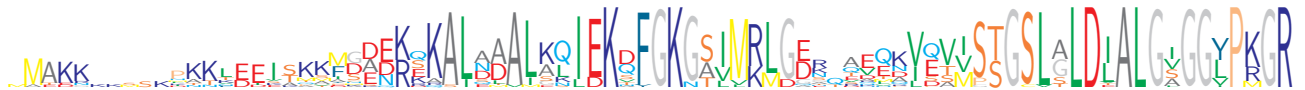


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NTDB id 1081648 ACK2I2 RS12990 WP 004842695.1	.....MASDEKKKALDAATAKLEKDFGKGTVMKLGEG.SHVAVETVPTGCLISLDLALGLGGVPKGR	60
NTDB id 600 KW2 RS01765 WP 011675413.1	MATKK....KTNFDDITKKYGAERDKALADALALIEKDFGKGSIMRLGEEA.ANQKVSVVSSGSLALDIALGAGGYPKGR	74
NTDB id 269 KZH43 RS08665 WP 001085462.1	.MAKK....PKKLEEISKKFGEAREKALNDALKLIEKDFGKGSIMRLGER.AEQKVQVMSSGSLALDIALGSGGYPKGR	73
NTDB id 228 SPD RS09265 WP 001085462.1	.MAKK....PKKLEEISKKFGEAREKALNDALKLIEKDFGKGSIMRLGER.AEQKVQVMSSGSLALDIALGSGGYPKGR	73
NTDB id 194 SPR RS08825 WP 001085462.1	.MAKK....PKKLEEISKKFGEAREKALNDALKLIEKDFGKGSIMRLGER.AEQKVQVMSSGSLALDIALGSGGYPKGR	73
NTDB id 159 SP RS09750 WP 001085462.1	.MAKK....PKKLEEISKKFGEAREKALNDALKLIEKDFGKGSIMRLGER.AEQKVQVMSSGSLALDIALGSGGYPKGR	73
NTDB id 499 SM12261 RS08315 WP 078228268.1	.MAKK....PKKLDEISKKFGEAREKALNDALKLIEKDFGKGSIMRLGER.AEQKVQVMSSGSLALDIALGSGGYPKGR	73
NTDB id 527 SMSK321 RS11065 WP 001085454.1	.MAKK....PKKLDEISKKFGEAREKALNDALKLIEKDFGKGSIMRLGER.AEQKVQVMSSGSLALDIALGSGGYPKGR	73
NTDB id 453 Spy49 1753c ACI62003.1	.MAKK....LKKNEEITKKFGDERRKALDDALKNIEKDFGKGAVMRLGER.AEQKVQVMSSGSLALDIALGAGGYPKGR	73
NTDB id 408 SMU RS09530 WP 002262392.1	.MAKR....IKKTEEITKKFGDERKALDDALKNIEKDFGKGAVMRLGER.AEQKVQVMSSGSLALDIALGAGGYPKGR	73
NTDB id 115 BSU 16940 NP 389576.2	.....MSDRQAALDMALKQIEKQFGKGSIMKLGEEK.TDTRLISTVPSGSLALDTALGIGGYPKGR	58
NTDB id 625 LCA RS02525 WP 011374196.1	.....MAKDERQAALDAALKKIEKNFGKGSIMRMGEEK.VDTQVSTVSSGSLALDEALGVGGYPKGR	60
NTDB id 1313 DR RS12030 WP 010888966.1	.....MSKDATKEISAPTDAKERSKATETAMSQIEKAFGKGSIMKLGAE.SKLDVQVVSTGSLSLDLALGVGGIPKGR	72
NTDB id 1245 Cj1673c YP 002345041.1	.....MDNKRKSLDAALKS LDKTFGKGTILRLGDK.EVEQIDSIGTGSVGLDLALGIGGVPKGR	59
NTDB id 1211 C694 RS00795 WP 000963128.1	.....MAIDEDKQKATISLAIKQIDKVFGKGALVRLGDK.QVEKIDSISTGSLGLDLALGIGGVPKGR	61
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NTDB id 1334 RAOC RS04870 WP 004918236.1	.....MAKT..ETTSPNDDKKKALAAVLEKLDKTYGKGTVMKLGEGTVDHNIETVPSGSLGLDLALGVGGYPKGR	68
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NTDB id 1124 NGFG RS03960 WP 003688695.1	.....MSDDKSKALAAALAQIEKSFSGKGAIMKMDGSQEQEENLEVIISTGSLGLDLALGVGGLPKGR	60
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NTDB id 1165 A1552VC RS01565 WP 000344154.1	.....MDENKQKALAAALGQIEKQFGKGSIMRLGDN.RAMDVETISTGSLSLDIALGAGGLPMGR	59
NTDB id 1142 GTF74 RS11550 WP 000344154.1	.....MDENKQKALAAALGQIEKQFGKGSIMRLGDN.RAMDVETISTGSLSLDIALGAGGLPMGR	59
NTDB id 1074 ABD1 RS10195 WP 000344167.1	.....MDENKSKALQAALSQIEKQFGKNTVMRLGDN.TVQAVEAVSTGSLTLDIALGIGGLPKGR	59
NTDB id 1022 ACIAD RS06390 WP 004925639.1	.....MDENKSKALQAALSQIEKQFGKNTVMRLGDN.TVQAVEAVSTGSLTLDIALGIGGLPKGR	59
NTDB id 1205 PSJM300 05545 AFN77183.1	.....MDENKRALAAALGQIEKQFGKGAVMRMGDH.DRQAIPSIISTGSLGLDIALGIGGLPKGR	59
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NTDB id 1081648 ACK2I2 RS12990 WP 004842695.1	I	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	P	V	I	S	K	S	N	C	V	V	I	F	I	N	Q	L	R	E	K	V	G	V	M	F	G	N	P	E	T	T	T	G	G	R	A	L	K	F	Y	A	S	219	
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	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	233			
NTDB id 269 KZH43 RS08665 WP 001085462.1	V	V	V	D	S	V	A	A	L	V	P	R	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	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	232		
NTDB id 228 SPD RS09265 WP 001085462.1	V	V	V	D	S	V	A	A	L	V	P	R	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	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	232		
NTDB id 194 SPR RS08825 WP 001085462.1	V	V	V	D	S	V	A	A	L	V	P	R	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	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	232		
NTDB id 159 SP RS09750 WP 001085462.1	V	V	V	D	S	V	A	A	L	V	P	R	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	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	232		
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NTDB id 453 Spy49 1753c ACI62003.1	V	V	V	D	S	V	A	A	L	V	P	R	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	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	232		
NTDB id 408 SMU RS09530 WP 002262392.1	V	V	V	D	S	V	A	A	L	V	P	R	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	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	232		
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NTDB id 1313 DR RS12030 WP 010888966.1	V	V	V	D	S	V	A	A	L	T	P	R	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	I	F	I	N	Q	V	R	E	K	I	G	V	M	Y	G	N	P	E	T	T	T	G	G	R	A	L	K	F	Y	A	231	
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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	T	G	G	N	A	L	K	F	Y	A	221	
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NTDB id 1389 A4U84 RS07560 WP 021112712.1	I	T	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	T	G	G	N	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	T	G	G	N	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	T	G	G	N	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	T	G	G	N	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	T	G	G	N	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	T	G	G	N	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	T	G	G	N	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	T	G	G	N	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	T	G	G	N	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	T													



