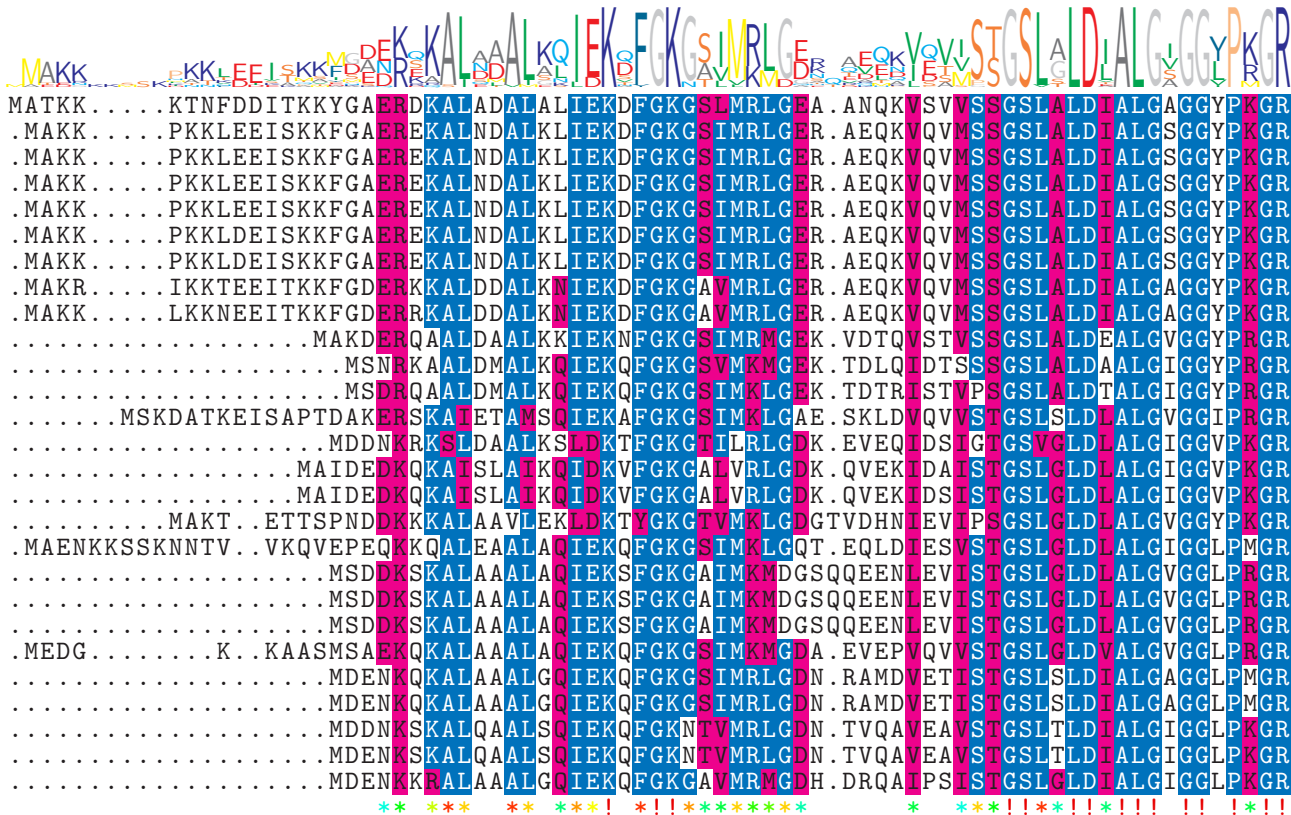


logo

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 408 SMU RS09530 WP 002262392.1
NTDB id 453 Spy49 1753c ACI62003.1
NTDB id 625 LCA RS02525 WP 011374196.1
NTDB id 104879 SporoS204 RS15295 WP 029053142.1
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 1214 NCTC11637 00359 SQJ03206.1
NTDB id 1211 C694 RS00795 WP 000963128.1
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 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1205 PSJM300 05545 AFN77183.1

