





logo



NTDB id 625 LCA RS02525 WP 011374196.1	L	V	V	D	S	V	A	A	L	V	P	K	A	E	I	E	G	E	M	G	D	S	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	L	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	219	
NTDB id 79339 KH172YL63 RS08055 WP 173105620.1	I	V	I	D	S	V	A	A	L	V	P	K	A	E	I	E	G	E	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	L	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	217	
NTDB id 115 BSU 16940 NP 389576.2	V	V	V	D	S	V	A	A	L	V	P	K	A	E	I	E	G	E	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	L	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	217	
NTDB id 600 KW2 RS01765 WP 011675413.1	V	V	I	D	S	V	A	A	L	V	P	K	A	E	I	D	G	E	I	G	D	S	V	V	G	L	Q	A	R	M	S	Q	A	M	R	K	L	A	G	H	I	N	K	T	K	T	I	A	L	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	233		
NTDB id 269 KZH43 RS08665 WP 001085462.1	V	V	V	D	S	V	A	A	L	V	P	K	A	E	I	D	G	D	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	L	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	232		
NTDB id 228 SPD RS09265 WP 001085462.1	V	V	V	D	S	V	A	A	L	V	P	K	A	E	I	D	G	D	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	L	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	232		
NTDB id 194 SPR RS08825 WP 001085462.1	V	V	V	D	S	V	A	A	L	V	P	K	A	E	I	D	G	D	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	L	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	232		
NTDB id 159 SP RS09750 WP 001085462.1	V	V	V	D	S	V	A	A	L	V	P	K	A	E	I	D	G	D	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	L	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	232		
NTDB id 499 SM12261 RS08315 WP 078228268.1	V	V	V	D	S	V	A	A	L	V	P	K	A	E	I	D	G	D	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	L	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	232		
NTDB id 527 SMSK321 RS11065 WP 001085454.1	V	V	V	D	S	V	A	A	L	V	P	K	A	E	I	D	G	D	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	L	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	232		
NTDB id 408 SMU RS09530 WP 002262392.1	V	V	V	D	S	V	A	A	L	V	P	K	A	E	I	D	G	D	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	L	F	I	N	Q	L	R	E	K	V	G	T	M	F	G	N	P	E	T	T	P	G	G	R	A	L	K	F	Y	S	232		
NTDB id 453 Spy49 1753c ACI62003.1	V	V	V	D	S	V	A	A	L	V	P	K	A	E	I	D	G	D	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	L	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	232		
NTDB id 1313 DR RS12030 WP 010888966.1	V	V	V	D	S	V	A	A	L	T	P	K	A	E	I	E	G	D	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	L	F	I	N	Q	V	R	E	K	I	G	V	M	Y	G	N	P	E	T	T	P	G	G	R	A	L	K	F	Y	A	231	
NTDB id 1245 Cj1673c YP 002345041.1	I	V	V	D	S	V	A	A	L	T	P	K	A	E	I	E	G	D	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	P	G	G	R	A	L	K	F	Y	A	219
NTDB id 1211 C694 RS00795 WP 000963128.1	V	V	V	D	S	V	A	A	L	T	P	K	A	E	I	D	G	D	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	G	Y	G	S	P	E	T	T	P	G	G	R	A	L	K	F	Y	A	221	
NTDB id 1214 NCTC11637 00359 SQJ03206.1	V	V	V	D	S	V	A	A	L	T	P	K	A	E	I	D	G	D	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	G	Y	G	S	P	E	T	T	P	G	G	R	A	L	K	F	Y	A	221	
NTDB id 1334 RAOC RS04870 WP 004918236.1	V	V	V	D	S	V	A	A	L	T	P	K	A	E	I	D	G	D	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	C	T	V	I	F	I	N	Q	L	R	D	K	I	G	V	M	F	G	S	P	E	T	T	P	G	G	R	A	L	K	F	Y	A	227	
NTDB id 1389 A4U84 RS07560 WP 021112712.1	I	I	I	V	D	S	V	A	A	L	T	P	K	A	E	I	E	G	D	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	P	G	G	R	A	L	K	F	Y	A	235
NTDB id 1130 NGFG RS03960 WP 003688695.1	V	V	V	D	S	V	A	A	L	V	P	K	A	E	I	E	G	D	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	P	G	G	R	A	L	K	F	Y	S	219	
NTDB id 1124 NGFG RS03960 WP 003688695.1	V	V	V	D	S	V	A	A	L	V	P	K	A	E	I	E	G	D	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	P	G	G	R	A	L	K	F	Y	S	219	
NTDB id 1123 OK783 RS03845 WP 003688695.1	V	V	V	D	S	V	A	A	L	V	P	K	A	E	I	E	G	D	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	P	G	G	R	A	L	K	F	Y	S	219	
NTDB id 1427 RS RS02760 WP 011000510.1	I	V	I	D	S	V	A	A	L	V	P	K	A	E	I	E	G	E	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	P	G	G	R	A	L	K	F	Y	A	227	
NTDB id 1165 A1552VC RS01565 WP 000344154.1	I	V	V	D	S	V	A	A	L	T	P	K	A	E	I	E	G	E	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	P	G	G	R	A	L	K	F	Y	A	218	
NTDB id 1142 GTF74 RS11550 WP 000344154.1	I	V	V	D	S	V	A	A	L	T	P	K	A	E	I	E	G	E	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	P	G	G	R	A	L	K	F	Y	A	218	
NTDB id 1022 ACIAD RS06390 WP 004925639.1	I	V	V	D	S	V	A	A	L	T	P	K	A	E	I	E	G	E	M	G	D	S	H	M	G	L	Q	A	R	L	M	S	Q	A	L	R	K	I	T	G	N	A	K	R	S	N	C	M	V	I	F	I	N	Q	I	R	M	K	I	G	V	M	F	G	S	P	E	T	T	P	G	G	R	A	L	K	F	Y	A	218	
NTDB id 1074 ABD1 RS10195 WP 000344167.1	I	V	V	D	S	V	A	A	L	T	P	K	A	E	I	E	G	E	M	G	D	S	H	M	G	L	Q	A	R	L	M	S	Q	A	L	R	K	I	T	G	N	A	K	R	S	N	C	M	V	I	F	I	N	Q	I	R	M	K	I	G	V	M	F	G	S	P	E	T	T	P	G	G	R	A	L	K	F	Y	A	218	
NTDB id 1205 PSJM300 05545 AFN77183.1	I	I	V	D	S	V	A	A	L	V	P	K	A	E	I	E	G	E	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														



