

Canavalia	1	MKLSPREVEKLGHNAGYLAQKRLARGVRLNYTEAVALIASQIMEYARDGEKTVAQLMCL
Glycine	1	MKLSPREIEKLDLHNAGYLAQKRLARGRLNYVEITVALIATQILEFVRDGEKTVAQLMCI
Solanum	1	MKLAPREIEKLMHNAGYLAQKRLARAQLLNYTEAVALIATQVLEFVRDGDKSVAEMLDI
Arabidopsis	1	MKLLPREIEKLELHQAGFLAQKRLARGIRLNYTEAVALIATQILEFIRDGDKSVAEMLDI
Schizosaccharomyces	1	MQ--PRELHKLLTQLGSLAQKRLCRGVKLNKLEATSLIASQIQEYVRDGNHNSVADLMSL
Coccidioides	1	MQLVPREIDKLLISNLGFLAQRRLARGVRLNHAEPALIGIQSPRLIRDGNNSVADLMTI
Cryptococcus	1	MHLTPRETDKLLITTLGLTAQRRLARGLLLNRAETIALISSQIQEFVRDGRHSVAELMDL
Actinomyces	1	MHLTPREQEKLIIVVAADLARRRKDRGIRLNHPPEAVAYITAEILEGAREG-RTVTDLMAY
Corynebacterium	1	MHLTPREQEKLMIVVAADLARRRKDRGLKLNHPPEAVALIITYELIEGARDG-RTVADLMSW
Mycobacterium	1	MRLTPHEQERLLLSYAAELARRRRARGRLNHPPEAVIADHILEGARDG-RTVAELMAS
Streptomyces	1	MQLTPHEQERLLIHVAADVAEKRRARGVKNHPPEVVALITAHILEGARDG-RSVGELMSS
Synechococcus	1	MHLSPOEKDKLLIVTAALLAERRLNRLGLKLNHPPEAVAWLSFLVLEGARDG-KSVAEMLQE
Prochlorococcus	1	MHLSPOEKDKLLIFSAQAERLNRLGLKNYPEIVAFLSFQVLEGARDG-KSVSQLMSE
Synechocystis	1	MQLSPOEKDKLLIFTASLVAERRKARGLKNYPEAVAYISAAILEGARDG-RTVAELMNY
Rhodobacter1	1	MNLSPREKEKLLVSLAAMVARNRLARGVKNHPPEAIAISDFVVEGAREG-RSVADLMEA
Rhodobacter2	1	MNLTPREKDKLLISLAAIVARGRLERGVKNHPPEAVALISDFVVEGAREG-RSVADLMOA
Sinorhizobium	1	MNLTPREKDKLLISMAAMVARRLERGVKNHPPEAIALITDFVVEGARDG-RSVAELMEA
Proteus1	1	MELTPREKDKLLIFTAGLVAERRLAKGLKNYPEVALISCAIMEGAREG-KTVAQLMSE
Proteus2	1	MELTPREKDKLLIFTAGLVAERRLAKGLKNYPEVALISCAIMEGAREG-KTVAQLMSE
Vibrio	1	VELTPREKDKLLIFTAGLVAERRRARGLKNYPEAIALISCEIMEGARDG-RTVAELMSY
Klebsiella	1	MELTPREKDKLLIFTAALVAERRLARGLKNYPEVALISAFIMEGARDG-KSVAALMEE
Escherichia	1	MELTPREKDKLLIFTAALLAERRLARGLKNYPEVALISAFIMEGARDG-KSVAALMEE
Alcaligenes	1	MELTPREKDKLLIFTAALLAERRKARGLKNYPEAVALITAAIMEGARDG-RTVAELMHE
Pseudomonas	1	MDLSPREKDKLLIFTAALLAERRLARGLKNYPEAVALISAALEGGARDG-RSVAELMHY
Bordetella	1	MELTPREKDKLLIFTAALLAERRRARGLKNYPEIVVALITAALEGGARDG-KTVAELMSE
Deinococcus	1	MQLTERERDKLLIFTAQLARERRARGLKNHPPEAVALITAEVLEGIIRDG-RRVEDLMSF
Yersinia1	1	MQLTPREVEKLMITYTSLSDVAFKRKARGLKNYPEAVSIITVTAMEGARDG-KSVEDVMKE
Yersinia3	1	MQLTPREVEKLMITYTSLSDVAFKRKARGLKNYPEAVSIITVTAMEGARDG-KSVEDVMKE
Yersinia2	1	MQLTPREVEKLMITYTSLSDVAFKRKARGLKNYPEAVSIITETAMEGARDG-KSVEDVMKE
Actinobacillus	1	MHLTSREQEKLMLFLAGELAAKRKARGVKNYPEAIAIYIASHLQEAARDG-MSVAEVMQY
Haemophilus	1	MHLTSREQEKLMLFLAGELAAKRKARGVKNYPEIYIYIASHLQEAAREG-MSVAEVMQY
Bacillus1	1	MKLTPEVEKELLIIFAGELAKQKARGVLLNYPEAAAYITCFIMEGARDG-KGVAELMEA
Bacillus2	1	VRLSPVEKEKLFIFMAGELAKQKARGVLLNYPEAVAILSCYVLEGAREG-KSVSELMKD
Bacillus3	1	MHLNPAEKEKLLQIFLASELLLRKARGLKNYPEAVAIITSFIMEGARDG-KTVAMLMEE
Helicobacter2	1	MKLTPEKELDKLMLHYAGRLAEEALARGVKNLYTEAVALISGRVMEKARDGNKSVADLMQE
Heliobacter	1	MKLTPEKELDKLMLHYAGELAKQKAKGKIKLNYTEAVALISAHVMEEARAGKKSVAELMQE
Helicobacter1	1	MKLTPEKELDKLMLHYAGELAKRKEKGIKLNYPEAVALISAHIMEEARAGKKTAAELMQE
Thermophilic	1	MKLTSMREKELMIIVVAADLARRRKEGLKLNYPEAVAMITYEVLEGARDG-KTVAQLMQY
Streptococcus	1	MQLTMREQKMMISLAAMIAQRKDKGIKLNHPPEAVALITDYVLEGAREG-KTVAQLMDE
Lactobacillus	1	MRLTKREQEKMMISLAGMIAEKRRKDRGLKNQPEAVALITSRILEGARDG-KTVGELMNE
Clostridium	1	MYLTKREKELMISVVAEIAKRQARGLKNYPEAVAIITDAILEGARDG-KLVKDLMSY
Ureaplasma	1	MNLSLREIQKLLIVVAADVARRRLARGLKNYPESRVALITDHFVVEGARDG-KLVADLMSQ
Staphylococcus	1	VHFTQREQDKLMLVIAADLARRRQQRGLKLNYPEAVAIISFELLEGGARDG-KTVAELMSY

Canavalia	61	GQHLLGRROVLPVAVPHLLINAVQVEATFPDGTGLVTVHDPISRENGELQEALFGSLLPVPS
Glycine	61	GRELLGRKQVLPVAVPHLVESVQVEATFRDGTGLVTIHDLFACENGNLELALFGSFLPVPS
Solanum	61	GROLLGRROVLPVAVPHLLDCVQVEGTFPDGTGLVTIHDPIACENGNLDLALHGSFLPVPP
Arabidopsis	61	GROLLG-RQVLPVAVLHLLTYTVQVEGTFRDTGLVTVHEPISLENGNLELALHGSFLPVPS
Schizosaccharomyces	59	GKDMLGRRHVQPNVHLLHEIMIEATFPDGTYLITIHDPICCTTDGNLEHALYGSFLPTPS
Coccidioides	61	GKEMLGRRHVLPVAVATLKQVQVEGTFPTGTNLI TVVNPVCSDDGDLEKALYGSFLPVPP
Cryptococcus	61	GKKMLGRRHVRKGVPEISIHITIQVEGTFPDGVFLVTVDDPISSDDGDLNNAFYGSFLPIPS
Actinomyces	60	GTTLLTYDDVMEGVPEMIRAVQVEATFPDGTGLVSVHDPPIRRRLP-----
Corynebacterium	60	GSTILTRDDVLEGIPEMIPDIQVEATFPDGTGLVTVHNPPIR-----
Mycobacterium	60	GREVLGRDDVMEGVPEMLAEVQVEATFPDGTGLVTVHQPIA-----
Streptomyces	60	GRKLIQRDEVMEGIPEMIHVQVEATFPDGTGLVTVHEPII-----
Synechococcus	60	GTTWLSRNQVMDGIPELVQEVQIEAVFPDGTGLVTVLHDPIRMAMP-----
Prochlorococcus	60	GTTWLSKKQVMDGISSEMVDEVQVEAVFPDGTGLVTVIHNPIINMEY-----
Synechocystis	60	GATLLSRDEVMEGVPEMLPEVQVEATFPDGTGLVTVHEPIRMAT-----
Rhodobacter1	60	CAQVITRDQCMEGIAEMIHSIQVEATFPDGTGLVTVHHPPIR-----
Rhodobacter2	60	CAHVVRAENCMEGVPEMLHSVQVEATFPDGTGLVTVHHPPIR-----
Sinorhizobium	60	CAHVLTRDQVMEGIAEMIHDIQVEATFPDGTGLVTVHEPIR-----
Proteus1	60	GRAVLTAEQVMEGIPEMIKDIQVECTFPDGTGLVSVIHDPPIV-----
Proteus2	60	GRTVLTAEQVMEGVPEMIKDVQVECTFPDGTGLVSVIHSPPIV-----
Vibrio	60	GRTILTAEDEVMEGVPEMITDIQVECTFPDGTGLVSVIHDPPIV-----
Klebsiella	60	GRHVLTRQVMEGVPEMIPDIQVEATFPDGSKLVTVHNPPII-----
Escherichia	60	GRHVLSREQVMEGIPEMIPDIQVEATFPDGSKLVTVHNPPII-----
Alcaligenes	60	GTTVLGREDVMDGVAEMIPDIQVEATFPDGTGLVTVHHPPIV-----
Pseudomonas	60	GTTLLNREQVMEGVPEMIPDIQVEATFPDGTGLVTVHQPIA-----
Bordetella	60	GTRLRGRDEVMEGVPEMISNIQVEVTFPDGTGLITVHNPVV-----
Deinococcus	60	GAAILTPDDVLDGVPELIHEIQVEGTFPDGTGLVTVHDPPIRGAAS-----
Yersinia1	60	ASKVLTKDDVMDGVADLIPNVQVEAIFTDGSRLVTVHDPPI-----
Yersinia3	60	ASKVLTKDDVMDGVADLIPNVQVEAIFTDGSRLVTVHDPPI-----
Yersinia2	60	ASKVLTKDDVMDGVADLIPNVQVEAIFTDGSRLVTVHDPPI-----
Actinobacillus	60	GATLLTVDDVMGIAEMVHEVQIEATFPDGTGLVTVHNPPI-----
Haemophilus	60	GATLLTVDDVMEGVAEVHEVQIEATFPDGTGLVTVHNPPI-----
Bacillus1	60	GRHVLTEKDVMEGVPEMLDSIQVEATFPDGVKLVTVHQPISAEVK-----
Bacillus2	60	GKHVLS TEDVMEGVPEMLEEIQVEATFPDGVKLVTVIHEPI-----
Bacillus3	60	GKHVLTTRDDVMEGVPEMIDDIQAEATFPDGTGLVTVHNPPI SVSNNN-----
Helicobacter2	61	GRTWLKKNVMDGVASMIHEVGI EAFNFPDGTGLVTIHTPVEDNG-----
Helicobacter	61	GRTLLKADDVMPGVAHMIHEVGI EAGFPDGTGLVTIHTPVEAGSD-----
Helicobacter1	61	GRTLLKPDVMDGVASMIHEVGI EAMFPDGTGLVTVHTPIEANG-----
Thermophilic	60	GATLLTKEDVMEGVAEVHEVQIEATFPDGTGLVTVHDPPIR-----
Streptococcus	60	ARNLLTRDEVMEGIAEMIPMIQVEATFPDSTKLVTVHDPPIQ-----
Lactobacillus	60	GATWLTKDDVMEGIPEMIPMIQVEATFPDGTGLITVTVDPPIR-----
Clostridium	60	GRTLLKREDVMEGVPEMIEMVQVEATFLDGTGLVTVHNPPIQ-----
Ureaplasma	60	AREVLRVDQVMEGVDTMVGIIQVEVTFPDGTGLVSVHDPPIYKSGSSNQ---FTPG-----
Staphylococcus	60	GKQILGEDVMEGVADMLTEMEIEATFPDGTGLITVHHPPIV-----

