

Transmembrane Helix 1

Transmembrane Helix 2

BA1956	33	SILDALAIHLSPFVITYLISDIL-----SFIFMILVWILLIIVLMRPKRE-----	75
BC1801	14	FIAFICSIIFLAIVSIIIVFQILIG----NIYSHVTALEEKYSFLYFIVFLIFTTTTYAFAMT	69
BC1957	30	SLLNAFDVNVSPFVAFLLSDMV-----GFVFIILIWTLIGILMRPKRE-----	72
BH3912	13	ILIIIFLQCFTVFIAYLDSAIP---LAP---VFYSVFLSSMIFLFFLAVRYKKETTFY---	64
BH2700	17	SLFYFLGVGSVLLFFYISHPAQS-----EIMYPTLIACFLYIILYLLIEWSKYGHFHR--	68
BH0289	18	FLLLIITNLLFIFFAWLAYPET-----FKVLVGLMIVFTLATLSLSIFIIVRKQ---	66
BH0272	12	ILLYLITFICLPFIIEQLDGFEN-----HYDYFSFLAITLLMSLLVIRYLRKKMY---	62
BH1199	22	SFFAVLFTVVIMTYDDIAGLTMLFDKQIVRIPILVPIILSMIAIGLIAGMMQSLPIKRKL	81
BliBacS	12	LLILQCAATAALLFIYMTAS-----LGVFSTMLFIFLFAVTALLFTMRLRFIDRL	62
BsuYtsB	13	IAAFLFQQALMLFIAFVDPSIS---FGN---VLYMVYLCILFFIIFLWFRYRKETAIFY---	64
BsuYvqE	21	SLLLFVCLISFMMFYRLDPLVLLSSSWFGIPFILILLISVTVGFASGYMYGNRLKTRI	80
BsuYvcQ	13	ILFSLLGIGSAMLIAYLSIVESGAEPSKENMMYIWIWLPGTLLAAGFAADYVRQFSFLTYV	72
BsuYbdK	16	AVSVLMSVIYDSMFKPMNHGMP-----FHRSFAYPAMIVVFLISLIIIAFLFSKSIH---	67
CAC3516	16	IVFMVSIQIYLKFIYALYSPISGSLNSSSIGLLFPIFAIACTIFVILIMYIY-FFIE--	72
CAC1517	14	IVVYGLSTVLAAILMNLTSIINRVYISGINILYAFLISAIFLIVFLMYDYYKNKKFYN--	71
CAC0372	17	SISFFLSSGIIIFYFYVSKNIT-----DVVYPIFMVVSIIYIIFIVTEWFKYYRFN---	66
CAC0225	14	ILLYVLLGAFVSAFTYLDENR---MLSSNIGYMIFVMFFILLIFLCVDYSIKN-----	64
CPE0841	14	LIVNFIIFATIGVLLFIG--N---VSGSIIFLIGCFWFIPLFYIILDFYKSKKFY---	64
EF0927	14	LIGWLFFLFLTCFILWLAPNVR---LDWTVVGYIFLLQSVFSLFLTIDYYLKRKWW---	67
Lsa HPK1	14	IVFFFGGMFVLDIVLWLDPHMR---LAKETIMYLDFLLTIFFCAFLIGLYLHRKWF---	67
LMO1741	14	LLFFCSIMFFVGVLSIDPNSK---LTLGNFIYLYVFLVFLSYLVLYGFFKYSYW---	67
Sau MW0622	18	IFWILFLNLLMLGSLIDYDFP---IDS---LFYIVSLNLSLTMIFLILTYFKEVKLY---	69
SA2417	11	IAIVIVIFALFGLMFYLYHLP-----LEAYLLALGVILLIIFIGIKYLSF---	57
SA0615	18	IFWILFLNLLMLGSLIDYDFP---IDS---LFYIVSLNLSLTMIFLILTYFKEVKLY---	69
Sau SaeS	16	IPLTSTILAIAYILMWFNHMT-----LTLTLTTIITSCLTLLICSIFINPLIQ---	64
SE2194	13	ISIIILILLFFALIFYVFSLP-----FDAYVLAISIIILLMCLRWWIKYLSF---	59
SE0428	18	ILWILFLNIILLGVAYIDYEIS---VES---VFYIVILNVGLSILFLIFTEVKEVRLS---	69
GBS0964	13	YIYIIMMFVLFVISFYLYHLP-----MPYLFNSLGLNVIVLLGISIWQYSRYR---	60
GBS0430	14	SMLITVAGVFFGLNHMLIETRG-----VYIILSVTIIACIVGGIVNLFLLSSVF---	62
GBS0122	30	SLLLVAAIVFTTFQGVLTTHVL-----QVSALAVVFLSLVIASISMWYGSYHLT---	78
SmuMbrD	13	YLNAYIVSLAFLTLTYLYHLP-----LVYFINSLILSLTILLITSLILYWRFH---	60
SP1632	14	STLLTILVFWAVQKMLIAKGE-----IYFLLGMTIVASLVGAGISLFLLLPVF---	62
SP0084	18	LFYIYLLSLAFLVLLFQFLFAS-----LGIYFLYFFFLLCCFVTILFFTDILV---	64
BL1001	33	SALIVIATAIAFAMCWFLKFG-----WSGWIAMPITIVVALGITYFFSRG-IT---	80
SAV2971	28	GALVVISVLIITGLSMIAVHTK-----TELRFITVFSMIATLLITQFVAHS-LT---	75
SAV7391	52	RIFLLNAVGLTVATALLLGPVTVSTPVLPGEALVVLAGLAVMLVNVAVLWIGLAPLQRL	111
SCO5282	35	GALVVTSVLIITGLSVIAVHTK-----TELRFITVFSMIATLLITQFVAHS-LT---	82
SCO6424	15	RISLFNSVVLIAATALLLGPVTVSTPVLLEAAIITAGLVVILIANILLRIGFGPLRQL	74
