

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/PALBaps Tue Feb 1 14:12:15 2022

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[illegible]

Pavo_muticus	HGGKAAAEAGARRPGTGEAPOS	SPAGCSDNISPG--AGRSKMCHLQ	TENCSGPDTKAKTSVT	118	
Pavo_cristatus	HGGKAAAEAGARRPGTGEAPOS	SPAGCSDNISPG--AGGSKMCHLQ	TENCSGPDTKAKTSVT	118	
Gallus_gallus	HGGKAAAEGTRRPGTGEAPOS	SPAGCSDNVSPG--AERHKICHLQ	TETSSGPDTKVKTSVT	118	
Chelonia_mydas	YVKKTVAEQNQLLRDEETENN	TTIELMDKQSPND--DDKSGIYMLQ	TNICSDSGTEKKMSVT	106	
Mus_musculus	SKK---AIEDGVPOPEASSQL	SHSESINKGFP-----CDT-LQSNHL	DEETGENISQI	95	
Rattus_norvegicus	SKK---AIEDCVPOEISPQL	SRLSEREPINKGFP-----CDASLQSDH	LDEETGENISQI	96	
Homo_sapiens	SIKKTVEEQDCLSQOQLSP	OLKHSEPKNKICV-----YDKLHIK	THLDEETGEKTSIT	99	
Pan_troglodytes	SIKKTVEEQDCLSQOQDFSP	OLKHSEPKNKICV-----YDKLHIK	THLDEETGEKTSIT	99	
Macaca_mulatta	SIKKTVEEQDYLSQLSPQL	NHSEPKNKICV-----YDKLHIK	THLDEETGERTSVT	99	
Callithrix_jacchus	SIKKTVEEQDCLSQOQLSP	HLNHSEPKNKIPL-----YDKLHIK	THLDGETAEKTSIT	99	
Bos_taurus	SLRRITVEEQDSSLQEQFV	STLTHTPEKNTVSP-----RDTLQIN	THVDEETGEKTPSS	99	
Equus_caballus	SLKKTVEEQDQLLQEEVSP	QLNRPEPKNKASP-----CDTLQIN	SHLNEDTGKTSVT	99	
Canis_lupus_familiaris	SIKKTAAEHDCLLOQDTLP	QLNHSESKNKVSP-----CDTLQIST	HLDEETGEKTPVT	99	
Rhinatrema_bivittatum	HVKKKIAEQNCLLKQEQSG	MGIPDSRDTLAPS-----VGKLGITHV	SKVNLNVERRMTVS	101	
Latimeria_chalumnae	HVRKTVAEQNRLHMDHTEQ	SVSGAVDKILPSLSDDEE	VPDWDTRINHSQVEGEK	MTVS	106
Xenopus_tropicalis	HVQKTIAEQNHLLSQEGAG	PGNRGSQSSIASN-----DADLQSK	STRPDETIERKPCVT	99	
70.....80.....90.....100.....110.....120				

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Pavo_muticus	LKHSPEFFSNEVSLQDSSQAESTQASQEDASCGLSMPATEKKKQTSRSMMLRRRTKIL	178		
Pavo_cristatus	LKHSPEFFSNEVSLQDSSQAESTQASQEDASCGLSMPATEKKKQTSRSMMLRRRTKIL	178		
Gallus_gallus	FKHNPEFFNNEVSLQDSSQAESTQASQENASCGLPMLATEKKKQTSKSMMLRRRTKIL	178		
Chelonia_mydas	FKLEPEFFNNEVNLQESSLAESNSDQENILSGLMRSVTENQSQLSRSMRTL-----	159		
Mus_musculus	LDVEQSFNCKQKKE-VLHTPRAGDIQGQLLHSTSSPDGKKEQNTLPGTTKTPWEKSSVS	154		
Rattus_norvegicus	LDGDPQSFNCESGQE-VLHTPRAGDIQGQFLHSTSSPDGKKGSAFPGGTTKKLRKRSSVL	155		
Homo_sapiens	LDVGPESFNPGDGPG-GLPIQRTDDTQEHFPHRVSDPSGEQKQ-KLPSRRKKQQKRTFIS	157		
Pan_troglodytes	LDVGPESFNPGDGPG-GLPIQRTDDTQEHFPHRVSDPNGEQKQ-KLPSRRKKQQKRTFIS	157		
Macaca_mulatta	LDVGPESFNPGDGPG-GLPIHGTDQTQEHFPHRVSDPDGEQKQ-KLPGRRKKQQKRTFIS	157		
Callithrix_jacchus	LDVGPESSNPGDGPG-ELPIQRTDDTQEHFPHRVSDPDSEKKQ-KLPRRSKKQQKRTFIS	157		
Bos_taurus	LDIKPELFSSGRVSVESGRIQGSDDNQEHFFRVNGPDAKKRONKLLGRKKKEE-RTYIS	158		
Equus_caballus	LDAEP-----GHGPEVGLCTIORTGDIQERFPYRVPGPDGEKRSKLPGRRTKQQKRTFIS	154		
Canis_lupus_familiaris	FDIEPESFNPEHGSVEELHIQRTGDIQEHFPYVWGGPGVEKRSKLPGRRKQQKRTFTS	159		
Rhinatrema_bivittatum	FNLQPEFFNIGGKQHESVPEDKCDQKMLVPTGSECAQEKKEPEKSQRSQKLRKNILKL	161		
Latimeria_chalumnae	FNLEPEVINVNTPNGPSVASLNESSLGDNLSAILGQCQETKKEPAIKSMKMLKRKNKWRW	166		
Xenopus_tropicalis	FNFEPEILCAEGSSPCCSVSGSG--QLDGTIEKPDQMGQAFDTTIQRSRLKLRRSTKRR	157		
130.....140.....150.....160.....170.....180			

