

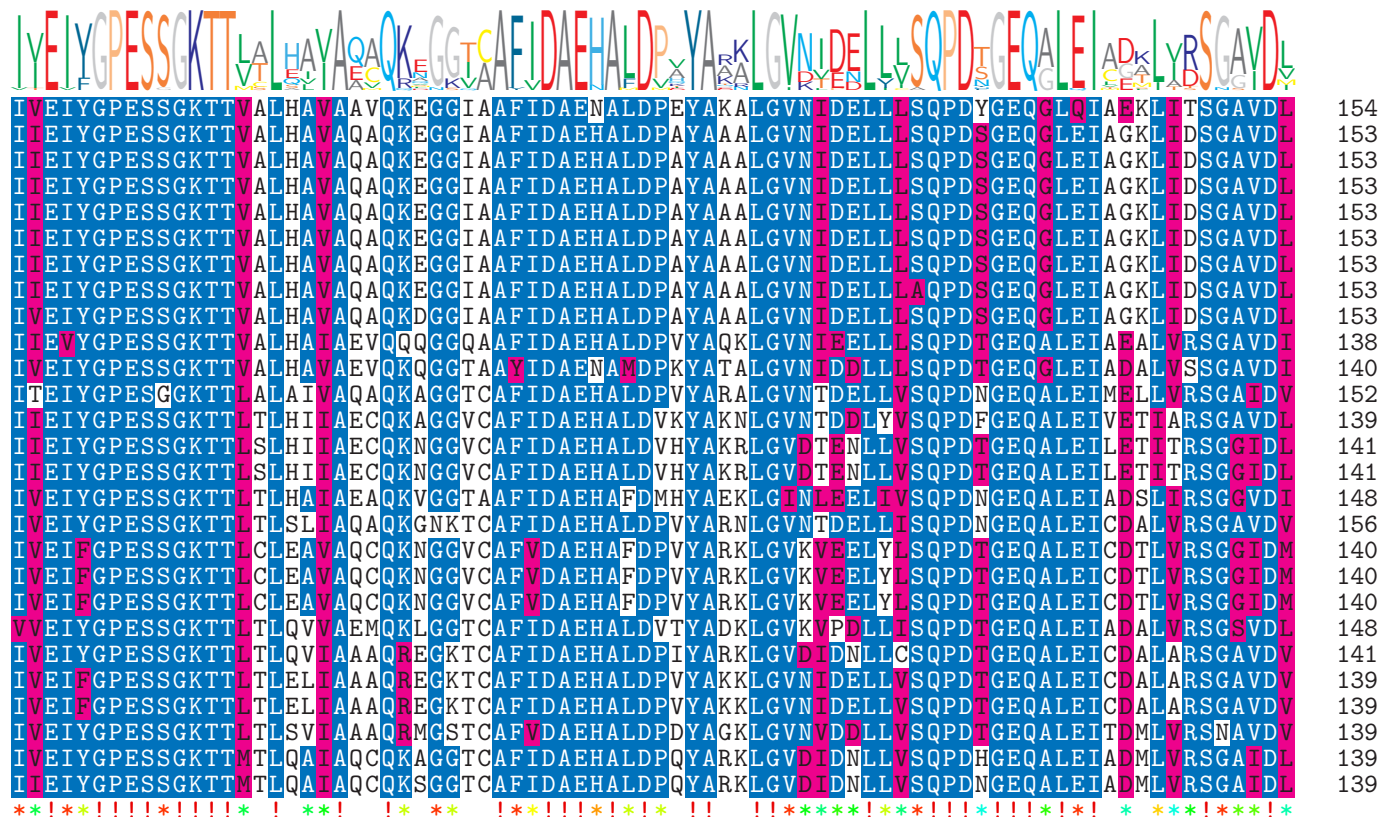
logo

NTDB id 600 KW2 RS01765 WP 011675413.1	MATKKK....TNFDDITKKYGA	ERDKALADALALIEKD	FGKGSIMRLGEA	.ANQKVS	VSSGSLALD	I	ALGAGGY	PKGR	74	
NTDB id 269 KZH43 RS08665 WP 001085462.1	.MAKKP....KKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73	
NTDB id 228 SPD RS09265 WP 001085462.1	.MAKKP....KKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73	
NTDB id 194 SPR RS08825 WP 001085462.1	.MAKKP....KKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73	
NTDB id 159 SP RS09750 WP 001085462.1	.MAKKP....KKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73	
NTDB id 499 SM12261 RS08315 WP 078228268.1	.MAKKP....KKLDEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73	
NTDB id 527 SMSK321 RS11065 WP 001085454.1	.MAKKP....KKLDEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73	
NTDB id 453 Spy49 1753c ACI62003.1	.MAKKL....KKNEEITKKFG	DERRKALDDALKNIEKD	FGKGAVMRLGER	.AEQKVQV	MSSGSLALD	I	ALGAGGY	PKGR	73	
NTDB id 408 SMU RS09530 WP 002262392.1	.MAKRI....KKTEEITKKFG	DERKKALDDALKNIEKD	FGKGAVMRLGER	.AEQKVQV	MSSGSLALD	I	ALGAGGY	PKGR	73	
NTDB id 115 BSU 16940 NP 389576.2	MSDRQAALDMALK	QIEKQFGKGSIMKLGEK	.TDTRI	ISTVPS	GSLALD	T	ALGIGGY	PRGR	58	
