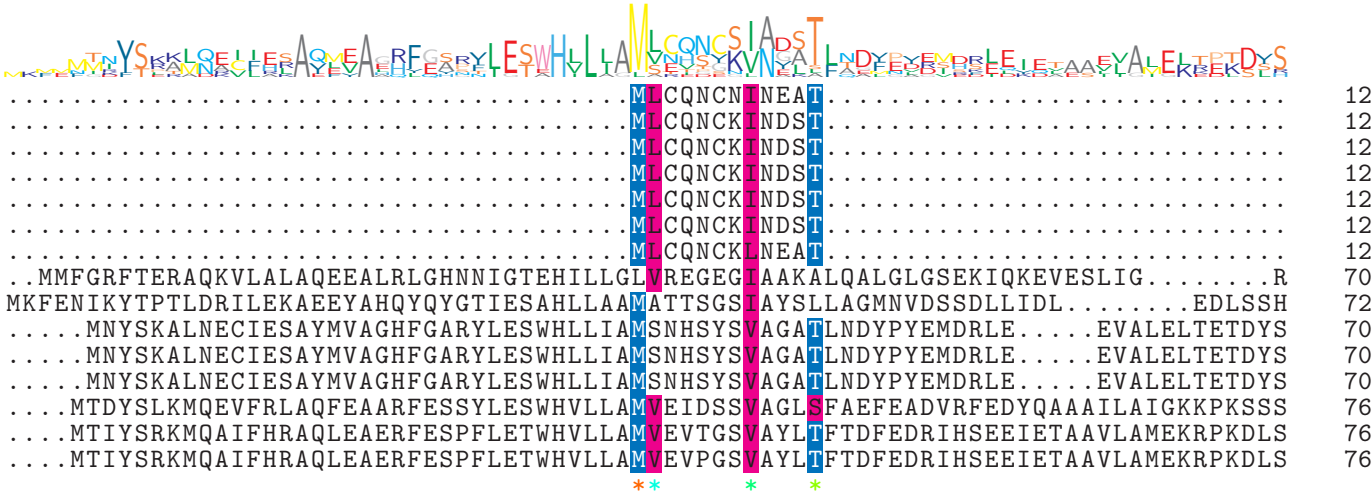


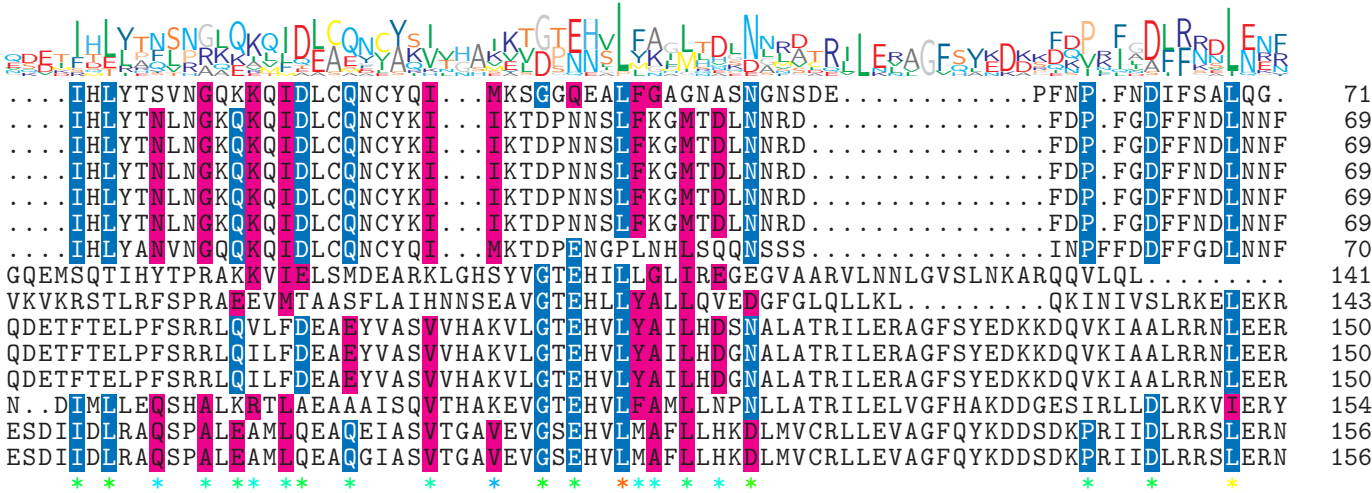
logo

NTDB id 601 KW2 RS02615 WP 021036805.1
NTDB id 241 SP RS04015 WP 000882523.1
NTDB id 58088 SPN994038 RS03875 WP 000882516.1
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 378 SMU RS02690 WP 002263569.1
NTDB id 85 BSU 00860 NP 387967.1
NTDB id 610 V4T04 RS10165 WP 012897346.1
NTDB id 287 SP RS11210 WP 001109712.1
NTDB id 290 KZH43 RS10025 WP 001109677.1
NTDB id 289 SPD RS10700 WP 001109677.1
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 241 SP RS04015 WP 000882523.1
NTDB id 58088 SPN994038 RS03875 WP 000882516.1
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 378 SMU RS02690 WP 002263569.1
NTDB id 85 BSU 00860 NP 387967.1
NTDB id 610 V4T04 RS10165 WP 012897346.1
NTDB id 287 SP RS11210 WP 001109712.1
NTDB id 290 KZH43 RS10025 WP 001109677.1
NTDB id 289 SPD RS10700 WP 001109677.1
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

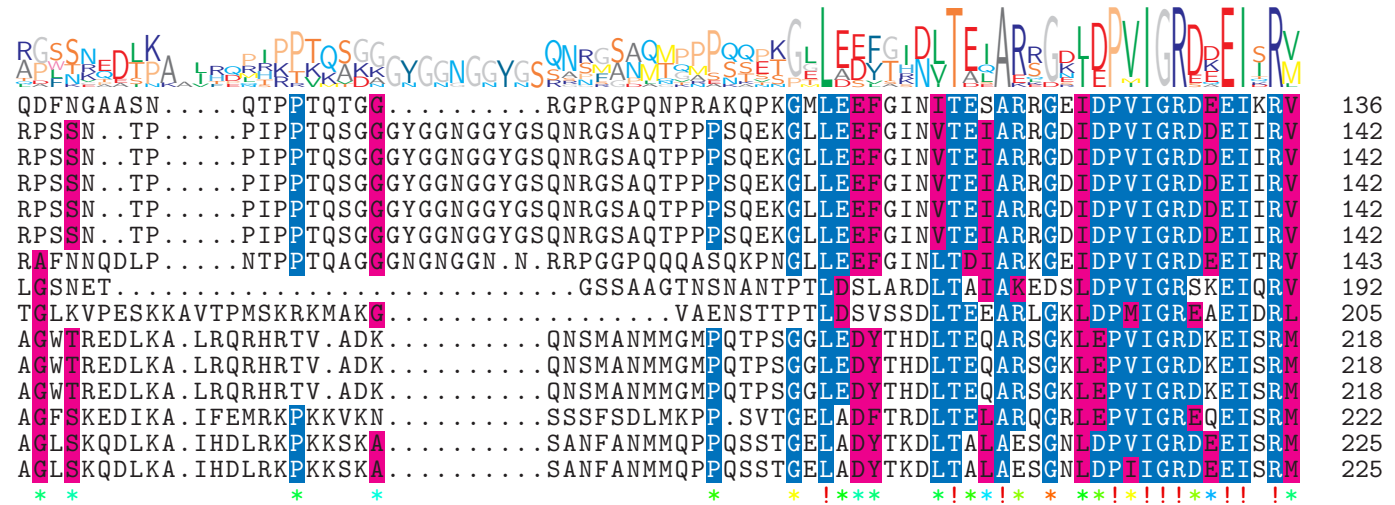


logo

```

NTDB id 601 KW2 RS02615 WP 021036805.1
NTDB id 241 SP RS04015 WP 000882523.1
NTDB id 58088 SPN994038 RS03875 WP 000882516.1
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 378 SMU RS02690 WP 002263569.1
NTDB id 85 BSU 00860 NP 387967.1
NTDB id 610 V4T04 RS10165 WP 012897346.1
NTDB id 287 SP RS11210 WP 001109712.1
NTDB id 290 KZH43 RS10025 WP 001109677.1
NTDB id 289 SPD RS10700 WP 001109677.1