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Pavo_muticus      VSEGKESAHDVHLSNAN-----VMVKNQASVEEL-RSPVFR-RSS----- 217
Pavo_cristatus    VSEGKESAHDVHLSNAN-----VMVKNQASVEEL-RSPVFR-RSS----- 217
Gallus_gallus     VSEGKESAHDVHLSNAN-----VMVKNQASVEEL-RSPVFR-RSS----- 217
Chelonia_mydas    VSEGRESACEVPPISVG-----ETLENOMGSTEEP-GSPVFKGRNT----- 199
Mus_musculus      QEKEDYFDITNSLALLGK-----HRKGQESISRKNS-RTPVSE-KTH----- 193
Rattus_norvegicus QEKDDFFDTSSSLVLPGR-----HQRQETVSSKNP-RAPEIE-KTH----- 194
Homo_sapiens      QERDCVFGTDSLRLSGK-----RLKEQEEISSKNPARSPVTEIRTH----- 198
Pan_troglodytes   QERDCVFGTDSLRLSGK-----RLKEQEEISSKNPARSPVTEIRTH----- 198
Macaca_mulatta    QERDCVFGTDSLRLSGK-----RLKEQEEISSKNPARSPVTEIRTH----- 198
Callithrix_jacchus QERDCVFDADSLRLSGK-----SLKEQEEISSKNPARSPVTEIRTH----- 198
Bos_taurus        QERESLSDIDSLILSGK-----RLKEQEKMNREN-RTPVTELRITY----- 199
Equus_caballus    QERESFFDTDSLILSGK-----RLKEQEGINREN-RTLVTETRIY----- 194
Canis_lupus_familiaris QARDSLFDITDSLILSGK-----RLKEQEEENGEN-RTPITIK-RTY----- 198
Rhinatrema_bivittatum RERESTCESSSSSTSVTSDLLCKTEVEGRELDREERKSPVFKRNDR----- 207
Latimeria_chalumnae EEKELVCERFGTSVIEN--CCFEKKIGERHFDEGQPVSPVFKKNID----- 210
Xenopus_tropicalis CSADQSLSDGSLFSDTLK---DTDGLGKVMDRSDCGLPVFKKSAKHHPMDONHVNLDHFS 214
.....190.....200.....210.....220.....230.....240

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Pavo_muticus      -----FSNTEDNAQMESKPVLVGSRESSLTTPPGAEGF-VSRDMPEDSVPLGVSELPFCAL 271
Pavo_cristatus    -----FSNTEDNAQMESKPVLVGSRESSLTTPPGAEGF-VSRDMPEDSVPLGVSELPFCAL 271
Gallus_gallus     -----FSNTEDSAQIESRPLLMEQESSLTTPPGAEGF-VPRDMPESISPLGVSELLPCAL 271
Chelonia_mydas    -----ISNTKNKIQAAPKLIVIR-EEKGLTPQDPQVG-DFQEMPEENVFLSVPKPLSCMS 252
Mus_musculus      -----LLSLRSQIPDPPALVTGIGEG-ILIPPSGKSERGIDTLVRGNTVSAEAAVPSCA 247
Rattus_norvegicus -----LLCLKSQTPDPPALVTEIDGGRLIVPSGKSERGIDTPVRGNNVSRRTTVPSCTA 249
Homo_sapiens      -----LLSLKSELPSPEPVTEINEDSVLIPPTAQPEKGVDTFLRRPNFTRATTVPLQTL 253
Pan_troglodytes   -----LLSLKSELPSPEPVTEINEDSVLIPPTAQPEKGVDTFLRRPNFTRATTVPLQTL 253
Macaca_mulatta    -----LLSLKSELPSPEPVTEINEDSVLIPPTAQPEKGVDTLLRRPDTTRATTVPLQTP 253
Callithrix_jacchus -----FLSLQSELDSPEPITETNGKSLIPPTAQPEKGVDTLLR-TNLTKTTTVPLQTP 252
Bos_taurus        -----LSSPKCAIPNSPAPVTETNVGSLILPSTKPRDQVDALLRGNDFFRATTPLPLTP 254
Equus_caballus    -----LSPSKSDGSDLPAAVIETNVGSLVLP-NAKPORGVDLFRGNDFFRATTPLPVHTL 248
Canis_lupus_familiaris -----LSSMSDIPGSPSPVMETNVRGILIPPTAKPRDQVDALVRGNFPMVPTLASFTL 253
Rhinatrema_bivittatum -----ILSLETKRKSLFSIGSDSRNNFIPEDPASKECLSEAAAGEYNPGKVTEFSSCMS 261
Latimeria_chalumnae -----QAHNENSEQEPVGLCTVLYDENELDRSHQGEKVVRDLHPVDENTEEFILTPEEL 265
Xenopus_tropicalis VGPDPFGTENLNTAALDTGNITDFLGGNVDA SPVIREQCLDNKIQVKS GFTEVTIGKMQEP 274
.....250.....260.....270.....280.....290.....300

