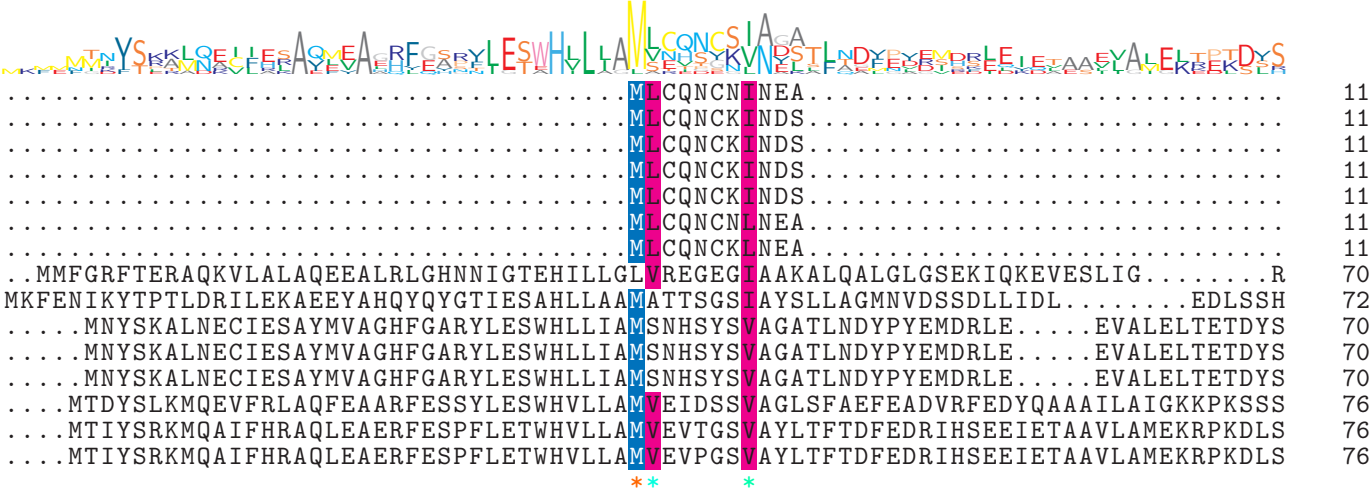


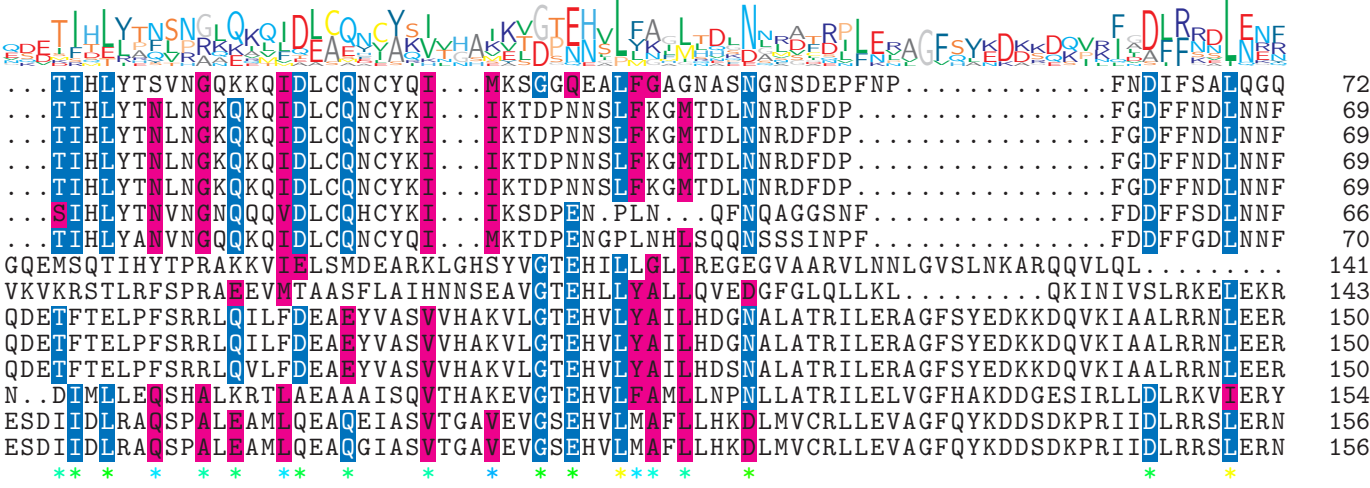
logo

NTDB id	601	KW2	RS02615	WP	021036805.1
NTDB id	281	KZH43	RS03550	WP	000882517.1
NTDB id	245	SPD	RS03860	WP	000882517.1
NTDB id	243	SPR	RS03635	WP	000882517.1
NTDB id	241	SP	RS04015	WP	000882523.1
NTDB id	194969	BGL51	RS03150	WP	011225684.1
NTDB id	378	SMU	RS02690	WP	002263569.1
NTDB id	85	BSU	00860	NP	387967.1
NTDB id	610	V4T04	RS10165	WP	012897346.1
NTDB id	290	KZH43	RS10025	WP	001109677.1
NTDB id	289	SPD	RS10700	WP	001109677.1
NTDB id	287	SP	RS11210	WP	001109712.1
NTDB id	377	SMU	RS09275	WP	002262344.1
NTDB id	297	STER	RS00545	WP	011680614.1
NTDB id	329	STU	RS10020	WP	011225298.1
consensus					



logo

NTDB id	601	KW2	RS02615	WP	021036805.1
NTDB id	281	KZH43	RS03550	WP	000882517.1
NTDB id	245	SPD	RS03860	WP	000882517.1
NTDB id	243	SPR	RS03635	WP	000882517.1
NTDB id	241	SP	RS04015	WP	000882523.1
NTDB id	194969	BGL51	RS03150	WP	011225684.1
NTDB id	378	SMU	RS02690	WP	002263569.1
NTDB id	85	BSU	00860	NP	387967.1
NTDB id	610	V4T04	RS10165	WP	012897346.1
NTDB id	290	KZH43	RS10025	WP	001109677.1
NTDB id	289	SPD	RS10700	WP	001109677.1
NTDB id	287	SP	RS11210	WP	001109712.1
NTDB id	377	SMU	RS09275	WP	002262344.1
NTDB id	297	STER	RS00545	WP	011680614.1
NTDB id	329	STU	RS10020	WP	011225298.1
consensus					