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NTDB id 625 LCA RS02525 WP 011374196.1	SERIGQGRENAKNYLADHEDVEDEVRLKVRRAAYGTS	SDVPEEDLPTTE.DEQIN.....ILPDDSTEE.	355
NTDB id 79339 KH172YL63 RS08055 WP 173105620.1	EERLGQGRENAKQFLKENPEIRTEIMLKIREHYGLD	TGRAETDEDG...ALS.....LLED.....	345
NTDB id 115 BSU 16940 NP 389576.2	EERLGQGRENAKQFLKENKDIMLMIQEQIREHYGLD	NNGVVQQAEETQEELE.....FEE.....	348
NTDB id 600 KW2 RS01765 WP 011675413.1	DEKIGQGAEKAKNYLKEHQDVDFEIDHKVRAAHC	LDDSEVAETEEETTASHTKAKAKKEEKAVETEEIELE	387
NTDB id 269 KZH43 RS08665 WP 001085462.1	DEKIGQGSENAKKYLAEHPFIFDEIDKQVRSKFG	LIDGEEVSEQDTENKKDE...PKKEEA..VNEEVPLDLGDELEIE	385
NTDB id 228 SPD RS09265 WP 001085462.1	DEKIGQGSENAKKYLAEHPFIFDEIDKQVRSKFG	LIDGEEVSEQDTENKKDE...PKKEEA..VNEEVPLDLGDELEIE	385
NTDB id 194 SPR RS08825 WP 001085462.1	DEKIGQGSENAKKYLAEHPFIFDEIDKQVRSKFG	LIDGEEVSEQDTENKKDE...PKKEEA..VNEEVPLDLGDELEIE	385
NTDB id 159 SP RS09750 WP 001085462.1	DEKIGQGSENAKKYLAEHPFIFDEIDKQVRSKFG	LIDGEEVSEQDTENKKDE...PKKEEA..VNEEVPLDLGDELEIE	385
NTDB id 499 SM12261 RS08315 WP 078228268.1	DEKIGQGSENAKKYLADNPEIFDEIDHKVVRVQF	LIDGEEIAES...KKDE...AAQVDS..VNEEVTLDLGDELEIE	381
NTDB id 527 SMSK321 RS11065 WP 001085454.1	DEKIGQGSENAKKYLADNPEVFAEIDHQVVRVQF	LIDGEEAAES...KKDE...VAQVDS..VNEEVTLDLGDELEIE	381
NTDB id 408 SMU RS09530 WP 002262392.1	GEKIGQGSENAKKFLADNPEIFDDIDHKVVRVQY	LIEEDNTEEKQSSKEK.....ETDEK..ADKNLVLELDDTIELE	382
NTDB id 453 Spy49 1753c ACI62003.1	GEKIGQGSENAKRYLADHPQLFDEIDRKVVRVKF	CLLEESEEEESAMAVASE.....E.....TDDLALDLNNGIEIE	377
NTDB id 1313 DR RS12030 WP 010888966.1	DERIGQGKEKTIAYIAERPMEQEIRDRVMAAIR	AGNAGEAPALAPAPAAPEAAE..A.....	363
NTDB id 1245 Cj1673c YP 002345041.1	DKKLGQGRENSKAEFLKENPEIADEITKATQNSM	TEGMI....SGSEDD..EGE..E.....	343
NTDB id 1211 C694 RS00795 WP 000963128.1	DKKLGQGRENAKALLKEDKALADEITLKIKESIG	SNEEI....MPLPDE..PLE..EME.....	347
NTDB id 1214 NCTC11637 00359 SQJ03206.1	DKKLGQGRENAKALLKEDKALADEITLKIKESIG	SNEEI....MPLPDE..PLE..EME.....	347
NTDB id 1334 RAO C RS04870 WP 004918236.1	DTKLGQGRD TVKELTKDNPEIAEELAKIREKLQ	AK.....	343
NTDB id 1389 A4U84 RS07560 WP 021112712.1	GTKIGQGKNNAVKWLKENPEIADKLEQEIRNTLA	SNPNS....VLKATASDSND..ESDVVEEFSEEL.....	372
NTDB id 1130 NGFG RS03960 WP 003688695.1	GAKIGQGKDNVRVWLKENPEISDEIDAKIRALN	GVEMHI....TEGTQDET DGE..R.....PEE.....	348
NTDB id 1124 NGFG RS03960 WP 003688695.1	GAKIGQGKDNVRVWLKENPEISDEIDAKIRALN	GVEMHI....TEGTQDET DGE..R.....PEE.....	348
NTDB id 1123 OK783 RS03845 WP 003688695.1	GAKIGQGKDNVRVWLKENPEISDEIDAKIRALN	GVEMHI....TEGTQDET DGE..R.....PEE.....	348
NTDB id 1427 RS RS02760 WP 011000510.1	GERIGQGRDNCREFLRENAREIENKVRREHL	CVTPMG....AVTLA.EEVEE..D.....	352
NTDB id 1165 A1552VC RS01565 WP 000344154.1	GDKIGQGKANACKYLLKENPEIAKTLDKKLREML	LNPNM....QLIAETSSAAD..DVEFGAVPEEF.....	354
NTDB id 1142 GTF74 RS11550 WP 000344154.1	GDKIGQGKANACKYLLKENPEIAKTLDKKLREML	LNPNM....QLIAETSSAAD..DVEFGAVPEEF.....	354
NTDB id 1022 ACIAD RS06390 WP 004925639.1	GNKIGQGKNNVIRYLEENPQISTEIEAVIREQL	LTKASD....QTAA.HDETEE..EPDLL..ES.....	349
NTDB id 1074 ABD1 RS10195 WP 000344167.1	GNKIGQGKNNVIRYFEENNQIAEIEIERNIRE	QLLTTGTN....GAVQ..I.EDEE..EPDLL..LES.....	349
NTDB id 1205 PSJM300 05545 AFN77183.1	GSKIGQGKANAAKYLEENPEIGQEIEQQIRAKL	LVTSAN....TKATPVAEDLA..DADI.....	347
consensus	***!!!** ** * * * * * * * * * * * * * * * * * *		