NTDB id 625 LCA RS02525 WP 011374196.1	MAKDERQAALDA	ALKKIEKNFGKGSIMRMGEK	.VDTQVST	VSSGSLAL	DEALGV	GGYPRGR			60	
NTDB id 1313 DR RS12030 WP 010888966.1	MSKDATKEISAPTD	AKERSKATETAM	SQIEKAFGKGSIMKLGAE	.SKLDVQV	VSTGSLSLD	I	ALGVGGI	PRGR	72	
NTDB id 1245 Cj1673c YP 002345041.1	MDDNKRKSLDA	ALKSLDKTIFGKGTILRLGDK	.EVEQIDS	IGTGSVGLD	I	ALGIGGV	PKGR		59	
NTDB id 1214 NCTC11637 00359 SQJ03206.1	MAIDEDKQKAI	SLAIKQIDKVF	FGKGALVRLGDK	.QVEKIDA	ISTGSLGLD	I	ALGIGGV	PKGR	61	
NTDB id 1211 C694 RS00795 WP 000963128.1	MAIDEDKQKAI	SLAIKQIDKVF	FGKGALVRLGDK	.QVEKIDS	ISTGSLGLD	I	ALGIGGV	PKGR	61	
NTDB id 1334 RAOC RS04870 WP 004918236.1	MAKT..ETTS	PNDDKKKALAAVLEK	LDKTYGKGTVMKLG	DGTVDH	NIEVIP	SGSLGLD	I	ALGVGGY	PKGR	68
NTDB id 1389 A4U84 RS07560 WP 021112712.1	.MAENKKSSKNNTV..VKQ	VEPEQKKQALEAALA	QIEKQFGKGSIMKLGQT	.EQLDIES	VSTGSLGLD	I	ALGIGGL	PMGR	76	
NTDB id 1130 NGFG RS03960 WP 003688695.1	MSDDKSKALAAALA	QIEKSFGKGAIMKMDGS	QREENLEVISTGSLGLD	I	ALGVGGL	PRGR			60	
NTDB id 1124 NGFG RS03960 WP 003688695.1	MSDDKSKALAAALA	QIEKSFGKGAIMKMDGS	QREENLEVISTGSLGLD	I	ALGVGGL	PRGR			60	
NTDB id 1123 OK783 RS03845 WP 003688695.1	MSDDKSKALAAALA	QIEKSFGKGAIMKMDGS	QREENLEVISTGSLGLD	I	ALGVGGL	PRGR			60	