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

```

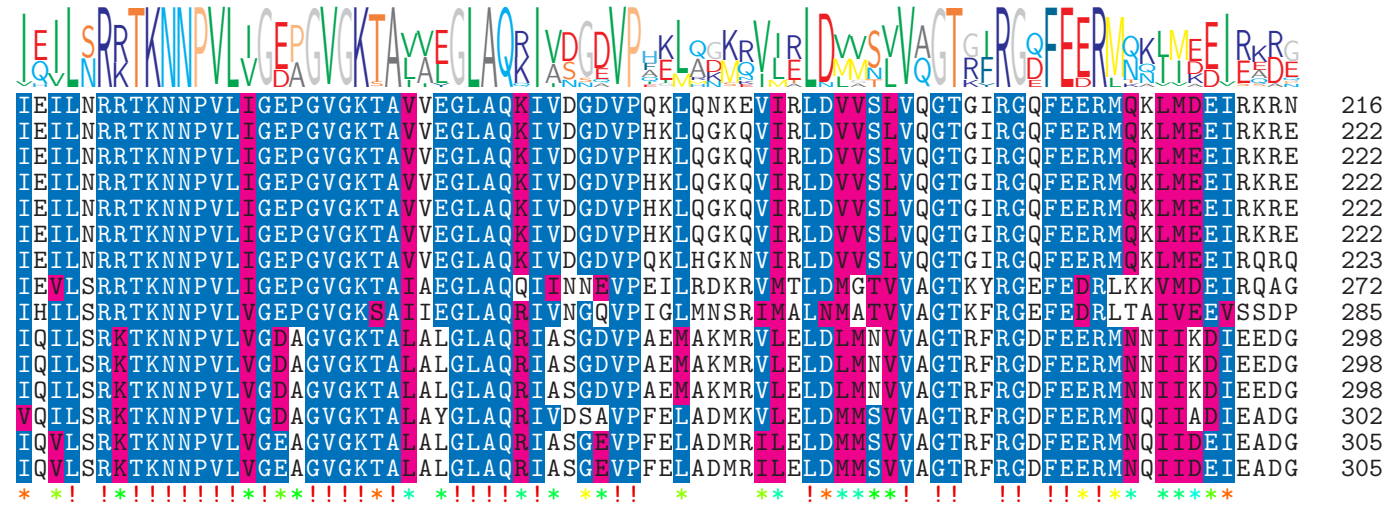


logo

```

NTDB id 601 KW2 RS02615 WP 021036805.1
NTDB id 241 SP RS04015 WP 000882523.1
NTDB id 58088 SPN994038 RS03875 WP 000882516.1
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 378 SMU RS02690 WP 002263569.1
NTDB id 85 BSU 00860 NP 387967.1
NTDB id 610 V4T04 RS10165 WP 012897346.1
NTDB id 287 SP RS11210 WP 001109712.1
NTDB id 290 KZH43 RS10025 WP 001109677.1
NTDB id 289 SPD RS10700 WP 001109677.1
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	DVIMFIDEIHEIVGAGSAGDGNMDAGNILKPALARGEIQLVGATTLNEYR.IIEKDAALERMMQPVKVDEPSVDETITIL	295
NTDB id	241	SP	RS04015	WP	000882523.1	DIIIFIDEIHEIVGAGSASDGNMDAGNILKPALARGEIQLVGATTLNEYR.IIEKDAALERMMQPVKVDEPTVDDETITIL	301
NTDB id	58088	SPN994038	RS03875	WP	000882516.1	DIIIFIDEIHEIVGAGSASDGNMDAGNILKPALARGEIQLVGATTLNEYR.IIEKDAALERMMQPVKVDEPTVDDETITIL	301
NTDB id	281	KZH43	RS03550	WP	000882517.1	DIIIFIDEIHEIVGAGSASDGNMDAGNILKPALARGEIQLVGATTLNEYR.IIEKDAALERMMQPVKVDEPTVDDETITIL	301
NTDB id	245	SPD	RS03860	WP	000882517.1	DIIIFIDEIHEIVGAGSASDGNMDAGNILKPALARGEIQLVGATTLNEYR.IIEKDAALERMMQPVKVDEPTVDDETITIL	301
NTDB id	243	SPR	RS03635	WP	000882517.1	DIIIFIDEIHEIVGAGSASDGNMDAGNILKPALARGEIQLVGATTLNEYR.IIEKDAALERMMQPVKVDEPTVDDETITIL	301
NTDB id	378	SMU	RS02690	WP	002263569.1	DVILFIDEIHEIVGAGSAGDGNMDAGNILKPALARGEIQLVGATTLNEYR.IIEKDAALERMMQPVKVDEPSVAETITIL	302
