





logo



NTDB id 600 KW2 RS01765 WP 011675413.1	V	I	D	S	V	A	A	L	V	P	K	A	E	I	D	G	E	I	G	D	S	S	V	G	L	Q	A	R	M	S	Q	A	M	R	K	L	A	G	H	I	N	K	T	K	T	T	A	I	F	I	N	Q	L	R	E	K	V	G	V	M	.	F	G	S	P	E	T	T	P	G	G	R	A	L	K	F	Y	A	S	234	
NTDB id 269 KZH43 RS08665 WP 001085462.1	V	V	D	S	V	A	A	L	V	P	R	A	E	I	D	G	I	G	D	S	H	V	G	L	Q	A	R	M	S	Q	A	M	R	K	L	G	A	S	I	N	K	T	K	T	I	A	I	F	I	N	Q	L	R	E	K	V	G	V	M	.	F	G	N	P	E	T	T	P	G	G	R	A	L	K	F	Y	A	S	233		
NTDB id 228 SPD RS09265 WP 001085462.1	V	V	D	S	V	A	A	L	V	P	R	A	E	I	D	G	I	G	D	S	H	V	G	L	Q	A	R	M	S	Q	A	M	R	K	L	G	A	S	I	N	K	T	K	T	I	A	I	F	I	N	Q	L	R	E	K	V	G	V	M	.	F	G	N	P	E	T	T	P	G	G	R	A	L	K	F	Y	A	S	233		
NTDB id 194 SPR RS08825 WP 001085462.1	V	V	D	S	V	A	A	L	V	P	R	A	E	I	D	G	I	G	D	S	H	V	G	L	Q	A	R	M	S	Q	A	M	R	K	L	G	A	S	I	N	K	T	K	T	I	A	I	F	I	N	Q	L	R	E	K	V	G	V	M	.	F	G	N	P	E	T	T	P	G	G	R	A	L	K	F	Y	A	S	233		
NTDB id 159 SP RS09750 WP 001085462.1	V	V	D	S	V	A	A	L	V	P	R	A	E	I	D	G	I	G	D	S	H	V	G	L	Q	A	R	M	S	Q	A	M	R	K	L	G	A	S	I	N	K	T	K	T	I	A	I	F	I	N	Q	L	R	E	K	V	G	V	M	.	F	G	N	P	E	T	T	P	G	G	R	A	L	K	F	Y	A	S	233		
NTDB id 527 SMSK321 RS11065 WP 001085454.1	V	V	D	S	V	A	A	L	V	P	R	A	E	I	D	G	I	G	D	S	H	V	G	L	Q	A	R	M	S	Q	A	M	R	K	L	G	A	S	I	N	K	T	K	T	I	A	I	F	I	N	Q	L	R	E	K	V	G	V	M	.	F	G	N	P	E	T	T	P	G	G	R	A	L	K	F	Y	A	S	233		
NTDB id 499 SM12261 RS08315 WP 078228268.1	V	V	D	S	V	A	A	L	V	P	R	A	E	I	D	G	I	G	D	S	H	V	G	L	Q	A	R	M	S	Q	A	M	R	K	L	G	A	S	I	N	K	T	K	T	I	A	I	F	I	N	Q	L	R	E	K	V	G	V	M	.	F	G	N	P	E	T	T	P	G	G	R	A	L	K	F	Y	A	S	233		
NTDB id 453 Spy49 1753c ACI62003.1	V	V	D	S	V	A	A	L	V	P	R	A	E	I	D	G	I	G	D	S	H	V	G	L	Q	A	R	M	S	Q	A	M	R	K	L	S	A	S	I	N	K	T	K	T	I	A	I	F	I	N	Q	L	R	E	K	V	G	V	M	.	F	G	N	P	E	T	T	P	G	G	R	A	L	K	F	Y	A	S	233		
NTDB id 408 SMU RS09530 WP 002262392.1	V	V	D	S	V	A	A	L	V	P	R	A	E	I	D	G	I	G	D	S	H	V	G	L	Q	A	R	M	S	Q	A	M	R	K	L	S	A	S	I	N	K	T	K	T	I	A	I	F	I	N	Q	L	R	E	K	V	G	V	M	.	F	G	N	P	E	T	T	P	G	G	R	A	L	K	F	Y	S	S	233		
NTDB id 115 BSU 16940 NP 389576.2	V	V	D	S	V	A	A	L	V	P	K	A	E	I	E	G	M	G	D	S	H	V	G	L	Q	A	R	L	M	S	Q	A	L	R	K	L	S	G	A	I	N	K	S	K	T	I	A	I	F	I	N	Q	I	R	E	K	V	G	V	M	.	F	G	N	P	E	T	T	P	G	G	R	A	L	K	F	Y	S	S	218	
NTDB id 625 LCA RS02525 WP 011374196.1	V	V	D	S	V	A	A	L	V	P	R	A	E	I	E	G	M	G	D	A	H	V	G	L	Q	A	R	L	M	S	Q	A	L	R	K	L	S	G	T	I	N	K	T	K	T	I	A	I	F	I	N	Q	I	R	E	K	V	G	V	M	.	F	G	N	P	E	V	T	P	G	G	R	A	L	K	F	Y	S	T	220	
