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NTDB id 600 KW2 RS01765 WP 011675413.1	MATKK.....KTNFDDITKKYGA	ERDKALADALALIEKD	FGKGSIMRLGEA	.ANQKVS	VSSGSLALD	I	ALGAGGY	PKGR	74	
NTDB id 269 KZH43 RS08665 WP 001085462.1	.MAKK.....PKKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73	
NTDB id 228 SPD RS09265 WP 001085462.1	.MAKK.....PKKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73	
NTDB id 194 SPR RS08825 WP 001085462.1	.MAKK.....PKKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73	
NTDB id 159 SP RS09750 WP 001085462.1	.MAKK.....PKKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73	
NTDB id 527 SMSK321 RS11065 WP 001085454.1	.MAKK.....PKKLDEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73	
NTDB id 499 SM12261 RS08315 WP 078228268.1	.MAKK.....PKKLDEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73	
NTDB id 453 Spy49 1753c ACI62003.1	.MAKK.....LKKNEEITKKFG	DERRKALDDALKNIEKD	FGKGAVMRLGER	.AEQKVQV	MSSGSLALD	I	ALGAGGY	PKGR	73	
NTDB id 408 SMU RS09530 WP 002262392.1	.MAKR.....IKKTEEITKKFG	DERKKALDDALKNIEKD	FGKGAVMRLGER	.AEQKVQV	MSSGSLALD	I	ALGAGGY	PKGR	73	
NTDB id 115 BSU 16940 NP 389576.2	MSDRQAALDMALKQ	IEKQFGKGSIMKLGEK	.TDTRI	STVPSGSLALD	T	ALGIGGY	PRGR		58	
NTDB id 625 LCA RS02525 WP 011374196.1	MAKDERQAALDAALKK	IEKNFGKGSIMRMGEK	.VDTQV	STVSSGSLALDE	A	LGVGGY	PRGR		60	
NTDB id 1313 DR RS12030 WP 010888966.1	MSKDATKEISAPTD	AKERSKATETAM	SQIEKAFGKGSIMKLGAE	.SKLDVQV	VSTGSLSLD	I	ALGVGGI	PRGR	72	
NTDB id 1245 Cj1673c YP 002345041.1	MDDNKRKSLDAALKS	LDKTFGKGTILRLGDK	.EVEQIDS	IGTGSVGLD	I	ALGIGG	VPKGR		59	
NTDB id 1214 NCTC11637 00359 SQJ03206.1	MAIDEDKQKATISLA	IKQIDKVF	FGKGALVRLGDK	.QVEKIDA	ISTGSLGLD	I	ALGIGG	VPKGR	61	
NTDB id 1211 C694 RS00795 WP 000963128.1	MAIDEDKQKATISLA	IKQIDKVF	FGKGALVRLGDK	.QVEKIDE	ISTGSLGLD	I	ALGIGG	VPKGR	61	
NTDB id 1334 RAOC RS04870 WP 004918236.1	MAKT..ETTSPN	DDKKKALAAVLEKLDK	TYGKGTVMKLG	DGTVDHNI	EVIPS	GSLGLD	I	ALGVGGY	PKGR	68
NTDB id 1389 A4U84 RS07560 WP 021112712.1	.MAENKKSSKNNTV..VKQ	VEPEQKKQALEAALA	QIEKQFGKGSIMKLGQT	.EQLDIES	VSTGSLGLD	I	ALGIGGL	PMGR	76	
NTDB id 1130 NGFG RS03960 WP 003688695.1	MSDDKSKALAAALA	QIEKSFGKGAIMKMDGSQ	QEE	NLEVISTGSLGLD	I	ALGVGGL	PRGR		60	
NTDB id 1124 NGFG RS03960 WP 003688695.1	MSDDKSKALAAALA	QIEKSFGKGAIMKMDGSQ	QEE	NLEVISTGSLGLD	I	ALGVGGL	PRGR		60	
NTDB id 1123 OK783 RS03845 WP 003688695.1	MSDDKSKALAAALA	QIEKSFGKGAIMKMDGSQ	QEE	NLEVISTGSLGLD	I	ALGVGGL	PRGR		60	
NTDB id 1427 RS RS02760 WP 011000510.1	.MEDG.....K..KAASMS	AEKQKALAAALA	QIEKQFGKGSIMKMDA	.EVEPVQV	VSTGSLGLD	V	ALGVGGL	PRGR	68	
NTDB id 1165 A1552VC RS01565 WP 000344154.1	MDENKQKALAAALG	QIEKQFGKGSIMRLG	DN.RAMD	VETISTGSLSLD	I	ALGAGGL	PMGR		59	
NTDB id 1142 GTF74 RS11550 WP 000344154.1	MDENKQKALAAALG	QIEKQFGKGSIMRLG	DN.RAMD	VETISTGSLSLD	I	ALGAGGL	PMGR		59	
NTDB id 358195 EA665 RS11420 WP 000344169.1	MDENKSKALQAALS	QIEKQFGKNTVMRLG	DN.TVQ	AVEAVSTGSLTLD	I	ALGIGGL	PKGR		59	
NTDB id 1074 ABD1 RS10195 WP 000344167.1	MDENKSKALQAALS	QIEKQFGKNTVMRLG	DN.TVQ	AVEAVSTGSLTLD	I	ALGIGGL	PKGR		59	
NTDB id 1022 ACIAD RS06390 WP 004925639.1	MDDNKSKALQAALS	QIEKQFGKNTVMRLG	DN.TVQ	AVEAVSTGSLTLD	I	ALGIGGL	PKGR		59	
NTDB id 1205 PSJM300 05545 AFN77183.1	MDENKKRALAAALG	QIEKQFGKGAVMR	MDH.DRQA	IPSISTGSLGLD	I	ALGIGGL	PKGR		59	
consensus	***	***	*	***!	***!	***!	*	***!	***!	***!

