```
Pavo_muticus             ------------------------------------------------------------
Pavo_cristatus           ------------------------------------------------------------
Gallus_gallus            ------------------------------------------------------------
Anas_platyrhynchos       ------------------------------------------------------------
Chelonia_mydas           ------------------------------------------------------------
Mus_musculus             ------------------------------------------------------------
Rattus_norvegicus        ------------------------------------------------------------
Homo_sapiens             ------------------------------------------------------------
Pan_troglodytes          ----------------MCCTEGSLRKRDSQRAPEAVLCLQLWQRTVPLDTLKGLGTCFP    43
Macaca_mulatta           ------------------------------------------MTVPLDTLKGLDTCFP    16
Callithrix_jacchus       ----------------MCCTAGSLRKRDSQRAQEAVLNLQLRPRTVKLHTLKGLVTCFL    43
Heterocephalus_glaber    ------------------------------------------------------------
Canis_lupus_familiaris   ------------------------------------------------------------
Equus_caballus           LAEPKSRPDCGLRTELFFSCTENGLRRRDWPRAPEALVNLQPGARIAPRDARRGQLPAFR    60
Bos_taurus               ------------------------------------------------------------
Latimeria_chalumnae      ------------------------------------------------------------
Rhinatrema_bivittatum    ------------------------------------------------------------
Xenopus_tropicalis       ------------------------------------------------------------
                         1.......10........20........30........40........50........60

                                                                  : :.:
Pavo_muticus             ------------------------------------------NLLNFS------------     6
Pavo_cristatus           ------------------------------------------NLLNFS------------     6
Gallus_gallus            ------------MAAER-------AALFAGFRALGRYSSHVPHVLRYHGRHREFYVATAV    41
Anas_platyrhynchos       ------------MAAGGGGGGGGGGGLFAGFRALGRYSGHVPHVLRYHGRHREFYVATAV    48
Chelonia_mydas           ---------MSRAGSAVRAAPGGGSALFSGFRALGLYSNHLPHVLRYHQRHREFYLITAA    51
Mus_musculus             -----------MAEMESAVEGRTASVLFAGFRALGLFSNEVPHVVRYSALKRRFYVTTCV    49
Rattus_norvegicus        --------------MESAVEGRTASVLFAGFRALGLFSNDIPHVVRYNALKRRFYVTTCV    46
Homo_sapiens             --------------MERASERRTASALFAGFRALGLFSNDIPHVVRFSALKRRFYVTTCV    46
Pan_troglodytes          -SGPELRGAGIAAAMERASERRTASALFAGFRALGLFSNDIPHVVRFSALKRRFYVTTCV   102
Macaca_mulatta           -SGPELSGAGIAAAMERASERRTASALFAGFRALGLFSNDIPHVVRFSALKRRFYVTTCV    75
Callithrix_jacchus       PSGPERRGAGIAAAMEQASERRTASALFAGFRALGLFSNDIPHVVRFSALKRRFCVTTCV   103
Heterocephalus_glaber    --------------MEGGAEGRTASALFAGFRALGLFSNDISHVVRFSALKRRFYVTTCV    46
Canis_lupus_familiaris   --------------MERGAG----SALFAGFRALGLFSTDVAHVLRFSALKRRFFVTTCV    42
Equus_caballus           -SGLAPRGARTAAAMEGGAGSRTASALFAGFRALGLFSNDVPHVVRFNALKRRFYVTTCV   119
Bos_taurus               --------------MERGPGERTASALFAGFRALGLFSSDIPHAVRFSALKRRFYVTTCV    46
Latimeria_chalumnae      ----------------MSSNKKGSGIFLGFRALGLYSNHLAHVVRYHKRHREFYLLTAA    43
Rhinatrema_bivittatum    ----------------MSGD--GSVLFAGFRALGLYSGHLPHVLRYHRKHRQFYVVTAV    41
Xenopus_tropicalis       --------------MAEENVARGSVLFTGYRSLGVYSNHIPHVVRYHKKHKEFYLVTSV    45
                         ........70........80........90.......100.......110.......120

                                       * ..*:: : * *:***  *:*.::.. . *.**.**:** :.**.
Pavo_muticus             --------------VFAGNALLQDITCLAADRMLIFASYGDVFHAIARNKEVVHTYEGHK    52
Pavo_cristatus           --------------VFAGNALLQDITCLAADRMLIFASYGDVFHAIARNKEVVHTYEGHK    52
Gallus_gallus            GRSVHTYNVKKLGIVAVSNALLQDITCLAADRMLIFASYGNVFHAIARNKEVVHTYEGHK   101
Anas_platyrhynchos       GRSVHTYNVKKLGIVAVSNALLQDITCLAADRMLIFASYGDVFHAVARNKEVVHTYKGHK   108
