

```

NTDB id 582 DLJ51 RS00505 WP 002962720.1
NTDB id 450 SPYM18 RS08475 WP 011018214.1
NTDB id 449 SPYM18 RS01395 WP 011018214.1
NTDB id 442 SPYM3 RS08515 WP 011106595.1
NTDB id 441 SPYM3 RS01385 WP 011106595.1
NTDB id 448 SpyM6JRS4 RS07800 WP 010921894.1
NTDB id 447 SpyM6JRS4 RS01370 WP 010921894.1
NTDB id 44 SMU RS09085 WP 002263585.1
NTDB id 457 SSUD9 RS00080 WP 002936602.1
NTDB id 461 GPW51 RS00080 WP 011921639.1
NTDB id 454 SSU RS00080 WP 011921639.1
NTDB id 424 SGO RS10430 WP 012130755.1
NTDB id 423 SGO RS08370 WP 012130755.1
NTDB id 997404 ABC804 RS01615 WP 000588866.1
NTDB id 252 KZH43 RS09050 WP 000588897.1
NTDB id 251 KZH43 RS09050 WP 000588897.1
NTDB id 211 SPD RS09675 WP 000588897.1
NTDB id 210 SPD RS00065 WP 000588897.1
NTDB id 177 SPR RS09210 WP 000588897.1
NTDB id 176 SPR RS00065 WP 000588897.1
NTDB id 141 SP RS10155 WP 000588925.1
NTDB id 140 SP RS00070 WP 000588925.1
NTDB id 488 SM12261 RS00065 WP 000471939.1
NTDB id 489 SM12261 RS01070 WP 000471940.1
NTDB id 517 SMSK321 RS10700 WP 000471945.1
NTDB id 516 SMSK321 RS09125 WP 000471944.1
consensus

```

MS	CCFFVVL	FILG	I	V	KK	RR	L	K	M	S	E	F	E	F	K	P	T	S	E	R	G	F	S	L	D	R																														
MDKEKLKEIFNKHSA	LP	EE	VE	EF	DD	GM	V	KE	V	I	T	A	G	L	L	F	C	L	K	E	V	...	L	D	M	D	D	S	S	F	V	S	A	F	S	R	V	E	K	T	V	S	K	L	A	K	D	Y	Y	I	K	L	W	T	Y	76
MS	CCFFVVL	FILG	I	V	KK	RR	L	K	M	S	I	E	T	R	A	A	F	E	K	V	K	P	I	L	K	L	K	R	H	Y	Y	I	Q	L	W	R	52																			
MS	CCFFVVL	FILG	I	V	KK	RR	L	K	M	S	I	E	T	R	A	A	F	E	K	V	K	P	I	L	K	L	K	R	H	Y	Y	I	Q	L	W	R	52																			
MS	CCFFVVL	FILG	I	V	KK	RR	L	K	M	S	I	E	T	R	A	V	F	E	K	V	K	P	I	L	K	L	K	R	H	Y	Y	I	Q	L	W	R	52																			
MS	CCFFVVL	FILG	I	V	KK	RR	L	K	M	S	I	E	T	R	A	V	F	E	K	V	K	P	I	L	K	L	K	R	H	Y	Y	I	Q	L	W	R	52																			
MS	CCFFVVL	FILG	I	V	KK	RR	L	K	M	S	I	E	T	R	A	A	F	E	K	V	K	P	I	L	K	L	K	R	H	Y	Y	I	Q	L	W	R	52																			
MS	CCFFVVL	FILG	I	V	KK	RR	L	K	M	S	I	E	T	R	A	A	F	E	K	V	K	P	I	L	K	L	K	R	H	Y	Y	I	Q	L	W	R	52																			
MEED	F	E	I	V	N	K	V	K	P	I	V	W	K	L	S	R	Y	F	I	K	M	W	T	R	30																															
MEFEK	V	Y	A	S	V	K	G	I	V	N	K	A	R	K	E	F	Y	I	K	L	W	R	28																																	
MEFEK	V	Y	A	S	V	K	G	I	V	N	K	A	R	K	E	F	Y	I	K	L	W	R	28																																	
MEFEK	V	Y	A	S	V	K	G	I	V	N	K	A	R	K	E	F	Y	I	K	L	W	R	28																																	
MKFED	V	Y	K	Q	V	E	G	I	V	K	R	C	Y	K	D	Y	L	H	L	W	E	Y	28																																	
MKFED	V	Y	K	Q	V	E	G	I	V	K	R	C	Y	K	D	Y	L	H	L	W	E	Y	28																																	
MIKEL	Y	E	E	V	Q	G	T	V	Y	K	R	N	E	Y	L	H	L	W	E	L	27																																			
MIKEL	Y	E	E	V	Q	G	T	V	Y	K	R	N	E	Y	L	H	L	W	E	L	27																																			
MIKEL	Y	E	E	V	Q	G	T	V	Y	K	R	N	E	Y	L	H	L	W	E	L	27																																			
MIKEL	Y	E	E	V	Q	G	T	V	Y	K	R	N	E	Y	L	H	L	W	E	L	27																																			
MIKEL	Y	E	E	V	Q	G	T	V	Y	K	R	N	E	Y	L	H	L	W	E	L	27																																			
MIKEL	Y	E	E	V	Q	G	T	V	Y	K	R	N	E	Y	L	H	L	W	E	L	27																																			
MIKEL	Y	E	E	V	Q	G	T	V	Y	K	R	N	E	Y	L	H	L	W	E	L	27																																			
MIKEL	Y																																																							