SCO5784	38	RIFSLNAAGLVVATALLLGPVTVSTPVLAGEALVLLAGLAALLAGNAVVLRIGLTPLHRL	97
SCO6163	37	SLAVVAAVAVLAMLAVAWAMFLSPHDLVVVTTVVAMAAVVSLATALLLGRWVARS	96
ALR3155	13	VFGYLYTGPILLANHWFR-----IATLLTTFIAVELTILNLGEPNNEVIR---	58
HaeArcB	14	WVIRLGRRLRFSLGVMILAVLA-----LCTQILFSLFIVHQISWVDIFRSVTFG---	62
RS03089	17	WLAMVAAFVFCAGLYLRLTGHPP---PPSEPRWFFLIPVVSGAAVGLPVAFALAWYLA---	70
XneEnvZ	20	LAMLLGSLLSVLIQAQLTMIET-----LSFDSVFPYIFISVFAASSLVFAAFWR---	69
TM1258	14	EAIIVILKGLTEVEGANKPGEKLG-----FKKGNLMSIFTCKEMDRFR---	56

BA1956	75	-AMIWTTIEPIQK--IAKGDFS-----VKIRNEEKYDGEIGVLVKSINDMTD-----	119
BC1801	70	KTLMKRLSQINKNVKEISEGNFEIHIPISKSDIEGELAA NVNRMAKSLKESIE-----	122
BC1957	72	-AMIWTTIEPIQK--IAKGDFS-----VKIRNEEKYDGEIGVLVKSINDMTD-----	116
BH3912	65	RKLEEDWK-----DLDVTNLAA----AESPFERIEQTIVKQTGYLQEKAH-----	106
BH2700	68	-QLKKRHAG-----ESRELAP----KTEEQRVMTELETVTSDFFRRDMS-----	107
BH0289	67	NIIEAAFQEFLLPEPNEMNEERLCR---VSPKTHWSCIRDGSSIRSYYQAE LN-----	115
BH0272	62	-THLKKEN-----LDQADFLIYR---PHAPIEKAYANQLKEFSSLLKKEQD-----	104
BH1199	82	DQILHGVLLYERGTFSHQIESEGEDELAELTDRLNRMAERVEEQVASLQRLSSERAKMQE	141
BliBacS	63	KLIE TELKRVADG--NLRRRLAK----GGQPFNEIIFSINELIEQLEKVQIN-----	109
BsuYtsB	65	KSLKTWEN-----NLDVTAINE---PETPFAMVERSIAGQTEHLKQTAA-----	106
BsuYvqE	81	DTLIESILT FENGNFAYRIPPLGDDEIGLAADQLNEMAKRVELQVASLQKLSNERAEWQA	140
BsuYvcQ	73	KKLAEQAS--SSND--IGQSLKARK---PRTGEQALWTKMINALGQQYESRLS-----	118
BsuYbdK	67	-SLLHKINLLNQT--IRHLASDQRPDKIEVKRADEIGELIKSVNLLIERTTYR-----	118
CAC3516	73	KPIGLLN----TR--LERINIVHP-----LPSLALRSNDEIGDLYNHFNMEK-----	114
CAC1517	71	-QLDLILK-SEED--LDYMLNIER---GSTLEQEMFRKILLKLYRLSENKTV-----	116
CAC0372	66	----AN--LTRG--IEREYDLE---SVTPEQRMAQEAILKIHKNYAAKIS-----	106
CAC0225	65	KHKKLIANGEIK--D-KTPILPE---PLEYKDEVYISILEDLYKDYNERIV-----	110
CPE0841	65	DNISITLDKLDK--YLLPEVIEE---PNFYHGKFLYEVLEKETDKDMHEHVK-----	111
EF0927	68	LSLATEK----EP--PSLQEYLNT---AEKEEELLVQTYINGLLQEHQQTMO-----	110
Lsa HPK1	68	RTIQIRLN--AKE--DALNWPLTG---ATSAEKQYFQKYVNSLLDYHQOSIE-----	112
LMO1741	68	REMKELVS-GEIE--ENIEELLPK---PRTREQAFFNQLMAKHKKEELRTIS-----	113
Sau MW0622	70	KHFDKDE-----IEEIKHKDL---AETPFQRHTVDYLYRQISAHKEKVV-----	111
SA2417	58	VKTIS-----QQQQIENLETALYQLKN-----	79
SA0615	70	KHFDKDE-----IEEIKHKDL---AETPFQRHTVDYLYRQISAHKEKVV-----	111
Sau SaeS	64	--KIKQFNIKTKP--FANGNYASNDKTFNSPKIEIYELNQSFNKMASEITQQMN-----	113
SE2194	60	KKNEH-----LKD KVAYLEHELAHVKN-----	81
SE0428	70	KHFYEDKE-----IEEIKHKDL---AETPFQQQVIDYLYRHIAAQKEKVV-----	111
GBS0964	60	-KKMLHLK-YFNS--SQDP---TF---ELQPSDYAYFNILITQLEAREAQKVS-----	102
GBS0430	62	-TSLKKLKQKMKD--ISQRCFDTK-AQICSPQEFKDLETA FNQMSSELESTFK-----	111
GBS0122	78	-KPILDISRIVSN--VADGDFEGHIYRNSNRRKSYEYYNEIDELSESINQMIV-----	128
SmuMbrD	60	-QKLKNLH-HFIY--VKEPRNLTM---LTAPSDLVYKEILKLLQEQSDINL-----	105
SP1632	62	-TSLGKLKEHAKR--VAAKDFPSN-LEVQGPVEFQQLGQTFNEMSHDLQVSFD-----	111