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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 527 SMSK321 RS11065 WP 001085454.1
NTDB id 499 SM12261 RS08315 WP 078228268.1
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 1214 NCTC11637 00359 SQJ03206.1
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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 01100051.1
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NTDB id 358195 EA665 RS11420 WP 000344169.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1205 PSJM300 05545 AFN77183.1
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NTDB id 358195 EA665 RS11420 WP 000344169.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1205 PSJM300 05545 AFN77183.1
consensus



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NTDB id 527 SMSK321 RS11065 WP 001085454.1
NTDB id 499 SM12261 RS08315 WP 078228268.1
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
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NTDB id 1245 Cj1673c YP 002345041.1
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NTDB id 1211 C694 RS00795 WP 000963128.1
NTDB id 1334 RAOC RS04870 WP 004918236.1
NTDB id 1389 A4U84 RS07560 WP 021112712.1
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NTDB id 1123 OK783 RS03845 WP 003688695.1
NTDB id 1427 RS RS02760 WP 01100051.1
NTDB id 1165 A1552VC RS01565 WP 000344154.1
NTDB id 1142 GTF74 RS11550 WP 000344154.1
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NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1205 PSJM300 05545 AFN77183.1
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NTDB id 600 KW2 RS01765 WP 011675413.1	DEKIGQGA	EKAKNYLKEHQDV	DEIDHKVRAAHG	LDDSEVAETEEE	TTASKTK	..AKAKKEEKAVETEEIELELED..	387	
NTDB id 269 KZH43 RS08665 WP 001085462.1	DEKIGQGS	ENAKKYLA	EHPEIF	DEIDKQVRSKFGL	LIDGEEVSEQDTE	NKKDE.....PKKEEA..VNEEVPLDLGDEL	382	
NTDB id 228 SPD RS09265 WP 001085462.1	DEKIGQGS	ENAKKYLA	EHPEIF	DEIDKQVRSKFGL	LIDGEEVSEQDTE	NKKDE.....PKKEEA..VNEEVPLDLGDEL	382	
NTDB id 194 SPR RS08825 WP 001085462.1	DEKIGQGS	ENAKKYLA	EHPEIF	DEIDKQVRSKFGL	LIDGEEVSEQDTE	NKKDE.....PKKEEA..VNEEVPLDLGDEL	382	
NTDB id 159 SP RS09750 WP 001085462.1	DEKIGQGS	ENAKKYLA	EHPEIF	DEIDKQVRSKFGL	LIDGEEVSEQDTE	NKKDE.....PKKEEA..VNEEVPLDLGDEL	382	
NTDB id 527 SMSK321 RS11065 WP 001085454.1	DEKIGQGS	ENAKKYLA	DNPEVFAE	IDHQVRVQFGL	LIDGEEAAE	SKKDE.....VAQVDS..VNEEVTLDLGDEL	378	
NTDB id 499 SM12261 RS08315 WP 078228268.1	DEKIGQGS	ENAKKYLA	DNPEIF	DEIDHQVRVQFGL	LIDGEEIAE	SKKDE.....AAQVDS..VNEEVTLDLGDEL	378	
NTDB id 453 Spy49 1753c ACI62003.1	GEKIGQGS	ENAKRYLA	DHPQLF	DEIDRKVRVKFGL	LEESEEEESAMAV	ASE.....E.....TDDLALDLNGI	374	
NTDB id 408 SMU RS09530 WP 002262392.1	GEKIGQGS	ENAKKFLA	DNPEIF	DDIDHKVVRVQYGL	IEEDNTEEKQSS	KEK.....ETDEK..ADKNLVLELDDTI	379	
NTDB id 115 BSU 16940 NP 389576.2	EERLGGG	RENAKQFL	KENKDIM	LMIQEQIREHYGL	DNNGVVQQAAEE	TQEEL.E..FE.E.....	348	
NTDB id 625 LCA RS02525 WP 011374196.1	SERIGQG	RENAKNYL	ADHEDVE	DEVRLKVRAAYG	ISDVPEEDLP	TTE.DE.QI.N..ILPDDST....EE.....	355	