Chelonia_mydas           GRSFHTYNVKKLGIVAVSNALLQDITCLAADRMLVFASYGNLLHAFARNKEVVHIYDGHK   111
Mus_musculus             GKSFHTYDVQKLSLVAVSNSVPQDICCMAADGRLVFAAYGNVFSAFARNKEIVHTFKGHK   109
Rattus_norvegicus        GKSFHTYDVQKLSLVAVSNSVPQDICCMAADGRLVFAAYGNVFSAFARNKEIVHTFKGHK   106
Homo_sapiens             GKSFHTYDVQKLSLVAVSNSVPQDICCMAADGRLVFAAYGNVFSAFARNKEIVHTFKGHK   106
Pan_troglodytes          GKSFHTYDVQKLSLVAVSNSVPQDICCMAADGRLVFAAYGNVFSAFARNKEIVHTFKGHK   162
Macaca_mulatta           GKSFHTYDVQKLSLVAVSNSVPQDICCMAADGRLVFAAYGNVFSAFARNKEIVHTFKGHK   135
Callithrix_jacchus       GKSFHTYDVQKLSLVAVSNSVPQDICCMAADGRLVFAAYGNVFSAFARNKEIVHTFKGHK   163
Heterocephalus_glaber    GKSFHTYDVQKLSLVAVSNSVPQDICCMAADGRLVFAAYGNVFSAFARNKEVVHTFKGHK   106
Canis_lupus_familiaris   GKSFHTYDVQKLSLVAVSNSLPQDICCMAADGRLVFAAYGNVFSAFARNKEVVHTYKGHK   102
Equus_caballus           GKSFHTYDVQKLSLVAVSNSLPQDICCMAADGRLVFAAYGNVFSAFARNKEVVHTFKGHK   179
Bos_taurus               GKSFHTYDVQKLSLVAVSNSLPQDICCMAADGRLVFAAYGNVFSAFARNKEVVHTFKGHK   106
Latimeria_chalumnae      GKSFHTYNVKKLGIVAVSNALPEDITCLAADRMLVFASHGNLVKAFARSKEVVHTYKGHS   103
Rhinatrema_bivittatum    GRSFHTYNVKKLGIVAVSNAVPEDITCLAADRMLVFVSHGKHLKAFARNKEVVHTYEGHN   101
Xenopus_tropicalis       GKSFLTYNVNKLGQVAVSNALPEPISCLAADRMLVFAAHSNLLKAFARNKEVVHTYQGHE   105
                         .......130.......140.......150.......160.......170.......180
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                                 .: :: *****:****  .:*::*.: :******: ***  * :*:*:********:**
Pavo_muticus                     ARIHLLQPFGDHIISVDVANVLIVWDIQSEEEYLQVVFDKATFAVSAILHPSTYLNKILL   112
Pavo_cristatus                   ARIHLLQPFGDHIISVDVANVLIVWDIQSEEEYLQVVFDKATFAVSAILHPSTYLNKILL   112
Gallus_gallus                    ARIHLLQPFGDHIISVDVANVLIVWDIQSEEEYLQVVFDKATFAVSAILHPSTYLNKILL   161
Anas_platyrhynchos               ARIHLLQPFGDHVISVDVANVLIVWDIQSEEEYLQVVFDKATFAVSAILHPSTYLNKILL   168
Chelonia_mydas                   GEIRLLQPFGDHVISVDIDNVLIVWDVQSEEEYLQLTFDKAVFAVSAIMHPSTYLNKILL   171
Mus_musculus                     AEIHLLQPFGDHVISVDTDSVLIIWHIYSEEEYLQLTFDKSVFKISTILHPSTYLNKVLL   169
Rattus_norvegicus                AEIHLLQPFGDHVISVDTDSVLIIWHIYSEEEYLQLTFDKSVFKISTILHPSTYLNKVLL   166
Homo_sapiens                     AEIHFLQPFGDHIISVDTDGILIIWHIYSEEEYLQLTFDKSVFKISAILHPSTYLNKILL   166
Pan_troglodytes                  AEIHLLQPFGDHIISVDTDGILIIWHIYSEEEYLQLTFDKSVFKISAILHPSTYLNKILL   222
Macaca_mulatta                   AEIHLLQPFGDHIISVDTDSILIIWHIYSEEEYLQLTFDKSVFKISAILHPSTYLNKILL   195
Callithrix_jacchus               AEIHLLQPFGDHIISVDTDSILIIWHIYSEEEYLQLTFDKTVFKISAILHPSTYLNKILL   223
Heterocephalus_glaber            AEIQLLQPFGDHIISVDTDSILIIWHIYSEEEYLQLAFDKLVFKISAILHPSTYLNKILL   166
Canis_lupus_familiaris           AEIRLLQPFGDHVISVDTDSVLIIWHIYSEEEYLQLTFDKSVFKISAILHPSTYLNKILL   162
Equus_caballus                   AEIHLLQPFGDHVISVDSDSILIIWHIYSEEEYLQLTFDKSVFKISTILHPSTYLNKILL   239
Bos_taurus                       AEIHLLQPFGDHVISVDTDSVLIIWHIYSEEEYLQLPFDKSVFKISAILHPSTYLNKILL   166
Latimeria_chalumnae              AEVCLLLPFGDHVISVDRDNVLIIWDVQSEEEYLQLNFDKTVFGISAIMHPSTYLNKVLL   163
Rhinatrema_bivittatum            TEIHLLQPFGDHVISVDLDNLLIIWEVQTEEEYLQLNFDKKVFTVSAIMHPSTYLNKILL   161
Xenopus_tropicalis               AEIHLVQPFGDHVISVDTSNVLMIWDIKSEEEYLQLTFDKTNFAISAIMHPSTYLNKILL   165
                                 .......190.......200.......210.......220.......230.......240

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Pavo_muticus                     GSEQGGLQLWNIRSNKLLYSFPGWSLG-VTTLAQAPAVDVIAVGLVSGHIIIHNIKFDET   171
Pavo_cristatus                   GSEQGGLQLWNIRSNKLLYSFPGWSLG-VTTLAQAPAVDVIAVGLVSGHIIIHNIKFDET   171
Gallus_gallus                    GSEQGGLQLWNIRSNKLLYSFPGWGLG-VTTLAQAPAVDVIAVGLVSGHIIIHNIKFDET   220
Anas_platyrhynchos               GSEQGGLQLWNIRSNKLLYSFPGWGLG-VTTLAQAPAVDVVAVGLVSGHIIVHNIKFDET   227
Chelonia_mydas                   GSEQGSLQLWNVKSNKLLYSFPGWGLGGVTTLEQAPAVDVVAIGLVSGHIIVHNIKFDET   231
