

		10	20	30	40	50	60	70	
10177677_A.thaliana	1	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|							M 1
34904356_O.sativa (japonica cu	1	-----							MAAPPLPRA 9
10383761_S.cerevisiae	1	----MVLPIPLIDDLA-----	SWNSKKEYVSLVGVLLDGSLSN	EEILQFSKEEEVPLVALSLPSGK					60
38567265_N.crassa	1	METTLPLPFLVGVSVPPGLNDI	KEGLSREEVSCLVGVFFEVK	PQTLEKILRFLKRHNVEFEPY	FDTVTALE				70
50285163_C.glabrata	1	----MVFPILPVFGKDL-----	N-LASRPYIKLVNQAVLD-	YTVSKEDIKFKVSDSLLFVGT	LSSGK				58
42547615_G.zeae PH1	1	METTLPLPFLVSVASANDQPT-	NDGLNRQEIALLGAPFYET	SSKDWG-----	RPSAGTNVHMDATGLS				62
50304609_K.lactis	1	-----MLPVVPVFN-AV-----	NALKEKTYLYLSSQLVLDG	KDMTKDDILEFVQNSHGQNI	SVLLKDAK				58
38109852_M.grisea 7015	1	MESTLPLPFIVDASVN--LNG-	EAGLSKEQLACLGTIFFE	VTPQNLGDVRSFLQP	GTSAFEPYLDVTQLE				67
40746471_A.nidulans FGSC A4	1	----MATPFLVSYDPA-----	SASGGLSLQQIAYFGRVLI	KAT--DLAQAETFIRQN	FRLLDIYVDATGIS				60
50258877_C.neoformans var. neo	1	---MSTPPFLPLVTSQDTT----	LLPSLALITPVLIPSDH	LEQIRQS-----	LPANASYVQAN				52
44985362_A.gossypii ATCC 10895	1	----MSFLLLVADIA-----	T-VKEKPFVLLSGQLL	DGSQSVETVVG	FVKAYTQLRAVSVAYKTDE				59
46099735_U.maydis 521	1	-MQQLTTPLLPLVDAESIKGS-	ALIDAVSRIAPVLPQDL	VSTLPA-----	NVAYLVLAEP				54
31095443_H.cylindrosporum	1	---MAT--FLPLLTEENLP-----	LFNALNLIGPIVLDAQ	RSVSLPR-----	TPQHSYLLVDNS				49
49645975_Y.lipolytica CLIB99	1	-----MFPLLQVSSVT-----	VPAVAVAPGKVLVSI	LQSDVPEIAK---	ELKKAFG-QAQFHIMADTD				55
3203_P.pastoris	1	----MTFPLLPAYASV-----	AEFDNSLSLVGKAVFP	YAADQLHN---	LKFTQSTELQVNVQV	ESS			55
3757752_C.albicans	1	----MIFPILPVISSPE-----	DKQSIDEFSLVGQVLF	PIESVSPKK---	HFIHQFPHDLDFVNAIDN				57
49656425_D.hansenii CBS767	1	----MTFPILPIISS-----	NKEAIAEFSVVGQILL	PLESVSISK---	HFLHQFPNYIDVNV	DTTSS			56
7630171_S.pombe	1	---MALLPFFDLTNFES----	DASEELGWLKYVGRVQ	TRVFPQHFKDNLEK	VRKISSETIDVIVDTT	AEAL			62
N.mengitidis MC58	1	-----							1
15606967_A.aeolicus VF5	1	-----							1
16080539_B.subtilis	1	-----							1
15805759_D.radiodurans R1	1	-----							1
16129967_E.coli K12	1	-----							1
39996631_G.sulfurreducens PCA	1	-----							1
32265948_H.hepaticus ATCC 5144	1	-----							1
15673197_L.lactis subsp. lacti	1	-----							1
15841059_M.tuberculosis CDC155	1	-----							1
17230755_N.sp. PCC 7120	1	-----							1
15925662_S.aureus subsp. aureu	1	-----							1
16332335_S.sp. PCC 6803	1	-----							1
15643793_T.maritima MSB8	1	-----							1
46199382_T.thermophilus HB27	1	-----							1
34556543_W.succinogenes DSM 17	1	-----							1
15669621_M.jannaschii DSM 2661	1	-----							1
15678273_M.thermautotrophicus	1	-----							1
20094973_M.kandleri AV19	1	-----							1
20089786_M.acetivorans str. C2	1	-----							1
18312308_P.aerophilum str. IM2	1	-----							1
15897517_S.solfataricus P2	1	-----							1

		150	160	170	180	190	200	210	
10177677_A.thaliana	22	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|							49
34904356_O.sativa (japonica cu	44	-----							73
10383761_S.cerevisiae	104	-----							133
38567265_N.crassa	129	DQTASEAAQFLEEARDKKITP-----							186
50285163_C.glabrata	100	-----							130
42547615_G.zeae PH1	118	DVSSSDVDKFIEVAQSKQIKS-----							175
50304609_K.lactis	99	-----							128
38109852_M.grisea 7015	124	DASG-DVSTLVQQFNKKGSP-----							182
40746471_A.nidulans FGSC A4	119	EREEAGLCTDSAVVHSISVKLGLNPEAQLLYRTYSGDVTEDAVKDTMKQG-GVSIVPAAALT-I--SREE							184
50258877_C.neoformans var. neo	113	S-----							169
44985362_A.gossypii ATCC 10895	100	-----							129
46099735_U.maydis 521	118	PAASAIASSQLIKTTADVLQTKTSGKSLFVLATSGVPTVQDVQAVAQLT-ASLIAPSSVLGVADEAHK							186
31095443_H.cylindrosporum	113	TPSIDFD----FISSISKFFAGST---							173
49645975_Y.lipolytica CLIB99	114	ALEDVATLASTFAKQLLPSGG-----							173
3203_P.pastoris	118	AVPFSSPLG--DLKSFTNGGS-----							176
3757752_C.albicans	111	SFVTSKPFSESDLKKYNANEN-----							166
49656425_D.hansenii CBS767	114	AFVFNCELAKDDAKKYSQSGN-----							171
7630171_S.pombe	124	AENYPPDFFERASKI IHKAVMP-EGGRTLYLEFPEQPSMEVLKSFVHS-VVPVLSSSFLTVK---PAE							188
N.mengitidis MC58	1	-----							1
15606967_A.aeolicus VF5	1	-----							1
16080539_B.subtilis	1	-----							1
15805759_D.radiodurans R1	1	-----							1
16129967_E.coli K12	1	-----							1
39996631_G.sulfurreducens PCA	1	-----							1
32265948_H.hepaticus ATCC 5144	1	-----							1
15673197_L.lactis subsp. lacti	1	-----							1
15841059_M.tuberculosis CDC155	1	-----							1
17230755_N.sp. PCC 7120	1	-----							2
15925662_S.aureus subsp. aureu	1	-----							1
16332335_S.sp. PCC 6803	1	-----							17
15643793_T.maritima MSB8	1	-----							1
46199382_T.thermophilus HB27	1	-----							1
34556543_W.succinogenes DSM 17	1	-----							1
15669621_M.jannaschii DSM 2661	1	-----							1
15678273_M.thermautotrophicus	1	-----							1
20094973_M.kandleri AV19	1	-----							5
20089786_M.acetivorans str. C2	1	-----							1
18312308_P.aerophilum str. IM2	1	-----							6
15897517_S.solfataricus P2	1	-----							1

		220	230	240	250	260	270	280			
10177677_A.thaliana	49	----AKVDNLLDRKWD-DKGL	AVAI	AQN-VDTGAVLMQGFVNR	EALSTTIS	SRKATFFS	RSRSTL	WWT	111		
34904356_O.sativa (japonica cu	73	----PKVEAILDSVKWD-SKGL	AVAI	AQN-VDTGAILMQGFANKE	EALATTIS	TRKATFYS	RSRSSL	WWT	135		
10383761_S.cerevisiae	133	----MLTKEVLGEVRTDRPDGL	YTTLVVD--QYERCLGLVYSSKKSIAKAIDLGRGVVYS				RSRNEI	WWT	195		
38567265_N.crassa	187	EAGKLAISTILSSVWKS	DRPDGLLPTVVVD--EHDTALGLVYSSAE	SVNEALRT	QTGVYQS	--RKRGLWY			252		
50285163_C.glabrata	130	----TLSQTLIDSLKTRADGL	YTTLVVD--SQERCLGLVYSSKESI	QMAINEESGIYYS		RSRDEI	WWT		192		
42547615_G.zeae PH1	176	DSSRLLLSKLIASVWKS	DRTDGLIPTVVVD--DAGIALGLAYTSEESI	LEALRT	QTGVYQS	--RKRGLWV			241		
50304609_K.lactis	128	----TFTNSVLSGMKTDRPDGL	YTTLVVD--ENERSLGLVYSNKE	SVSLALET	QTGIYFS	RSRNEI	WWT		190		
38109852_M.grisea 7015	183	TGGKVSISKLLASNWTS	DRGDKLLPTVVVD--DNGIALGLVYSSEESI	GEALRT	CTGVYQS	--RKRGLWY			248		
40746471_A.nidulans FGSC A4	185	SSGKIQAGSLIAARGVKDQGN	GLYATTVTD--ERGTCLGFVWSSDE	SIAEALRT	GTGVYQS	--RKRGLWY			250		
50258877_C.neoformans var. neo	170	K---ISIPEAFIPIISDRPDGL	FPTIVSSYSHSTTPLGLVYSSIE	SVKESILT	QKGVYQS	--RKHGLWR			234		
44985362_A.gossypii ATCC 10895	129	----DFANTIISALKTRADGL	FSTLVVD--VYERCLGLVYSSEESI	RLAIEKKAGVYYS		RSRNEV	WWT		191		
46099735_U.maydis 521	187	QQGKLDIVDAFVAPLTS	DRTDGLFATTVVS-SACTASLGLVYSSPLS	IRKSIVT	GSAHYQS	--RNRGLWH			253		
31095443_H.cylindrosporium	174	Q---LNIGDAFLAPVVTDRAD	GLFPTMVT--SETGHSGLVYSSRES	CKGKHNHRE	RYIPS	--RKHGLWR			236		
49645975_Y.lipolytica CLIB99	174	LDDKFPIADLLASLTS	DRPDGLYTTLVVD--VLNQSLGLVYSSAE	SIKEAIRT	GTGVYQS	--RRHGLWY			239		
3203_P.pastoris	177	DVKKFPVSEILLASLT	DRPDGLFTTLVAD--SSNYSLGLVYSSKKS	IPEAIRT	QTGVYQS	--RRHGLWY			242		
3757752_C.albicans	167	EENKISISAVFVSTLT	DRPDGLYTTLITTPSPSYTALGIVYSSKDS	IAALEEKV	GVYQS	SRKRRD	ELWY		236		
49656425_D.hansenii CBS767	172	ESGKISISSLFTAGLT	DRPDGLFTTLITTPSPSYTALGIVYSSVE	SIHASIAEK	QGVYQS	SRKRRD	ELWY		241		
7630171_S.pombe	189	EPKKLSLADLILISANT	DREDGLFSTLVVN--ELGIALGLVYSSKES	VAESLKT	GTGVYQS	--RKRGLWY			254		
N.mengitidis MC58	1	-----MDKNLLEAVKFDEK	GLVCAIAQD-AETKRILMVAWMNAE	EALQKTVE	TGF	AHYYS	RSRQKQ	WWT	61		
