

NTDB id	611 V4T04 RS07970 WP 003129593.1	MGYLVPTVIEQSSRGERAYDIYSRLCLKDRIIMLTGPVEDGMANSIIAQLFLFDAQDNTKDIYLYVNTPGGSVSAG	75
NTDB id	35781 UC509 RS03390 WP 015082161.1	MGYLVPTVIEQSSRGERAYDIYSRLCLKDRIIMLTGPVEDGMANSIIPQLFLFDAQDNTKDIYLYVNTPGGSVSAG	75
NTDB id	602 KW2 RS03060 WP 011834647.1	MGYLVPTVIEQSSRGERAYDIYSRLCLKDRIIMLTGPVEDGMANSIIAQLFLFDAQDNTKDIYLYVNTPGGSVSAG	75
NTDB id	330 STU RS11365 WP 002949732.1	MIPVVIEQTSGERSYDIYSRLCLKDRIIMLTGPIEDNMANSIIAQLFLFDAQDNTKDIYLYVNTPGGSVSAG	72
NTDB id	298 STER RS01925 WP 002949732.1	MIPVVIEQTSGERSYDIYSRLCLKDRIIMLTGPIEDNMANSIIAQLFLFDAQDNTKDIYLYVNTPGGSVSAG	72
NTDB id	282 KZH43 RS03215 WP 000613477.1	MIPVVIEQTSGERSYDIYSRLCLKDRIIMLTGPVEDNMANSVIAQLFLFDAQDS TKDIYLYVNTPGGSVSAG	72
NTDB id	246 SPD RS03495 WP 000613477.1	MIPVVIEQTSGERSYDIYSRLCLKDRIIMLTGPVEDNMANSVIAQLFLFDAQDS TKDIYLYVNTPGGSVSAG	72
NTDB id	244 SPR RS03300 WP 000613477.1	MIPVVIEQTSGERSYDIYSRLCLKDRIIMLTGPVEDNMANSVIAQLFLFDAQDS TKDIYLYVNTPGGSVSAG	72
NTDB id	242 SP RS03655 WP 000613477.1	MIPVVIEQTSGERSYDIYSRLCLKDRIIMLTGPVEDNMANSVIAQLFLFDAQDS TKDIYLYVNTPGGSVSAG	72
NTDB id	376 SMU RS07595 WP 255262720.1	MELKEKYS MIPVVIEQTSGERSYDIYSRLCLKDRIIMLTGPVEDNMANSIIAQLFLFDAQDNTKDIYLYINSPGGSVSAG	80
NTDB id	446 SpyM6JRS4 RS01695 WP 002985850.1	MIPVVIEQTSGERSYDIYSRLCLKDRIIMLTGPVEDNMANSVIAQLFLFDAQDNTKDIYLYVNTPGGSVSAG	72
NTDB id	445 SPYM3 RS01720 WP 002985850.1	MIPVVIEQTSGERSYDIYSRLCLKDRIIMLTGPVEDNMANSVIAQLFLFDAQDNTKDIYLYVNTPGGSVSAG	72
NTDB id	1223 Cj0192c YP 002343650.1	MFIPYVIEKSSRGRSYDIYSRLCLKDRIIMLSGEIHDELAAASIV AQLFLFEAE DPTKDIYLYINSPGGVITSG	73
NTDB id	86 BSU 34540 NP 391334.1	MNL IPTVIEQTNRGERAYDIYSRLCLKDRIIMLGSAIDDNVANSI VS QLLFLFAEADPEKEISLYINSPGG SITAG	74
consensus		**!*!*****!!*!!!!!!!!!!!!!!**!*!*****!!*!!!!!!!!!!!!!!**!*!*****!!*!!!!!!!!!!!!!!**!*!*****!!*!!!!!!!!!!!!!!	