NTDB id	85	BSU	O0860	NP	387967.1	NIIIFIDEIHITLIGAGG.AEGAIIDASNILKPSLARGEIQCIIGATTLDYRKYIEKDAALERRFQPIQVDQPSVDESIIQIL	351
NTDB id	610	V4T04	RS10165	WP	012897346.1	DVIIFIDEIHTIIGAGGGMDSVNDAANILKPALARGDFQMVGATTYHEYQKYIEKDEALERRLRINVDEPSPDEAIIA	365
NTDB id	287	SP	RS11210	WP	001109712.1	QVILFIDEIHTIMGSGSGIDSTLDAANILKPALARGTLRTVGATTQEYQKHIEKDAALSRRFAKVTIEEPSVADSMITIL	378
NTDB id	290	KZH43	RS10025	WP	001109677.1	QVILFIDEIHTIMGSGSGIDSTLDAANILKPALARGTLRTVGATTQEYQKHIEKDAALSRRFAKVTIEEPSVADSMITIL	378
NTDB id	289	SPD	RS10700	WP	001109677.1	QVILFIDEIHTIMGSGSGIDSTLDAANILKPALARGTLRTVGATTQEYQKHIEKDAALSRRFAKVTIEEPSVADSMITIL	378
NTDB id	377	SMU	RS09275	WP	002262344.1	HIVLFIDEIHTIMGSGSGIDSTLDAANILKPALARGLSLRTIGATTQEYQKHIEKDAALSRRFAKVTIEEPSEEEAYQIL	382
NTDB id	329	STER	RS00545	WP	011680614.1	KIILFIDEIHTIMGSGSGIDSTLDAANILKPALARGTLHVMGATTQAQYQKHIEKDAALSRRFAKITIEEPSVSEAITIL	385
NTDB id	297	STU	RS10020	WP	011225298.1	KIILFIDEIHTIMGSGSGIDSTLDAANILKPALARGTLHVMGATTQAQYQKHIEKDAALSRRFAKITIEEPSVSEAITIL	385
consensus						** * * * * * * * * * * * * * * * * * * * * *	

logo

[illegible]

logo

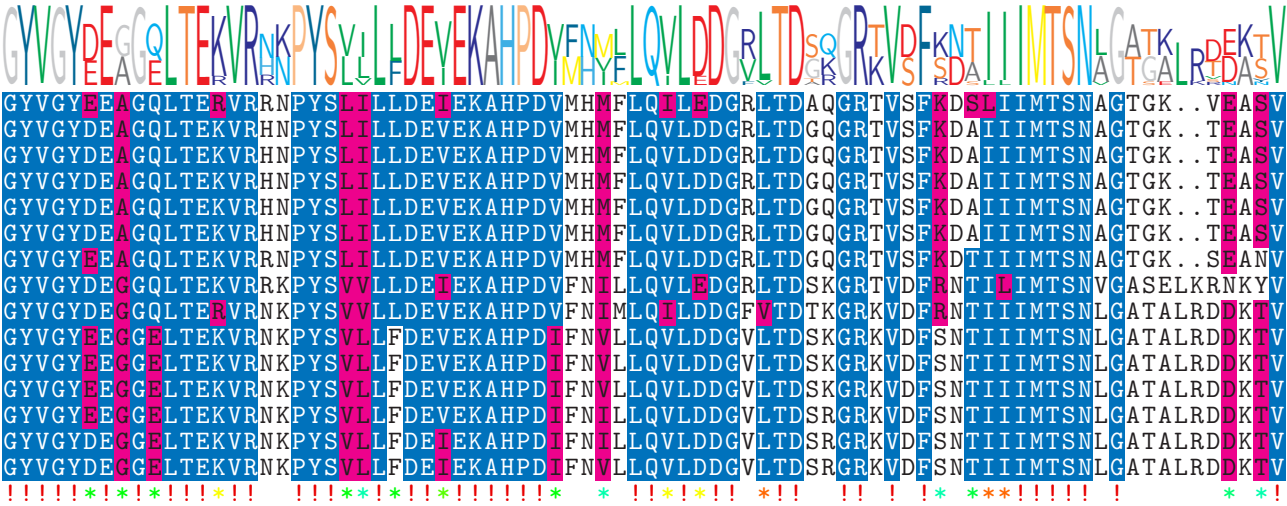
NTDB id 601 KW2 RS02615 WP 021036805.1	KAEDEFEKAAHFRDQISKLREELQK.....QEVTDDEMPVITEKDIIEQIVEEQTQIPVGD	LKEKEQTQLINLADDLKAHVI	447	
NTDB id 241 SP RS04015 WP 000882523.1	REEDFEKAAAYFRDQIAKYKEMQK.....KKITDQDTPSISEKTIIEHIIIEQKTNIPVGD	LKEKEEQSQLIHLAEDLKSHVI	453	
NTDB id 58088 SPN994038 RS03875 WP 000882516.1	REEDFEKAAAYFRDQIAKYKEMQK.....KKITDQDTPIISEKTIIEHIIIEQKTNIPVGD	LKEKEEQSQLIHLAEDLKSHVI	453	
