

Mj (89) LLETDDFSTLRL----EAYVYSKNWG-----EARFDDQQASNNVIEDLEAALGLV--REHLGFIPEEDG--SSVVGPLKIIEETPEGEL-----VVDCTK--LGTGAYNIP (178)
At3 (157) LCLRNIHVTKR----DLFYTDVKLFQ-----DQTQSDAVLDDVSCMLGCT--RSSLNVIAAEKG--VVVGRLIFSDNG--D-----MIDCTK--MGMGGAIP (237)
Pt3 (152) LCLKSIHVTKR----DLFYTDVKLFQ-----DQTQSDAVLDDVSCMLGCT--RSSLNVIAAEKG--VVVGRLIFSDNG--D-----MIDCTK--MGMGGAIP (232)
Rc3 (150) LCLKNIHVTKR----DLFYTDVKLFQ-----DQTQSDAVLDDVSCMLGCT--RSSLNVIAAEKG--VVVGRLIFSDNG--D-----MIDCTK--MGMGGAIP (230)
Pp3 (142) LCTKQIHVTKR----DLFYTDVKLFQ-----EQGQSDTILDDVSCMLGCT--RSSLNVIASEKG--VVVGRLIFIEDG--D-----RIDCTK--MGVGGKAIP (222)
OsC (172) VLRRGIHVTKR----DLFYTDVKLFQ-----DQAQSDAVLDDVSCMLGCT--RSSLHVVAASEKG--VVVGRLIFADDG--D-----RIDCTR--MGVGGKAIP (251)
Sh3 (169) VLGRGIHVTKR----DLFYTDVKLFQ-----DQAQSDAVLDDVSCMLGCT--RSSLHVVAASEKG--VVVGRLVFADDG--D-----RIDCTR--MGVGGKAIP (249)
O13 (68) VLSRGIHVTKR----DLFYTDVKLFQ-----DQKSDAVLDDISCMGCT--RNSLHVVAASEKG--VVVGRLQYKEDG--D-----EIDCTK--MGVGGKAIP (148)
OsB (112) ILGEGKLVTLR--ELFYTLLESSE-----TYFTCQRHVNTQVDVSLRCT--RQSLGIMASSRG--ALIGRLVVGQPEE--E-----HVDCSI--LGPSGHAIT (197)
Sh2 (111) ILGEGKLVHQR--ELFYTLLESSE-----KYFSQCRHVNTQVDVSLRCT--RQSLGIMASSRG--ALIGRLVHLEPDE--E-----QIDCSI--LGASGHAIT (196)
At2 (110) ILLQEKRVTR--ELFYKLLCDSF-----DYFSSQIEVNRVQDVVALLRCS--RYSLGIMASSRG--LVAGRLFLQEPGK--E-----AVDCSA--CGSSGFAIT (195)
Pp2 (11) LLGIGKQATQR--EIFYNIILSTSS-----SYITSQNVNSAQIDAVALLRCS--RYSLGIMASSRG--AVVGRLVIKHEHG--D-----TVDCSN--LGSSSYPTIS (96)
Aga (124) LITTGSSCTKR--ELYY-LHLELAQ-----TPAYTATIEDVLCALLDADP--WELHVNTSKG--LIAGIVLTLSDG--Q-----RIDCNG--RWGTAVP (91)
Am (132) LLITNTTLTRR--SLYDLDKNENTSNLVP-----EQRCLDQAVHHVANLLNCAP--WDLNLLPTSCKG--LVAGELTLTLADN--R-----VIDCTVP--GGALIP (216)
O12 (2) -----LR--ELYYVMNSRGRGRGWPSGSTQTRV--TEHQIAATIRKISQALGAP--RIALGIVAAASKG--QVAGRCHIEFASG--A-----RFDCTA--CGNDGWAIT (188)
Dm (67) LQVRGGSPTVR--GLIYDNDPLVR-----SQRMDSIVDDISCMCLKVP--RFSHLIASSKG--FISGDLQYLEDG--T-----KVDACS--SSTAVSVS (191)