Mus_musculus                     GSEQGSLQLWNIKSNKLLYTFPGWKVG-VTALQQAPAVDVVAIGLVSGQVVIHNIKYDET   228
Rattus_norvegicus                GSEQGSLQLWNIKSNKLLYTFPGWKVG-VTALQQAPAVDVVAIGLVSGQVVIHNIKFDET   225
Homo_sapiens                     GSEQGSLQLWNVKSNKLLYTFPGWKVG-VTALQQAPAVDVVAIGLMSGQVIIHNIKFNET   225
Pan_troglodytes                  GSEQGSLQLWNVKSNKLLYTFPGWKVG-VTALQQAPAVDVVAIGLMSGQVIIHNIKFNET   281
Macaca_mulatta                   GSEQGSLQLWNVKSNKLLYTFPGWKLG-VTALQQAPAVDVVAIGLMSGQVIIHNIKFNET   254
Callithrix_jacchus               GSEQGSLQLWNVKSNKLLYTFPGWKVG-VTALQQAPAVDVVAIGLMSGQVIIHNIKFNET   282
Heterocephalus_glaber            GSEQGSLQLWNVKTNKLLYTFPGWKVG-VTALQQAPAVDVVAVGLMSGQIIIHNIKFDET   225
Canis_lupus_familiaris           GSEQGTLQLWNIKSNKLLYTFQGWKFG-VTALQQAPAVDVVAVGLTSGQVIIHNIKFDET   221
Equus_caballus                   GSEQGSLQLWNVKSNKLLYTFPGWKVG-VTALQQAPAVDVVAVGLMSGQVIIHNIKFDET   298
Bos_taurus                       GSEQGSLQLWNVKSNKLLYTFAGWKVG-VTALQQAPAVDVVAVGLMSGQVIIHNIKFDET   225
Latimeria_chalumnae              GSQQGRLQLWNVKSNKLLYTFPGWGSG-VTVLQQAPAVDVIAIGLVSGQIVIHNIKFDET   222
Rhinatrema_bivittatum            GSQQGSLQLWNIKSNKLLYTLQGWGSG-ITTLQQAPALDVVAIGLVSGQIIVHNIKFDET   220
Xenopus_tropicalis               GSQQGSLQLWNIKSNKLLYTFQGWGSG-VTVLQQAPAVDVVAIGLTCGKIIIHNIKFDET   224
                                 .......250.......260.......270.......280.......290.......300

                                 **.*:*****:*::********::***** ***.*****:*:* .***:.****::*::*
Pavo_muticus                     LMKFQQDWGPITAISFRTDGHPVMAAGSPVGHIALWDLEEKKLMSQMRNAHSTAVAGMSF   231
Pavo_cristatus                   LMKFQQDWGPITAISFRTDGHPVMAAGSPVGHIALWDLEEKKLMSQMRNAHSTAVAGMSF   231
Gallus_gallus                    LMKFQQDWGPITAISFRTDGHPVMAAGSPVGHIALWDLEEKKLMSQMRNAHSTAVAGMSF   280
Anas_platyrhynchos               LMKFQQDWGPITAISFRTDGHPVMAAGSPVGHIALWDLEEKKLISQMRNAHSTAIAGMSF   287
Chelonia_mydas                   LMKFQQDWGPITAISFRTDGHPVMAAGSPIGHIALWDLEEKKLISQMRNAHSTAIAGMSF   291
Mus_musculus                     LMKFHQDWGPITSISFRTDGHPIMAAGSPCGHIGLWDLEDKKLINQMRNAHSTAISGLTF   288
Rattus_norvegicus                LMKFHQDWGPITSISFRTDGHPIMAAGSPCGHIGLWDLEDKKLINQMRNAHSTAISGLTF   285
Homo_sapiens                     LMKFRQDWGPITSISFRTDGHPVMAAGSPCGHIGLWDLEDKKLINQMRNAHSTAIAGLTF   285
Pan_troglodytes                  LMKFRQDWGPITSISFRTDGHPVMAAGSPCGHIGLWDLEDKKLINQMRNAHSTAIAGLTF   341
Macaca_mulatta                   LMKFRQDWGPITSISFRTDGHPVMAAGSPCGHIGLWDLEDKKLINQMRNAHSTAIAGLTF   314
Callithrix_jacchus               LMKFRQDWGPITSISFRTDGHPVMAAGSPCGHIGLWDLEDKRLINQMRNAHSTAIAGLTF   342
Heterocephalus_glaber            LMKFRQDWGPITSISFRTDGHPVMAAGSPCGHIGLWDLEDKKLINQMRNVHSTAIAGLTF   285
Canis_lupus_familiaris           LMKFRQDWGPITSISFRTDGHPIMAAGSPCGHIGLWDLEDKKLINQMRNAHSTAIAGLTF   281
Equus_caballus                   LMKFRQDWGPITSISFRTDGHPIMAAGSPCGHIGLWDLEDKKLINQMRNAHSTAIAGLTF   358
Bos_taurus                       LMKFRQDWGPITSISFRTDGHPVMAAGSPCGHIGLWDLEDKKLINQMRNAHSTAIAGLTF   285
Latimeria_chalumnae              LMKFQQDWGPVTAISFRTDGHPVMAAGSPVGHIGLWDLEEKKLAGQMRDVHSTAIAGMTF   282
Rhinatrema_bivittatum            LMKFQQDWGPITSISFRTDGHPVMAAGSPVGHIGLWDLEEKKLIGQMRDAHSTAIAGLTF   280
Xenopus_tropicalis               LMTFQQDWGPITSLSFRTDGHPILAAGSPLGHIGLWDLEEKKLMNQMREAHSTAIAGLTF   284
                                 .......310.......320.......330.......340.......350.......360
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                                 :  ****:**..***:::**** * * **.:* ******. . *:::*   ::****.**
Pavo_muticus                     VPGEPLLITNGADNAIRVWIFDGPGGTGRVLRSRMGHSAPPTKIRYHGQNGEQILSAGQD   291
Pavo_cristatus                   VPGEPLLITNGADNAIRVWIFDGPGGTGRVLRSRMGHSAPPTKIRYHGQNGEQILSAGQD   291
Gallus_gallus                    VPGEPLLITNGADNAIRVWIFDGPGGTGRVLRSRMGHSAPPTKIRYHGQNGEQILSAGQD   340