Canavalia	121	LDKFAETKED---	NRIPGEILCEDE-----	C-
Glycine	121	LDKFTENEED---	HRTPGEIIICRSE-----	N-
Solanum	121	QEKFP-VIED---	SKIPGQMCFFGG-----	L-
Arabidopsis	120	LDKFPEVHEG---	VIIIPGDMKYGDG-----	S-
Schizosaccharomyces	119	QELFPLEEEKLYAPENS	PGFVFEVLEG-----	
Coccidioides	121	KETFPDPPDDYQPEK	MPGAVIPLKT-----	SK
Cryptococcus	121	ADVFPAAPEP---	ADTLGALICRKE-----	T-
Actinomyces	105	-----	MIPGEYRLAS-----	G
Corynebacterium	101	-----	MIPGEYILSS-----	E
Mycobacterium	101	-----	MIPGEIFYGS-----	G
Streptomyces	101	-----	VIPGEILFAD-----	E
Synechococcus	104	-----	FIPGELLPEP-----	G
Prochlorococcus	104	-----	LIPGEIITED-----	G
Synechocystis	104	-----	MIPGEIITPE-----	G
Rhodobacter1	101	-----	MIPGEIFPAE-----	G
Rhodobacter2	101	-----	MIPGELFPAE-----	G
Sinorhizobium	101	-----	MIPGEIIAAA-----	G
Proteus1	101	-----	MIPGEIRVNQA-----	LG
Proteus2	101	-----	MIPGEIRVNAA-----	LG
Vibrio	101	-----	MIPGEIRVNHE-----	LG
Klebsiella	101	-----	MIPGEYHVKP-----	G
Escherichia	101	-----	MIPGEYKVKP-----	G
Alcaligenes	101	-----	MIPGELMPAD-----	G
Pseudomonas	101	-----	MIPGEYDIQP-----	G
Bordetella	101	-----	MIPGEILTEP-----	G
Deinococcus	105	-----	RRVAGEYLLLEG-----	G
Yersinia1	100	-----	KMSAKKS-----TKDSK---	EQNTPLGGLVLAET
Yersinia3	100	-----	KMSAKKS-----TKDSK---	EQNTPLGGLVLAET
Yersinia2	100	-----	KMSTKTNSTKATSEKTD	SLKTNRGTKSSAGYSDQNIPLGGCILADT
Actinobacillus	100	-----	RMIPGEY-----Q-----	LADG
Haemophilus	100	-----	RMIPGEY-----Q-----	LAEG
Bacillus1	105	-----	SMKPGAFQI-----	AEG
Bacillus2	100	-----	QMIPGEVIP-----	ANG
Bacillus3	106	-----	YIVPGEYRV-----	AEG
Helicobacter2	105	-----	KLAPGEVFLKN-----	E
Helicobacter	106	-----	KLAPGEVILKN-----	E
Helicobacter1	105	-----	KLVPGEVFLKN-----	E
Thermophilic	101	-----	MIPGEYVLKK-----	E
Streptococcus	101	-----	MIPGEYHVAS-----	E
Lactobacillus	101	-----	MVPGEYKLPQ-----	D
Clostridium	101	-----	MIPGEFKFGQ-----	G
Ureaplasma	112	-----	KLVPGAINFAE-----	G
Staphylococcus	101	-----	MKPGEIIIVKR-----	T

Canavalia	144	-LTLNIGR-KAVILKVTSKGDRPIQVGSYHYHFI	EVN-PYLTFD-----	RRKAYGMRL
Glycine	144	-LILNPRR-NAIILRVVVKGDRPIQVGSYHYHFI	EVN-PYLTFD-----	RRKAYGMRL
Solanum	143	-IVLNQR-KAVILKVTNTGDRPIQVGSYHYHFI	EVN-PSLIFD-----	RMKALGMRL
Arabidopsis	143	-IILNHGR-KAVILKVVNTGDRPIQVGSYHYHFI	EVN-PLLVFD-----	RRKALGMRL
Schizosaccharomyces	145	EIELLPNL-PRTPIEVRNMGDRPIQVGSYHYHFI	ETN-EKLCFD-----	RSKAYGKRL
Coccidioides	149	KIELNAGR-NRIMLKVTSRQDRPIQVGSYHYHFI	EVN-PQLDFD-----	RAKAYGYRL
Cryptococcus	145	-VKINAGR-RRFRLEVKNAGDRPIQVGSYHYHFI	ETN-PALIFD-----	RLLSYGYHL
Actinomyces	116	TITINEGR-PTITLTVLNTGDRPIQVGSYHYHFI	EVN-SALSFD-----	RQAARGFRL
Corynebacterium	112	SLTGNVGR-EAKTIEIINTGDRPVQIGSHFHFAE	EVN-PSISFD-----	RSECYGFRL
Mycobacterium	112	DIEVNAALSRIQMRIINAGDRPVQVGSYHLPQAN	-RALSFD-----	RATAHGYRL
Streptomyces	112	PVAFNEGR-EAVRLTVLNTADRPVQVGSYHYHFA	EAN-PGLEFD-----	RAAAHGRRL
Synechococcus	115	EIELNAGR-PVTSLHVANSQDRPVQVGSYHYHFA	EAN-AALQFD-----	RTAARGQRL
Prochlorococcus	115	DIELNSGK-NAKTLTVSNITGDRPIQVGSYHYHF	FETN-KALIFT-----	REITLGMRL
Synechocystis	115	DIELNVGR-STCTINVANTGDRPIQVGSYHYHFI	EVN-AALQFD-----	RDLAKGMRL
Rhodobacter1	112	DIELNAGA-ATITLMVANTGDRPVQVGSYHYHFA	ETN-PGLVFD-----	RTAARGYRL
Rhodobacter2	112	EIELNAER-AQITLVVSNAGDRPVQVGSYHYHFA	ETN-PALEFD-----	REAARGMRL
Sinorhizobium	112	EIELNAGL-ETVSI EVANSQDRPVQVGSYHYHFA	ETN-PGLIFD-----	RDAARGKRL
Proteus1	114	DIELNAGR-ETKIIQVANHGDRPVQVGSYHYHFI	EVN-EALKFE-----	REETLGFRL
Proteus2	114	DIELNAGR-ETKTIQVANHGDRPVQVGSYHYHFI	EVN-EALRFA-----	RKETLGFRL
Vibrio	114	DIVLNEGR-RTKTLRVSNLQDRPIQVGSYHYHFI	EVN-KFLDFD-----	RDEALGFRL
Klebsiella	112	QIALNTGR-ATCRVVVENHGDRPIQVGSYHYHFA	EVN-PALKFD-----	RQQAAGYRL
Escherichia	112	YIELNIGR-ATCSIIVENHGDRPIQVGSYHYHFA	EVN-PALKFD-----	RQKARGYRL
Alcaligenes	112	EIELNAGR-ATVSVTVANTGDRPIQVGSYHYHFI	EVN-AALAFD-----	RETARGFRL
Pseudomonas	112	DIELNAGR-RTLALSVANTGDRPIQVGSYHYHFA	EAN-DALAFD-----	RPATRGMRL
Bordetella	112	QIELNVGR-PTITLAVVNEGDRPIQVGSYHYHFA	EAN-NALVFD-----	RELATGYRL
Deinococcus	117	EIELNAGR-PVTTLTVANTADRPVQVGSYHYHFI	EVN-AGLRFD-----	RAAAYGFRL
Yersinia1	126	PITFNENK-PVTKVKVRNTGDRPIQVGSYHYHFI	EVN-RALEFD-----	RAAAYGKRL
Yersinia3	126	PITFNENK-PVTKVKVRNTGDRPIQVGSYHYHFI	EVN-RALEFD-----	RAAAYGKRL
Yersinia2	146	PITFNENK-PVTKVKVRNTGDRPIQVGSYHYHFI	EVN-RALEFD-----	RAAAYGKRL
Actinobacillus	112	DVQANVGR-KTVKLEVVNSGDRPIQVGSYHYHFI	FETN-HALKFD-----	RLQARGMRL
Haemophilus	112	DILANVGR-KTVKLEVTNSGDRPIQVGSYHYHFI	FETN-NALKFD-----	RTLARGMRL
Bacillus1	117	TITINEGR-EIREVTVKNTGSRSIQVGSYHYHFA	EAN-GALLFD-----	RELAI GMRL
Bacillus2	112	EVVLNKGR-RMVKVLVAHTGDRPIQVGSYHYHFA	EVN-RSLHFD-----	RQEAFGMRL
Bacillus3	118	EIELNAGR-EKTTIRVSNITGDRPIQVGSYHYHFI	EVN-KELLFD-----	RAEGIGRRL
Helicobacter2	117	DITLNAGK-EAISLKVKNKQDRPVQVGSYHYHFI	EVN-KLLDFD-----	RAKSFCRRL
Helicobacter	118	DITLNAGK-HAVQLKVKNKQDRPVQVGSYHYHFI	EVN-KLLDFD-----	REKAYGKRL
Helicobacter1	117	DITINEGK-KAVSVKVKNVGDRPVQIGSHFHFAE	EVN-RCLDFD-----	REKTFGKRL
Thermophilic	112	PILCNQNK-QTIKIRVLNRGDRPVQVGSYHYHFI	EVN-QSLQFH-----	REKAFGMRL
Streptococcus	112	PIDYNGGY-EAISLEVKNVGDRAAQVGSYHYHFI	EVN-ANESGLQFD-----	REKARGKRL
Lactobacillus	112	KVPYVGY-DDISLKVKNVQDRPVQVGSYHYHFI	EVN-EANEQGLQFD-----	RSQAWGKHL
Clostridium	112	KILCNADK-KAITIEVKNTGDRPVQVGSYHYHFI	EVN-SALDFD-----	RKLAWGKHL
Ureaplasma	124	ENVNNEGR-EAKVISIKNTGDRPIQVGSYHYHFI	EVN-SALVFFDEKGNEDKERKVAYGRRF	
Staphylococcus	112	EIEVNRGH-NATILDKNTGDRPIQVGSYHYHFI	EVN-PALQFE-----	REKAYGKRL