logo

NTDB id 601 KW2 RS02615 WP 021036805.1	.DFNGAASNQ.....TPPTQTGCR.....GPRGPQNPRAKQPKGML	EEFGIN	ITESARRGE	IDPVIGRDE	EIKRV	136			
NTDB id 281 KZH43 RS03550 WP 000882517.1	RPSSN..TTP.....IPPTQSGGGYGGNGGYGSQNRGSAQT	PPSSEK	GLLEEF	GINVTEI	IARRGD	IDPVIGRDE	EIIRV	142	
NTDB id 245 SPD RS03860 WP 000882517.1	RPSSN..TTP.....IPPTQSGGGYGGNGGYGSQNRGSAQT	PPSSEK	GLLEEF	GINVTEI	IARRGD	IDPVIGRDE	EIIRV	142	
NTDB id 243 SPR RS03635 WP 000882517.1	RPSSN..TTP.....IPPTQSGGGYGGNGGYGSQNRGSAQT	PPSSEK	GLLEEF	GINVTEI	IARRGD	IDPVIGRDE	EIIRV	142	
NTDB id 241 SP RS04015 WP 000882523.1	RPSSN..TTP.....IPPTQSGGGYGGNGGYGSQNRGSAQT	PPSSEK	GLLEEF	GINVTEI	IARRGD	IDPVIGRDE	EIIRV	142	
NTDB id 194969 BGL51 RS03150 WP 011225684.1	RSS.NGDLPN.....TPPTQEGGNRNGGGP.G..RPGGPRQQAP	QQPQL	GLLEEF	GIN	ITDIARRGD	IDPVIGRDE	EIIRV	137	
NTDB id 378 SMU RS02690 WP 002263569.1	RAFNNQDLPN.....TPPTQAGGGNGNGGNNR..RPGGPQQQAS	QKPNGL	GLLEEF	GINLTDI	ARKGE	IDPVIGRDE	EITRV	143	
NTDB id 85 BSU 00860 NP 387967.1	LGSNET.....GSSAAGTNSNANTPTL	DSLARDLTA	AKEDSL	DPVIGRSKEI	QRV	192			
NTDB id 610 V4T04 RS10165 WP 012897346.1	TGLKVPESKKAVTPMSKRKMAK.....VAENSTTPTL	DSVSSDLTEE	ARLGKLD	PMIGRE	AEIDRL	205			
NTDB id 290 KZH43 RS10025 WP 001109677.1	AGWTREDLKA.LRQRHRTV.ADKQ.....NSMANMMGMP	QTPSGGLE	EDYTHDL	TEQARS	GKLEP	VIGRDK	EISRM	218	
NTDB id 289 SPD RS10700 WP 001109677.1	AGWTREDLKA.LRQRHRTV.ADKQ.....NSMANMMGMP	QTPSGGLE	EDYTHDL	TEQARS	GKLEP	VIGRDK	EISRM	218	
NTDB id 287 SP RS11210 WP 001109712.1	AGWTREDLKA.LRQRHRTV.ADKQ.....NSMANMMGMP	QTPSGGLE	EDYTHDL	TEQARS	GKLEP	VIGRDK	EISRM	218	
NTDB id 377 SMU RS09275 WP 002262344.1	AGFSKEDIKA.IFEMRKPKKVKNS.....SSFSDLMKPP.SVT	GELADFT	RDLT	ELARQGR	LEP	VIGRE	QEISRM	222	
NTDB id 297 STER RS00545 WP 011680614.1	AGLSKQDLKA.IHDLRKPKKSKAS.....ANFANMMQPP	QSSTGEL	ADYTKD	LTA	LAESGN	LDP	TIGRDE	EISRM	225
NTDB id 329 STU RS10020 WP 011225298.1	AGLSKQDLKA.IHDLRKPKKSKAS.....ANFANMMQPP	QSSTGEL	ADYTKD	LTA	LAESGN	LDP	TIGRDE	EISRM	225
consensus	* * *	*	*	**	*	!***	*!***!	*	***!***!***! !*