Anas_platyrhynchos               VPGEPLLITNGADNAIRVWIFDGPGGTGRVLRSRMGHSAPPTKIRYHGQNGEQILSAGQD   347
Chelonia_mydas                   VQGEPLLVTNGADNAIKIWIFDGPGGXGRFVRCRMGHSAPPTKIRYHGQMRQQILSAGQD   351
Mus_musculus                     LHREPLLVTNGADNALRIWIFDGPAGEGRLLRFRMGHSASLTKIRYYGQNGQQILSASQD   348
Rattus_norvegicus                LHREPLLVTNGADNALRIWIFDGPTGEGRLLRLRMGHSASLTKIRYYGQNGQQILSASQD   345
Homo_sapiens                     LHREPLLVTNGADNALRIWIFDGPTGEGRLLRFRMGHSAPLTNIRYYGQNGQQILSASQD   345
Pan_troglodytes                  LHREPLLVTNGADNALRIWIFDGPTGEGRLLRFRMGHSAPLTNIRYYGQNGQQILSASQD   401
Macaca_mulatta                   LHREPLLVTNGADNALRIWIFDGPTGEGRLLRFRMGHSAPLTSIRYYGQNGQQILSASQD   374
Callithrix_jacchus               LHREPLLVTNGGDNALRIWIFDGPTGEGRLLRFRMGHSAPLTSIRYYGQNGQQILSASQD   402
Heterocephalus_glaber            LHREPLLVTNGADNAVRIWIFDGPAGEGRLLRFRMGHSAPLTSIRYYGQNGQQILSASQD   345
Canis_lupus_familiaris           LHREPLLVTNGADNALRIWIFDGPTGEGRLLRFRMGHSAPLTKIRYYGQNGQQILSASQD   341
Equus_caballus                   LHREPLLVTNGADNALRIWIFDGPTGEGRLLRFRMGHSAPLTKIRYYGQNGQQILSASQD   418
Bos_taurus                       LHREPLLVTNGADNALRIWIFDGPAGEGRLLRFRMGHSAPLTRIRYYGQNGQHILSASQD   345
Latimeria_chalumnae              VHGEPLLITNGADNAIRVWIFDTPGGGGRLLRCRMGHSAPPNKIKYHGQNGQQILSAGQD   342
Rhinatrema_bivittatum            VQGEPLLITNGADNALRVWIFDGPGGSGRLLRFRMGHSAPPTKIRYHGQNGEQILSAGQD   340
Xenopus_tropicalis               VHGEPLLITNAADNAIRVWIFDGPGGQGRLLRFRMGHSAPPTFIRHHGADGKQILSAGQD   344
                                 .......370.......380.......390.......400.......410.......420

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Pavo_muticus                     GTLQSFSTVHERFNKSLGH---------GSINKKKSKKKGLQHDT-MALPPITAFASEVA   341
Pavo_cristatus                   GTLQSFSTVHERFNKSLGH---------GSINKKKSKKKGLQHDT-MALPPITAFASEVA   341
Gallus_gallus                    GTLQSFSTVHERFNKSLGR---------GSINKKKSKKKGLQHDT-MALPPITAFASEVA   390
Anas_platyrhynchos               GTLQSFSTVHERFNKSLGR---------GSINKKKSKKKGLQHDT-MALPPITAFASEVA   397
Chelonia_mydas                   GTLQSFSTVHERFNKSLGR---------GSINKKKSKRKGLLYDT-MALPPITAFATEIA   401
Mus_musculus                     GTLQSFSTVHEKFNKSLGH---------GLVNKKIVKRKGLQNTMSVRLPPITQFAAEEA   399
Rattus_norvegicus                GTLQSFSTVHEKFNKSLGH---------GLVNKKIVKRKGLQNTMSVRLPPITQFAAEEA   396
Homo_sapiens                     GTLQSFSTVHEKFNKSLGH---------GLINKKRVKRKGLQNTMSVRLPPITKFAAEEA   396
Pan_troglodytes                  GTLQSFSTVHEKFNKSLGH---------GLINKKRVKRKGLQNTMSVRLPPITKFAAEEA   452
Macaca_mulatta                   GTLQSFSTVHEKFNKSLGH---------GLINKKRVKRKGLQNTMSVRLPPITKFAAEEA   425
Callithrix_jacchus               GTLQSFSTVHEKFNKSLGH---------GLINKKRVKRKGLQNTMSVRLPPITKFAAEEA   453
Heterocephalus_glaber            GTLQSFSTVHEKFNKSLGH---------GLINKKRVKRKGLQNTMSVRLPPITKFAAEAA   396
Canis_lupus_familiaris           GTLQSFSTIHEKFNKSLGH---------GLINKKKVKRKGLQNAMSVRLPPITKFAAEEA   392
Equus_caballus                   GTLQSFSTIHEKFNKSLGH---------GLINKKRVKRKGLQNTMSVRLPPITKFAAEEA   469
Bos_taurus                       GTLQSFSTVHEKFNKSLGHAIFPSHLTPGLINKKRVKRKGLQNTMSVRLPPVTEFAAEEA   405
Latimeria_chalumnae              GTLQSFSTVHERFNKSLGH---------GSINKKKSKRKGLQYDT-MKLPPITEFASETA   392
Rhinatrema_bivittatum            GTLQSFSTVHEKFNKNLGH---------GSINKKKSKKMGLQYDT-MKLPPITAFASEVA   390
Xenopus_tropicalis               GTLQSFSTVHDRYSKSLGH---------GSVDKAKSKKVGLRCLS-LRLPPITLFASEEA   394
                                 .......430.......440.......450.......460.......470.......480

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Pavo_muticus                     HQNDWDGIVACHQGYITCTTWNYQKTSMGIHKLRPEEFSKNKPIDIYATAVDITTCGNFA   401
Pavo_cristatus                   HQNDWDGIVACHQGYITCTTWNYQKTSMGIHKLRPEEFSKNKPIDIYATAVDITTCGNFA   401
Gallus_gallus                    HQNDWDGIIACHQGYITCTTWNYQKTSMGAHKLRPEEFSKNKPIDIYATAVDITTCGNFA   450
Anas_platyrhynchos               HQSDWDGIVACHQGYITCTTWNYQKTSMGIHKLRPEEFSKNKPVDIYATAVDITSCGNFA   457