Canavalia	1	NIAAGTAVRFEPGDC	TSV-TLVS	TEGNKVI	RGGNAIA-DGPVN	----	ETNLEAMHAVRS	
Glycine	1	NIAAGNATRFEPGE	CKSV-VLVS	IGGNKVI	RGGNNIA-DGPVN	----	DSNCRAAMKAVVT	
Solanum	1	NIPAGATRFEPGET	RSV-VLIG	ISGKKVI	RGGNAIA-DCPVD	----	DAKVMTLMGALSE	
Arabidopsis	1	NIPAGTAVRFEPGER	KSV-VLVN	IGGNKVI	RGGNGIV-DGLVD	----	DVNWTVLMETMER	
Schizosaccharomyces	1	DIPSGTAVRFEPGM	KIV-NLIP	IGGAKLI	QGGNSLS-KGVFD	----	DSRTREIVDNLMK	
Coccidioides	1	DIPAGTSIRFEPVAT	QPI-PLVE	IGGQENQ	SRGOPTSPSAKWI	----	SEEFDEIIMRLQK	
Cryptococcus	1	DIPAGTAVRFEPGE	KKTV-TMVE	FGGKKI	FHGGSGLGNGSFDE	----	NLRETKVKEMVEK	
Actinomyces	1	DIPAGTAVRFEPGD	SRPV-HLVA	LAGARRV	FGLA-----		GETNGPVQ-	
Corynebacterium	1	DIPSGTAVRFEPGD	ARTV-NLVA	IGGDRI	VAGFR-----		DLVDCPLET	
Mycobacterium	1	DIPAAAVRFEPGIP	QIV-GLV	PLGGR	REVPGLT-----		LNPPGRLD-	
Streptomyces	1	DIAAGTAVRFEPGI	PVDV-RLI	PLAGAR	VVGLR-----		GATGGALD-	
Synechococcus	1	DIPAGTAVRFEPGD	SRDV-NLIP	FAGDRR	VIGFN-----		GQINGPLDA	
Prochlorococcus	1	DIPAGTAVRFEPGD	TTEV-KLI	PYSGYR	NAFGFN-----		ALINGPLDS	
Synechocystis	1	DIPAGTAVRFEPGD	ENV-NLV	AYAGS	REIYGFN-----		GLVNGPLE-	
Rhodobacter1	1	DIAAGTAVRFEPGQ	SREV-QLV	PLSGARR	VGFN-----		AKVMG----	
Rhodobacter2	1	DIPAGTAVRFEPGQ	TREV-RLV	SYAGS	REYVGFNGRD	----	HG----QAVA	ASTTGDRHA
Sinorhizobium	1	DIPAGTAVRFEPGQ	TROV-TLI	PLSGKRE	VGFGR-----		QQVMG----	
Proteus1	1	NIPAGMAVRFEPGQ	CRTV-ELV	AFDGKRE	IYGFH-----		GKVMGKLES	
Proteus2	1	NIPAGMAVRFEPGQ	SRTVDEL	VAFAGKRE	IYGFH-----		GKVMGKLES	
Vibrio	1	NIPAGMAVRFEPGQ	RRTV-ELV	TFAGKQ	EVYGFQ-----		GAIMGKLQ-	
Klebsiella	1	NIPAGTAVRFEPGQ	KREV-ELV	AFAGHRA	VGFGR-----		GEVMGPLEV	
Escherichia	1	NIAAGTAVRFEPGQ	KREV-ELV	ALSGARI	VHGFR-----		GDIMGELEA	
Alcaligenes	1	NIAAGTAVRFEPGQ	TRTV-ELV	ALDGDRI	VYGFN-----		GKIMGALMA	
Pseudomonas	1	NIAAGTAVRFEPGQ	SREV-ELV	EIGGGR	RIVGFA-----		GRVMGDLM-	
Bordetella	1	NIPAGNAVRFEPGM	RRTV-ELV	AVGGERR	IFGFQ-----		GKVMGALKM	
Deinococcus	1	NIPAGTAVRFEPGE	EREV-DLV	PLGGS	RTVYGMN-----		ALVNGDLDA	
Yersinia1	1	NISSTTAVRFEPGD	EDEV-PLI	PFGGKQ	TLYGFNNLVDGWTGEGVVPNSERPDKLAAIRL			
Yersinia3	1	NISSTTAVRFEPGD	EDEV-PLI	PFGGKQ	TLYGFNNLVDGWTGEGVVPNSERPDKLAAIRL			
Yersinia2	1	NISSTTAVRFEPGD	EDEV-PLI	PFGGKQ	TLYGFNNLVDGWTGEGVVPNSERPDKLEAIRR			
Actinobacillus	1	NVPSGNAVRFEPGE	AKEV-ELV	EFGNKVI	YGFHNEIDG-----		KLMAIT-	
Haemophilus	1	NVPSGNAVRFEPGE	VKSV-ELV	AFGNQI	IYGFHNQIDG-----		KLMAIT-	
Bacillus1	1	DVPSGTSVRFEPGE	QKTV-SLVE	IRGRKT	IRGLNGMADTFIDE	-----	RGKEKTLAN	
Bacillus2	1	NIAAGTAVRFEPGE	EKEV-DLVE	IGGKRQ	IYGLNGWTDGAIDD	-----	ENLPSFLAS	
Bacillus3	1	NIPSGTAAVRFEPGE	EMEV-ELTE	LGGNRE	VFGISDLTNGSVD	-----	NKELIILQR	
Helicobacter2	1	DIASGTAVRFEPGE	EKSV-ELID	IGGNKRI	YGFNSLVDRQADA	-----	DGKKLGLKR	
Heliobacter	1	DIASGTAVRFEPGE	EKTIV-ELID	IGGNKRI	YGFNALVDRQADH	-----	DGKKLALKR	
Helicobacter1	1	DIASGTAVRFEPGE	EKSV-ELID	IGGNRR	IFGFNALVDRQADN	-----	ESKKIALHR	
Thermophilic	1	NIPAGTAVRFEPGD	AKEV-EIIP	FSGERK	VYGLNNVTNGSVEM	-----	GKRKMSFS-	
Streptococcus	1	DIPAGTAVRFEPGE	TKTV-QLI	DFGGKR	RIFGFNN-----		KVNGFLD-	
Lactobacillus	1	DIPAGTAVRFEPGE	ERTV-KLI	DFGGKR	RVGFNN-----		KVNGWLDV	
Clostridium	1	DIPSGAVRFEPGD	VKKV-NLV	DFTGERR	IFGFHD-----		EVNGYLD-	
Ureaplasma	1	DILS-TAVRFEPGD	KKEV-SVID	LVGTR	WSLRCK-----		RLS-	
Staphylococcus	1	DIPAGAAVRFEPGD	EKEV-QLV	EYSGKR	RIFGFHG-----		EVNGPIDE	

Canavalia	55	KGFGHEEEKDASEGFT-----KEDPNCPFNTFIHRKE
Glycine	55	RGFGHVVEENAREGVT-----GEDYS--LTTVISREE
Solanum	55	GGFGHLEPNPREGVV-----GEESC--FSFSMTHEE
Arabidopsis	55	RGFKHLEDIDASEGIA-----GEDPR--FTTMSIREK
Schizosaccharomyces	55	QGFMHQPESPLN-----MPLQSARPFVVPKRL
Coccidioides	56	AGFAYTPE-PK-----QDAHLIEPFSMTREA
Cryptococcus	56	VGFGHKEQ--E-----KIEEGPVTEMNREV
Actinomyces	42	-----G--MSKELSRRE
Corynebacterium	43	QVNVWRTEDDGVVLSCCDVHKIATVEAAERARKLDDATDANTNVGTEEGRNMSFEISRKQ
Mycobacterium	42	-----RMARLSRER
Streptomyces	42	-----AMPELSRTA
Synechococcus	43	-----MPYRISRQA
Prochlorococcus	43	-----MSYKINRKT
Synechocystis	42	-----MSYRMDRHS
Rhodobacter1	39	-----ELMPRLISRAT
Rhodobacter2	52	ASPCPSPASMALYCRPASWSRRR-----RRSMPASISRST
Sinorhizobium	39	-----KLMSYRMSRAA
Proteus1	43	-----ENKMKTISRQA
Proteus2	44	-----EKKMKTISRQA
Vibrio	42	-----DRSMSKISRQA
Klebsiella	43	N-----DEMS-NISRQA
Escherichia	43	N-----DEMMSNISRQA
Alcaligenes	43	-----KISRQA
Pseudomonas	42	-----KISRQA
Bordetella	43	-----TRISRSA
Deinococcus	43	PGTREAALLEGARAAG-----FGGAQVKVSRQQ
Yersinia1	60	AAERGFKS-----S-KPQISRQE
Yersinia3	60	AAERGFKS-----SKMPQISRQE
Yersinia2	60	AAERGFKS-----SKMPQISRQE
Actinobacillus	45	-----I-----PRSQ
Haemophilus	45	-----I-----SRAQ
Bacillus1	52	LKQAGWMEG-----VIRMKMSREE
Bacillus2	52	YQVSEDKED-----EEKVKLTRAQ
Bacillus3	50	AKELGYKG-----VEVKINRQQ
Helicobacter2	52	AKEKGFGSVNCGCEATK-----DKQMKKISRKE
Helicobacter	52	AKEKHFGTINCGCDN-----KMKKISRKE
Helicobacter1	52	AKERGFHGAKSDDNYVKT-----IKEMKKISRKE
Thermophilic	51	-----MSRKQ
Streptococcus	42	-----MSFKMDREE
Lactobacillus	43	DKKADTYNGYPLEKSYPEE-----KMSFDMDEHQ
Clostridium	42	-----MSFEISRQEQ
Ureaplasma	36	-----MFKISRKN
Staphylococcus	43	ARVYKAEDDDSAEIIAENKVSEAN-----KESGYNRMSFKMTQSQ

Canavalia	87	YANKYGP	TTG	---	DKIRLGD	TNLLAE	IEKDYAL	---	YGDECV	F	GGGKV	IRDGM	QSCG									
Glycine	85	YAHKYGP	TTG	---	DKIRLGD	TLFAE	IEKDFAV	---	YGDECV	F	GGGKV	IRDGM	QSSG									
Solanum	85	YANMFGP	TTG	---	DRIRLGD	TLFAE	IEKDFGI	---	FGDECV	F	GGGKV	LRDGM	QACG									
Arabidopsis	85	YANMYGP	TTG	---	DKIRLGD	TNLYAR	IEKDYTV	---	YGDECV	F	GGGKV	LRDGM	QGIE									
Schizosaccharomyces	82	YAVMYGP	TTN	---	DKIRLGD	TNLIIV	RVEKDFTE	---	YGNE	SV	F	GGGKV	IRDGT	QSSS								
Coccidioides	81	YARMFGP	TTG	---	DVVKLGT	TDLWIK	VEKDLTY	---	YGDECS	F	GGGKT	IRDGM	QATG									
Cryptococcus	79	YASMFGP	TTG	---	DKIKLAD	MDLWIE	VEKDYTV	---	YGDECK	F	GGGKV	IRDG	GGQASG									
Actinomyces	52	HAALYGP	TTG	---	DAVRLAD	TGLFAQ	IERDLTH	---	RGDEAV	F	GGGKV	IRDGM	GHNQ									
Corynebacterium	103	YTDLYGP	TVG	---	DSVRLAD	TEFLC	VEKDYAA	---	VGEEV	A	F	GGGKV	IRDGM	QNGT								
Mycobacterium	51	YAQLYGP	TTG	---	DRIRLAD	TNLLVE	VTE	DRCGG	P	L	A	G	DEAV	F	GGGKV	LR	ESMQ	-GR				
Streptomyces	51	YADLFGP	TTG	---	DRVRLAD	TDLFVE	IEEDR	S	G	G	P	G	R	S	DEAV	F	GGGKV	LR	ESMQ	-GR		
Synechococcus	52	YAETYGP	TTG	---	DRRLAD	TELIIE	VEKDFTV	---	YGDEV	K	F	GGGKV	IRDGM	QSQ	T							
Prochlorococcus	52	YAQTYGP	TGK	---	DRVRLAD	TELIIE	VEKDFTT	---	YGDEV	K	F	GGGKV	IRDGM	QSQ	V							
Synechocystis	51	YAHTFGP	TVG	---	DKVRLAD	TELFIE	VEQDYAT	---	YGDEV	K	F	GGGKV	IRDGM	QSQ	S	P						
Rhodobacter1	50	YADMFGP	TTG	---	DKVRLAD	TDLIIE	VEKDLTT	---	YGEEV	K	F	GGGKV	IRDGM	QSQ	S	I						
Rhodobacter2	87	YASMFGP	TTG	---	DRIRLGD	TELVIE	VERDLTT	---	YGEEV	K	F	GGGKV	IRDGM	QSQ	S	R						
Sinorhizobium	50	YANMFGP	TVG	---	DKVRLAD	TELFIE	VEKDFTT	---	HGEEV	K	F	GGGKV	IRDGM	QSQ	S	V						
Proteus1	54	YADMFGP	TTG	---	DRIRLAD	TELFLE	IEQDFTT	---	YGEEV	K	F	GGGKV	IRDGM	QSQ	S	V						
Proteus2	55	YADMFGP	TTG	---	DRIRLAD	TELFLE	IEKDFTT	---	YGEEV	K	F	GGGKV	IRDGM	QSQ	S	V						
Vibrio	53	YADMFGP	TTG	---	DCVRLAD	TEFLQ	VEQDFTI	---	YGEEV	K	F	GGGKV	IRDGM	QSQ	S	V						
Klebsiella	54	YADMFGP	TVG	---	DKVRLAD	TELVIE	VEDDLTT	---	YGEEV	K	F	GGGKV	IRDGM	QSQ	S	Q	M					
Escherichia	55	YADMFGP	TTG	---	DKIRLAD	TELVIE	VEDDLTT	---	YGEEV	K	F	GGGKV	IRDGM	QSQ	S	Q	M					
Alcaligenes	49	YAEMFGP	TTG	---	D-LRLAD	TGLIIE	IEKDFTI	---	YGEEV	K	F	GGGKV	IRDGM	QSQ	S	R						
Pseudomonas	48	YADMFGP	TVG	---	DRVRLAD	TDLWIE	VERDFTV	---	YGEEV	K	F	GGGKV	IRDGM	QSQ	S	L						
Bordetella	50	YAEIYGP	TVVGGVG	---	DRVRLAD	TLLAE	VEKDH	TI	---	F	G	E	E	V	K	F	GGGKV	IRDGM	QSQ	S	R	
Deinococcus	70	YADLYGP	TVG	---	DRVRLGD	TELLIE	VERDLTT	---	YGEEV	K	F	GGGKV	IRDG	L	QSSA							
Yersinia1	77	YAGLFGP	TTG	---	DKIRLGD	TNLFIE	IEKDLRG	---	YGEE	S	V	Y	GGGKS	LR	DGM	GANN	N					
Yersinia3	78	YAGLFGP	TTG	---	DKIRLGD	TNLFIE	IEKDLRG	---	YGEE	S	V	Y	GGGKS	LR	DGM	GANN	N					
Yersinia2	78	YAGLFGP	TTG	---	DKIRLGD	TNLFIE	IEKDLRG	---	YGEE	S	V	Y	GGGKS	LR	DGM	GANN	H					
Actinobacillus	50	YVATYGP	TVG	---	DKVRLGD	TDLWAT	IEQDFLT	---	KGDE	C	K	F	GGGKS	S	R	DGM	A	QSS	T			
Haemophilus	50	YVATYGP	TVG	---	DKVRLGD	TNWLWAT	IEQDLLT	---	KGDE	C	K	F	GGGKS	S	R	DGM	A	QSS	T			
Bacillus1	71	YAEIYGP	TTG	---	DKIRLGD	TDLWIE	VEKDFTV	---	YGEE	M	I	F	GGGKT	IRD	DGM	QNG	R					
Bacillus2	71	HASLYGP	TVG	---	DKVRLAD	TDLLE	IEKDYTV	---	YGDE	C	K	F	GGGKV	LR	DGM	QSA	V					
Bacillus3	67	YAESYGP	TVG	---	DRVRLAD	TDLG-	EVEKDY	YY	---	L	G	D	E	V	N	F	GGGKV	LR	DGM	G	EN	G
Helicobacter2	80	YVSMYGP	TTG	---	DRVRLGD	TDLILE	VEHDCTT	---	YGEE	I	K	F	GGGKT	IRD	DGM	S	Q	TNS				
Helicobacter	76	YVSMYGP	TTG	---	DKVRLGD	TDLILE	VEHDCTT	---	YGEE	I	K	F	GGGKT	IRD	DGM	S	Q	TNS				
Helicobacter1	81	YVSMYGP	TTG	---	DKVRLGD	TDLIAE	VEHDYTI	---	YGEE	L	K	F	GGGKT	LR	DGM	S	Q	S	N			
Thermophilic	56	YADMFGP	TVG	---	DAIRLAD	SELFIE	IEKDYTT	---	YGDEV	K	F	GGGKV	IRD	DGM	Q	H	P					
Streptococcus	51	YAQHYGP	TVG	---	DSVRLGD	TNLF	FAAIEKDFTV	---	YGQES	K	F	GGGKV	LR	DGM	V	S	A					
Lactobacillus	72	FASFYGP	TTG	---	DSVRLGD	TDLFAK	IEKDLTV	---	HGQES	L	F	GGGKV	LR	DGM	V	S	A					
Clostridium	51	YAGMFGP	TTG	---	DSIRLGD	TNLF	FAKIEKDMTV	---	YGDES	K	F	GGGK	LR	DGM	Q	S	A					
Ureaplasma	44	YSDLYGI	TTG	---	DSVRLGD	TNLV	WKVEKDLTT	---	YGEE	S	V	F	GGGKT	LR	DGM	M	N	S	T			
Staphylococcus	86	YTSLYGP	TVG	---	DSVRLGD	TNLF	FARVEKDYAT	---	YGDE	A	A	F	GGGKS	LR	DGM	A	Q	N	P	N		

