

NTDB id	1323	RAOC	RS07335	WP	004916218.1	.MLV	KV	Y	G	S	A	I	H	G	V	S	A	Q	T	I	T	E	V	N	V	D	Q	G	V	.G	Y	H	L	V	G	L	P	D	N	A	I	K	E	S	S	H	R	I	S	A	A	L	K	N	V	G	Y	K	L	P	G	K	K	I	T	I	N	M	A	P	A	D	L	R	K	E	G	S	A	78						
NTDB id	1271	LPP	RS03220	WP	011213198.1	M	S	L	A	F	T	K	I	R	S	T	I	G	I	V	A	Q	P	V	S	V	E	V	H	L	S	N	G	L	P	S	F	T	M	V	G	L	A	E	T	A	V	K	E	S	K	D	R	V	R	S	A	I	N	S	Q	F	E	F	P	C	R	K	I	T	V	N	L	G	P	A	N	L	P	K	T	G	S	G	80	
NTDB id	1248	GC085	RS03150	WP	011213198.1	M	S	L	A	F	T	K	I	R	S	T	I	G	I	V	A	Q	P	V	S	V	E	V	H	L	S	N	G	L	P	S	F	T	M	V	G	L	A	E	T	A	V	K	E	S	K	D	R	V	R	S	A	I	N	S	Q	F	E	F	P	C	R	K	I	T	V	N	L	G	P	A	N	L	P	K	T	G	S	G	80	
NTDB id	1010746	ABR091	RS23450	WP	000058964.1	M	S	L	A	I	V	H	T	R	A	A	L	G	V	N	A	P	P	I	T	V	E	V	H	I	S	K	L	P	G	L	T	M	V	G	L	P	E	T	T	V	K	E	A	R	D	R	V	R	S	A	I	N	S	G	Y	E	P	A	K	K	I	T	N	L	A	P	A	D	L	P	K	E	G	G	R	80				
NTDB id	1153	A1552VC	RS00115	WP	000521788.1	M	G	L	A	I	H	S	R	A	S	I	G	V	Q	A	P	P	V	T	V	E	V	H	I	S	N	G	M	P	G	F	T	L	V	G	L	P	E	T	T	V	K	E	S	R	D	R	V	R	S	A	I	N	S	R	F	E	F	P	A	K	R	I	T	V	N	L	A	P	A	D	L	P	K	E	G	G	R	80		
NTDB id	1397	DSB67	RS15690	WP	005535577.1	M	G	L	A	I	H	S	R	A	S	V	G	V	Q	A	P	S	V	S	V	E	V	H	I	S	N	G	M	P	G	F	T	L	V	G	L	P	E	T	T	V	K	E	S	K	D	R	V	R	S	A	I	N	S	N	F	Q	F	P	A	K	R	I	T	V	N	L	A	P	A	D	L	P	K	E	G	G	R	80		
NTDB id	1349	HI	1117	AAC22771.1		M	S	L	A	I	V	Y	S	R	A	S	M	G	V	Q	A	P	L	V	T	I	E	V	H	L	S	N	G	K	P	G	F	T	L	V	G	L	P	E	K	T	V	K	E	A	Q	D	R	V	R	S	A	L	M	N	A	Q	F	K	Y	P	A	K	R	I	T	V	N	L	A	P	A	D	L	P	K	E	G	G	R	80
NTDB id	1387	A4U84	RS06900	WP	020457569.1	M	S	L	A	I	Y	S	R	A	S	I	G	V	E	A	P	L	V	T	I	E	V	H	I	S	G	S	P	G	L	T																																																		