SP0084	65	ETQVYRQE-----LLYGERE---AKSPLEIALAEKLEAREMELYQQRS-----	104
BL1001	80	-APLRQMRDVAEA--MADGDYT-----VRVDIDQDRHDEVGKLARSFNEMAG-----	124
SAV2971	75	-APLDDMNTVARS--ISRGDYT-----RRVREN--RWDELGDLAHTINLMAD-----	117
SAV7391	112	GRAMATADLLHPG--ARAVVTGPAEMADLISTYNTMLDRLETERATSAAR-----	159
SCO5282	82	-APLDEMNAVARS--ISHGDYT-----RRVREN--RRDELGD LAVTINRMAD-----	124
SCO6424	75	ARAMTTTDLRPR--VRPKVDGDGEIAELITTFNTMLDRLEAERALSAR-----	122
SCO5784	98	GRAMSTADLLVPG--TRPEVSGPAEAAQLIATYNTMLDRLEAERAAGAGR-----	145
SCO6163	97	RELA AAAAR-SFG---DDGDYAAP--STPATAE LDALSRELAATSARLAESRE-----	142
ALR3155	59	FPTVASR-----MIACMSLIVTG---ILSDRLRRSQEALALTRAKLESQ-----	99
HaeArcB	62	-LLTAPFVIYFF TLLVEKLEHSRDLSSSVNRLENEVAERIAAQKLSQALEK-----	114
RS03089	70	-KPLHHL SMALRH--AARARFDVR-----VLPLLGSRRDELVELAREFDHMAA-----	115
XneEnvZ	69	-YLHLQKQSLR----AMQKAAL EMGKGR TAASLPETGTLTIRAL TG VFNQMSER-----	118
TM1258	56	-DVQERK-----NFSLETNAYFFELH SKRFVSLRYLPKKSLLFVNDLT-----	98

H-Box

BA1956	119	--ELNAMEKMRQEFVSNVSHEIQSPLTSIKGFARALQDINLPE-EKRKHYLTIETETTR	176
BC1801	122	--NEKKSQEMKNEMISNISHDLRTPVTSILGYADLLGNKLHNSGEECEQYVVSILKRKSYE	180
BC1957	116	--ELNTMEKMRQEFVSNVSHEIQSPLTSIKGFARALQDDNLSE-EKRKHYLTIETETTR	173
BH3912	106	--RHETALEQEKDDLLAWIHEIKTPLTAMHLIIDRLEDL--T-----IKGQLYEWMR	155
BH2700	107	--QLHIQNKERLYLVSHWIHQKTPVSVNELLMQDLKKEETNS-QS-VDLLKRMKRENRG	163
BH0289	115	--EQVMELADYENYIEGWVHEIKKPLSLMTLVLDNRRDE-----MSSLVRRHMLH	163
BH0272	104	--TYQNFLQEQQLLISHAVHQMKTPISVMQLLVQSNQTNQVKS-LG---EWQVKVKAECDK	158
BH1199	142	TVKKAAVTEERORLA~RDLHDAVSQQLFAISMMTAAIKQN--LH-----EATEEVQQQMD	193
BliBacS	109	---AAKSEAARKRLLSNISHDIRTPLTSTIIGYVDALKDGVASSEEKQEYLNILSKKSNS	166
BsuYtsB	106	--RHRLALENEKDELMAWIHEVKTPLTAMHLIIDRMEEK--A-----LKSQLSYEWLR	155
BsuYvqE	141	QMKS SVISEERORLA~RDLHDAVSQQLFAISMMTSAVLEH--VK-----DADDKTVKRIR	192
BsuYvcQ	118	--QYINQQKQOYTFINQVWHMKTTPVSVISLMIQEGKNG--TS-SSFPTFLEELEDENER	173
BsuYbdK	119	ELELRQQEELKKEELLQKLRHDINTPLTALRQLFYLEDQCHG-----QAVFESLYQQIEY	173
CAC3516	114	--RLQLAHKEQTDMAIAIAHDLKAPLTSINGFAELIAMQKGLSENEKQEYYELIQKSKY	172
CAC1517	116	--KYEKRHKYIYFVNQVWHQMKTPVSVINLTLQDEINE--DN-R---AVFESI SEENEK	168
CAC0372	106	--EIDYKNSDIKYFISQWIHMKTTPVSVIDLIVQREKEK--LS-G---DVIKNIEEENYK	158
CAC0225	110	--SLEKEFEDNNEFMTAWIHEIKTPIATAKLLLESGEID--S-----QLFMEEIEK	157
CPE0841	111	--KYILEQKEYREYIETWVHEIKTPIASTRLILENNESE--SS-----ENIKKEIKK	159
EF0927	110	--QAINNQDQKDYIDSWVHEIKVPLAAILLVQSVEDD--IP-E---KKYLLLENELGK	162
Lsa HPK1	112	--RLMHAQDQKDFIDGWVHESKVPPLAATQLLVESIEDQ--IP-E---EKFNQLTDELVQ	164
LMO1741	113	--KLQDKQOQYHDFILYVWHEVKTTPVVASKMLINNPDLN--DT-E---TIFKQIDEELTT	165
Sau MW0622	111	--EQQLQLNMHEQTITFEVVDIKTPVTAMKLLIDQEKNO--E-----RKQALLYEWSR	160
SA2417	79	--EQIEYKNDVESYFLTWVHQMKTPITAAQLLERDEP--N-----VVNRVRQEVIQ	127
SA0615	111	--EQQLQLNMHEQTITFEVVDIKTPVTAMKLLIDQEKNO--E-----RKQALLYEWSR	160
Sau SaeS	113	--QIKSEQQEKTELIQNLAHDLKTPLASIISYSEGLRDG--II-TKDHEIKESYDILIKQ	168