Canavalia	139	H-----	PPAISLDTVITNAVIID	-YTGIIKAD	-IGIKDGLIASIGKAGNPDIMNGVFSN
Glycine	137	H-----	PPEGLSDTVITNAVIID	-YTGIIKAD	-IGIKDGLIISTGKAGNPDIMNDVFPN
Solanum	137	Y-----	PPADCLDVTITNAVVID	-YTGIFKCD	-IGIKDGHIVSLCKAGNPDIMD---SD
Arabidopsis	137	Q-----	AEALSLDTVITNSVIIID	-YSGIYKAD	-IGIKNGHIVGIGKAGNPDIMHGVQNN
Schizosaccharomyces	134	K-----	SMDECLDVTITNAVIID	-HTGIYKAD	-IGIKNGYIVGIGKAGNPDIMDNIGEN
Coccidioides	133	R-----	HSVDVLDTVLVNALIVD	-WTGIYKAD	-IGIKDGLICGIAKAGNPDIMMDVVTPN
Cryptococcus	131	R-----	HDHEVLDLVITNALIIVD	-WTGIYKAD	-IGVKNGLIIVGIGKAGNPDIMMDGVTDG
Actinomyces	104	R-T----	RDEDIPDVTITNAIIID	-HTGVYKAD	-VAIRDGVIISAIGAAGNPDIMDDV--D
Corynebacterium	155	L-V----	RDVDIPDVTITNVIVLD	-YTGVIKAD	-VALRDGKIFRIGKAGNPNVMENV--D
Mycobacterium	106	A-S----	RADGAPDVTITGAVIID	-YWGIIKAD	-IGIRDGRIVGIGKAGNPDIMTGVHRD
Streptomyces	106	T-T----	RAQGAPDVTITGALIID	-HWGIVKAD	-IGIRDGRITGIGKAGNPDIMDGVHPD
Synechococcus	104	P-----	RAGGAVDVTITNALIID	-WWGIVKAD	-VGLKDGRIIVGIGKAGNPDITQAGVT--
Prochlorococcus	104	T-----	REDGAVDVTITNALIVD	-WWGIVKAD	-VGLKDGKIYEIGKAGNPDITQDNIN--
Synechocystis	103	S-----	RAEGAVDVTITNALIID	-WWGIVKAD	-VGIKNGRIYAIKAGNPHIQDNVS--
Rhodobacter1	102	P-----	RSGGAMDVTITNALIVD	-HTGIYKAD	-VGLRDGRIAGIGKAGNPDITQPGVT--
Rhodobacter2	139	T-----	RAEGAMDVTITNALIVD	-WTGIYKAD	-VGLRDGRIAKIGKAGNPDITQPGVD--
Sinorhizobium	102	T-----	REGGAVDVTITNALIID	-HWGIVKAD	-IGIKDGRISAAIGKAGNPDIMQPGVT--
Proteus1	106	-----	VSAECVDVLIITNAIIID	-HWGIVKAD	-IGIKDGRITGIGKAGNPDVQPNVD--
Proteus2	107	-----	VSAECVDVLIITNAIIID	-YWGIVKAD	-IGIKDGRIVGIGKAGNPDVQPNVD--
Vibrio	105	-----	TNDGCVDLIITNALIID	-HWGIVKAD	-IGIKNGRIAGIGKAGNPDITQPKVN--
Klebsiella	106	-----	LAADCVDLVITNALIVD	-HWGIVKAD	-IGVKDGRIFAIGKAGNPDITQPNVT--
Escherichia	107	-----	LSAGCADLVITNALIID	-YWGIVKAD	-IGVKDGRIFAIGKAGNPDITQPNVT--
Alcaligenes	100	-----	MASDCVDVTITNALIVD	-HWGIVKAD	-IGIKGGRISAAIGKAGNPDITQPGVT--
Pseudomonas	100	-----	GAAQVDTVITNALIID	-HWGVVKAD	-VGLKDGRIQAIKAGNPDITQPGVN--
Bordetella	106	-----	LATDCVDVTITNALIID	-DAVTGIVKAD	-IGIKDGLISGIGKAGNPDITQPGVT--
Deinococcus	122	ATR----	DDANVPDLVITNALIID	-YWGVIKAD	-VGVKNGRISAAIGKAGNPGTQDGVTPG
Yersinia1	129	LTR----	DN-GVLDLVITNVTIIVD	-DARLGVKAD	-VGIRDGKIAGIGKSGNPGVMDGVTPG
Yersinia3	130	LTR----	DN-GVLDLVITNVTIIVD	-DARLGVKAD	-VGIRDGKIAGIGKSGNPGVMDGVTPG
Yersinia2	130	LTR----	DN-GVLDLVITNVTIIVD	-DARLGVKAD	-VGIRDGKIAGIGKSGNPGVMDGVTPG
Actinobacillus	102	ATR----	DNPVLDFAITNVMIID	-DAKLGIIKAD	-IGIRDGRIVGIGQAGNPDIMDNVTPN
Haemophilus	102	ATR----	DNPVLDVITNVMIID	-DAKLGIIKAD	-IGIRDGRIVGIGQAGNPDIMDNVTPN
Bacillus1	123	ITG----	KD-GALDLVITNVLLDY	-TGIVKAD	-VGVKDGRIVGVGKSGNPDIMDGVDPH
Bacillus2	123	YTR----	DE-GVLDLIIITNAIIDI	-TGIVKAD	-IGIKDGHIVGIGKGNPDIMDGVESH
Bacillus3	118	YTR----	TE-NVLDLIIITNALIID	-DY-TGIYKAD	-IGVKDGYIVGIGKGNPDIMDGVTPN
Helicobacter2	132	P-----	SSYE-LDLVITNALIVD	-YTGIIKAD	-IGIKDGGIAGIGKAGNKDMQDGVDDN
Helicobacter	128	P-----	SSHE-LDLVITNALIVD	-YTGIIKAD	-IGIKNGKIHGIGKAGNKDLQDGVVNR
Helicobacter1	133	P-----	SKEE-LDLIITNALIVD	-YTGIIKAD	-IGIKDGGIAGIGKGNKDMQDGVKNN
Thermophilic	108	A-----	TSDECVDLVITNALIID	-YTGIIKAD	-IGIKDGMIASIGKAGNPLIMDGVDD--
Streptococcus	103	ETR----	DNPSVDTHITGATIID	-YTGIIKAD	-IGIRDGKIIVAIKAGNPDIMDNVDD--
Lactobacillus	124	ETRA---	ENPMVADLIISDAI IID	-WTGIYKAD	-IGIRDGKILAIKAGNPDVMDNVDD--
Clostridium	103	ELRR---	DNPKVLDLIITSAVILD	-YTGIIKAD	-IGIRDGKIIVAIKAGNPSIMDNVDD--
Ureaplasma	96	MKLDDKLGNAEVM	DLVITNALIID	-YTGIIKAD	-PIGIKNGKIISAIKAGNPHITDGVDD--
Staphylococcus	138	VTR----	DDKQVADLVITNALIID	-YDKIVKAD	-IGVKNGYIMKIGKAGNPDIMDNVDD--