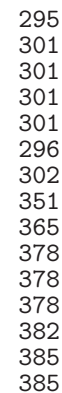
logo

NTDB id 601 KW2 RS02615 WP 021036805.1	IEILNRRRTKNNPVLIGEPGVGKTAVVEGLAQKIVDGDVPQKLQNK	EVIRL	LDVVS	LVQGT	GIRGQ	FEERM	QKLM	DEIRKRN	216
NTDB id 281 KZH43 RS03550 WP 000882517.1	IEILNRRRTKNNPVLIGEPGVGKTAVVEGLAQKIVDGDVPQKLQNK	EVIRL	LDVVS	LVQGT	GIRGQ	FEERM	QKLM	EIRKRE	222
NTDB id 245 SPD RS03860 WP 000882517.1	IEILNRRRTKNNPVLIGEPGVGKTAVVEGLAQKIVDGDVPQKLQNK	EVIRL	LDVVS	LVQGT	GIRGQ	FEERM	QKLM	EIRKRE	222
NTDB id 243 SPR RS03635 WP 000882517.1	IEILNRRRTKNNPVLIGEPGVGKTAVVEGLAQKIVDGDVPQKLQNK	EVIRL	LDVVS	LVQGT	GIRGQ	FEERM	QKLM	EIRKRE	222
NTDB id 241 SP RS04015 WP 000882523.1	IEILNRRRTKNNPVLIGEPGVGKTAVVEGLAQKIVDGDVPQKLQNK	EVIRL	LDVVS	LVQGT	GIRGQ	FEERM	QKLM	EIRKRE	222
NTDB id 194969 BGL51 RS03150 WP 011225684.1	IEILNRRRTKNNPVLIGEPGVGKTAVVEGLAQKIVDGDVPQKLQNK	EVIRL	LDVVS	LVQGT	GIRGQ	FEERM	QKLM	EIRQRQ	217
NTDB id 378 SMU RS02690 WP 002263569.1	IEILNRRRTKNNPVLIGEPGVGKTAVVEGLAQKIVDGDVPQKLQNK	EVIRL	LDVVS	LVQGT	GIRGQ	FEERM	QKLM	EIRQRQ	223
NTDB id 85 BSU 00860 NP 387967.1	IEVLSRRTKNNPVLIGEPGVGKTAVVEGLAQKIVDGDVPQKLQNK	EVIRL	LDVVS	LVQGT	GIRGQ	FEERM	QKLM	EIRQAG	272
NTDB id 610 V4T04 RS10165 WP 012897346.1	IHILSRRTKNNPVLIGEPGVGKTAVVEGLAQKIVDGDVPQKLQNK	EVIRL	LDVVS	LVQGT	GIRGQ	FEERM	QKLM	EIRQAG	272
NTDB id 290 KZH43 RS10025 WP 001109677.1	IQILSRRTKNNPVLIGEPGVGKTAVVEGLAQKIVDGDVPQKLQNK	EVIRL	LDVVS	LVQGT	GIRGQ	FEERM	QKLM	EIRKRE	222
NTDB id 289 SPD RS10700 WP 001109677.1	IQILSRRTKNNPVLIGEPGVGKTAVVEGLAQKIVDGDVPQKLQNK	EVIRL	LDVVS	LVQGT	GIRGQ	FEERM	QKLM	EIRKRE	222
NTDB id 287 SP RS11210 WP 001109712.1	IQILSRRTKNNPVLIGEPGVGKTAVVEGLAQKIVDGDVPQKLQNK	EVIRL	LDVVS	LVQGT	GIRGQ	FEERM	QKLM	EIRKRE	222
NTDB id 377 SMU RS09275 WP 002262344.1	IQILSRRTKNNPVLIGEPGVGKTAVVEGLAQKIVDGDVPQKLQNK	EVIRL	LDVVS	LVQGT	GIRGQ	FEERM	QKLM	EIRKRE	222
NTDB id 297 STER RS00545 WP 011680614.1	IQVLSRRTKNNPVLIGEPGVGKTAVVEGLAQKIVDGDVPQKLQNK	EVIRL	LDVVS	LVQGT	GIRGQ	FEERM	QKLM	EIRKRE	222
NTDB id 329 STU RS10020 WP 011225298.1	IQVLSRRTKNNPVLIGEPGVGKTAVVEGLAQKIVDGDVPQKLQNK	EVIRL	LDVVS	LVQGT	GIRGQ	FEERM	QKLM	EIRKRE	222
consensus	* * !	!*****!	!!	!!	!!	!!	!!	!!	*****

```

NTDB id 601 KW2 RS02615 WP 021036805.1
NTDB id 281 KZH43 RS03550 WP 000882517.1
NTDB id 245 SPD RS03860 WP 000882517.1
NTDB id 243 SPR RS03635 WP 000882517.1
NTDB id 241 SP RS04015 WP 000882523.1
NTDB id 194969 BGL51 RS03150 WP 011225684.1
NTDB id 378 SMU RS02690 WP 002263569.1
NTDB id 85 BSU 00860 NP 387967.1
NTDB id 610 V4T04 RS10165 WP 012897346.1
NTDB id 290 KZH43 RS10025 WP 001109677.1
NTDB id 289 SPD RS10700 WP 001109677.1
NTDB id 287 SP RS11210 WP 001109712.1
NTDB id 377 SMU RS09275 WP 002262344.1
NTDB id 297 STER RS00545 WP 011680614.1
NTDB id 329 STU RS10020 WP 011225298.1
consensus

