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NTDB id 600 KW2 RS01765 WP 011675413.1	MATK.....KKTNFDDITKKYGA	ERDKALADALALIEKD	FGKGSIMRLGEA	.ANQKVS	VSSGSLALD	I	ALGAGGY	PKGR	74		
NTDB id 269 KZH43 RS08665 WP 001085462.1	.MAK.....KPKKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73		
NTDB id 228 SPD RS09265 WP 001085462.1	.MAK.....KPKKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73		
NTDB id 194 SPR RS08825 WP 001085462.1	.MAK.....KPKKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73		
NTDB id 159 SP RS09750 WP 001085462.1	.MAK.....KPKKLEEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73		
NTDB id 499 SM12261 RS08315 WP 078228268.1	.MAK.....KPKKLDEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73		
NTDB id 527 SMSK321 RS11065 WP 001085454.1	.MAK.....KPKKLDEISKKFGA	EREKALNDALKLIEKD	FGKGSIMRLGER	.AEQKVQV	MSSGSLALD	I	ALGSGGY	PKGR	73		
NTDB id 453 Spy49 1753c ACI62003.1	.MAK.....KLKKNEEITKKFGD	ERRKALDDALKNIEKD	FGKGAVMRLGER	.AEQKVQV	MSSGSLALD	I	ALGAGGY	PKGR	73		
NTDB id 408 SMU RS09530 WP 002262392.1	.MAK.....RIKKTEEITKKFGD	ERRKALDDALKNIEKD	FGKGAVMRLGER	.AEQKVQV	MSSGSLALD	I	ALGAGGY	PKGR	73		
NTDB id 625 LCA RS02525 WP 011374196.1	MAKD	ERQAALDAALKKIEKN	FGKGSIMRMGEK	.VDTQVST	VSSGSLALDE	A	LGVGGY	PKGR	60		
NTDB id 357248 E5491 RS06650 WP 000368166.1	MDN	DRQKALDTV	IKNMEKS	SFGKGAVMKL	GDN	.IGRRVSTT	TG	SVTL	DNALGVGGY	PKGR	59
NTDB id 115 BSU 16940 NP 389576.2	MS	DRQAALDMALKQIEKQ	FGKGSIMKLGEK	.TDTRI	ISTVPSGSLALD	T	ALGIGGY	PKGR	58		
NTDB id 1313 DR RS12030 WP 010888966.1	MSKDATKEISAPTD	AKERSKAT	IETAMSQIEKA	FGKGSIMKLGA	E	.SKLDVQV	VSTGSLSLD	I	ALGVGGI	PKGR	72
NTDB id 1245 Cj1673c YP 002345041.1	MDDN	KRKSLDAALKS	LDKTFGKGTILRLGDK	.EVEQIDS	IGTGSVGLDL	I	ALGIGGV	PKGR	59		
NTDB id 1211 C694 RS00795 WP 000963128.1	MAIDE	DKQKATISLA	IKQIDKVF	FGKGALVRLGDK	.QVEKIDS	ISTGSLGLDL	I	ALGIGGV	PKGR	61	
NTDB id 1214 NCTC11637 00359 SQJ03206.1	MAIDE	DKQKATISLA	IKQIDKVF	FGKGALVRLGDK	.QVEKIDA	ISTGSLGLDL	I	ALGIGGV	PKGR	61	
NTDB id 1334 RAOC RS04870 WP 004918236.1	MAKT..ETTSPND	DKKKALA	AAVLEKLDKT	YGKGTVMKLG	DGTVDHNI	EVIPSGSLGLDL	I	ALGVGGY	PKGR	68	
NTDB id 1389 A4U84 RS07560 WP 021112712.1	.MAENKKSSKNNTV..VKQVEPEQ	KKQALEAALA	QIEKQFGKGSIMKL	QGT	.EQLDIES	VSTGSLGLDL	I	ALGIGGL	PMGR	76	
NTDB id 1130 NGFG RS03960 WP 003688695.1	MSD	DKSKALAAALA	QIEKSFGKGAIMKMDGSQ	QEENLEVI	ISTGSLGLDL	I	ALGVGGL	PKGR	60		
NTDB id 1124 NGFG RS03960 WP 003688695.1	MSD	DKSKALAAALA	QIEKSFGKGAIMKMDGSQ	QEENLEVI	ISTGSLGLDL	I	ALGVGGL	PKGR	60		
NTDB id 1123 OK783 RS03845 WP 003688695.1	MSD	DKSKALAAALA	QIEKSFGKGAIMKMDGSQ	QEENLEVI	ISTGSLGLDL	I	ALGVGGL	PKGR	60		
NTDB id 1427 RS RS02760 WP 011000510.1	.MEDG.....K..KAASMSA	EKQKALAAALA	QIEKQFGKGSIMKMGDA	.EVEPVQV	VSTGSLGLD	I	ALGVGGL	PKGR	68		
