

h2a1 -----MLNN-LLLFLQLISLIGTLGNGVLIWPMEGSHWLNVIKIIDEELIKHEHNVTLVASGALFIT--PTSNSPLTPEIYRVPFGKERIEGVIKDF 90
h2a2 -----MPKKFVQMLVFNLLTEVLSGNGVLWPTDGGSHWLNVIKIILBELIQRNHNVTLVASSALFIN--SNPDPVNVPEVIVSVYKKSNIKSLIEHM 91
h2b28 -----MALKWTSVLLLIHLSCYFSSGSCGKVLVWTEFYSHWMMNKIILKELVQRGHEVTVLASSAIFLD--PNDAFTLKLEVPYPSLTKTEFENIMQO 93
h2b11 -----MTLKWTSVLLLIHLSCYFSSGSCGKVLVWAAEYSHWMMNKIILKELVQRGHEVTVLASSAIFLD--PNDASTLKEVYVPSLTKTEFENIMQO 93
h2b10 -----MALKWT-VLLLIQLSFCYFSSGSCGKVLVWAAEYSLWMMNKIILKELVQRGHEVTVLASSAIFLD--PNDSSTLKEVYVPSLTKTEFENIMQO 92
h2b7 -----MNVKWSVTLIIQLSFCYFSSGSCGKVLVWAAEYSHWMMNKIILKELVQRGHEVTVLASSAIFLD--PNNSALKIEIYVPSLTKTELENIMQO 93
h2b4 -----MSMKWTSALLLIQLSFCYFSSGSCGKVLVWPTFYSHWMMNKIILKELVQRGHEVTVLASSAIFSD--PNSPSTLKEVYVPSLTKTEFEDIKQL 93
h2b15 -----MSLKWTSVLLLIQLSFCYFSSGSCGKVLVWPTFYSHWMMNKIILKELVQRGHEVTVLASSAIFSD--ASKSAIKLEVYVPSLTKKNYLEDLLKI 93
h2b17 -----MSLKWMSVLLLIQLSFCYFSSGSCGKVLVWPTFYSHWMMNKIILKELVQRGHEVTVLASSAIFSD--ASKSAIKLEVYVPSLTKKNYLEDLLKI 93
h2a3 -----MRSDKSALVFLLLQLFCVCGFCGKVLVWVPCDMSHWLNVIKIILKELVQRGHEVTVLASSAIFSD--YRKPALKFEVHVMPQDRTBENEIVFDL 92
l2a1 -----MSMKWLVVPLMMFLGASSGNVLWVPADYSHWMMNKSIIEHLAARGHVTVLVPSFYQEA--SSGPNFHLLEIVSVFSSKDKMDNFMDQF 93
l2a2 -----MSMKWLVVPLMMFLGASSGNVLWVPANNSHWMMNKSIIEHLAARGHVTVLVPSFYQEA--SSGPNFHLLEIVSVFSSKDKMDNFMDQF 92
l2a5 -----MSMKLVVPLMMFLGASSGNVLWVPYDYSHWMMNKSIIEHLAARGHVTVLVPSFYQEA--SSGPNFHLLEIVSVFSSKDKMDNFMDQF 92
l2a4 -----MLVFPPIATACFVGSAGKVLVWVVDNSHWMMNKIFILNELIDRGHVTVLVPSFFMAVK--ASEPSPFQLEELPFLFSREDMDTMLQDF 87
zf2a1 MAMKTTSKKYLQLLIFQVALLGPFVFCGKILVWPTEGSHWLNMMVMVQELIRRGHSFTILVSNLTLFIE--PKPKTEKFEIYVNPFDKDLPELTLNGI 97
c2a1 MATTEATSKFKKQLLAFHVALVAVFCGKVLVWPTEGSHWLNMMVMVQELIRRGHSFTILVSNLTLFIE--PKPKTEKFEIYVNPFDKDLPELTLNGI 97
zf2a2 -----MAGKEVAVLLLAVLFGC--GSSEKVLVWVADNSHWMMNKIILKELVQRGHEVTVLASSAIFLD--PTQSPFQLEELPFLFSREDMDTMLQDF 90