NTDB id 1427 RS RS02760 WP 011000510.1	.MED.....GK..KAAS	MSAEKQKALAAALA	QIEKQFGKGSIMKMDA	.EVEPVQV	VSTGSLGLD	I	ALGVGGL	PRGR	68	
NTDB id 24413 ECOLC RS05395 WP 000963143.1	MAIDENKQKALAAAL	GQIEKQFGKGSIMRLGED	.RSMDVET	ISTGSLSLD	I	ALGAGGL	PMGR		61	
NTDB id 1165 A1552VC RS01565 WP 000344154.1	MDENKQKALAAAL	GQIEKQFGKGSIMRLGDN	.RAMDVET	ISTGSLSLD	I	ALGAGGL	PMGR		59	
NTDB id 1142 GTF74 RS11550 WP 000344154.1	MDENKQKALAAAL	GQIEKQFGKGSIMRLGDN	.RAMDVET	ISTGSLSLD	I	ALGAGGL	PMGR		59	
NTDB id 1205 PSJM300 05545 AFN77183.1	MDENKKRALAAAL	GQIEKQFGKGAVMRMGD	H.DRQAIPS	ISTGSLGLD	I	ALGIGGL	PKGR		59	
NTDB id 1022 ACIAD RS06390 WP 004925639.1	MDDNKSKALQAALS	QIEKQFGKNTVMRLGDN	.TVQAVEA	VSTGSLTLD	I	ALGIGGL	PKGR		59	
NTDB id 1074 ABD1 RS10195 WP 000344167.1	MDENKSKALQAALS	QIEKQFGKNTVMRLGDN	.TVQAVEA	VSTGSLTLD	I	ALGIGGL	PKGR		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 499 SM12261 RS08315 WP 078228268.1
NTDB id 527 SMSK321 RS11065 WP 001085454.1
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 24413 ECOLC RS05395 WP 000963143.1
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

```

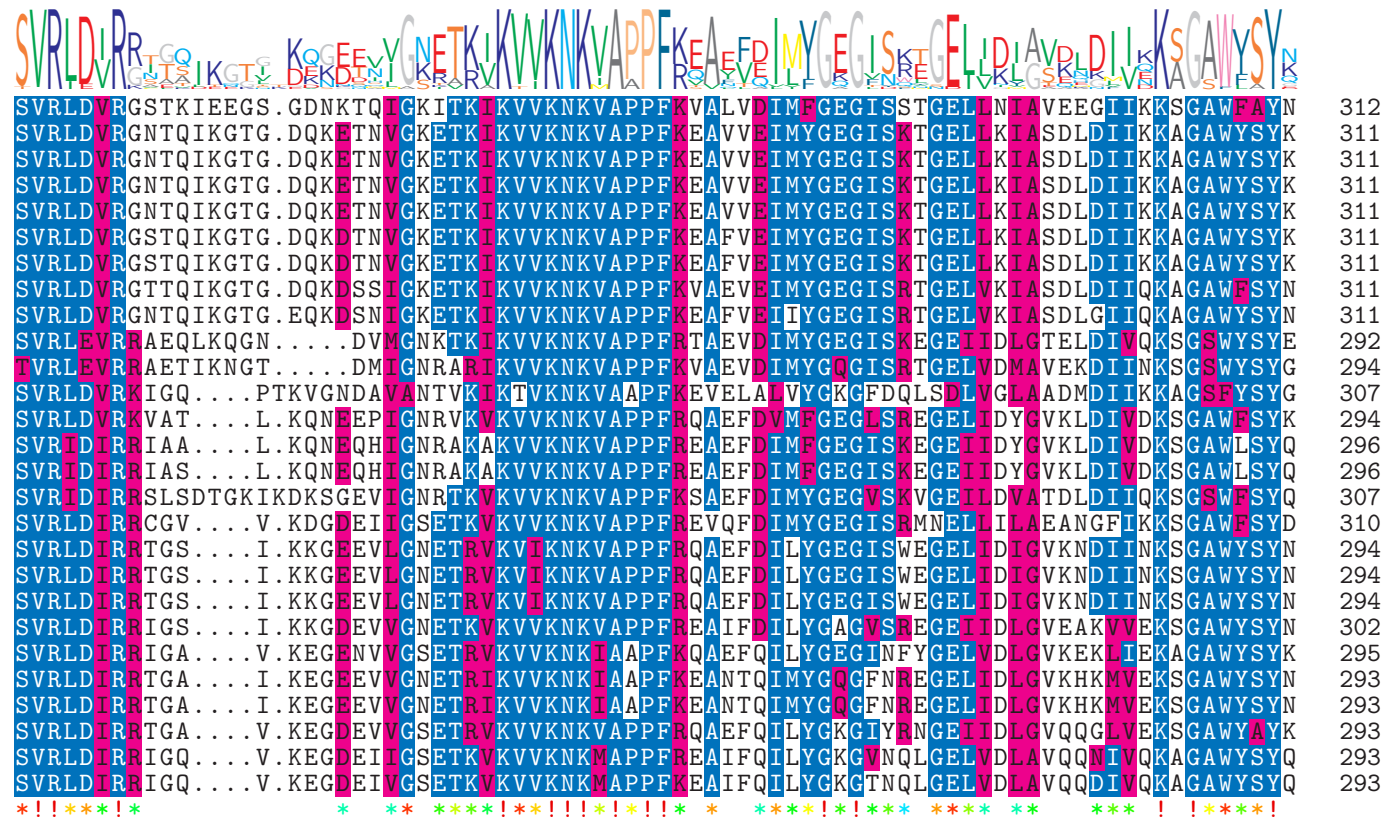