SE2194	81	--QQIEYRNDVESYFLTWVHQIKTPITASQLLERNEE--N-----VVNRVRQEVIVH	129
SE0428	111	--EQQLQIKNHEQTITFEVVDIKTPVTAMKLLIDQENDD--Q-----RKRALLFWSR	160
GBS0964	102	--ETIEQTNHVALMIKMWSHQMKVPLAAISLMAQTNHLD--PK-E-----VEQQLLK	149
GBS0430	111	--SLNESEREKTMIAQLSHDIKTPITSIQSTVEGILDGIISE-EEVNYLNTISRQTNR	168
GBS0122	128	--SLSHMDHMRKDFITNVSHLKTPIAAVANIVELLQDPELDE-ETQSELLGLVKTESLR	185
SmuMbrD	105	--QHKTOEEQLQOLIKLWVSHQMKVPIASLSLMAQTGHLD--KE-D-----VQRQLLR	152
SP1632	111	--SLEESEREKGLMIAQLSHDIKTPITSIQATVEGILDGIIKE-SEQAHYLATIGRQTER	168
SP0084	104	--KAERKLTDLDDYITLWVHQIKTPIAASQLLVAEVVDL--Q-----LKQOLEQEIFK	153
BL1001	124	--ELEHADKMRDMIANVSHLRTTPVSALQAMVENMADG--VT-EPTPTNLESILTQTR	179
SAV2971	117	--ELEAQDRQRKELVANVSHLRTPIAGLRAVLENIVDG--IS-AADPETMRTALKQTER	172
SAV7391	159	--ALSAQERERHRVSOEL~HDEVGQTLTAVLLQLRRVAD-----RAPEGLRAEVR	206
SCO5282	124	--DLEAQDLQRKELVANVSHLRTPIAGLRAVLENIVDG--VT-EADPETMRTALGQTER	179
SCO6424	122	--TLSAQESERHRVAQEL~YDEVGQTLAAVLLDLKRVAD-----QAPEEVREQLS	169
SCO5784	145	--ALQAQERERHRIAREL~HDEVGQTLTAVLLQLKRVAD-----RVPGELRDEVT	192
SCO6163	142	--RERALEASRELVAWISHDLRTPLAGLRAMSEALDGVAAADPD--RYLRQIRAEVER	197
ALR3155	99	----EELVRLREDFASTLTHDLKTPLLGAIETLKAVQQEKFGAVS---SAQQPVLATIIR	152
HaeArcB	114	----LEKNSRDKSTLLATISHEFRTPLNQIVGLSQILLDDDELDDLQR--NYLKTINISAVS	169
RS03089	115	--LLQAAAQHRQLFHDVSHLRSPLARIQAAVGLMQQSPQSG-P---VMAERIAREAER	169
XneEnvZ	118	----LKLQENDQAVLMAGVSHDLRTPLTRIRLATEMMQGKD---N---FLAESIHRDIEE	168
TM1258	98	--EERTLSEAKLDFVTAVSHELFTPLSASKANVFLFKDIENDPEK--LEILGKVERSILDR	154

BA1956	177	LSKLSQNL---	LKLTLLESEEYTPERVTYR	LDQQLKQIVL	LNSEPLW-----	219
BC1801	181	LKNQVDDL---	LEYCQINyreIElHKDE	VDMKALIEQIM	IDFVPQLD-----	224
BC1957	174	LSKLSQNL---	LKLTLLESEEYTPERSYR	LDQQLKQIVL	LNSEPLW-----	216
BH3912	156	IHLLLDQQ---	LHQKRIPFMENDLYVEK	VNLESVLHQEIK	TLSQSWC-----	198
BH2700	164	LHSRIEQG---	LTMIRMEGFHDFEPRPV	HLLSSLRKVVN	ARKSEF-----	206
BH0289	164	IRDQMLGdVERILYFARL	GAAHKDYMFEPI	NILAFCKQTV	EHHTLLD-----	211
BH0272	159	IYFSLNQL---	LSYSRSTQLLSDLKIE	AMPLKKIIQEV	INDLKDYF-----	201
BH1199	194	VVEKMANTA-Q-	AEMRALLLHLRPAELE	GKSLQOGVEYLL	HELEQKQ-----G	239
BliBacS	167	LKQLIDEIT---	FNMAKLDANEVQLKTE	FFDLAEVARETL	IDFLPELK-----	210
BsuYtsB	156	IHLLLDQQ---	LHQKRISFIENDLSVE	FTIQLQPLIFKE	IKDLQSWC-----	198
BsuYvqE	193	MVEHMAGEA-Q-	NEMRALLLHLRPVTLE	GKGLKEGLTELL	DEFRRKQ-----P	238
BsuYvcQ	174	FRHGLDMM---	LQTARLEEFADFVKPQ	ITFDLAEMVRS	LINQEKRF-----	216
BsuYbdK	174	ISELTNEFN---	LYSAETLESSYIVNE	EVRLNELLET	AVKKWDYLYS-----	217
CAC3516	173	MAELINDF---	LSFTKEKLDLESMTVK	PVDASKLFENIA	EYEHESG-----	217
CAC1517	169	LQHGIIDMM---	LYNARINEFNDFSV	EELSIASVLRQ	VINNNKSL-----	211
CAC0372	159	IKNGMDQV---	LNIIRLDEFSDYEP	EIVDIVELVKRT	INLKKNQF-----	201
CAC0225	158	IDDYVEKV---	LYYSRSDNFSKDYII	SEVNI	SKLIKEIKSHSKIF-----	200
CPE0841	160	IEEYIDQA---	LYYARSTDVSKDYIV	KEFSLGKSVRN	VIKKNSRDF-----	202