c2a2 -----MSGKVAVLLLAAALGS--VYGGKVLVWVVDNSHWMMNKIILKELVQRGHEVTVLASSAIFLD--GTQSPFQLEELPFLFSREDMDTMLQDF 90
zf2a3 -----MLGPKFVLLWVAYCCSSVFCGRVWVPTDASHWMMNKVLLQELVLRGHEVTVLVPSSNLLIN--QDTSPTFTEVILQVFPFQETLDAEMDF 93
c2a3 -----MTGQRFVLLWVAYCCSSVFCGRVWVPTDASHWMMNKVLLQELVLRGHEVTVLVPSSNLLIN--QDTSPTFTEVILQVFPFQETLDAEMDF 93
x2a1 -----MLWFVHVLQLLQATFLCVSSEKILWVPADASHWLNLLKILLEAVARGHEVTVLASSANMGM--NFKSPVKMEIYVNPFDKDLPELTLNGI 90
p2a2 -----MLWIHVFLLQLGFFSAVSSEKILWVPADASHWLNLLKILLEAVARGHEVTVLASSANMGLD--HNLPSAIKAEVFPVAFKTEFLTLQRDF 90
z2b1 -----MRLVVCFLSLLVFSAGQCGNVLWVWTEGSHWLNKIVLDTLLDRGHNVTVLMPDGFALFMK--AKESDRFSYQHFVSVTSQAODMODFLDEF 89
z2b3 -----MRLVVCFLSLLVFSAGQCGNVLWVWTEGSHWLNKIVLDTLLDRGHNVTVLMPDGFALFMK--AKESDRFSYQHFVSVTSQAODMODFLDEF 89
z2b5 -----MRLVVCFLSLLVFSAGQCGNVLWVWTEGSHWLNKIVLDTLLDRGHNVTVLMPDGFALFMK--AKESDRFSYQHFVSVTSQAODMODFLDEF 89
z2b6 -----MRPLACFLSLLVFSAGQCGNVLWVWTEGSHWLNKIVLDTLLDRGHNVTVLMPDGFALFMK--ANASDRFSYQHFVSVTSQAODMODFLDEF 89
f2b1 -----MKPAQRLPLSVFLVFSVTLVHNGNVLWVWTEGSHWLNKIVLDTLLDRGHNVTVLVPSSMFMN--TSEPRFRVYEPFNVSISREKMEKIMHDV 93
f2b2 -----MKPAQRLPLSVFLVFSVTLVHNGNVLWVWTEGSHWLNKIVLDTLLDRGHNVTVLVPSSMFMN--TSEPRFRVYEPFNVSISREKMEKIMHDV 93
f2b3 -----MSTVWCLSLALLLVSATRIAHGNNILWVWTEGSHWLNKIVLDTLLDRGHNVTVLVPSTSMFMN--RSEPRFRVYEPFNVSISREKMEKIMHDV 93
s2b4 -----MKSQGLSACVLLLLCGTWSFDGNNILWVWTEGSHWLNKIVLDTLLDRGHNVTVLVPSTSMFMN--TKEPFRFVYEPFNVSISREKMEKIMHDV 93
s2b5 -----MKSQGLSACVLLLLCGTWSFDGNNILWVWTEGSHWLNKIVLDTLLDRGHNVTVLVPSTSMFMS--TKEPFRFVYEPFNVSISREKMEKIMHDV 93
s2b3 -----MKSQGLSACVLLLLCGTWSFDGNNILWVWTEGSHWLNKIVLDTLLDRGHNVTVLVPSTSMFMN--TKEPFRFVYEPFNVSISREKMEKIMHDV 93
s2b1 -----MKSQGLSACVLLLLCGTWSFDGNNILWVWTEGSHWLNKIVLDTLLDRGHNVTVLVPSTSMFMN--TKEPFRFVYEPFNVSISREKMEKIMHDV 90
s2b2 -----MKSQGLSACVLLLLCGTWSFDGNNILWVWTEGSHWLNKIVLDTLLDRGHNVTVLVPSTSMFMS--TKEPFRFVYEPFNVSISREKMEKIMHDV 93
m2b1 -----MELRSL-----LRLCLLSSAGSGNVLWVWTEGSHWLNKIVLDTLLDRGHNVTVLVPSTSMFMS--TKEPAHFVYEPFNVSISREKMEKIMHDV 88