Canavalia	1	MIIGANTEVIAGEGLIVTAGAIDCHVHYICPQLVYEAISSGITTLLVGGGTGPAAGTRATT
Glycine	1	MIIGANTEVIAGEGLIVTAGAIDCHVHFICPQLVYDAVTSGITTLVGGGTGPPADGTRATT
Solanum	1	AIIGVNTEVIAGEGMIVTAGAIDCHVHFICPQLAYEAISSGITTVMGGGTGPAHGTRATT
Arabidopsis	1	MLIGT--EVIAGEGMIVTAGAIDCHVHFICPQLVYEAVSSGITTVMGGGTGPAYGTRATT
Schizosaccharomyces	1	MVIGSSDVI SAENKIVTYGGMDSHVHFICPQOIEEALASGITTMYGGGTGPSTGTNATT
Coccidioides	1	MVIGSSDVIACEGKIIVTAGGIDTHVHFICPQOIEEALASGVTTLLGGGTGPTGEGSNATT
Cryptococcus	1	MVIGSSTEVIASGEKLIITAGRLDVHVHYISPOLMTEALASGITTVIGGGTGPADGSNATT
Actinomyces	1	IVIGTSTEVIAGEHRILTAGGIDSHIHFI SPTQVATALASGVTTMIGGGTGP SDGTNATT
Corynebacterium	1	IVIGVATDIIAGEGKIITAGALDTHVHFLGTDQVNTALASGITTMIGGGTGPSQASMATT
Mycobacterium	1	LVVGPSTEIISGNRRIVTAGTVDCHVHLICPQIIVEEALAAGTTTTIGGGTGP AEGTKATT
Streptomyces	1	LVIGPETEIVAGNKIVTAGGIDTHVHFIA PGAVDEALASGVTTLIGGGTGP AEGSKATT
Synechococcus	1	IVVGPGETEAIAGEGHILTAGGIDTHIHFICPQO IETALASGMTLLMGGGTGPATGTNATT
Prochlorococcus	1	IIIGSSTEVIAGEGHILTAGSIDTHIHFICPQO IETALASGVTTMLGGGTGPATGTNATT
Synechocystis	1	IIIGPSTEAIAGEGMILTAGGIDAHVHFICPQO IETALASGVTTLVGGGTGPAAGTKATT
Rhodobacter1	1	LJIGPGTEVIAGEGKIITAGGIDTHIHFICPQO IEDALASGITTMLGGGTGPAHGTLATT
Rhodobacter2	1	IVIGPGTEI IAGEGRILTAGGMDAHIHFI SPTQVATALASGVTTMIGGGTGP AEGTKATT
Sinorhizobium	1	IIVGPGETEVIAGEGKIIVTAGGMDSHIHFI SPTQVATALASGVTTMIGGGTGP AEGTKATT
Proteus1	1	IVIGPGTEVAGEGKIITAGGVDTHIHFICPQO AEEGLISGVTTFFIGGGTGPVAGTNATT
Proteus2	1	IVIGPGTEVAGEGKIIVTAGGIDTHIHFICPQO AQEGLVSGVTTFFIGGGTGPVAGTNATT
Vibrio	1	IVIGPATEVIAGEGKIITAGGIDTHIHFICPQO AEEGLSSGVTTFFIGGGTGPVAGTNATT
Klebsiella	1	IPIGAATEVIAAEGKIVTAGGIDTHIHWICPQO AEEALVSGVTTMVGGGTGP AAGTHATT
Escherichia	1	IPIGVSTEIIAAEGRIVTAGGVDTHIHWICPQO AEEALTSGITTMIGGGTGP TAGSNATT
Alcaligenes	1	IVVGPGETEVIAGEGMIVTAGGIDSHIHFI SPTQVATALASGVTTMIGGGTGP AAGTKATT
Pseudomonas	1	IAIGAGTEVIAGEGMILTAGGIDTHIHFICPQO IEEALMSGVTTMIGGGTGP AAGTKATT
Bordetella	1	IIIGASTEVIAGEGLIVTAGAIDTHIHFICPQO IEEALATGTTMIGGGTGPATGSLATT
Deinococcus	1	LTIAASTEIVAGEGLVLTAGGVDTHIHFIA PQQCWTALESVTTMIGGGTGP TAGTSATT
Yersinia1	1	MVVGVSTD AISGEHLIILTAAGIDSHIHLSI PQQAYHALSNGVATFFGGGIGPTDGTNGTT
Yersinia3	1	MVVGVSTD AISGEHLIILTAAGIDSHIHLSI PQQAYHALSNGVATFFGGGIGPTDGTNGTS
Yersinia2	1	MVVGVSTD AISGEHLIILTAAGIDSHIHLSI PQQAYHALSNGVATFFGGGIGPTDGTNGTT
Actinobacillus	1	MIIGASTEVIHNGAHLIATAGGIDTHIHWICPQO AQHAIE SGTITMIGGGSGPADGTHATT
Haemophilus	1	MIIGASTEVIHNGAHLIATAGGIDTHIHFICPQO AQHAIE SGTITMIGGGSGPADGTHATT
Bacillus1	1	MVIGAGTEVISGEKLIITAGGVDTHIHFICPQO MEVALSSGVTTLLGGGTGPATGSKATT
Bacillus2	1	MVIGASTEAIAGEGLIVTAGGIDAHIHFI SPTQVATALASGVTTMIGGGTGPATGSKATT
Bacillus3	1	MVIGTATEVIAAEGKIVTAGGIDTHVHF INPDQVDVALANGITTLFGGGTGP AEGSKATT
Helicobacter2	1	LCVGPATEALAAEGLIVTAGGIDTHIHFIS PQQIPTAFASGVTTMIGGGTGPADGTNATT
Helicobacter	1	LCVGPATEALAAEGLIVTAGGIDTHIHFIS PQQIPTAFASGITTMIGGGTGPADGTNATT
Helicobacter1	1	LSVGPATEALAGEGLIVTAGGIDTHIHFIS PQQIPTAFASGVTTMIGGGTGPADGTNATT
Thermophilic	1	MVIGAATEVIAAEGMIVTAGGIDAHIHFI SPTQVATALASGVTTMIGGGTGPATGTNATT
Streptococcus	1	FVVGASTEAI AAEGLIVTAGGIDLHVHYI SADLPEFGLDNGITTLFGGGTGPADGNSNATT
Lactobacillus	1	FVVGASTEAI SGEGMIVTAGGIDLHVHYI TPSIAQAALDNGITTLFGGGTGPANGTRSATT
Clostridium	1	FVIGSSTEALSAGEGLIVTAGGIDTHVHFIT PAIAYSALENGTTTTIGGGTGPADGTNSATT
Ureaplasma	1	MVVGISTEVSAGEGKIYTAGGLDTHVHRL EPEIIVPVALDGGITTVITGGTGMNDGTKATT
Staphylococcus	1	IIIGATTDII SAEGKIVTAGGIDTHVHFVN PEQSQVALESGITTHIGGGTGASEGAKATT

Canavalia	61	CTPSPTQRLMLQSTDDLP LNFGFTGKGS
Glycine	61	CTPAPNQKMLMLQSTDDMP LNFGFTGKGN
Solanum	61	CTPGHVHMLMLQSTDEIPLNFGFTGKGN
Arabidopsis	59	CTPSPFDKMLMLQSTDSLPLNFGFTGKGNT
Schizosaccharomyces	61	CTPNKDLRSMLRSTDSYPVNI GLTGKGN
Coccidioides	61	CTPAPNQFKTMMQACDHLPI NVALTGKGN
Cryptococcus	61	CTSSSFYMQNMIKATDTIPLNFGFTGKGS
Actinomyces	61	ITPGAWNLRMLQAVEDFPMNIGLIGKGHAS
Corynebacterium	61	VTPGQWNTYNMLSAFEGMPMNFGLIGKGHG
Mycobacterium	61	VTPGEWHLRMLESLDGWPVNFALIGKGN
Streptomyces	61	VTPGAWHLAWMFAALESPPVNI GFLGKGS
Synechococcus	61	CTPGA FHI GRMLQAAEGLPVNLGFFGKGN
Prochlorococcus	61	CTPGA FHI SRMLQSAEAFPVNLGFFGKGN
Synechocystis	61	CTPGAWNLRMLQAADGFPINL GFLGKGN
Rhodobacter1	61	CTPGPWHISRMLQSF EAFPMNLALAGKGN
Rhodobacter2	61	CTPGPWHI GRMLQAADAFPI NLAFAAGKGN
Sinorhizobium	61	CTPGPWHIARMLEAADAFPMNLAFAGKGN
Proteus1	61	VTPGIWNLRML EAVDELPI NVGLF GKG
Proteus2	61	VTPGIWNMYRML EAVDELPI NVGLF GKG
Vibrio	61	VTPGIWNLRML EAVDELPI NVGLF GKG
Klebsiella	61	CTPGPWI SRMLQAADSLPVNIGLIGKGN
Escherichia	61	CTPGPWIYQMLQAADSLPVNIGLIGKGN
Alcaligenes	61	VTPGPWYMERMLQAADAYPMNIGLIGKGN
Pseudomonas	61	CTSGPWHIARMLEAADAFPMNIGFTGKGN
Bordetella	61	STSGPWHIARMLEAADAFPMNIGFTGKGN
Deinococcus	61	CTPGQWHLRML ESLAGLPLNFGFLIGKGN
Yersinia1	61	VTPGPWNI RQMLRSIEGLPVNVGILGKGN
Yersinia3	61	VTPGPWNI RQMLRSIEGLPVNVGILGKGN
Yersinia2	61	VTPGPWNI RQMLRSVEGLPVNVGILGKGN
Actinobacillus	61	CTPGKFNTERMFQACEALPVNIGFFGKGN
Haemophilus	61	CTPGA WYMERMFQAAEALPVNVGFFGKGN
Bacillus1	61	CTSGAWYMARMLEAAEFPINVGFLGKGN
Bacillus2	61	CTPGKWNTERMLEAADAFPMNIGFLGKGN
Bacillus3	61	VTPGPWNI EKMLKSTEGLPINVGILGKGH
Helicobacter2	61	ITPGRANLKSMLRAAEYAMNIGFLAKGN
Helicobacter	61	ITPGRWNLKEMLRAS EYAMNIGYLGKGN
Helicobacter1	61	ITPGRRNLRKMLRAAEYSMNLGFLAKGN
Thermophilic	61	CTPGPWNLRMLQAAEFPINL GFLGKGN
Streptococcus	61	CTPGK FHI TRMLQAVDDMPANFGFLAKG
Lactobacillus	61	CNPGA WYTHRMLQAVDNAPINYG LMAKGS
Clostridium	61	STPGA WNIHQMLRAAEGMPVNMGIQGG
Ureaplasma	61	VSPGNS-ELICLQAADGLPINAGFLAKGG
Staphylococcus	61	VTPGPWHIHRMLIAAESLPLNIGFTGKG

Canavalia	121	DNCLTTAEHHDIQINIHSDTLNEAGFVVEHSIAAFKGRTIHTYHSEGAGGGHAPDIKVC
Glycine	121	DSCLTVADQYDIQVNIHTDTLNESSGFVEHTIAAFKGRTIHTYHSEGAGGGHAPDIKVC
Solanum	121	DMCLTVADQYDIQVNIHTDTLNESSGFVEHTIAAFKGRTIHTYHSEGAGGGHAPDIKVC
Arabidopsis	119	DNCLAVAEFYDIQVNIHTDTLNESSGFVEHTINAFKGRTIHTYHSEGAGGGHAPDIRVC
Schizosaccharomyces	121	DSCLSVCEYDVQCLIHSDTLNESSGFVEGTFKAFKRNRTIHTYHVEGAGGGHAPDIISLVQ
Coccidioides	121	DTCLQVCEFDIQCLIHSDTLNESSGFVEQTIINAFKRNRTIHTYHVEGAGGGHAPDIISVVE
Cryptococcus	121	DRALSMADFYDVQINLHSDTLNESSGFVESTLAAIKGRTIHSHYHTEGAGGGHAPDIIVVCE
Actinomyces	121	DEALKVADEFDVQVAIHSDTLNECGFVEDTRRAIGRVIHTFHTEGAGGGHAPDIITLAQ
Corynebacterium	121	NTALEVADDMDIQVALHSDTLNEAGFCG-RHEAIAAGVIHTFNTEGAGGGHAPELIGVAG
Mycobacterium	121	DTCLAVADVAGVQVALHSDTLNETGFVEDTIGAIAGRSIHAYHTEGAGGGHAPDIITVAA
Streptomyces	121	SACLDVCEEESGVQLAVHSDTLNEAGFVGDTFDAVAGRTLHAFHVEGAGGGHAPDMITAVS
Synechococcus	121	DACLSVADRMDVQVCIHTDTLNEAGFVEDTIAAIKGRTIHTFHTEGAGGGHAPDIKICG
Prochlorococcus	121	NSCLNVADTLDVQVCIHTDTLNEAGFVEDTIAAIAGRTIHTFHTEGAGGGHAPDIKICG
Synechocystis	121	DNCLGVAEDYDVQVAIHSDTLNEAGFVETIIAALKNRVIHTYHTEGAGGGHAPDIKICG
Rhodobacter1	121	DCCLTVAEDMDVQVMIHSDTLNESSGFVENTLAAAFKGRTIHAFHTEGAGGGHAPDIKVVVS
Rhodobacter2	121	DCCLSVADRMDVQVMIHSDTLNESSGFVENTLAAIAGRTIHTFHTEGAGGGHAPDIKVVV
Sinorhizobium	121	DCCLSVADFYDVQVMIHSDTLNESSGFVEDTIAAIKGRTIHAYHTEGAGGGHAPDIRICG
Proteus1	121	HNCLNVADEMDVQVAIHSDTLNEGGFYEETVKAIAGRVIHVFHTEGAGGGHAPDVIKSVG
Proteus2	121	HNCLNVADEMDVQVAIHSDTLNEGGFYEETVKAIAGRVIHVFHTEGAGGGHAPDVIKSVG
Vibrio	121	NNCLNVADEMDVQVAIHSDTLNEGGFYEETVRAIGDRVIHVFHTEGAGGGHAPDVIKSVG
Klebsiella	121	DCALTVADEMDIQVALHSDTLNESSGFVEDTLAAIAGRTIHTFHTEGAGGGHAPDIITACA
Escherichia	121	NCALTVADEMDVQVALHSDTLNESSGFVEDTLTAIAGRTIHTFHTEGAGGGHAPDIITACA
Alcaligenes	121	DTCLSVADATDTQVAIHSDTLNEAGFVEATIAAFKGRTIHTYHTEGAGGGHAPDIKVC
Pseudomonas	121	DNCLVAERHDIQVAIHSDTLNESSGFVETTLGAFKGRTIHTYHTEGAGGGHAPDIKACG
Bordetella	121	DTCLNVAEETDIQVAIHSDTLNESSGFVEDTFAAFKGRTIHSHFTEGAGGGHAPDIRAAG
Deinococcus	121	HAALSVAEEDYDVQVAIHSDTLNESSGFVEDTIRAFAGRTIHTFHTEGAGGGHAPDIRVAG
Yersinia1	121	RHALRMADEVDIQVSVHTDSLNECGYVEDTIDAFEGRTIHTFHTEGAGGGHAPDIRVAS
Yersinia3	121	RHALRMADEVDIQVSVHTDSLNECGYVEDTIDAFEGRTIHTFHTEGAGGGHAPDIRVAS
Yersinia2	121	RHSLRMADEMDIQVSVHTDSLNECGYVEDTIDAFEGRTIHTFHTEGAGGGHAPDIRVAS
Actinobacillus	121	DAALKVADEMDVQVAIHSDTLNESSGFLEDTMKAINGRVIHTFHTEGAGGGHAPDIKKAAM
Haemophilus	121	DSALKVADEMDIQVAIHSDTLNESSGFLEDTMKAIDGRVIHTFHTEGAGGGHAPDIKKAAM
Bacillus1	121	KTCMEVDEADIQVAIHSDTLNEAGFLENTLDAIGDRVIHTYHTEGAGGGHAPDIMKLAS
Bacillus2	121	RTCLSVADRMDVQVAIHSDTLNEAGFVEDTIIKAIAGDRVIHTYHTEGAGGGHAPDIMKVAG
Bacillus3	121	DRSLTVADEADVQVAIHSDTLNEAGFLEDTVRAINGRVIHSHFVEGAGGGHAPDIMAMAG
Helicobacter2	121	HHCLNVADFYDVQVAIHSDTLNEAGCVEDTLEAIAAGRTIHTFHTEGAGGGHAPDVIKMG
Helicobacter	121	NHALNTADKYDVQVAIHSDTLNEAGCVEDTLEAIAAGRTIHTFHTEGAGGGHAPDVIKMG
Helicobacter1	121	NHALDVADKYDVQVAIHSDTLNEAGCVEDTMAAIAAGRTMHTFHTEGAGGGHAPDIKVVAG
Thermophilic	121	DTCLKVADRYDVQVAIHSDTLNEGGFVEDTLKAIIDGRVIHTYHTEGAGGGHAPDIKKAAG
Streptococcus	121	DNSLKVADKYDVSVFAVHTDSLNEGGFMENTLESFQGRTVHTFHTEGSGGGHAPDIMVFAG
Lactobacillus	121	ENSIAAANKYDVQYAVHTDSLNEGGFVENTINAFNGNTVHTFHTEGAGGGHAPDIMVVAG
Clostridium	121	DHALETADKYDVQVSLHSDTLNETGFVEDTIKSIIGRCIHSYHTEGAGGGHAPDIMKVAS
Ureaplasma	119	DLALTVAEKTDVAVAIHTDTLNEAGFVEHTIAAMKGRTIHAYHTEGAGGGHAPDILESVK
Staphylococcus	121	DHALQVADDYDVQIALHADTLNEAGFMEETMAAVKDRVLIHMYHTEGAGGGHAPDLIKSAA

