

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/IKBAMP.pep Tue Feb 1 12:24:26 2022

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Pavo_muticus	-----MRNLRLRLRTGGCRPAAAP--	18
Pavo_cristatus	-----MRNLRLRLRTGGCRPAAAP--	18
Gallus_gallus	-----MRNLRLRLRTGGCRPAAAP--	18
Anas_platyrhynchos	-----MRNLRLRLRAAGRRPAAIIP--	19
Chelonia_mydas	MRLPAAPVAAPRWQRPSPEPERRRRRALFGGLHFSSSCVADTMRNLKLLHRTREHGPVPAL--	58
Rattus_norvegicus	-----MRNLKLHQTLEFRDIOAP--	18
Mus_musculus	-----MRNLKLHRTLEFRDIOAP--	18
Homo_sapiens	-----MRNLKLFRITLEFRDIOGP--	18
Pan_troglodytes	-----MRNLKLFRITLEFRDIOGP--	18
Macaca_mulatta	-----MRNLKLFRITLEFRDIOGP--	18
Callithrix_jacchus	-----MRNLKLFRITLEFRDIOGP--	18
Bos_taurus	-----MRNLKLLRSLEFRDIOAQ--	18
Canis_lupus_familiaris	-----MNCLIMRNKLKLLQTLFEFRDIOAP--	23
Equus_caballus	-----MRNLKLLRTLEFGDIOAP--	18
Heterocephalus_glaber	-----MRNLKLLQTLFEFKDIOAP--	18
Latimeria_chalumnae	-----	
Rhinatrema_bivittatum	-----MRNLRLVRARGCGAAAAALP	20
Xenopus_tropicalis	-----MRNLKLKRCLEFRNTSGSL--	18
	1.....10.....20.....30.....40.....50.....60	

Pavo_muticus	GSPQCFCLGVDPGTVFVGSQSGLLELDCAAQSVVREVSILTAEGFMPEDGSGCIIIGIEYLP	78
Pavo_cristatus	GSPQCFCLGVDPGTVFVGSQSGLLELDCAAQSVVREVSILTAEGFMPEDGSGCIIIGIEYLP	78
Gallus_gallus	GSPQCFCLGVDPGTVFVGSQSGLLELDCAAQSVVREVSILTAEGFMPEDGSGCIVIGIEYLP	78
Anas_platyrhynchos	AAPQRFCLGAEPGVVLVGSNGLVELGAAGQPVTRVSLTAEGFMPEDGSGSVVGIEDIP	79
Chelonia_mydas	GSPQCFCLRADQGTLLIGSEYGLELDPAIRGVTNEISLTVDFLPEDGSGHIVGIEDLP	118
Rattus_norvegicus	GKPCFCFLRAEQGTVLIGSERGLTEVDPVKKEVKTEISLVAEGFLPEDGSGCIVGIQDLL	78
Mus_musculus	GKPCFCFLRAEQGTVLIGSERGLTEVDPVRREVKTEISLVAEGFLPEDGSGCIVGIQDLL	78
Homo_sapiens	GNPQCFSLRTEQGTVLIGSEHGLIEVDPVSREVKNESLVAEGFLPEDGSGRIVGVQDLL	78
Pan_troglodytes	GNPQCFSLRTEQGTVLIGSEHGLIEVDPVSREVKNESLVAEGFLPEDGSGRIVGVQDLL	78
Macaca_mulatta	GKPCFCFLRTEQGTVLIGSEHGLIEVDPVSREVKNESLVAEGFLPEDGSGRIVGVQDLL	78
Callithrix_jacchus	GKPCFCFLRTEQGTVLIGSEHGLIEVDPVSREVKNESLVAEGFLPEDGSGRIVGIQDLL	78
Bos_taurus	GKPRCLCLRAEQATVLIGSEHGLIEVDPVTRVKHEIPLVAEGFLPEDGSGCIIIGIQLL	78
Canis_lupus_familiaris	GRPCISLRTAQGTVLIGSDHGLIEIDPVTREVKNESLVAEGFLPEDGSGCIVGIQDLL	83
Equus_caballus	GKPCCLSLRTEQGTVLIGSEHGLIEVDPVTRVKNEISLVAEGFLPEDGSGSIVGIQDLL	78
Heterocephalus_glaber	GKPCYFSLRTEQNTVLIGSECGLEIVDPIITREVKNESLVAESFLPEDGSGCIVGIQDLL	78
Latimeria_chalumnae	-----	
Rhinatrema_bivittatum	GSPQALCVRPETGTVLLAWGGGIAELDPSSQOLTSEVSILTAEGFLPEDGSGCIVGIQDLP	80
Xenopus_tropicalis	GSPQCSAIRSETGTVLIGSGYGFVEFDPNSEIHKDISLTAANFLPEDGNHGLVGIQDVP	78
70.....80.....90.....100.....110.....120	

Pavo_muticus	ELECVCVATAAGDILLCNLSTKQVECVGSVDGGLSAMSWSPDQELVLLATG-----	129
Pavo_cristatus	ELECVCVATAAGDILLCNLSTKQVECVGSVDGGLSAMSWSPDQELVLLATG-----	129
Gallus_gallus	ELECVCVATAAGDILLCNLSTKQVECVGSVDGGLSAMSWSPDQELVLLATG-----	129
Anas_platyrhynchos	EQECVCVATAAGDILLCNLSTKQVECVGSVDGGLSAMSWSPDQELVLLATG-----	130
Chelonia_mydas	DEECVCVATAAGDVILCNLSTKQLECVGSVDGGLTMSWSPDQELVLLVLTG-----	169
Rattus_norvegicus	DQESVCVATASGDVIVCNVSTQLECVGNVASGISVMSWSPDQELLLLLATA-----	129
Mus_musculus	DQESVCVATASGDVIVCNVSTQLECVGSVASGISVMSWSPDQELLLLLATA-----	129
Homo_sapiens	DQESVCVATASGDVILCSLSTQLECVGSVASGISVMSWSPDQELVLLATG-----	129
Pan_troglodytes	DQESVCVATASGDVILCSLSTQLECVGSVASGISVMSWSPDQELVLLATG-----	129
Macaca_mulatta	DQESVCVATASGDVIVFSLSTQLECVGSVASGISVMSWSPDQELVLLATG-----	129
Callithrix_jacchus	DQESVCVATASGDVILCSLSTQQLDCVGSVSSGISVMSWSPDQELVLLATG-----	129
Bos_taurus	DQESVCVATASGDVLLCNLSTHQLCECVGSVASGISVMSWSPDQELLLLLATG-----	129
Canis_lupus_familiaris	DQESVCVATASGDVILCNLSTHQLCECVGSVASGISVMSWSPDQELVLLATG-----	134
Equus_caballus	DQESVCVATAPGDVILCNLSTHQLCECVGSVASGISVMSWSPDQELVLLATG-----	129
Heterocephalus_glaber	DQESVCVATASGDVILCNLSTHQLCECVGSVATGISVMSWSPDQELVLLATGAPPAPAFAPSC	138
Latimeria_chalumnae	-----	
Rhinatrema_bivittatum	DQESVCVATSTGDVILYNFSTCQLECVGSVDGGLNAMSWSPDQELVLLLTG-----	131
Xenopus_tropicalis	DQESVCVATSTGDVLLSNINTGQLECVGSVDGGLNAMSWSPDQELVLLVLTG-----	129
130.....140.....150.....160.....170.....180	

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Pavo_muticus          ----- QQALIMMTRDFEPIT 144
Pavo_cristatus        ----- QQALIMMTRDFEPIT 144
Gallus_gallus         ----- QQTLLIMMTRDFEPIT 144
Anas_platyrhynchos    ----- QQTLLIMMTRDFEPIT 145
Chelonia_mydas        ----- QQTLLIMMTKDFEPIT 184
Rattus_norvegicus     ----- QQTLLIMMTRDYEVIT 144
Mus_musculus          ----- QQTLLIMMTKDFEVIA 144
Homo_sapiens          ----- QQTLLIMMTKDFEPIL 144
Pan_troglodytes       ----- QQTLLIMMTKDFEPIL 144
Macaca_mulatta        ----- QQTLLIMMTKDFEPIM 144
Callithrix_jacchus    ----- QQTLLIMMTKDFEPIM 144
Bos_taurus           ----- QQTLLIMMTKDFEPIM 144
Canis_lupus_familiaris ----- QQTLLIMMTKDFEPIM 149
Equus_caballus        ----- QQTLLIMMTKDFEPIM 144
Heterocephalus_glaber PSPQFERMDTPEYQONPCEDNNPVLLGPCSENPLGHLQLVQTENEQTLIMMTRDFEPIM 198
Latimeria_chalumnae   -----
Rhinatrema_bivittatum ----- QQTLLIMMTKEFEPVA 146
Xenopus_tropicalis    ----- QQTLLIMMTKDFEPIA 144
.....190.....200.....210.....220.....230.....240