NTDB id 1313 DR RS12030 WP 010888966.1	V	V	D	S	V	A	A	L	T	P	R	A	E	I	E	G	M	G	D	S	L	P	G	L	Q	A	R	L	M	S	Q	A	L	R	K	L	T	A	I	L	S	K	T	G	T	A	A	I	F	I	N	Q	V	R	E	K	I	G	V	M	.	Y	G	N	P	E	T	T	T	P	G	G	R	A	L	K	F	Y	A	S	232
NTDB id 1245 Cj1673c YP 002345041.1	V	V	D	S	V	A	A	L	T	P	K	A	E	I	E	G	M	G	D	Q	H	V	G	L	Q	A	R	L	M	S	Q	A	L	R	K	L	T	G	I	V	H	K	M	N	T	T	V	I	F	I	N	Q	I	R	M	K	I	G	A	M	G	Y	G	T	P	E	T	T	T	P	G	G	N	A	L	K	F	Y	A	S	220
NTDB id 1214 NCTC11637 00359 SQJ03206.1	V	V	D	S	V	A	A	L	T	P	K	A	E	I	D	G	M	G	D	Q	H	V	G	L	Q	A	R	L	M	S	H	A	L	R	K	I	T	G	V	L	H	K	M	N	T	T	L	I	F	I	N	Q	I	R	M	K	I	G	M	M	G	Y	G	S	P	E	T	T	T	P	G	G	N	A	L	K	F	Y	A	S	222
NTDB id 1211 C694 RS00795 WP 000963128.1	V	V	D	S	V	A	A	L	T	P	K	A	E	I	D	G	M	G	D	Q	H	V	G	L	Q	A	R	L	M	S	H	A	L	R	K	I	T	G	V	L	H	K	M	N	T	T	L	I	F	I	N	Q	I	R	M	K	I	G	M	M	G	Y	G	S	P	E	T	T	T	P	G	G	N	A	L	K	F	Y	A	S	222
NTDB id 1334 RAOC RS04870 WP 004918236.1	V	V	D	S	V	A	A	L	T	P	K	A	E	I	D	G	M	G	D	S	K	M	G	L	H	A	R	L	M	S	Q	A	L	R	K	L	T	S	S	I	S	K	T	K	T	V	I	F	I	N	Q	L	R	D	K	I	G	V	M	.	F	G	S	P	E	T	T	T	P	G	G	N	A	L	K	F	Y	A	S	228	
NTDB id 1389 A4U84 RS07560 WP 021112712.1	I	V	D	S	V	A	A	L	T	P	K	A	E	I	E	G	M	G	D	S	H	M	G	L	Q	A	R	L	M	S	Q	A	L	R	K	L	T	A	N	I	K	N	T	N	C	L	V	V	F	I	N	Q	I	R	M	K	I	G	V	M	.	F	G	N	P	E	T	T	T	P	G	G	N	A	L	K	F	Y	A	S	236
NTDB id 1130 NGFG RS03960 WP 003688695.1	V	V	D	S	V	A	A	L	V	P	K	A	E	I	E	G	M	G	D	S	H	V	G	L	Q	A	R	L	M	S	Q	A	L	R	K	L	T	G	H	I	K	K	T	N	T	L	V	V	F	I	N	Q	I	R	M	K	I	G	V	M	.	F	G	S	P	E	T	T	T	P	G	G	N	A	L	K	F	Y	S	S	220
NTDB id 1124 NGFG RS03960 WP 003688695.1	V	V	D	S	V	A	A	L	V	P	K	A	E	I	E	G	M	G	D	S	H	V	G	L	Q	A	R	L	M	S	Q	A	L	R	K	L	T	G	H	I	K	K	T	N	T	L	V	V	F	I	N	Q	I	R	M	K	I	G	V	M	.	F	G	S	P	E	T	T	T	P	G	G	N	A	L	K	F	Y	S	S	220
NTDB id 1123 OK783 RS03845 WP 003688695.1	V	V	D	S	V	A	A	L	V	P	K	A	E	I	E	G	M	G	D	S	H	V	G	L	Q	A	R	L	M	S	Q	A	L	R	K	L	T	G	H	I	K	K	T	N	T	L	V	V	F	I	N	Q	I	R	M	K	I	G	V	M	.	F	G	S	P	E	T	T	T	P	G	G	N	A	L	K	F	Y	S	S	220
NTDB id 211441 BTL54 RS13435 WP 003812760.1	V	I	D	S	V	A	A	L	V	P	K	A	E	I	E	G	M	G	D	S	L	P	G	L	Q	A	R	L	M	S	Q	A	L	R	K	L	T	A	T	I	K	R	T	N	C	M	V	I	F	I	N	Q	I	R	M	K	I	G	V	M	.	F	G	N	P	E	T	T	T	P	G	G	N	A	L	K	F	Y	S	S	228
NTDB id 1427 RS RS02760 WP 011000510.1	V	I	D	S	V	A	A	L	V	P	K	A	E	I	E	G	M	G	D	A	L	P	G	L	Q	A	R	L	M	S	Q	A	L	R	K	L	T	G	T	I	K	R	T	N	C	L	V	I	F	I	N	Q	I	R	M	K	I	G	V	M	.	F	G	S	P	E	T	T	T	P	G	G	N	A	L	K	F	Y	A	S	228