Canavalia	181	IKNVLPSSSTNPTRP-LTSNTIDEHLDMLMVCHHLDREIPEDIAFAHSRIRKKTIAAEDVL
Glycine	181	EKNVLPSSSTNPTRP-YTHNTIDEHLDMLMVCHHLNKNIPEDVAFSAESRIRAETIAAEDIL
Solanum	181	VKNVLPSSSTNPTRP-FTLNTVDEHLDMLMVCHHLCKNSREDVAFSAESRIRAETIAAEDIL
Arabidopsis	179	VKNVLPSSSTNPTRP-YTKNTVDEHLDMLMVCHHLDKNIPEDVAFSAESRIRAETIAAEDIL
Schizosaccharomyces	181	NPNVLPSSSTNPTRP-FTTNTLDEHLDMLMVCHHLSRNVPELVAFSAESRIRAETIAAEDIL
Coccidioides	181	KPNVLPSSSTNPTRP-SVRYTNTLDEHLDMLMVCHHLKSDIPEDVAFSAESRIRSETIAAEDVL
Cryptococcus	181	YENVLPSSSTNPTRP-YAVNTLDEHLDMLMICHGLDKSIPEDIAFADSRIRSETIAAEDVL
Actinomyces	181	DSNVLPSSSTNPTRP-FTRNTAEHLDMLMVCHHLNPAIPEDVAFADSRIRPETIAAEDVL
Corynebacterium	180	LPNVLPASTNQRFR-NTRNTVEEHLDMVMVAHHLNPDIPEDVAFADSRIRAETIAAEDVL
Mycobacterium	181	QPNVLPSSSTNPTRP-HTVNTLDEHLDMLMVCHHLNPRIPEDIAFAESRIRPSTIAAEDVL
Streptomyces	181	LPNVLPASTNPTRP-HTVNTVEEHLDMVMVAHHLNPAVPELVAFSAESRIRPSTIAAEDIL
Synechococcus	181	EANVLPSSSTNPTRP-YTRNTLEEHLDMMLMVCHHLDPRIPELVAFSAESRIRRETIAAEDIL
Prochlorococcus	181	ENNVLPSSSTNPTRP-YTKNTLEEHLDMMLMVCHHLDSKIPEDIAFAESRIRRETIAAEDIL
Synechocystis	181	ELNVLPSSSTNPTRP-YTINTLEEHLDMMLMVCHHLHRNIPEDVAFSAESRIRRETIAAEDIL
Rhodobacter1	181	SONVLPSSSTNPTRP-YTKNTVEEHLDMMLMVCHHLDNKVPEDVAFSAESRIRKETIAAEDIL
Rhodobacter2	181	AANVLPSSSTNPTRP-YTANTVEEHLDMMLMVCHHLDRSIPEDVAFSAESRIRKETIAAEDIL
Sinorhizobium	181	QPNVLPSSSTNPTRP-YTVNTLAEHLDMLMVCHHLSPETIPEDIAFAESRIRKETIAAEDIL
Proteus1	181	EPNVLPASTNPTRP-YTINTVDEHLDMLMVCHHLDPSSIPEDVAFSAESRIRRETIAAEDIL
Proteus2	181	EPNVLPASTNPTRP-YTINTVDEHLDMLMVCHHLDPSSIPEDVAFSAESRIRRETIAAEDIL
Vibrio	181	EPNVLPASTNPTRP-YTINTVDEHLDMLMVCHHLDPSSIPEDVAFSAESRIRRETIAAEDIL
Klebsiella	181	HPNVLPSSSTNPTRP-YTINTIDEHLDMLMVCHHLDPDIAEDVAFSAESRIRRETIAAEDVL
Escherichia	181	HPNVLPSSSTNPTRP-YTVNTIDEHLDMLMVCHHLDPDIAEDVAFSAESRIRQETIAAEDVL
Alcaligenes	181	EANVLPSSSTNPTRP-YTVNTLDEHLDMLMVCHHLDPDIAEDIAFAESRIRRETIAAEDIL
Pseudomonas	181	FANVLPSSSTNPTRP-FTRNTIDEHLDMLMVCHHLDPDIAEDIAFAESRIRRETIAAEDIL
Bordetella	181	MPNVLPASTNPTRP-FTRNTIDEHLDMLMVCHHLDPDIAEDIAFAESRIRRETIAAEDIL
Deinococcus	181	LPNVLPSSSTNPTRP-FTVNTLDEHLDMLMVCHHLSPRIPELVHFAESRIRPETIAAEDVL
Yersinia1	181	QTNVLPSSSTNPTRP-YGVNSQAELFDMLMVCHHLNPNVNPADVSAESRVRPETIAAENVL
Yersinia3	181	QTNVLPSSSTNPTRP-YGVNSQAELFDMLMVCHHLNPNVNPADVSAESRVRPETIAAENVL
Yersinia2	181	QPNVLPSSSTNPTRP-YGVNSQAELFDMLMVCHHLNPNVNPADVSAESRVRPETIAAENVL
Actinobacillus	181	YPNVLPASTNPTRP-FTVNTLDEHLDMLMVCHHLDKRVPEDVAFADSRIRPETIAAEDIL
Haemophilus	181	YSNVLPASTNPTRP-FTKNTIDEHLDMLMVCHHLDKRVPEDVAFADSRIRPETIAAEDIL
Bacillus1	181	YANVLPSSSTNPTRP-YTVNTMDEHLDMLMVCHHLDAKVPEDVAFSHSRIRAETIAAEDIL
Bacillus2	181	LPNVLPSSSTNPTRP-FTVNTLDEHLDMLMVCHHLDPNVPELVAFADSRIRPETIAAEDIL
Bacillus3	181	HPNVLPSSSTNPTRP-FTVNTLDEHLDMLMVCHHLKQNIPELVAFADSRIRPETIAAEDIL
Helicobacter2	181	EFNVLPASTNPTRP-FTKNTAEHMDMLMVCHHLDKSIKEDVQFADSRIRPQTIAAEDQL
Helicobacter	181	EFNVLPASTNPTRP-FTKNTAEHMDMLMVCHHLDKSIKEDVEFADSRIRPQTIAAEDKL
Helicobacter1	181	EFNVLPASTNPTRP-FTVNTAEHMDMLMVCHHLDKSIKEDVQFADSRIRPQTIAAEDTL
Thermophilic	181	FPNVLPSSSTNPTRP-YTINTLEEHLDMMLMVCHHLDPNIPEDIAFADSRIRKETIAAEDVL
Streptococcus	181	KENVLPSSSTNPTRP-YTTNAGELLDMLMVCHHLDPKIPEDVSAESRVRKQTVAAEDVL
Lactobacillus	181	QDNVLPSSSTNPTRP-YCKNTLDELFYMTMVCHHLNPNKIPDDVAFSAESRIRKQTEAAEDVL
Clostridium	181	KNNVLPSSSTNPTRP-YTVNTLPEHLDMLMVCHHLDPKIPEDVRFADSRIRKQETIAAEDVL
Ureaplasma	179	YAHVLPASTNPTRP-YTVNTLAEHLDMLMVCHHLNPKVPEDVAFADSRIRSQETIAAEDLL
Staphylococcus	181	YSNVLPSSSTNPTRP-YTVNTLDEHLDMLMITHHLNASIPEDIAFADSRIRKETIAAEDVL