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Pavo_muticus          EKQIHQDEFEGEGKFITVGWGKKETQFHGSEGKQAAQRKQTEVLPASSWDDGKPRVTWRGD 204
Pavo_cristatus        EKQIHQDEFEGEGKFITVGWGKKETQFHGSEGKQAAQRKQTEVLPASSWDDGKPRVTWRGD 204
Gallus_gallus         EKQIHQDEFEGEGKFITVGWGKKETQFHGSEGKQAAQRKQTEVLPASSWDDGKPRVTWRGD 204
Anas_platyrhynchos    EKQIHQNEFEGEGKFVALGWGKKETQFHGSEGKQAAHRKQTEVSPSTWDDSRPRVTWRGD 205
Chelonia_mydas        EREIHQDDFGERKFITVGWGKKETQFHGSEGKQAAHRKQTEVPPASSDDGRPRVTWRGD 244
Rattus_norvegicus     EQQIHQDDFEGEGKFITVGWGSKDTQFHGSEGRPTTFPVQMHE-ALSWDDHRPQITWRGD 203
Mus_musculus          EEQIHQDDFEGEGKFITVGWGSKDTQFHGSEGRPTAFVLPEN-ALPWWDDRRPHITWRGD 203
Homo_sapiens          EQQIHQDDFEGESKFITVGWGRKETQFHGSEGRQAAFQMMHES-ALPWWDDHRPQVTWRGD 203
Pan_troglodytes       EQQIHQDDFEGESKFITVGWGRKETQFHGSEGRQAAFQMMHES-ALPWWDDHRPQVTWRGD 203
Macaca_mulatta        EQQIHQDDFEGESKFITVGWGRKETQFHGSEGRQAAFQMMHES-ALPWWDDRRPQVTWRGD 203
Callithrix_jacchus    EQQIHQDDFEGESKFITIGWGRKETQFHGSEGRQAAFQMETLES-ALPWWDDHRPRVTWRGD 203
Bos_taurus           EQQIHQDDFEGESKFITVGWGRKETQFHGSEGRQAAFQMMHES-ALPWWDDHSPQVTWRGD 203
Canis_lupus_familiaris EQQIHQDDFEGESKFITVGWGRKETQFHGSEGRQAAFQVQMYES-ALPWWDDHRPQVTWRGD 208
Equus_caballus        EQQIHQDDFEGESKFITVGWGRKETQFHGSEGRQAAFQVQMYES-ALPWWDDHRPRVTWRGD 203
Heterocephalus_glaber EQPVHQDDFEGESKFITVGWGKKETQFHGSEGRQAAFQMMHES-ALPWWDDHRPQVSWRGD 257
Latimeria_chalumnae   -----
Rhinatrema_bivittatum EIPLHPEDFEGEGKFVTLGWGAKETQFHGSEGKQAAQHKQTEVQPALPWWDDHRPRVTWRGD 206
Xenopus_tropicalis    EKSIIQDDFEGEEKFITLGWGKKETQFHGSEGKKAQQKIMAVQPALPWWDDHKPRITWRGD 204
.....250.....260.....270.....280.....290.....300

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                **:***.* *:*:*.*.: ** :.:***** ***:.* **:::
Pavo_muticus          GQFVAVSAVCPETGARKVRVWNRELMLOSTSEPISGLEQALAWKPSGNLIASTQEKPNRH 264
Pavo_cristatus        GQFVAVSAVCPETGARKVRVWNRELMLOSTSEPISGLEQALAWKPSGNLIASTQEKPNRH 264
Gallus_gallus         GQFVAVSAVCPETGARKVRVWSRELMLOSTSEPISGLEQALAWKPSGNLIASTQEKPNRH 264
Anas_platyrhynchos    GQFVAVSAVCPETGARKVRVWNRELVLOSTSEPISGLEQALAWKPSGNLIASTQEKPNRH 265
Chelonia_mydas        GQFVAVSAICPQTGARKVRVWSRELVLOSTSEPIPGLEQALAWKPSGSLIASTQEKPNKH 304
Rattus_norvegicus     GQFFAVSVVCSQTGARKIRVWNREFALOSTSESVPGLGPSLAWKPSGSLIASTQDKPNQQ 263
Mus_musculus          GQYFAVSVVCRQTEARKIRVWNREFALOSTSESVPGLGPALAWKPSGSLIASTQDKPNQQ 263
Homo_sapiens          GQFFAVSVVCPETGARKVRVWNREFALOSTSEPVAGLGPALAWKPSGSLIASTQDKPNQQ 263
Pan_troglodytes       GQFFAVSVVCPETGARKVRVWNREFALOSTSEPVAGLGPALAWKPSGSLIASTQDKPNQQ 263
Macaca_mulatta        GQFFAVSVVCPETGARKVRVWNREFALOSTSEPVAGLGPALAWKPSGSLIASTQDKPNQQ 263
Callithrix_jacchus    GQFFAVSVVCPETGARKVRVWNREFALOSTSEPVAGLGPALAWKPSGSLIASTQDKPNQQ 263
Bos_taurus           GQFFAVSVVCPETGARKVRVWSREFALOSTSEPVAGLGPALAWKPSGSLIASTQDKPNQQ 263
Canis_lupus_familiaris GQFFAVSVVCPETGARKVRVWNREFALOSTSEPVAGLGPALAWKPSGSLIASTQEKPNQQ 268
Equus_caballus        GQFFAVSVVCPDTGARKVRVWNREFALOSTSEPVAGLGPALAWKPSGSLIASTQDKPNQH 263
Heterocephalus_glaber GQFFAVSVVCPETGARKVRVWNREFALHSTSEPVAGLGPALAWKPSGSLIASTQDKPNQQ 317
Latimeria_chalumnae   ----- ARKVRVWNRECVLOSTSEPVSGLEQALCWKPSGSLIASTQKPNRH 46
Rhinatrema_bivittatum GQYFAVSTVCPETGARKIRVWSRELAOSTSEPVSGLEVAISWKPSGSLIASTQSKPHRH 266
Xenopus_tropicalis    GOLFAVSSVCKETGNRKIRVWNRELAOSTSESIQEGLEQALSWKPSGALIASSQSKPNKN 264
.....310.....320.....330.....340.....350.....360

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Pavo_muticus      DVVFLEKNGLLHGEFTLPFQKGQVKVNELIWNADSTVLAVWLEELKTV-NSNPNSYVHLW 323
Pavo_cristatus    DVVFLEKNGLLHGEFTLPFQKGQVKVNELIWNADSTVLAVWLEELKTV-NSNPNSYVHLW 323
Gallus_gallus     DVVFLEKNGLLHGEFTLPFQKGQVKVNELIWNADSTVLAVWLEELKTV-NSNPNSYVQLW 323
Anas_platyrhynchos DVVFLEKNGLLHGEFTLPFQKGQVKVNELIWNADSTVLAIWLEELKTE-NSNPSSYVQLW 324
Chelonia_mydas    DVVFFEKNGLLHGEFTLPFQKGQAKVNEILLWNLDSSILAVWLEDLKNEKNSGTNTYVQLW 364
Rattus_norvegicus DVVFFEKNGLLHGYFTLPFLKDEVKVNLDLLWNADSSVLAVWLEDLPKEGSSSTLKSYVQLW 323
Mus_musculus      DVVFFEKNGLLHGHFTLPFLKDEVKVNLDLLWNADSSVLAIWLEDLPKEDSSTLKSYVQLW 323
Homo_sapiens      DIVFFEKNGLLHGHFTLPFLKDEVKVNLDLLWNADSSVLAVWLEDLQREESSIPKTCVQLW 323
Pan_troglodytes   DIVFFEKNGLLHGHFTLPFLKDEVKVNLDLLWNADSSVLAVWLEDLQREESSIPKTCVQLW 323
Macaca_mulatta    DIVFFEKNGLLHGHFTLPFLKDEVKVNLDLLWNADSSVLAVWLEDLQREENSILKTYVQLW 323
Callithrix_jacchus DIVFFEKNGLLHGHFTLPFLKDEVKVNLDLLWNADSTVLAVWLEDLQOEGSIPKTYVQLW 323
Bos_taurus        DVVFFEKNGLLHGQFTLPFFKDEVKVNGLFWNADSTVLAVWLEELQREENSILKTYVQLW 323
Canis_lupus_familiaris DIVFFEKNGLLHGHFTLPFLKDEVKVNGLFWNADSTVLAVWLEDLQRENCITLTKTYVQLW 328
Equus_caballus    DVVFFEKNGLLHGHFTLPFLKDEVKVNLDLLWNADSTVLAVWLEDLQREENSTLKAYVQLW 323
Heterocephalus_glaber DVVFFEKNGLLHGHFMLPFLKDEVKVNLDLLWNADSSVLAIWLEDLQREENSALKTYVQLW 377
Latimeria_chalumnae DVVFFERNGLLHGEFTLPFEKEQVKVNEVLWNTDSTVLALWLEDLQEGENSKPNTYVQLW 106
Rhinatrema_bivittatum DVVFFEKNGLLHGEFTLPFCKGQVKVNEILLWNSDSTVLALWMEDLQKEDSPDPSTYIQLW 326
Xenopus_tropicalis SIIFIEKNGLVHGEFTLPFIKGQKKVKELLWNSDSTVLAIWLEDVEKEGSSSS-CCVOLW 323
.....370.....380.....390.....400.....410.....420