Dv (85) LHLSGGSCTIR--GLIYRDTHVVR-----SQSYIVAALKDVCRLMNTA--PVNLGILSASKG--LIAGDIKLLMSNG--D-----ILDENV--YCGAITLP (165)
Ap (93) SLIENEYPTIR--DLIYKKGKTHIVYRDYSGR--KREENTWDEQKESDSVIQDIEVYTGFL--REDMLILSKBK--GKVVGNNMRIRSGG--D-----VIDLSK--LGHGAYAIE (189)
Ss (92) ALVSDYPTIR--DLIYKKGKSHLLKSIEGNKI--VSEENTWDEQKESDSRVIVDEYVTSLL--REEMLLILSKBK--GKVVGNNLRIRSGN--D-----VIDLSK--TGHGAYAIE (189)
Tn (82) AIREDEVYPTIR--DLIYNGKHTITFKDPLGR--THRENTWDEQAESNAVIEDIEVAANVL--REEMGVSADEVK--GKIVGPIVRSQSG--Y-----ELDASK--FGETALSIP (177)
Hw (85) QLEEDRSSTLR--ELIYLLSESNDKN-----EAQFSDQDESINQLEDIEVSKTV--REDFHMREEESG--ATLMGPLELREQTRRGER--A--IHQCQED--VGEQGYQIP (177)
Dr (114) LVQSDSYATKR--DIYNDPQLFG-----SQRMDSIVDDISCMCLKVP--RFSHLIASSKG--FISGDLQYLEDG--T-----KVDACS--SSTAVSVS (191)
Xt (124) LVQTDYTYTKR--DIYNDVQLYG-----SQTVVDNIVSDLSCLKIP--RINLHILSTSKG--CVAGDLWFTAEDG--S-----KVYCGG--SSSGVLVP (204)
Mm (124) LIQSDTYATKR--DIYTDTSQFLG-----NQAASDAIDDISCMCLKVP--RSLHLVSTSKG--LIAGNLRYMEEDG--T-----RVQCTC--SATATVP (204)
Nv (133) LLQEDRFATKR--DVIYTDVTFVG-----NQNVDDIVDNLSCMLEVP--RHSRLIASSKG--LISGHVRYREYDG--T-----YVQDCT--LTRGVAVS (213)
Nc (137) ALLSGTLVTKR--NIYQNLMELFR-----SQSVDDMVNDNLAFTLGVG--RNDNLIVATAKG--LVAGQVELIMRGG--S-----KIDCAES--SDSATFR (217)
Pa (118) ALLSGMLITKRSVLIRNIYQSPDLFG-----SQAADVMVNDNLAFTLGVG--RGLDNIVATAKG--LISGPFMLISRDG--S-----VIDCCAS--HSTGIL (202)
OsD (199) TIGAGLNISKR--TVLYTNKDLFG-----DQKSDQAINDICALTNR--RSGSLGIAAEKG--IVVGNIFLEITNG--K-----SISCSIG--VQIPHR (278)
Sp (84) AVISDVTITKR--DIYXRDDVDFKFR-----QTVVDELDGDISNTIGCS--RSDNLVBAASAKG--LVFGSIHLENG--T-----VITATPK--LL (159)
Ago (109) RMRSRQTATVR--DVIYGNVLYG-----RQVVDVWLVALEQCFGVEK--SVFRLAAQKG--LVHVPVPLEVEG-----QELKG--VGLIPVY (185)
Sc (121) KLPLGKNNTVR--DIFYSNVELFQR-----QANVVQWLDVIRFNFKLSP--RKSLLNIIPAQKG--LVYSPFPIDIDNILTCEPEKMQKQITFPGKPCLIPIFF (213)
Gz (115) ALVSGTVLTKR--HIFYQDQLFE-----KQREVDLDVDDIAFTLGIS--RGLDNIVAAASKG--VLAGPLTILGHG--ST-----LNPLCG--DLILIG (194)