NTDB id 1313 DR RS12030 WP 010888966.1	DERIGQG	KEKTIAYIA	ERPEMEQE	IRDRVMAAIRAG	NAGEAPALAPAPA	APEAAEA.....	363	
NTDB id 1245 Cj1673c YP 002345041.1	DKKLGGG	RENSKAF	LENPEIA	DEITKAIQNSMG	TEGMISGS	..EDDEGE..E.....	343	
NTDB id 1214 NCTC11637 00359 SQJ03206.1	DKKLGGG	RENAKALL	KEDKAL	ADEITLKI	KESIGSNEEIMPL	..PDEPLE..EME.....	347	
NTDB id 1211 C694 RS00795 WP 000963128.1	DKKLGGG	RENAKALL	KEDKAL	ADEITLKI	KESIGSNEEIMPL	..PDEPLE..EME.....	347	
NTDB id 1334 RAOC RS04870 WP 004918236.1	DTKLGGG	RDITVKEL	IKDNPELA	EELAKIREKLQAK			343	
NTDB id 1389 A4U84 RS07560 WP 021112712.1	GTKIGQG	KNNAVKWL	KENPEIAD	KLEQEIRNTL	ASNPNSVLK	..ATASDSND	ESDVVEEFSE.....EEL.....	372
NTDB id 1130 NGFG RS03960 WP 003688695.1	GAKIGQG	KDNVRVWL	KENPEIS	DEIDAKIRAL	NGVEMHITEG	..TQDET	D.....GERPE.....E.....	348
NTDB id 1124 NGFG RS03960 WP 003688695.1	GAKIGQG	KDNVRVWL	KENPEIS	DEIDAKIRAL	NGVEMHITEG	..TQDET	D.....GERPE.....E.....	348
NTDB id 1123 OK783 RS03845 WP 003688695.1	GAKIGQG	KDNVRVWL	KENPEIS	DEIDAKIRAL	NGVEMHITEG	..TQDET	D.....GERPE.....E.....	348
NTDB id 1427 RS RS02760 WP 011000510.1	GERIGQGR	DNCREFL	RENAELARE	IENKVRHL	GVTPMGAV	..TLAEEVEED		352
NTDB id 1165 A1552VC RS01565 WP 000344154.1	GDKIGQG	KANACKYL	KENPEIAKT	LDKKLREMLLN	PENMQLI	..AETSSAAD	DVEFGAVPE.....EF.....	354
NTDB id 1142 GTF74 RS11550 WP 000344154.1	GDKIGQG	KANACKYL	KENPEIAKT	LDKKLREMLLN	PENMQLI	..AETSSAAD	DVEFGAVPE.....EF.....	354
NTDB id 358195 EA665 RS11420 WP 000344169.1	GNKIGQG	KNNVIRY	FEENTQIA	EEIERNIREQL	LTGTNGAV	..Q.I.EDEE	EPD..LLE.....S.....	349
NTDB id 1074 ABD1 RS10195 WP 000344167.1	GNKIGQG	KNNVIRY	FEENNQIA	EEIERNIREQL	LTGTNGAV	..Q.I.EDEE	EPD..LLE.....S.....	349
NTDB id 1022 ACIAD RS06390 WP 004925639.1	GNKIGQG	KNNVIRY	LEENPQI	STEIEAVIREQL	LTGASDQTA	..A.HDETEE	EPD..LLES.....	349
NTDB id 1205 PSJM300 05545 AFN77183.1	GSKIGQG	KANAAYYL	EENPEI	GQIEIEQQIRAK	LLVTSANTKA	..TPVAEDLAD	AD..I.....	347
consensus	***!!!	*****	**	*****	*****	**	*	*

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		EIELEE	
NTDB id 600 KW2 RS01765 WP 011675413.1			387
NTDB id 269 KZH43 RS08665 WP 001085462.1	EIEIEE		388
NTDB id 228 SPD RS09265 WP 001085462.1	EIEIEE		388
NTDB id 194 SPR RS08825 WP 001085462.1	EIEIEE		388
NTDB id 159 SP RS09750 WP 001085462.1	EIEIEE		388
NTDB id 527 SMSK321 RS11065 WP 001085454.1	EIEIEE		384
NTDB id 499 SM12261 RS08315 WP 078228268.1	EIEIEE		384
NTDB id 453 Spy49 1753c ACI62003.1	EIED..		378
NTDB id 408 SMU RS09530 WP 002262392.1	ELED..		383
NTDB id 115 BSU 16940 NP 389576.2			348
NTDB id 625 LCA RS02525 WP 011374196.1			355
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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
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NTDB id 1165 A1552VC RS01565 WP 000344154.1			354
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NTDB id 1022 ACIAD RS06390 WP 004925639.1			349
NTDB id 1205 PSJM300 05545 AFN77183.1			347
consensus			

-  non conserved
-  similar
-  ≥ 50% conserved