NTDB id 1323	RAOC RS07335 WP 004916218.1	YDL	S	I	A	L	G	I	L	A	A	S	G	Q	I	A	P	E	I	E	R	Y	L	I	M	G	E	L	S	L	D	G	L	Q	P	I	K	G	V	L	P	I	A	T	R	A	E	E	G	F	K	G	I	L	P	K	Q	N	T	R	E	A	I	V	N	D	L	E	V	Y	G	V	E	N	158					
NTDB id 1271	LPP RS03220 WP 011213198.1	F	D	L	P	I	A	L	G	I	L	A	A	S	E	Q	I	P	L	T	N	L	A	N	H	E	F	I	G	E	L	A	S	G	E	L	R	G	V	S	A	I	P	A	V	L	A	A	H	K	D	.N	Q	H	L	I	I	A	N	A	A	E	A	S	L	T	G	H	Q	K	V	F	T	A	N	159				
NTDB id 1248	GC085 RS03150 WP 011213198.1	F	D	L	P	I	A	L	G	I	L	A	A	S	E	Q	I	P	L	T	N	L	A	N	H	E	F	I	G	E	L	A	S	G	E	L	R	G	V	S	A	I	P	A	V	L	A	A	H	K	D	.N	Q	H	L	I	I	A	N	A	A	E	A	S	L	T	G	H	Q	K	V	F	T	A	N	159				
NTDB id 1010746	ABR091 RS23450 WP 000058964.1	Y	D	L	P	I	A	L	G	I	L	A	A	S	E	Q	I	L	T	A	N	K	L	D	E	V	E	L	V	G	E	L	A	T	G	A	L	R	V	P	G	A	I	S	S	A	T	E	A	I	K	S	.G	R	K	I	T	I	V	A	K	D	N	E	D	E	V	L	I	N	G	E	C	L	I	A	D	H	159	
NTDB id 1153	A1552VC RS00115 WP 000521788.1	F	D	L	P	I	A	L	G	I	L	A	A	S	D	Q	I	A	R	N	K	L	E	S	Y	E	F	I	G	E	L	A	S	G	E	I	R	G	V	K	G	V	L	P	A	A	L	A	N	Q	V	.E	R	C	L	V	V	P	H	S	N	G	D	Q	A	A	L	V	G	V	E	R	H	K	S	A	Q	S	159	
NTDB id 1397	DSB67 RS15690 WP 005535577.1	F	D	L	P	I	A	L	G	I	L	A	A	S	E	Q	I	A	T	D	K	L	K	N	Y	E	F	V	G	E	L	A	S	G	G	L	R	T	V	K	G	V	L	P	A	A	L	A	N	K	K	.Q	R	H	L	V	V	P	H	A	N	G	D	Q	A	A	L	V	G	K	E	Q	H	K	S	A	Q	S	159	
NTDB id 1349	HI 1117 AAC22771.1	F	D	L	P	I	A	L	G	I	L	A	A	S	D	Q	L	D	A	S	H	L	K	Q	F	E	F	V	A	E	L	A	T	G	Q	L	R	G	V	H	G	V	I	P	A	I	L	A	A	Q	K	S	.K	R	E	L	I	I	A	K	Q	N	A	N	E	A	S	L	V	S	D	Q	N	T	Y	F	A	Q	T	159
NTDB id 1387	A4U84 RS06900 WP 020457569.1	F	D	L	P	I	A	L	G	I	L	A	A	S	G	Q	I	D	S	D	K	L	K	R	I	E	L	L	G	E	L	S	L	T	G	H	L	R	G	V	H	G	A	I	P	A	V	L	A	A	S	K	A	.K	R	E	I	V	P	Q	Q	N	A	N	E	V	S	L	V	S										

NTDB id 1323	RAOC RS07335 WP 004916218.1	TKEVIDFNFNENCP	LEPTKVNTRREEFHKRVNLFPPF	DFSEVKGQETAKRAME	VAAAGGHNTIL	IGPPGSGKTM	LAKRIPSIL	238
NTDB id 1271	LPP RS03220 WP 011213198.1	LREVCVDYLCQGTS	LQSLPPKPD...LLNNYEL	DWDIKGQQHAKNAMV	IAACGGHSIL	LSGAPGSGKTM	MAKRFSSTLL	235
NTDB id 1248	GC085 RS03150 WP 011213198.1	LREVCVDYLCQGTS	LQSLPPKPD...LLNNYEL	DWDIKGQQHAKNAMV	IAACGGHSIL	LSGAPGSGKTM	MAKRFSSTLL	235
NTDB id 1010746	ABR091 RS23450 WP 000058964.1	LQAVCAFLLEGKHAL	LERPKPTDA...VSRALQH	LDSDVIGEEQKRGLEI	ITAAAGHNHLL	IGPPGTGKTM	LASRLINGLL	234
NTDB id 1153	A1552VC RS00115 WP 000521788.1	LLEVCADFLCQGQT	LSLFQSSPSV...QQVSQTR	DLQDIIGQQQGKRALE	IAAAGNHNLLF	LGPPGTGKTM	LASRLCDLL	235
NTDB id 1397	DSB67 RS15690 WP 005535577.1	LLEVCADFLCQGQT	LSLFQSSPSV...QQVSQTR	DLQDIIGQQQGKRALE	IAAAGNHNLLF	LGPPGTGKTM	LASRLCDLL	235
NTDB id 1349	HI 1117 AAC22771.1	LLDVVQFLNGQEK	LPLATEIVKESAVNFSGKNTL	DLTDIIGQQHAKRAL	IAAAGQHNL	LGPPGTGKTM	LASRLTGL	239
NTDB id 1387	A4U84 RS06900 WP 020457569.1	LLQVVNFLNNRDQ	LPIAQLSQNIAEN.RPLVSR	DLTDIIGQQHAKRAL	IAAAGQHNL	LGPPGTGKTM	LASRLADLL	238
consensus		* * * * *	!	! * * * * ! * * * * ! * * * * ! * * * * ! * * * * ! * * * * ! * * * * ! * * * * !	!	!	!	!