EF0927	163	IDEYVEQV---	LYYARLDSFSRDYLL	QEYSLKEIVQ	SVVRTQANYF-----	205
Lsa HPK1	165	IEHYVEQV---	LYYSRLDSFSKDYLV	QEYALKPLINQ	TIRQNRNYF-----	207
LMO1741	166	IDKLVMQA---	LYFSRLDTFSKDYFI	QEQNLGVVRES	VKRHSKLF-----	208
Sau MW0622	161	INSMLDTQ---	LYITRLESQRKDMYF	DYVSLKRMVIDE	IQLTRHIS-----	203
SA2417	128	IDNYTSLA---	LSYLKLLNETSDISV	TKISINNIIRP	IIMKYSIQF-----	170
SA0615	161	INSMLDTQ---	LYITRLESQRKDMYF	DYVSLKRMVIDE	IQLTRHIS-----	203
Sau SaeS	169	ANRLSTLFD	DD-MTHIITLNTGKTY	PELIQLDQLLVS	ILPTIGATYPN-----M	216
SE2194	130	IDNYTSLA---	LSYLKLLNEESDMT	ITKVTVDLLIR	PLILKYRIQF-----	172
SE0428	161	INEMLDKQ---	LYLTRLLETHHRDMY	FDYISLKRMVIDE	IQVTRHIS-----	203
GBS0964	150	LQHYLETIL---	LAFLKFRQYRDDFR	FEAVSLREVVVE	IKSYKVIC-----	192
GBS0430	169	LNHLVEELSF--	ITLETMSDTAEPHKE	EETIYLDKLLID	ILSEFQLVFE-----	214
GBS0122	186	LTRLCDTM---	LQMSRVDNQETIGEL	SSVRVDEQIRQ	AMISLTERW-----	228
SmuMbrD	153	LENDLSRL---	LNYLKFSONQSDFR	FEKQIRNILID	LKKNQVFF-----	195
SP1632	169	LNKLVEELNF--	LTLNARNQVETTSKDS	IFLDKLLIECM	SEFQFLIE-----	214
SP0084	154	IDSYTNLV---	LQYLRLSEFHD	DLVLKQVQIED	LVKEIRKYALFF-----	196
BL1001	180	LSDLIAFL---	LDSRMEAGAASLNIE	KFNADFLEDE	IEPLEIAD-----GG--	224
SAV2971	173	LGRLVETL---	LDSRLDNGVVPLRKR	FEVWPYLSGVL	KEANMVASARASLATGSGSH	228
SAV7391	207	QAQEATRGS-L-	DEIRRIARRLRPGV	EELGLLSALRAL	TTEFTAHG-----L	252
SCO5282	180	LGRLVETL---	LDSRLDNGVVIPLRKR	FEVWPYLSGVL	KEANMVASARAGIASGSGSH	235
SCO6424	170	QVQETRAS-L-	DEIRRIARRLLPGV	EELGLSSALRS	LSDEF TGPS-----L	215
SCO5784	193	LAQEATRAG-L-	DEIRRIARRLRPGV	EELGLASALRS	LAAEFTHHG-----L	238
SCO6163	198	LNDMVGDI---	FELSRITHAGTLVLA	PARISLYDLIG	DALAGADPLA-----	240
ALR3155	153	SHQTSLOLLET	LDIYRNDTEGLQLN	LIPVDLITTLA	EEEAASTLIDLA-----	199
HaeArcB	170	LGYIFSDI---	IDLEKIDASRIELNR	QPTDFPALLND	IYNFASFLAK-----	213
RS03089	170	LDRLIEEL---	LTLLHKLIEAGAIG	PVRERIDVMEL	LADIAQDAFEA-----	212
XneEnvZ	169	CNAIIDQF-----	IDYQRAGONMPLT	CCDLNELLEAV	IELETVIG-----	208
TM1258	155	METIIRQL---	KVLTMIQLRLYELK	MEHIPVEEVVHM	VLEELREKIE-----	198

N-Box

BA1956	220	AEKEIELELDLD--LEK---- <td>269</td>	269
BC1801	224	-DANMSFYIK-SDEV----LHVEVDVALIVR-LFENVIGNSIMYGKDGKE---IAIEISN	274
BC1957	217	AEKEIELELDLD--LEK----VYVIADQESMSQ-VWINLIHNSIKFTPPSSGT---ITIQLKE	266
BH3912	199	IQKGIGFDLQLEVT-----D-VLTDAKWLSF-ILRQLLSNAVKYSEASD----IIIKSDV	247
BH2700	207	IYHHILPVIIEGMEG-----VRIITDEKWNVEV-LLEQIISNAVKYSRQOGEMKKIYLSGQA	260
BH0289	211	---ESGFQVQVFIGEE----MEIFSDRKGLAF-IVEQILANSTKYAAANQDKPIIKFEAHY	263
BH0272	202	IEEELFPKVT-IAEE----VILYSDRKWMKV-VVYQLLSNAIKYGEKHS---TVHIYYR-	251
BH1199	240	FKITKRLPEMD-----ELPKGVEDQLFR-MLQEAISNTILRHAQAHH----VEVRFWQ	286
BliBacS	210	-KHDIDLNVQIPEKK---CFVIADRLSLIR-VIENIVRNGIHYGKAGKVLG-IELTESE	263
BsuYtsB	199	IQKGIGFDLQLEAK----E-VLSDAKWLAF-IIRQLLTSNAVKYSEASE----IEIKSFQ	247
BsuYvqE	239	IDIEWDIQDT-----AISKGVEDHLFR-IVQEAISNVFRHSKASK----VTVILGI	284
BsuYvcQ	217	IKRRLFPPLHVPANA---VQISSDQKWLVSF-VVEQILFNALKYSKQGVGD-PITIRIET	270