NTDB id 281 KZH43 RS03550 WP 000882517.1	REEDFEKAAAYFRDQIAKYKEMQK.....KKITDQDTPIISEKTIIEHIIIEQKTNIPVGD	LKEKEEQSQLIHLAEDLKSHVI	453	
NTDB id 245 SPD RS03860 WP 000882517.1	REEDFEKAAAYFRDQIAKYKEMQK.....KKITDQDTPIISEKTIIEHIIIEQKTNIPVGD	LKEKEEQSQLIHLAEDLKSHVI	453	
NTDB id 243 SPR RS03635 WP 000882517.1	REEDFEKAAAYFRDQIAKYKEMQK.....KKITDQDTPIISEKTIIEHIIIEQKTNIPVGD	LKEKEEQSQLIHLAEDLKSHVI	453	
NTDB id 378 SMU RS02690 WP 002263569.1	RDEDYEKAAAYFRDQIAKYKEMQS.....AKLDKENTPVITEKNIIEVIVEEQTNPVGE	LKEKEEQSQLIHLADDLKTRVI	454	
NTDB id 85 BSU 00860 NP 387967.1	QSQEFEKAAASLRDTEQRRLREQVEDTKKSWKEKQGENSEVTVDIIMVSSWVGVPVSKIAQTET	TDKLLNMENILHSRVI	511	
NTDB id 610 V4T04 RS10165 WP 012897346.1	IKLDIKASRTKEKAVEKIADKIYKFS.....VKEDKRQEVTDQAVAVASTLTGVPITQMTKES	SDRLINLEKELHKRVI	520	
NTDB id 287 SP RS11210 WP 001109712.1	MDGKWKQAAQLIAKEE.....E.....VPV.YKDLVTESDILTTLSRLSGIPVQKLTQTD	AKKYLNLAEALHKRVI	515	
NTDB id 290 KZH43 RS10025 WP 001109677.1	MDGKWKQAAQLIAKEE.....E.....VPV.YKDLVTESDILTTLSRLSGIPVQKLTQTD	AKKYLNLAEALHKRVI	515	
NTDB id 289 SPD RS10700 WP 001109677.1	MDGKWKQAAQLIAKEE.....E.....VPV.YKDLVTESDILTTLSRLSGIPVQKLTQTD	AKKYLNLAEALHKRVI	515	
NTDB id 377 SMU RS09275 WP 002262344.1	ITNDYQLAKRLLKKEK.....K.....PLLKKRAEVKEEDILATLSKLSGIPVKKLTQAD	SKKYLNLERELHKRVI	518	
NTDB id 297 STER RS00545 WP 011680614.1	ISGDIGAAVKKQYKANQ.....K.....AKFPPKALVDADQIMQTL	SRLSGIPVEKMTQTD	SKRYLNLESELHKRVI	521