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Pavo_muticus      TTGNHYHWYLKQSLHFGNLEKNKLVSLLDVSVLPYRLHILCQGWHYLFYDWHWTDRGMGE 383
Pavo_cristatus    TTGNHYHWYLKQSLHFGNLEKNKLVSLLDVSVLPYRLHILCQGWHYLFYDWHWTDRGMGE 383
Gallus_gallus     TTGNHYHWYLKQSLHFGNLEKNKLVSLLDVSVLPYRLHILCQGWHYLFYDWHWTDRGMGE 383
Anas_platyrhynchos TTGNHYHWYLKQSLHFGNMEKNKLVSLLDVSVLPYRLHVLCCGWQYLYDWHWTDRHGMGQ 384
Chelonia_mydas    TVGNHYHWYLKQSLHFGSAEKSQVSLRWDPVTPYRLHALCRGWHALCYDWHWTDRSTGE 424
Rattus_norvegicus TVGNHYHWYLKQSLPFSSTGKNQIVSLLDVSVTPGRHLVLCQGWRYLCCDWHWTDRSSGN 383
Mus_musculus      TVGNHYHWYLKQSLPFSSTGKNQIVSLLDVSVTPCRHLVLCQGWRYLCCDWHWTDRSSGN 383
Homo_sapiens      TVGNHYHWYLKQSLPFSSTGKSKIVSLMWDPVTPYRLHVLCCGWHYLAYDWHWTDRSVGD 383
Pan_troglodytes   TVGNHYHWYLKQSLPFSSTGKSKIVSLMWDPVTPYRLHVVCQGWHYLAYDWHWTDRSVGD 383
Macaca_mulatta    TVGNHYHWYLKQSLPFSSTGKSKIVSLMWDPVTPYRLHVLCCGWHYLAYDWHWTDRSVGD 383
Callithrix_jacchus TVGNHYHWYLKQSLPFSSTGKSKIVSLIWDVTPYRLHVLCCGWHYFCYDWHWTDRSLGD 383
Bos_taurus        TVGNHYHWYLKQSLPFSSTGKSKIVSLLDVSVTPYRLHVLCCGWHYLCYDWHWTDRSSGD 383
Canis_lupus_familiaris TVGNHYHWYLKQSLPFSSTGKSKIVCLMWDLVTPYRLHILCQGWHYLCYDWHWTDRSSGD 388
Equus_caballus    TVGNHYHWYLKQSLPFSSTGKSKIVSLMWDPVTPYRLHVLCCGWHYLCYDWHWTDRSLGD 383
Heterocephalus_glaber TVGNHYHWYLKQSLPFDTSAKSRIVSLMWDPVTPYRLHVLCCGWHYLCYEWHWMTDRSSGD 437
Latimeria_chalumnae TVGNHYHWYLKQSLHFGSDAESQIVALTWDPENPYRLHVLCCGWHYLCYDWHWTDRSAGE 166
Rhinatrema_bivittatum TTGNHYHWYLKQSLCFDNDES SRVASLVWDPEKPYRLHVLFCGWHYLCYDQWSTDRSAGE 386
Xenopus_tropicalis TVGNHYHWYLKQNLHFGNKNMNVCELMWDPENAYRLHICTGWHYFCFDWFSTDCSDGG 383
.....430.....440.....450.....460.....470.....480

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Pavo_muticus      NSLHVANVAVIDGAKVLVTAFAHHA VPPPMCTYELQLKQAVNQIAFHTDPKCSGNMAILD 443
Pavo_cristatus    NSLHVANVAVIDGAKVLVTAFAHHA VPPPMCTYELQLKQAVNQIAFHTDPKCSGNMAILD 443
Gallus_gallus     NSLHVANVAVIDGAKVLVTAFAHHA VPPPMCTYELQLKQAVNQIAFHTDPKCSGDMAILD 443
Anas_platyrhynchos NSQHVANVAVIDGDKVLVTAFAHHA VPPPMCTYELQLKQAVNQVTFHTDPKHSGDMAVLD 444
Chelonia_mydas    ESRLVANVAVIDGDKVLVTAFAHHA VPPPMCTYELQLKQAVNQVAFHTDPAKSADLAVLD 484
Rattus_norvegicus SADDLANVAVIDGNKVLVTVFQRTVTPPPMCTYRLLIPHPVNQVMFSAHLG--NDLAVLD 441
Mus_musculus      SANDLANVAVIDGNRVLVTVFQRTVTPPPMCTYRLLIPHPVNQVIFSAHLG--NDLAVLD 441
Homo_sapiens      NSSDLSNVAVIDGNRVLVTVFQRTVTPPPMCTYQLLFPHPNQVTFFAHPQKSNDLAVLD 443
Pan_troglodytes   NSSDLSNVAVIDGNRVLVTVFQRTVTPPPMCTYQLLFPHPNQVTFFAHPQKSNDLAVLD 443
Macaca_mulatta    NSSDLSNVAVIDGNRVLVTVFQRTVTPPPMCTYKLLFPHPNQVTFFAHPQKSNDLAVLD 443
Callithrix_jacchus NSSDLSNVAVIDGNRVLVTVFQRTVTPPPMCTYQLLFPHPNQVTFSAHPQKSNDLAVLD 443
Bos_taurus        NLSDLMANVAVIDGNRVLVTVFQRTVTPPPMCTYRLLIPHPVNQVMFSAHPKKSNDLAVLD 443
Canis_lupus_familiaris NSSDLMANVAVIDGNKVLVTVFQRTVTPPPMCTYRLLIPHPVNQVMFSAHPKKSNDLAILD 448
Equus_caballus    NSSDLMANVAVIDGNRVLVTVFQRTVTPPPMCTYRLLIPHPVNQVMFSAHPKKSNDLAILD 443
Heterocephalus_glaber NSSDLANVAVIDGNRVLVTVFQRTVTPPPMCTYRLLIPHPVNQVMFSAHSSKKSNDLAVLD 497
Latimeria_chalumnae NCDDSANVAVIDGDKVLVTAFAHHA VPPPMCTYHLHLDCAVNQVMFHFSEPHKSNDVAVLT 226
Rhinatrema_bivittatum DPRDSALVAVIDGDKVLVTAFAHHA VPPPMCTYFLQLTQPNQVAFQNPQKSNDLAILD 446
Xenopus_tropicalis Q-----GDVAVIDGDKVLVTVFQRTVTPPPMCTYFLQLSCAVNEVAFQLDPEKSSGLAILD 439
.....490.....500.....510.....520.....530.....540

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Pavo_muticus      ADNKIYVYRYGQSMVEDPTVRLGAIGNGFKANVEMPHLDKTYRVDLGS---NTNEVMNP      500
Pavo_cristatus    ADNKIYVYRYGQSMVEDPTVRLGAIGNGFKANVEMPHLDKTYRVDLGS---NTNEVMNP      500
Gallus_gallus     ADNKIYVYRYGQSMVKDPTVRLGATGGNGFKANVEMPHLDKTYRVDLGS---NTNEAMNP      500
Anas_platyrhynchos ADNKITVYRYGQRTVKDPAIRLGAVGGNGFKANVETPHLDKTYRVDLGS---SADEMMHP      501
Chelonia_mydas    ASNRISIVYRVGDTGTVKDPVTVL---GGSGFKASVETPHLEKTYRVEVCC---GKGKQVNP      538
Rattus_norvegicus ASNQISVYKCDKPDMDSTVKLGAVGGTGFKVPLRTPHLEKRYRIQFGN---KEEEEDVSP      499
Mus_musculus      ASNQISVYKCGDKPNMDS TVKLGAVGGNGFKVPLRTPHLEKRYSIQFGNNEEEEEEEVNA      501
Homo_sapiens      ASNQISVYKCGDCPSADPTVKLGAVGGSGFKVCLRTPHLEKRYKIQFEN---NEDQDVNP      500
Pan_troglodytes   ASNQISVYKCGDCPSADPTVKLGAVGGSGFKVCLRTPHLEKRYKIQFEN---NEDQDVNP      500
Macaca_mulatta    ASNQISVYKCGDCPSTDPTVKLGAVGGSGFKVSLRTPQLEKRYKIQFEN---NEDEDVNP      500
Callithrix_jacchus ASNQISVYKRGDCPRADPTVKLGAVGGSGFKVSLRTPHLEKRYKIQFEN---NEEQDVNP      500
Bos_taurus        ASNQISVYKCGDPSIDCTVKLGAVGGNGFKISLRTPHLDKRYKIPIED---SEAEVNP      500
Canis_lupus_familiaris ASNQISVYKCGDPSVDLTVKLGAVGGNGFKVSLRTPHLEKRYKIQFEN---GEDQIINP      505
Equus_caballus     ASNQISVYKCGDSQSVDP TVKLGAVGGNGFKVSLRTPHLEKRYKIQFEN---SEEQEVNP      500
Heterocephalus_glaber ASNQISVYKCGDPSVDPTVKLGAVGGNGFKVPLKTPHLEKRYIIQFEN---DEDEKVP      554
Latimeria_chalumnae ADNRLSIYRSADGTNKDPTVKLGAVGGNGFKVSVKTHQLERTYSIKREK-----KEVDP      280
Rhinatrema_bivittatum ASNRITIIYRYGASIMKDETVKLGSAAGNGYKVNATPSLEKIYRVNFEA---GEEKGINP      503
Xenopus_tropicalis SANTLSIYRYGNSTVNDPTVKLEAVGGNGFKTSYKTPKLEKKLRLPNL-----CDVQP      493
.....550.....560.....570.....580.....590.....600

