



logo



NTDB id 600 KW2 RS01765 WP 011675413.1	I	V	E	I	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	A	V	Q	K	E	G	G	I	A	A	F	I	D	A	E	N	A	L	D	P	E	Y	A	K	A	L	G	V	N	I	D	E	L	L	S	Q	P	D	Y	G	E	Q	L	I	A	E	K	L	I	T	S	G	A	V	D	L	154		
NTDB id 269 KZH43 RS08665 WP 001085462.1	I	I	E	I	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	Q	A	Q	K	E	G	G	I	A	A	F	I	D	A	E	H	A	L	D	P	A	Y	A	A	A	L	G	V	N	I	D	E	L	L	S	Q	P	D	S	G	E	Q	L	E	I	A	G	K	L	I	D	S	G	A	V	D	L	153	
NTDB id 228 SPD RS09265 WP 001085462.1	I	I	E	I	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	Q	A	Q	K	E	G	G	I	A	A	F	I	D	A	E	H	A	L	D	P	A	Y	A	A	A	L	G	V	N	I	D	E	L	L	S	Q	P	D	S	G	E	Q	L	E	I	A	G	K	L	I	D	S	G	A	V	D	L	153	
NTDB id 194 SPR RS08825 WP 001085462.1	I	I	E	I	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	Q	A	Q	K	E	G	G	I	A	A	F	I	D	A	E	H	A	L	D	P	A	Y	A	A	A	L	G	V	N	I	D	E	L	L	S	Q	P	D	S	G	E	Q	L	E	I	A	G	K	L	I	D	S	G	A	V	D	L	153	
NTDB id 159 SP RS09750 WP 001085462.1	I	I	E	I	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	Q	A	Q	K	E	G	G	I	A	A	F	I	D	A	E	H	A	L	D	P	A	Y	A	A	A	L	G	V	N	I	D	E	L	L	S	Q	P	D	S	G	E	Q	L	E	I	A	G	K	L	I	D	S	G	A	V	D	L	153	
NTDB id 499 SM12261 RS08315 WP 078228268.1	I	I	E	I	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	Q	A	Q	K	E	G	G	I	A	A	F	I	D	A	E	H	A	L	D	P	A	Y	A	A	A	L	G	V	N	I	D	E	L	L	S	Q	P	D	S	G	E	Q	L	E	I	A	G	K	L	I	D	S	G	A	V	D	L	153	
NTDB id 527 SMSK321 RS11065 WP 001085454.1	I	I	E	I	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	Q	A	Q	K	E	G	G	I	A	A	F	I	D	A	E	H	A	L	D	P	A	Y	A	A	A	L	G	V	N	I	D	E	L	L	S	Q	P	D	S	G	E	Q	L	E	I	A	G	K	L	I	D	S	G	A	V	D	L	153	
NTDB id 453 Spy49 1753c ACI62003.1	I	I	E	I	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	Q	A	Q	K	E	G	G	I	A	A	F	I	D	A	E	H	A	L	D	P	A	Y	A	A	A	L	G	V	N	I	D	E	L	L	S	Q	P	D	S	G	E	Q	L	E	I	A	G	K	L	I	D	S	G	A	V	D	L	153	
NTDB id 408 SMU RS09530 WP 002262392.1	I	V	E	I	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	Q	A	Q	K	D	G	G	I	A	A	F	I	D	A	E	H	A	L	D	P	A	Y	A	A	A	L	G	V	N	I	D	E	L	L	S	Q	P	D	S	G	E	Q	L	E	I	A	G	K	L	I	D	S	G	A	V	D	L	153	