Canavalia	1	NDIGALSISSSDSQAMGRVGEVTSRTWQTADKMKKQITGPKCD----SSDNDNFRIRRYI
Glycine	1	HDKGALSISSSDSQAMGRIGEVIISRTWQTADKMKSQRGPLQP-----GEDNDNFRIKRYV
Solanum	1	HDMGALSISSSDSQAMGRIGEVIISRTWQTADKMKLFRGPLDID----GSDNDNFRIKRYI
Arabidopsis	1	HDMGALSISSSDSQAMGRIGEVIISRTWQTADKMKKAQRGALDPN----MADDNNSRIKRYI
Schizosaccharomyces	1	QDLGALSMISSSDSQAMGRIGEVIISRTWKTAAHKMKLQORGALPEDE---GSGVDNFRVKRYV
Coccidioides	1	HDTGALSMISSSDSQAMGRIGEVIISRTWRTAAHKMKMERGRLKEDE---GTDSNFRVKRYI
Cryptococcus	1	QDTGALSMISSDQAMGRIGEVIISRTWRTAAKMKQFRGPLEGDE----PTR-DNNRVKRYV
Actinomyces	1	HDLGVFSMTSSSDSQAMGRVGEVIISRTWQVADQMKKARGRLAGDPE----DGDNLRIKRYV
Corynebacterium	1	HDMGIFSISSSDSQAMGRVGEVITRTWQVADHMKRTRGSLTGDPAP----YNDNNRLRRFI
Mycobacterium	1	HDMGALSMISSSDSQAMGRVGEVILRTWQTAHVMMKARRGALEGDPSG-SQAADNNRVRYI
Streptomyces	1	HDMGALSMISSDAQAMGRIGEVIISRTWQTAHVMMKRRRGFLPGDTR-----ADNLRARRYV
Synechococcus	1	HDLGAFSIIASDSQAMGRVGEVITRTFQTAHKMKVQORGALPQD----SSRNDNHRLKRYI
Prochlorococcus	1	HDLGAFSIIASDSQAMGRVGEVITRTFQTAHKMKVQORGPLPED----SDRNDNFRVKRYI
Synechocystis	1	HDLGAFSIISSSDSQAMGRVGEVICRTWQTAHKMKVQORGALPGE----TGNDNLRKRYI
Rhodobacter1	1	HDMGAMAVISSSDSQAMGRVGEIIRCWQTADKMKRQGRGLAEE----TGANDNFRVRYI
Rhodobacter2	1	HDMGAFSVISSSDSQAMGRVGEVITRTWQTAHKMKVQGRGLAEE----TGANDNQVRYI
Sinorhizobium	1	HDLGAFSIISSSDSQAMGRVGEVAIRTWQTADKMKRQGRGLKEE----TGDNDNFRVKRYI
Proteus1	1	HDMGALSMSSSDSQAMGRVGEVIMRTWQCAHKMKLQRGSLAGD----TAENDNFRVKRYI
Proteus2	1	HDMGALSMSSSDSQAMGRVGEVILRTWQCAHKMKLQRGTLAGD----SADNDNFRVKRYI
Vibrio	1	HDLGALSMSSSDSQAMGRVGEVITRTWQCANMKMLQRGSLAGD----SVFNDNQRIKRYV
Klebsiella	1	HDLGAFSLTSSSDSQAMGRVGEVILRTWQVAHRMKVQORGALAE-----TGNDNFRVKRYI
Escherichia	1	HDLGAFSLTSSSDSQAMGRVGEVILRTWQVAHRMKVQORGPLPEE----SGDNDNFRVKRYI
Alcaligenes	1	HDLGAFSMTSSSDSQAMGRVGEVITRTWQTAHKMALQRGKLPDNDARGGHDNFRVKRYV
Pseudomonas	1	HDLGAFSMTSSSDSQAMGRVGEVITRTWQTAHKMKRQGRGLDGD--GAR--NDNFRVKRYI
Bordetella	1	HDLGAFSMTSSSDSQAMGRVGEVILRTWQTAHKMKLQRGPLQGD--SER--SDNERIKRYI
Deinococcus	1	HDLGVFSMTSSSDSQAMGRVGEVITRTWQAHKMKVQRGPLAPD-----GRADNFRARRYV
Yersinia1	1	HDMGVISMFSSDSQAMGRVGENWLRILQTDAMKKAARGKLPEDA---A-GNDNFRVLRVY
Yersinia3	1	HDMGVISMFSSDSQAMGRVGENWLRILQTDAMKKAARGKLPEDA---A-GNDNFRVLRVY
Yersinia2	1	HDMGVISMFSSDSQAMGRVGENWLRVMQTANAMKASRGKLPEDA---P-GNDNFRVLRVY
Actinobacillus	1	HDMGVFSIMSSSDSQAMGRVGEVITRTWQTADKMKKAQORGALGDE-----GNDNFRVKRYI
Haemophilus	1	HDMGVFSIMSSSDSQAMGRIGEVIISRTWQTADKMKMORGELGNE-----GNDNFRVKRYI
Bacillus1	1	HDLGALSMTSSSDSQAMGRVGEVITRTWQVADKMKKQORGALAGEN---G--NDNVRVKRYI
Bacillus2	1	QDLGVISMISSSDSQAMGRVGEVITRTWQTADKMKKQORGALAEQD---GKGNDNFRVKRYV
Bacillus3	1	HDLGITSMSTDAIAMGRAGEVILRTWQTADKMKKQORGPLAEK---N-GSDNFRVKRYV
Helicobacter2	1	HDMGIFSISSSDSQAMGRVGEVITRTWQTADKMKKEFGRLKEE----KGDNDNFRVKRYI
Helicobacter	1	HDMGIFSISSSDSQAMGRVGEVITRTWQTADKMKKEFGRLPEE----KGDNDNFRVKRYI
Helicobacter1	1	HDMGIFSISSSDSQAMGRVGEVITRTWQTADKMKKEFGRLKEE----KGDNDNFRVKRYI
Thermophilic	1	HDLGVFSMTSSSDSQAMGRVGEVITRTWQTADKMKKQORGKQED----NGVDNFRVKRYI
Streptococcus	1	HDMGALSMITSDAMAMGRVGEVAMRCWQLADKMKKAQRGPLEGD----SEFNDNFRVKRYV
Lactobacillus	1	QDMGALSMITSDAMAMGRVGEVAMRCWQLASKMKKVRGPLEDGD----SKYDDNFRVKRYV
Clostridium	1	QDMGALSMITSDAMAMGRIGEVIISRTWQVADKMKKQORGPLEGD----SEYIDNFRVKRYI
Ureaplasma	1	HDMGALSMISSDILAMERGEVITRSWQMAHKMKQAQFGALKGD----SEFNDKQPCRYV
Staphylococcus	1	QDLGVFSMVSSSDSQAMGRVGEVITRTWQVAHRMKEQRGSLDGD----SEYNDNFRVKRYI

Canavalia	57	AKY TINPAIANGFSQYVGSVEVGK LADLV MWKPSFFGAKPEMVIKGGMVAWADIGDPNAS
Glycine	56	AKY TINPAIANGLSQYVGSVEAGK LADLV LWKPSFFGAKPEMVIKGGEVAYANMGDPNAS
Solanum	57	AKY TINPAIANGISQFVGSVEVGK LADLV VWKPSFFGAKPEMVIKGGVIAWSNMGDPNAS
Arabidopsis	57	AKY TINPAIANGFADLIGSVEVKK LADLV IQPFAFFGAKPEMIKGGNIAWANMGDANAS
Schizosaccharomyces	58	SKY TINPAITHGISHIVGSVEIGKFADLVLWDFADFGARPSMVLKGGMIALASMGDPNGS
Coccidioides	58	SKY TINPAIAQGMHTIGSVEVGK TADLVLWKFANFGTKPMSMVLKSGMAVSAQMGDPNGS
Cryptococcus	57	AKY TINPAITHGMSHLIGQVAVGCLADLVLWLDGSEFGARPEMILKGGVIAWAAVGDANAS
Actinomyces	57	SKY TINPARANGIAEVVGSVEVGK WADLVLWDPAFFGVKPSLILKGGQIASAVMGDANAS
Corynebacterium	57	AKY TINPAIAHGVDYVGSVEEGK FADLILWDPKFFGVKPDVILKGGLMVNSLMGDSNGS
Mycobacterium	60	AKY TICPAIAHGM DHLIGSVEVGK LADLVLWEPFAFFGVRPHVVVKGGAIAWAAMGDANAS
Streptomyces	56	AKY TINPAVAQGIHEEVGSVETG K LADLVLWDP RFFGAKPQLVIKGGQIAYAQMGDANAS
Synechococcus	57	AKY TINPALAHGISSEVGSIE T GKLADLVLWKP GFFGIRPEVVIKGGSIVWAQMGDANAS
Prochlorococcus	57	SKY TINPAIAHGIRFVGSIEK GK IADLVLWKP SFFGVKPELVVKGGSIVWSQMGDANAS
Synechocystis	57	AKY TINPAITHGISEEIGSVEVGK LADLCLWSPAFFGVKPELVKGGIVAYAQMGDANAS
Rhodobacter1	57	AKY TINPAITHGLAEHVG SVEVGK RADLVLWHPAFFGAKPEMVLMMGMIVAAQMGPNGS
Rhodobacter2	57	AKY TINPAIAHGLSRHIGSVEEG K RADLVLWQPAFFGAKPDLVLLGGMIVCAQMGPNGS
Sinorhizobium	57	AKY TINPAIAHGLSHEIGSLEVGK RADLVLWNPAFFGVKPDMLLGGTIAAAPMGDPNAS
Proteus1	57	AKY TINPALAHGIAHEVGSIEK GK LADIVLWDPAFFGVKPALIMKGGMVAAYAPMGDINAA
Proteus2	57	AKY TINPALAHGIAHTVGSIEK GK LADIVLWDPAFFGVKPALIKKGMVRYAPMGDINAA
Vibrio	57	AKY TINPAIAHGISEVGSIEV GKLADIVLWDPAFFGIKPAIVVKCGLVAYAPMGDVNAA
Klebsiella	57	AKY TINPALTHGIAHEVGSIEV GKLADLVVWSPAFFGVKPAIVIKGGMIATAPMGDINAS
Escherichia	57	AKY TINPALTHGIAHEVGSIEV GKLADLVWSPAFFGVKPAIVIKGGMIAMAPMGDINGS
Alcaligenes	61	AKY TINPALTHGIAHEVGSIEV GKLADLVWRPAFFGVKPSLILKGGMIAAAAMGDPNAS
Pseudomonas	57	AKY TINPAITHGISEVGSVEAG KWADLVLWRPAFFGVKPSLILKGGAIASLMGDINGS
Bordetella	57	AKY TINPAVAHGHIAHLVGSVEVGK LADLVLWKPFAFFGVKVNMLKSGMAVSASIGDMGAS
Deinococcus	56	AKY TINPAIAHGISEVGSVEVGK LADLVLWSPAFFGAKPSLILKGGLVVAAQMGDANAS
Yersinia1	57	AKI TINPAITQGVSHVIGSVEVGK MADLVLWDP RFFGAKPKMVIKGGMINWAAMGDPNAS
Yersinia3	57	AKI TINPAITQGVSHVIGSVEVGK MADLVLWDP RFFGAKPKMVIKGGMINWAAMGDPNAS
Yersinia2	57	AKI TINPAIAQGVSHVIGSVEVGK MADLVLWDP RFFGAKPKMVIKGGMINWAAMGDPNAS
Actinobacillus	55	AKY TINPAIAHGISQYVGSLEVGK LADIVLWKPQFFGVKPEFVMKKGFISFAKMGPDPNAS
Haemophilus	55	AKY TINPAIAHGIAEHIGSLEVGK IADIVLWKP MFFGVKPEVVIKKGFI SYAKMGDPNAS
Bacillus1	56	AKY TINPAITHGLSHEVGSVEK GK LADLVLWDPVFFGVKPELVKGGMIARAQMGPDPNAS
Bacillus2	58	SKY TINPAITHGIDDYVGSVEVGK LADLVLWDP RFFGVKPELILKGGLIAYSQMGPDPNAS
Bacillus3	57	SKY TINPAIAQGMHEVGSIEEGK FADLVLWEPKFFGVKADRVIKGGIIAYAQIGDPSAS
Helicobacter2	57	SKY TINPGIAHGISDYVGSVEVGK YADLVLWSPAFFGIKPNMIKGGFIALSQMGDANAS
Helicobacter	57	SKY TINPAITHGISEYVGSVEVGK YADLVLWSPAFFGIKPNMIKGGFIALSQMGDANAS
Helicobacter1	57	SKY TINPAIAHGISEYVGSVEVGK YADLVLWSPAFFGVKPNMIKGGFIALSQMGDANAS
Thermophilic	57	AKY TINPAIAHGIA DYVGSVEVGK LADLVVWNPFAFFGVKPELVKGGMIAYSTMGDPNAS
Streptococcus	57	AKY TINPAITNGIADYIGSVEVGK FADLVIWEPAQFGAKPKLVKGGMLTYGVMGDAGSS
Lactobacillus	57	AKY TINPAICNGISDYVGSIEV GKYADLNIWDPKYFGTKPDMVIKNGMITYGIAGDPSSS
Clostridium	57	SKY TINPAIAEGISDYVGSIEEGKYADLVLWEPAMFGAKPKMILKSGMIAYGVMGDSNAS
Ureaplasma	57	AKY TINPAIAHGIDSYVGSIEV GKLADIVAWEPKFFGAKPYYVVKMGVIARCVAGDPNAS
Staphylococcus	57	AKY TINPAITHGISDYVGSIDEGK LADIMWEPFAFFAVKPDVIVKGGIINPAINGDANGS