NTDB id 329 STU RS10020 WP 011225298.1	ISGDIGAAVKKQYKANQ.....K.....AKFPPKALVDADQIMQTL	SRLSGIPVEKMTQTD	SKRYLNLESELHKRVI	521
consensus	* * * * *	* * * * *		

logo

NTDB	id	601	KW2	RS02615	WP	021036805.1	QGD	E	A	V	D	K	I	S	K	A	I	R	R	S	R	V	C	L	G	K	P	N	R	P	I	G	S	F	L	F	V	G	P	T	G	V	G	K	T	E	L	A	K	Q	L	A	E	L	F	G	S	S	E	S	M	I	R	F	D	M	S	E	Y	M	E	K	H	S	V	A	K	L	I	G	A	P	P	527	
NTDB	id	241	SP	RS04015	WP	000882523.1	GQD	D	A	V	D	K	I	A	K	A	I	R	R	N	R	V	C	L	G	T	P	N	R	P	I	G	S	F	L	F	V	G	P	T	G	V	G	K	T	E	L	S	K	Q	L	A	E	L	F	G	S	A	D	S	M	I	R	F	D	M	S	E	Y	M	E	K	H	S	V	A	K	L	V	G	A	P	P	533	
NTDB	id	58088	SPN	994038	RS03875	WP	000882516.1	GQD	D	A	V	D	K	I	A	K	A	I	R	R	N	R	V	C	L	G	T	P	N	R	P	I	G	S	F	L	F	V	G	P	T	G	V	G	K	T	E	L	S	K	Q	L	A	E	L	F	G	S	A	D	S	M	I	R	F	D	M	S	E	Y	M	E	K	H	S	V	A	K	L	V	G	A	P	P	533
NTDB	id	281	KZH43	RS03550	WP	000882517.1	GQD	D	A	V	D	K	I	A	K	A	I	R	R	N	R	V	C	L	G	T	P	N	R	P	I	G	S	F	L	F	V	G	P	T	G	V	G	K	T	E	L	S	K	Q	L	A	E	L	F	G	S	A	D	S	M	I	R	F	D	M	S	E	Y	M	E	K	H	S	V	A	K	L	V	G	A	P	P	533	
NTDB	id	245	SPD	RS03860	WP	000882517.1	GQD	D	A	V	D	K	I	A	K	A	I	R	R	N	R	V	C	L	G	T	P	N	R	P	I	G	S	F	L	F	V	G	P	T	G	V	G	K	T	E	L	S	K	Q	L	A	E	L	F	G	S	A	D	S	M	I	R	F	D	M	S	E	Y	M	E	K	H	S	V	A	K	L	V	G	A	P	P	533	
NTDB	id	243	SPR	RS03635	WP	000882517.1	GQD	D	A	V	D	K	I	A	K	A	I	R	R	N	R	V	C	L	G	T	P	N	R	P	I	G	S	F	L	F	V	G	P	T	G	V	G	K	T	E	L	S	K	Q	L	A	E	L	F	G	S	A	D	S	M	I	R	F	D	M	S	E	Y	M	E	K	H	S	V	A	K	L	V	G	A	P	P	533	