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Pavo_muticus      GN--DVWQPESPGSKVTSDNREAAQPCSESGESVSLDASGKKESFRTVKEMDSESTCEDQ 329
Pavo_cristatus    GN--DVWQPESPGSKVTSDNREAAQPCSESGESVSLDASGKKESFRTVKEMDSESTCEDQ 329
Gallus_gallus     GYSSDVWQPESPGATVTSNREAAQPCSESGESVSLDASGKKESFRTVKERDSESMCEDQ 331
Chelonia_mydas    MGGSNIQPPVSPCAEDICDSYELPQCLVGDMPSVLQNIEN-----TGKELACIENQMDQ 307
Mus_musculus      SNSNHSQHLEHTPPKSGCKITTTQ-----PASSINLVAQDKMTIFTVNSVYKAVRA-H 301
Rattus_norvegicus SDSNHSQHLEHTPPNSGCKITTTQ-----PASSINLVAQDKMTIFTDNPPVYKPVSA-G 303
Homo_sapiens      SDGSSQHLEHIPPKGSELTTTDLKNIRFTSPVSLEAQGKKMTVSTDNLLVNKAISK-S 312
Pan_troglodytes   SDGSSQHLEHIPPKGSELTTTDLKNIRFTSPVSLEAQGKKMTVSTDNLLVNKAISK-S 312
Macaca_mulatta    TDSSSQHLEHIPPKGSELTTTCLKNIRFTSPVSLEAQGKKVTIPTDNLLVNKAVSK-S 312
Callithrix_jacchus SDS-RSQHFESIPPKGSELTTTCGQKSIRFTSPVSLEAHGKKVTVSTENLVVNKGVS--- 308
Bos_taurus        SNSSNSQRLEHKCPKSNCELTTTHSLRNISSASPVNLEQKKITVSTDNPEVNKAGST-S 313
Equus_caballus    LDSSSQHLEHKPSDNGELIAHSLENISPVSPVNLEAQDKMTVLTDNPEVNKAVSA-S 307
Canis_lupus_familiaris SNSSSSHHLEHKPPKDDWELITHSLKNINPASPVNLEAQVKKITVSKDNP---GISA-S 308
Rhinatrema_bivittatum HTGNLSSLNLSKSPTHNSRELEQTPSLIDIALPTCRSTEETGDFVCKTKMVLKGS 321
Latimeria_chalumnae CLQTLSDMPSTSSPQFESQTTNNGCIRFDVPLHISERSDETVEPPNPEKNNSLTNEEIK 325
Xenopus_tropicalis PMTPGLENIKEPLLSPCLGKIRKSSLLLTCDKPREPSLSPNTEKTRTPPLCLSPNIDKTT 334
.....310.....320.....330.....340.....350.....360

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Pavo_muticus	GELRRLLDLMSENEVLPTDT-----SNSMINESKIQ--GGNONDTGGLN	371
Pavo_cristatus	GELRRLLDLMSENEVLPTDT-----SNSMINESKIQ--GGNONDTGGLN	371
Gallus_gallus	GELRRLLDLMSENEVLPTDT-----SNNVINESKIH--GGNONDAGSLN	373
Chelonia_mydas	EELCRAFDLTADNQPSLAGR-----SNPSTSESRRPHKERNHNETKSSS	350
Mus_musculus	GQLPGSP-----NSCSVNDL-----THSNLPANSTPN--SK-----SL	332
Rattus_norvegicus	SQLPGPS-----NSCSVNDL-----THSNLPANTTPN--SR-----SL	334
Homo_sapiens	GQLPTSSNLEANISCSLNEL-----TYNNLPANENONLKEQNQTEKSL	355
Pan_troglodytes	GQLPTSSNLEANISCSLNEL-----TYNNLPANENONLKEQNQTEKSL	355
Macaca_mulatta	GQLPTSSNLEADISCSLNEL-----THDNLPANENONLE--QNQTEKSL	354
Callithrix_jacchus	GHLPTSSNLEADISCSLNEL-----THNNLSANENONLKEQNQTEKSL	351
Bos_taurus	GQAARSPNLEADNSCFINEL-----TCDNLVENENONLKEQNHTEMS	356
Equus_caballus	GQLPRSPNLEADNSCSLNEL-----TSDSLSADENONFKEQNHAERSL	350
Canis_lupus_familiaris	GQLPQSPDLEPDNSCSPDKL-----IYDNLSDAGNOLKGNHTESL	351
Rhinatrema_bivittatum	EGQKGAVGALPDLAVLDRSL-----RTQSVIIPCATEDISSTGSKPGT	364
Latimeria_chalumnae	SGINENTSMEDTVALIDTGLNDTVLOVOTGKSPSKATDSFNKMCASKLDHNKETSSS	385
Xenopus_tropicalis	SPLRSRQKDKTEPPADIETSR-----ELSLSSYMEQNNTLAQKQDTSCDLGLTLQQG	387