logo

NTDB id 582 DLJ51 RS00505 WP 002962720.1	DDWRQEGARTILLYQLIERFPDLANDEEKLRIVFKTKFRSSYLDMIRKQESQKRAFDRMIYEEISEIGHMTPSQQMDTADYC	156
NTDB id 450 SPYM18 RS08475 WP 011018214.1	DDWLQEGHTILLQLLERYPELIEEEERLYRYFKTKFSSYLKDLLRRQESQKRQFHKLAYEEIGEVAHAIPSRGLWLDDYV	132
NTDB id 449 SPYM18 RS01395 WP 011018214.1	DDWLQEGHTILLQLLERYPELIEEEERLYRYFKTKFSSYLKDLLRRQESQKRQFHKLAYEEIGEVAHAIPSRGLWLDDYV	132
NTDB id 442 SPYM3 RS08515 WP 011106595.1	DDWLQEGHTILLQLLERYPELIEEEERLYRYFKTKFSSYLKDLLRRQESQKRQFHKLAYEEIGEVAHAIPSRGLWLDDYV	132
NTDB id 441 SPYM3 RS01385 WP 011106595.1	DDWLQEGHTILLQLLERYPELIEEEERLYRYFKTKFSSYLKDLLRRQESQKRQFHKLAYEEIGEVAHAIPSRGLWLDDYV	132
NTDB id 448 SpyM6JRS4 RS07800 WP 010921894.1	DDWLQEGHTILLQLLERYPELIEEEERLYRYFKTKFSSYLKDLLRRQESQKRQFHKLAYEEIGEVAHAIPSRGLWLDDYV	132
NTDB id 447 SpyM6JRS4 RS01370 WP 010921894.1	DDWLQEGHTILLQLLERYPELIEEEERLYRYFKTKFSSYLKDLLRRQESQKRQFHKLAYEEIGEVAHAIPSRGLWLDDYV	132
NTDB id 44 SMU RS09085 WP 002263585.1	EDWQEGGMILHLHREHPELEEDDTKLYTYFKTRFSNYIKDVLRRQESQKRFRNRMSYEEVGEIEHCSSGCMQLDEYI	110
NTDB id 457 SSUD9 RS00080 WP 002936602.1	DDWEQEGMNTLFELLEAQPWLVDEQQVQLYCYFKVKFRNRKIDRIRKQESQKRKFDRMPHEDIHLSHAIQSPGLINDELL	108
NTDB id 461 GPW51 RS00080 WP 011921639.1	DDWEQEGMNTLFELLEAQPWLVDEQQVQLYCYFKVKFRNRKIDRIRKQESQKRKFDRMPHEDIYELSHAIQSPGLINDELL	108
NTDB id 454 SSU RS00080 WP 011921639.1	DDWEQEGMNTLFELLEAQPWLVDEQQVQLYCYFKVKFRNRKIDRIRKQESQKRKFDRMPHEDIYELSHAIQSPGLINDELL	108
NTDB id 424 SGO RS10430 WP 012130755.1	ADWRQEGMVLVLYELLKSHPNLLEDQPRLYRYFKTKFRNRILDRLRRQESQKRKLDRQPYYEEVSEIGHRIIRMKELYLDELV	108
NTDB id 423 SGO RS08370 WP 012130755.1	ADWRQEGMVLVLYELLKSHPNLLEDQPRLYRYFKTKFRNRILDRLRRQESQKRKLDRQPYYEEVSEIGHRIIRMKELYLDELV	108
NTDB id 997404 ABC804 RS01615 WP 000588866.1	SDWDQEGMCLHELISREEGLVDDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKEPYEEVGEISHRISEGGLWLDDYY	107