NTDB	id	611	V4T04	RS07970	WP	003129593.1	LAIVDTMNF	IKS	DVQ	TIV	MGMA	ASMGT	II	ASSG	TGK	RFML	PNAEY	L	IHQ	PMGGT	GQ	TQQT	DMAI	V	AEQ	LLK	TRK	R	LE	Q	155																																																			
NTDB	id	35781	UC509	RS03390	WP	015082161.1	LAIVDTMNF	IKS	DVQ	TIV	MGMA	ASMGT	II	ASSG	TGK	RFML	PNAEY	L	IHQ	PMGG	AG	Q	TQQT	DMAI	V	AEQ	LLK	TRK	R	LE	Q	155																																																		
NTDB	id	602	KW2	RS03060	WP	011834647.1	LAIVDTMNF	IKS	DVQ	TIV	MGMA	ASMGT	II	ASSG	TGK	RFML	PNAEY	L	IHQ	PMGG	AG	Q	TQQT	DMAI	V	AEQ	LLK	TRK	R	LE	Q	155																																																		
NTDB	id	330	STU	RS11365	WP	002949732.1	LAIVDTMNF	IKS	DVQ	TIV	MGMA	ASMGT	II	ASSG	TGK	RFML	PNAEY	M	IHQ	PMGGT	GGGT	QQT	DMAI	A	AEH	LLK	TRN	N	LE	Q	152																																																			
NTDB	id	298	STER	RS01925	WP	002949732.1	LAIVDTMNF	IKS	DVQ	TIV	MGMA	ASMGT	II	ASSG	TGK	RFML	PNAEY	M	IHQ	PMGGT	GGGT	QQT	DMAI	A	AEH	LLK	TRN	N	LE	Q	152																																																			
NTDB	id	282	KZH43	RS03215	WP	000613477.1	LAIVDTMNF	IKA	DVQ	TIV	MGMA	ASMGT	V	IASSG	A	K	G	K	R	F	M	L	P	N	A	E	M	I	H	Q	P	M	G	G	T	Q	Q	T	D	M	A	I	A	A	E	H	L	L	K	T	R	N	T	L	E	K	152																									
NTDB	id	246	SPD	RS03495	WP	000613477.1	LAIVDTMNF	IKA	DVQ	TIV	MGMA	ASMGT	V	IASSG	A	K	G	K	R	F	M	L	P	N	A	E	M	I	H	Q	P	M	G	G	T	Q	Q	T	D	M	A	I	A	A	E	H	L	L	K	T	R	N	T	L	E	K	152																									
NTDB	id	244	SPR	RS03300	WP	000613477.1	LAIVDTMNF	IKA	DVQ	TIV	MGMA	ASMGT	V	IASSG	A	K	G	K	R	F	M	L	P	N	A	E	M	I	H	Q	P	M	G	G	T	Q	Q	T	D	M	A	I	A	A	E	H	L	L	K	T	R	N	T	L	E	K	152																									
NTDB	id	242	SP	RS03655	WP	000613477.1	LAIVDTMNF	IKA	DVQ	TIV	MGMA	ASMGT	V	IASSG	A	K	G	K	R	F	M	L	P	N	A	E	M	I	H	Q	P	M	G	G	T	Q	Q	T	D	M	A	I	A	A	E	H	L	L	K	T	R	N	T	L	E	K	152																									
NTDB	id	376	SMU	RS07595	WP	255262720.1	LAIVDTMNF	IKS	DVQ	TIV	MG	IA	ASMGT	II	ASSG	A	K	G	K	R	F	M	L	P	N	A	E	Y	L	I	H	Q	P	M	G	G	T	Q	Q	S	D	M	A	I	A	A	E	Q	LLK	TR	K	K	L	E	K	160																										
NTDB	id	446	SpyM6	JRS4	RS01695	WP	002985850.1	LAIVDTMNF	IKA	DVQ	TIV	MGMA	ASMGT	V	IASSG	TGK	RFML	PNAEY	M	IHQ	PMGGT	GGGT	QQT	DMAI	A	AEH	LLK	TR	H	R	L	E	K	152																																																
NTDB	id	445	SPYM3	RS01720	WP	002985850.1	LAIVDTMNF	IKA	DVQ	TIV	MGMA	ASMGT	V	IASSG	TGK	RFML	PNAEY	M	IHQ	PMGGT	GGGT	QQT	DMAI	A	AEH	LLK	TR	H	R	L	E	K	152																																																	
NTDB	id	1223	Cj0192c	YP	002343650.1		FS	I	Y	D	T	M	N	Y	I	K	P	D	V	C	T	C	I	G	Q	A	A	S	M	G	A	F	L	L	S	C	G	A	E	G	K	R	F	A	L	P	N	S	R	I	M	I	H	Q	P	L	G	G	A	R	G	..	Q	A	T	D	I	E	I	Q	A	K	E	L	R	L	K	T	I	L	N	151
NTDB	id	86	BSU	34540	NP	391334.1	MAI	Y	D	T	M	Q	F	I	K	P	K	V	S	T	I	C	I	G	M	A	A	S	M	G	A	F	L	L	A	A	G	E</																																												

NTDB id 611 V4T04 RS07970 WP 003129593.1	ILADNSNRSLQIHKDAERDHWMDAKETLEYGFIDEIMENNSLK.	199
NTDB id 35781 UC509 RS03390 WP 015082161.1	ILADNSNRSLQIHKDAERDHWMDAKETLEYGFIDEIMENNSLK.	199
NTDB id 602 KW2 RS03060 WP 011834647.1	ILADNSNRSLQIHKDAERDHWMDAKETLEYGFIDEIMENNSLK.	199
NTDB id 330 STU RS11365 WP 002949732.1	ILADNSGQPIEKVHVDAERDNWMSAQETLEYGFIDEIMTNNQLK.	196
NTDB id 298 STER RS01925 WP 002949732.1	ILADNSGQPIEKVHVDAERDNWMSAQETLEYGFIDEIMTNNQLK.	196
NTDB id 282 KZH43 RS03215 WP 000613477.1	ILAE NSGQSMEKVVHADAERDNWMSAQETLEYGFIDEIMANNSLN.	196
NTDB id 246 SPD RS03495 WP 000613477.1	ILAE NSGQSMEKVVHADAERDNWMSAQETLEYGFIDEIMANNSLN.	196
NTDB id 244 SPR RS03300 WP 000613477.1	ILAE NSGQSMEKVVHADAERDNWMSAQETLEYGFIDEIMANNSLN.	196
NTDB id 242 SP RS03655 WP 000613477.1	ILAE NSGQSMEKVVHADAERDNWMSAQETLEYGFIDEIMANNSLN.	196
NTDB id 376 SMU RS07595 WP 255262720.1	ILSDNSGKTIKQIHKDAERDYWMDAKETLKYGFIDEIMENNELK.	204
NTDB id 446 SpyM6JRS4 RS01695 WP 002985850.1	ILAQNA GKTIKQIHKDAERDYWMSAEETLAYGFIDEIMENNELK.	196
NTDB id 445 SPYM3 RS01720 WP 002985850.1	ILAQNA GKTIKQIHKDAERDYWMSAEETLAYGFIDEIMENNELK.	196
NTDB id 1223 Cj0192c YP 002343650.1	ILAKNTKQKVAKIAKDTERDFFMSAQEAK EYGLIDKVL EKSFK.	194
NTDB id 86 BSU 34540 NP 391334.1	VLAERTGQPLEVIERDTRD NFKSAEEALEYGLIDKILTHTEDKK	197
consensus	*!*****! *!*****! *****! !*****! *****	

 non conserved
 similar
 $\geq 50\%$ conserved