BsuYbdK	217	-MSGIELHYKPADQD---VIWMSNTLWMER-LFDNIFQNTLRHSKAKK----MEVTIEH	267
CAC3516	218	LDCELVYKHLFTGN----MMLMVNEIMIGR-VFGNLFSSNVVRYGGKNE----LKVYMTG	267
CAC1517	212	IRHHIFPRIIEKEN----VVVETDRKWIKF-VINQIVINAIKYSKEEKGDKHITFEIKE	265
CAC0372	202	IYGNAPPKVEFHVDK---ALVLTDKKWKSTF-IIDQIISNSIKYSKKEEKKG-YVYFNIVQ	255
CAC0225	201	IKKHIKLKLKLEIDER----FNVETDKKWFLEF-ILNQIISNALKYTNDMGN---IIIKAFE	251
CPE0841	203	INKRIADLLEDLD-----YKVSDEKWEF-IINQVINNAIKYSAKNSR---VKIFANK	252
EF0927	206	IQKRLQFSIEGED-----EAVLTDKRWVIF-IFRQLLSNAVKYTPGGT---ITVLISS	255
Lsa HPK1	208	IQNRIQFKLTGEE-----QTVLTDKWLVSF-ILNQIVSNALKYTPQNGQ---ITIDLAH	257
LM01741	209	IGKMKLDELQVND-----MDVRTDSKWLGF-ILDQILSNALKYTKSGGE---VKIWCDT	258
Sau MW0622	204	QVKGIGFDVDFKVD----DYVYTDIKWCRM-IIRQILSNALKYSENFN----IEIGTEL	253
SA2417	171	IDQTKIHYEPCH-----HEVLTDRVWTSL-MIEQLINNALKYARGKD-----IWIEF	217
SA0615	204	QVKGIGFDVDFKVD----DYVYTDTKWCRM-IIRQILSNALKYSENFN----IEIGTEL	253
Sau SaeS	217	KTATLEVNFCRNSC---ILSISKROLERI-LNKTYLMNALKFSNVGSR---IDINISE	268
SE2194	173	IEQKTQIHYEKSE-----DILTLTAQWASI-MIEQLLNALKYAKGKD-----IWIDF	219
SE0428	204	QAKGIGFELDFKDE----QKVYTDVKWCRM-MIRQVLSNSLKYSDNST---INLSGYN	253
GBS0964	193	LSKSLSIIE---GD---NIWKTDKKWLTF-ALSQVLDNAIKYSNPESK---IISIGE	241
GBS0430	214	-KENRQVMIDVAPDV---SKLSSQYDKLSR-ILLNLSNAVKYSDPGSP---LTIKAYS	265
GBS0122	229	QAKRINFQLD--SKP----YTVYSNSDLLMQ-VWINLLDNAIKYSDDIVD---LRVRMEE	278
SmuMbrD	196	LQKDLSLTID---GD---WEIKSDKKWLSF-VFSQILDNAIKYNKKGGQ---ITIKIKE	244
SP1632	214	-QERRDVHLQVIPES---ARIEGDYAKLSR-ILVNLDNAFKYSAPGTK---LEVAKL	265
SP0084	197	IQKGLNVNLHDLN-----KEIVTDKWLVLV-VIEQIISNSLKYTKEGG-----LEIYM	243
BL1001	225	HAHDIRVTV---PAD---ITMEGDQDRLRQ-LFTNIIANALKHSADGTT---VLVDAHE	273
SAV2971	229	TRTDVHLHLDVSPPE---LTAHADPERIHQ-VVANLIDNAVKHSPPHGR---VTVKARR	280
SAV7391	253	SVRHHFDGELP-----QLSEETELVVYRVAQEGLTNTARHAGADR---AELRLHRV	300
SCO5282	236	SRTDVHLALDVFPPE---LTAHADPERIHQ-VVANLIDNAVKHSPPHGR---VTVRARR	287
SCO6424	216	TVRHDIATGLP-----GLGDNADLVLYRVAQEGLTNAARHSGARL---VVLSLERAG	264
SCO5784	239	TVQHHPGDLP-----PLAPEAELVLYRVAQEGLTNTARHADAAR---AALTLHPLP	287
SCO6163	241	RRHGVRLVGDVAAA----VPVEVDGKEMSR-VLGNLIVNAIRRTPADG----TVAVAA	289
ALR3155	200	ASRRVHISFNYGSDWRRSLWVNGDPLQLQR-VLYNLLVNAIHSRRGDR---VEVVLET	255
HaeArcB	213	-EKNLIFSLELEPNLP---NWLNLDRVRLSQ-ILWNLSNAVKFTDQGN---IILKIMR	264
RS03089	213	QARACAVTLDAPGS-----FVAEVAGETLYR-AFENVVRNAVKYTAPNTT---VEIHAQV	263
XneEnvZ	209	AEQHGVEVNIHCLSDHP--IFILANPLSIKR-AIANMFTNAQRYGNGWIR---ISSGTTE	262
TM1258	198	-SKKIKVNVFVDVET-----IETDRFVFHT-ILKNLVSNAVKYSYPDS-----VVEISI	245

D-Box

F-Box

BA1956	270	Y--ETL-----	VEVRIRDTGSGISEEQKQHIFERFYKAD	SSRNRAYGGSGLGLA	316
BC1801	275	KTMN-----	VEVEIKNFQCIPKEDLPYVFEKFYRSE	KSRSSHTGGKGMGLA	321
BC1957	267	H--ETV-----	VEVRIRDSGIGISEEQKQHIFERFYKAD	SSRNRAYGGSGLGLA	313
BH3912	248	VS-G-K-----	TVVEVITDFGRGIEPKDLERIFEKGFST	KTDQTN-GATGMGLY	293