NTDB id 252 KZH43 RS09050 WP 000588897.1	SDWDQEGMCLHELISREEGLVDDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKEPYEEVGEISHRISEGGLWLDDYY	107
NTDB id 251 KZH43 RS09050 WP 000588897.1	SDWDQEGMCLHELISREEGLVDDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKEPYEEVGEISHRISEGGLWLDDYY	107
NTDB id 211 SPD RS09675 WP 000588897.1	SDWDQEGMCLHELISREEGLVDDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKEPYEEVGEISHRISEGGLWLDDYY	107
NTDB id 210 SPD RS00065 WP 000588897.1	SDWDQEGMCLHELISREEGLVDDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKEPYEEVGEISHRISEGGLWLDDYY	107
NTDB id 177 SPR RS09210 WP 000588897.1	SDWDQEGMCLHELISREEGLVDDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKEPYEEVGEISHRISEGGLWLDDYY	107
NTDB id 176 SPR RS00065 WP 000588897.1	SDWDQEGMCLHELISREEGLVDDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKEPYEEVGEISHRISEGGLWLDDYY	107
NTDB id 141 SP RS10155 WP 000588925.1	SDWEQEGMCLHELISREEGLVDDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKEPYEEVGEISHRISEGGLWLDDYY	107
NTDB id 140 SP RS00070 WP 000588925.1	SDWEQEGMCLHELISREEGLVDDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKEPYEEVGEISHRISEGGLWLDDYY	107
NTDB id 488 SM12261 RS00065 WP 000471939.1	SDWDQEGMCLHELISREEGLVEDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKEPYEEVGEISHRISEGGMWLDEYY	107
NTDB id 489 SM12261 RS01070 WP 000471940.1	SDWDQEGMCLHELISREEELVEDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKEPYEEVGEISHRISEGGMWLDEYY	107
NTDB id 517 SMSK321 RS10700 WP 000471945.1	SDWDQEGMCLHELISREEELVEDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKEAYEEVGEISHRIGEGGLWLDDYY	107
NTDB id 516 SMSK321 RS09125 WP 000471944.1	SDWDQEGMCLHELISKEEELVEDIPRLRKYFKTKFRNRILDYIRKQESQKRRYDKESYEEVGEISHRIGEGGLWLDEYY	107
consensus	!! !!*** ! *!* * **** *! *!!!!*!***** ! *!*!!!!!!***** *!***!* ! * *******	