Chelonia_mydas                   RQNDWDGIIACHQGYITCTTWNYQKTSMGAHKLKPKAFSKNKPLDVYATVVDITSCGNFA   461
Mus_musculus                     RQSDWDGIIACHQGKRSCSTWNYQRSTIGAYFLKPRGVKTNSN--LTATAVDITSCGNFA   457
Rattus_norvegicus                RQSDWDGVIACHQGKLSCSTWNYQRSTIGAYFLKPKNVKANS---ATATAVDITSCGNFA   453
Homo_sapiens                     RESDWDGIIACHQGKLSCSTWNYQKSTIGAYFLKPKELKKDD---ITATAVDITSCGNFA   453
Pan_troglodytes                  RESDWDGIIACHQGKLSCSTWNYQKSTIGAYFLKPKELKTDD---ITATAVDITSCGNFA   509
Macaca_mulatta                   RESDWDGIIACHQGKLSCSTWNYQKSTIGAYFLKPKEMKKDD---ITATAVDITSCGNFA   482
Callithrix_jacchus               RESDWDGIIACHQGKLSCSTWNYQKSTIGAYFLKPKELKKDD---ITATAVDITSCGNFA   510
Heterocephalus_glaber            RESDWDGIIACHQGKLSCSTWNYQRSTIGSYFLKPKELKRDD---ITATAVDITSCGNFA   453
Canis_lupus_familiaris           RESDWDSIIACHQGKLSCSTWNYQRSTIGAYFLKPKELKKDD---ITATAVDITSCGNFA   449
Equus_caballus                   RESDWDGIIACHQGKLSCSTWNYQRSTIGAYFLKPKELKKDD---VTATAVDITSCGNFA   526
Bos_taurus                       RESDWDGIVACHQGKLSCSTWNYQRSTIGAHFLRPAGLKTDS---TTATAVDITSCGNFA   462
Latimeria_chalumnae              RQSDWDGIIACHRGYLIATTWNYHRSSMGVHKLEPKRFHKDRAINVTATVVDITSCGNFA   452
Rhinatrema_bivittatum            HQSDWDGIIACHQGYVSCTTWNYQKTSMGAHKLKPDRFKKNKPLHVYATAVDISSCGNFV   450
Xenopus_tropicalis               RQSDWDGIVACHQQSLSCTTWNYVKCTMGAHKLKPPDLKNSKTLEIYATASDITSCGNFT   454
                                 .......490.......500.......510.......520.......530.......540
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                                 ::*:*.* ** **:***:*** :* ::** *.:* . *****:: :*:*.:  :***:**
Pavo_muticus                     VIGMSTGQVDVYNMQSGIHRGRYGRERAHEGSIRGVAVDGLNQLTITAGSDGLIKFWKFK   461
Pavo_cristatus                   VIGMSTGQVDVYNMQSGIHRGRYGRERAHEGSIRGVAVDGLNQLTITAGSDGLIKFWKFK   461
Gallus_gallus                    VIGMSTGQVDVYNMQSGIHRGRYGREKAHEGSIRGVAVDGLNQLTITAGSDGLIKFWKFK   510
Anas_platyrhynchos               VIGMSTGRVDVYNMQSGLHRGCYGKERAHEGSIRGLAVDGLNQLTITAGSEGLIKFWKFK   517
Chelonia_mydas                   VIGLSTGHVDVYNMQSGIHRGHYGKEKAHEGAIRGVAVDGLNQLTITAGSEGLIKFWKFK   521
Mus_musculus                     IIGLSSGAVDVYNMQSGIHRGNFGDDKAHTGSVRGVAVDGLNQLVVTAGSERLLKFWNFK   517
Rattus_norvegicus                IIGLSSGAVDVYNMQSGIHRGSFGDEKAHAGSVRGVAVDGLNQLAITAGSERLLKFWNFK   513
Homo_sapiens                     VIGLSSGTVDVYNMQSGIHRGSFGKDQAHKGSVRGVAVDGLNQLTVTTGSEGLLKFWNFK   513
Pan_troglodytes                  VIGLSSGTVDVYNMQSGIHRGSFGKDRAHKGSVRGVAVDGLNQLTVTTGSEGLLKFWNFK   569
Macaca_mulatta                   VIGLSSGTVDVYNMQSGIHRGSFGKDQAHKGSVRGVAVDGLNQLTVTTGSEGLLKFWNFK   542
Callithrix_jacchus               VIGLSSGTVDVYNMQSGIHRGSFGKDQAHKGSIRGVSVDGLNQLTVTTGSEGLLKFWNFK   570
Heterocephalus_glaber            VIGLSSGTVDLYNMQSGIHRGSFGKDQAHKGSVRGVAVDGLNQLTITTGSEGLLKFWNFK   513
Canis_lupus_familiaris           VIGLSSGTVDVYNMQSGIHRGSFGEDQAHKGSVRGVAVDGLNQLIITAGSEGLLKFWNFK   509
Equus_caballus                   VIGLSSGTVDVYNMQSGIHRGSFGKDQAHKGSVRGVAVDGLNQLTVTTGSEGLLKFWNFK   586
Bos_taurus                       VIGLSSGAVDVYNMQSGIHRGSFGRDQAHKGSVRVFAVDGLNQLTITAGSEGVLKFWNFK   522
Latimeria_chalumnae              VVGISSGHVDVYNMQSGLHRGHYGKEKAHEGPIRGVAVDGLNQLIITTGGDGIIKFWKFK   512
Rhinatrema_bivittatum            VIGLSTGEVDRYNIQSGIHRGHYGAEKAHEGAVRGVAVDGLNELTITAGSDRQIKFWKFK   510
Xenopus_tropicalis               VIGLSNGSVDVYNIQSGIHRGHYGKEKAHGGPIRGVVVDGLNQVTITAGSDKLIKFWKFK   514
                                 .......550.......560.......570.......580.......590.......600

                                    *: :  *. .*  :**:*:*.:*.:* *** : :.*:** ::**.*.**..::**::
Pavo_muticus                     AKDLVHSTDLSSSPSGILLHRDSGILGIAFDDFSISVLDVETWKIVRKFSGHHGRINDMT   521
Pavo_cristatus                   AKDLVHSTDLSSSPSGILLHRDSGILGIAFDDFSISVLDVETWKIVRKFSGHHGRINDMT   521
Gallus_gallus                    AKDLVHSTDLSSSPSGILLHRDSGILGIAFDDFSISVLDIETWKIVRKFSGHHGRINDMT   570