BH2700	261	DG--EA-----	WILTIIRDEGVGIPPYDLERVFEPFFTC	NGAKVSGFLRDWFIY	307
BH0289	264	DKGKDQ-----	RILTIIRDNGPCVSEEDLPFIFDKGFTCR	RGAYTR-QATGMGLF	311
BH0272	251	---N-----	GQLSIHNRGETIPKSEINRLFNLFYTC	KGRKRS-EATGIGLY	294
BH1199	287	TE--RQ-----	VRLKLIIDG VGF	DVQKETHGSGYGLQ	315
BliBacS	264	HE-----	YQLLIWDQGGPIPEARLKTCLIECTAET	GREALMTGAAWGLP	307
BsuYtsB	248	KG-E-Q-----	TQLQVKDCGRGIDPKDVERIFDKGFTST	TDHHDQ-ASTGMGLY	293
BsuYvqE	285	KN--SQ-----	LRLKVIDNGKGF	KMDQVKASSYGLN	313
BsuYvcQ	271	QG-H-E-----	TRLSVADEGIGIPPQDLERIFDAFFTC	NGRIMK-EATGMGLY	316
BsuYbdK	268	G-----	DVFIIRDGIGFDRNE	SS---EGLGLK	291
CAC3516	268	YS-QGS-----	YAYFEIEDNGIGVDPKDISLFLKFFETVD	KSRQIENGGIGLGLA	316
CAC1517	266	EA-S-R-----	STLKIADGEGIGIPKEDLIRVFNAFFTK	NGRKTDE-ESTGMGMY	311
CAC0372	256	SN-N-K-----	THLVIKDNVGVIPKYDLKRIFEPFFTC	NGRNFE-NSTGIGLY	301
CAC0225	252	DD-N-E-----	KVVIIEEDNGIGIKKEDLDRIFSKSFTCY	NGRKENS KATGMGLY	298
CPE0841	253	SK-N-S-----	ITLKI KDSGVGIHNKDLGRVF EKGFTCE	NGRRFT-KSTGMGLY	298
EF0927	256	NK-Q-G-----	IYLSLKDSGIGIPTQDRRIFDKGFTCE	NGRKSEQHSTGIGLY	302
Lsa HPK1	258	DE-Q-G-----	VWLSVSDSGIGIPAEEDLERVFDKGFTGQ	NGRQSNQRSTGLGLY	304
LMO1741	259	EA-SGK-----	KVLHMKDNGRGIKEEDLERVFEQGFTCN	IGRQEK-KATGMGLY	305
Sau MW0622	254	ND-Q-H-----	VSLYIKDYGRGISKKDMRIFERGFST	ANRNET-TSSGMGLY	299
SA2417	218	DE-Q-S-----	NQLHVKDNIGIGISEADLPKIFDKGYSY	NGQRQS-NSSGIGLF	263
SA0615	254	ND-Q-H-----	VSLYIKDYGRGISKKDMRIFERGFST	ANRNET-TSSGMGLY	299
Sau SaeS	269	NEDQDT-----	IDIAISDGGIGIPELQBRIFERTFRVE	NSRNTKTGGSGLGLY	317
SE2194	220	DV-A-N-----	QTLQIKDNIGIGISKADLPKIFDKGYSY	NGRLNE-QSTGIGLF	265
SE0428	254	IE-G-H-----	VVLKIKDYGRGISKRDLERIFDRGFST	TDRNDT-ASSGMGLY	299
GBS0964	242	E-----	SIRIQDYGIGILEEDIPRLFEDGFTCY	NGHEHQ-KATGMGLY	283
GBS0430	266	N--RQD-----	IVIDIIDQYGIKDEDLASIFNRLYRVE	SSRNMTGGHGLGLY	312
GBS0122	279	TN-NHY-----	LRVVISDKGRGISQYDVQHIFDKFYQAD	QSHNQ--GNLGLA	324
SmuMbrD	245	N-----	QILIRDTGIGILKEDIPRLFEEGFTCY	NGHEHQ-KATGLGLY	286
SP1632	266	E--KDQ-----	LSISVITDEGQGIAPEDLENIFKRLYRVE	TSRNMTGGHGLGLA	312
SP0084	244	D----D-----	QELCIKDTGIGIKNSDVLRFVFERGFSY	NGRLTQ-QSSGLGLY	287
BL1001	274	DENQGT-----	IVTNVNVNFGSQIAPSDRLDIFRRFVK	KTGPGTESGGTGLGLS	322
SAV2971	281	GPAPES-----	LDLEVLDEGPGIPES EWHRVFERFNRC	AVSAPHGPGSD-GGTGLGLA	332
SAV7391	301	A--DG-----	VELLVRDNGTG	AGRAPEGAGIR	325
SCO5282	288	GELPES-----	LELEVLDEGPGIPRSEWRRVFERFNRC	SVSRPHGPGSD-GGTGLGLA	339
SCO6424	264	--DA-----	VRLRVRDDGRGF	DDSGGAVEGAGIR	291
SCO5784	288	GDAG-----	VELLVRDNGTG	LGTAEEGAGIR	313
SCO6163	290	ERSADG-----	VVVSVIDGCGGIPPEEDLBRVFDTGWRG	THARTPPAGAGLGLA	337
ALR3155	256	QAS-----	YQVVKISDTGAGIQAEQFPFLFERFYQG	HSERQAKGSGLGLY	300
HaeArcB	265	NQ--D-----	CYHFIVKDTGMGISPEEQKHIFEMYQVK	ESRQQS-AGSGIGLA	310
RS03089	264	SAPATPQGGDVKWL	EVSVCDRGPVPAEFCETIFEPFRRL	EPHWHEGAAQAVPGTGLGLA	323
XneEnvZ	263	AFG-----	WFQVEDDGSGMTKEEADVLFQPFQCK	RFRHVRHNSGAGLGLS	308