NTDB id 1165 A1552VC RS01565 WP 000344154.1	MDEN	KQKALAAALG	QIEKQFGKGSIMRLGDN	.RAMDVET	ISTGSLSLD	I	ALGAGGL	PMGR	59		
NTDB id 1142 GTF74 RS11550 WP 000344154.1	MDEN	KQKALAAALG	QIEKQFGKGSIMRLGDN	.RAMDVET	ISTGSLSLD	I	ALGAGGL	PMGR	59		
NTDB id 1022 ACIAD RS06390 WP 004925639.1	MDDN	KSKALQAALS	QIEKQFGKNTVMRLGDN	.TVQAVEA	VSTGSLTLD	I	ALGIGGL	PKGR	59		
NTDB id 1074 ABD1 RS10195 WP 000344167.1	MDEN	KSKALQAALS	QIEKQFGKNTVMRLGDN	.TVQAVEA	VSTGSLTLD	I	ALGIGGL	PKGR	59		
NTDB id 1205 PSJM300 05545 AFN77183.1	MDEN	KKRALAAALG	QIEKQFGKGAVMRMGDH	.DRQAIPS	ISTGSLGLD	I	ALGIGGL	PKGR	59		
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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 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 625 LCA RS02525 WP 011374196.1
NTDB id 357248 E5491 RS06650 WP 000368166.1
NTDB id 115 BSU 16940 NP 389576.2
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 RA0C 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
NTDB id 1165 A1552VC RS01565 WP 000344154.1
NTDB id 1142 GTF74 RS11550 WP 000344154.1
NTDB id 1022 ACIAD RS06390 WP 004925639.1
NTDB id 1074 ABD1 RS10195 WP 000344167.1
NTDB id 1205 PSJM300 05545 AFN77183.1
consensus

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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	SVRLDVRGSTKIEEGS.GDNKTQIGK	ITKIKVVKNKVAPPFKEA	VALVDIMFGEGISSTGELINIAVEEGIT	IKKSGAWFAYN	312
NTDB id 269 KZH43 RS08665 WP 001085462.1	SVRLDVRGNTQIKGTG.DQKETN	VGKETKIKVVKNKVAPPFKEAVVEIMY	GEGISKTGELLKIASDLDI	IKKAGAWYSYK	311
NTDB id 228 SPD RS09265 WP 001085462.1	SVRLDVRGNTQIKGTG.DQKETN	VGKETKIKVVKNKVAPPFKEAVVEIMY	GEGISKTGELLKIASDLDI	IKKAGAWYSYK	311
NTDB id 194 SPR RS08825 WP 001085462.1	SVRLDVRGNTQIKGTG.DQKETN	VGKETKIKVVKNKVAPPFKEAVVEIMY	GEGISKTGELLKIASDLDI	IKKAGAWYSYK	311
NTDB id 159 SP RS09750 WP 001085462.1	SVRLDVRGNTQIKGTG.DQKETN	VGKETKIKVVKNKVAPPFKEAVVEIMY	GEGISKTGELLKIASDLDI	IKKAGAWYSYK	311
NTDB id 499 SM12261 RS08315 WP 078228268.1	SVRLDVRGSTQIKGTG.DQKDTN	VGKETKIKVVKNKVAPPFKEAFVEIMY	GEGISKTGELLKIASDLDI	IKKAGAWYSYK	311
NTDB id 527 SMSK321 RS11065 WP 001085454.1	SVRLDVRGSTQIKGTG.DQKDTN	VGKETKIKVVKNKVAPPFKEAFVEIMY	GEGISKTGELLKIASDLDI	IKKAGAWYSYK	311
NTDB id 453 Spy49 1753c ACI62003.1	SVRLDVRGTTQIKGTG.DQKDS	IGKETKIKVVKNKVAPPFKEAEVEIMY	GEGISRTGELVKIASDLDI	IKKAGAWFSYN	311
NTDB id 408 SMU RS09530 WP 002262392.1	SVRLDVRGNTQIKGTG.EQKDSN	IGKETKIKVVKNKVAPPFKEAFVEI	IYGEGISRTGELVKIASDLGI	IKKAGAWYSYN	311
NTDB id 625 LCA RS02525 WP 011374196.1	TVRLEVRRRAETIKNGT.....DM	IGNRARIKVVKNKVAPPFKEAEVDIMY	GQGISRTGELVDMAVEKDI	INKSGSWYSYG	294
NTDB id 357248 E5491 RS06650 WP 000368166.1	SVRLEVRRAEQLKQGQ.....EIV	GNRTKIKVVKNKVAPPFRVAEVDIMY	GQGISKEGELIDLGVENDIV	DKSGAWYSYN	293
NTDB id 115 BSU 16940 NP 389576.2	SVRLEVRRAEQLKQGN.....DVM	GNKTKIKVVKNKVAPPFR	TAEVDIMY GEGISKEGETID	LGTEL DIVQKSGSWYSYE	292