Anas_platyrhynchos               TKDLVHSTDLSSSPSGILLHRDSGILGIAFDDFSISVFDIETRKIVRKFSGHHGRINDMT   577
Chelonia_mydas                   TMDLVYSANLSSSPSAMLLHRDSGILGIASDDFGISVLDVETRRIVRKFSGHHSQINDMA   581
Mus_musculus                     SKVLIHSLGLDSSPNMMLLHRDSGILGLAMDDFSIAVLDIETRKIVREFSGHHGQINDMT   577
Rattus_norvegicus                SKVLVHSLSLDSPPNVMLLHRDSGILGLALDDFSITVLDIETRKIVREFSGHQGQINDMT   573
Homo_sapiens                     NKILIHSVSLSSSPNIMLLHRDSGILGLALDDFSISVLDIETRKIVREFSGHQGQINDMA   573
Pan_troglodytes                  NKILIHSVSLNSSPNIMLLHRDSGILGLALDDFSISVLDIETRKIVREFSGHQGQINDMA   629
Macaca_mulatta                   NKILIHSVSLSSSPNVMLLHRDSGILGLALDDFSISVLDIETRKIVREFSGHQGQINDMA   602
Callithrix_jacchus               SKSLIHSVGLSSSPNIMLLHRDSGILGLALDDFSISVLDIETRKIVREFSGHQGQINDMA   630
Heterocephalus_glaber            SKGLIHSVSLDSSPNMMLLHRDSGILGLALDDFSISVLDIETRKIVREFSGHQGQINDMT   573
Canis_lupus_familiaris           NKILIHSMSLSSSPNMMLLHRDSGILGLALDDFSICVLDIETRKIVREFSGHQGQINDLA   569
Equus_caballus                   SKILIQSMSLESSPNIMLLHRDSGILGLALDDFSISVLDIETRKVVREFSGHQGQINDMA   646
Bos_taurus                       NKVLIHSVSLDSSPNLMLLHRDSGILGLALDDFSISVLDIETRKIVREFSGHQGQINDMT   582
Latimeria_chalumnae              TKELVHTIELNTSPAIMLLHRESSMLAIASDDFSICVLDIETRKIVRKFSGHRGQINDMA   572
Rhinatrema_bivittatum            TFVLVHTTDLSSPPNVVLLQRDSGMLGIASDDFSICVVDIETRKIVRKFSGHKGQINDLT   570
Xenopus_tropicalis               TKELIQTTSLSVPPTAVLLHRESAMLAVALDDFTLNIFDIETRRLVRRFQGHNGRVNDMT   574
                                 .......610.......620.......630.......640.......650.......660

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Pavo_muticus                     FSPDGRWLITSSMDCTIKTWDLPSGCLIDCFLLDSAAVSLTMSPTGDFLASAHVDDLGIY   581
Pavo_cristatus                   FSPDGRWLITSSMDCTIKTWDLPSGCLIDCFLLDSAAVSLTMSPTGDFLASAHVDDLGIY   581
Gallus_gallus                    FSPDGRWLITSSMDCTIKTWDLPSGCLIDCFLLDSAAVSLTMSPTGDFLASAHVDDLGIY   630
Anas_platyrhynchos               FSPDGRWLITSSMDCTIKTWDLPSGCLIDCFLLDSAAVSLTMSPTGDFLATAHVDDLGIY   637
Chelonia_mydas                   FSPDGRWLITASMDCTIKTWDLPSGCLIDCFLLDSAAISISMSPTGDFLASSHVDDLGIY   641
Mus_musculus                     FSPDGRWLISAAMDCSVRTWDLPSGCLIDCFLLDSAPLNVTMSPTGDFLATSHVDHLGIY   637
Rattus_norvegicus                FSPDGRWLISAAMDCSVRTWDLPSGCLIDCFLLDSAPLNVTMSPTGDFLATSHVDHLGIY   633
Homo_sapiens                     FSPDGRWLISAAMDCSIRTWDLPSGCLIDCFLLDSAPLNVSMSPTGDFLATSHVDHLGIY   633
Pan_troglodytes                  FSPDGRWLISAAMDCSIRTWDLPSGCLIDCFLLDSAPLNVSMSPTGDFLATSHVDHLGIY   689
Macaca_mulatta                   FSPDGRWLISAAMDCSIRTWDLPSGCLIDCFLLDSAPLNVSMSPTGDFLATSHVDHLGIF   662
Callithrix_jacchus               FSPDGRWLISAAMDCSVRTWDLPSGCLIDCFLLDSAPLNVSMSPTGDFLATSHVDHLGIY   690
Heterocephalus_glaber            FSPDGRWLISAAMDCSIRTWDLPSGCLVDCFLLDSAPLNVTMSPTGDFLATSHVDHLGIY   633
Canis_lupus_familiaris           FSPDGRWLISASMDCSVRTWDLPSGCLIDSFLVDSAPLNVTMSPTGDFLATSHVDHLGIY   629
Equus_caballus                   FSPDGRWLISASMDCSIRTWDLPSGCLIDSFLLDSAPLNVTMSPTGDFLATSHVDHLGIY   706
Bos_taurus                       FSPDGRWLISASMDCSIRTWDLPSGCLIDSFLLDSAPLNVTMSPTGDFLATSHVDHLGVY   642
Latimeria_chalumnae              FSPDGRWLVTASMDCTLRTWDLPSGCLIDCFLLDSAAVSITMSPMGDFLASSHVDDLGIY   632
Rhinatrema_bivittatum            FSPDGRWLITSSMDCCIKVWDLPSGCLVDCFMLDSAALSITMSPTGDFLASSHVDDLGLC   630
Xenopus_tropicalis               FSPDGRWLLTASMDCTIKVWDLPSGCLIDCFLLDSAVVSLTLSPTGDFLATAHVDDLGIY   634
                                 .......670.......680.......690.......700.......710.......720
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                     **** :*:*::**:**..*: *  : *** .    :           :::::*.** **
Pavo_muticus         LWSNRSLYSLVSLRPLPADYEPSVITLPGTCPLQDVDVAEG-EDKC-DEMIEYDSPEQLG   639
Pavo_cristatus       LWSNRSLYSLVSLRPLPADYEPSVITLPGTCPLQDVDVAEG-EDKC-DEMIEYDSPEQLG   639