NTDB	id	600	KW2	RS01765	WP	011675413.1	VV	IDSVAAL	VP	KA	EID	GE	IGDSS	VGLQAR	MS	QAMR	KL	GA	CH	INKT	KT	TA	IFIN	QLRE	KV	GV	GM	FG	SP	ETT	P	GG	RAL	KFY	A	233															
NTDB	id	269	KZH43	RS08665	WP	001085462.1	VV	DSVAAL	VP	RA	EID	GD	IGDSH	VGLQAR	MS	QAMR	KL	GA	S	INKT	KT	TA	IFIN	QLRE	KV	GV	GM	FG	N	P	ETT	P	GG	RAL	KFY	A	232														
NTDB	id	228	SPD	RS09265	WP	001085462.1	VV	DSVAAL	VP	RA	EID	GD	IGDSH	VGLQAR	MS	QAMR	KL	GA	S	INKT	KT	TA	IFIN	QLRE	KV	GV	GM	FG	N	P	ETT	P	GG	RAL	KFY	A	232														
NTDB	id	194	SPR	RS08825	WP	001085462.1	VV	DSVAAL	VP	RA	EID	GD	IGDSH	VGLQAR	MS	QAMR	KL	GA	S	INKT	KT	TA	IFIN	QLRE	KV	GV	GM	FG	N	P	ETT	P	GG	RAL	KFY	A	232														
NTDB	id	159	SP	RS09750	WP	001085462.1	VV	DSVAAL	VP	RA	EID	GD	IGDSH	VGLQAR	MS	QAMR	KL	GA	S	INKT	KT	TA	IFIN	QLRE	KV	GV	GM	FG	N	P	ETT	P	GG	RAL	KFY	A	232														
NTDB	id	499	SM12261	RS08315	WP	078228268.1	VV	DSVAAL	VP	RA	EID	GD	IGDSH	VGLQAR	MS	QAMR	KL	GA	S	INKT	KT	TA	IFIN	QLRE	KV	GV	GM	FG	N	P	ETT	P	GG	RAL	KFY	A	232														
NTDB	id	527	SMSK321	RS11065	WP	001085454.1	VV	DSVAAL	VP	RA	EID	GD	IGDSH	VGLQAR	MS	QAMR	KL	GA	S	INKT	KT	TA	IFIN	QLRE	KV	GV	GM	FG	N	P	ETT	P	GG	RAL	KFY	A	232														
NTDB	id	453	Spy49	1753c	ACI	62003.1	VV	DSVAAL	VP	RA	EID	GD	IGDSH	VGLQAR	MS	QAMR	KL	SA	S	INKT	KT	TA	IFIN	QLRE	KV	GV	GM	FG	N	P	ETT	P	GG	RAL	KFY	A	232														