15606967_A.aeolicus VF5	1	-----MLKLFNEEGLIP	VIAQD-YRTGEVRMLAYANE	EAIKKTLE	TGY	AHYYS	RSRKKI	WWT	56		
16080539_B.subtilis	1	-----MKQADELRFNEDGL	IPIVQD-AASKEVLTLAYMNKES	YEKLTLE	TKETW	FYS	RSRQAL	WWT	59		
15805759_D.radiodurans R1	1	----MTDLS-----ELN	FDPSCGLIPVVTQD-ARSGAVLMQAYADRAA	VERTLDT	TREAT	YYS	RSRGEQ	WWT	59		
16129967_E.coli K12	1	----MLTEQQRRELDWEK	TDGLMPVIVQH-AVSGEVLMGLYMNPE	ALDKTLE	SGKV	TFFS	RTKQRL	WWT	63		
39996631_G.sulfurreducens PCA	1	-----MITIDFQKMGGL	IPAI IQDHATNEVLMVAFMDEK	TNLNLTLE	SGKT	TFFS	RSRNKY	WWT	57		
32265948_H.hepaticus ATCC 5144	1	-----MQDVFRQIDWERYE	LIPVIVQE-KQSQQILMLAYSSKQSLE	LSLQTH	L	AHYYS	RSKQRI	WWT	60		
15673197_L.lactis subsp. lacti	1	-----MRPD----FHKQ	ELIPVIVQE-YQTNQVLMLAYTNEVAF	EKMLET	TGETW	FWS	RSRQKL	WWT	55		
15841059_M.tuberculosis CDC155	1	----MTLDPKIAARLKR	NADGLVTAVVQE-RSGDVLMLVAMNDE	EALARTL	QTREAT	YYS	RSRAEQ	WWT	63		
17230755_N.sp. PCC 7120	3	FIDSLSPQNVIPVEEIRY	DERGLVPAIVQD-YLDGTVLMMAWMNR	ESLQKLT	DTGETW	FWS	RSRQEF	WWT	70		
15925662_S.aureus subsp. aureu	1	-----MTKYKIDFS-KGL	VPAIQD-NQTKQVLMGLYMNQEA	AFDKTIE	DGVVCF	FYS	RSKQRL	WWT	57		
16332335_S.sp. PCC 6803	18	HSD-LPLANAVPLDKIRY	NDQGLVPAIAQD-YLDGTVLMLAWMNEA	LAKTLAT	GQVWY	WS	RSRQEL	WWT	84		
15643793_T.maritima MSB8	1	-----MMTLYPVVVQE-R	TTGEVLMLAYANE	EAL	ELTKKT	GYAH	FYS	RERQKI	WWT	49	
46199382_T.thermophilus HB27	1	----MDLS-----AVR	FDEKGLVPAIVQD-ARTGEVLTLAYANR	EAL	EETLRT	RRST	FYS	RSRQAL	WWT	58	
34556543_W.succinogenes DSM 17	1	-----MNTLLDGIDWEK	PLPAIVQE-RGSGEVLMLAYMNQEA	LNLTLS	TQVA	HYYS	RSKGRI	WWT	60		
15669621_M.jannaschii DSM 2661	1	MDVEDT-VKKNLNLKFR-N	IEGERLILAITCD-ENKNVLMVAFMNEE	EALKKTLE	TGYM	HYYS	TSRKKL	WWT	66		
15678273_M.thermautotrophicus	1	MIKSKG-DVNILLNFRHN	INGEDLIIAVAQDHETGEVLMVAYMNR	EALRRTL	ETGT	AHYYS	TSRGKL	WWT	68		
20094973_M.kandleri AV19	6	LDPETARKVTSLSNRYR	FEIGGEPLVIAIAQDAENG	DVLMTAFANE	EAVYR	TLTGY	AHYYS	TSRREV	WWT	74	
20089786_M.acetivorans str. C2	1	-----MIDLDTLKYENG--	LILAVVQDQKSREVL	MCAYMNR	EAL	EKTVK	TGIAH	FYS	RSRQKL	WWT	58
18312308_P.aerophilum str. IM2	7	ATPEEAWRIASSLRYR	HIEGT---VVAVVQDVETKEVLMVGHMD	PIAVVLT	TLTGL	AHYYS	TTRKRI	WWT	72		
15897517_S.solfataricus P2	1	-----MVGNMNR	EALFKTLT	TGYL	H	FYS	LSRKKL	WWT	31		

		290	300	310	320	330	340	350	
10177677_A.thaliana	112	KGETSNNFINILDVVDCDRDSIIYLGPDPGPTCHTGEETCYYSVFDQLNNDEA-----	166					
34904356_O.sativa (japonica cu	136	KGETSMNFINVHDFLDCDRDSIIYLGKPDGPTCHTGAETCYYSVYDALQGSKP-----	190						
10383761_S.cerevisiae	196	KGETSGNGQKLLQISTDCDSALKFIVEQE-----NVGFCHLET-MSCFGEF-----	241						
38567265_N.crassa	253	KGATSGDTQELVRIISLDCDNDALKFVVKQ-----KGR-FCHLDQ-SGCFGQL-----	297						
50285163_C.glabrata	193	KGATSGNTQKLLSISVDCDGDALKFVVDQOG-K---DRSFCHLNT-ESCFGGF-----	240						
42547615_G.zeae PH1	242	KGLTSGDTQELLRIGLDCDNDTIKFFVNQ-----KGR-FCHLQQ-FGCFGDL-----	286						
50304609_K.lactis	191	KGATSGNVQKLLSIELDCDGDALKFVVRQGG-----SGSFCHLET-ESCFGNF-----	237						
38109852_M.grisea 7015	249	KGATSGDTQELVRIISLDCDNDALKFVVRQ-----KGR-FCHLDQ-FSCFGNL-----	293						
40746471_A.nidulans FGSC A4	251	KGQSSGDVQELIRIGFDCLVFIKQ-----IGRGFCHLGT-ASCFGPY-----	296						
50258877_C.neoformans var. neo	235	KGETSGAVQQVTGIKLDCDNDALIFEVVQHG-----SGFCHLP-QSTCFGNL-----	280						
44985362_A.gossypii ATCC 10895	192	KGRTSGNTQELLQVAIDCDGDALRYVVDQRS-EQGGMGNFCHLNT-PSCFGSL-----	242						
46099735_U.maydis 521	254	KGESGATQQVVSIRQDCSDAIQFAVRQSR-GT-LASGFCHLENREGCFSSA-----	304						
31095443_H.cylindrosporum	237	KGETSGATQDVVRIRLDCDSDSLEFRVVQHG-----AGFCHLN-RRSCFSEA-----	282						
49645975_Y.lipolytica CLIB99	240	KGKESGNTQKLIRIETDCDGDCLKFIVEQ-----TGAGFCHFNT-ESCFSA-----	284						
3203_P.pastoris	243	KGATSGATQKLLGIELDCDGDCLKFVVEQ-----TGVGFCHLER-TSCFGQ-----	287						
3757752_C.albicans	237	KGKTSGATQKLVKLSKDCSDVIQFMVEPR-----TGYGFCHRETKFTCFGD-----	283						
49656425_D.hansenii CBS767	242	KGKTSGATQKLVKLEKDCSDVVKFIVEPR-----EGYGFCHLDKNFTCFHDGELK-----	292						
7630171_S.pombe	255	KGASSGAVQHLLIHIDVDCDEDCLRFVVYQT-----GKGFCHLDT-LHCFGQA-----	300						
N.mengitidis MC58	62	KGEESGHTQKVRALRLDCDGAIVMLIA-----QNGGIACHTGR-ESCFYKVVWRGSAWETADAVL---K	121						
15606967_A.aeolicus VF5	57	KGETSGELQKVIQVVRVDCDEBALIYVIE-----QEKDRACHTGE-RNCFFRDIEGNK--VEKPLP---F	114						
16080539_B.subtilis	60	KGETSGNTQAVKGIKYDCDQDALLVLE-----PSGPACHTGS-YSCFTKEQTEEQAADRF-----	114						
15805759_D.radiodurans R1	60	KGQTSGHTQRVVSVHVDCCDGSLLYRVE-----QTGPACHTGE-YSCFYRPLLE--DDAPDT-----	113						
16129967_E.coli K12	64	KGETSGNFLNVVSIAPDCDNDTLLVLANPIG-----PTCHKGT-SSCFGDT-----	108						
39996631_G.sulfurreducens PCA	58	KGEESGNTQEVVEVLTDCDADAVVIKVK-----QNGPAACTGN-RSCFYVRWEDGQWVEHSEPL---F	117						
32265948_H.hepaticus ATCC 5144	61	KGEQSGHIQHIKEVKLDCDNDSLIFIVE-----QVG-VACHTGE-KSCFFRIFSLDKNCQNPVVS---M	119						
15673197_L.lactis subsp. lacti	56	KGEESGHFQKIKGMRLDCDQDTLLVFVE-----QIGNACHTGT-YSCFYDELIPFDDSD-----	108						
15841059_M.tuberculosis CDC155	64	KGATSGHTQHVHSVRLDCDGDVLLTVD-----QVGGACHTGD-HSCFDDAALLLEPDDMQQS-----	119						
17230755_N.sp. PCC 7120	71	KGGTSGHTQKVQSIKYDCDSDALLVVE-----QIGDIACHTGE-RSCFHQVEGKIVAPPGD-----	126						
15925662_S.aureus subsp. aureu	58	KGETSGHTQLVKDIHVDCDNDTILIDVI-----PNGPTCHTGS-QSCFNTEVPFS-----	106						
16332335_S.sp. PCC 6803	85	KGATSGHFQKLLGIRYDCDSDALLLTIE-----QKGDIACTGE-RSCFHQLDGHKSPPPAD-----	140						
15643793_T.maritima MSB8	50	KGETSGNTMRVVEIRRDCCDDAYLYIVDF-----PEDKVACTGN-RSCFFKVEHRFEETGSPTFW---L	110						
46199382_T.thermophilus HB27	59	KGETSGHTQEVVEVLLDCDGDVAVYRVL-----PQGPACHTGE-RTCFHRALLE--GEK-----	109						
34556543_W.succinogenes DSM 17	61	KGESGHIQKIHEIFLDCSDTILLQVE-----QVG-VACHTGR-KSCFFQKVELDS---SLSLT---S	116						
15669621_M.jannaschii DSM 2661	67	KGEESGNVQKLIKFYRDCDGDALLFIVE-----QKGVACHEGY-YSCFHYKIE-DGELKITG-----	121						
15678273_M.thermautotrophicus	69	KGESGHVQVRVKDVLVDCDGDVAVLKVE-----QEGGACHTGY-RSCFYRSID-GDELKVREDAVKVF	129						
20094973_M.kandleri AV19	75	KGEESGHVQRVVEVRVDCDKDVAVLYVVE-----QEGGACHTGY-RSCFYRRVTRDGSFEVVMDR--VF	134						
20089786_M.acetivorans str. C2	59	KGETSGHLQKVKIIRIDCDMDSVLLLVE-----QVGGACHMGY-RSCFYRNLK----GEVVGEK--VF	114						
18312308_P.aerophilum str. IM2	73	KGETSGHYQIVKEFRSDCDGDVAVIKVV-----QIGAACTGS-RSCFESKYS----LIKA-----	123						
15897517_S.solfataricus P2	32	KGETSGNFQIIEEFKVDCCDADAVLFKVT-----SLGPICTGN-YTCFYRSYD----ELVN-----	82						

		360	370	380	390	400	410	420		
10177677_A.thaliana	166	-----SGNKLALTTLYS	LESII	SKRKEESTV	PQEGKPSWTRRL	LLTD-DALLCSK	IREEADEL	CRTLEDN	229	
34904356_O.sativa (japonica cu	190	-----NQDRQVSTLYS	LEDTISR	RKEEIVTEG	SGKPSWTKKLI	LDRNRLCSK	ISEEAGEL	NQTLLN	253	
10383761_S.cerevisiae	241	-----KHGLVGL	ESLLKQRL	QD-----	APEESYTRRL	FND-SALLDAK	IKEEAEEL	TEAKG--	291	
38567265_N.crassa	297	-----KGLPKLE	QTLISR	KQS-----	APEGSYTARL	FSD-EKLVRAK	IMEEAEEL	CTAQT--	346	
50285163_C.glabrata	240	-----THGLASLE	QLLRDR	FES-----	APEGSYTKRL	FND-PELLNAK	IKEEAEEL	TEAED--	290	
42547615_G.zeae PH1	286	-----NGISALE	QTLKSR	KES-----	APEGSYTARL	FSD-EKLLRAK	IMEEAEEL	CDGKT--	335	
50304609_K.lactis	237	-----RHGLYGL	QKLLQER	LLN-----	APEGSYTKRL	FND-SDLLTAK	IKEEAEEL	TEAVD--	287	
38109852_M.grisea 7015	293	-----GGIAKLE	QTLTQR	RES-----	APAGSYTARL	FSD-EKLLRAK	IMEEAEEL	CDAKT--	342	