NTDB id 1165 A1552VC RS01565 WP 000344154.1	V	V	D	S	V	A	A	L	T	P	K	A	E	I	E	G	M	G	D	S	H	M	G	L	Q	A	R	L	M	S	Q	A	M	R	K	L	T	G	N	L	K	Q	S	N	C	M	C	I	F	I	N	Q	I	R	M	K	I	G	V	M	.	F	G	N	P	E	T	T	T	P	G	G	N	A	L	K	F	Y	A	S	219
NTDB id 1142 GTF74 RS11550 WP 000344154.1	V	V	D	S	V	A	A	L	T	P	K	A	E	I	E	G	M	G	D	S	H	M	G	L	Q	A	R	L	M	S	Q	A	M	R	K	L	T	G	N	L	K	Q	S	N	C	M	C	I	F	I	N	Q	I	R	M	K	I	G	V	M	.	F	G	N	P	E	T	T	T	P	G	G	N	A	L	K	F	Y	A	S	219
NTDB id 1205 PSJM300 05545 AFN77183.1	I	V	D	S	V	A	A	L	V	P	K	A	E	I	E	G	M	G	D	A	H	V	G	L	Q	A	R	L	M	S	Q	A	L	R	K	I	T	G	N	I	K	N	A	N	C	L	V	I	F	I	N	Q	I	R	M	K	I	G	V	M	.	F	G	S	P	E	T	T	T	P	G	G	N	A	L	K	F	Y	A	S	219
NTDB id 10																																																																																	



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NTDB id 600 KW2 RS01765 WP 011675413.1	EKIGQGA	EKAKNYLKEHQDVFDEIDHKVRAAHGILDDSEVAE..TEEETTASKTAKAKKKEEKAVETEEIELELED...	387
NTDB id 269 KZH43 RS08665 WP 001085462.1	EKIGQGS	ENAKKYLAEHPEIFDEIDKQVRSKFGIDGEEVSE..QDTENKKDE...PKKEEA..VNEEVPLDLGDELEI	384
NTDB id 228 SPD RS09265 WP 001085462.1	EKIGQGS	ENAKKYLAEHPEIFDEIDKQVRSKFGIDGEEVSE..QDTENKKDE...PKKEEA..VNEEVPLDLGDELEI	384
NTDB id 194 SPR RS08825 WP 001085462.1	EKIGQGS	ENAKKYLAEHPEIFDEIDKQVRSKFGIDGEEVSE..QDTENKKDE...PKKEEA..VNEEVPLDLGDELEI	384
NTDB id 159 SP RS09750 WP 001085462.1	EKIGQGS	ENAKKYLAEHPEIFDEIDKQVRSKFGIDGEEVSE..QDTENKKDE...PKKEEA..VNEEVPLDLGDELEI	384
NTDB id 527 SMSK321 RS11065 WP 001085454.1	EKIGQGS	ENAKKYLADNPEVFAEIDHQVVRVQFGLIDGEEAAE.....SKKDE...VAQVDS..VNEEVTLDLGDELEI	380
NTDB id 499 SM12261 RS08315 WP 078228268.1	EKIGQGS	ENAKKYLADNPEIFDEIDHQVVRVQFGLIDGEEIAE.....SKKDE...AAQVDS..VNEEVTLDLGDELEI	380
NTDB id 453 Spy49 1753c ACI62003.1	EKIGQGS	ENAKRYLADHPQLFDEIDRKRVRVKFGLLEESEEEES..AMAVASE.....E.....TDDLALDLNGIEI	376
NTDB id 408 SMU RS09530 WP 002262392.1	EKIGQGS	ENAKKFLADNPEIFDDIDHKVVRVQYGLIEEDNTEE..KQSSKEK.....ETDEK..ADKNLVLELDDTIEL	381
NTDB id 115 BSU 16940 NP 389576.2	ERLGGG	RENAKQFLKENKDIMLMIQEQIREHYGLDNNGVVQQ..QAEETQEEL.EFE.E.....	348
NTDB id 625 LCA RS02525 WP 011374196.1	ERIGQG	RENAKNYLADHEDVEDEVRLKVRAAYGISDVPEEDL..PTTEDE.QI.NILPDDST.....EE.....	355
NTDB id 1313 DR RS12030 WP 010888966.1	ERIGQG	KEKTIAYTAERPEMEQEIRDRVMAAIRAGNAGEAPALAPAPAAPEAA.EA.....	363
NTDB id 1245 Cj1673c YP 002345041.1	KKLGQG	RENSKAFLEKPEIADEITKAIQNSMGTIEGMIS..GSE....DDEGE.E.....	343