NTDB id 115 BSU 16940 NP 389576.2	I	I	E	V	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	E	V	Q	Q	G	G	Q	A	A	F	I	D	A	E	H	A	L	D	P	V	Y	A	Q	K	L	G	V	N	I	D	E	L	L	S	Q	P	D	T	G	E	Q	A	L	E	I	A	E	A	L	V	R	S	G	A	V	D	I	138	
NTDB id 625 LCA RS02525 WP 011374196.1	I	V	E	I	Y	G	P	E	S	S	G	K	T	T	V	A	L	H	A	V	A	E	V	Q	Q	G	G	T	A	A	Y	I	D	A	E	N	A	M	D	P	K	Y	A	T	A	L	G	V	N	I	D	D	L	L	S	Q	P	D	T	G	E	Q	L	E	I	A	D	A	L	V	S	S	G	A	V	D	I	140		
NTDB id 1313 DR RS12030 WP 010888966.1	I	T	E	I	Y	G	P	E	S	G	K	T	T	L	A	L	A	I	V	A	Q	A	Q	K	A	G	C	T	C	A	F	I	D	A	E	H	A	L	D	P	V	Y	A	R	A	L	G	V	N	I	D	E	L	L	S	Q	P	D	N	G	E	Q	A	L	E	I	M	E	L	L	V	R	S	G	A	T	D	V	152	
NTDB id 1245 Cj1673c YP 002345041.1	I	I	E	I	Y	G	P	E	S	S	G	K	T	T	L	T	L	H	I	I	A	E	C	Q	K	A	G	V	C	A	F	I	D	A	E	H	A	L	D	V	K	Y	A	K	N	L	G	V	N	I	D	D	L	L	S	Q	P	D	F	G	E	Q	A	L	E	I	V	E	T	T	A	R	S	G	A	V	D	L	139	
NTDB id 1214 NCTC11637 00359 SQJ03206.1	I	I	E	I	Y	G	P	E	S	S	G	K	T	T	L	S	L	H	I	I	A	E	C	Q	K	N	G	G	V	C	A	F	I	D	A	E	H	A	L	D	V	H	Y	A	K	R	L	G	V	D	T	E	N	L	L	S	Q	P	D	T	G	E	Q	A	L	E	I	L	E	T	T	T	R	S	G	I	D	L	141	
NTDB id 1211 C694 RS00795 WP 000963128.1	I	I	E	I	Y	G	P	E	S	S	G	K	T	T	L	S	L	H	I	I	A	E	C	Q	K	N	G	G	V	C	A	F	I	D	A	E	H	A	L	D	V	H	Y	A	K	R	L	G	V	D	T	E	N	L	L	S	Q	P	D	T	G	E	Q	A	L	E	I	L	E	T	T	T	R	S	G	I	D	L	141	
NTDB id 1334 RAOC RS04870 WP 004918236.1	I	V	E	I	Y	G	P	E	S	S	G	K	T	T	L	T	L	H	A	V	A	E	A	Q	K	V	G	G	T	A	A	F	I	D	A	E	H	A	F	D	M	H	Y	A	E	K	L	G	I	N	L	E	L	I	V	S	Q	P	D	N	G	E	Q	A	L	E	I	A	D	S	L	T	R	S	G	V	D	I	148	
NTDB id 108134 AACH40 RS05025 WP 169492573.1	V	I	E	V	Y	G	P	E	S	S	G	K	T	T	L	A	L	H	V	I	A	E	A	Q	K	N	G	G	T	A	A	F	I	D	A	E	H	A	L	D	P	V	Y	A	K	K	L	G	V	D	I	D	N	L	L	S	Q	P	D	T	G	E	Q	A	L	E	I	T	D	T	L	V	R	S	N	A	I	D	V	152
NTDB id 1389 A4U84 RS07560 WP 021112712.1	I	V	E	I	Y	G	P	E	S	S	G	K	T	T	L	T	L	S	L	I	A	Q	A	Q	K	G	N	K	T	C	A	F	I	D	A	E	H	A	L	D	P	V	Y	A	R	N	L	G	V	N	I	D	E	L	L	S	Q	P	D	N	G	E	Q	A	L	E	I	C	D	A	L	V	R	S	G	A	V	D	V	156
NTDB id 1130 NGFG RS03960 WP 003688695.1	I	V	E	I	F	G	P	E	S	S	G	K	T	T	L	C	L	E	A	V	A	Q	C	Q	K	N	G	G	V	C	A	F	I	D	A	E	H	A	F	D	P	V	Y	A	R	K	L	G	V	K	V	E	L	Y	L	S	Q	P	D	T	G	E	Q	A	L	E	I	C	D	T	L	V	R	S	G	I	D	M	140	
NTDB id 1124 NGFG RS03960 WP 003688695.1	I	V	E	I	F	G	P	E	S	S	G	K	T	T	L	C	L	E	A	V	A	Q	C	Q	K	N	G	G	V	C	A	F	I	D	A	E	H	A	F	D	P	V	Y	A	R	K	L	G	V	K	V	E	L	Y	L	S	Q	P	D	T	G	E	Q	A	L	E	I	C	D	T	L	V	R	S	G	I	D	M	140	