40746471_A.nidulans FGSC A4	296	-----TGLSRLQ	KTLQARK	AD-----	APAGSYTARL	FNE-PKLTQAK	IMEEAEEL	CRAET--	345	
50258877_C.neoformans var. neo	280	-----SGIAKLS	DTLTSRL	LAS-----	APEGSYTKRL	FND-EKLLRSK	IMEEAEEL	CDAQT--	329	
44985362_A.gossypii ATCC 10895	242	-----RRGLSEI	EQIVDQR	IAD-----	ARPESYTLRL	VGD-TELLNSK	IKEEAEEL	EVIEAIT--	292	
46099735_U.maydis 521	304	-----TGLAKLE	ATLKHRL	QOT-----	APAGSYTARL	FND-ASLLGAK	LREEAEEL	LADANN--	354	
31095443_H.cylindrosporium	282	-----SGLSLEA	TLLSR	LSE-----	APEGSYTKRL	FND-ANLLQSK	IMEEAEEL	CRATT--	331	
49645975_Y.lipolytica CLIB99	284	-----AQGISCE	LKTLQQR	LQN-----	APAGSYTKRL	FDD-SDLLRAK	IMEEAEEL	VEA---	332	
3203_P.pastoris	287	-----SKGLRAME	ATLWDR	KSN-----	APEGSYTKRL	FDD-EVLLNAK	IREEAEEL	LAEEA---	335	
3757752_C.albicans	283	-----DIADSPARG	LPKLDSTL	QDRLEN-----	APEGSYTKRL	FDD-EKLLIAK	LKEELDEL	IEA---	337	
49656425_D.hansenii CBS767	292	-----QKGESFG	KGLARDNTL	QDRFQS-----	APEGSYTKRL	FND-EPLLIAK	LKEELDEL	IEAGQSS	350	
7630171_S.pombe	300	-----SGLCQLE	KTLIDR	KNN-----	APEGSYTARL	FSD-PKLLRAK	IMEEAEEL	CDATT--	349	
N.mengitidis MC58	122	DEKEIYGSTHMGDSVLSAI	QQTITQR	KSANPSES	YVAQLLHKGE	-----DKILKKV	IEEAGEVL	MASKDK	186	
15606967_A.aeolicus VF5	115	E-----VLPRLQ	DVIREK	IERKEENS	YAKLVSQGK	-----ERVFQK	FGEAEVET	LIALMKG	166	
16080539_B.subtilis	114	-----GIMNEL	ERVIAER	QAEMPEG	AYTTYLFREGV	-----DKILKKV	GEEASEVI	IAAKNR	166	
15805759_D.radiodurans R1	113	-----GLDGTLE	RVYATIT	ERLATL	PEGSYVARLHAGGL	-----DRVLKKI	SEEAGEVL	LAAKNA	168	
16129967_E.coli K12	108	-----AHQWFLF	YQLEQL	LAERKSA	-----DPETSYTAKLYASGTRIAQKV	GEEGVETALA	AATVH	164		
39996631_G.sulfurreducens PCA	118	DPAEVYKMMNERDDILQAV	YEVILDR	KGALPESS	YASLFFHKG	-----DKILKKV	GEEATEVI	IAGKGG	182	
32265948_H.hepaticus ATCC 5144	120	PQKYPIGVYH---	ILDDYHI	IEQRRCEN	IEHSYASLLAKGV	-----NGIGKKI	IEEAGEL	CFALKDK	180	
15673197_L.lactis subsp. lacti	108	-----IFSELEK	QIIDRKL	HVPKESY	TNYLLGEGI	-----DKVLKKV	GEEASEVI	IASKNS	159	
15841059_M.tuberculosis CDC155	119	-----LAVKTFED	LFAELGDR	ARTRPAD	STTVAALDGGV	-----HALGKLL	EEAGEV	WLAAEHE	174	
17230755_N.sp. PCC 7120	126	-----TLSQVFQ	VICDRRN	HPTESSY	TKLFFAGGD	-----NKILKKI	GEEAEV	VMAACKDD	177	
15925662_S.aureus subsp. aureu	106	-----VQTLAQT	VQDSAQ	SNNEKSY	TKYLLTEGI	-----EKITKKY	GEEAEV	VIEAIGK	156	
16332335_S.sp. PCC 6803	140	-----MLTELAR	VIGDRRD	HPTPE	SYTCKLLAGGD	-----NKILKKI	GEEAEV	VMAACKDD	191	
15643793_T.maritima MSB8	111	E-----LYRLV	RKRKEE	MPESY	TVKLFKEGK	-----GKIAKKF	GEEAEV	ITGYLQN	158	
46199382_T.thermophilus HB27	109	-----DLGFVV	GQVYAT	IKERL	RTLPEGSYVARMHAGL	-----DRILKKI	GEEAGEV	ILAAKNQ	164	
34556543_W.succinogenes DSM 17	117	EAPDTSALYG---	VVDRLYH	ELLARQ	GADPQSSYAKLFSKGE	-----NTIGKKI	VEEAEEL	SFAIKDS	177	
15669621_M.jannaschii DSM 2661	121	---EYYSKRMI---	LEEVEI	IKQRIKE	KPEGSYAKLTTDDK	-KTAINKIC	BEI	GEEESTELILAAKDD	183	
15678273_M.thermautotrophicus	130	DPEEIIYGDGMVDEGILRE	VYRVLE	DRR-DRP	IDSYTSRLMRDDD	-KMAEDKIL	BEI	GEEAEVIEIASKND	197	
20094973_M.kandleri AV19	135	NPDEVYRMGDPE--	VLEVEY	EVIRNRI	EERPEGSYVAELTEDDDTKPAINKICEKII	EESSGELILAAKDG	202			
20089786_M.acetivorans str. C2	115	EPKDVYMPPEADLS-	ILNRVY	DIILDR	KENYDENSIVCKLLNHRK	---GMNKILE	KVGEESI	ETILAVRNE	180	
18312308_P.aerophilum str. IM2	123	--LKLSLRHGMSCQIFEK	LEAVIR	QRIAE	GNPQSYTYRLYSSGV	-----STIARKV	GEEAEV	VAVAAALAE	186	
15897517_S.solfataricus P2	82	--SKS--	MHDSNEI	VDELYKI	ILDRIEK	RPTGSYTA	EIVNKGK	-----PYVARKV	GEEAEVETIVASLAE	143

		430	440	450	460	470	480	490	
10177677_A.thaliana	229	-EEVSRTPSE	MADVLYHAMVLLSKRC	VKMEDVLEVL	LRKRFSQSGIEEKQNR	TK-----			281
34904356_O.sativa (japonica cu	253	-EDESRTISE	MGDLVYHAMVLLRVK	QVRMEQVLEVL	LRKRFSQSGIEEKASRN	KS-----			306
10383761_S.cerevisiae	291	---KKELSWE	EADLFYFALAKLVAN	DVSLKDVENLN	NMKHLKVTRRKGDAK	PKFVG-----			344
38567265_N.crassa	346	---PQEIAFE	EADLFYFALTRAVAA	CVTLADIERSL	DAKSWKVRRRTGDAK	GKWAKEGIKP--	AASALA		411
50285163_C.glabrata	290	---KNEISWE	EADLFYFALTKLVAN	NSLKDVESNL	NMKHLKITRRKGDAK	DKFIKKQEP-----			347
42547615_G.zeae PHL	335	---KENIAFE	EADLFYFALTKAVGAC	VSLADIEANL	DAKSLKVRRRTGNAK	GKWAKEGIKT---	EETPA		399
50304609_K.lactis	287	---KKDIAWE	CADLFYFAMARLVAN	CVSLEDVERN	LNTKHLKITRRKGDAK	PKFLK-----			340
38109852_M.grisea 7015	342	---KENVAFE	EADLFYFALTKAVAS	CVSLSDIERN	LDAKSWKVRRRTGDAK	GKWAKEGIKPS-	APSALA		408
40746471_A.nidulans FGSC A4	345	---KEDIAFE	EADLFYFALTRCVAAC	VSLEDVERN	LDLKSCLKVRRR	GDAKGPWAEKAGLAE--	KPAEAK		410
50258877_C.neiformans var. neo	329	---KEEVAFE	EADLVYFALTRCVSK	GVSWRDVEAAL	DKKALKVTRRKGDAK	PKWEEKTREVVNENGEAKP			396
44985362_A.gossypii ATCC 10895	292	---PAELQWE	VADLLYFLMVKMRS	NVTLKEVEAN	LNMKHKMITRRPGNAK	PKYLPAQEWQ-----			350
46099735_U.maydis 521	354	---DKKHVA	FEADLFYFALTKCVS	AGIGLEEIEASL	DAKAKVSRRKGDAK	PAFAAQK----	AAETQR		417
31095443_H.cylindrosporum	331	---KEEIAFE	EADLFYFALTKCVAAC	VGVADIEHSL	DRKAKRITRRTGN	AKPQWTS-----			388
49645975_Y.lipolytica CLIB99	332	-KDAEEVSW	EADLFYFAMVKV	VKEGVSWAQVM	NLDSKHKMISRRK	GDAKQKWVDALGIKR--	QKVDEK		399
3203_P.pastoris	335	-KSKEDIAW	EADLFYFALVRC	CAKYCVTLDE	VERNLDKMSCLKV	TRRKGDAKPGYTKEQPKE			395
3757752_C.albicans	337	-KSKEEIAW	EADLVYFAMVWC	IKHGVRLAD	IEKNLDVKSCLKV	SRRKGDAKPPYQEQEAP			394
49656425_D.hansenii CBS767	351	SKDTNEVA	WECADLFYFAMVWC	IKNGVRLAD	VERNLDIKSGKV	TRRKGDAKPAYLKT	DNE-----		410
7630171_S.pombe	349	---KENVIWE	MADLMYFAITRC	VSGVSLNDI	SRHLDLKHKV	TRRKGDAKVAWQEK	LKDKG-----		408
N.mengitidis MC58	187	N--PSHLVY	EVADLWFHTMILL	THHDLKAEDV	LDELARRQGLSGL	VEKAARTES---	MKKLN-----		243
15606967_A.aeolicus VF5	167	E--KEEVIY	ESADMLYFVLV	SVSGIDIKEV	MEELIRRFKMR-----		IEDLR-----		212
16080539_B.subtilis	167	D--HEELKW	EADLLYHLLVLL	REQSLPLDDV	LDVLLKRRHS-----		EIEEMK-----		211
15805759_D.radiodurans R1	169	D--RAELATE	TADLFFHTLF	FALAEVGVSPAD	VAAVLQGGREG-----		KSGLKG-----		213
16129967_E.coli K12	164	--DRFELT	NEASDLMYHLL	VLLQDQGLD	LTTVIENLRKR	RHQMSFN-----			207
39996631_G.sulfurreducens PCA	183	K--REEIVY	ETADLFFHTLV	LGLGHYDIAP	ADVNELRRR	FGTSGHAEKASRNE---	MRFLD-----		238
32265948_H.hepaticus ATCC 5144	181	D--EKAIIE	YECADLFYHILV	GLALEHITP	ERVLQELRRR	MGQSGIEEKASRK---	HMKYLD-----		236
15673197_L.lactis subsp. lacti	160	D--KGELLG	EIDDLVYHFLV	LNMNQGISL	EEVQKAKERHQ	LEG-----	NKKEFH-----		207
15841059_M.tuberculosis CDC155	175	S--NDALAE	EISQLLYWTQ	VLMISRGLS	LDDVYRKL--	MLT-----	RIDLRG-----		217
17230755_N.sp. PCC 7120	178	D--QEAIAGE	VADLLYHTL	VALAHHQVD	IKAVYRKLQ	ERR-----	MLVLK-----		221
15925662_S.aureus subsp. aureu	157	D--KKAFVSE	VADLFFYHFLV	LMHALGVDF	SEIEAELARR	HHKRNNFKGERQ----	NIEQWM-----		211
16332335_S.sp. PCC 6803	192	D--PEAIAGE	VADLFFYHTL	VALAHNV	DLRAVYRKL	GDRR-----	MTRIL-----		235
15643793_T.maritima MSB8	159	D--RENLVWE	IADMMYH	TLVLMADAG	VTVDVMRE	LEKR-----	RKMI-----		199
46199382_T.thermophilus HB27	165	N--PEELRHE	ADLFFHLL	LLTLAELGL	TPEDLAKTL	WERHRP-----	RSPYDG-----		210
34556543_W.succinogenes DSM 17	178	S--ESEIVYE	EAADLLYHALV	GLAFRCIHP	DKIKQELQRR	QGVSGIAEKNSR	KDSMRKIKRLN		237
15669621_M.jannaschii DSM 2661	184	K--KDEIIYE	EAADLIFHTM	VLLAYKNIE	FEELLKE	FERR-----	KKMVTG-----		226
15678273_M.thermautotrophicus	197	----ENLVE	EAADLIFHTL	LLL	VYKCVPLD	SLLEEF	FAAR-----		237