Gallus_gallus        LWSNRSLYSLVSLRPLPADYEPSVITLPGTCPLQDVDVAEG-EDKC-DEMIEYDSPEQLG   688
Anas_platyrhynchos   LWSNRSLYSLVSLRPLPADYEPSMVILPGTCPLEDVDVAEG-EETC-DEMIEYDSPEQLG   695
Chelonia_mydas       LWSNRSLYSLVSLRPLSADYEPSVIMLPGTCPAQDVDITGD-EETS-NEMIDYNSPAQLE   699
Mus_musculus         LWSNISLYSVVSLRPLPPDYVPSIVMLPGTCQTQGMEDLEEKTEPS-DEMIEYESPEQLS   696
Rattus_norvegicus    LWSNISLYSVVSLRPLPPDYVPSVLMLPGTCQTQGLEALEEQIEPS-DEMIEYESPEQLN   692
Homo_sapiens         LWSNISLYSVVSLRPLPADYVPSIVMLPGTCQTQDVEVSEETVEPS-DELIEYDSPEQLN   692
Pan_troglodytes      LWSNISLYSVVSLRPLPADYVPSIVMLPGTCQTQDVEVSEETVEPS-DEMIEYDSPEQLN   748
Macaca_mulatta       LWSNISLYSVVSLRPLPADYVPSVVMLPGTCQTQDVEVSEETVEPS-DEMIEYDSPEQLN   721
Callithrix_jacchus   LWSNISLYSVVSLRPLPTDYVPSVVMLPGTCQTQDVEVSEETVEPS-DEMIEYDSPEQLD   749
Heterocephalus_glaber LWSNISLYSVVSLRPLPTDYVPSVVMLPGICQTQDVEVSEENAEPS-DEMLEYSSPEQLS   692
Canis_lupus_familiaris LWSNISLYSVVSLRPLPTDYVPLVVMLPGTCQNEDVEFSEETIEPS-DEMIEYDSPEQLN   688
Equus_caballus       LWSNVSLYSVVSLRPLPTDYVPSVVMLPGTCQIQDVEFSEETIEPS-DEMIEYDSPEQLN   765
Bos_taurus           LWSNISLYSVVSLRPLPTDYVPSVVMLPGTCQTQDVELSEETVEPS-EEMIEYDSPEQLN   701
Latimeria_chalumnae  LWSNSTLYSLVSLHPLPADYEPSVVTLPGTCPALDVGATEVEEPS--DEMIEYDSPEQLG   690
Rhinatrema_bivittatum LWSNKSLYSLVSLRPLPADYEPATVMLPGTCPVQEVEPTEDEAETR-DEMIEYESPEQLE   689
Xenopus_tropicalis   LWSNKSLFSLISLRPLPADFEPTVVMLPGGADEMEVEETVVEVENTNEDIMEYESPEQLG   694
                     .......730.......740.......750.......760.......770.......780

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Pavo_muticus         EQLVTLSLLPESRWKNLLSLDVIKKKNKPREPPKVPKSAPFFIPTVPGLIPRYAAPEQEN   699
Pavo_cristatus       EQLVTLSLLPESRWKNLLSLDVIKKKNKPREPPKVPKSAPFFIPTVPGLIPRYAAPEQEN   699
Gallus_gallus        EQLVTLSLLPESRWKNLLSLDVIKKKNKPREPPKVPTSAPFFIPTVPGLIPRYAAPEQDN   748
Anas_platyrhynchos   EQLVTLSSLPESRWKNLLNLDIIKKKNKPREPPKVPTSAPFFIPTVPGLIPRYAAPEQEN   755
Chelonia_mydas       EQLVTLSSLSESRWKNLLNLDVIKKKNKPREPPKVPKSAPFFIPTVPGLIPRYAAAKQEN   759
Mus_musculus         EQLVTLSLLPESRWKNLLNLDVIKKKNKPKEPPKVPQSAPFFIPTVPGLVPRFAVPEPSS   756
Rattus_norvegicus    EQLVTLSLLPESRWKNLLNLDVIKKKNKPKEPPKVPQSAPFFIPTVPGLVPRFAVPEPTS   752
Homo_sapiens         EQLVTLSLLPESRWKNLLNLDVIKKKNKPKEPPKVPKSAPFFIPTIPGLVPRYAAPEQNN   752
Pan_troglodytes      EQLVTLSLLPESRWKNLLNLDVIKKKNKPKEPPKVPKSAPFFIPTIPGLVPRYAAPEQNN   808
Macaca_mulatta       EQLVTLSLLPESRWKNLLNLDVIKKKNKPKEPPKVPKSAPFFIPTIPGLVPRYAAPEQNN   781
Callithrix_jacchus   EQLVTLSLLPESRWKNLLNLDVIKKKNKPREPPKVPRSAPFFIPTIPGLVPRYAAPEQNN   809
Heterocephalus_glaber EQLVTLSLLPESRWKNLLNLDVIKKKNKPKEPPKVPKSAPFFIPTVPGLVPRYAAPEQNN   752
Canis_lupus_familiaris EQLVTLSLLPESRWKNLLNLDVIKKKNKPKEPPKVPKSAPFFIPTVPGLVPRYAVPEQNN   748
Equus_caballus       EQLVTLSLLPESRWKNLLNLDVIKKKNKPKEPPKVPKSAPFFIPTVPGLVPRYAVPEQNN   825
Bos_taurus           EQLVTLSLLPESRWKNLLNLDVIKKKNKPKEPPKVPKSAPFFIPTIPGLVPRYAAPEQNN   761
Latimeria_chalumnae  EQLVTLSLLPESRWKNLINLDVIKKRNKPKEPPKVPKSAPFFIPTVPGLVPQFAVPGEQA   750
Rhinatrema_bivittatum AHLVTMSTLPQSRWKNLLNLDVIKKRNKPKEPPKVPKTAPFFIPTVPGLVPHFAS-LDQA   748
Xenopus_tropicalis   EKLVTLSLLPESRWKNLLNLDIIKQRNKPKEPPKVPKSAPFFIPTLPGLVPRFAS-DAQG   753
                     .......790.......800.......810.......820.......830.......840

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Pavo_muticus         D-TQSKVVNIGVLAQKSDFYVHLEEALSTNEYTTPLNLLKDLGPSNIETELRSLAPEGGG   758
Pavo_cristatus       D-TQSKVVNIGVLAQKSDFYVHLEEALSTNEYTAPLNLLKDLGPSNIETELRSLAPEGGG   758
Gallus_gallus        D-TQSKVVNIGVLAQKSDFYVHLEEALSTNEYTAPLNLLKDLGPSNIEIELRSLAPEGGG   807
Anas_platyrhynchos   D-AQSKVVNIGVLAQKSDFYIHLEEALSTNKYAVPLNVLKDLGPSNIEIELRSLAPEGGG   814
Chelonia_mydas       D-GHPKVVNLGVLAQKSDFYVQLEEALSSNEYKSPLSXLKEMGPSSIETELRGLAPDAGG   818
Mus_musculus         DPQQSKVVNLGILAQKSNFYLKLEEGLLNNQYEAALNLLKELGPSGIETELRNLSPDDGG   816
Rattus_norvegicus    DPQQSKVVNLGILAQKSNFYLKLEEGLQNNQYEGALNLLKELGPSGIETELRNLSPEDGG   812
Homo_sapiens         DPQQSKVVNLGVLAQKSDFCLKLEEGLVNNKYDTALNLLKESGPSGIETELRSLSPDCGG   812