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Pavo_muticus      LGLRFLTWLPDDSFVLVGEDQQAARSVLHHLTAAPHVTGAEEHLSLRSLPVGNEVISL      560
Pavo_cristatus    LGLRFLTWLPDDSFVLVGEDQQAARSVLHHLTAAPHVTGAEEHLSLRSLPVGNEVISL      560
Gallus_gallus     LGLHFLTWLPDDSFVLVQDQQAARSVLHHLTAAPHVTGTEEEHLSLRSLPVDGNEVISL      560
Anas_platyrhynchos LGLRCLTWLPDDSFVLVSQDQHASQSVLHHLTAAPHVTGAEEHLSLRSLPVDGNEVISL      561
Chelonia_mydas    LAFRLFTWLQDDTFLAVSQGQLATHSVIHHLTGGP---EAEGGCILYLRSLVPVDGDIVISL      595
Rattus_norvegicus LQFRFLTWIEGDAFLAISHSHSSPQSIHHLTMAGSEGDEEQQLNVSSSVTVDGVIISL      559
Mus_musculus      LQLSFLTWVEDDTFLAISYSHSSQSIHHLTVTHSEVDDEEQQLDVSSSVTVDGVIISL      561
Homo_sapiens      LKLGLLTWIEEDVFLAVSHSEFSRPSVIHHLTAASSEMDEEHGQLNVSSSAVDGVIISL      560
Pan_troglodytes   LKLGLLTWIEEDIFLAVSHSEFSRPSVIHHLTPASSEMDEEHGQLNVSSSAVDGVIISL      560
Macaca_mulatta    LKLGLLTWIEEDLFLAVSHSESSRPSVIHHLTAASSEMDEEHGQLNVSSSATVDGVIISL      560
Callithrix_jacchus LKLGLLTWIEENIFLAVSHSESRPSIIHHLTVAPSEMDEEQQLNVSSSATVDGVIISL      560
Bos_taurus        LKFSLLAWQEDVFLAVSHSQSPQSAIHHLTVAPSETDDKQQLNISSSVTVDGVIISL      560
Canis_lupus_familiaris LKFSLLTWIQQEDVFLAVSYSQSPQSAIHHLTVAPSEADDEHRQLHISSVTVDGVIISL      565
Equus_caballus     LKLSLLTWIQQEDVFLAVSYSQSPQFVIHHLTVAPSETDGEQQLNISSSVAVEGVIISL      560
Heterocephalus_glaber LKLTLLTWIEEDSFLAVSHSQFSQSTVHRLTIASSEAAEEQQLIISSVTVDGIIISL      614
Latimeria_chalumnae LKLRLLTWVKDDTFLAVGQGTSTTQSVVYQL-VTSSVGDGPEGHINVSANE-----330
Rhinatrema_bivittatum LRLQHLTWVQDDTFLAVGHRSSQSVIYHLLTSSENGEEDICVEVRNTVTVDGDIVISL      563
Xenopus_tropicalis LNFRLLTWVQDDTFIAISQEPNSSISIVHQMTADQMDQDIN---VRDVGTITGHVISL      549
.....610.....620.....630.....640.....650.....660

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      :      :      .      .::**      *      ::*      *      :      *
Pavo_muticus      CCSPVTKTVALQADRIILKYLWEASTPVLEPWRTSSGCALQFPHLCTQTSITRIGGE--      618
Pavo_cristatus    CCSPVTKTVALQADRIILKYLWEASTPVLEPWRTSSGCALQFPHLCTQTSITRIGGE--      618
Gallus_gallus     CCSPVTKTIALQADRIILKYRWEASTPVLEPWRTSSGRALQFPHLCMTSITRIGGE--      618
Anas_platyrhynchos CCSPVTKTVALQADGRILKYLWEASTPVLEPWQSSSGCAVQFPQLCVOTALTRIGGEGF      621
Chelonia_mydas    CYNPKTRAVALQLTDRILKYLCEAPTPALEPWTSSSGSAVRFPSPCVOTALAVIGGE--      653
Rattus_norvegicus CCCSKTKSSAVQLADGOVLKYLWESPSSAVEPWKNSEGRPVRFARPCTQMEAAAIGGE--      617
Mus_musculus      CCCSKTKSLAVQLADGOVLKYLWESPSSLAVEPWKNSEGIPIVRFVHPCTQMEVATIGGE--      619
Homo_sapiens      CCNSKTKSVVLQADGOIFKYLWESPSSLAIPWKNSGGFPVRFPPYCTQTELAMIGEE--      618
Pan_troglodytes   CCNSKTKSVVLQADGOIFKYLWESPSSLAIPWKNSGGFPVRFPPYCTQTELAMIGEE--      618
Macaca_mulatta    CCNSKTKSVALQADGOIFKYLWESPSSLAIPWKNSGGFPVRFPPYCTQTELAMIGEE--      618
Callithrix_jacchus CCNSKTKSVALQLTGGOIFKYLWESPSSLAIPWKNSGGFPVRFPPYCTQTELAMIGEE--      618
Bos_taurus        CCNPKTKSVALQVAGGOIFKYLWESPSSLAVEPWKNPGGLPVRFPPYCTQTELAMVGGE--      618
Canis_lupus_familiaris CCNSKTKSVALQLAGGOILKYFWESPSSLAVEPWKNPGGFPVRFPPYCTQTELAMIGGE--      623
Equus_caballus     CCNSKTKSVALQADGOILKYLWESPSSLAVEPWKNPGGFPVRLPYPCTQTELAMIGGE--      618
Heterocephalus_glaber CHSSKTKSVALQADGOILKFLWESPSSLAVEPWKSLGGFPVRFPPYCTQTELAVIGGE--      672
Latimeria_chalumnae -----KRFCLCVYKIESTVPTVEPWNRSSGGVMQLPQPCTQTVLCIIEGE--      374
Rhinatrema_bivittatum SCSPKTTVVALQADGKLLKYLWASPAALPEPWKSKNGCPVRFPPYCVOTTLATVDGE--      621
Xenopus_tropicalis CYSNTKHCAIQTNSGLWKYLWENPTPVPEPWIDGMGHVKFPPQPLQTLATISIEGE--      607
.....670.....680.....690.....700.....710.....720

```

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/IKB&P: Tue Feb 1 12:24:26 2022

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      :*::*:.*:::.. *::** ***  .:***.*::** *: ..* .:::
Pavo_muticus      -----EMILGLTDRCRFFVNDAEVASNITSFATYSEFLLVTINSHTCQCFCLKNMSVK 671
Pavo_cristatus    -----EMILGLTDRCRFFVNDAEVASNITSFATYNEFLLVTINSHTCQCFCLKNMSVK 671
Gallus_gallus     -----EMILGLTDRCRFFVNDTEVASNITSFATYSEFLLVTINSHTCQCFCLKNMSVK 671
Anas_platyrhynchos FPSVGIOEVILGLTDRCRFFVNDTEVASNITSFATYNEFLLVTINSHTCQCFCLKDLTVK 681
Chelonia_mydas    -----EAILGLTERCRFFINDVEVASNITSFAIYDEFLLVTTHSHTCQCVSLRDTSLK 706
Rattus_norvegicus -----ECVLGLTDRCRFFINDTEVASNITSFAVCDDEFLLVTTHSHTCQCFSLSGASLK 670
Mus_musculus      -----ECVLGLTDRCRFFINDTEVASNITSFAVCDDEFLLVTTHSHTCQVFSLSGASLK 672
Homo_sapiens      -----ECVLGLTDRCRFFINDIEVASNITSFAVYDEFLLLTTHSHTCQCFCLRDASF 671
Pan_troglodytes   -----ECVLGLTDRCRFFINDIEVASNITSFAVYDEFLLLTTHSHTCQCFCLRDASF 671
Macaca_mulatta    -----ECVLGLTDRCRFFINDIEVASNITSFAVYDEFLLLTTHSHTCQCFCLRDASF 671
Callithrix_jacchus -----ECVLGLTDRCRFFINDIEVASNITSFAVYDEFLLLTTHSHTCQCFCLRDASF 671
Bos_taurus        -----ECILGLTDRCRFFINDTEVASNITSFAVYDEFLLVTTHSHTCQCFCLRDASLK 671
Canis_lupus_familiaris -----ECVLGLSDRCRFFINDTEVASNITSFAVYDEFLLLTTHSHTCQCFCLRDASF 676
Equus_caballus     -----ECVLGLTDRCRFFINDTEVASNITSFAVYDEFLLLTTHSHTCQCFCLRDASF 671
Heterocephalus_glaber -----ECVLGLTDRCRFFISDNEVASNITSFTVCDEFLLLTTHSHTCQCFSLRDTSF 725
Latimeria_chalumnae -----EALLGLTERARFFVNDVEVGSNITSFIPYDEFLLFTTHSHTCCLSLRSGASLK 427