z2a3 -----MTSGALLVC-----LRLCGVDVWGSGRVLPGEYSHWMMNRRAIEALVDRNHSVTVLVGSSSPTVP--HTQKERFDVHFKVNMKEEAAVWSDF 90
z2a4 -----MTSGALLVC-----LRLCGVDVWGSGRVLPGEYSHWMMNRRAIEALVDRNHSVTVLVGSSSPTVP--HTQKERFDVHFKVNMKEEAAVWSDF 90
z2a5 -----MTSGALLVC-----LRLCGVDVWGSGRVLPGEYSHWMMNRRAIEALVDRNHSVTVLVGSSSPTVP--HTQKERFDVHFKVNMKEEAAVWSDF 90
z2a6 -----MTSGALLVC-----LRLCGVDVWGSGRVLPGEYSHWMMNRRAIEALVDRNHSVTVLVGSSSPTVP--HTQKERFDVHFKVNMKEEAAVWSDF 90
z2a2 -----MMKCLLPSPVLLVLIIFSTHAGNVLVWPTGSHWMMNRRAIEALVDRNHSVTVLVGSSSPTVP--FTQKERFDVHFKVNMKEEAAVWSDF 92
z2a1 -----MSRGRSGLVFLLLALNQLNLSVGGKILVWPAEYSHWMMNRRAIEALVDRNHSVTVLVGSSSPTVP--FTQKERFDVHFKVNMKEEAAVWSDF 96
f2a1 -----MKLYHLVLLLLCMSSPAFAGGHVLPVFPGEYSHWMMNRRAIEALVDRNHSVTVLVGSSSPTVP--FTQKERFDVHFKVNMKEEAAVWSDF 92
m2a1 -----MKLATVSLFSSGLLAVFSTAAGGKVLAFVPEYSHWMMNRRAIEALVDRNHSVTVLVGSSSPTVP--FTQKERFDVHFKVNMKEEAAVWSDF 97

h2a1 VLTWLENRPPSPSIWRFYQEMAKVIKDFHMSVQEQICDGLVKNQQLMAKLLKSKFEVLVSDPVFPFCGDIVALKLGIIPMYSLRFSASPASTVEKHCGKVPYPP 190
h2a2 TMLWIDHRPTPLIWAIPYKELGKLLDTFFQINQLCDGLVKNQQLMAKLLKSKFEVLVSDPVFPFCGDIVALKLGIIPMYSLRFSASPASTVEKHCGKVPYPP 191
h2b28 VKRWS--DIQKDFWLVFYSQEQEILWELYDFIRNFCKDVSNNKVMKLLQESRFDIVFADAVFPFCGELLAALNIPFVYSLRFPYGYTIERHSGGLIFPP 191
h2b11 VKRWS--DIRKDFWLVFYSQEQEILWELYDFIRNFCKDVSNNKVMKLLQESRFDIVFADAVFPFCGELLAALNIPFVYSLRFPYGYTIERHSGGLIFPP 191
h2b10 VKRWS--EIQKDFWLVFYSQEQEILWELYDFIRNFCKDVSNNKVMKLLQESRFDIVFADAVFPFCGELLAALNIPFVYSLRFPYGYTIERHSGGLIFPP 191
h2b7 IKRWS--DLPKDFWLVFYSQEQEILWELYDFIRNFCKDVSNNKVMKLLQESRFDIVFADAVFPFCGELLAALNIPFVYSLRFPYGYTIERHSGGLIFPP 191
h2b4 VKRWA--ELPKDFWLVFYSQEQEILWELYDFIRNFCKDVSNNKVMKLLQESRFDIVFADAVFPFCGELLAALNIPFVYSLRFPYGYTIERHSGGLIFPP 191
h2b15 LDRWLY--GVSKNFWLVFYSQEQEILWELYDFIRNFCKDVSNNKVMKLLQESRFDIVFADAVFPFCGELLAALNIPFVYSLRFPYGYTIERHSGGLIFPP 192
h2b17 FDRWLY--SISKNFWLVFYSQEQEILWELYDFIRNFCKDVSNNKVMKLLQESRFDIVFADAVFPFCGELLAALNIPFVYSLRFPYGYTIERHSGGLIFPP 192