consensus



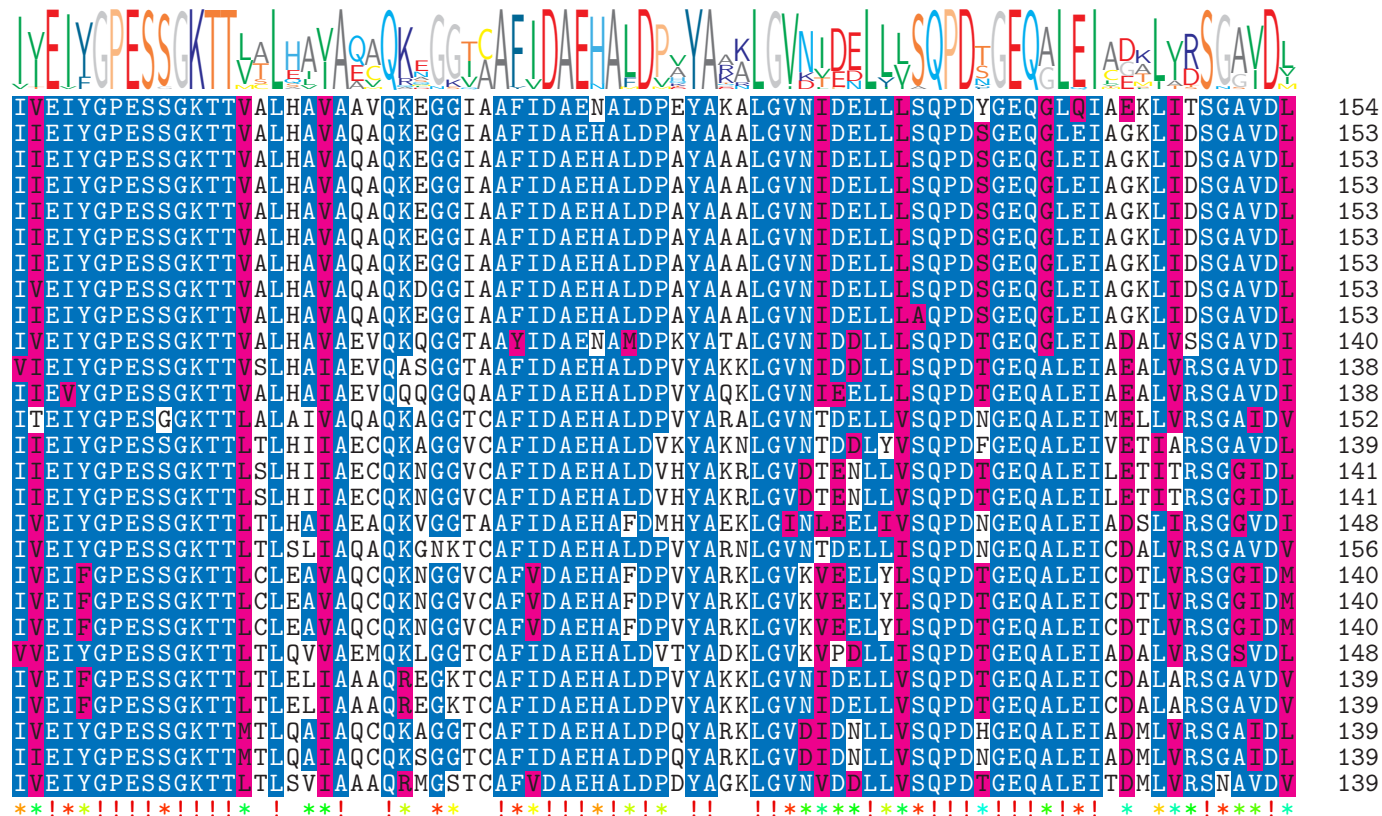
logo

```

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 408 SMU RS09530 WP 002262392.1
NTDB id 453 Spy49 1753c ACI62003.1
NTDB id 625 LCA RS02525 WP 011374196.1
NTDB id 104879 SporoS204 RS15295 WP 029053142.1
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 1214 NCTC11637 00359 SQJ03206.1
NTDB id 1211 C694 RS00795 WP 000963128.1
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 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1205 PSJ3M300 05545 AFN77183.1