Rhinatrema_bivittatum -----VVNLGLTERSRYINDMEIASNITSFAVYEEFLLLTTHSHICRLSLRNSSSLK 674
Xenopus_tropicalis -----EVVIGLTERSRLFINSSEVASNITSFHLKFEFLLLTTHSHTCQVSLQDTSLK 660
.....730.....740.....750.....760.....770.....780

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      * : . * :*:*****:*** * *:*****:*****:****:
Pavo_muticus      ALQVGLSSVPVPSNETLRKVERGSRIITVVPQDTKVVLQMPRGNLETVHHRALVLAQIRK 731
Pavo_cristatus    ALQVGLSSVPVPSNETLRKVERGSRIITVVPQDTKVVLQMPRGNLETVHHRALVLAQIRK 731
Gallus_gallus     ALQVGLSSVAAPNSETLRKVERGSRIITVVPQDTKVVLQMPRGNLETVHHRALVLAQIRK 731
Anas_platyrhynchos ALQAGLSSAAPPNSETLRKVERGSRIITVVPQDTKVVLQMPRGNLETVHHRALVLAQIRK 741
Chelonia_mydas    VLQAGFSSSSSTPN-ETLRKVERGSRIITVVPQDTKLILQMPRGNLETVHHRALVLAQIRK 765
Rattus_norvegicus MLQAGLCGSQVPSGEILRKVERGSRIITVVPQDTKLILQMPRGNLEVVHHRALVLAQIRK 730
Mus_musculus      MLQAALSGSHEASGEILRKVERGSRIITVVPQDTKLILQMPRGNLEVVHHRALVLAQIRK 732
Homo_sapiens      TLQAGLSSNHVSHGEVLRKVERGSRIITVVPQDTKLVLQMPRGNLEVVHHRALVLAQIRK 731
Pan_troglodytes   TLQAGLSSNHVSHGEVLROVERGSRIITVVPQDTKLVLQMPRGNLEVVHHRALVLAQIRK 731
Macaca_mulatta    TLQAGLSSNHVSHGEILRKVERGSRIITVVPQDTKLVLQMPRGNLEVVHHRALVLAQIRK 731
Callithrix_jacchus TLQASLSSSHVSHGEVLRKVERGSRIITVVPQDTKLILQMPRGNLEVVHHRALVLAQIRK 731
Bos_taurus        TLQAGLSSSHVPNGESLRKVERGSRIITVVPQDTKLILQMPRGNLEVVHHRALVLAQIRK 731
Canis_lupus_familiaris TLHAGLSSSHVSKGESLRKVERGSRIITVVPQDTKLILQMPRGNLEVVHHRALVLAQIRK 736
Equus_caballus     TLQAALSSNHMSNGESLRKVERGSRIITVVPQDTKLILQMPRGNLEVVHHRALVLAQIRK 731
Heterocephalus_glaber TLQASLCSSHVANGEVLRKVERGSRIITVVPQDTKLILQMPRGNLEVVHHRALVLAQIRK 785
Latimeria_chalumnae SLPSVFSSSLTSNDETIRKVERGSRIITVVPQDTKLILQMPRGNLETIHHRALVLAQIRN 487
Rhinatrema_bivittatum ELOAVLNTSIPNDETVRKVERGSRIITVVPQDTKLILQMPRGNLETVHHRALVMAQIRK 734
Xenopus_tropicalis ALEAQLNSTSNPNDETIRKVERGSRIITVVPQDTKLILQMPRGNLETVHHRALVLAQIRK 720
.....790.....800.....810.....820.....830.....840

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      ** *::*:*****:*****:*****.* ** *: *: ** :***:*****:
Pavo_muticus      WLDRLMFREAFQCMRKLRINLNLIYDHNPKVFLENVETFIKQIDSVNYINLFFTELKDED 791
Pavo_cristatus    WLDRLMFREAFQCMRKLRINLNLIYDHNPKVFLENVETFIKQIDSVNYINLFFTELKDED 791
Gallus_gallus     WLDRLMFREAFQCMRKLRINLNLIYDHNPKVFLENVETFIKQIDSVNYINLFFTELKDED 791
Anas_platyrhynchos WLDRLMFREAFQCMRKLRINLNLIYDHNPKVFLENVETFIKQIDSVNHINLFFTELKEED 801
Chelonia_mydas    WLDRLMFKEAFECMRKLRINLNLIYDHNPKVFLENVETFIKQIDSVNYINLFFTELKEED 825
Rattus_norvegicus WLDKLMFKEAFECMRKLRINLNLIYDHNPKVFLENVETFIKQIDSVNHLNFFTELKEED 790
Mus_musculus      WLDKLMFKEAFECMRKLRINLNLIYDHNPKVFLENVETFIKQIDSVNHINLFFTELREED 792
Homo_sapiens      WLDKLMFKEAFECMRKLRINLNLIYDHNPKVFLGNVETFIKQIDSVNHINLFFTELKEED 791
Pan_troglodytes   WLDKLMFKEAFECMRKLRINLNLIYDHNPKVFLENVETFIKQIDSVNHINLFFTELKEED 791
Macaca_mulatta    WLDKLMFKEAFECMRKLRINLNLIYDHNPKVFLENVETFIKQIDSVNHINLFFTELKEED 791
Callithrix_jacchus WLDRLMYKEAFECMRKLRINLNLIYDHNPKVFLENVETFIKQIDSVNHINLFFTELKEED 791
Bos_taurus        WLDKLMFKEAFECMRKLRINLNLIYDHNPKVFLENVETFIKQIDSVNHINLFFTELKEED 791
Canis_lupus_familiaris WLDKLMFKEAFECMRKLRINLNLIYDHNPKVFLENVETFIKQIDSVNHINLFFTELKEED 796
Equus_caballus     WLDKLMFKEAFECMRKLRINLNLIYDHNPKVFLENVETFIKQIDSVNHINLFFTELKEED 791
Heterocephalus_glaber WLDKLMFKEAFECMRKLRINLNLIYDHNPKVFLENVETFIKQIDSVNHINLFFTELKEED 845
Latimeria_chalumnae CLDRLMFKEAFECMRKLRINLNLIYDHNPKVFLENVDTFLKQIELVNYINLFLTELKEED 547
Rhinatrema_bivittatum WLDRLMYKDAFECMRKLRINLNLIYDHNPKVFLENVDTFLKQIELVNYINLFLTELKEED 794
Xenopus_tropicalis WLDLSLFKEAFECMRKLRINLNLIYDHNPKFALDNVDFITQIGSVNYINLFLTELKDED 780
.....850.....860.....870.....880.....890.....900

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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      .***:***.      :*:: ** :* .:* :...: **** .:*:* **
Pavo_muticus      FTKTMYPSLSSSSNDQPRQQPEQKKVNLICDVMRVAMECMDPEKYCLSILTAHVKKNPPE 851
Pavo_cristatus    FTKTMYPSLSSSSNDQPRQQPEQKKVNLICDVMRVAMECMDPEKYCLSILTAHVKKNPPE 851
Gallus_gallus     FTKTMYPSLSSSSNDQPRQQPEQKKVNLICDVMRVAMECIDPEKYCLSILTAHVKKNPPE 851
Anas_platyrhynchos FTKSMYPTPNGSSNAQPRQHLNQKKVNLVCDMMRVAMERIDPEKYCLSILTAHVKKNPPE 861
Chelonia_mydas    FTKTMYPSLSSSSNDQPRQQPEQKKVNLICDAMRAAMENINPQKYCLSILTSHVKKSTPE 884
Rattus_norvegicus VTKTMYPPP-VTKSVQVSTNPDGKKVDLICDAMRVAMETINPRKFCLSILTSHVKKTTPE 849
Mus_musculus      VTKTMYPPP-ITKSVQVSTHPDGKKLDLICDAMRAAMEAINPRKFCLSILTSHVKKTTPE 851
Homo_sapiens      VTKTMYPPAP-VTSSVYLSRDPDGNKIDLVCAMRAVMESINPHKYCLSILTSHVKKTTPE 850
Pan_troglodytes   VTKTMYPPAP-VTSSVYLSRDPDGNKIDLVCAMRAVMESINPHKYCLSILTSHVKKTTPE 850
Macaca_mulatta    VTKTMYPPP-VTSSVHLSRGPDGKKLDLVCDALRAVMESINPHKYCLSILTSHVKKTTPE 850
Callithrix_jacchus VTKTMYPPP-VSSSVHLSKD-DGKKLDLVCDAMRAAMENINPQKYCLSILTSHVKKATPE 849
Bos_taurus        VTKTMYPPP-VPSTVPLSSDPDEKKVDLICDAMRAAMENINPHKYCLSILTSHVKKTTPE 850
Canis_lupus_familiaris VTKTMYPPP-VTSAVQLSRDPDGKKVDLICDTRVAMESINPHKYCLSILTSHVKKTTPE 855
Equus_caballus    VTKTMYPPP-VTINTVQLSRGPDGKKVDLVCDAMRAAMENINPHKYCLSILTSHVKKTTPE 850