.....370.....380.....390.....400.....410.....420

Pavo_muticus	AFPSDLPLDNAEKLVENQOLEIQSRLSHQEKVT--TPESALNSCTVVEGLPFPVEYYVVRTT	430
Pavo_cristatus	AFPSDLPLDNAEKLVENQOLEIQSRLSHQEKVT--TPESALNSCTVVEGLPFPVEYYVVRTT	430
Gallus_gallus	AFPSDLPLDNAEKLVENQOLEIQSRLSHQERV--TPESALNSCTVVEGLPFPVEYYVVRTT	432
Chelonia_mydas	PLNTDSLDDNVVEPLRNQEAQTEAGSPVLEKTPPAAESALSSCTMIEGLLFPVEYYVVRTT	410
Mus_musculus	KSPSNTVDERNEPLOEDEILGPSKNFNLAAVSPPSTESQIHSCTMLEGLLFPVEYYVVRTT	392
Rattus_norvegicus	KSPDNIVDGRNENLEDEIVGLSENLSAAVSPSTESQIHSCTMLEGLLFPVEYYVVRTT	394
Homo_sapiens	KSPSDTLDGRNENLQSEILSQPKSLSLAETSPLSAEK--HSCTVPEGLLFPVEYYVVRTT	413
Pan_troglodytes	KSPSDALDGRNENLQSEILSQPKSLSLAETSPLSAEK--HSCTVLEGLLFPVEYYVVRTT	413
Macaca_mulatta	KSPGDALDGRNENLQSEILSQPKSLSLAETSLLAAEK--HSCTMLEGLLFPVEYYVVRTT	412
Callithrix_jacchus	KSSSNALDGRNENLQENDILSQPKSLSLAETSPLSAEN--HSCTMLEGLLFPVEYYVVRTT	409
Bos_taurus	KSPNDALGGRNESLLEKEVLSQSKNLSLEVISPVSTEDQIHSCTVLEGLLFPVEYYVVRTT	416
Equus_caballus	KSPNNTLDGRNESIQENEVLSPNSLSLEVISPDSDAEDQTDSCTVLEGLLFPVEYYVVRTT	410
Canis_lupus_familiaris	KFPHNITLDGRNESIQENEVLSPKSLSPVISPASTENQTYSCTVLEGLLFPVEYYVVRTT	411
Rhinatrema_bivittatum	GESLHIS--GTEEIWKQKEDKIQVKPSVVGNASTAASALSSCTMVEGLLFPVEYYVVRTT	423
Latimeria_chalumnae	TSDIINKGVDRDAPVEIKSDQIIAYSSTIQEKPSVQSESPLSCTLIEGLLFPVEYYVVRTT	445
Xenopus_tropicalis	HTHSTPHIPTPLCSDEQNLLNQINNVDQTTTNTGEDNNPLNSCTLVEGLLFPVEYYVVRTT	447

.....430.....440.....450.....460.....470.....480

Pavo_muticus	RRLSNCQRKVDLDAVILSHLGRSKKGQRSKCKQKDTSLGQSSQ--ETAENHLESADVVPFPF	489
Pavo_cristatus	RRLSNCQRKVDLDAVILSHLGRSKKGQRSKCKQKDTSLGQSSQ--ETAENHLESADVVPFPF	489
Gallus_gallus	RRMSNCQRKVDLDAVILSHLGRSKKGQRSKCKQKDTSLGQSSQ--ETVENHLESEVVPFPF	491
Chelonia_mydas	RRMSNCQRKVDLEAVILSQLGRSRKGLRSKHKQINS--SDQLYQ--ETARS--DLQAGGTVPFPF	469
Mus_musculus	RRMSDCQRKIALEAVIQSHLGVKKKELKKK--TKATKAVVLSSE--DTDQSESGMLDT----	446
Rattus_norvegicus	RRMSDCQRKIALEAVIQSHLGVKKKELKKK--NKATKNLVLSS--ETDQSESGMLDT----	448
Homo_sapiens	RSMSNCQRKVAVEAVIQSHLDVKKKGFKNKNKDASKNLNLSNE--ETDQSEIRMSGT----	468
Pan_troglodytes	RSMSNCQRKVAVEAVIQSHLDVKKKGFKNKNKDASKNLNLSNE--ETDQSEIRMSGT----	468
Macaca_mulatta	RSMSNCQRKVAVEAVIQSHLDVKKKGFKNKNKDASKNLNLSNE--ETDQSEIRMSDT----	467
Callithrix_jacchus	RSMSNCQRKVAVEAVIQSHLDVKKKGFKNKNKDASKNLNLSNE--ETDQSEIRMSDT----	464
Bos_taurus	RRMSGCQRKVAVEAVIQSHLGVKKKGFKNKSMSAKKFNVCNE--KTKQSEIKVSDK----	471
Equus_caballus	RRMSSCQRKVAVEAVIQSHLGVKKKGFKNK--KEATKNLNSSE--ETKQSEIRMSDT----	464
Canis_lupus_familiaris	RRMSNCQRKVAVEAVIQSHLGVKKKGFKNKSMDATKNLNLCS--ETDQSEIRMSDT----	466
Rhinatrema_bivittatum	RRMSNCQRKVDLEAVIYSQLGKSRGPRKKYKDI--TKSNKGSLE--AAQRESKIQQGNSLG	481
Latimeria_chalumnae	RRMSMCQRKVDLDAVIHSLGKTRGRRRKLMSDLNRDLQEVSKNDTEFFKKINGVGNQOFC	505
Xenopus_tropicalis	RRMSNCQRKVDLDAIIHSQLGTSRRGSRGKPRSRVSGEESIIYTS--SPMACFASEFISN	507