20094973_M.kandleri AV19	203	D--REGVVY	ESTDLIFHVL	VLLAYL	GLIEIGEV	FDEFERR-----	RKMRL-----		244
20089786_M.acetivorans str. C2	181	D--HKEIVS	ESSDLIFHLL	VLLAANN	VTLDEIAGEL	SARHEKM-----	KRDMVT-----		227
18312308_P.aerophilum str. IM2	187	G--RERVVE	ESADLLYHLL	VLLNSL	GLSLGDV	CKELERR-----	MKMRG-----		228
15897517_S.solfataricus P2	144	N--KERFISE	VADLLYHLLV	LMALE	CVTPEDI	YRELER	R-----		185

		500	510	520	530	540	550	560	
10177677_A.thaliana	281	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----M	KSYRLSELSSSQVDSLKSR	PRIDFS	-----S	IFATVN	314
34904356_O.sativa (japonica cu	306	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----M	KSYRLSELSDAEVGGGLKAR	PRIDFS	-----S	IFGTVN	339
10383761_S.cerevisiae	344	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----Q	PKAEELKLTGPIHLDVVKASDKV	GVQKALSRPIQKTS	-----E	IMHLVN	389
38567265_N.crassa	412	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	ATSA	PVTKEAAQETTPEKITMRRFDASKV	STEELDAALKRPAQKSSD	-----A	IYKIIV	465
50285163_C.glabrata	347	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----Q	AQNDEELSSKPIHLNVVKT	SNKKEVEEALTRPIQKTS	-----E	IMHLVN	392
42547615_G.zeae PH1	400	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	KAPQP	---EAEKPADGRIAMERVDSTKISQ	ADLVEKLRPSQKSPD	-----A	ILKIIV	449
50304609_K.lactis	340	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----K	EPVAVHEEDGKIVLNVSASDKAA	AVEKAVTRPIQKTA	-----E	IMNLVN	385
38109852_M.grisea 7015	409	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	PAPAP	---AATEATSDRIAMKVLVDSQSS	VADIQEALKRPSQKSSD	-----A	IMKIIV	458
40746471_A.nidulans FGSC A4	411	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	PAPKP	---EPEKEDTSRIEMTRVATAST	PAEKVQEYLLKRPSQKSSD	-----A	IVGLVK	460
50258877_C.neoformans var. neo	397	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	TVPE	PTKLPE-TESEDPVIMRAVTLSTL	SVLEKQDILLRPVLSL	-----A	IMGLVK	448
44985362_A.gossypii ATCC 10895	350	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----K	NKETPVDIAPSAIYLNVSDD	EAAALKTAITRPIQKTT	-----D	ILGLVE	396
46099735_U.maydis 521	418	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	AAGT	PAAAAETVKDASAPIKIQSYRYE	DLASAAQRKELLKRPALRTE	-----Q	VMDCR	470
31095443_H.cylindrosporum	389	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	AAPE	KKETEK-GKVVDGPIRMRTSDLST	LSAQERALLRPPVLSKSD	-----E	IEKVK	440
49645975_Y.lipolytica CLIB99	400	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	PKEE	KKEEKKEEKEDGKIQLNHINADT	ASKAEIETVLARPAQKTS	-----D	IMKLV	452
3203_P.pastoris	395	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----E	SKPKEVPSEGRIELCKIDVSKAS	SQEI DALRRPIQKTE	-----Q	IMELVK	442
3757752_C.albicans	394	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----V	NSSYKLEIVSVDDAAA	---VERAMTRPVQKTA	-----D	IMKLV	431
49656425_D.hansenii CBS767	410	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----K	SEQSNEEYKMETIYVNDKTTDP	KDIAKALNRPVQKTA	-----D	IMKLV	455
7630171_S.pombe	408	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	----G	VANTSYTAMPEYEIQVPSYRAA	ALTAERTLLARPIQNTQ	-----K	IRTIVQ	457
N.mengitidis MC58	243	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----T	QSPDFQAGLKALLAFETAQNP	-----E	TERIVA	272	
15606967_A.aeolicus VF5	212	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----K	EDWKLNERLEYLAKRGEILEE	-----E	EKSVK	241	
16080539_B.subtilis	211	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----I	KTISGAERLSLKRSDAGTE	-----E	QRKTVR	239	
15805759_D.radiodurans R1	213	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----P	KEVGMQVLOGAEARAALTRTF	SQIPVDAVLSRIEQTFGERLTPEQVVE	-----S	TRTVN	263
16129967_E.coli K12	207	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----T	IDWNSCTAEQQRQLLRPAIS	ASE	-----S	TRTVN	240
39996631_G.sulfurreducens PCA	238	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----I	RDTNFDAEFAAILARGEETGR	-----E	VEQVVL	267	
32265948_H.hepaticus ATCC 5144	236	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----V	RLPEFANEFQQVLSRGKMDMK	-----E	VSSLVQ	265	
15673197_L.lactis subsp. lacti	207	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----T	RADMLKQIDYQKLEEIAEKFQ	-----R	KTELSKEVNKT	246	
15841059_M.tuberculosis CDC155	217	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----A	ELTAAELRAALPRGG	-----A	DVEAVLPTVR	244	
17230755_N.sp. PCC 7120	221	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----T	DKEFSRPFQSLVSDRREATV	-----D	VSGTVR	250	
15925662_S.aureus subsp. aureu	211	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----L	NAQQFLNQFSLEAPLDESLY	-----P	IR	236	
16332335_S.sp. PCC 6803	235	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----K	LS-HLTPQQLNQLKRRSEQNI	-----D	QALAIK	264	
15643793_T.maritima MSB8	199	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----L	MNPGDKEVLRLLKQRMESVS	-----Q	EETVK	228	
46199382_T.thermophilus HB27	210	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----S	HGMIYAAEEVRRARFARRG	-----L	SFDP	242	
34556543_W.succinogenes DSM 17	237	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----S	LAEFRREFDELLRGNVDM	-----T	IPVVS	266	
15669621_M.jannaschii DSM 2661	226	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----M	IKKIKELTKEEKKIINRKN	KANFE	-----E	ILPTVM	259
15678273_M.thermautotrophicus	237	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----K	ITFDYRRISEVERARLDVD	-----D	VLGVA	266	
20094973_M.kandleri AV19	244	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----L	VRPEEEELERVLRRSEMDVT	-----E	VLPDVE	272	
20089786_M.acetivorans str. C2	227	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----M	LFKKLSDASEAEMKLLISRG	-SGLA	-----D	VGETVS	259
18312308_P.aerophilum str. IM2	228	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----F	PR	-----D	VLESVW	238	
15897517_S.solfataricus P2	185	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	-----Y	SLPNERPNDFS	-----R	VIPVVK	204	

		570	580	590	600	610	620	630				
10177677_A.thaliana	315	PIIDAVRSNGDNAVKYTERFDK	VQL--N	KVV	EDMS	ELSV	PELD--	SNVKEAFD	VAYDNIYAFH	LAOKS 379		
34904356_O.sativa (japonica cu	340	PIVEDVRMRGDAAVKDYTVK	FDKVAL--	DDVV	RVSD	LPD	VELD---	PAVKEAFD	VAYDNIYAFH	VSOKL 404		
10383761_S.cerevisiae	390	PIIENVRDKGNSALLEYTEK	FDGVK--	LSNP	VLNAP	FPPEE	YFEG	LTEEMKE	BALDLSIEN	VRFHAAQLP 456		
38567265_N.crassa	466	PIIEDVRKNGDKAVLSYTHK	FEKATS--	LTSP	VLKAP	FPKEL	MQ-LPE	ETIAA	IDVSVEN	IRKFHAAQK- 531		
50285163_C.glabrata	393	PIIEGVRSKGDKALIEFTAK	FDGVQ---	LQSP	VLEAP	FPPEE	YFEG	LTEEMKE	SIDL	SIENVRKFHAAQLQ 459		
42547615_G.zeae PH1	450	PIIEEVRTGGDKAVLSYTHK	FEKATS--	LTSP	VLKAP	FPKEL	MD-ISP	ETIEA	IDISFEN	IKKFHSAQK- 515		
50304609_K.lactis	386	PIIENVIKNGDKALVELTAK	FDGVQ---	LETP	VLEAP	YPPEE	YLDGLT	DEL	LRDALD	LSIENVKFHAAQMQ 452		
38109852_M.grisea 7015	459	PIVDDVHTNGDKAVLSYTHK	FEKATS--	LTSP	VLKAP	FPPEE	MMR-LS	PETAKA	IDISFEN	IRKFHAAQK- 524		
40746471_A.nidulans FGSC A4	461	PIIQDVREQGDAGVLKYTHK	FEKATS--	LTSP	VLKAP	FPPEE	MMR-LS	PETAKA	IDISFEN	IRKFHAAQK- 524		
50258877_C.neoformans var. neo	449	PIVERVRQEGDAGLKAMTKQ	FDRA	DL--	SSNV	LLPP	FETP	GEDV	LPK-DV	REALDVA	YNNVKEFHQAQN- 514	