Heterocephalus_glaber VTKTMYPPS-VTSSTHLSVDPAEKKLDLICDAMRTAMESINPHKYCLSILTSHVKKTTPE 904
Latimeria_chalumnae VTKTMYPSL-VSGNITSAQGGSEKKVDSVCDALRMAMEKLNPHRYFLSILTCHVRKSTPE 606
Rhinatrema_bivittatum VTKTMYPSA--TGNTQPPVIPEDKKVDCICDAMRAALEKINSHKYCLSILTCHVKKSTPE 852
Xenopus_tropicalis VTKTMYATA-SLITMQSSQGAKKVDIICDAVRTAMEKLDPOKFCLSILTSYVRKTKPE 839
.....910.....920.....930.....940.....950.....960

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      *: .****:*.      .      *::: ***:*: *****:*****:*.***.***
Pavo_muticus      LETALQKVHDLRENSSPSVAAVSAEEALKYLLFLVDVNELYDYSLGTYDFDLVIMVAEKS 911
Pavo_cristatus    LETALQKVHDLRENSSPSVAAVSAEEALKYLLFLVDVNELYDYSLGTYDFDLVIMVAEKS 911
Gallus_gallus     LETALQKVHDLRENISPNAAVSAEEALKYLLFLVDVNELYDYSLGTYDFDLVIMVAEKS 911
Anas_platyrhynchos LEIALQKVHDLRESISPNVTAVSAEEALKYLLFLVDVNELYDYSLGTYDFDLVIMVAEKS 921
Chelonia_mydas    LEIALQKVHDLRETVPAAEGVTAAEALKYLLFLVDVNELYDYSLGTYDFDLVIMVAEKS 944
Rattus_norvegicus LDIVLQKVHDLQKIPFEPESVSAEEALKYLLFLVDVNELFNLHSLGTYDFDLVIMVAEKS 909
Mus_musculus      LEIVLQKVHDLQGNLPPDPESVSAEEALKYLLFLVDVNELFNLHSLGTYDFDLVIMVAEKS 911
Homo_sapiens      LEIVLQKVHDLQGNAPSDPDVSAEEALKYLLFLVDVNELYDHSLSGTYDFDLVIMVAEKS 910
Pan_troglodytes   LEIVLQKVHDLQGNAPSDPDVSAEEALKYLLFLVDVNELYDHSLSGTYDFDLVIMVAEKS 910
Macaca_mulatta    LEIVLQKVHDLQGNAPSDPDVSAEEALKYLLFLVDVNELYDHSLSGTYDFDLVIMVAEKS 910
Callithrix_jacchus LEIVLQKVHDLQGNTPSDPDVSAEEALKYLLFLVDVNELYDHSLSGTYDFDLVIMVAEKS 909
Bos_taurus        LEIALQKVHDLQGSAPPVDPVSAEEALKYLLFLVDVNELYDHSLSGTYDFDLVIMVAEKS 910
Canis_lupus_familiaris LEIVLQKVHDLQGRTPPPVDAVSAEEALKYLLFLVDVNELYDHSLSGTYDFDLVIMVAEKS 915
Equus_caballus    LEIVLQKVHDLQGHAPSVPDAVTAEEALKYLLFLVDVNELYDHSLSGTYDFDLVIMVAEKS 910
Heterocephalus_glaber LEIVLQKVHDLQENGSSVPDGVSAEEALKYLLFLVDVNELYDYSLSGTYDFDLVIMVAEKS 964
Latimeria_chalumnae LEIALQKVHDLRENPPSSPEAVSAEEALKYLLFLVDVNELYDYSLSGTYDFDLVIMVAEKS 666
Rhinatrema_bivittatum LEVALQKVHDLRETAPSGDVSAEEALKYLLFLVDVNELYDHSLSGTYDFDLVIMVAEKS 912
Xenopus_tropicalis LEIALQKVHDLRE--SPSTGVSADEALKYLLFLVDVNELYDYSLSGTYDFDLVIMVAEKS 897
.....970.....980.....990.....1000.....1010.....1020

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      ***** *:*** *****:***** *: :***** * * *:***:.*
Pavo_muticus      QKDPKEYLPFLNTRLRKMETNYQRYTIDKHLKRYTKALGHLSCKGPEHFSEFLNLVKDQNL 971
Pavo_cristatus    QKDPKEYLPFLNTRLRKMETNYQRYTIDKHLKRYTKALGHLSCKGPEHFSEFLNLVKDQNL 971
Gallus_gallus     QKDPKEYLPFLNTRLRKMETNYQRYTIDKHLKRYTKALGHLSCKGPEHFSEFLNLVKDQNL 971
Anas_platyrhynchos QKDPKEYLPFLNTRLQKMETNYQRYTIDKHLKRYAKALGHLSCKGPEHFSEFLNLVKDQNL 981
Chelonia_mydas    QKDPKEYLPFLNTRLRKMETNYQRYTIDKYLKRYKALCHLSCKGPEHFSEFLNLVKDQNL 1004
Rattus_norvegicus QKDPKEYLPFLNTRLKMETNYQRTIDKYLKRYEKALGHLSCKGPEYFTECLNLIKDKNL 969
Mus_musculus      QKDPKEYLPFLNTRLKMETNYQRTIDKYLKRYEKALGHLSCKGPEYFTECLNLIKDKNL 971
Homo_sapiens      QKDPKEYLPFLNTRLKMETNYQRTIDKYLKRYEKAIGHLSCKGPEYFPECLNLIKDKNL 970
Pan_troglodytes   QKDPKEYLPFLNTRLKMETNYQRTIDKYLKRYEKAIGHLSCKGPEYFPECLNLIKDKNL 970
Macaca_mulatta    QKDPKEYLPFLNTRLKMETNYQRTIDKYLKRYEKAIGHLSCKGPEYFPECLNLIKDKNL 970
Callithrix_jacchus QKDPKEYLPFLNTRLKMETNYQRTIDKYLKRYEKAIGHLSCKGPEYFPECLNLIKDKNL 969
Bos_taurus        QKDPKEYLPFLNTRLKMEMNYQRTIDKHLKRYEKAIGHLSCKGPEYFPECLNLIKDKNL 970
Canis_lupus_familiaris QKDPKEYLPFLNTRLKMETNYQRTIDKYLKRYEKAIGHLSCKGPEYFSECLNLVKDKNL 975
Equus_caballus    QKDPKEYLPFLNTRLKMETNYQRTIDKYLKRYEKAIGHLSCKGPEYFPECLNLIKDKNL 970
Heterocephalus_glaber QKDPKEYLPFLNSLKKMETNYQRTIDKYLKRYEKAIGHLSCKGPEYFQECNLNIKDKNL 1024
Latimeria_chalumnae QKDPKEYLPFLNELKKMETNYQRYTIDKHLKRYKAALRHLSCKGPECFAELLNLVKDQNL 726
Rhinatrema_bivittatum QKDPKEYLPFLNSLKKMETNYQRYTIDKYLKRYKALGHLSCKGPEHFSEFLNLVKDQNL 972
Xenopus_tropicalis QKDPKEYLPFLNLKLMETNYQRYTIDKHLKRYKALRNLSCKGSGYFAEFLNLVKDQNL 957
.....1030.....1040.....1050.....1060.....1070.....1080

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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* ***::  .: : : :  :***:  .::  * *:  ***:  .***:  .: .*:
Pavo_muticus      YCEALKLYPSSSTQEQYKDIS SAYGEYLIQKQLYEQ AALILARAGIFEKALDAFLSSGSGWQQ 1031
Pavo_cristatus    YCEALKLYPSSSTQEQYKDIS SAYGEYLIQKQLYEQ AALILARAGIFEKALDAFLSSGSGWQQ 1031
Gallus_gallus      YCEALKLYPSSSTQEQYKDIS SAYGEYLIQKQLYEQ AALILARAGIFEKALDAFLSSGSGWQQ 1031
Anas_platyrhynchos YCEALKLYASSSTQEQYKDIS DAYGEYLIQKQLYEQ AALIFARAGIFAKALDAFLSSGSGWQQ 1041
Chelonia_mydas     YNEALKLYPPDTPPEHKAVGSFAFGEHLNQKHLIEQ AGLIFARCGAFERALDAFLSSGSGWQL 1064
Rattus_norvegicus  YKEALKLYRPDSDPQYQAVSVAYGEHLVQEHLYEPAGLVFARCGAHEKALEAFLACGSGWQQ 1029
Mus_musculus       YKEALKLYRPDSDPQYQAVSMAYGEHLMQEHLYEPAGLVFARCGAQEKALEAFLACGSGWQQ 1031
Homo_sapiens       YNEALKLYSPSSQQYQDISIAYGEHLMQEHMYEPAGLMFARCGAHEKALSAFITCGNWKQ 1030
Pan_troglodytes    YNEALKLYSPSSQQYQDISIAYGEHLMQEHMYEPAGLMFARCGAHEKALSAFITCGNWKQ 1030
Macaca_mulatta     YNEALKLYSPSSQQYQDISIAYGEHLMQEHMYEPAGLMFARCGAHEKALSAFITCGNWKQ 1030
Callithrix_jacchus YKEALKLYSPSSQQYQDISIAYGEHLMQEHMYEPAGLMFARCGAHEKALSAFITCGNWKQ 1029
Bos_taurus         YNEALKLYPPNSQQYKDISIAYGEHLLOEHLHEPAGLVFARCGAHEKALSAFITCGNWKQ 1030
