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NTDB id 600 KW2 RS01765 WP 011675413.1	MATKK....KTNFDDITKKYGAERDKALADALALIEKD	FGKGSIMRLGER.A	ANQKVS	VSSGSLALDI	ALGAGGYPKGR	74
NTDB id 269 KZH43 RS08665 WP 001085462.1	.MAKK....PKKLEEISKKKFGAEREKALNDALKLIEKD	FGKGSIMRLGER	AEQKVQVMSSGSLALDI	ALGSGGYPKGR	73	
NTDB id 228 SPD RS09265 WP 001085462.1	.MAKK....PKKLEEISKKKFGAEREKALNDALKLIEKD	FGKGSIMRLGER	AEQKVQVMSSGSLALDI	ALGSGGYPKGR	73	
NTDB id 194 SPR RS08825 WP 001085462.1	.MAKK....PKKLEEISKKKFGAEREKALNDALKLIEKD	FGKGSIMRLGER	AEQKVQVMSSGSLALDI	ALGSGGYPKGR	73	
NTDB id 159 SP RS09750 WP 001085462.1	.MAKK....PKKLEEISKKKFGAEREKALNDALKLIEKD	FGKGSIMRLGER	AEQKVQVMSSGSLALDI	ALGSGGYPKGR	73	
NTDB id 499 SM12261 RS08315 WP 078228268.1	.MAKK....PKKLDEISKKKFGAEREKALNDALKLIEKD	FGKGSIMRLGER	AEQKVQVMSSGSLALDI	ALGSGGYPKGR	73	
NTDB id 527 SMSK321 RS11065 WP 001085454.1	.MAKK....PKKLDEISKKKFGAEREKALNDALKLIEKD	FGKGSIMRLGER	AEQKVQVMSSGSLALDI	ALGSGGYPKGR	73	
NTDB id 408 SMU RS09530 WP 002262392.1	.MAKR....IKKTEEITKKKFGDERKKALDDALKNIEKD	FGKGVMLRGER	AEQKVQVMSSGSLALDI	ALGAGGYPKGR	73	
NTDB id 309240 DZL14 RS09370 WP 011285265.1	.MAKK....LKKNEEITKKKFGDERRKALDDALKNIEKD	FGKGVMLRGER	AEQKVQVMSSGSLALDI	ALGAGGYPKGR	73	
NTDB id 453 Spy49 1753c ACI62003.1	.MAKK....LKKNEEITKKKFGDERRKALDDALKNIEKD	FGKGVMLRGER	AEQKVQVMSSGSLALDI	ALGAGGYPKGR	73	
NTDB id 625 LCA RS02525 WP 011374196.1	.....MAKDERQAALDAALKKIEKNFGKGSIMRMGEK	.VDTQVSTVSSGSLALDEALGVGGYPRGR	60		
NTDB id 115 BSU 16940 NP 389576.2	.....MSDRQAALDMALKQIEKQFGKGSIMKLGAE	.TDTRISTVPSGSLALDTALGIGGYPRGR	58		
NTDB id 1313 DR RS12030 WP 010888966.1	.....MSKDATKEISAPTDAKERSKATETAMSQIEKA	FGKGSIMKLGAE	.SKLDVQVVSTGSLSLDLALGVGGIPRGR	72	
NTDB id 1245 Cj1673c YP 002345041.1	.....MDNKRKSLDAALKSLDKTFGKGTILRLGDK	.EVEQIDSIGTGSVGLDLALGIGGVPKGR	59		
NTDB id 1214 NCTC11637 00359 SQJ03206.1	.....MAIDEDKQKATISLAIKQIDKVF	FGKGAALVRLGDK	.QVEKIDAI	ISTGSLGLDLALGIGGVPKGR	61
NTDB id 1211 C694 RS00795 WP 000963128.1	.....MAIDEDKQKATISLAIKQIDKVF	FGKGAALVRLGDK	.QVEKIDS	ISTGSLGLDLALGIGGVPKGR	61
NTDB id 1334 RAOC RS04870 WP 004918236.1	.....MAKT..ETTSNDDKKKALAAVLEKLDKT	YKGTVMKLGDTVDHNI	IEVIPS	SGSLGLDLALGVGGYPKGR	68
NTDB id 1389 A4U84 RS07560 WP 021112712.1	.MAENKSSKNNTV..VKQVEPEQKKQALEAALA	QIEKQFGKGSIMKLGQT	.EQLDIESVSTGSLGLDLALGIGGLPMGR	76		
NTDB id 1130 NGFG RS03960 WP 003688695.1	.....MSDDKSKALAAALAQIEKSFGKGAIMKMDGSQ	QEENLEVISTGSLGLDLALGVGGLPRGR	60		
NTDB id 1124 NGFG RS03960 WP 003688695.1	.....MSDDKSKALAAALAQIEKSFGKGAIMKMDGSQ	QEENLEVISTGSLGLDLALGVGGLPRGR	60		
NTDB id 1123 OK783 RS03845 WP 003688695.1MSDDKSKALAAALAQIEKSFGKGAIMKMDGSQ	QEENLEVISTGSLGLDLALGVGGLPRGR	60			
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NTDB id 1165 A1552VC RS01565 WP 000344154.1MDENKQKALAAALGQIEKQFGKGSIMRLGDN	.RAMDVETISTGSLSLDI	ALGAGGLPMGR	59		
NTDB id 1142 GTF74 RS11550 WP 000344154.1	.....MDENKQKALAAALGQIEKQFGKGSIMRLGDN	.RAMDVETISTGSLSLDI	ALGAGGLPMGR	59	
NTDB id 1022 ACIAD RS06390 WP 004925639.1	.....MDNKSALQAALSQIEKQFGKNTVMRLGDN	.TVQAVEAVSTGSLTLDI	ALGIGGLPKGR	59	
NTDB id 1074 ABD1 RS10195 WP 000344167.1	.....MDENKSKALQAALSQIEKQFGKNTVMRLGDN	.TVQAVEAVSTGSLTLDI	ALGIGGLPKGR	59	
NTDB id 1205 PSJM300 05545 AFN77183.1MDENKRALAAALGQIEKQFGKGVMLRMDH	.DRQAIP	ISTGSLGLDI	ALGIGGLPKGR	59	
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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 G L Q 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 G 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 G 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 G 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 G 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 G 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 G 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 G L E I A G K L I D S G A V D L	153