44985362_A.gossypii ATCC 10895	397	PIIKKVIIEGDNALTELTAR	FDGVK--	IETP	VLEAP	FGDEY	LKGLT	EDV	RTAID	ISMENVRKFHAAQLR 463		
46099735_U.maydis 521	471	PILRSVKERGDAALELLETK	FDKAKL--	TNAV	RLPP	FVDD	SVAQIK	PEVK	VAID	IAYNNIYKFHKAQKT 538		
31095443_H.cylindrosporum	441	PIVEAVRTRGDDALLEFTAK	FDKACL--	TSTV	LTP	PPFA-PE	SMVVEE-	NVRKA	IDVA	YGNIRKFHAAQK- 505		
49645975_Y.lipolytica CLIB99	453	PIVEGVKTTGGDKLLELTK	FDGVK--	LESP	ILTA	PFSE	DLMK-	ISDD	VKAS	IDMSIANVKFHAAQLD 518		
3203_P.pastoris	443	PIVDNVRQNGDKALLELTK	FDGVA---	LKTP	VLEAP	FPPEE	LMQ-LP	DNV	KRALD	LSIDNVRKFHEAQLT 508		
3757752_C.albicans	432	PIIEKVKSDGDKALIELTSK	FDGVK--	LDAP	VLQ	APFP	ADLMD-	ISEE	KAA	IDL	SMQNIKCFHAAQLP 497	
49656425_D.hansenii CBS767	456	PIIDKVKKDKDKALLELTSK	FDGVK--	LKSP	VLSA	PPAD	LMD-	ISEE	KEA	IDL	SMTNIEKCFHAAQLP 521	
7630171_S.pombe	458	PIIEDVKSARGEASLIDYAS	KFEKVQ--	LKSA	VLK	APFDD	DLMK-	ISPM	IKED	IDIA	FNNIFAFHSSQLR 523	
N.mengitidis MC58	273	DICADVQKRGDAALIEYTNK	FDQTN	AKS	IDL	LITQ	ADL	NAAF	ERIP	NDVQ	TALQTAARRVESYHQ	RQKM 342
15606967_A.aeolicus VF5	242	EILKRVREEGDRAVIEFTK	KFDG	VELT-	PEN	MEV	PFEE	LEKAY	EEIE	PEV	REALEFAENRIRVFHEKQLE 310	
16080539_B.subtilis	240	SIIEDVKANGDQAVRSYTA	KFD	CIE	IDSP--	LVT	KEE	FEE	AYT	SLD	SRLQVIRQAIENIREYHERQLQ 306	
15805759_D.radiodurans R1	264	RILLDVRARGDDALRDW	ERLDG	PR---	PAE	LEVP--	AAE	LEAA	QVAP	ELHAA	IRLAAERVRAFIRQOPA 328	
16129967_E.coli K12	241	DILDNVKARGDEALREYS	AKFD	KTTV--	TALK	VSAE	IIAA	SER-LS	DEL	KQAM	AVAVKNIETFH	TAOKL 307
39996631_G.sulfurreducens PCA	268	DIIDAVRARGDEALLEYTR	RFR	LEAD	SVA	ALQ	VTED	EIE	YAF	AKV	KDEEIAALKLAVERVARFHEKQKQ 337	
32265948_H.hepaticus ATCC 5144	266	ELLDEIRTEGLDALKKHI	ARFDK	WEV	KSF	EDLR	ISP	KECL	NAY	NQLS	SELKSALHLAYDRIYAFHRKQKM 335	
15673197_L.lactis subsp. lacti	247	QIVEDIQKSGDTALFN	YAKK	FDG	YDV	NTSN-	LLV	TPM	ER	TGLE	QIDEDYFRILRRTKSQIEEFHKKHQLG 315	
15841059_M.tuberculosis CDC155	245	PIVAAVAERGAEAAALDF	GAS	FDG	VVR--	PHAI	RV	PDAA	LDAA	LAGL	DCDVCEBALQVMVERTRAVHSGORR 311	
17230755_N.sp. PCC 7120	251	DILAHVKARGDAAVQ	EYTS	RFD	HYPH-	SHHL--	SAAF	IAE	QA	AKCS	DEVKAALELAAERISSFHQKQLP 317	
15925662_S.aureus subsp. aureu	237	DICQEVKVGDKALKMYN	LTFD	HTK	TDHL--	EIS	HE	QIKA	AFD	TLDE	KTQALQQSYERIKAYQESIKQ 303	
16332335_S.sp. PCC 6803	265	EVIEQVKMEGDAGVLHYS	RQFD	FAG	AT-AEN	LRV	SEAE	FAE	AEK	LVD	PELRRAVEHAFRNIEKVHAGOMP 333	
15643793_T.maritima MSB8	229	EIIIRRVKEEGDRAL	EEFL	KRF	EKHP	VG-IEN	LRV	TEKE	ISEA--	QVEE	EFVETIKIVIEDLKEFHRRQEE 295	
46199382_T.thermophilus HB27	243	GILEAVREEGDEALDR	FSR	DL	DGYP--	VEE	VPKR--	AWRE	AYED	LD	EDLRDALETARERIEAFYREEAR 307	
34556543_W.succinogenes DSM 17	267	GLIKEIRTQGDAA	LAH	VAK	FRWN	PKS	AME	LKID	PSLM	KRAY	EGLASLRBALHSAYNRIHSFHSKQKP 336	
15669621_M.jannaschii DSM 2661	260	EILKDVKEKGDEAL	KYYTK	KFD	GV--	E-IE	DFK	VTDEE	IEE	AYNS	VVDYKVVBAERAKENIYFFHKKOME 326	
15678273_M.thermautotrophicus	267	DIISMVRDGGDDALRE	LTR	FD	GV--	T-VE	NFR	V	SREE	IEE	AHKNLEPGVKBALREAAASNIEEFHRMOMP 333	
20094973_M.kandleri AV19	273	RIFEDVVERGDEAL	LEYT	ER	FD	GV	KLE-AE	DLR	VSE	DDFE	VARELVDERTVEALEEAAHRIIEEFHRKTLTP 341	
20089786_M.acetivorans str. C2	260	SVLSDVVRVGDAA	LE	YTK	KFD	KV--	E-L	AG	FEV	SEAE	FEEALSGVGP	LELHLKVAANIRVFHEAQLP 326
18312308_P.aerophilum str. IM2	239	KIVDDVQSGGLKAA	LEYS	KRL	DGV-----	AP	PH	LV	TP	RQ	GGDPEVVSAAALAAKSLEALYSRISP 299	
15897517_S.solfataricus P2	205	DIIESVKTGKNAL	YELTE	KLD	KVK--	ID	N	KAREE	ELKT	QASK	LDPKVKQALDTAYEQLKAFHEMLVP 271	

		640	650	660	670	680	690	700		
10177677_A.thaliana	379	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	TEKSVENMK	GVRCKRVSRS	IGSVGLYVPGGTAVLPSTALMLLAI	PAQI			426
34904356_O.sativa (japonica cu	404	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	PEKTVENMK	GVRCKRITRC	IGSVGLYVPGGTAVLPSTALMLLAV	PAQI			451
10383761_S.cerevisiae	456	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	T-ETLEVETQP	GVLCRSRFRPI	EKVGLYIPGGTAILPSTALMLG	VPAQV			504
38567265_N.crassa	531	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	EKPLQVETMP	GVVCSRFSRPI	EAVGCYIPGGTAVLPSTALMLG	VPAQV			580
50285163_C.glabrata	459	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	T-EDLEVETQP	GVLCRSRFRPI	EKVGLYIPGGTAVLPSTALMLG	VPAKV			507
42547615_G.zeae PH1	515	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	EEKSLQVETMP	GIVCSRFSRPI	ERVGLYIPGGTAVLPSTALMLG	VPAQV			564
50304609_K.lactis	452	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	S-ETLDVETQP	GVVCSRFSRPI	EKVGLYIPGGTAILPSTALMLG	VPAQV			500
38109852_M.grisea 7015	524	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	EDKPLRVETMP	GVVCSRFSRPI	ERVGLYVPGGTAVLPSTALMLG	VPAQV			573
40746471_A.nidulans FGSC A4	527	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	ENDALSMETMP	GVVCSRFSRPI	ERVGCYIPGGTAVLPSTAMMLG	VPAQV			576
50258877_C.neoformans var. neo	514	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	EKEPLVVETMP	GVVCSRFARPI	ARVGVVYVPGGTAILPSTALMLG	VPAQV			563
44985362_A.gossypii ATCC 10895	463	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	D-DILKVETQP	GVVCTFRFRPI	EKVGLYVPGGTAVLPSTAVMLG	VPAQV			511
46099735_U.maydis 521	539	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	TFGNSAGATGSGSADGSEGAQDGV	LEVETMPGVV	CRRFARPIESVGLYVPGGSAVLP	STALMLG	VPAQV		608
31095443_H.cylindrosporium	505	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	SDSTLVVETMP	GVVCSRFARAI	ARVGLYVPGGTAILPSTALMLG	IPAQV			554
49645975_Y.lipolytica CLIB99	518	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	T-TELVVETQP	GVVCKRFSRPI	ESVGLYIPGGTAVLPSTSLHLG	VPAQV			566
3203_P.pastoris	508	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	ETLQVETCP	GVVCSRFARPI	EKVGLYIPGGTAILPSTSLMLG	VPAKV			555
3757752_C.albicans	497	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	KEKVMVETSP	GVYCSRFARPI	ENVGLYVPGGTAVLPSTAMMLG	VPAKV			546
49656425_D.hansenii CBS767	521	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	KEKIMTVETAP	GVYCSRFARAI	ENVGLYVPGGTAVLPSTAMMLG	VPAKV			570
7630171_S.pombe	523	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	P--TIAVQTM	RGVVCQRMSRPI	NRVGLYIPGGTAVLPSTALMLG	VPAKV			570
N.mengitidis MC58	343	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	ES-WSYTD	ED-GTLLGQ	QITPLDRVGLYVPGGKAAYP	SSVIMN	PAHV		389
15606967_A.aeolicus VF5	311	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	NS-FFKEE	--GIILG	QKVPLEKVG	VYVPGGKAAYP	STVLMN	VPAQV	356
16080539_B.subtilis	307	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	SS-WFYHR	KD-GTMLG	QKVTA	LDSAGVYVPGGTAAYP	SSVLMN	VIPALV	353
15805759_D.radiodurans R1	329	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	HG-FLEHG	--PDGAL	QLVRLGRV	GVYVPGGLAPL	ISTLMH	TAVPAQV	374
16129967_E.coli K12	308	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	P-PVDV	ETQPGVRC	QVTRPVASVGLYIPGG	SAPLSTVLM	LATPASI		354
39996631_G.sulfurreducens PCA	338	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	ET-WLST	TEP-DILLG	QMVTPLE	RVGLYVPGGKASYP	SSVIMN	AVPARV	384
32265948_H.hepaticus ATCC 5144	336	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	QS-WIDCE	EN-GNILG	SKFTP	MERAGLYIPGGKAAYP	SSLLMNA	IPAIV	382
15673197_L.lactis subsp. lacti	316	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	NS-WNIF	KEN-GVIM	QIARPL	ERVALYVPGGTAAYP	STVIMN	AVPALL	362