```

consensus



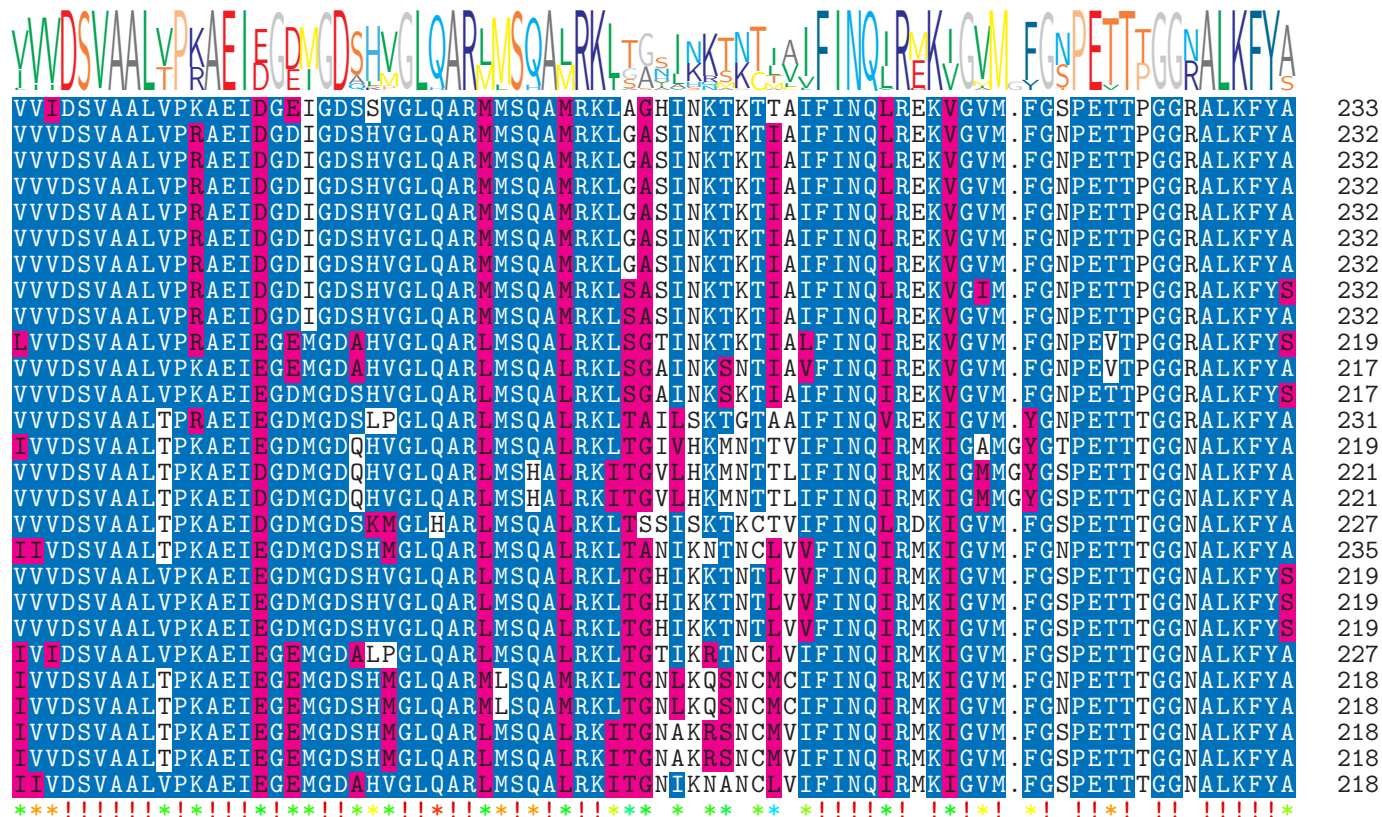
logo

```

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 408 SMU RS09530 WP 002262392.1
NTDB id 453 Spy49 1753c ACI62003.1
NTDB id 625 LCA RS02525 WP 011374196.1
NTDB id 104879 SporoS204 RS15295 WP 029053142.1
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 1214 NCTC11637 00359 SQJ03206.1
NTDB id 1211 C694 RS00795 WP 000963128.1
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 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1205 PSJ3M300 05545 AFN77183.1