.....490.....500.....510.....520.....530.....540

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Pavo_muticus          LCAESDPVSS-SPOKHLLTSSGSSSTSPGSTSONSIRSTKRDQQRQSQRKQKQKGRKSACKPL 548
Pavo_cristatus        LCAESDPVSS-SPOKHLLTSSGSSSTSPGSTSONSIRSTKRDQQRQSQRKQKQKGRKSACKPL 548
Gallus_gallus         LCAESDPVNS-SPOKHILTSSGSSSTSPGSTSONSIRSTKRDQQRQSQRKQKQKGRKSTCKPL 550
Chelonia_mydas        LGGESDPVSSNNSQKSLPPSDESCSTSSGSLSQKTVISMKQAKGKSWRRGRGRWGSTCRPA 529
Mus_musculus          --STGQSSSSGSLSQKLLSPA EVS--SPPGPAG-----KATTPPPGRGRGRGRKRSARTST 496
Rattus_norvegicus     --SIGHSSSESLSQKLISPVEVS--SPLGPANN--RSKKATARPPGRGRGRKRSACTST 502
Homo_sapiens          --CTGQPSSRTS-QKLLSLTKVS--SPAGPTEDNDLSRKAVAQAPGRRYTGRKRSACTPA 523
Pan_troglodytes       --CTGQPSSRTS-QKLLSLTKVS--SPAGPTEDNDLSRKAVAQAPGRRYRGKRSACTLA 523
Macaca_mulatta        --CTGQPSSRTS-QKLLSLTKVS--SPA EPTEDNDLSRKAVAQAPSRRYRGKRSACTPA 522
Callithrix_jacchus    --CTGEPSSRNS-QKFFSLTKVN--SPTAPTEDNDLSRKAVAQASGRRNRGKRSACTPA 519
Bos_taurus            --HAEQPSSRSP-QKLLSLTEVS--FSTDSTED-DFSRKTVTKPSGKKCRGRRKRSACTSL 525
Equus_caballus        --CTGRPNRSRSPAQKLLSLTEVS--SPTGPTPD-DFSRKAVTQTSGRRPGGKRSCTPE 519
Canis_lupus_familiaris --CTKQSSSRRS-QKHLSLTEVH--SPTGPTED-NLPRKAVTQPSGGRHRRKRSICPPV 520
Rhinatrema_bivittatum -LYFLKQADSSTAENTIPATSGN--SVADNLHSSSSPLTCHRIKSTRTRKGRKSKCKMR 538
Latimeria_chalumnae   PSIVSEQNCSESSGTVFGSRSPGSLVTSHGANADRVQFRRRERGRPRRLGVCTDFERV 565
Xenopus_tropicalis    ALCLTPLSHQTPNSNKHGANRRGRGRYSSPKLELPQVSSSHDVRKRSSILLEPDAVASP 567
.....550.....560.....570.....580.....590.....600