NTDB id 1123 OK783 RS03845 WP 003688695.1	I	V	E	I	F	G	P	E	S	S	G	K	T	T	L	C	L	E	A	V	A	Q	C	Q	K	N	G	G	V	C	A	F	I	D	A	E	H	A	F	D	P	V	Y	A	R	K	L	G	V	K	V	E	L	Y	L	S	Q	P	D	T	G	E	Q	A	L	E	I	C	D	T	L	V	R	S	G	I	D	M	140	
NTDB id 1427 RS RS02760 WP 011000510.1	V	V	E	I	Y	G	P	E	S	S	G	K	T	T	L	T	L	Q	V	V	A	E	M	Q	K	L	G	G	T	C	A	F	I	D	A	E	H	A	L	D	V	T	Y	A	D	K	L	G	V	K	V	P	D	L	L	S	Q	P	D	T	G	E	Q	A	L	E	I	A	D	A	L	V	R	S	G	S	V	D	L	148
NTDB id 1165 A1552VC RS01565 WP 000344154.1	I	V	E	I	F	G	P	E	S	S	G	K	T	T	L	T	L	E	L	I	A	A	A	Q	R	E	G	K	T	C	A	F	I	D	A	E	H	A	L	D	P	V	Y	A	K	K	L	G	V	N	I	D	E	L	L	S	Q	P	D	T	G	E	Q	A	L	E	I	C	D	A	L	A	R	S	G	A	V	D	V	139
NTDB id 1142 GTF74 RS11550 WP 000344154.1	I	V	E	I	F	G	P	E	S	S	G	K	T	T	L	T	L	E	L	I	A	A	A	Q	R	E	G	K	T	C	A	F	I	D	A	E	H	A	L	D	P	V	Y	A	K	K	L	G	V	N	I	D	E	L	L	S	Q	P	D	T	G	E	Q	A	L	E	I	C	D	A	L	A	R	S	G	A	V	D	V	139
NTDB id 1205 PSJM300 05545 AFN77183.1	I	V	E	I	Y	G	P	E	S	S	G	K	T	T	L	T	L	S	V	I	A	A	A	Q	R	M	G	S	T	C	A	F	I	D	A	E	H	A	L	D	P	Y	A	G	K	L	G	V	N	I	D	L	L	S	Q	P	D	T	G	E	Q	A	L	E	I	T	D	M	L	V	R	S	N	A	V	D	V	139		
NTDB id 1022 ACIAD RS06390 WP 004925639.1	I	V	E	I	Y	G	P	E	S	S	G	K	T	T	M	T	L	Q	A	I	A	Q	C	Q	K	A	G	G	T	C	A	F	I	D	A	E	H	A	L	D	P	Q	Y	A	R	K	L	G																																





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NTDB id 600 KW2 RS01765 WP 011675413.1	DEKIGQGA	EKAKNYL	KEHQDV	FDEID	HKVRAAH	GLDDSEVAET	...	EETTAS	KTAKAK	KKEEK	AVETEE	I	ELELED	387		
NTDB id 269 KZH43 RS08665 WP 001085462.1	DEKIGQGS	ENAKKYL	AEHPEI	FDEID	KQVRSKF	GLIDGEEVSEQ	...	DTENKK	DE	...	PKKEEA	..	VNEEVPLDLGDE	381		
NTDB id 228 SPD RS09265 WP 001085462.1	DEKIGQGS	ENAKKYL	AEHPEI	FDEID	KQVRSKF	GLIDGEEVSEQ	...	DTENKK	DE	...	PKKEEA	..	VNEEVPLDLGDE	381		
NTDB id 194 SPR RS08825 WP 001085462.1	DEKIGQGS	ENAKKYL	AEHPEI	FDEID	KQVRSKF	GLIDGEEVSEQ	...	DTENKK	DE	...	PKKEEA	..	VNEEVPLDLGDE	381		
NTDB id 159 SP RS09750 WP 001085462.1	DEKIGQGS	ENAKKYL	AEHPEI	FDEID	KQVRSKF	GLIDGEEVSEQ	...	DTENKK	DE	...	PKKEEA	..	VNEEVPLDLGDE	381		