h2a3 ALNVLP--GLST---WQSVIKLNDFFVEIRGLTKMMCSFIYQNTLMKLLQETNVDMLDIPVPCGDLMAELLAVPVLTLRISVGGNMRSCGKLPAPL 189
l2a1 LHWVSYE--KHEKFEF--ESITILYDLVQLMSIYKLCDSVFGNEKLLQKLESAAFDVLLSDPAIVGELLAELKHIPVLYSLRFPYGYTIERHSGGLIFPP 191
l2a2 LHWVSYE--KHEKFEF--ESITILYDLVQLMSIYKLCDSVFGNEKLLQKLESAAFDVLLSDPAIVGELLAELKHIPVLYSLRFPYGYTIERHSGGLIFPP 190
l2a5 LYLWVSYE--HKPIPFWDSFIKIYSHLMKMSQYKSFCDNFVWNEKLLQKLESAAFDVLLSDPAIVGELLAELKHIPVLYSLRFPYGYTIERHSGGLIFPP 191
l2a4 LFMVSYE--SNELFSWFDFIKTHDFSEREMRRNRLICDRVNLQTLMLERLESVGFLLIADPLLPFCGELVAEKHLHPVYVYFRFVSGNIMCEVCGVIPAPP 186
zf2a1 VDLWLNRRPTLTFWQFYKELGRLSVGQKMMKMMCDAVLTQELMAHLQGSFYDILLSDPAIVGELLAELKHIPVLYSLRFPYGYTIERHSGGLIFPP 197
c2a1 MTLWLNRRPTLTFWQFYKELGRLSVGQKMMKMMCDAVLTQELMAHLQGSFYDILLSDPAIVGELLAELKHIPVLYSLRFPYGYTIERHSGGLIFPP 197
zf2a2 FYFFFNEDR--KIPKIPKWSYKIAQMVLMKNTIKICDGVVKNKALMERLRASAFVLLADPLFPFGELVAEKHLGIPVYVYFRFVSGNIMCEVCGVIPAPP 189
c2a2 FYFFFNEDR--KIPKIPKWSYKIAQMVLMKNTIKICDGVVKNKALMERLRASAFVLLADPLFPFGELVAEKHLGIPVYVYFRFVSGNIMCEVCGVIPAPP 189
zf2a3 LNFWMNK--ASNLPFWELMWTYKMEIDLLRKFENITRTICDAVLLKDKVLLERLRTSAFDVLLADPLFPFGELVAEKHLGIPVYVYFRFVSGNIMCEVCGVIPAPP 192
c2a3 LDLVWIND--LPLNFPWVWMMRKEALYSFNSLKHSDALVSNHQLIAKHLQAKFDVLLADPLFPFGELVAEKHLGIPVYVYFRFVSGNIMCEVCGVIPAPP 192
x2a1 IQLWVYD--IPIYSYWEFVYRKEKLLKDAVELQMYTCDGVVKNKALMERLRASAFVLLADPLFPFGELVAEKHLGIPVYVYFRFVSGNIMCEVCGVIPAPP 189
x2a2 FNFWIYD--IDHMSYVQIYIRFMDMMEDNLMKFIYLDGVVKSPTIMKLLKDKYDILLADPVYRGGDLVADILGIPVYVYFRFVSGNIMCEVCGVIPAPP 189
z2b1 LHFVSYE--LENSNLLQIQMKFFDLSKQDMSLSYCDGILKSPMLDKLKKGFVLLSDPMPYPCSDIVAEELNVLVYVYFRFVSGNIMCEVCGVIPAPP 188
z2b3 LHFVSYE--MEQLNLLQIQMKFFDLSKQDMSLSYCDGILKSPMLDKLKKGFVLLSDPMPYPCSDIVAEELNVLVYVYFRFVSGNIMCEVCGVIPAPP 188
z2b5 MRFSVFE--MDNSFLEIQMKFFNLSRQDMSLSYCDGILKSPMLDKLKKGFVLLSDPMPYPCSDIVAEELNVLVYVYFRFVSGNIMCEVCGVIPAPP 188
z2b6 LYFSVFE--MDQNLNFFMQSKVYEFYKSKLQDMSLSYCDGILKSPMLDKLKKGFVLLSDPMPYPCSDIVAEELNVLVYVYFRFVSGNIMCEVCGVIPAPP 188