15841059_M.tuberculosis CDC155	312	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	TD-VTTTL	G-PGATV	TERWV	PVERVGLYVPGGN	AVYSSV	VMMNVPAQA	358
17230755_N.sp. PCC 7120	318	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	QD-IGYTD	TA-GVKL	GLNWVAL	SQVGIYVPGGR	ASYPSSV	LMNALPAKI	364
15925662_S.aureus subsp. aureu	304	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	T-NQLEE	--SVECY	EIYHPL	ESVGIYVPGGK	ASYPSTV	LMTATLAQV	348
16332335_S.sp. PCC 6803	334	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	PP-MHLA	EIEP	GVFAGE	KITPLPTVGLYVPR	CKGARF	SMMLLAVPARV	381
15643793_T.maritima MSB8	296	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	RS-FFF	TTKG-GSFL	GEMVPLE	SVGIYVPGGK	VPYFSTLL	MCAVPAIV	342
46199382_T.thermophilus HB27	308	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	GG-FLRA	--GGVLA	QLVRL	PLERVGVYVPGG	SAPLLSTLL	MTVVPAKV	353
34556543_W.succinogenes DSM 17	337	.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|.....|	QS-WLDF	EEN-GTIL	GQVTPMD	RAGLYIPGGKAAYP	SSLLMNA	IPAIV	383
15669621_M.jannaschii DSM 2661	327	QI-KDLN	VENNGI	IILGQ	VVRAIEKVG	CVYVPGGRA	FYPSTVLM	TTIPAKV	374
15678273_M.thermautotrophicus	334	SG-WMSE	VR-PGVM	AGQLVR	PIDSVGCYIPGG	RAVYVPGG	RAVYVPGG	RAVYVPGG	RAVYVPGG
20094973_M.kandleri AV19	342	RV-DRIT	FDVGE	TGECGL	TLRPIPRV	GCYVPGG	RAVYVPGG	RAVYVPGG	RAVYVPGG
20089786_M.acetivorans str. C2	327	ET-WTFME	VQPGV	VLGQK	ATALES	VGA	YVPGG	RAVYVPGG	RAVYVPGG
18312308_P.aerophilum str. IM2	300	PA-AVDF	YVG--GIL	RQIL	WKV	RRRAAL	YVPA	---YIST	LVMLAVPARL
15897517_S.solfataricus P2	272	PN-IGGG	YQ--GIS	F	GIWRS	IEKIC	IYVPS	CKYSY	PSTLLMAGIPAKV

		710	720	730	740	750	760	770							
10177677_ <i>A.thaliana</i>	427	AGCKTVV	LATPPSK	--DGSICKEV	LYCAK	RAGVTHIL	KAGGAQA	IAAMAWG	-----	TDSCPK	VEKIFG	P	489		
34904356_ <i>O.sativa</i> (japonica cu	452	AGCKTVV	LATPPSR	--DGSICKEV	LYCAK	KAGVTHVL	KAGGAQ	-----	-----	-----	VEKIFG	P	500		
10383761_ <i>S.cerevisiae</i>	505	AQCKEIV	FASPPRKS	--DGKVSPE	VVVAEK	VGASKIV	LAGGAQA	VAAMAYG	-----	-----	TETIPK	V	568		
38567265_ <i>N.crassa</i>	581	AGCNKIV	FASPPRA	--DGTITPE	IVYVAH	KVGAESIV	LAGGAQA	VAAMAYG	-----	-----	TESITK	V	643		
50285163_ <i>C.glabrata</i>	508	AGCKEIV	FASPPRKS	--DCRVSP	EVVVAEK	VGASKIV	LAGGAQA	VAAMAYG	-----	-----	TESVPK	V	571		
42547615_ <i>G.zeae</i> PH1	565	AGCQKIV	FASPPRS	--DGRITPE	IVYVAH	KVGAESIV	LAGGAQA	VAALAYG	-----	-----	TESVTK	V	627		
50304609_ <i>K.lactis</i>	501	AGCKEIV	FASPPRKS	--DCRVSP	EVVVAEK	VGASKIV	LAGGAQA	IAAMAYG	-----	-----	TESVPK	V	564		
38109852_ <i>M.grisea</i> 7015	574	AGCQRIV	LASPPRQ	--DGIIVTPE	IVYVAH	KVGAESIV	LAGGAQA	VAAMAYG	-----	-----	TESVTK	V	636		
40746471_ <i>A.nidulans</i> FGSC A4	577	AGCKKIV	FASPPRA	--DGSITPE	IVYVAH	KVGAESIV	LAGGAQA	VAAMAYG	-----	-----	TESVSK	V	639		
50258877_ <i>C.neoformans</i> var. neo	564	AGCKTIV	LATPPRQ	--DGSISPE	EVLYVA	KLTVTCIL	KAGGAQA	VGAMAYG	-----	-----	TDEVPK	V	626		
44985362_ <i>A.gossypii</i> ATCC 10895	512	AGCKEIV	IASPPRKS	--DGKISPE	VVVAEK	IGASKIV	LAGGAQA	VAALAYG	-----	-----	THSVPK	V	575		
46099735_ <i>U.maydis</i> 521	609	ARCPTV	VVIATPPRA	--DGSISPE	EVLYCA	SKVNASAI	LCAGGAQA	VAALAYG	-----	-----	TESCPK	V	671		
31095443_ <i>H.cylindrosporium</i>	555	AGCKEIV	LATPPRS	--DGSISPE	VVVAHL	QVGSAIL	KAGGAQA	VAAMAYG	-----	-----	TKTVPK	V	617		
49645975_ <i>Y.lipolytica</i> CLIB99	567	AGCKNIV	LASPPRK	--DGTLSPE	VVVAHQ	IGAKAVV	LAGGAQA	VAAMAYG	-----	-----	TESVPK	V	629		
3203_ <i>P.pastoris</i>	556	AGCKEIV	FASPPPK	--DGTILTPE	VIYVAH	KVGAKCI	VLAGGAQA	VAAMAYG	-----	-----	TETVPK	C	618		
3757752_ <i>C.albicans</i>	547	AGCKNII	VASPPSRA	--TKCLTPE	VVVAH	KLGAKCI	VMAGGAQA	AVTAMAYG	-----	-----	TESVLK	C	610		
49656425_ <i>D.hansenii</i> CBS767	571	AGCSNII	VATPPSRS	--TKCLTPE	VVVAH	KLGAKCI	VMAGGAQA	AVTAMAYG	-----	-----	TESVLK	C	634		
7630171_ <i>S.pombe</i>	571	AGCPHV	VISTPVRK	--DGTVAPE	IVYIANK	IGAEAIL	LAGGAQA	IAAMAYG	-----	-----	ISGVPK	V	633		
<i>N.mengitidis</i> MC58	390	AGVKEI	IMVV-PTP	--KGERND	IVLAA	AVVAGVT	KVFTV	GGAQA	VAALAYG	-----	-----	TETIPQ	V	451	
15606967_ <i>A.aeolicus</i> VF5	357	AGVEEI	IMVS-PKP	-----	NKYTLA	AAIYIAG	VSRVFQ	VGGAQA	I GALAYG	-----	-----	TEKIPK	V	414	
16080539_ <i>B.subtilis</i>	354	AGVERIV	LVTTPGK	--DGLLSPE	GVLVAA	AELGIKDI	YKMGGAQA	IAALAYG	-----	-----	TETIEP	V	416		
15805759_ <i>D.radiodurans</i> R1	375	AGVPDI	VVTTPGK	--DCQVHP	AILVA	ARELGL	SRVFKV	GGAQA	IAALAYG	-----	-----	TASVPA	V	437	
16129967_ <i>E.coli</i> K12	355	AGCKKV	VLCSP	-----	PIADEI	LYAAQL	CGVDV	FVNGGAQA	IAALAFG	-----	-----	TESVPK	V	413	
39996631_ <i>G.sulfurreducens</i> PCA	385	AGVGEI	VMVA-PTP	--GGEINP	PHVLVA	ARLSG	VDRIFR	MGGQAQA	VAALAYG	-----	-----	TATVPR	V	446	
32265948_ <i>H.hepaticus</i> ATCC 5144	383	AGVKEI	VVCS-PTP	--HNQANP	LVLAA	LHLG	GITEVY	KVGGASA	I GLMAYG	-----	-----	CKEIPK	V	444	
15673197_ <i>L.lactis</i> subsp. lacti	363	AGVKEI	IMITPVKT	--DGKVNPN	ILAAAE	VEVCGI	ETIYKV	GGAQA	GVAAVAYG	-----	-----	TESIPK	V	425	
15841059_ <i>M.tuberculosis</i> CDC155	359	AGVDSL	VVASPPQAQWD	CMPHPTI	LAAARLL	GVDEV	WAVGGQAQA	VALLAYG	GTDTD	GAALTP	VDMITG	P	428		
17230755_ <i>N.sp.</i> PCC 7120	365	AGVERIV	MTVMP	---HGEINP	AVLAAA	QVAGV	TEIYSI	GGAQA	V GALAYG	-----	-----	TETITP	V	426	
15925662_ <i>S.aureus</i> subsp. aureu	349	AGVENI	VVVTTPQP	--NG-VSQE	VLAAC	YITQVN	QVFQV	GGAQS	IAALTYG	-----	-----	TETIPK	V	410	
16332335_ <i>S.sp.</i> PCC 6803	382	AGVKKI	VVCTPPDK	--ECKVEP	VSLVT	ARMAG	VDEVYK	LGGVQ	ALAAAYG	-----	-----	TKTVSK	V	444	
15643793_ <i>T.maritima</i> MSB8	343	AGVERI	AVTTPPNE	--NGGISP	YILKT	CEILGL	KEIYRM	GGAHA	VAAALTYG	-----	-----	TETVVK	V	405	
46199382_ <i>T.thermophilus</i> HB27	354	AGVREVI	VASPP	-----	KVHPG	VLAAAV	WAGAD	RLFAM	GGAQA	IAALAYG	-----	-----	TGRVPR	V	412
34556543_ <i>W.succinogenes</i> DSM 17	384	AGVKEI	VVCT-PTP	--ENEPNE	LLLAACH	LCGIKE	VYKVGGASA	IAAMAYG	-----	-----	TESLGR	V	445		
15669621_ <i>M.jannaschii</i> DSM 2661	375	AGCEEI	YITSPPTK	--DGKGNP	ATLIAG	DIVGVS	AIYKVG	GGVQA	I GALAYG	-----	-----	TETIPK	V	437	
15678273_ <i>M.thermautotrophicus</i>	381	AGVERIV	CCTPPAQ	--DGSVPD	AVLVAA	ADMAG	ASEIYRV	GGAQA	VAAMAYG	-----	-----	TETIRP	V	443	
20094973_ <i>M.kandleri</i> AV19	390	AGCREV	VVCTPPADN	--DVRASPE	VLVAVE	IAGADA	VYRVGGQAQA	IAALAFG	-----	-----	TETVLR	V	453		
20089786_ <i>M.acetivorans</i> str. C2	375	AGVKQV	VVCTPPRA	--DGSITPE	PLTAA	AKVAG	ADKVF	KLGGVQ	AVGAMAYG	-----	-----	TETVPK	V	437	
18312308_ <i>P.aerophilum</i> str. IM2	343	AGVEEV	VVVTTP	-----	RGVSE	ELLVA	KELGVK	AVLAL	GGPHGL	AYAVFH	-----	MG----	VDVVAG	P	398
15897517_ <i>S.solfataricus</i> P2	318	AKVKEI	YVASPPTQ	--EGTVNP	ALAYVA	IKLGVN	EVYKIGGAQA	IAALAFG	-----	-----	TESVKK	V	380		

		780	790	800	810	820	830	840										
10177677_A.thaliana	490	....|....|....|....|....|....|....|....|....|....|....|....|....|....|....|	NQYVTA	AKMILQ	N-SEAM	VSIDMP	PAGPSE	VLVIAD	EHASPV	YIAAD	LLSQA	EHGP	DSQV	VLVV	VVGD	S-VD	557	
34904356_O.sativa (japonica cu	501	NQYVTA	AKMILQ	N-SEAM	VSIDMP	PAGPSE	VLVIAD	KYANP	VHVA	ADLL	SQA	EHGP	DSQV	VLVV	VVAG	DG-VD	568	
10383761_S.cerevisiae	569	NQFVTA	AKMYV	QNDTQ	ALCS	IDMP	PAGPSE	VLVIAD	EDED	ADVDF	VASD	LLSQA	EHGID	SQVIL	VGVN	LSEK	638	