```

consensus



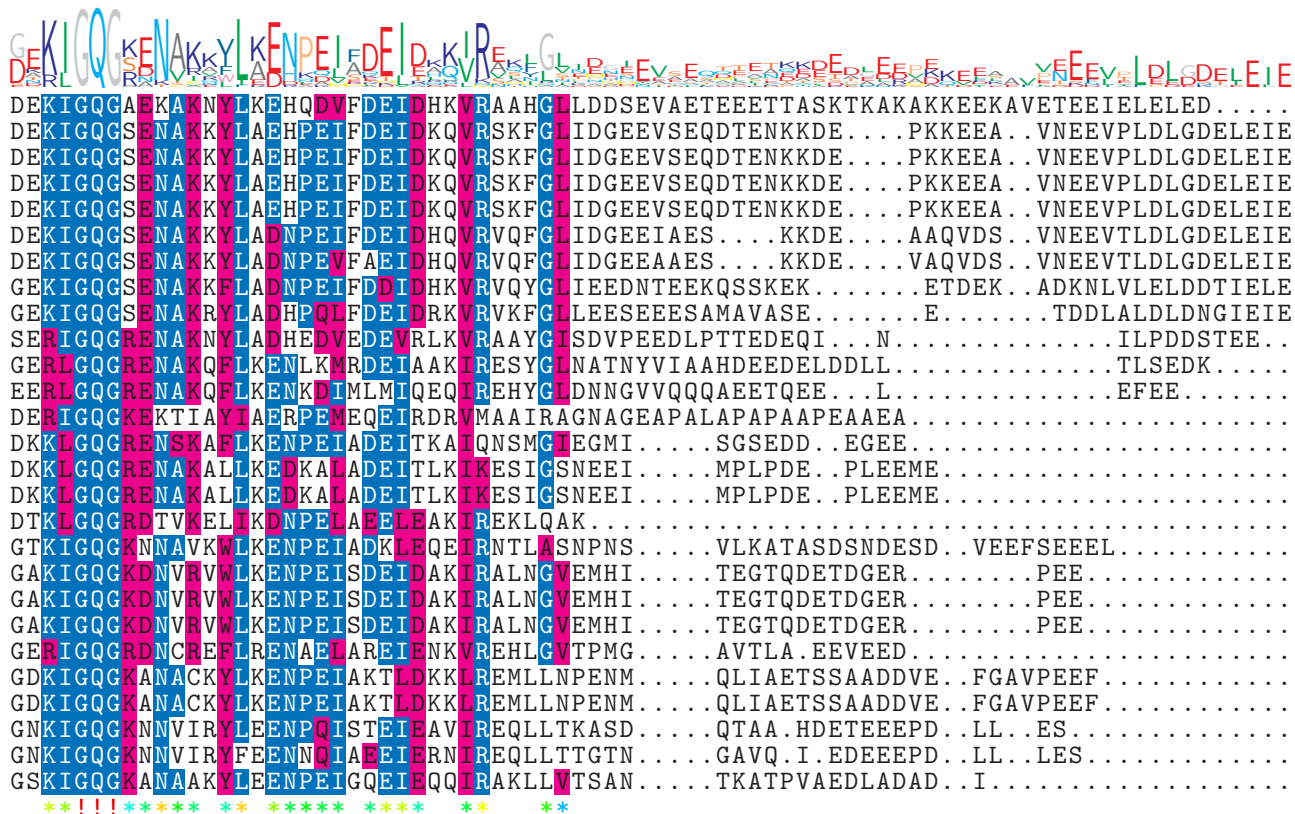
logo

NTDB	id	600	KW2	RS01765	WP	011675413.1	SVRLDVRG	STKIEEGS	.GDNKTQ	IGKITKI	KVVKNKV	APPFKE	AVLV	DIMF	GEGIS	STGEL	NI	AVEEGT	IKKSG	AWFAY	312				
NTDB	id	269	KZH43	RS08665	WP	001085462.1	SVRLDVRG	NTQIKGTG	.DQKETN	VGKETKI	KVVKNKV	APPFKE	AVV	EIMY	GEGIS	KTGEL	LKIAS	SDL	DI	IKKAG	AWYSYK	311			
NTDB	id	228	SPD	RS09265	WP	001085462.1	SVRLDVRG	NTQIKGTG	.DQKETN	VGKETKI	KVVKNKV	APPFKE	AVV	EIMY	GEGIS	KTGEL	LKIAS	SDL	DI	IKKAG	AWYSYK	311			
NTDB	id	194	SPR	RS08825	WP	001085462.1	SVRLDVRG	NTQIKGTG	.DQKETN	VGKETKI	KVVKNKV	APPFKE	AVV	EIMY	GEGIS	KTGEL	LKIAS	SDL	DI	IKKAG	AWYSYK	311			
NTDB	id	159	SP	RS09750	WP	001085462.1	SVRLDVRG	NTQIKGTG	.DQKETN	VGKETKI	KVVKNKV	APPFKE	AVV	EIMY	GEGIS	KTGEL	LKIAS	SDL	DI	IKKAG	AWYSYK	311			
NTDB	id	499	SM12261	RS08315	WP	078228268.1	SVRLDVRG	STQIKGTG	.DQKDTN	VGKETKI	KVVKNKV	APPFKE	AFV	EIMY	GEGIS	KTGEL	LKIAS	SDL	DI	IKKAG	AWYSYK	311			
NTDB	id	527	SMSK321	RS11065	WP	001085454.1	SVRLDVRG	STQIKGTG	.DQKDTN	VGKETKI	KVVKNKV	APPFKE	AFV	EIMY	GEGIS	KTGEL	LKIAS	SDL	DI	IKKAG	AWYSYK	311			
NTDB	id	408	SMU	RS09530	WP	002262392.1	SVRLDVRG	NTQIKGTG	.EQKDSN	IGKETKI	KVVKNKV	APPFKE	AFV	EIIY	GEGIS	RTGEL	VKIAS	SDL	GII	IKKAG	AWYSYN	311			
NTDB	id	453	Spy49	1753c	ACI62003.1		SVRLDVRG	TGTQIKGTG	.DQKDS	IGKETKI	KVVKNKV	APPFKE	VAEV	EIMY	GEGIS	RTGEL	VKIAS	SDL	DI	IKKAG	AWFSYN	311			
NTDB	id	625	LCA	RS02525	WP	011374196.1	TVRLEVR	RAETIKNGT	DM	IGNRARI	KVVKNKV	APPFKE	VAEV	DIMY	QGIS	RTGEL	VDM	AVEK	DI	INKSC	SWWSYQ	294			