NTDB id	1323	RAOC RS07335 WP 004916218.1	PPLTLKEALETTKIHSVAGKMGAEATSLMTIRPFRSPHHTISDVALVGGSYPQGEISLAHNGVLFLDEMPFEKRTVLEEV	318
NTDB id	1271	LPP RS03220 WP 011213198.1	PELSETQALECAAINSIRGKLPDF.REWRLLPFRAPHHTASPVVALVGGGNPKPGGEISLAHHGVLFDELPEFNRRQVLET	314
NTDB id	1248	GCO85 RS03150 WP 011213198.1	PELSETQALECAAINSIRGKLPDF.REWRLLPFRAPHHTASPVVALVGGGNPKPGGEISLAHHGVLFDELPEFNRRQVLET	314
NTDB id	1010746	ABR091 RS23450 WP 000058964.1	PDLSSNEEALESAAILSLVNAESVQ.KQRWKRPFRRSPHSHASLTAMVGGGAIPGPGGEISLAHNGVLFLDELPEFERRTLDA	313
NTDB id	1153	A1552VC RSO0115 WP 000521788.1	PEMSDEEAMETASIASLTQQEINQ.HNWKKLRPFRAPHHSSMAALVGGGTIPRPGEISLAHNGLLFLDEMPEFERKVLDSD	314
NTDB id	1397	DSB67 RS15690 WP 005535577.1	PEMSDEEAMETASVASLTQSEINE.HNWKKTRPFRAPHHSSMAALVGGGSVPRPGEISLAHNGLLFLDEMPEFDRKVLDSD	314
NTDB id	1349	HI 1117 AAC22771.1	PEMTDLEAITETASVTSLVQNELNF.HNWKKRPFRAPPHSASMALVGGGTIPKPGGEISLATNGVLFLDELPEFERKVLDSD	318
NTDB id	1387	A4U84 RS06900 WP 020457569.1	PEMEDDEAIEITASVTSLVQNELNF.QNWKKRPFRRSPHSHASMVVALVGGGSIKPGGEISLAHNGVLFLDELPEFERKVLDSD	317
consensus			!***?****!!**?*!*?*****!*****!*****!*****!*****!*****!	

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NTDB id 1323 RAOC RS07335 WP 004916218.1	LREPLESGEIIISRAAKIIFPAFQLYAAMNPSPSGFFPDDPNNT.SSSFEMQRYLNKLSGPLLDRIDITHIEVQKVEFD	397
NTDB id 1271 LPP RS03220 WP 011213198.1	LREPLESGHICISRAAAQIEFPAKFQLIAAMNPPCGQWGNSSQANCMCTPDRIISRYLAKLSAPLLDRIDMQVTIHALSQE	394
NTDB id 1248 GC085 RS03150 WP 011213198.1	LREPLESGHICISRAAAQIEFPAKFQLIAAMNPPCGQWGNSSQANCMCTPDRIISRYLAKLSAPLLDRIDMQVTIHALSQE	394
NTDB id 1010746 ABR091 RS23450 WP 000058964.1	LREPIESGQIHLSRTRAKITYPARFQLVAAMNPSPSGHYQGNNH..RCTPEQTLRYLNRLSGPFLDRFDLSLEIPLPPPG	391
NTDB id 1153 A1552VC RS00115 WP 000521788.1	LREPLESGEIVISRAQKTRFPAFQLVGALNPSPSGYEGSSQA..RANPQSILRYLSRLSGPLLDRFDMSTIEIPALPKG	392
NTDB id 1397 DSB67 RS15690 WP 005535577.1	LREPLESGEIIISRAQKTRFPAFQIVGALNPSPSGYEGNQA..RTNPQAILRYLGRLSGPLLDRFDMSTIEIPALPKG	392
NTDB id 1349 HI 1117 AAC22771.1	LRQPLESGEIIISRANAKIQFPAFQLVAAAMNPSPSGHYTGTHN..RTSPQQIMRYLNRLSGPFLDRFDLSIEVPLLPQG	396
NTDB id 1387 A4U84 RS06900 WP 020457569.1	LRQPLESGEIIISRANAKVFFPAFQLIAAMNPSPSGHYQGTHN..RTSPQQLMRYLNRLSGPFLDRFDLSIEVPLLPQG	395
consensus	*!***** *!* ** *!!!!*****!!*! * ** * ** *!!!! *!!!!*!!!!*!!!!***** ** *	

