	RS08665	WP	001085462.1	VV	DSVAAL	VP	RA	EID	GD	IGDSHV	GLQAR	MSQAM	RKL	GA	SI	INKT	KT	TA	IFIN	QLREK	VGV	M	FGN	PETT	P	GG	RALK	FYA	232									
NTDB	id	228	SPD	RS09265	WP	001085462.1	VV	DSVAAL	VP	RA	EID	GD	IGDSHV	GLQAR	MSQAM	RKL	GA	SI	INKT	KT	TA	IFIN	QLREK	VGV	M	FGN	PETT	P	GG	RALK	FYA	232									
NTDB	id	194	SPR	RS08825	WP	001085462.1	VV	DSVAAL	VP	RA	EID	GD	IGDSHV	GLQAR	MSQAM	RKL	GA	SI	INKT	KT	TA	IFIN	QLREK	VGV	M	FGN	PETT	P	GG	RALK	FYA	232									
NTDB	id	159	SPR	RS09750	WP	001085462.1	VV	DSVAAL	VP	RA	EID	GD	IGDSHV	GLQAR	MSQAM	RKL	GA	SI	INKT	KT	TA	IFIN	QLREK	VGV	M	FGN	PETT	P	GG	RALK	FYA	232									
NTDB	id	527	SMSK321	RS11065	WP	001085454.1	VV	DSVAAL	VP	RA	EID	GD	IGDSHV	GLQAR	MSQAM	RKL	GA	SI	INKT	KT	TA	IFIN	QLREK	VGV	M	FGN	PETT	P	GG	RALK	FYA	232									
NTDB	id	499	SM12261	RS08315	WP	078228268.1	VV	DSVAAL	VP	RA	EID	GD	IGDSHV	GLQAR	MSQAM	RKL	GA	SI	INKT	KT	TA	IFIN	QLREK	VGV	M	FGN	PETT	P	GG	RALK	FYA	232									
NTDB	id	453	Spy49	1753c	ACI	62003.1	VV	DSVAAL	VP	RA	EID	GD	IGDSHV	GLQAR	MSQAM	RKL	SA	SI	INKT	KT	TA	IFIN	QLREK	VGV	M	FGN	PETT	P	GG	RALK	FYA	232									
NTDB	id	408	SMU	RS09530	WP	002262392.1	VV	DSVAAL	VP	RA	EID	GD	IGDSHV	GLQAR	MSQAM	RKL	SA	SI	INKT	KT	TA	IFIN	QLREK	VGM	I	FGN	PETT	P	GG	RALK	FYS	232									
NTDB	id	115	BSU	16940	NP	389576.2	VV	DSVAAL	VP	KA	EIE	GD	MDGSHV	GLQAR	LSQAL	RKL	SGA	AI	NSKT	IA	IFIN	QIREK	VGV	M	FGN	PETT	P	GG	RALK	FYS	217										
NTDB	id	625	LCA	RS02525	WP	0011374196.1	L	V	DSVAAL	VP	RA	EIE	GE	MGD	AHV	GLQAR	LSQAL	RKL	SGT	INKT	KT	IA	IFIN	QIREK	VGV	M	FGN	PE	VT	P	GG	RALK	FYS	219							
NTDB	id	1313	DR	RS12030	WP	010888966.1	VV	DSVAAL	TP	RA	EIE	GE	MDG	SL	P	GLQAR	LSQAL	RKL	TA	IL	SKT	G	TAA	IFIN	QVREK	IGV	M	Y	GN	PETT	T	GG	RALK	FYA	231						
NTDB	id	1245	Cj1673c	YP	002345041.1	L	V	DSVAAL	TP	KA	EIE	GE	MDG	QH	V	GLQAR	LSQAL	RKL	TG	IV	HKM	N	TT	V	IFIN	QIR	M	K	I	GAM	G	Y	T	PETT	T	GG	NALK	FYA	219		
NTDB	id	1214	NCTC11637	00359	SQJ	03206.1	VV	DSVAAL	TP	KA	EID	GE	MDG	QH	V	GLQAR	LSH	AL	RK	IT	GV	L	HKM	N	TT	L	IFIN	QIR	M	K	I	GMM	G	Y	S	PETT	T	GG	NALK	FYA	221
NTDB	id	1211	C694	RS00795	WP	000963128.1	VV	DSVAAL	TP	KA	EID	GE	MDG	QH	V	GLQAR	LSH	AL	RK	IT	GV	L	HKM	N	TT	L	IFIN	QIR	M	K	I	GMM	G	Y	S	PETT	T	GG	NALK	FYA	221