NTDB	id	378	SMU	RS02690	WP	002263569.1	GQD	A	A	V	D	K	I	A	K	A	I	R	R	N	R	V	C	L	G	T	P	N	R	P	I	G	S	F	L	F	V	G	P	T	G	V	G	K	T	E	L	S	K	Q	L	A	E	L	F	G	S	E	D	S	M	I	R	F	D	M	S	E	Y	M	E	K	H	A	V	A	K	L	V	G	A	P	P	534	
NTDB	id	85	BSU	00860	NP	387967.1	GQD	E	A	V	V	A	K	A	V	R	R	A	R	A	G	L	K	D	P	K	R	P	I	G	S	F	I	F	L	G	P	T	G	V	G	K	T	E	L	A	R	A	L	A	E	S	I	F	G	D	E	S	M	I	R	I	D	M	S	E	Y	M	E	K	H	S	T	S	R	L	V	G	S	P	P	591			
NTDB	id	610	V4T04	RS10165	WP	012897346.1	GQ	E	E	A	I	S	A	V	S	R	A	I	R	R	A	R	S	C	V	A	D	S	R	R	P	M	G	S	F	M	F	L	G	P	T	G	V	G	K	T	E	L	A	K	A	L	A	D	S	V	F	G	S	E	D	N	I	R	V	D	M	S	E	F	M	E	K	H	S	T	S	R	L	I	G	A	P	P	600
NTDB	id	287	SP	RS11210	WP	001109712.1	GQD	Q	A	V	S	S	I	S	R	A	I	R	N	Q	S	G	I	R	S	H	K	R	P	I	G	S	F	M	F	L	G	P	T	G	V	G	K	T	E	L	A	K	A	L	A	E	V	L	F	D	D	E	S	A	L	I	R	F	D	M	S	E	Y	M	E	K	F	A	A	S	R	L	N	G	A	P	P	595	
NTDB	id	290	KZH43	RS10025	WP	001109677.1	GQD	Q	A	V	S	S	I	S	R	A	I	R	N	Q	S	G	I	R	S	H	K	R	P	I	G	S	F	M	F	L	G	P	T	G	V	G	K	T	E	L	A	K	A	L	A	E	V	L	F	D	D	E	S	A	L	I	R	F	D	M	S	E	Y	M	E	K	F	A	A	S	R	L	N	G	A	P	P	595	
NTDB	id	289	SPD	RS10700	WP	001109677.1	GQD	Q	A	V	S	S	I	S	R	A	I	R	N	Q	S	G	I	R	S	H	K	R	P	I	G	S	F	M	F	L	G	P	T	G	V	G	K	T	E	L	A	K	A	L	A	E	V	L	F	D	D	E	S	A	L	I	R	F	D	M	S	E	Y	M	E	K	F	A	A	S	R	L	N	G	A	P	P	595	
NTDB	id	377	SMU	RS09275	WP	002262344.1	GQD	D	A	V	S	S	I	S	R	A	I	R	N	Q	S	G	I	R	V	G	K	R	P	I	G	S	F	M	F	L	G	P	T	G	V	G	K	T	E	L	A	K	A	L	A	E	V	L	F	D	D	E	S	A	L	I	R	F	D	M	S	E	Y	M	E	K	F	A	A	S	R	L	N	G	A	P	P	598	
NTDB	id	297	STER	RS00545	WP	011680614.1	GQD	E	A	V	S	A	I	S	R	A	I	R	N	Q	S	G	I	R	T	G	K	R	P	I	G	S	F	M	F	L	G	P	T	G	V	G	K	T	E	L	A	K	A	L	A	E	V	L	F	D	D	E	S	A	L	I	R	F	D	M	S	E	Y	M	E	K	F	A	A	S	R	L	N	G	A	P	P	601	