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NTDB id 1323 RAOC RS07335 WP 004916218.1	QLSD..KRKGESSEIRQRVLKAREIQQERYQDLAISYNAQMGPKEIEHFCELDVSLLLIKNAMEKLNLSARAYDRILK	475
NTDB id 1271 LPP RS03220 WP 011213198.1	ELIKPNTHLEKQSLAIREKVTMKHEIQMARQDS...LNANLNSKTCEMVCELGSEEQLFLREVMSKIKLSARGYHRLK	470
NTDB id 1248 GC085 RS03150 WP 011213198.1	ELIKPNTHLEKQSLAIREKVTMKHEIQMARQDS...LNANLNSKTCEMVCELGSEEQLFLREVMSKIKLSARGYHRLK	470
NTDB id 1010746 ABR091 RS23450 WP 000058964.1	ILSKT.VVPGESSATVQQRVMAARERQFQRQNK...LNAWLDSPETIRQFCKLESEDAMWLEGLTIHLGLSTRAWQRLK	466
NTDB id 1153 A1552VC RS00115 WP 000521788.1	TLANG.GDRGESTAAVRQVRVVARERMLARSGK...VNALLQSREIEQYCPLLKADAEFLESALHRLGLSIRAYHRIK	467
NTDB id 1397 DSB67 RS15690 WP 005535577.1	TLSEG.GDRGEPTAIVKERVNQARDCMLARSGK...VNALLQSREIEAFCLPQKSDAEFLENALHRLGLSIRAYHRIK	467
NTDB id 1349 HI 1117 AAC22771.1	SLQNT.GDRGETSAQVREKVLKVREIQMERAGK...INAYLNSKEIERDCKLNDKDAFFLEKALNKLGLSVRAYHRILK	471
NTDB id 1387 A4U84 RS06900 WP 020457569.1	ALQNNTDQRGETTEQARKRVLEARHLQFNRRGK...INAQLTKEIEQDCKLTDRDAFLFLENALTKLGLSVRAYHRILK	471
consensus	! **** * *! ***** ! * *!! * ***** !! ***** * *!*****!!*!!!!*!!!!*!!!!	

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NTDB id 1323 RAOC RS07335 WP 004916218.1	VSRTIADLERETNIQSHHIAEAIQYRSIDRDFWKV.....	510
NTDB id 1271 LPP RS03220 WP 011213198.1	VSRTIADMNSSKKVLLNHLQQALSYPKQNLHLPK.....	503
NTDB id 1248 GC085 RS03150 WP 011213198.1	VSRTIADMNSSKKVLLNHLQQALSYPKQNLHLPK.....	503
NTDB id 1010746 ABR091 RS23450 WP 000058964.1	VARTIADIDQSDIITRQHLQEAVSYRAIDRLLIHLLQKLLT	506
NTDB id 1153 A1552VC RS00115 WP 000521788.1	VARTIADLQGEAQIARPHLAEALGYRAMDRLLKQLSAQNV	507
NTDB id 1397 DSB67 RS15690 WP 005535577.1	VARTIADLEGSPQIERTHLAEALGYRAMDRLLKQLTAQAV	507
NTDB id 1349 HI 1117 AAC22771.1	VSRTIADLQGEQIFQPHLAEALGYRAMVRLKQLSNM..	509
NTDB id 1387 A4U84 RS06900 WP 020457569.1	VSRTIADLAGEAQIQPHLAEALGYRAMDRLLQRLQGES.	510
consensus	!***** ** !***! * !***** *	

- X non conserved
- X similar
- X ≥50% conserved