NTDB	id	104879	Sporo	S204	RS15295	WP	029053142.1	SVRLEVR	RGEAIKQAN	DM	GNKTRIR	KVVKNKV	APPFRT	AEVD	DIMY	GEGIS	KEGEI	IDL	GSEL	EVVQ	IKKSG	AWWSYE	292		
NTDB	id	115	BSU	16940	NP	389576.2	SVRLEVR	RAEQLKQGN	DV	MGNKTKI	KVVKNKV	APPFRT	AEVD	DIMY	GEGIS	KEGEI	IDL	GTEL	DI	VQKSG	SWWSYE	292			
NTDB	id	1313	DR	RS12030	WP	010888966.1	SVRLDVR	KIGQ....	PTKVG	NDAA	VANTVKIK	TVKNKVA	APPFKE	VELA	LVY	GKG	FDQLS	DLV	GLA	ADM	DI	IKKAC	SFYSYG	307	
NTDB	id	1245	Cj1673c	YP	002345041.1		SVRLDVR	KVAT....	L.KQNE	EEP	IGNRVK	KVVKNKV	APPFRR	QAEF	DVMF	GEGIS	RE	GEL	IDY	GVKL	DI	VDKSG	AWFSYK	294	
NTDB	id	1214	NCTC	11637	00359	SQJ03206.1	SVRIDIR	RIAA....	L.KQNE	EQH	IGNRAKA	KVVKNKV	APPFRE	AEF	DIMF	GEGIS	KEGEI	IDY	GVKL	DI	VDKSG	AWLSYQ	296		
NTDB	id	1211	C694	RS00795	WP	000963128.1	SVRIDIR	RIAS....	L.KQNE	EQH	IGNRAKA	KVVKNKV	APPFRE	AEF	DIMY	GEGIS	KEGEI	IDY	GVKL	DI	VDKSG	AWLSYQ	296		
NTDB	id	1334	RAOC	RS04870	WP	004918236.1	SVRIDIR	RRSLSD	TGKIKDKS	GEV	IGNRTKV	KVVKNKV	APPFKS	AEF	DIMY	GEGIS	VSKV	GEI	LDV	AT	DL	DI	IKKSG	SWFSYQ	307
NTDB	id	1389	A4U84	RS07560	WP	021112712.1	SVRLDIR	RCGV....	V.KDG	DEI	IGSETKV	KVVKNKV	APPFREV	QF	DIMY	GEGIS	RMNELL	LILAE	ANG	FI	IKKSG	AWFSYD	310		
NTDB	id	1130	NGFG	RS03960	WP	003688695.1	SVRLDIR	RTGS....	I.KKGE	EEV	LGNETRV	KVIKNKV	APPFRR	QAEF	DILY	GEGIS	WE	GEL	ID	IGVKN	DI	INKSG	AWYSYN	294	
NTDB	id	1124	NGFG	RS03960	WP	003688695.1	SVRLDIR	RTGS....	I.KKGE	EEV	LGNETRV	KVIKNKV	APPFRR	QAEF	DILY	GEGIS	WE	GEL	ID	IGVKN	DI	INKSG	AWYSYN	294	
NTDB	id	1123	OK783	RS03845	WP	003688695.1	SVRLDIR	RTGS....	I.KKGE	EEV	LGNETRV	KVIKNKV	APPFRR	QAEF	DILY	GEGIS	WE	GEL	ID	IGVKN	DI	INKSG			