f2b1 LQFLIYD--MDHMNYEWFIFLKFLETIKVNLCEKLLDGVVKSPTIMKLLKDKYDILLADPVYRGGDLVADILGIPVYVYFRFVSGNIMCEVCGVIPAPP 192
f2b2 LHFVSYE--MDHMNYEWFIFLKFLETIKVNLCEKLLDGVVKSPTIMKLLKDKYDILLADPVYRGGDLVADILGIPVYVYFRFVSGNIMCEVCGVIPAPP 192
f2b3 LQFSMYE--IDHMNYEWFIFLKFLETIKVNLCEKLLDGVVKSPTIMKLLKDKYDILLADPVYRGGDLVADILGIPVYVYFRFVSGNIMCEVCGVIPAPP 192
s2b4 LQFSMYE--IDHMSYVQIYIRFMDMMEDNLMKFIYLDGVVKSPTIMKLLKDKYDILLADPVYRGGDLVADILGIPVYVYFRFVSGNIMCEVCGVIPAPP 192
s2b5 LQFSMYE--IDHMSYVQIYIRFMDMMEDNLMKFIYLDGVVKSPTIMKLLKDKYDILLADPVYRGGDLVADILGIPVYVYFRFVSGNIMCEVCGVIPAPP 189
s2b3 IHFSMYE--IDHLSYMQIYIRFMDMMEDNLMKFIYLDGVVKSPTIMKLLKDKYDILLADPVYRGGDLVADILGIPVYVYFRFVSGNIMCEVCGVIPAPP 192
s2b1 LHFVSYE--MDHMSYVQIYIRFMDMMEDNLMKFIYLDGVVKSPTIMKLLKDKYDILLADPVYRGGDLVADILGIPVYVYFRFVSGNIMCEVCGVIPAPP 192
s2b2 LHFVSYE--IDHMSYVQIYIRFMDMMEDNLMKFIYLDGVVKSPTIMKLLKDKYDILLADPVYRGGDLVADILGIPVYVYFRFVSGNIMCEVCGVIPAPP 192
m2b1 LHFVSYE--MDYMNVYFQIYKFIIDLEFEMSYSLDYLDGVVKSPTIMKLLKDKYDILLADPVYRGGDLVADILGIPVYVYFRFVSGNIMCEVCGVIPAPP 187
z2a3 IYLVWNET--ATN--YEVLSNIFQVMSRFTLDEVCKGMF--NEDLLQMLRESHYDVLFSPPMPCSDLMAQTLNIPVYVYFRFVSGNIMCEVCGVIPAPP 186
z2a4 IHLWNET--DSK--LERGLIWRVMSNFRRLAADVCRSLQDLDLLQMLRESHYDVLFSPPMPCSDLMAQTLNIPVYVYFRFVSGNIMCEVCGVIPAPP 187
z2a5 IHLFVNET--AAK--YEGEFMMVMSKVFVFGDVYFRSLF--DVGLLKLTRDSNVDVLSFDPMPMPCSDLMAQTLNIPVYVYFRFVSGNIMCEVCGVIPAPP 186
z2a6 HELWNET--IST--YEVLEWVQLMSLFRTHSEELVKGLF--DVGLLKLTRDSNVDVLSFDPMPMPCSDLMAQTLNIPVYVYFRFVSGNIMCEVCGVIPAPP 186
z2a2 IHIWQHP--SPNR--LQALQIIEQLGRVVRMHRAMCDMLRDLALIAISALKFDFVLFNDP--FMCADLHAEMLGLPLVYVYFRFVSGNIMCEVCGVIPAPP 190
z2a1 LKYWHDLPNDNI--ITASLKIHEMITTATAQNKI--CNAFPRADLLEKWKMEKFDVILADPLVYVYFRFVSGNIMCEVCGVIPAPP 195
f2a1 VHFAMYE--YPTASFLKRWKVIYDLRRAFSGFLKQCDAIKLQQLMATLRDAADFVLDVPMVCGDLVADILGIPVYVYFRFVSGNIMCEVCGVIPAPP 191
m2a1 MDFSMYE--MHSSLLQVWFRMSYFMRSSDLGMQCCDAMKLNQQLMATLRDAADFVLDVPMVCGDLVADILGIPVYVYFRFVSGNIMCEVCGVIPAPP 196