Ca (51) LKAQNIQITIR--DIYQDVEVEN-----HCQNECRFLQLVLEGLWSGLCDLNIHPTQKG--LVYGDYQF-----ELSLKAEPIILIPN (128)
Ps (129) QSNSKKSTIR--DIYQDVEAFH-----WKQRYCNEILHSIVVDSLGLSLHNFISIYPSQKG--LVYGDFAIQSNEGTF--F-----QMSYSEEPVLIPL (213)
Pp1 (11) LLQQRNHATKR--DVIYNDTALLKG-----Q-----MVIYSRLDQSDINIDICFPHCS--RPSLNATYAMRGSSLVTGQLSYYEEG--R-----LINCSCR--SSTSNGLPVP (100)
Gg (136) MVQSNYATKR--DIYYSKLLFG-----SQRVVDNLINEISCMQIP--RSLHLSTTRG--FVAGNLSYTEEDG--T-----KVNCTC--GATAVTV (216)
Sb1 (111) LLQQNKHCKSR--DIYMYPSIFV-----EVAVVDRAINDICILKCS--RHNLNVPVVKG--LVMGWIRFVEGE--K-----KVYCIT--NVNAAFSIP (191)
Hs (124) LVQSNYATKR--DIYYSKLLFG-----NQTVVDNIINDISCMCLKV--RSLHLSTTRG--LIAGNLRYIEDG--T-----KVNCTC--GATAVTV (204)
Tg (89) MVQSNYATKR--DIYYSKLLFG-----SQSVVDQINDISCMCLKIP--RSLHLSTTRG--FVAGNLSYTEEDG--T-----KVNCTC--GATAVTV (169)
Pt1 (86) LLQENRHGSKR--DIYMHPSVFS-----EQSVVDRAINDICILQCS--RHNLNVPVVGNG--LVMGWLFLEAG--R-----KFDCTC--SPTTAYTIP (166)
OsA (109) LLQQNKHCKSR--DIYMYPSIFQ-----EQAVVDRAINDICVLFKCS--RHNLNVPVPAKG--LVMGWIRFLEGE--K-----EVYCVT--NVNAAFSIP (189)
Rc1 (89) LLQENRHGSKR--DIYMHPSVFS-----DQSVVDRAINDICILQCS--RHNLNVPVVGNG--LVMGWLFLEAG--R-----KFDCTC--SPTTAYTIP (169)
At1 (89) LLQENRHASKR--DIYMHPSAFK-----AQSVVDRAINDICILQCS--RYNLNVPVVGNG--LVMGWLFLEAG--R-----KFDCTC--SPTTAYTIP (169)

Mj N-DVTKLNLET--DADFILAIETSGMFARLNAERFWDKHN-----C1LVSLKGVPARATRRFKRLHEEH-----DLPVLVFTDGDYPGYLN (257)
At3 P-NIDRVGDMQS--DAMFILLVEKDAAYMRLAEDRFYNRFP-----CIIVTAKGQPDVATRLFLRKMML-----KLPVLALVDSDPYGLKI (317)
Pt3 P-NIDRVGDMQS--DALFILLVEKDAAYMRLAEDRFYNRFP-----CIIVTAKGQPDVATRLFLRKMML-----KLPVLALVDSDPYGLKI (312)
Rc3 P-NIDRVGDMQS--DALFILLVEKDAAYMRLAEDRFYNRFP-----CIIVTAKGQPDVATRLFLRKMML-----KLPVLALVDSDPYGLKI (310)
Pp3 P-NIDRVGDMQS--DALFILLVEKDAAYMRLAEDRFYNRFP-----CIVLTAKGQPDVATRLFLRKMML-----KLPVLALVDSDPYGLKI (302)
OsC P-NIDRVSGIES--DALFILLVEKDAAYMRLAEDRFYNRFP-----CIILTAKGQPDVATRLFLRRLKVL-----KLPVLALVDSDPYGLKI (331)