NTDB id 499 SM12261 RS08315 WP 078228268.1	DEKIGQGS	ENAKKYL	ADNPEI	FDEID	HQVRVQF	GLIDGEEIAES	...	KKDE	...	AAQVDS	..	VNEEVTLDLGDE	377			
NTDB id 527 SMSK321 RS11065 WP 001085454.1	DEKIGQGS	ENAKKYL	ADNPEV	FAEID	HQVRVQF	GLIDGEEAAES	...	KKDE	...	VAQVDS	..	VNEEVTLDLGDE	377			
NTDB id 453 Spy49 1753c ACI62003.1	GEKIGQGS	ENAKRYL	ADHPQL	FDEID	RKVRVKF	GLLEESEEEESA	...	MAVASE	...	E	...	TDDLALDL	DN	373		
NTDB id 408 SMU RS09530 WP 002262392.1	GEKIGQGS	ENAKKFL	ADNPEI	FDDID	HKVRVQY	GLIEEDNTEEK	...	QSSKEK	...	ETDEK	..	ADKNLVLELDDT	378			
NTDB id 115 BSU 16940 NP 389576.2	EERLGG	RENAKQFL	KENKDI	MLMIQE	QIREHY	GLDNNGVVQQQ	...	AETQE	...	L	EFE	E	...	348		
NTDB id 625 LCA RS02525 WP 011374196.1	SERIGQG	RENAKNYL	ADHEDV	EDEV	RLKVR	AAAYG	ISDVPEEDLP	...	TTEDE	QI	NILPDDST	...	EE	355		
NTDB id 1313 DR RS12030 WP 010888966.1	DERIGQC	KEKTIAYI	AERP	MEQE	IRDRV	MAAIRAGNAGEAPALAPAPAAPEAA	...	...	...	...	...	...	...	363		
NTDB id 1245 Cj1673c YP 002345041.1	DKKLGQ	GRENSK	AFLE	KENPEI	ADEIT	KATQNSM	GLEGMISGS	...	EDD	..	E	...	...	343		
NTDB id 1214 NCTC11637 00359 SQJ03206.1	DKKLGQ	GRENAK	ALLK	EDKAL	ADEIT	LKIKESI	GSNEEIMPL	...	PDE	..	P	...	...	347		
NTDB id 1211 C694 RS00795 WP 000963128.1	DKKLGQ	GRENAK	ALLK	EDKAL	ADEIT	LKIKESI	GSNEEIMPL	...	PDE	..	P	...	...	347		
NTDB id 1334 RAOC RS04870 WP 004918236.1	DTKLGQ	GRD	TVKEL	IKDN	PEI	AEE	LEAKI	REKLQAK	...	...	...	...	...	343		
NTDB id 108134 AACH40 RS05025 WP 169492573.1	SIRIGQC	RENAKNYL	REHKEV	CDRL	EAA	TRSRTE	QVSEGLMA	...	GPDADD	...	DV	...	...	356		
NTDB id 1389 A4U84 RS07560 WP 021112712.1	GTKIGQG	KNNAV	KWLKEN	PEI	ADKLE	QEI	RNTLAS	NPNSVLK	...	ATASDS	ND	ES	DVEEF	...	372	
NTDB id 1130 NGFG RS03960 WP 003688695.1	GAKIGQG	KDNVR	VWLKEN	PEI	SDEI	DAK	IRALNC	VEMHITEG	...	T	...	Q	DE	TDGER	...	348
NTDB id 1124 NGFG RS03960 WP 003688695.1	GAKIGQG	KDNVR	VWLKEN	PEI	SDEI	DAK	IRALNC	VEMHITEG	...	T	...	Q	DE	TDGER	...	348
NTDB id 1123 OK783 RS03845 WP 003688695.1	GAKIGQG	KDNVR	VWLKEN	PEI	SDEI	DAK	IRALNC	VEMHITEG	...	T	...	Q	DE	TDGER	...	348
NTDB id 1427 RS RS02760 WP 011000510.1	GERIGQC	RDNC	REFL	RENAE	IARE	IENK	VREHL	CVTPMGAV	...	TLAEE	V	...	...	352		