```



```

NTDB id 601 KW2 RS02615 WP 021036805.1
NTDB id 281 KZH43 RS03550 WP 000882517.1
NTDB id 245 SPD RS03860 WP 000882517.1
NTDB id 243 SPR RS03635 WP 000882517.1
NTDB id 241 SP RS04015 WP 000882523.1
NTDB id 194969 BGL51 RS03150 WP 011225684.1
NTDB id 378 SMU RS02690 WP 002263569.1
NTDB id 85 BSU 00860 NP 387967.1
NTDB id 610 V4T04 RS10165 WP 012897346.1
NTDB id 290 KZH43 RS10025 WP 001109677.1
NTDB id 289 SPD RS10700 WP 001109677.1
NTDB id 287 SP RS11210 WP 001109712.1
NTDB id 377 SMU RS09275 WP 002262344.1
NTDB id 297 STER RS00545 WP 011680614.1
NTDB id 329 STU RS10020 WP 011225298.1
consensus

```



373
379
379
379
379
374
380
431
445
450
450
450
452
455
455

```

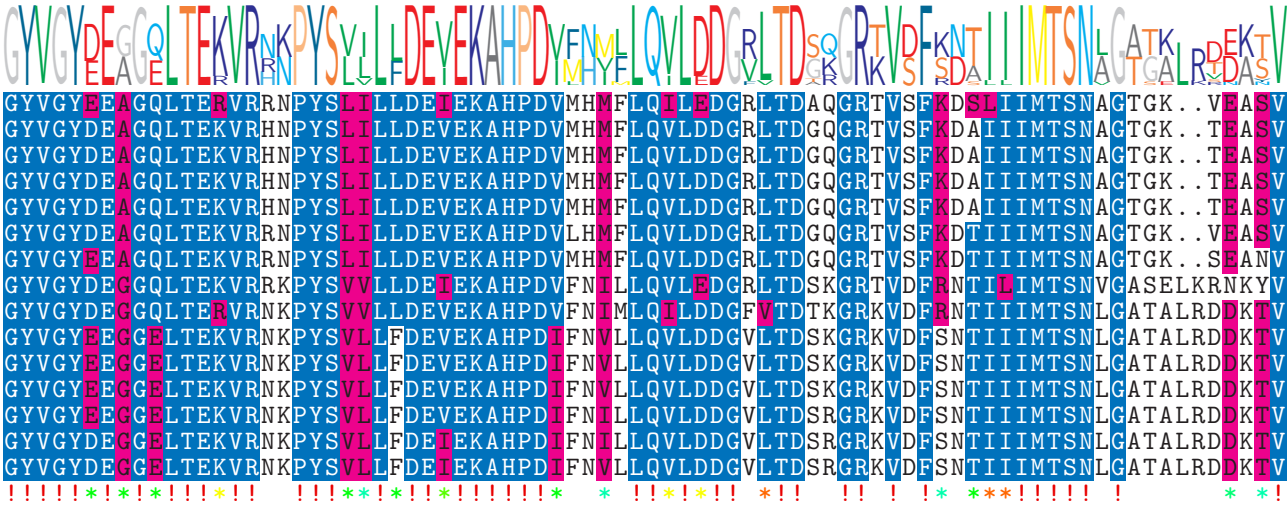
NTDB id 601 KW2 RS02615 WP 021036805.1
NTDB id 281 KZH43 RS03550 WP 000882517.1
NTDB id 245 SPD RS03860 WP 000882517.1
NTDB id 243 SPR RS03635 WP 000882517.1
NTDB id 241 SP RS04015 WP 000882523.1
NTDB id 194969 BGL51 RS03150 WP 011225684.1
NTDB id 378 SMU RS02690 WP 002263569.1
NTDB id 85 BSU 00860 NP 387967.1
NTDB id 610 V4T04 RS10165 WP 012897346.1
NTDB id 290 KZH43 RS10025 WP 001109677.1
NTDB id 289 SPD RS10700 WP 001109677.1
NTDB id 287 SP RS11210 WP 001109712.1
NTDB id 377 SMU RS09275 WP 002262344.1
NTDB id 297 STER RS00545 WP 011680614.1
NTDB id 329 STU RS10020 WP 011225298.1
consensus