NTDB id 309240 DZL14 RS09370 WP 011285265.1	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 G 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 A Q P D S G E Q G L E I A G K L I D S G A V D L	153
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 K 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 G L E I A D A L V S S G A V D I	140
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 I A E V Q 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 E 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 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 G T C A F I D A E H A L D P V Y A R A L G V N T D E L L V S Q P D N G E Q A L E I M E L L V R S G A I 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 G V C A F I D A E H A L D V K Y A K N L G V N T D D L Y V S Q P D F G E Q A L E I V E T I 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 V S Q P D T G E Q A L E I L E T I T R S G 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 V S Q P D T G E Q A L E I L E T I T R S G 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 I 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 E L I V S Q P D N G E Q A L E I A D S L T R S G G V D I	148
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 T 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 V D A E H A F D P V Y A R K L G V K V E E L Y L S Q P D T G E Q A L E I C D T L V R S G 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 V D A E H A F D P V Y A R K L G V K V E E L Y L S Q P D T G E Q A L E I C D T L V R S G 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 V D A E H A F D P V Y A R K L G V K V E E L Y L S Q P D T G E Q A L E I C D T L V R S G 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 I 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 V 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 V 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 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 V D I D N L L V S Q P D H G E Q A L E I A D M L V R S G A I D L	139
NTDB id 1074 ABD1 RS10195 WP 000344167.1	I I E I Y G P E S S G K T T M T L Q A I A Q C Q K S G G T C A F I D A E H A L D P Q Y A R K L G V D I D N L L V S Q P D N G E Q A L E I A D M L V R S G A I D L	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 V D A E H A L D P D Y A G K L G V N V D D L L V 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
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NTDB id 600 KW2 RS01765 WP 011675413.1
 NTDB id 269 KZH43 RS08665 WP 001085462.1
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 NTDB id 194 SPR RS08825 WP 001085462.1
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 NTDB id 527 SMSK321 RS11065 WP 001085454.1
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 NTDB id 1123 OK783 RS03845 WP 003688695.1
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 NTDB id 1022 ACIAD RS06390 WP 004925639.1
 NTDB id 1074 ABD1 RS10195 WP 000344167.1
 NTDB id 1205 PSJM300 05545 AFN77183.1

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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 408 SMU RS09530 WP 002262392.1	IELED..	383
NTDB id 309240 DZL14 RS09370 WP 011285265.1	IEIED..	378
NTDB id 453 Spy49 1753c ACI62003.1	IEIED..	378
NTDB id 625 LCA RS02525 WP 011374196.1	TEE....	355
NTDB id 115 BSU 16940 NP 389576.2	348
NTDB id 1313 DR RS12030 WP 010888966.1	363
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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 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 1022 ACIAD RS06390 WP 004925639.1	.....	349
NTDB id 1074 ABD1 RS10195 WP 000344167.1	.....	349
NTDB id 1205 PSJM300 05545 AFN77183.1	.....	347

consensus

 non conserved
 similar
 ≥ 50% conserved