NTDB id 1165 A1552VC RS01565 WP 000344154.1	GDKIGQG	KANACKYL	KENPEI	AKTLD	DKK	IREMLLN	PENMQLI	...	AETSSA	ADD	V	EFGAV	...	354		
NTDB id 1142 GTF74 RS11550 WP 000344154.1	GDKIGQG	KANACKYL	KENPEI	AKTLD	DKK	IREMLLN	PENMQLI	...	AETSSA	ADD	V	EFGAV	...	354		
NTDB id 1205 PSJM300 05545 AFN77183.1	GSKIGQC	KANA	AKYLE	ENPEI	GG	EIQ	QTRAKLL	VTSANTKA	...	TPVAED	L	...	...	347		
NTDB id 1022 ACIAD RS06390 WP 004925639.1	GNKIGQG	KNNVIR	YLEEN	PQI	ISTE	I	EA	VIREQLL	T	TKASD	QTA	...	A	349		
NTDB id 1074 ABD1 RS10195 WP 000344167.1	GNKIGQG	KNNVIR	YFEEN	NQI	A	E	I	ERNIREQLL	T	TG	NGAV	...	Q	349		
consensus	***!!!	*****	**	*	***	*****	**	**					*			

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LEIELEE

NTDB id 600 KW2 RS01765 WP 011675413.1	.....	387
NTDB id 269 KZH43 RS08665 WP 001085462.1	LEIEIEE	388
NTDB id 228 SPD RS09265 WP 001085462.1	LEIEIEE	388
NTDB id 194 SPR RS08825 WP 001085462.1	LEIEIEE	388
NTDB id 159 SP RS09750 WP 001085462.1	LEIEIEE	388
NTDB id 499 SM12261 RS08315 WP 078228268.1	LEIEIEE	384
NTDB id 527 SMSK321 RS11065 WP 001085454.1	LEIEIEE	384
NTDB id 453 Spy49 1753c ACI62003.1	IEIED..	378
NTDB id 408 SMU RS09530 WP 002262392.1	IELED..	383
NTDB id 115 BSU 16940 NP 389576.2	.....	348
NTDB id 625 LCA RS02525 WP 011374196.1	.....	355
NTDB id 1313 DR RS12030 WP 010888966.1	.....	363
NTDB id 1245 Cj1673c YP 002345041.1	.....	343
NTDB id 1214 NCTC11637 00359 SQJ03206.1	.....	347
NTDB id 1211 C694 RS00795 WP 000963128.1	.....	347
NTDB id 1334 RAOC RS04870 WP 004918236.1	.....	343
NTDB id 108134 AACH40 RS05025 WP 169492573.1	.....	356
NTDB id 1389 A4U84 RS07560 WP 021112712.1	.....	372
NTDB id 1130 NGFG RS03960 WP 003688695.1	.....	348
NTDB id 1124 NGFG RS03960 WP 003688695.1	.....	348
NTDB id 1123 OK783 RS03845 WP 003688695.1	.....	348
NTDB id 1427 RS RS02760 WP 011000510.1	.....	352
NTDB id 1165 A1552VC RS01565 WP 000344154.1	.....	354
NTDB id 1142 GTF74 RS11550 WP 000344154.1	.....	354
NTDB id 1205 PSJM300 05545 AFN77183.1	.....	347
NTDB id 1022 ACIAD RS06390 WP 004925639.1	.....	349
NTDB id 1074 ABD1 RS10195 WP 000344167.1	.....	349

consensus

⊠ non conserved  
⊠ similar  
⊠ ≥ 50% conserved