NTDB	id	408	SMU	RS09530	WP	002262392.1	VV	DSVAAL	VP	RA	EID	GD	IGDSH	VGLQAR	MS	QAMR	KL	SA	S	INKT	KT	TA	IFIN	QLRE	KV	GM	FG	N	P	ETT	P	GG	RAL	KFY	S	232															
NTDB	id	115	BSU	16940	NP	389576.2	VV	DSVAAL	VP	KA	EIE	GD	MGDSH	VGLQAR	LS	QAL	RKL	SGA	INK	SKT	IA	IFIN	QIRE	KV	GV	GM	FG	N	P	ETT	P	GG	RAL	KFY	S	217															
NTDB	id	625	LCA	RS02525	WP	0011374196.1	L	V	DSVAAL	VP	RA	EIE	GE	MGD	A	HVGL	QAR	LS	QAL	RKL	SGT	INKT	KT	IA	IFIN	QIRE	KV	GM	FG	N	P	EV	T	P	GG	RAL	KFY	S	219												
NTDB	id	1313	DR	RS12030	WP	010888966.1	VV	DSVAAL	T	RA	EIE	GE	MGDS	L	PGL	QAR	LS	QAL	RKL	T	AIL	SKT	G	TAA	IFIN	QVRE	K	I	GM	Y	G	N	P	ETT	T	GG	RAL	KFY	A	231											
NTDB	id	1245	Cj1673c	YP	002345041.1	I	V	DSVAAL	T	PKA	EIE	GE	MGD	Q	HVGL	QAR	LS	QAL	RKL	T	G	IV	HKM	N	T	T	V	IFIN	Q	IRM	K	I	GAM	G	Y	G	T	P	ETT	T	GG	NAL	KFY	A	219						
NTDB	id	1214	NCTC11637	00359	SQJ	03206.1	VV	DSVAAL	T	PKA	EID	GE	MGD	Q	HVGL	QAR	LS	MS	H	AL	RK	I	T	G	V	L	HKM	N	T	T	L	I	FIN	Q	IRM	K	I	G	M	G	Y	G	S	P	ETT	T	GG	NAL	KFY	A	221
NTDB	id	1211	C694	RS00795	WP	000963128.1	VV	DSVAAL	T	PKA	EID	GE	MGD	Q	HVGL	QAR	LS	MS	H	AL	RK	I	T	G	V	L	HKM	N	T	T	L	I	FIN	Q	IRM	K	I	G	M	G	Y	G	S	P	ETT	T	GG	NAL	KFY	A	221