Pan_troglodytes      DPQQSKVVNLGVLAQKSDFCLKLEEGLVNNKYDTALNLLKESGPSGIETELRSLSPDCGG   868
Macaca_mulatta       DPQQSKVVNLGVLAQKSDFCLKLEEGLVNNKYDTALNLLKESGPSGIETELRSLSPDCGG   841
Callithrix_jacchus   DPQQSKVVNLGVLAQKSDFCLKLEEGLVNNKYDMALNLLKELGPSGIETELRSLSPDCGG   869
Heterocephalus_glaber NPQQSKVVNLGILAQKSDFCLKLEEGLLNNKYETALNLLKELGPSGIETELRNLSPDGGG   812
Canis_lupus_familiaris DPHQSKVVNLGVLAQKSDFCLKLEEGLVNNKYEAALNLLKELGPSGIETELRSLSPDCGG   808
Equus_caballus       DPQQSKVVNLGILAQKSDFCLKLEEGLVNNKYEAALNLLKELGPSGIETELRSLSPDCGG   885
Bos_taurus           DPQQSKVVNLGILAQKSDFCLKLEEGLVNNKYEAAVNLLKELGPSGIETELRSLSPDCGG   821
Latimeria_chalumnae  NTEQSKVLNLGVLAQKSNFYMQLEDALLHEDYNSPVKLLKEMGPSSIDTELRGLAPEGGG   810
Rhinatrema_bivittatum DGPQSKVVNLGILAQKSNFCLQLEEALSNQDYDSAVKMLKEMGPSAVETELRGLAPEGGG   808
Xenopus_tropicalis   DTSQSKIVNLGVLEQKSAFFVQLEEALTRQNYSVPLKTIKEMGPSSVDTELRNLAPENGG   813
                     .......850.......860.......870.......880.......890.......900
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Pavo_muticus             SLEVMLSFLKMIGMMLNKKYNFELAQAYLALFLKLHLKIISSEPSLLEEISRLSTQVEET   818
Pavo_cristatus           SLEVMLSFLKMIGMMLNKKYNFELAQAYLALFLKLHLKIISSEPSLLEEISRLSTQVEET   818
Gallus_gallus            SLEVMLSFLRMIGMMLNKKYNFEIAQAYLALFLKLHLKIISSEPSLLEEISVLSKQLEET   867
Anas_platyrhynchos       SVEVMLSFLRMIGMMLNKKYNFELAQAYLALYLKLHLKIVSSEPSLLEEVSRLSTQLEET   874
Chelonia_mydas           SVEVMKSFLRLIGTMLNTKCDFEXAQAYLALFLKLHLKILSSEPVLLEEIAKVSTQLEET   878
Mus_musculus             SVEVMRSFLSMIGMMLDRKRDFELAQAYLALFLKLHLRTLPSEPALLEELVKLSSQVEKD   876
Rattus_norvegicus        SIEAMRSFLSMIGVMLDRKRDFELAQAYLALFLKLHLRMLPSEPVLLEELVKLSSQVEED   872
Homo_sapiens             SIEVMQSFLKMIGMMLDRKRDFELAQAYLALFLKLHLKMLPSEPVLLEEITNLSSQVEEN   872
Pan_troglodytes          SIEVMQSFLKMIGMMLDRKRDFELAQAYLALFLKLHLKMLPSEPVLLEEITNLSSQVEEN   928
Macaca_mulatta           SVEVMQSFLKMIGMMLDRKRDFELAQAYLALFLKLHLKMLPSEPVLLEEITNLSSQVEEN   901
Callithrix_jacchus       SIEVMQSFLKMIGMMLDRKRDFELAQAYLALFLKLHLKMLPSEPILLEEITNLSSQVEEN   929
Heterocephalus_glaber    SIEVMQSFLKMIEMMLERKRDFELAQAYLALFLKLHLKMLPSEPVLLEEMTKLSSQVEEN   872
Canis_lupus_familiaris   SVDIMQSFLKMIGIMLDKKRDFELAQAYLALFLKLHLKMLPSEPVLLEEITKLSSQVEEN   868
Equus_caballus           SVEVMQSFLKMIGMMLDRKRDFELAQAYLALFLKLHLKMLPSEPVLLEELTKLSSQVEEN   945
Bos_taurus               SVGIMKSFLKMIGTMLDRKRDFQLAQAYLALFLKLHLKTLPSEPVLLEEMTKLSSQLEEN   881
Latimeria_chalumnae      SLEVMSSFLRMIGSMMHTRRDFELAQAYLALFLKLHLKVIVEDPTLLEETSKVSTQLEET   870
Rhinatrema_bivittatum    SIEVMLSFLRLIGSMLKTKRDFELAQAYLALFLKLHLKLLPSEPTLVEEMSTLSGQLEET   868
Xenopus_tropicalis       SVEVMQSFLKMIQSMLDTKKDFEVAQAYLALFLKLHLKFISSEPILLEEINAVLPSLEET   873
                         .......910.......920.......930.......940.......950.......960

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Pavo_muticus             WIHLRSLFNQSLCVLTYMKSALL   841
Pavo_cristatus           WIHLRSLFNQSLCVLTYMKSALL   841
Gallus_gallus            WIHLRSLFNQSLCVLTYMKSALL   890
Anas_platyrhynchos       WIHLRTLFNQSLCVLTYMKSALL   897
Chelonia_mydas           WIHLQTLFNQSLCVLNYMKSALL   901
Mus_musculus             WTHLQSLFNQSMCVLNYIKSAFL   899
Rattus_norvegicus        WTHLQSLFNQSMCVLNYIKSALL   895
Homo_sapiens             WTHLQSLFNQSMCILNYLKSALL   895
Pan_troglodytes          WTHLQSLFNQSMCILNYLKSALL   951
Macaca_mulatta           WTHLQSLFNQSMCILNYLKSALL   924
Callithrix_jacchus       WIHLQSLFNQSMCILNYLKSALL   952
Heterocephalus_glaber    WIHLQSLFNQSMCILNYIKSALL   895
Canis_lupus_familiaris   WIHLQSLFNQSMCILNYIKSALL   891
Equus_caballus           WIHLQSLFNQSLCVLNYIKSALL   968
Bos_taurus               WIHLQLLFNQSLCVLNYIKSALL   904
Latimeria_chalumnae      WAHMQTLFNQSMCLLGYMKSALL   893
Rhinatrema_bivittatum    WLHLQTLFNQSLNVLSYMKSALL   891
Xenopus_tropicalis       WLNLQTLFNQSLCVLNYMKSALL   896
                         .......970.......980...
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