```



logo

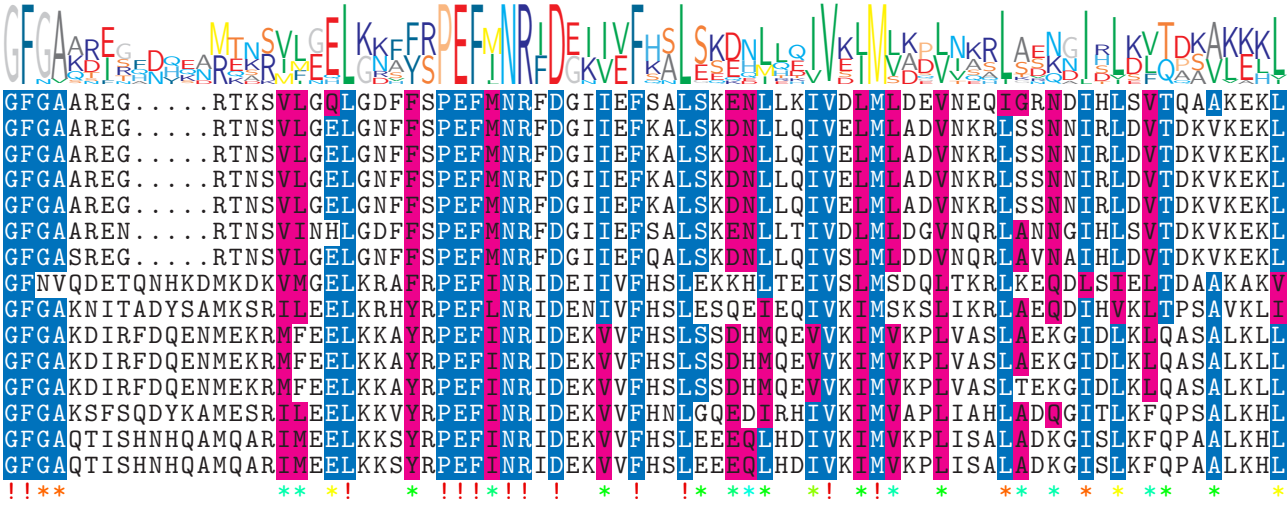
NTDB id 601 KW2 RS02615 WP 021036805.1
NTDB id 281 KZH43 RS03550 WP 000882517.1
NTDB id 245 SPD RS03860 WP 000882517.1
NTDB id 243 SPR RS03635 WP 000882517.1
NTDB id 241 SP RS04015 WP 000882523.1
NTDB id 194969 BGL51 RS03150 WP 011225684.1
NTDB id 378 SMU RS02690 WP 002263569.1
NTDB id 85 BSU 00860 NP 387967.1
NTDB id 610 V4T04 RS10165 WP 012897346.1
NTDB id 290 KZH43 RS10025 WP 001109677.1
NTDB id 289 SPD RS10700 WP 001109677.1
NTDB id 287 SP RS11210 WP 001109712.1
NTDB id 377 SMU RS09275 WP 002262344.1
NTDB id 297 STER RS00545 WP 011680614.1
NTDB id 329 STU RS10020 WP 011225298.1
consensus



605
611
611
611
611
606
612
671
680
675
675
675
678
681
681

logo

NTDB id 601 KW2 RS02615 WP 021036805.1
NTDB id 281 KZH43 RS03550 WP 000882517.1
NTDB id 245 SPD RS03860 WP 000882517.1
NTDB id 243 SPR RS03635 WP 000882517.1
NTDB id 241 SP RS04015 WP 000882523.1
NTDB id 194969 BGL51 RS03150 WP 011225684.1
NTDB id 378 SMU RS02690 WP 002263569.1
NTDB id 85 BSU 00860 NP 387967.1
NTDB id 610 V4T04 RS10165 WP 012897346.1
NTDB id 290 KZH43 RS10025 WP 001109677.1
NTDB id 289 SPD RS10700 WP 001109677.1
NTDB id 287 SP RS11210 WP 001109712.1
NTDB id 377 SMU RS09275 WP 002262344.1
NTDB id 297 STER RS00545 WP 011680614.1
NTDB id 329 STU RS10020 WP 011225298.1
consensus