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 408 SMU RS09530 WP 002262392.1
NTDB id 453 Spy49 1753c ACI62003.1
NTDB id 625 LCA RS02525 WP 011374196.1
NTDB id 104879 SporoS204 RS15295 WP 029053142.1
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 1214 NCTC11637 00359 SQJ03206.1
NTDB id 1211 C694 RS00795 WP 000963128.1
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 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1205 PSJM300 05545 AFN77183.1

consensus



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	499	SM12261	RS08315	WP 078228268.1
			IEE	384
NTDB id	527	SMSK321	RS11065	WP 001085454.1
			IEE	384
NTDB id	408	SMU	RS09530	WP 002262392.1
			D..	383
NTDB id	453	Spy49	1753c	ACI62003.1
			D..	378
NTDB id	625	LCA	RS02525	WP 011374196.1
			...	355
NTDB id	104879	SporoS204	RS15295	WP 029053142.1
			...	353
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	1214	NCTC11637	00359	SQJ03206.1
			...	347
NTDB id	1211	C694	RS00795	WP 000963128.1
			...	347
NTDB id	1334	RA0C	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	1022	ACIAD	RS06390	WP 004925639.1
			...	349
NTDB id	1074	ABD1	RS10195	WP 000344167.1
			...	349
NTDB id	1205	PSJM300	05545	AFN77183.1
			...	347
consensus				

-  non conserved
-  similar
-  ≥ 50% conserved