Canis_lupus_familiaris YNEALKLYPSSDQQYKDISIAYGEHLTQEHLYEPAGLVFARCGAHEKALNAFLASGSGWQQ 1035
Equus_caballus     YNEALKLYPSSDQQYKDVSIAYGEHLMEEHLCEPAGLVFARCGAYEKALSAFITCGNWKQ 1030
Heterocephalus_glaber YKEALKFYPPNSQQYKAICLAYGEHLTQEHQPETAGLVFARCGAYEALSAFITCGNWKQ 1084
Latimeria_chalumnae YNEALQLYPANSQCEKEISRAYGEYLSQKQCHEQAGLIFARCGEHEKALDAFLVGSSSWQQ 786
Rhinatrema_bivittatum YTEALKLCLVGTPEHKDVSIILYGEYLNQKQDYELAGLIFARCGDFEKALDAFLACNNWQQ 1032
Xenopus_tropicalis YTEALELYQHGTVEYKAINAAYGDHLVSKQQYELAGLIVARCDSTEKALDAFLVASSNWHQ 1017
.....1090.....1100.....1110.....1120.....1130.....1140

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.: * * : * : :  * : : : : * : : :  * * : * : : * * : * : : * *
Pavo_muticus      ALCMASRLGYTKKELSSLARTMAGKLVEQRKHAEAAAMLLEQYTEDCEEAVILLLEGAFW 1091
Pavo_cristatus    ALCMASRLGYTKKELSSLARTMAGKLVEQRKHAEAAAMLLEQYTEDCEEAVILLLEGAFW 1091
Gallus_gallus      ALCMASRLGYTKERLSSLARTMAGKLVEQRKHAEAAAMLLEQYTEDCEEAVILLLEGAFW 1091
Anas_platyrhynchos ALCMASRLGYTTDKLSRLAQSMAGKLVEQRKHAEAAAMLLEQYADYEEAVILLLEGA 1101
Chelonia_mydas     ALCMASRLGYTADQLAGLARSAGKLVEQRKHAEAAAILLEQYADYEEAVILLLEGTIWE 1124
Rattus_norvegicus  ALCMAAQLQMAKDKVAGLARTLAGKLVEQRKHSEAAATVLEQYADYEEAVILLLEGS 1089
Mus_musculus       ALCVAAQLQMSKDKVAGLARTLAGKLVEQRKHSEAAATVLEQYADYEEAVILLLEGS 1091
Homo_sapiens       ALCVAAQLNFTKDLVGLGRTLAGKLVEQRKHIDAAMVLEECAQDYEEAVILLLEGA 1090
Pan_troglodytes    ALCVAAQLNFTKDLVGLGRTLAGKLVEQRKHIDAAMVLEEYADYEEAVILLLEGA 1090
Macaca_mulatta     ALCVAAQLHFAEDQLAGLGRITLAGKLVEQRKHIDAAMVLEQYADYEEAVILLLEGA 1090
Callithrix_jacchus ALCVAAQLNFTEDQLAGLGRITLAGKLVEQRKHIDAAMVLEQYADYEEAVILLLEGA 1089
Bos_taurus         ALCMAAQLHLTAELAGLGRITLAGKLVEQRKHSDAATVLEQYADYEEAVILLLEGA 1090
Canis_lupus_familiaris ALCVAAQLNLTKDLADLGRITLAGKLVEQRKHGDAATVLEQYADYEEAVILLLEGA 1095
Equus_caballus     ALCMAAQLHLTKDLADLGRITLAGKLVEQRKHSAATVLEQYADYEEAVILLLEGA 1090
Heterocephalus_glaber ALCMATQLHLTKDLGDLRTLAGKLVEQRKHNEAATVLEQYADYEEAVILLLEGA 1144
Latimeria_chalumnae ALCMAVQLQYTEDKLASLARTMSGKLGDRRYSEAAVILLEQYADYEEAIVLLLEGA 846
Rhinatrema_bivittatum VLMCAAQLQYTENKTASLARSMAQOLVERRRHADAIVLEQYADYEEAIVLLLEGA 1092
Xenopus_tropicalis VMCMASQLEYSGEKIAALARTVAGKLLQKQADAAVILLEQYADYEEAIVLLLEGA 1077
.....1150.....1160.....1170.....1180.....1190.....1200

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:***::*** * **::***:***:***:***:***:***:***:***:***:***:***:***:
Pavo_muticus      EALRLIHKYDRDLILETNFKPAIEAQSQMLFLDSQKTAFLRHKSRLQVRELKEKICE 1151
Pavo_cristatus    EALRLIHKYDRDLILETNFKPAIEAQSQMLFLDSQKTAFLRHKSRLQVRELKEKICE 1151
Gallus_gallus      EALRLIHKYDRDLILETNFKPAIEAQSQMLFLDSQKTAFLRHKSRLQVRELKEKICE 1151
Anas_platyrhynchos EALRLIHKYDRDLILETNFKPAIEAQSQMLFLDSQKTAFLRHKSRLQVRELKEKICE 1161
Chelonia_mydas     EALRLIHKYGRDLILETNFKPAIEAQRNYLVFLESQKTTFRHRKRLLVRELKEKICE 1184
Rattus_norvegicus  EALRLVYKYDRVDIIETSVKPSILEAQKNYMDFLDSQTATFIRHKNRLQVRELKEKICE 1149
Mus_musculus       EALRLVYKYDRVDIIETSVKPSILEAQKNYMDFLDSQTATFIRHKNRLQVRELKEKICE 1151
Homo_sapiens       EALRLVYKYNRDLIIETNVKPSILEAQKNYMAFLDSQTATFSRHKRLLVRELKEKICE 1150
Pan_troglodytes    EALRLVYKYNRDLIIETNVKPSILEAQKNYMAFLDSQTATFSRHKRLLVRELKEKICE 1150
Macaca_mulatta     EALRLVYKYNRDLIIETNVKPSILEAQKNYMAFLDSQTATFSRHKRLLVRELKEKICE 1150
Callithrix_jacchus EALRLVYKYNRDLIIETNVKPSILEAQKNYMAFLDSQTATFSRHKRLLVRELKEKICE 1149
Bos_taurus         EALRLVHKYNRDPDIIETNVKPSILEAQKNYMAFLDSQTATFSRHKRLLVRELKEKICE 1150
Canis_lupus_familiaris EALRLVYKYNRDPDIIETNVKPSILEAQKNYMAFLDSQTATFSRHKRLLVRELKEKICE 1155
Equus_caballus     EALRVYKYNRDLIIETNVKPSILEAQKNYMAFLDSQTATFIRHKNRLQVRELKEKICE 1150
Heterocephalus_glaber EALRLVYKYNRDLIIETNVKPSILEAQKNYMAFLDSQTATFIRHKNRLQVRELKEKICE 1204
Latimeria_chalumnae DALRLIYKYNRDLILETNLKPALLEAQRNHMLFLESQKTTFLRHKTRLAIVRELKEKICE 906
Rhinatrema_bivittatum EALRLIYKYNRDLILETNLKPALLEAQRNHMLFLESQKTTFLRHKTRLAIVRELKEKICE 1152
Xenopus_tropicalis EALRLIYKYNRDLILETNLKPALLEAQRNHMLFLESQKTTFLRHKTRLAIVRELKEKICE 1137
.....1210.....1220.....1230.....1240.....1250.....1260

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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      * : . : *::*:** : * .. :*:*****:*****:*****:*****
Pavo_muticus      SLQDYEAPYCPEFDILSETSSVVTSDMS- RYSHSNSRISARSSKNRRKAERKRYSLKE 1210
Pavo_cristatus    SLQDYEAPYCPEFDILSETSSVVTSDMS- RYSHSNSRISARSSKNRRKAERKRYSLKE 1210
Gallus_gallus     SLQDYEAPYCPEFDLLSETSSVVTSDMS- RYSHSNSRISARSSKNRRKAERKRYSLKE 1210
Anas_platyrhynchos SLHDYEMPNCPELDLSETSSVVTASDMNS- KYSHSNSRISARSSKNRRKAERKRYSLKE 1220
Chelonia_mydas    GLLDDETPNCLEADLSETSSIVTASDMSG- KYSHSNSRISARSSKNRRKAERKRHSLKE 1243
Rattus_norvegicus VHVDEVAHGRETDLSETSSIRSGSEMSG- RYSHSNSRISARSSKNRRKAERKKHSLKE 1208
Mus_musculus      VHVDEVAHGPESDLSETSSIMSGSEMSG- RYSHSNSRISARSSKNRRKAERKKHSLKE 1210
Homo_sapiens      AGLDDEVPHGQESDLSETSSVVGSEMSG- KYSHSNSRISARSSKNRRKAERKKHSLKE 1209
Pan_troglodytes   AGLDDEVPHGQESDLSETSSVVGSEMSG- KYSHSNSRISARSSKNRRKAERKKHSLKE 1209
Macaca_mulatta    AGLDDEVPHGQESDLSETSSVVGSEMSA- KYSHSNSRISARSSKNRRKAERKKHSLKE 1209