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NTDB id 1081648 ACK2I2 RS12990 WP 004842695.1  
 NTDB id 600 KW2 RS01765 WP 011675413.1  
 NTDB id 269 KZH43 RS08665 WP 001085462.1  
 NTDB id 228 SPD RS09265 WP 001085462.1  
 NTDB id 194 SPR RS08825 WP 001085462.1  
 NTDB id 159 SP RS09750 WP 001085462.1  
 NTDB id 499 SM12261 RS08315 WP 078228268.1  
 NTDB id 527 SMSK321 RS11065 WP 001085454.1  
 NTDB id 453 Spy49 1753c ACI62003.1  
 NTDB id 408 SMU RS09530 WP 002262392.1  
 NTDB id 115 BSU 16940 NP 389576.2  
 NTDB id 625 LCA RS02525 WP 011374196.1  
 NTDB id 1313 DR RS12030 WP 010888966.1  
 NTDB id 1245 Cj1673c YP 002345041.1  
 NTDB id 1211 C694 RS00795 WP 000963128.1  
 NTDB id 1214 NCTC11637 00359 SQJ03206.1  
 NTDB id 1334 RAOC RS04870 WP 004918236.1  
 NTDB id 1389 A4U84 RS07560 WP 021112712.1  
 NTDB id 1130 NGFG RS03960 WP 003688695.1  
 NTDB id 1124 NGFG RS03960 WP 003688695.1  
 NTDB id 1123 OK783 RS03845 WP 003688695.1  
 NTDB id 1427 RS RS02760 WP 011000510.1  
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 NTDB id 1142 GTF74 RS11550 WP 000344154.1  
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 NTDB id 1205 PSJM300 05545 AFN77183.1



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NTDB id 1081648 ACK2I2 RS12990 WP 004842695.1	.EE	358
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NTDB id 269 KZH43 RS08665 WP 001085462.1	IEE	388
NTDB id 228 SPD RS09265 WP 001085462.1	IEE	388
NTDB id 194 SPR RS08825 WP 001085462.1	IEE	388
NTDB id 159 SP RS09750 WP 001085462.1	IEE	388
NTDB id 499 SM12261 RS08315 WP 078228268.1	IEE	384
NTDB id 527 SMSK321 RS11065 WP 001085454.1	IEE	384
NTDB id 453 Spy49 1753c ACI62003.1	D..	378
NTDB id 408 SMU RS09530 WP 002262392.1	D..	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 1211 C694 RS00795 WP 000963128.1	...	347
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NTDB id 1074 ABD1 RS10195 WP 000344167.1	...	349
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NTDB id 1205 PSJM300 05545 AFN77183.1	...	347

consensus

 non conserved  
 similar  
 ≥ 50% conserved