680
686
686
686
686
681
687
751
760
755
755
755
758
761
761

NTDB	id	601	KW2	RS02615	WP	021036805.1	V	D	L	G	Y	N	P	A	M	G	A	R	P	L	R	R	T	I	Q	E	N	I	E	D	S	I	A	D	F	Y	I	E	H	P	E	Y	K	Q	L	.	V	A	D	L	I	D	D	K	I	V	I	S	N	Q	T	Q	E	T	A	E	T	T	D	E	.	E	V	P	A	E	..	748		
NTDB	id	281	KZH43	RS03550	WP	000882517.1	V	D	L	G	Y	D	P	K	M	G	A	R	P	L	R	R	T	I	Q	D	Y	I	E	D	T	I	T	D	Y	L	E	N	P	S	E	K	D	L	.	K	A	V	M	T	S	K	G	N	I	Q	I	K	S	A	K	K	A	E	V	K	S	S	E	K	E	K		752						
NTDB	id	245	SPD	RS03860	WP	000882517.1	V	D	L	G	Y	D	P	K	M	G	A	R	P	L	R	R	T	I	Q	D	Y	I	E	D	T	I	T	D	Y	L	E	N	P	S	E	K	D	L	.	K	A	V	M	T	S	K	G	N	I	Q	I	K	S	A	K	K	A	E	V	K	S	S	E	K	E	K		752						
NTDB	id	243	SPR	RS03635	WP	000882517.1	V	D	L	G	Y	D	P	K	M	G	A	R	P	L	R	R	T	I	Q	D	Y	I	E	D	T	I	T	D	Y	L	E	N	P	S	E	K	D	L	.	K	A	V	M	T	S	K	G	N	I	Q	I	K	S	A	K	K	A	E	V	K	S	S	E	K	E	K		752						
NTDB	id	241	SP	RS04015	WP	000882523.1	V	D	L	G	Y	D	P	K	M	G	A	R	P	L	R	R	T	I	Q	D	Y	I	E	D	T	I	T	D	Y	L	E	N	P	S	E	K	D	L	.	K	A	V	M	T	S	K	G	N	I	Q	I	K	S	A	K	K	A	E	V	K	S	S	E	K	E	K		752						
NTDB	id	194969	BGL51	RS03150	WP	011225684.1	V	D	L	G	Y	D	P	K	M	G	A	R	P	L	R	R	T	I	Q	D	H	I	E	D	A	I	T	D	F	Y	L	K	N	P	N	E	K	D	L	.	K	A	V	M	T	S	K	G	H	I	T	I	K	S	A	K	K	T	E	K	T	S	Q	K	T	E	A	L	K	E	V	N		752
NTDB	id	378	SMU	RS02690	WP	002263569.1	V	D	L	G	Y	D	P	K	M	G	A	R	P	L	R	R	T	I	Q	E	H	I	E	D	A	I	T	D	F	Y	L	E	H	P	E	Q	K	E	L	.	K	A	I	M	T	S	N	G	K	I	V	I	K	A	S	N	K	V	E	T	V	T	K	A	T	S	D		753					
NTDB	id	85	BSU	00860	NP	387967.1	A	E	E	G	V	D	L	E	Y	G	A	R	P	L	R	R	A	I	Q	K	H	V	E	D	R	L	S	E	E	L	R	G	N	I	H	K	G	Q	H	.	I	V	L	D	V	E	D	G	E	F	V	V	K	T	T	A	K	T	N		810													
NTDB	id	610	V4T04	RS10165	WP	012897346.1	A	E	V	G	F	D	P	E	Y	G	A	R	P	L	R	R	A	I	Q	K	E	V	E	D	L	S	E	Q	L	S	G	E	I	K	A	G	N	H	V	S	I	G	A	S	N	K	K	I	K	I	A	Q	I	V		816																		
NTDB	id	290	KZH43	RS10025	WP	001109677.1	A	N	Q	G	Y	D	P	E	M	G	A	R	P	L	R	R	T	L	Q	T	E	V	E	D	K	L	A	E	L	L	K	G	D	L	V	A	G	S	I	L	K	I	G	V	K	A	G	Q	L	K	F	D	I	A		810																		
NTDB	id	289	SPD	RS1070																																																																												

-  non conserved
-  similar
-  $\geq 50\%$ conserved