logo

NTDB id 582 DLJ51 RS00505 WP 002962720.1	ALKEKLLKELKQKLAPEDYAKILLLMRGGAFKGRSAFLKDKVBFEDFDEDN.	207
NTDB id 450 SPYM18 RS08475 WP 011018214.1	AYQEVVIASLENQLNSQERMQFKALIRGERFKGRRALLRKISPYFKEFAAQL.	183
NTDB id 449 SPYM18 RS01395 WP 011018214.1	AYQEVVIASLENQLNSQERMQFKALIRGERFKGRRALLRKISPYFKEFAAQL.	183
NTDB id 442 SPYM3 RS08515 WP 011106595.1	AYQEVVIASLENQLNSQERMQFKALIRGERFKGRRALLRKISPYFKEFAAQL.	183
NTDB id 441 SPYM3 RS01385 WP 011106595.1	AYQEVVIASLENQLNSQERMQFKALIRGERFKGRRALLRKISPYFKEFAAQL.	183
NTDB id 448 SpyM6JRS4 RS07800 WP 010921894.1	AYQEVVIASLENQLNSQERMQFKALIRGERFKGRRALLRKISPYFKEFAAQL.	183
NTDB id 447 SpyM6JRS4 RS01370 WP 010921894.1	AYQEVVIASLENQLNSQERMQFKALIRGERFKGRRALLRKISPYFKEFAAQL.	183
NTDB id 44 SMU RS09085 WP 002263585.1	LFRLSLLAYKQGLSTEKQELFERLVAGEHFLGRQSMKDLRKKLSDFKEK..	160
NTDB id 457 SSUD9 RS00080 WP 002936602.1	MLRGALRDYRKNLSNDQLDKYEKLISGQCFNGRREMIRDQLIHLKDFR....	156
NTDB id 461 GPW51 RS00080 WP 011921639.1	MLRGALRDYRKNLSNDQLDKYEKLISGQCFNGRREMIRDQLIHLKDFR....	156
NTDB id 454 SSU RS00080 WP 011921639.1	MLRGALRDYRKNLSNDQLDKYEKLISGQCFNGRREMIRDQLIHLKDFR....	156
NTDB id 424 SGO RS10430 WP 012130755.1	AFRSAMSEYRSRLSPEEAKQYERLMADERFKGRKAMLKDLSYHLRDFNPRLD	160
NTDB id 423 SGO RS08370 WP 012130755.1	AFRSAMSEYRSRLSPEEAKQYERLMADERFKGRKAMLKDLSYHLRDFNPRLD	160
NTDB id 997404 ABC804 RS01615 WP 000588866.1	LFHETLRDYRNKQSKEKQEELERVLSNERFGRQRVLRDLRIVFKEFTIRTH	159
NTDB id 252 KZH43 RS09050 WP 000588897.1	LFHETLRDYRNKQSKEKQEELERVLSNERFGRQRVLRDLRIVFKEFTIRTH	159
NTDB id 251 KZH43 RS09050 WP 000588897.1	LFHETLRDYRNKQSKEKQEELERVLSNERFGRQRVLRDLRIVFKEFTIRTH	159
NTDB id 211 SPD RS09675 WP 000588897.1	LFHETLRDYRNKQSKEKQEELERVLSNERFGRQRVLRDLRIVFKEFTIRTH	159
NTDB id 210 SPD RS00065 WP 000588897.1	LFHETLRDYRNKQSKEKQEELERVLSNERFGRQRVLRDLRIVFKEFTIRTH	159
NTDB id 177 SPR RS09210 WP 000588897.1	LFHETLRDYRNKQSKEKQEELERVLSNERFGRQRVLRDLRIVFKEFTIRTH	159
NTDB id 176 SPR RS00065 WP 000588897.1	LFHETLRDYRNKQSKEKQEELERVLSNERFGRQRVLRDLRIVFKEFTIRTH	159
NTDB id 141 SP RS10155 WP 000588925.1	LFHETLRDYRNKQSKEKQEELERVLSNERFGRQRVLRDLRIVFKEFTIRTH	159
NTDB id 140 SP RS00070 WP 000588925.1	LFHETLRDYRNKQSKEKQEELERVLSNERFGRQRVLRDLRIVFKEFTIRTH	159
NTDB id 488 SM12261 RS00065 WP 000471939.1	LFHETLRDYRNKQSKDKQEELERVLRHERFGRQRVLRDLRIVFKEFDIRTH	159
NTDB id 489 SM12261 RS01070 WP 000471940.1	LFHETLRDYRNKQSKDKQEELERVLRHERFGRQRVLRDLRIVFKEFDIRTH	159
NTDB id 517 SMSK321 RS10700 WP 000471945.1	LFHETLRDYRSKQSKDKQEELERVLRHERFGRQRVLRDLRIVFKEFDIRTQ	159
NTDB id 516 SMSK321 RS09125 WP 000471944.1	LFHETLRDYRSKQSKDKQEELERVLRHERFGRQRVLRDLRIVFKEFDIRTR	159
consensus	** * ***** * * * ***** **!*!! ***** * ***!	

- ☒ non conserved
- ☒ similar
- ☒ ≥ 50% conserved