Canavalia	117	IPTPEPVKMRPMYG-TL GKAGGALSIAFVSKAALDQRVNVLYGLNKRVEAVSNVR-KLTK
Glycine	116	IPTPEPVIMRPMFG-AFGKAGSSHSIAFVSKAALDEGVKASYGLNKRVEAVKNVR-KLTK
Solanum	117	IPTPEPVIMRPMFG-AF SKAASSNSIAFVSKAALDAGIKDSYRLNKRVEAVTNVR-NISK
Arabidopsis	117	IPTPEPVISRPMFG-AFGKAGSENSVAFVSKAALRKGVKELYGLKKRVVAVSNVR-QLTK
Schizosaccharomyces	118	IPTVSPILMSWQMFG-AHDPERSI---AFVSKASITSGVIESYGLHKKRVEAVKSTR-NIGK
Coccidioides	118	IPTIEPIIMRPMYA-SLNPKASI---MFVSOASIKLGIIDSYHLKKRIEPVKNCR-NISK
Cryptococcus	117	IPTVQPVLGRPMWALSRLPLHSIQ--LFVSOASLDKDLVKRYRLRKRAEAVKNCR-SIGK
Actinomyces	117	IPTPEPTLMRTMFG-CHGAAPASNSITFMSQAALDAGVPSQLGLRKKVCPAHGVR-RLTK
Corynebacterium	117	IPTPQPRTLRLNTWG-AFGQAVSRSSITFLSQDAIDANVPDLLNLRKQIRDVRGVNR-NLTK
Mycobacterium	120	IPTPQPVLPRPMFG-AAAATAAATS VHFVAPQSIDARLADRLAVNRGLAPVADVAVGK
Streptomyces	116	IPTPQPVLPRPMYG-ALGTAPATNSVNFVSEQAVEDGLPERLGLGRAFPVIRSTR-GRTK
Synechococcus	117	IPTPGPVHGRPMFG-AFGKALAPSCLTFVSEAAMSDIQRHGLGLERTCMAVKDTR-SVGK
Prochlorococcus	117	IPTPGPVHGRPMFA-NYGOSLLKSSFTFLSKNAIELDIPNKLSLQKNCLAVENTR-SINK
Synechocystis	117	IPTPQPVHMOPMFA-NYGGAI AATSVTFVSQKA AKKDIGEKLGLSKPLVAVKNIR-QLTK
Rhodobacter1	117	IP-AQPFYTRPMFG-AFGKALSNSAVTFVSA AAEAEVAGKLGSLKTVLPVKGTR-TIGK
Rhodobacter2	117	IP-AQPYYSRPMFG-AFGGALHASAVTFVSOAAEEDGVGERLRLQKGT LAVQGTR-DIGK
Sinorhizobium	117	IPTPQPVHYRPMFG-AYGRSRTNSVTFVSPASLDAGLAGRLGVAKELVAVQNTRRGGIGK
Proteus1	117	IPTPQPVHYRPMYA-CLGKAKYQTSMIFMSKAGIDAGVPEKLGQLQSLIGRVEGCR-KVTK
Proteus2	117	IPTPQPVHYRPMYA-CLGKAKYQTSMIFMSKAGIEAGVPEKLGKLSLIGRVEGCR-HITK
Vibrio	117	IPTPQPVHYRPMYA-SYKAMYSTSMIFMSQASIEAGVPEKLGKLSMIGQVKGCR-NLSK
Klebsiella	117	IPTPQPVHYRPMFG-ALGSARHHCRLTFLSQAAAANGVAERLNLRSAIAVVKGCR-TVQK
Escherichia	117	IPTPQPVHYRPMFA-ALGSARHRCRVTFLSQAAAANGVAEQLNLHSTTAVVKGCR-TVQK
Alcaligenes	121	IPTPQPVHYRPMFA-SAGALHRSSLTFVSOAALAAAGIAERYGLAKTILSAVRGTR-TVSK
Pseudomonas	117	IPTPQPVHYRPMFA-SYAGSRHATSLTFVSOAALAAAGVPOQLGRKAI GAVSGCR-GVQK
Bordetella	117	IPTPQPVHYRPMFG-SHGKALR-TSVAFVSQVSLSNPAVSELGNKRIEAVRGCR-GVTK
Deinococcus	116	IPTPQPVYPRPMFA-AYGGCPDATCLHFVSOAGLEGGHLPDVG--RRYSAVKHTR-DIGK
Yersinia1	117	IPTPQPVFYRPMFG-AMGKTLQDTCVTFVSOAALDDGVKEKAGLDRQVIAVKNCR-TISK
Yersinia3	117	IPTPQPVFYRPMFG-AMGKTLQDTCVTFVSOAALDDGVKEKAGLDRQVIAVKNCR-TISK
Yersinia2	117	IPTPQPVFYRPMFG-AMGKTMQDTCVTFVSOAALDDGVKEKAGLDRQVIAVKNCR-TISK
Actinobacillus	115	IPTPQPVFYRPMFG-ANAKANTE SAVYFVSQASVDANIKAQYGIQKETLAVKGCGR-DVGK
Haemophilus	115	IPTPQPVFYRPMYG-AOGLATAQTAVFFVSOAAEKADIRAKFGLHKETIAVKGCR-NVGK
Bacillus1	116	IPTPEPVFMRPMYA-SYKANRSTSI TFMSQASIERGVAESLGLLEKRI SPVKNIR-KLSK
Bacillus2	118	IPTPQPVFSRPMFG-SFGRARGTTSITFLSKAAMD LGVHEALGLQKKIAHVKNCR-SISK
Bacillus3	117	IPTPQPVMGRPMYG-TVGDLIHDTNITFMSKSSIQQGVPAKLGKRRIGTVKNCR-NIGK
Helicobacter2	117	IPTPQPVYVYREMFG-HHGKAKFDTNITFVSOAAYKAGIKEELGLDRAAPPVKNCR-NITK
Helicobacter	117	IPTPQPVYVYREMFG-HHGKAKFDTNITFVSOVAYENGIKHELGLQRVVLVKNCR-NITK
Helicobacter1	117	IPTPQPVYVYREMFA-HHGKAKYDANITFVSOAAYDKGIKEELGLERQVLPVKNCR-NITK
Thermophilic	117	IPTPQPVLIRPMFA-AKGD AKYQTSITFVSKAAYEKGIHEQLGLKKKVKPVHGIR-KLTK
Streptococcus	117	IPTPQPRIMRKL YG-AYGOAVHETNLT FVSOYAYDHG IKEEIGLNKIVLPVKNTR-NLTK
Lactobacillus	117	IPTPEPVLERFLYG-AEGRVNHITCVTFVSOYAYDHG IKEQLGLNKTILPVHNTR-SLTK
Clostridium	117	IPTTQPRTMRELFG-LTGKSRQHVNMTFVSTYAYEHN IKEELGLERNVLPVHNVR-TVTK
Ureaplasma	117	IPTCEPVIMRDQFG-TYGRSLTSTSVSFVSKI GLENGI KEEYKLEKELLPVKNCR-SINK
Staphylococcus	117	IPTS EPLKYRKMYG-QLGGNMQGTSMTFVSTTAYENDIGKLLGLKRKLRPVHNIR-KLTK

Canavalia	175	LDMKLNDAALPE--ITVDPESYTVKAD-----	GKLLIC-VSEAT
Glycine	174	RDMKLNDTLPQ--ITVDPETYTVTAD-----	GEVLT-CTAAK
Solanum	175	LDMKLNDAALPD--IKVDPETYTVTAD-----	GTALT-CPPAT
Arabidopsis	175	LDMKLNDAALPE--ITVDPETYVVTAN-----	GEVLT-CAPAD
Schizosaccharomyces	173	KDMVYNSYMPK--MTVDPPEAYTVTAD-----	GKVME-CEPVD
Coccidioides	173	RDMKFNDIMPK--MRVDPESYVVEAD-----	GEECT-AEPVS
Cryptococcus	174	KDMKWNMTMPK--MTVDPETYDVRAD-----	GVLCD-VPPAD
Actinomyces	175	ADMAFNDAATPA--LTVDPETYEVTVD-----	GEKVT-CEPAE
Corynebacterium	175	RDMKLNDAALPD--IRVDPETYQVFN-----	GELIT-SKPAE
Mycobacterium	178	TDLPLNDALPS--IEVDPDTFTVRIID-----	GQVWQ-PQPAA
Streptomyces	174	ADMRQNDALPR--VEVAADSFVAVTID-----	GELVE-PAPVT
Synechococcus	175	SALKLNSALPK--VSVDPQTYEVFAD-----	GELLT-CEPAE
Prochlorococcus	175	LDLKLNNKLPN--ITVDPQTYEVFAD-----	GVLIS-CEPLE
Synechocystis	175	RDLKLNNYLPH--IEVDPETYEVRAD-----	GELLT-CEPAS
Rhodobacter1	174	ASMRNLSATPQ--IEVDPETYEVRAD-----	GEILT-CEPAE
Rhodobacter2	174	ADMKLNNAHRPS--IEVNPETYEVRAD-----	GELLT-CQPLA
Sinorhizobium	176	ASMIHNSLTPH--IEVDPETYEVRAD-----	GELLT-CEPAT
Proteus1	175	ASMIHNSYVPH--IELEPQTYIVKAD-----	GVPLV-CEPAT
Proteus2	175	ASMIHNNYVPH--IEIDPQTYIVKAD-----	GVPLV-CEPAT
Vibrio	175	QDMVHNSYTPT--IEIDSQTYLVKAD-----	GIPLV-CEPAT
Klebsiella	175	ADMVHNSLQPN--ITVDAQTYEVRVD-----	GELIT-SEPAD
Escherichia	175	ADMRHNSLLPD--ITVDSQTYEVRIN-----	GELIT-SEPAD
Alcaligenes	179	RDMVHNDWQPH--VTVDPETYQVQVAD-----	GQLLT-CEPAT
Pseudomonas	175	TDLIHNGYLPY--IEVDAQNYQVRAD-----	GQLLW-CEPAD
Bordetella	174	HDMVRNNWLPY--ISVDPQTYQVYAD-----	GQLLK-CEALA
Deinococcus	172	KDMQLNAETPD--IQVNPETYEVRVN-----	GELVT-CEPVD
Yersinia1	175	RDLVRNDQTPN--IEVDPETFVAVKVD-----	GVHAT-CEPIA
Yersinia3	175	RDLVRNDQTPN--IEVDPETFVAVKVD-----	GVHAT-CEPIA
Yersinia2	175	HDLVRNDQTPN--IEVDPETFVAVKVD-----	GVHAT-CEPID
Actinobacillus	173	KDLVHNNATPE--ITVDTERYEVRVD-----	GEHIT-CEPAT
Haemophilus	173	KDLVHNDVTPN--ITVDAERYEVRVD-----	GELIT-CEPVD
Bacillus1	174	LDMKLNSALPK--IEIDPKTYQVAFAD-----	GEELS-CQPVD
Bacillus2	176	RSMKYNDATPN--IEIDPETYEVKVD-----	GEMIT-CKPFE
Bacillus3	175	KDMKWNMTMPK--IDINPETYEVKVD-----	GEVLT-CEPVK
Helicobacter2	175	KDLKFNDVTAH--IDVNPETYKVKVD-----	GKEVT-SKAAD
Helicobacter	175	KDLKFNDVTAH--IEVNPETYKVKVD-----	GNEVT-SHAAD
Helicobacter1	175	KDMQFNDTTAH--IEVNPETYHVFVD-----	GKEVT-SKPAE
Thermophilic	175	KDLILNDKTPK--IDVDPQTYEVKVD-----	GQLVT-CEPAE
Streptococcus	175	RDMKLNDAALPK--IRIDPQTFDVFID-----	DELVT-CEPIH
Lactobacillus	175	ANMKLNNTYTPK--IEIDPQTYDVKID-----	GKLVIT-CDAAP
Clostridium	175	KDMKFNSATPK--IEIDPLTYDVTVD-----	GKLIT-CDPAR
Ureaplasma	175	KSMKWNMTMPK--LEVDPQTFDAVDYNDLENWLEQPAEELAKKLKKTANGKYVVLXAEPLT	
Staphylococcus	175	ADMKNNSATPK--IDVDPQTYEVFVD-----	GEKIT-SEPAT



Canavalia	209	TVPLSRNYFLF	-----
Glycine	208	TVPLSRNYFLF	-----
Solanum	209	TVPLSRNYFLF	-----
Arabidopsis	209	SVPLSRNYFLF	-----
Schizosaccharomyces	207	KLPLSQSYFLF	-----
Coccidioides	207	ELPLTQDYFVY	-----
Cryptococcus	208	KLPLTRRYFVY	-----
Actinomyces	209	VLMAQRYFLF	-----
Corynebacterium	209	TVPMAQRYFLF	-----
Mycobacterium	212	ELPMTQRYFLF	-----
Streptomyces	208	ELPLAQRYFLF	-----
Synechococcus	209	VLPLAQRYFLF	-----
Prochlorococcus	209	EVPMQRYFLF	-----
Synechocystis	209	VLPMQRYFLF	-----
Rhodobacter1	208	TLPLAQRYFLY	-----
Rhodobacter2	208	ELPLAQRYFLY	-----
Sinorhizobium	210	VLPMQRYFLF	-----
Proteus1	209	ELPMQRYFLF	-----
Proteus2	209	ELPMQRYFLF	-----
Vibrio	209	ELPMTQRYFLF	-----
Klebsiella	209	VLPMQRYFLF	-----
Escherichia	209	ILPMQRYFLF	-----
Alcaligenes	213	ELPMQRYFLF	-----
Pseudomonas	209	VLPMQRYFLF	-----
Bordetella	208	ELPMQRYFLF	-----
Deinococcus	206	ELPLAQRYFLF	-----
Yersinia1	209	TASMNQRYFFG	-----
Yersinia3	209	TASMNQRYFFG	-----
Yersinia2	209	TAAMNQRYFFG	-----
Actinobacillus	207	KVPLAQRYFLF	-----
Haemophilus	207	SVPLGQRYFLF	-----
Bacillus1	208	YVPLGQRYFLF	-----
Bacillus2	210	EVPLAQRYFLF	-----
Bacillus3	209	ELPMQRYFLF	-----
Helicobacter2	209	ELSLAQLYNLF	-----
Heliobacter	209	KLSLAQLYNLF	-----
Helicobacter1	209	KVSLAQLESIF	-----
Thermophilic	209	IVPMQRYFLF	-----
Streptococcus	210	TTSLSQRYFLF	-----
Lactobacillus	210	TLPLTQRYFLY	-----
Clostridium	209	ELPLAQRYLYTNLDKINILVYYKKIT	-----
Ureaplasma	234	EAPLAQRYFLF	-----
Staphylococcus	209	ELPLTQRYFLF	-----