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Pavo_muticus          VNETSQELIESLDL-MPRESSSSLLSNEYQSEKENCEANLEKSSLDGRQFSVAAA---VGS 604
Pavo_cristatus        VNETSQELIESLDL-MPRESSSSLLSNEYQSEKENCEANLEKSSLDGRQFSVAAA---VGS 604
Gallus_gallus         LNETSQELIESLDLGMRESSSSLLSNEYQSEKENCEANLEKSSLDGRQFSVAAA---LGS 607
Chelonia_mydas        LNG-SQAHFPQTSDLTTLKENSHELLSNGSPGKENCEGDPERSPIQKTRVLVPAAGEATET 588
Mus_musculus          LGHCQLLFPPCAALAVNRSKGKFTKHKCONRG----- 528
Rattus_norvegicus     LGHHQLLFPPCAALAVNRTRGKFTKHKCONRD----- 534
Homo_sapiens          SDHCEPLLPTSSLSIVNRSKEEVTSHKYQHEK----- 555
Pan_troglodytes       SDHYEPLLPTSSLSVNVRSKEEVTSHKYQHEK----- 555
Macaca_mulatta        SDHCEPLLPA CNP SVINRSKEEVTSHKYQNK----- 554
Callithrix_jacchus    SDHCEPLLPTSSTSVINRAKDEVTSKYQKK----- 551
Bos_taurus            LDHHELLLPTTGTSGVKKSKEEIALHKDQNEK----- 557
Equus_caballus        LDRCELLLPTSGTCGVNRSKEGVTLRKDENEK----- 551
Canis_lupus_familiaris LDHHELLLPTPSTSGVNRSKKEITLHKDQNEK----- 552
Rhinatrema_bivittatum SDTAQAFITSMNSKGYCSQVDCRQESKTITSVKGERPLGLATGGPEQRKEAAHFMP----- 593
Latimeria_chalumnae   ISVGEKEGAGSSAKVIOQHTHLANDSLSEKENDGGKNKT VVERKRPAFEQTI EDG----- 620
Xenopus_tropicalis    ISNGSQSEKENCEEQTTPLRLPHSAHLFAPYRTEQPHVTEGLNSEQIYILPNSDQ----- 622
.....610.....620.....630.....640.....650.....660

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Pavo_muticus          ELTGRIQPTSADPPGGSQVLGKCCESRSEQVNPLQKSDSLNPGNETFTSHTSDLECMLS 664
Pavo_cristatus        ELTGRIQPTSADPPGGSQVLGKCCESRSEQVNPLQKSDSLNPGNETFTSHTSDLECMLS 664
Gallus_gallus         ELTGMIQPTSTDPGGSQVLGKCCESRSEQVNPLQKSDSLNPGNETFTSHTSDLECMLS 667
Chelonia_mydas        EMTDITWPT EADLPDV SOTFSKCHQPPLEHIQNPLQGNFLNPWDEAFSSPTQDLEANVN 648
Mus_musculus          ----- 528
Rattus_norvegicus     ----- 534
Homo_sapiens          ----- 555
Pan_troglodytes       ----- 555
Macaca_mulatta        ----- 554
Callithrix_jacchus    ----- 551
Bos_taurus            ----- 557
Equus_caballus        ----- 551
Canis_lupus_familiaris ----- 552
Rhinatrema_bivittatum -----CGNPVVS EALQREEQTHNLLKQHNVLNLLKEAMSSDGE 631
Latimeria_chalumnae   --SSSGNVAASAFEISR EVLKEPKRRLQHTACPVENSMSKLELSNEALAQQL ENLEKTV 678
Xenopus_tropicalis    ----- 622
.....670.....680.....690.....700.....710.....720

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Pavo_muticus	VCQPDKHPVKHVQSQQMORACRAEQLLTVP---LRRSLRSSARQRSSHISKDENKRGPGH	721
Pavo_cristatus	VCQPDKHPVKHVQSQQMORACRAEQLLTVP---LRRSLRSSARQRSSHISKDENKRGPGH	721
Gallus_gallus	VS--DKHPVKHVKNQQMORACRAEQLLIVP---LRRSLRSSARQRNHHISKGENKRGPGH	722
Chelonia_mydas	VSOAGKQPVGHIRNOCVOKACRAEQLLTVKESLLOHDLPSSSVKKRVROG-SKGKGRSG	707
Mus_musculus	-----VVI-----	531
Rattus_norvegicus	-----VII-----	537
Homo_sapiens	-----LFIQVKG-----KKSRRHQ	568
Pan_troglodytes	-----LFIQVKG-----KKSRRHQ	568
Macaca_mulatta	-----AVIRVKG-----KKS-HQ	566
Callithrix_jacchus	-----AVIRENG-----KKSRRHQ	564
Bos_taurus	-----AIVHSSK--RIKKGEGHCQ	574
Equus_caballus	-----ATIRGKESHCMKKNE-KMK	570
Canis_lupus_familiaris	-----VIIQGKK-----DHCQ	563
Rhinatrema_bivittatum	ETKLQVHKTSVPTISSAGVQTVAWYQQQFTTQQLIKKEFFSEDSNSYPQCRRRERPLQD	691
Latimeria_chalumnae	KQAKENVESKEIQPHIESKAHEVLNIHKVETFSHPETVLPVSVKRRRGRPPKSKKHLQ	738
Xenopus_tropicalis	-----KSKYNLRSRNSASLFHYSLPDDMDDFDNGSINQNKIK	659
730.....740.....750.....760.....770.....780	