Callithrix_jacchus AGLDDEVPHGQESDLSETSSVVGSEMSG- KYSHSNSRISARSSKNRRKAERKKHSLKE 1208
Bos_taurus        VSLDDEAPHGPESDLSETSSVMGSGNLSG- RYSHSNSRISARSSKNRRKAERKKHSLKE 1209
Canis_lupus_familiaris VNLDEVPPQGQESDLSETSSVVGSDMSG- KYSHSNSRISARSSKNRRKAERKKHSLKE 1214
Equus_caballus    VNLDEDEPHGQDSDLSETSSVVGSDMSG- KYSHSNSRISARSSKNRRKAERKKHSLKE 1209
Heterocephalus_glaber MNPDDEVPHSQESDLSETSSVVGNGSEMSG- KYSHSNSRISARSSKNRRKAERKKHSLKE 1263
Latimeria_chalumnae ELLDEEAPDGPEADLSETSSVVTGSAVSTKYSHSNSRISARSSKNRRKAERKKHSLKE 966
Rhinatrema_bivittatum GFEDDEAPEGPESDLSETSSVVTASDMSG- KYSHSNSRISARSSKNRRKAERKRHSLKE 1211
Xenopus_tropicalis GLLDDEMTGCAEADLSETSSIMTASNAG- KYSQNSRISARSSKNRRKAERKKHSLKE 1196
.....1270.....1280.....1290.....1300.....1310.....1320

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      *::* :*:** * :. : : ** *.* : . ** . *:: :
Pavo_muticus      GNPFDLMALLEVLGENVRAVDSVKGDVHVLKQLVLFGLDEQAEGLQVLEEVLOLMETS 1270
Pavo_cristatus    GNPFDLMALLEVLGENVRAVDSVKGDVHVLKQLVLFGLDEQAEGLQVLEEVLOLMETS 1270
Gallus_gallus     GSPFDLMALLEVLGENVRAVDSVKGDVHILLKQLVLFGLFDEQAEGLQVLEEVLOLMETS 1270
Anas_platyrhynchos GSPFDLVALLEVLGESVRAVENVKGDVHILLKQLVLFGLFDEQAVGLQVLEEVLOLMETS 1280
Chelonia_mydas    GSPLEDLALLEALGENIRT TENMKGEVHSLKGLVLFGLFYDELARQLQVLEEVLOLMETS 1303
Rattus_norvegicus GSPLEGLALLEALSEVVSIEKLKDEVHAILKVLFLFDEFEEQARELQAFESTLOLMETA 1268
Mus_musculus      GSPLEGLALLEALSEVVSIEKLKDEVRAILKVLFLFDEFEEQARELQAFESTLOLMERA 1270
Homo_sapiens      GSPLEDLALLEALSEVVONTENLKDEVYHILKVLFLFDEFEEQARELQAFESTLOLMERS 1269
Pan_troglodytes   GSPLEDLALLEALSEVVONTENLKDEVYHILKVLFLFDEFEEQARELQAFESTLOLMERS 1269
Macaca_mulatta    GSPLEHLALLEALSEVVONTENLKDEIYHILKVLFLFDEFEEQARELQAFESTLOLMERS 1269
Callithrix_jacchus GSPLEDLALLEALSEVVONTENRKDEVYHILKVLFLFDEFEEQARELQAFESTLOLMERS 1268
Bos_taurus        GSPLEDLALLEALSEVVONTENLKDEIYHILKVLFLFDEFEEQARELQAFESTLOLMERS 1269
Canis_lupus_familiaris GSPLEDLALLEALNEIVOSTEKLKDEVHILKVLFLFDEFEEQARELQAFESTLOLMERS 1274
Equus_caballus    GSPLEDLALLEALNEIVOSTEKLKDEVHILKVLFLFDEFEEQARELQAFESTLOLMERS 1269
Heterocephalus_glaber GSPLEDLALLEALNEIVOSTEKLKDEVHILKVLFLFDEFEEQARELQAFESTLOLMERS 1323
Latimeria_chalumnae GSPLEDLALLEALNEIVOSTEKLKDEVHILKVLFLFDEFEEQARELQAFESTLOLMERS 1026
Rhinatrema_bivittatum GNPLEDLALLEALNEIVOSTEKLKDEVHILKVLFLFDEFEEQARELQAFESTLOLMERS 1271
Xenopus_tropicalis GSPLEDLALLEALNEIVOSTEKLKDEVHILKVLFLFDEFEEQARELQAFESTLOLMERS 1256
.....1330.....1340.....1350.....1360.....1370.....1380

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      : : ** : * . *::* **.*** :*:** : * . *:: : ***
Pavo_muticus      IPEIWTLPALQSSSLNPVLGPDSTANSIMTAYQQKRMVVPVAVQDPELLIAPKLNKNLOWKL 1330
Pavo_cristatus    IPEIWTLPALQSSSLNPVLGPDSTANSIMTAYQQKRMVVPVAVQDPELLIAPKLNKNLOWKL 1330
Gallus_gallus     IPEIWTLPALQSSSLNPVLGPNSTANSIMTAYQQKRMVVPVAVQDPELLIAPKLNKNLOWKL 1330
Anas_platyrhynchos IPEIWTLPDQSSSLNPVLGPNSTANSIMTAYQQKRMVVPVAVQDPELLIAPKLNKNLOWKL 1340
Chelonia_mydas    LPEIWTLPDQSSSLNPVLGPNSTANSIMTAYQQKRMVVPVAVQDPELLIAPKLNKNLOWKL 1363
Rattus_norvegicus LPDIWTLTQSSSATPVLGPNSTANSIMTAYQQKRMVVPVAVQDPELLIAPKLNKNLOWKL 1327
Mus_musculus      VPEIWTLPAGQSSSTTPVLGPNSTANSIMTAYQQKRMVVPVAVQDPELLIAPKLNKNLOWKL 1329
Homo_sapiens      LPEIWTLTQSSSATPVLGPNSTANSIMTAYQQKRMVVPVAVQDPELLIAPKLNKNLOWKL 1328
Pan_troglodytes   LPEIWTLTQSSSATPVLGPNSTANSIMTAYQQKRMVVPVAVQDPELLIAPKLNKNLOWKL 1328
Macaca_mulatta    LPEIWTLTQSSSATPVLGPNSTANSIMTAYQQKRMVVPVAVQDPELLIAPKLNKNLOWKL 1328
Callithrix_jacchus IPEIWTLTQSSSATPVLGPNSTANSIMTAYQQKRMVVPVAVQDPELLIAPKLNKNLOWKL 1327
Bos_taurus        LPEIWTLTQSSSATPVLGPNSTANSIMTAYQQKRMVVPVAVQDPELLIAPKLNKNLOWKL 1328
Canis_lupus_familiaris LPEIWTLTQSSSATPVLGPNSTANSIMTAYQQKRMVVPVAVQDPELLIAPKLNKNLOWKL 1333
Equus_caballus    LPEIWTLTQSSSATPVLGPNSTANSIMTAYQQKRMVVPVAVQDPELLIAPKLNKNLOWKL 1328
Heterocephalus_glaber LPEIWTLTQSSSATPVLGPNSTANSIMTAYQQKRMVVPVAVQDPELLIAPKLNKNLOWKL 1382
Latimeria_chalumnae IPEIWTNAGSQQASATPVLGPNSTANSIMTAYQQKRMVVPVAVQDPELLIAPKLNKNLOWKL 1086
Rhinatrema_bivittatum IPEIWTSETQQTTPPVIGPSTANSIMTAYQQKRMVVPVAVQDPELLIAPKLNKNLOWKL 1331
Xenopus_tropicalis ILDIWPPGVQNTAAPILGPHSTANSISISYQHQRNVNTSVQDSLEFAPKLNKNLOWKL 1316
.....1390.....1400.....1410.....1420.....1430.....1440

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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      .:.
Pavo_muticus      HLFQ----- 1334
Pavo_cristatus    HLFQ----- 1334
Gallus_gallus     HLFQ----- 1334
Anas_platyrhynchos HLLQ----- 1344
Chelonia_mydas    NLLQ----- 1367
Rattus_norvegicus SLLE----- 1331
Mus_musculus      SLLE----- 1333
Homo_sapiens      SLLD----- 1332
Pan_troglodytes   SLLD----- 1332
Macaca_mulatta    SLLD----- 1332
Callithrix_jacchus SLLD----- 1331
Bos_taurus        SLLD----- 1332
Canis_lupus_familiaris SLLE----- 1337
Equus_caballus    SLLE----- 1332
Heterocephalus_glaber SLLE----- 1386
Latimeria_chalumnae NLLH----- 1090
Rhinatrema_bivittatum SFLD----- 1335
Xenopus_tropicalis CVLQQYEDFL 1326
.....1450
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