38567265_N.crassa	644	NQFVTA	AKMFV	SNDTNA	AVG	IDMP	PAGPSE	VLVIAD	KDANP	AFV	ASD	LLSQA	EHGVD	SQVIL	IAIDL	DEEH	713	
50285163_C.glabrata	572	NQFVTA	AKMYV	QNDTQ	ALCS	IDMP	PAGPSE	VLVIAD	NNAD	VDVDF	VASD	LLSQA	EHGID	SQVIL	VGVEL	TDDK	641	
42547615_G.zeae PH1	628	NQFVTA	AKMHV	SNDTNA	AVG	IDMP	PAGPSE	VLVVA	KDANP	AFV	ASD	LLSQA	EHGVD	SQVIL	IAVDL	SEQE	697	
50304609_K.lactis	565	NQFVTA	AKMYV	QNDTQ	ALCS	IDMP	PAGPSE	VLVIC	DEEAD	VDVDF	VASD	LLSQA	EHGID	SQVIL	VGVSL	SDSK	634	
38109852_M.grisea 7015	637	NQFVTA	AKMLV	SNDTNA	AVG	IDMP	PAGPSE	VLVIAD	CDANP	AFV	ASD	LLSQA	EHGVD	SQVIL	IAVDL	DEAG	706	
40746471_A.nidulans FGSC A4	640	NQFVTA	AKMLV	SNDTSA	GV	IDMP	PAGPSE	VLVIAD	KANP	AFV	ASD	LLSQA	EHGVD	SQVIL	IAIDL	NEQE	709	
50258877_C.neoformans var. neo	627	NQWVTA	AKMLV	QNDTDA	LVA	IDMP	PAGPSE	VLVIAD	YTANP	VFV	ASD	LLSQA	EHGVD	SQVIL	LAINL	TPEH	696	
44985362_A.gossypii ATCC 10895	576	NQFVTA	AKMYV	QNDMQ	ALCA	IDMP	PAGPSE	VLVIC	DESAD	ADFVA	ADLL	SQA	EHGAD	SQVIL	IGANIS	SDEK	645	
46099735_U.maydis 521	672	NQFVTA	AKMLV	QNETDA	IV	IDMP	PAGPSE	VLVIAD	READA	AFV	ASD	LLSQA	EHGP	DSQV	VLVG	IALSS	741	
31095443_H.cylindrosporum	618	NQWVTA	AKMLV	QNDTDA	LVS	IDMP	PAGPSE	VLVIAD	HTANP	ASSR	QNLL	SQA	EHGVD	SQVIL	VAINL	SAEH	687	
49645975_Y.lipolytica CLIB99	630	NQFVTA	AKMYV	SNDTTA	KVA	IDMP	PAGPSE	VLVIC	DKHAN	PAFV	ASD	LLSQA	EHGVD	SQVIL	LAVDC	DQKH	699	
3203_P.pastoris	619	NQFVTA	AKMMV	QNDTSA	LCS	IDMP	PAGPSE	VLVIAD	KYADP	DFV	ASD	LLSQA	EHGID	SQVIL	LAVDM	TDK	688	
3757752_C.albicans	611	NQFVTA	AKMYV	QNDTQ	ALCS	IDMP	PAGPSE	VLVIAD	SNAD	ADFV	ASD	LLSQA	EHGVD	SQVIL	IGVGL	SDEK	680	
49656425_D.hansenii CBS767	635	NQFVTA	AKMHV	QNDTQ	ALCS	IDMP	PAGPSE	VLVIAD	SEAD	ADFV	ASD	LLSQA	EHGVD	SQVIL	VGVGL	TKEK	704	
7630171_S.pombe	634	NQFVTA	AKMHV	QNDYGA	LVA	IDLP	PAGPSE	VLVIAD	ETCNP	ESVA	LDLL	SQA	EHGL	DSQI	ILLT	VSLS	PEM	703
N.mengitidis MC58	452	NAFVAA	AKRRV	F----	GV	VGID	MVAGP	SEILVI	ADGTT	PADW	VAMD	LLSQA	EHDE	IAQA	ILIG	TSA	YLD	517
15606967_A.aeolicus VF5	415	NIYVAL	AKKLV	F----	GT	VDID	MIAGP	SEVLVI	ADERAN	PTWVA	ADLL	SQA	EHDE	LAAS	ILIT	TPSE	EELAN	480
16080539_B.subtilis	417	NIYVAL	AKREV	F----	GD	VDID	MIAGP	SEIVVLA	DETAIP	SEIA	ADLL	SQA	EHDK	LSSC	VFVT	DSMA	LAE	482
15805759_D.radiodurans R1	438	NLFVVI	AKRLV	VY---	GQ	TGIE	SLPG	PTETL	VVADD	SASPR	YVAAD	LLAQA	EHN-	GAEP	VLVSV	SRELL	502	
16129967_E.coli K12	414	NAFVTE	AKRQV	SQR-	LDGA	IDMP	PAGPSE	VLVIAD	SGATP	DFV	ASD	LLSQA	EHGP	DSQV	ILLT	PAAD	MAR	482
39996631_G.sulfurreducens PCA	447	NIYVATA	AKKLV	F----	GQ	VGID	MIAGP	SEILVIN	DGSGT	PAHIA	ADLL	SQA	EHDE	LASS	ILIT	DRGF	GGE	512
32265948_H.hepaticus ATCC 5144	445	NIFVACA	KKLV	F----	GE	VNID	MVAGP	SEIAI	ADSQ	ANPLY	IAYD	LLSQA	EHDE	MASS	ILIS	DSAP	LIE	510
15673197_L.lactis subsp. lacti	426	NIFVATA	AKKIC	Y----	GV	VDID	MIAGP	SEVLVI	ADETAN	PKYI	ADLM	AQA	EHDK	LASA	ILVT	TSEK	LVQ	491
15841059_M.tuberculosis CDC155	429	NIYVTA	AKRLC	R----	SR	VGIDA	EAGP	TEIAIL	ADHTAD	PVHVA	ADLL	SQA	EHDE	LAAS	VLVT	TPSE	DLAD	494
17230755_N.sp. PCC 7120	427	NAYVAE	AKRQV	F----	GT	VGIDS	IAGP	SEILVV	ADRQ	NNPE	WIAW	LLSQA	EHDP	SAQS	ILIT	DSE	SFAQ	492
15925662_S.aureus subsp. aureu	411	NQFVAY	AKKYL	F----	GQ	VGID	QIAG	PTEIAL	IIDDT	ADLDA	IVYD	VFAQA	EHDEL	LART	YVIG	EDAQ	VLK	476
16332335_S.sp. PCC 6803	445	SIYGAA	AKRLS	L----	GI	VDVGL	PAGP	SESVL	LADETT	DPKLA	ALD	LLIEA	EHGSD	SAAL	LVTH	SASL	LAE	510
15643793_T.maritima MSB8	406	GVFVTL	AKKHV	Y----	GD	VGIDS	IAGP	SEIAIV	TDGS	ADLDA	IADFL	SQA	EHDEN	AMSV	VITTS	KEVFE	471	
46199382_T.thermophilus HB27	413	NRVYVA	AKRLV	Y----	GT	VGID	GLAG	PTETMI	IADGS	ASPR	LLAAD	LLAQA	EHGPD	SEP	WLLS	PDRA	LLE	478
34556543_W.succinogenes DSM 17	446	NIYVATA	AKKLV	F----	GQ	VNID	MVAGP	SEIGILA	DESAK	APWVA	LDLL	SQA	EHDE	MASS	ILVT	PSVE	LAD	511
15669621_M.jannaschii DSM 2661	438	NIYVTT	AKKMY	VY---	GE	VAD	DFLAG	PSEVLII	ADETANA	EFEV	ALDF	IAQA	EHDP	QAAS	VLVT	DSRD	LAL	509
15678273_M.thermautotrophicus	444	NIFVTA	AKKLV	Y----	GE	VDID	FPAG	PSEVLII	ADETAS	PEYIA	LEILA	QA	EHDP	QAAS	VLVT	DSRD	LAL	509
20094973_M.kandleri AV19	454	NVYVTA	AKLLAYS	---R	GL	TDV	MPAG	PSEVFV	IADDS	ANPD	WLARD	LLAQA	EHDP	HAAV	LATD	SEEI	AR	521
20089786_M.acetivorans str. C2	438	NVYVTS	AKMQVR	---N	VA	ETD	FPAG	PSEVLII	ADDSADA	AMV	ASDII	IAQA	EHDP	NAV	SVLV	TSEI	LAE	503
18312308_P.aerophilum str. IM2	399	GLYVQA	AKYILS	L----	QV	VGID	GIEG	PTELVI	YAEG-	VPPE	VAVR	GALAE	LEH	GPTS	FAYL	LSPD	GELLK	463
15897517_S.solfataricus P2	381	NVYVQA	AKKYLVS	L----	SV	VGID	GIEG	PTELVII	ADETA	KAEY	VALDM	KQA	EHGP	PTYI	VLLS	NDDE	LIR	446

		850	860	870	880	890	900	910	
10177677_A.thaliana	558	LNAIEEEI	AQCKSLPR	GEFASKAL	SHSF-TV	FARDMIEA	ISFSNLY	YAPHLI	INVKDAEKWE-GLIENA 625
34904356_O.sativa (japonica cu	569	LGAIEAEV	SKQCSALP	REFASKAL	GHFSF-TV	FAKDMVEA	ISFSNMY	YAPHLI	INVKDAEQWE-DLVENA 636
10383761_S.cerevisiae	639	IQEIQDAV	HNQALQLP	RVDIVRKC	IAHST-IV	LCDGYEEA	LEMSNQY	YAPHLI	LQIANANDYV-KLVDNA 706
38567265_N.crassa	714	LQAI	EDEVHRQATEL	PRVQIVRGS	IAHSI-TV	QVKTVEEA	MELSNKY	YAPHLI	LQIKEAEKAV-DLVMNA 781
50285163_C.glabrata	642	IQQIQDAV	HRQALELPR	VDIRKCI	AHSS-I	IVCDSYQS	AFDMSNR	YAPHLI	LQIENAKDYV-KLVDHA 709
42547615_G.zeae PH1	698	LQAI	EDEVHNQAV	ALPRVDIVRGS	IAHSV-TV	QVKDITDAM	RISNDY	YAPHLI	LQIKDAEKAV-DQVMNA 765
50304609_K.lactis	635	IEALQNAV	HEQAMQLP	RVDIVRKC	IAHSS-I	ILCDSYEE	AFKMSNQY	YAPHLI	LQISNAEDYV-KDVDHA 702
38109852_M.grisea 7015	707	LKAI	EDEVHRQAMAL	PRVDIVRGS	IKHSI-TI	SVRNIEEA	MRISNDY	YAPHLI	LQLKNAEAVV-DMVMNA 774
40746471_A.nidulans FGSC A4	710	LKAI	EDEVDRHARAL	PRMDIVRGS	LAHSV-TF	VVRDLDEAM	ALSNDY	YAPHLI	LQIQNAEAAV-EKVQNA 777
50258877_C.neoformans var. neo	697	LAAIEAEI	DRQARALPR	VKTAREAI	KKSV-TVE	VKDLLEAA	VKFSNEY	YAPHLI	LHLEKAEVAV-AEIENA 764
44985362_A.gossypii ATCC 10895	646	VHSIQAAV	VHQAISLPR	VDIRKSI	AHSS-I	LSSTAAEA	FALSNRY	YAPHLI	LHLENASEYL-PLVDHA 713
46099735_U.maydis 521	742	LAAIEAEV	DRQARALPR	VVVRQAI	DKSV-TV	IVPDRATAM	EWSNAY	YAPHLI	LQTRDAESLV-ECVQNA 809
31095443_H.cylindrosporium	688	LASIERE	VDEQAHALS	RVDIRQS	IVKSI-IV	KVSSVDEA	LAFSNDY	YAPHLI	LHLEKPSKAV-AMVDNA 755
49645975_Y.lipolytica CLIB99	700	LDAIDEEL	HAQALALP	RVDIVRKC	IAHSS-AL	SVKTMDEA	FKLSNQY	YAPHLI	LQIEDADKYV-PLVDHA 767
3203_P.pastoris	689	LARI	EDAVHNQAV	QLPRVEIVRKC	IAHST-TL	SVATYEA	QALEMSNQY	YAPHLI	LQIENASSYV-DQVQHA 756
3757752_C.albicans	681	LNEFQAAV	ERQAKVLP	PRKDIVAK	CLAHSY-IL	LAKTYKEA	FDLSNQY	YAPHLI	LQIDDAPSYPVPSIENA 749
49656425_D.hansenii CBS767	705	LNEFESAV	KKQAQVLP	PRKDIVAK	CLSHSY-TL	LVDTYDEA	FKLSNKY	YAPHLI	LQVENARSFVDPDIENA 773
7630171_S.pombe	704	FDRIQKA	INDHALR	LSRSYIK	KAIKKS	V-IVQV	DNVDQAF	EWSNLYG	PEHLVLHLKNASSYI-PKIDNA 771
N.mengitidis MC58	518	EVEAAMD	RLIET--MP	RRDIEA	SLGNRGA	MILAKDL	DEACEI	ANYISPE	HLELSVENPQEWA-KKIRHA 584
15606967_A.aeolicus VF5	481	KVKEEVE	RLLS--QL	ERKETA	QKSLEK	FGTIFL	VKDLYH	ACEVANYI	APHELMVREPM-ALLPELKHA 547
16080539_B.subtilis	483	TVSAE	VNKQLET--L	PRRETA	EASVRD	YGCIIYA	ETMVEA	IETVNTL	APHELIIT-QSPEALLGSIKHA 549
15805759_D.radiodurans R1	503	AVQAE	LNEQLENL	PEPNRS	WARDSV	GARMKV	VVLADSL	DEALDLANL	YAPHLICLLT-RDPWSLLGQVRRRA 571
16129967_E.coli K12	482	--RVAE	AVERQLAEL	PRAE	TARQAL	NASR-LI	VTKDLA	QCVEIS	NQYGPHELIITQTRNARELV-DSITSA 548
39996631_G.sulfurreducens PCA	513	QVATE	VE--RQLA	QLSRET	TARTSW	ETYGAVI	VAGSLDEA	IAFNSRI	APHELELAVAN-PFEILPRIKNA 579