NTDB																																																			

```

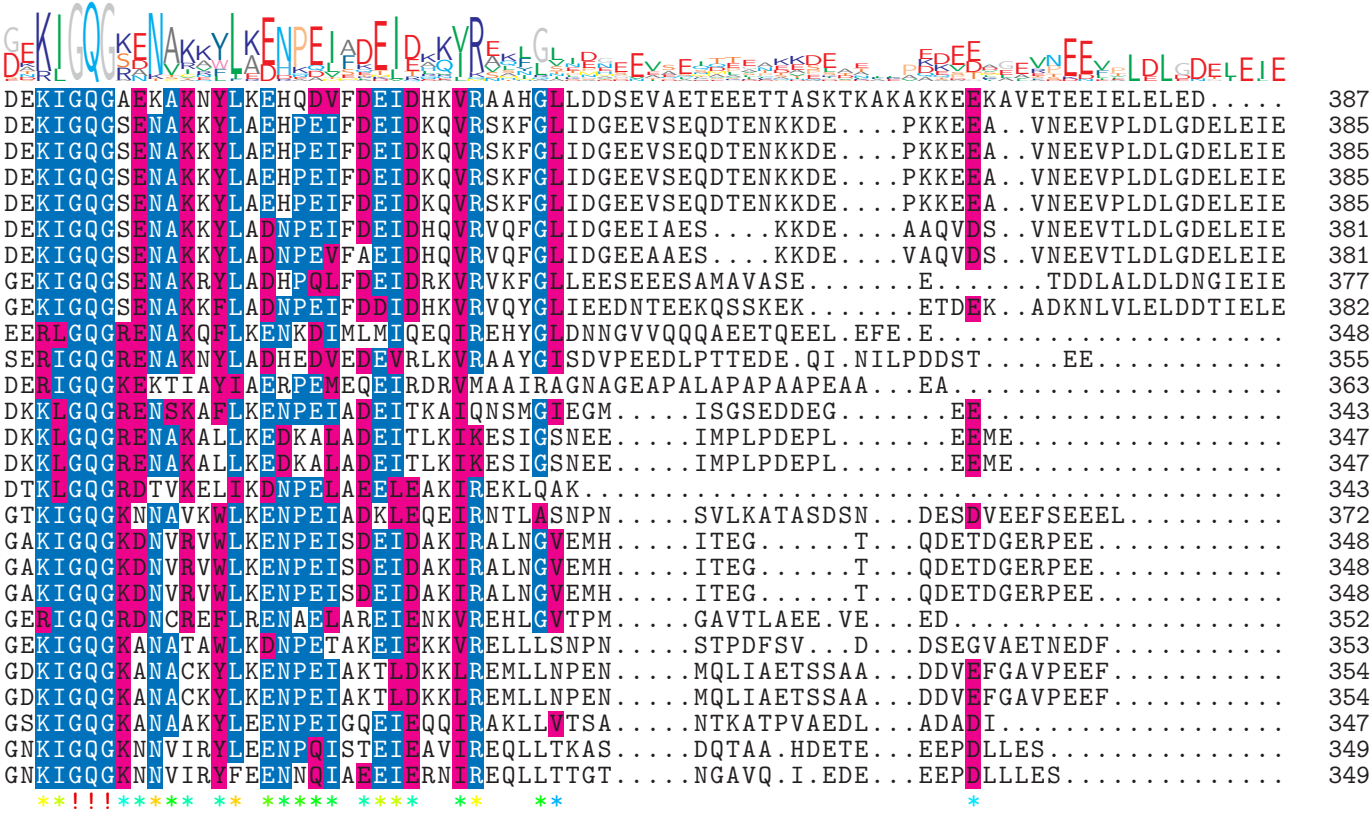
NTDB id 600 KW2 RS01765 WP 011675413.1
NTDB id 269 KZH43 RS08665 WP 001085462.1
NTDB id 228 SPD RS09265 WP 001085462.1
NTDB id 194 SPR RS08825 WP 001085462.1
NTDB id 159 SP RS09750 WP 001085462.1
NTDB id 499 SM12261 RS08315 WP 078228268.1
NTDB id 527 SMSK321 RS11065 WP 001085454.1
NTDB id 453 Spy49 1753c 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 24413 ECQLC RS05395 WP 000963143.1
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

```



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 499 SM12261 RS08315 WP 078228268.1
NTDB id 527 SMSK321 RS11065 WP 001085454.1
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 24413 ECOLC RS05395 WP 000963143.1
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	...	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 499 SM12261 RS08315 WP 078228268.1	IEE	384
NTDB id 527 SMSK321 RS11065 WP 001085454.1	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 24413 ECOLC RS05395 WP 000963143.1	...	353
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

 non conserved
 similar
 ≥ 50% conserved