TM1258	246	TG-----	ERLSVKDQIGIGIKEEEKSRIFERFYRC	SEALKMAPGSGLGLS	289

G-Box

BA1956	317	IVKKVLDLHQGEIKVESEEGNGTECIVCIPNYE-----EK-----	351
BC1801	322	ISKSIQLHQGDITVRSN-DKETVFTVKLPQYK-----KVRKS-----	358
BC1957	314	IVKKVLDLHHGEIKVESEEGKTEFIVRMPNHE-----EK-----	348
BH3912	294	LAKRVAEPLLLIDLAVSSTVGEFTTFTLTFPKEN-----EFVRTLGM---	334
BH2700	308	MWKNCQRTAHDCNTVTSGQRNRNIDSLPYEIVRYF-----	343
BH0289	312	LVSKMAYDLAIQVDAKSELGSGLTISLIFPRVN-----EA-----	346
BH0272	295	LVKRILVTLDFPFELTSH-HQETFTTIELSKS-----LSTAAD-----	331
BH1199	316	TMHERINEIGVLDIVSAPGKGTQLEAKIPIT-----WRGE-----	351
BliBacS	308	SPNRSSKKTADAYGHRA SRGKKRRLVFRCLNKT-----LSNHLRIN---	348
BsuYtsB	294	LAKKAAAPLLIHDVSESEFGAGTVFTLTFPIRN-----QFEHVISV---	334
BsuYvqE	314	SMKERASEIGGVAEIVSVEGKGTQIEVKVPIFP-----EEKGENERDSSI	358
BsuYvcQ	317	LAKQVCSRLGKLYAESKEGAGTVMTIVFSSDT-----LVNVTAL---	356
BsuYbdK	292	ILEDTCRLLAITYELHTN-DNGTGFLFSKE-----	320
CAC3516	317	SKSIIIEYHGGEIYAYSSEYGGLGKIFSLPLAKH-----	350
CAC1517	312	LSKKICDALGHQIFAETNEIKGASFSIVFYKG-----KNIFKL---	349
CAC0372	302	ICKKIADNLGHEISVESEINKGTIVKITVMYAKV-----	334
CAC0225	299	LSNKLAEKLGHNITIESKYNEGKLYIHFPKWC-----DYYDVTKM---	339
CPE0841	299	LCKNLCDKLGGLKITSEENEGTEVNIIFPIGD-----AIIAN-----	336
EF0927	303	LAHSLAKKLGHDLTVESTEGQTTMTLFFPSLS-----YYNEVK---	341
Lsa HPK1	305	LAKSLSNKLGHATLCQLN---ARKWCDFOITLY-----LFKLL---	339
LMO1741	306	LAKQMAKKLGHEICTQSESGVGTVEVKIYFEQKD-----DYLLIAKD---	346
Sau MW0622	300	LVNSVKDQLGIHLQVTSIVGKGTTVRLIFPLQN-----EIVERMSEVTN	343
SA2417	264	IVKQISTHTNHPVSVVSKQNEGTTFTIQFPDE-----	295
SA0615	300	LVNSVKDQLGIHLQVTSIVGKGTTVRLIFPLQN-----EIVERMSEVTN	343
Sau SaeS	318	IANELAQQNNAKISVRSIDIDVGTTVVTLHKLD-----ITS-----	353
SE2194	266	IVQHIANHLNIQVTVQSELNHGTVFFIHFTEKEK-----	298
SE0428	300	LVQSVKEQLGLEVKVDSIVGKGTTFYFIFPQQN-----EIERMSKVTR	343
GBS0964	284	MTKEVLSLNLSSVDSKINYGTAVSIIHK-----	312
GBS0430	313	IARQLAHQLNGDILVESQYQKGSKFSVLKQLQK-----	345
GBS0122	325	IVKRIIVLCKGRISVSSQFEIGTEFCVELPLS-----	356
SmuMbrD	287	MAKKVLNNLELDINIESQIDQGTQVYVTKRR-----	317
SP1632	313	IARELAHQLGGEITVSSQYGLGSTFTLVNLNSG-----SENKA-----	350
SP0084	288	LSKKIISEELGHQIRIESEVGKGTTVRIQFAQVN-----LVLE-----	324
BL1001	323	IARWAAQLHGGTVKVVDD-TRGADFEIILPKYH-----IAER-----	358
SAV2971	333	IARWAVDLHGGRIGVAES-QRGCRIQVTLPLGLP-----SLPS-----	368
SAV7391	326	GMREALLIGAGLAVEPGPDRGTDIRLRITSTTSTTSTTSVMNATSTGDRSGPRTGTPPH	385
SCO5282	340	IARWAVDLHGGRIGVAES-ERGCRIITLPLGLP-----STSG-----	375
SCO6424	292	GMREALLIGADLVVGPARGGTEVRLTVPV-----GDRVPDRVA---	331
SCO5784	314	GMREALLIGAEIHFEPAPGGGTDVRLRVPAPP-----GDRCADRTGDSP-	358
SCO6163	338	IVRGIVEAHRGRATVARNIPG-GCRFEVILPPAGA-----	370
ALR3155	301	LSRQIIAAHNGIIVWAENRVPTGAMFAFKLPLFPQP-----SLSASDGF---	344
HaeArcB	311	ISKNLIAQLMGRGFNS-----	325
RS03089	324	IARRALALHGGSI RAVPREGGGLRV TARLP SAVMS-----APPSDHP	365
XneEnvZ	309	IIRRIIDSHEGYIEVRESEKGLSIRACFPLNTK-----	342
TM1258	290	IVKHLCDTICRYRLEVNSQWLVGSEFIVHFK-----	319