Sh3 P-NIDRVSGIES--DALFILLVEKDAAYMRLAEDRFYNRFP-----CIILTAKGQPDVATRLFLRRLKVL-----KLPVLALVDSDPYGLKI (329)
O13 S-NIDKITDMRT--DAKFVLLVEKDAAYMRLAEDRFYNRFP-----CIIVTAKGQPDVATRLFLSKVKRDL-----KLPVLALVDSDPYGLKI (228)
OsB GDLNVLSKLI FSS--DARYIIVVEKDAIFQRLAEDRIYSHLP-----CIIITAKGYPDATRFILHRLSQTY-----PNMPIFALVDWNPAGLAI (280)
Sh2 GDLNVLSKLI FSS--DARYIIVVEKDAIFQRLAEDRIYSHLP-----CIIITAKGYPDATRFILHRLSQTY-----PNMPIFALVDWNPAGLAI (279)
At2 GDLNVLSKLI FSS--DARYIIVVEKDAIFQRLAEDRIYSHLP-----CIIITAKGYPDATRFILHRLSQTY-----PNMPIFALVDWNPAGLAI (278)
Pp2 ADMNMKQHFYS--DARYIIVVEKDAIFQRLAEDRIYSHLP-----CIIITAKGYPDATRFILHRLSQTY-----PNMPIFALVDWNPAGLAI (177)
Aga LDVGSVTEIRL--AAKLVLVVEKDTVFQRLLEDGILSTFP-----DTLVLTITAKGYPDVATRLFLKKSIDWT--HVPYVGLMDPHGIEI (173)
Am HLASNVISARS--RARLVLVVEKDSVFQRLLEDGILSTFP-----CIIITAKGYPDVATRLFLKKSIDWT--HVPYVGLMDPHGIEI (173)
O12 GDLFELDATKIHS--DAAYVIVVEKDAVFNRLCAERVFELP-----CIVLTAKGFPDLATRKFLHLLRRALEDNRGNEAQFFGLVDWNPAGLAI (177)
Dm TPDEKIDRIET--LAEFVILVEKESVFESLLSRNVFGTFERR-----FIIITGKGYPDCTTRIRVHRLTEEN-----QLAAYILVADPHGIEI (229)
Dv TDFENVERIVT--NAEMVILVEKESVFESLLSRNVFGTFERR-----FIIITGKGYPDCTTRIRVHRLTEEN-----QLAAYILVADPHGIEI (247)
Ap P-TPDLIEFLDV--DAEFVLVVEKDAVFQQLHRAGFWKKYK-----ALLVTSQGPDRATRRFVRLHEEL-----KLPVYIITDSDPYGWIY (268)
Ss P-TPDLIDFIDV--DAEFVLVVEKDAVFQQLHRAGFWKKYK-----ALLVTSQGPDRATRRFVRLHEEL-----KLPVYIITDSDPYGWIY (269)
Tn V-NVDGLEIVKV--EASVVLVVEKDAIFQRLVREKFSQES-----AVLVTAKGPDVATRRFVRLHEEL-----KLPVYIITDSDPYGWIY (257)
Hw N-NPDTIDFLDH--DIDFVLVVEKDGMRDLRIENGFDMMYN-----CLIVHLKGQPARATRRFKRLHDEL-----SVPVVFVTDGDPWSYRI (257)
Dr SNVNGIRNIVS--SAKFILVVEKDATFQRLLEDGILSTFP-----CIIITGKGYPDVATRLFLRRLKVL-----HVPVVFVTDGDPWSYRI (272)
Xt INVEGRHIST--QAKFILLVEKDATFQRLLEDGILSTFP-----CIIITGKGYPDVATRLFLRRLKVL-----HVPVVFVTDGDPWSYRI (285)
Mm TNIQGMQHILT--DAKFLLVVEKDATFQRLLEDGILSTFP-----CIIITGKGYPDVATRLFLRRLKVL-----HVPVVFVTDGDPWSYRI (285)