NTDB id 1313 DR RS12030 WP 010888966.1	SVRLDVRKIGQ....PTKVGND	AVANTVKIKTVKNKVAAPFKEVELA	L VYGKGFQDLSDLVGLA	ADMDI IKKAGSFYSYG	307
NTDB id 1245 Cj1673c YP 002345041.1	SVRLDVRKVAT....L.KQNEEP	IGNRVKVVKNKVAPPFRQAEFDV	MFGEGLSREGELIDYGVK	L DIVDKSGAWFSYK	294
NTDB id 1211 C694 RS00795 WP 000963128.1	SVRIDIRRIAS....L.KQNEQH	IGNRAKAKVVKNKVAPPFR	EA EFDIMFGEGISKEGETID	YGVKLDIVDKSGAWLSYQ	296
NTDB id 1214 NCTC11637 00359 SQJ03206.1	SVRIDIRRIAA....L.KQNEQH	IGNRAKAKVVKNKVAPPFR	EA EFDIMFGEGISKEGETID	YGVKLDIVDKSGAWLSYQ	296
NTDB id 1334 RAOC RS04870 WP 004918236.1	SVRIDIRRLSDTGKIKDKSGEV	IGNRTKVVVKNKVAPPFKA	EA EFDIMY GEGVSKVGEIL	DVATDLDI IQKSGSWFSYQ	307
NTDB id 1389 A4U84 RS07560 WP 021112712.1	SVRLDIRRCGV....V.KDGDEI	IGSETKVVKNKVAPPFR	EVQFDIMY GEGISRMNELL	ILAEANGFI IKKSGAWFSYD	310
NTDB id 1130 NGFG RS03960 WP 003688695.1	SVRLDIRRTGS....I.KKGE	EV LGNETRVKVIKNKVAPPFR	QAEFDILY GEGISWEGELID	IGVKNDI INKSGAWYSYN	294
NTDB id 1124 NGFG RS03960 WP 003688695.1	SVRLDIRRTGS....I.KKGE	EV LGNETRVKVIKNKVAPPFR	QAEFDILY GEGISWEGELID	IGVKNDI INKSGAWYSYN	294
NTDB id 1123 OK783 RS03845 WP 003688695.1	SVRLDIRRTGS....I.KKGE	EV LGNETRVKVIKNKVAPPFR	QAEFDILY GEGISWEGELID	IGVKNDI INKSGAWYSYN	294
NTDB id 1427 RS RS02760 WP 011000510.1	SVRLDIRRIGS....I.KKGE	DEV VGNETKVVKNKVAPPFR	EA IFDILY GAGVSREGEID	LGVEAKVVEKSGAWYSYN	302
NTDB id 1165 A1552VC RS01565 WP 000344154.1	SVRLDIRRTGA....I.KEGE	EV VGNETRIKVVKNKIAAPFKE	ANTQIMY GQGFNREGELID	LGVKHKMVEKSGAWYSYN	293
NTDB id 1142 GTF74 RS11550 WP 000344154.1	SVRLDIRRTGA....I.KEGE	EV VGNETRIKVVKNKIAAPFKE	ANTQIMY GQGFNREGELID	LGVKHKMVEKSGAWYSYN	293
NTDB id 1022 ACIAD RS06390 WP 004925639.1	SVRLDIRRIGQ....V.KEGDEI	IGSETKVVKNKMAPPFRE	AI FQILY GKG VNLGELVD	LAVQQNIVQKAGAWYSYQ	293
NTDB id 1074 ABD1 RS10195 WP 000344167.1	SVRLDIRRIGQ....V.KEGDEI	VGSETKVVKNKMAPPFKE	AI FQILY GKG TNQLGELVD	LAVQQDIVQKAGAWYSYQ	293
NTDB id 1205 PSJM300 05545 AFN77183.1	SVRLDIRRTGA....V.KEG	DEV VGSETRVKNKVAPPFR	QAEFQILY GKG IYRNGEID	LGVQQGLVEKSGAWAYK	293
consensus	*!!***!* *	* ** *****!*****!*****!*	* *****!*!***** ***** *	***** ! !*****!	

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NTDB id 600 KW2 RS01765 WP 011675413.1	...	387
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 625 LCA RS02525 WP 011374196.1	...	355
NTDB id 357248 E5491 RS06650 WP 000368166.1	...	347
NTDB id 115 BSU 16940 NP 389576.2	...	348
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
NTDB id 1214 NCTC11637 00359 SQJ03206.1	...	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
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NTDB id 1123 OK783 RS03845 WP 003688695.1	...	348
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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

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 non conserved
 similar
 ≥ 50% conserved