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NTDB id	Accession	Conservation	Score
625	LCA RS02525 WP 011374196.1	...	355
79339	KH172YL63 RS08055 WP 173105620.1	...	345
115	BSU 16940 NP 389576.2	...	348
600	KW2 RS01765 WP 011675413.1	...	387
269	KZH43 RS08665 WP 001085462.1	IEE	388
228	SPD RS09265 WP 001085462.1	IEE	388
194	SPR RS08825 WP 001085462.1	IEE	388
159	SP RS09750 WP 001085462.1	IEE	388
499	SM12261 RS08315 WP 078228268.1	IEE	384
527	SMSK321 RS11065 WP 001085454.1	IEE	384
408	SMU RS09530 WP 002262392.1	D..	383
453	Spy49 1753c ACI62003.1	D..	378
1313	DR RS12030 WP 010888966.1	...	363
1245	Cj1673c YP 002345041.1	...	343
1211	C694 RS00795 WP 000963128.1	...	347
1214	NCTC11637 00359 SQJ03206.1	...	347
1334	RAOC RS04870 WP 004918236.1	...	343
1389	A4U84 RS07560 WP 021112712.1	...	372
1130	NGFG RS03960 WP 003688695.1	...	348
1124	NGFG RS03960 WP 003688695.1	...	348
1123	OK783 RS03845 WP 003688695.1	...	348
1427	RS RS02760 WP 011000510.1	...	352
1165	A1552VC RS01565 WP 000344154.1	...	354
1142	GTF74 RS11550 WP 000344154.1	...	354
1022	ACIAD RS06390 WP 004925639.1	...	349
1074	ABD1 RS10195 WP 000344167.1	...	349
1205	PSJM300 05545 AFN77183.1	...	347

consensus

⊠ non conserved  
⊠ similar  
⊠ ≥ 50% conserved