NTDB	id	329	STU	RS10020	WP	011225298.1	GQD	E	A	V	S	A	I	S	R	A	I	R	N	Q	S	G	I	R	T	G	K	R	P	I	G	S	F	M	F	L	G	P	T	G	V	G	K	T	E	L	A	K	A	L	A	E	V	L	F	D	D	E	S	A	L	I	R	F	D	M	S	E	Y	M	E	K	F	A	A	S	R	L	N	G	A	P	P	601	
consensus							!!*!* *	* *!*!* *	!*	*	!!*!!																																																																										

logo

NTDB id 601 KW2 RS02615 WP 021036805.1
NTDB id 241 SP RS04015 WP 000882523.1
NTDB id 58088 SPN994038 RS03875 WP 000882516.1
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 378 SMU RS02690 WP 002263569.1
NTDB id 85 BSU 00860 NP 387967.1
NTDB id 610 V4T04 RS10165 WP 012897346.1
NTDB id 287 SP RS11210 WP 001109712.1
NTDB id 290 KZH43 RS10025 WP 001109677.1
NTDB id 289 SPD RS10700 WP 001109677.1
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
611
612
671
680
675
675
675
678
681
681

logo

NTDB id 601 KW2 RS02615 WP 021036805.1
NTDB id 241 SP RS04015 WP 000882523.1
NTDB id 58088 SPN994038 RS03875 WP 000882516.1
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 378 SMU RS02690 WP 002263569.1
NTDB id 85 BSU 00860 NP 387967.1
NTDB id 610 V4T04 RS10165 WP 012897346.1
NTDB id 287 SP RS11210 WP 001109712.1
NTDB id 290 KZH43 RS10025 WP 001109677.1
NTDB id 289 SPD RS10700 WP 001109677.1
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
686
687
751
760
755
755
755
758
761
761

logo



☐ non conserved
☒ similar
☒ ≥ 50% conserved