NTDB	id	1334	RAOC	RS04870	WP	004918236.1	VV	DSVAAL	TP	KA	EID	GE	MDG	SH	K	ML	H	AR	LSQAL	RKL	TSS	IS	KT	CT	V	IFIN	QLR	DK	IGV	M	FGS	PETT	T	GG	NALK	FYA	227				
NTDB	id	1389	A4U84	RS07560	WP	021112712.1	L	I	V	DSVAAL	TP	KA	EIE	GE	MDG	SH	ML	GLQAR	LSQAL	R																					

logo

NTDB id 600 KW2 RS01765 WP 011675413.1	SVRLDVRGSTKIEEGS.GDNKTQIGKITKIKVVKNKVAPPFKVALVDIMFGEGISSTGELINIAVEEGI	I	IKKSGAWFAYN	312		
NTDB id 269 KZH43 RS08665 WP 001085462.1	SVRLDVRGNTQIKGTG.DQKETN	VGKETKIKVVKNKVAPPFKEAVVEIMYEGEGISKTGELLKIASDL	D	IIKKAGAWYSYK	311	
NTDB id 228 SPD RS09265 WP 001085462.1	SVRLDVRGNTQIKGTG.DQKETN	VGKETKIKVVKNKVAPPFKEAVVEIMYEGEGISKTGELLKIASDL	D	IIKKAGAWYSYK	311	
NTDB id 194 SPR RS08825 WP 001085462.1	SVRLDVRGNTQIKGTG.DQKETN	VGKETKIKVVKNKVAPPFKEAVVEIMYEGEGISKTGELLKIASDL	D	IIKKAGAWYSYK	311	
NTDB id 159 SP RS09750 WP 001085462.1	SVRLDVRGNTQIKGTG.DQKETN	VGKETKIKVVKNKVAPPFKEAVVEIMYEGEGISKTGELLKIASDL	D	IIKKAGAWYSYK	311	
NTDB id 527 SMSK321 RS11065 WP 001085454.1	SVRLDVRGSTQIKGTG.DQKDTN	VGKETKIKVVKNKVAPPFKEAFVEIMYEGEGISKTGELLKIASDL	D	IIKKAGAWYSYK	311	
NTDB id 499 SM12261 RS08315 WP 078228268.1	SVRLDVRGSTQIKGTG.DQKDTN	VGKETKIKVVKNKVAPPFKEAFVEIMYEGEGISKTGELLKIASDL	D	IIKKAGAWYSYK	311	
NTDB id 453 Spy49 1753c ACI62003.1	SVRLDVRGTTQIKGTG.DQKDSN	IGKETKIKVVKNKVAPPFKVAEVEIMYEGEGISRTGELVKIASDL	D	IIQKAGAWFSYN	311	
NTDB id 408 SMU RS09530 WP 002262392.1	SVRLDVRGNTQIKGTG.EQKDSN	IGKETKIKVVKNKVAPPFKEAFVEIIMYEGEGISRTGELVKIASDL	G	IIQKAGAWYSYN	311	
NTDB id 115 BSU 16940 NP 389576.2	SVRLEVRRAEQLKQGN.....D	MGNTKIKVVKNKVAPPFRTA	EVDIMYEGEGISKEGEI	IDLGT	ELDIVQKSGSWYSYE	292
NTDB id 625 LCA RS02525 WP 011374196.1	TVRLEVRRAETIKNGT.....DM	IGNRARIKVVKNKVAPPFKVAEVDIMYGGISRTGELVDM	AVEKDI	INKSGSWYSYG	294	
NTDB id 1313 DR RS12030 WP 010888966.1	SVRLDVRKIGQ....PTKVGND	AVANTVKIKTVKNKVAAPFKEVELALVYGKGF	QDLS	DLVGLAADMD	IIKKAGSFYSYG	307
NTDB id 1245 Cj1673c YP 002345041.1	SVRLDVRKVAT....L.KQNEEP	IGNRVKVVKNKVAPPFRQAEFDVMFGEGLSREGELIDYGV	KLDIV	DKSGAWFSYK	294	
NTDB id 1214 NCTC11637 00359 SQJ03206.1	SVRIDIRRIAA....L.KQNEQH	IGNRAKAKVVKNKVAPPFR	EA	EFDIMFGEGISKEGEI	IDYGVKLDIVDKSGAWLSYQ	296