		**.*.*.*.* ** **:	
Pavo_muticus	RVDSEGPASLGLAAKDPDTSSSLFSFR---SLQWLAPKLDIKDFHLPDEEFGLLKLGK-	776	
Pavo_cristatus	RVDSEGPASLGLAAKDPDTSSSLFSFR---SLQWLAPKLDIKDFHLPDEEFGLLKLGK-	776	
Gallus_gallus	QVDSEGPASLGLAAKDPDMGSLNLSFR---SFQWLVPKLDIKDFHLPDEEFGLLKLGKY	778	
Chelonia_mydas	QMDLEGPTPLSHLGLDPMADFPPFHFQNEMLSVKWLPSKLDIKDFHLPDEEFGLLKFEKL	767	
Mus_musculus	-----HDFELPDEDFGLLKLEKL	549	
Rattus_norvegicus	-----HDFELPDEDFGLLKLEKL	555	
Homo_sapiens	KEDSLSWNSAYLSLDDDAFTAPFHRD-GMLSLKQLLSFLSITDFQLPDEDFGLLKLEKV	627	
Pan_troglodytes	KEDSLSWNSAYLSLDDDAFTAPFHRD-GMLSLKQLLSFLSITDFQLPDEDFGLLKLEKV	627	
Macaca_mulatta	KEDSLSWNSAYLSLDDDAFTAPFHKD-GMLSLKQLLSFLSITDFQLPDEDFGLLKLEKL	625	
Callithrix_jacchus	KEDSLSWNSAYLSLDDDAFTAPFHKD-RMLNLKQLSSFLNMTDFQLPDEDFGLLKLEKL	623	
Bos_taurus	KEDFLCYSNYAYFSSDDDAFSAFPRKN-RMLSLKHLSSFLKITDFQLPDEDFGLLKLEKL	633	
Equus_caballus	KEESLSRNSAYLALDDDAFRAFPFHKD-EMLSLKQLSSFLKITDFQLPDEDFGLLKLEKL	629	
Canis_lupus_familiaris	KEDSLSRKNGYLALDSAVFKASFHEN-EMLSLKQLSSFLKITDFQLPDEDFGLLKLEKL	622	
Rhinatrema_bivittatum	KTDSEKVICNFSDGSGPSAGGVGINSPPFHVHKEMFQSLDITDFHLPDEEFGLLKLEKL	751	
Latimeria_chalumnae	TMMGLASLQNAHLKMKFVHSNPLFPVPEERFSIRKLSLSDITDFHLPDEEFGLLKLEKL	798	
Xenopus_tropicalis	RSIEFTDNQKSERQSRCLTPSPFPALSRMSLEKLLSCLEIKDFHLPDDDFGLLKLOKL	719	
790.....800.....810.....820.....830.....840		

	:	
Pavo_muticus	ESSPGKDLEVFVPS-----VLGDGVASEDAQTPEINAEKELKTK-----LLSPFKN	823
Pavo_cristatus	ESSPGKDLEVFVPS-----VLGDGVASEDAQTPEINAEKELKTK-----LLSPFKN	823
Gallus_gallus	ESSPGNDLEVFVPS-----VFGDGVASEDAQTLEINAEKELTTN-----LLSPFKN	825
Chelonia_mydas	QSCTVKQLEFPVPSGSEHWLQASGDTVALGDMRLKQVNTGKSLNS-----FISPSKT	821
Mus_musculus	KSCSEKLIESPDSKNCGERLPREGNHALEELQ---RDSETEGLEEE-----LTVPPGE	600
Rattus_norvegicus	KSYSEKLIESPDSKNCGERLPTEGKHAVLEELQ---IDSETEGLEVE-----LTVLPGE	606
Homo_sapiens	KSCSEKPVPEPFESKMFGERHLKEGSCIFPEELSPKRMDEMEDLEED-----LTVLPKG	681
Pan_troglodytes	KSCSEKPVPEPFESKMFGERHLKEGSCIFPEELSPKRMDEMEDLEED-----LTVLPKG	681
Macaca_mulatta	KSCSEKPVPEPFESNMFGERRLKEGNCIFPEELSPKRMDEMEDLEED-----LTVLPKG	679
Callithrix_jacchus	KSCSEKLMPEPFESVYGERHLKGRNCIFPEELSPKYMDEMEDLEED-----LTVLPKG	677
Bos_taurus	KSCSKLMETFGSKVHGEGHLKGESYIVVEEPSPKQSNIEKEGMEE-----LITLPGK	687
Equus_caballus	QFCSERAVEPFESKIYGERPLREGNCIVLEELTPEQIDTEMEDLEEE-----LISVPGK	683
Canis_lupus_familiaris	KSYSEKTVEPIVSKMYAQKHLKEGNCIVLEELTPTQIDTEMKDEEE-----LTVLPEK	676
Rhinatrema_bivittatum	KSPLLAHVEPYVLVPLRDEHLAPGS-----RKLLNAKSRIQEDG-----VLAPPGN	797
Latimeria_chalumnae	KVCAVTQVESFTPLPPETSHVTVKIASKDSVLEGRYLGESTVEKSNQDSEFQFFHPPSSW	858
Xenopus_tropicalis	KLSQLEFPFVPLPTTETGRTPKPDNTLLPGTDYSTAFQATIDSSVLAIKPSACTLYNGKSN	779
850.....860.....870.....880.....890.....900	