Nv SHVDGIYDLYS--DAKVVVLVVEKATYHRLLEDGILSTFP-----CIIITGKGYPDVATRLFLRRLKVL-----HVPVVFVTDGDPWSYRI (294)
Nc TLSASRYITVSR--AGSGILVT--VRLCLDFCSNADLEY-----TQSGYKGYPDVATRKFLAATHSVR-----PRLPMVADPHGIEI (292)
Pa LPSTSEIRSIGF--EVOGILLN--MQRTPEQVTESSSRYGNIIDDDVFIFTKFSVCAQKFPDLATRRFLSVVHSMR--PSLVIFGLADPHGIEI (293)
OsD LDQIKDVCVEIGSR--NIEYILVVEKHTMLNVLLVEMDYHNNN-----CIIITGCGMFTLQTRDFLRLFKQRTG-----LPVFGLOPPDEIGISI (361)
Sp ISHRRISSTIS--TAKWVILVEKEAVFQTLTEEAALDT-----IIVTAKGFPDLMTKRFVLKLAALP-----DAKFFGIFDWDPHGIEI (237)
Ago SDSSCVSCQKQW--AVEAVILVEKEAVFQTLTEEAALDT-----IIVTAKGFPDLMTKRFVLKLAALP-----DAKFFGIFDWDPHGIEI (267)
Sc QDDAVIKLGTTS--MCN-IVIVEKEAVTFKLVNNYHKLSTN-----TMLITGKGFDFLTRLFLKLEQYCS-----KLISDSCIFDWDPHGIEI (296)
Gz VGSYPNCSSVNFWC--RHPRCQIDSGSGEGCRLQITLLLSILEGV-----VWPRCTCHYLTTSTRFLNLVSTRYP-----QLPILGLDFDWDPHGIEI (279)
Ca YTKFFNTKTIQKV--EKVIVVLEKDAVFQQLCFLRQHNINR-----FLIVTAKGYPDVATRLFLRRLKVL-----HVPVVFVTDGDPWSYRI (213)
Pp1 HTKFEHILPNEE--SHYAVILVEKEAVFQTLTEEAALDT-----IIVTAKGFPDLMTKRFVLKLAALP-----DAKFFGIFDWDPHGIEI (305)
Sh1 VHNKVSHLSS--SAEYILVVEKATYHRLLEDGILSTFP-----CIIITGKGYPDVATRLFLRRLKVL-----HVPVVFVTDGDPWSYRI (180)
Gg SNVQGIKNLYS--HAKFILLVEKDATFQRLLEDGILSTFP-----CIIITGKGYPDVATRLFLRRLKVL-----HVPVVFVTDGDPWSYRI (297)
Sh1 VDIEAIKDVVS--VAHYILVVEKATYHRLLEDGILSTFP-----CIIITGKGYPDVATRLFLRRLKVL-----HVPVVFVTDGDPWSYRI (271)
Hs SNIQGIIRNLT--DAKFVILVEKDATFQRLLEDGILSTFP-----CIIITGKGYPDVATRLFLRRLKVL-----HVPVVFVTDGDPWSYRI (285)
Tg SNVQGIKNLYS--HAKFILLVEKDATFQRLLEDGILSTFP-----CIIITGKGYPDVATRLFLRRLKVL-----HVPVVFVTDGDPWSYRI (250)
Pt1 VHVEEVKDIVS--VANYILVVEKATYHRLLEDGILSTFP-----CIIITGKGYPDVATRLFLRRLKVL-----HVPVVFVTDGDPWSYRI (246)
OsA VSIEAIKDVVS--VADYILVVEKATYHRLLEDGILSTFP-----CIIITGKGYPDVATRLFLRRLKVL-----HVPVVFVTDGDPWSYRI (269)
Rc1 IHVEEVKDIVS--VAKYILVVEKATYHRLLEDGILSTFP-----CIIITGKGYPDVATRLFLRRLKVL-----HVPVVFVTDGDPWSYRI (249)
At1 VLVEEVKDIVS--LAEYILVVEKATYHRLLEDGILSTFP-----CIIITGKGYPDVATRLFLRRLKVL-----HVPVVFVTDGDPWSYRI (249)