NTDB id 1214 NCTC11637 00359 SQJ03206.1	KKLGQG	RENAKALLKEDKALADEITLKI KESIGSNEEIM..PLP...DEPLE.EME.....	347
NTDB id 1211 C694 RS00795 WP 000963128.1	KKLGQG	RENAKALLKEDKALADEITLKI KESIGSNEEIM..PLP...DEPLE.EME.....	347
NTDB id 1334 RAOC RS04870 WP 004918236.1	TKLGQG	RDVTVKELIKDNPELAELEAKIREKLQAK.....	343
NTDB id 1389 A4U84 RS07560 WP 021112712.1	TKIGQG	KNNAVKWLKENPEIADKLEQIRNTLASNPNSV..LKATASDSNDES.DVEEF.....SEEL.....	372
NTDB id 1130 NGFG RS03960 WP 003688695.1	AKIGQG	KDNVRVWLKENPEISDEIDAKIRALNGVEMHIT..E.....GTQDE.TDGER.....PEE.....	348
NTDB id 1124 NGFG RS03960 WP 003688695.1	AKIGQG	KDNVRVWLKENPEISDEIDAKIRALNGVEMHIT..E.....GTQDE.TDGER.....PEE.....	348
NTDB id 1123 OK783 RS03845 WP 003688695.1	AKIGQG	KDNVRVWLKENPEISDEIDAKIRALNGVEMHIT..E.....GTQDE.TDGER.....PEE.....	348
NTDB id 211441 BTL54 RS13435 WP 003812760.1	NRIGQG	KDNVREYLKEHKEMAIIEIENKVRNQCIVSRAA..T.FPASEAEDGE.....	353
NTDB id 1427 RS RS02760 WP 011000510.1	ERIGQG	RDNCREFLRENAELAREIENKVRHLGVTPMGA..V.TLAEEVEED.....	352
NTDB id 1165 A1552VC RS01565 WP 000344154.1	DKIGQG	KANACKYLLKENPEIAKTLDKKLRMMLNPNENMQ..LIAETSSAADDV.EFGAV.....PEEF.....	354
NTDB id 1142 GTF74 RS11550 WP 000344154.1	DKIGQG	KANACKYLLKENPEIAKTLDKKLRMMLNPNENMQ..LIAETSSAADDV.EFGAV.....PEEF.....	354
NTDB id 1205 PSJM300 05545 AFN77183.1	SKIGQG	KANAACKYLEENPEIGQEIEQQIRAKLLVTSANT..KATPVAEDLADA.DI.....	347
NTDB id 1022 ACIAD RS06390 WP 004925639.1	NKIGQG	KNNVIRYLEENPQISTEIEAVIREQLLTKASDQ..TAA.HDETEEEP.DLL.....ES.....	349
NTDB id 1074 ABD1 RS10195 WP 000344167.1	NKIGQG	KNNVIRYFEENNQIAEEIERNIREQLLTTGTNG..AVQ.I.EDEEEP.DLL.....LES.....	349
consensus		***!!!***** ** * *** ***** ** ** *	

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NTDB id 600 KW2 RS01765 WP 011675413.1	....	387
NTDB id 269 KZH43 RS08665 WP 001085462.1	EIEE	388
NTDB id 228 SPD RS09265 WP 001085462.1	EIEE	388
NTDB id 194 SPR RS08825 WP 001085462.1	EIEE	388
NTDB id 159 SP RS09750 WP 001085462.1	EIEE	388
NTDB id 527 SMSK321 RS11065 WP 001085454.1	EIEE	384
NTDB id 499 SM12261 RS08315 WP 078228268.1	EIEE	384
NTDB id 453 Spy49 1753c ACI62003.1	ED..	378
NTDB id 408 SMU RS09530 WP 002262392.1	ED..	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 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 211441 BTL54 RS13435 WP 003812760.1	....	353
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