32265948_H.hepaticus ATCC 5144	511	SVQKHIE	--QILP	SMPRAE	TAGASIK	NRAVMI	YTRNLQ	ESIEIANAI	APHELEVLT-TTPFDTLPIKHA 577
15673197_L.lactis subsp. lacti	492	QVDEE	LNQVQNL	--RSEI	IESYIS	NYGGA	IVVKNIDE	AFDVS	NQLAPHELEVLT-SEPLTQLPKIKNA 558
15841059_M.tuberculosis CDC155	495	ATDAE	LQLOTTV	HREVRTAAL-TGR	QSAIVL	VDDVDA	AVLVNAY	AEHLEI	QTADAPQ-VASRIRSA 562
17230755_N.sp. PCC 7120	493	QVIAA	AVE--QIL	TTLPSQK	VASSWQ	NHGAVI	IVRDLA	ESIPLIN	QLAPHEVELCVDN-PQLLASQIKCA 559
15925662_S.aureus subsp. aureu	477	DLESRI	AKALPNVD--RY	DI	VSKSIAN	QHLYI	HASNFDEA	CHVMNTI	APHEIASIQTVN-PQPYIEKVYV 543
16332335_S.sp. PCC 6803	511	KALGYL	GEYLEKLP	PPWRKK	FCEDGL	SGYGGI	LLTDSL	QASLDF	INDYAPHELQVLTAD-PLKLVGKIDNA 579
15643793_T.maritima MSB8	472	KLPQV	IERHLEAL	PEERK	TARISTEN	FGTII	LTDSLK	RAFEISNLI	APHELEVLEN-PFEPLGHKIKNA 540
46199382_T.thermophilus HB27	479	RVEAEL	SRLQDL	PRAEVAR	QALEKGG--	LVLTKD	LEAFALANL	YAPHELSLALSD-PLPWLEKVQNA 544	
34556543_W.succinogenes DSM 17	512	AVDVE	VERALERLD--R	KETSSK	SIYTRG	AIIAK	DMNEAV	SLMNEI	APHELEVLEN-PFGWLPEIRHA 578
15669621_M.jannaschii DSM 2661	504	EIKNKI	FEEIEK-AE	RKETIL	KALENS--	AILIGD	LEECIE	FNSNKY	APHELEILTKN-PEEVLNLIKHA 568
15678273_M.thermautotrophicus	510	EVKEM	VHENIKY-ME	RANLIRE	SLERYG	MIVLTAD	IDEAVD	FSNAY	APHELVIMTDS-PEETLEGIRNA 576
20094973_M.kandleri AV19	522	AVKER	VEELLDAGIE	-REEV	LKALDR	NGWIV	VLDLSLE	ECVRLANRY	APHELQLCVEN-PEELLQDVENA 589
20089786_M.acetivorans str. C2	504	AVRQ	EVLLQAE	N-TA-RSEI	VKTSLE	NAA-VL	ISDTLE	QSIDFS	NKFAPEHEIMVED-SDFVLNRIKNA 569
18312308_P.aerophilum str. IM2	464	KAEELY	VRRERTSS	MG-PLK	VKK-----	VGGIDE	AVSFIDEI	APHELEVWG-RRE--VAYRVRNV 518	
15897517_S.solfataricus P2	447	RVEEKI	KNDKK----	IYYTIK	-----	TKNLDE	AIEIANKI	APHELSLYV-KDAYTLMKIVNA 499	

		920	930	940	950	960	970	980
10177677_A.thaliana	626	GSVFIGPWTPE	SVGDYASCT	NHVLPTYGY	ARMYSGVSL	DSFLKFM	TVQSLTEE	GLRNLG
34904356_O.sativa (japonica cu	637	GSVFLGQWTP	ESVDYASCT	NHVLPTYGY	ARMYSGVSL	NSFLKYYI	TVQSLSEE	GLRSLG
10383761_S.cerevisiae	707	GSVFGAYTP	ESCGDYSS	CTNHVLP	TYGYARQY	SGANTAT	FQKFITA	QNITPE
38567265_N.crassa	782	GSVFIGAWTP	ESVDYSA	CVNHS	LPTYGFAK	QYSGVNL	ASFVKHIT	SSNLTA
50285163_C.glabrata	710	GSVFGAYTP	ESCGDYSS	CTNHVLP	TYGYARQY	SGANTST	FQKFITA	QSIPTP
42547615_G.zeae PH1	766	GSVFIGHWT	PEVDYSA	CVNHS	LPTYGFAK	QYSGVNL	GSFQKHIT	SSNLTA
50304609_K.lactis	703	GSIFVGA	YTPESC	GDYSS	CTNHVLP	TYGYARQY	SGVNTAT	FQKFIT
38109852_M.grisea 7015	775	GSVFIGQWTP	ESVDYSA	CVNHS	LPTYGYA	KQYSGV	NLGSFV	KHITSS
40746471_A.nidulans FGSC A4	778	GSVFIGQWTP	ESVDYSA	CVNHS	LPTYGYA	KQYSGV	NLGSFV	KHITSS
50258877_C.neoformans var. neo	765	GSVFGVGF	SPESC	GDYAS	CTNHVLP	TNGFAR	QFSGV	NLTSFQ
44985362_A.gossypii ATCC 10895	714	GSVFGAYTP	ESCGDYSS	CTNHVLP	TYGYARQY	SGVNTAT	FQKFVTS	QEIYPE
46099735_U.maydis 521	810	GSIFVGP	WSPESC	GDYMS	CTNHSLP	TAAAYAK	SYSGV	NVATFE
31095443_H.cylindrosporum	756	GSVFGV	PYPESC	GDYAS	CTNHVLP	TNGYAR	QFSGV	NLTSFQ
49645975_Y.lipolytica CLIB99	768	GSIFVGA	YSPESC	GDYSS	CTNHVLP	TYGYAR	MYSGV	NVATFT
3203_P.pastoris	757	GSVFGA	YSPESC	GDYSS	CTNHVLP	TYGYAR	QYSGV	NVATFQ
3757752_C.albicans	750	GSVFGA	LSPESC	GDYSS	CTNHVLP	TYGYAR	QYSGV	NVATFQ
49656425_D.hansenii CBS767	774	GSVFGV	GGLSP	ESC	GDYSS	CTNHVLP	TYGYAR	QYSGV
7630171_S.pombe	772	GSVFGV	GPWSP	VSMGD	YASCT	NHVLPT	YGYASS	YSGV
N.mengitidis MC58	585	GAIFMGR	YTGES	LDYCA	GNHVL	PTSR	TARFSS	PGLTYD
15606967_A.aeolicus VF5	548	GAIFLGD	YTTPE	LDYV	LGPNH	TLPT	GGSTR	FFSPL
16080539_B.subtilis	550	GAIFLGR	YSP	EPVDY	FAGPNH	VLP	TNGTAR	FSSPL
15805759_D.radiodurans R1	572	GGVFG	GEAS	MEAL	GDYV	AGP	SHVMP	TGGTAR
16129967_E.coli K12	549	GSVFLGD	WSPESA	GDYAS	CTNHVLP	TYGYT	TATCS	SLGLAD
39996631_G.sulfurreducens PCA	580	GAIFLGH	FTPEA	AGDY	LACPNH	TLPT	GGTAR	FFSPL
32265948_H.hepaticus ATCC 5144	578	GAIFLGE	HSSEP	IGDY	LACPNH	TLPT	GGTAR	FFSPL
15673197_L.lactis subsp. lacti	559	GSIFIGE	YTP	EPLGDY	MSCSNH	VLP	TGGI	AKFY
15841059_M.tuberculosis CDC155	563	GAIFVGP	WSPV	SLGDY	CAGSNH	VLP	TAGCAR	HSSGL
17230755_N.sp. PCC 7120	560	GSLFLGR	YTP	EALGDY	LCGNH	VLP	TSRSAR	FASGL
15925662_S.aureus subsp. aureu	544	GALFI	GHYS	PEVI	GDYV	AGP	SHVLP	TNR
16332335_S.sp. PCC 6803	580	GEILLG	NYTP	SSAAT	YATGN	AVL	PTGG	FARS
15643793_T.maritima MSB8	541	GSVFLG	KYTC	ESVDY	GACPNH	VLP	TFRSAR	FSSGL
46199382_T.thermophilus HB27	545	GGVFLG	EGSPE	ALGDY	IACPNH	VLP	TSGTAR	FQGG
34556543_W.succinogenes DSM 17	579	GAIFLGE	NTPE	PIGDY	IACPNH	TLPT	GGTAR	FYSPL
15669621_M.jannaschii DSM 2661	569	GSVFLGE	YSPV	PVDYAS	CTNHVLP	TSGFAR	MSSGL	NVET
15678273_M.thermautotrophicus	577	GSIFLGE	LSPVA	AGDY	GSC	NHVLPT	SGCARM	YSGL
20094973_M.kandleri AV19	590	GAVFVGH	LTA	VFP	GDYAT	GNHVL	PTGCFAR	ARGAL
20089786_M.acetivorans str. C2	570	GSIFVGN	YAPV	PVDYAS	CTNHVLP	TAGYAR	IYSG	LNHFLK
18312308_P.aerophilum str. IM2	519	GAVSV--	NMPSY	LDYV	ACIS	HVLPT	GGTAR	WRGVI
15897517_S.solfataricus P2	500	CAISLG	-NTPP	AIDY	VACPNH	LPTNG	WAKIR	GGITVY

		990	1000	
10177677_A.thaliana	696	.....|.....|.....|.....|....	LDAAKRAVTLRLKDIKAKQLA--	716
34904356_O.sativa (japonica cu	707		LEAHRRAVTLRLQDIEATVTV--	727
10383761_S.cerevisiae	777		LDGHRNAVKIRMSKLGKLPKDFQ	799
38567265_N.crassa	852		LEAHRRAVSIIRLEHMSKSN----	870
50285163_C.glabrata	780		LDGHRNAVKIRMSKLGKLPKDFN	802
42547615_G.zeae PH1	836		LEAHRRAVEIRLNLYLKQQQ----	854
50304609_K.lactis	773		LDAHRNAVKIRMSKLGKLPKDFE	795
38109852_M.grisea 7015	845		LEAHRRAVSIIRMEYMNKQANQ--	865
40746471_A.nidulans FGSC A4	848		LDAAKRAVSIIRVAAMKQEQI---	867
50258877_C.neoformans var. neo	835		LEAHANAVRVRRLAELNKQ-----	852
44985362_A.gossypii ATCC 10895	784		LDAHRNAVKIRMAKLLLDADFD	806
46099735_U.maydis 521	880		LQAHAMAVKIRLDRIQS-----	896
31095443_H.cylindrosporum	826		LQAHANAVRVRVLVNPQIS-----	843
49645975_Y.lipolytica CLIB99	838		LDAHRMAVKVRLDAMKKE-----	855
3203_P.pastoris	827		LDAHRNAVKVRMEKLGKLI-----	844
3757752_C.albicans	820		LEAHRRAVEIRMERMAETK-----	838
49656425_D.hansenii CBS767	844		LEAHRNAVHVRMEKLGKLI-----	861
7630171_S.pombe	842		LTAHADAVRVRGVRL-----	856
N.mengitidis MC58	655		LTAHARAAEFKMK-----	667
15606967_A.aeolicus VF5	618		LTAHALAVKVRKND-----	631
16080539_B.subtilis	620		LEAHARSIKARERRISK-----	636
15805759_D.radiodurans R1	642		LEAHARAVESRLK-----	654
16129967_E.coli K12	619		LTAHKNAVTLRVNALKKEQA----	637
39996631_G.sulfurreducens PCA	650		LEAHGRSVSIRLK-----	662
32265948_H.hepaticus ATCC 5144	648		LSAHAQAVLTRLDSIKSKRE---	667
15673197_L.lactis subsp. lacti	629		LTAHANSISVRFDEM-----	643
15841059_M.tuberculosis CDC155	633		LPAHGEAVRRRFRER-----	646
17230755_N.sp. PCC 7120	630		LPAHAGSVAVRLQGLKDM-----	647
15925662_S.aureus subsp. aureu	614		LYNHQQSILIRQS-----	626
16332335_S.sp. PCC 6803	650		FPAHALAIRERENLL-----	664
15643793_T.maritima MSB8	611		FEAHARAIDVRREKL-----	625
46199382_T.thermophilus HB27	615		LEGHARSLDLRR-----	626
34556543_W.succinogenes DSM 17	649		LDAAKESVLRARLV-----	661
15669621_M.jannaschii DSM 2661	639		LFGHAEAVRRRLK-----	651
15678273_M.thermautotrophicus	647		LHAHAESFRRLRD-----	660
20094973_M.kandleri AV19	660		LPNHAEAVRARRS-----	672
20089786_M.acetivorans str. C2	640		LQAHADAIRTRFGYKPSK-----	657
18312308_P.aerophilum str. IM2	585		FKYHGEALR-----	593
15897517_S.solfataricus P2	568		FIIHGKSIKARYE-----	580