NTDB id 1211 C694 RS00795 WP 000963128.1	SVRIDIRRIAS....L.KQNEQH	IGNRAKAKVVKNKVAPPFR	EA	EFDIMFGEGISKEGEI	IDYGVKLDIVDKSGAWLSYQ	296
NTDB id 1334 RAOC RS04870 WP 004918236.1	SVRIDIRRLSDTGKIKDKSGEV	IGNRTKVVKNKVAPPFKSAEFDIMYEGEGVSKVGEILD	VATDLD	IIQKSGSWFSYQ	307	
NTDB id 1389 A4U84 RS07560 WP 021112712.1	SVRLDIRRCGV....V.KDGDEI	IGSETKVVKNKVAPPFREVQFDIMYEGEGISRMNELL	ILAEANGFI	KKSGAWFSYD	310	
NTDB id 1130 NGFG RS03960 WP 003688695.1	SVRLDIRRTGS....I.KKGE	EEVLGNETRVKVIKNKVAPPFRQAEFD	DILYEGEGISWEGELID	IGVKNDIINKSGAWYSYN	294	
NTDB id 1124 NGFG RS03960 WP 003688695.1	SVRLDIRRTGS....I.KKGE	EEVLGNETRVKVIKNKVAPPFRQAEFD	DILYEGEGISWEGELID	IGVKNDIINKSGAWYSYN	294	
NTDB id 1123 OK783 RS03845 WP 003688695.1	SVRLDIRRTGS....I.KKGE	EEVLGNETRVKVIKNKVAPPFRQAEFD	DILYEGEGISWEGELID	IGVKNDIINKSGAWYSYN	294	
NTDB id 1427 RS RS02760 WP 011000510.1	SVRLDIRRIGS....I.KKGE	DEVVGNETKVVKNKVAPPFR	EA	IFDILYAGVSREGEI	IDLGVEAKVVEKSGAWYSYN	302
NTDB id 110478 BBB54 RS05465 WP 004205686.1	SVRLDIRRIGA....V.KEGDNV	VGSETRVKVVKNKIAAPFKQAEFQ	ILYGE	GINFFGELVDLGVKEKLLIEKAGAWYSYN	295	
NTDB id 1165 A1552VC RS01565 WP 000344154.1	SVRLDIRRTGA....I.KEG	EEVLGNETRIKVVKNKIAAPFKEANTQIMYGGGFNR	REGELID	LGVKHKMVEKSGAWYSYN	293	
NTDB id 1142 GTF74 RS11550 WP 000344154.1	SVRLDIRRTGA....I.KEG	EEVLGNETRIKVVKNKIAAPFKEANTQIMYGGGFNR	REGELID	LGVKHKMVEKSGAWYSYN	293	
NTDB id 1205 PSJM300 05545 AFN77183.1	SVRLDIRRTGA....V.KEG	DEVVGS	ETRVKVVKNKVAPPFRQAEFQ	ILYGKG	IYRNGEIIDLGVQQGLVEKSGAWYAYK	293
NTDB id 1022 ACIAD RS06390 WP 004925639.1	SVRLDIRRIGQ....V.KEG	DEIIGSETKVVKNKMAPPFRE	AI	FQILYGKGVNQLGELVDLAVQQNIVQKAGAWYSYQ	293	
NTDB id 1074 ABD1 RS10195 WP 000344167.1	SVRLDIRRIGQ....V.KEG	DEIIGSETKVVKNKMAPPFKE	AI	FQILYGKG	TNQLGELVDLAVQQDIVQKAGAWYSYQ	293
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 110478 BBB54 RS05465 WP 004205686.1
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

```

[illegible]

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 110478 BBB54 RS05465 WP 004205686.1	...	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 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