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Pavo_muticus	GSPELPHL-----	831
Pavo_cristatus	GSPELPHL-----	831
Gallus_gallus	GLSELPHL-----	833
Chelonia_mydas	MSPKLPHL-----	829
Mus_musculus	AYRPGPTL-----	608
Rattus_norvegicus	ACHPGPTL-----	614
Homo_sapiens	SHPKRPNS-----	689
Pan_troglodytes	SHPKRPNS-----	689
Macaca_mulatta	SHPKRPNP-----	687
Callithrix_jacchus	SHPKMPNP-----	685
Bos_taurus	AHPKMPSQ-----	695
Equus_caballus	ACPKTPSL-----	691
Canis_lupus_familiaris	AQPKMPSL-----	684
Rhinatrema_bivittatum	SLPQTSNV-----	805
Latimeria_chalumnae	AFVADEHS-----	866
Xenopus_tropicalis	AAPPDKTASKAILCVEIPNAPSQEHVAYSAHSVELPPPVSQVRKSOETVLNHLQKRSDDI	839
910.....920.....930.....940.....950.....960	

Pavo_muticus	-----ESP--	834
Pavo_cristatus	-----ESP--	834
Gallus_gallus	-----ESP--	836
Chelonia_mydas	-----EGQ--	832
Mus_musculus	-----RRQ--	611
Rattus_norvegicus	-----RWQ--	617
Homo_sapiens	-----QSQ--	692
Pan_troglodytes	-----QSQ--	692
Macaca_mulatta	-----QSQ--	690
Callithrix_jacchus	-----QSQ--	688
Bos_taurus	-----RSQ--	698
Equus_caballus	-----KSQ--	694
Canis_lupus_familiaris	-----TSR--	687
Rhinatrema_bivittatum	-----GNQEP	810
Latimeria_chalumnae	-----VTCEL	871
Xenopus_tropicalis	RPCEVDVKPTGNESVPHASPLPSKHLKTQTNSEIKLSLHPCEELGASGSSEFQIKSSAPQ	899
970.....980.....990.....1000.....1010.....1020	

	. :: * . . ** * . **.	
Pavo_muticus	AAKVELSTHELLFTPMGTVLTG-APAQRESQISSVFPVLGATPAVLPSVCSEVFPNTCS	893
Pavo_cristatus	AAKVELSTHELLFTPMGTVLTG-APAQRESQISSVFPVLGATPAVLPSVCSEVFPNTCS	893
Gallus_gallus	VANVELSTNEMLFTPMGTVLTG-APAQRESQISSVFPVLGATPAVLPSVCSEVFPNTCS	895
Chelonia_mydas	LHKKGLSPSELLTPASSVSAG-AINQLESQIPTSAFPVLGATPAVLPSLVHNEALPDTLS	891
Mus_musculus	PGSKDLSSSIVLFTPADTAAPN-DSGRPPPSLCSAFPILGMTPALGSQAAGETLSTEA	670
Rattus_norvegicus	PVSKGLSSSIVLFTPIDTAAPN-NSDRSTASLCSAFPVLGRTPAFGSQATGENISAEAG	676
Homo_sapiens	HTKTGLSSSILLYTPLNTVAPD-DNDRPTTDMCSAFPILGTTPAFGPQGSYEKASTEVA	751
Pan_troglodytes	HTKTGLSSSILLYTPLNTVAPD-DNDRPTTDMCSAFPILGTTPAFGPQGSFEKASTEVA	751
Macaca_mulatta	HTKTGLSSSILLYTPLNTVALD-DNDRPAADMCSPLFPILGTTPAFGPQGSYEKASTEVA	749
Callithrix_jacchus	CTKKGLSSSILLYTPLNTVVPD-DNDRPTADMCSPPFPILGTTPAFGSQGSYEKASTEVT	747
Bos_taurus	PRGKDLSSSILLFTPLNSVASD-DNDRLTAEELCSAFPILGATPAFGSQAHREKVSAEVV	757
Equus_caballus	PQG--LSSSILLFTPLNTVRPD-DNDAPAADACSPTFPILGVTPAVGSRARCEEVCAEFV	751
Canis_lupus_familiaris	SQKKGLSSSILLFTPLNTSAPE-NSNRPTADMCSPTFPILGTTPAFGSQALSEKVTCTETV	746
Rhinatrema_bivittatum	LRKKEFPSSALLSTPACTISLHGAGSQLAIDTHVPAFPFLGLTPAAPVLDFSRQDPTCFK	870
Latimeria_chalumnae	PQQKKLCASLTVITPECTVQTE-ANSPPAVSSGSAPFPSSLTLPVVSPPKSSGSGVLPVF	930
Xenopus_tropicalis	FPLKEVPCSVLLATSMCSMPLE-TSNDTELASCTPGFPFLGSTPAALSAFSPGGSVLTTPC	958
1030.....1040.....1050.....1060.....1070.....1080	

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Pavo_muticus      VHPLQVNLHSSKEAP-----AQVK-----DNRECKDSAIPLHLSDSCGAGSARKEEGQG 941
Pavo_cristatus    VHPLQVNLHSSKEAP-----AQVK-----DNRECKDSAIPLHLSDSCGAGSARKEEGQG 941
Gallus_gallus     VPPLQVSLHSSKEAP-----AQVK-----DSRECKDSAIPLHLNCCGAGSARKEEGQG 943
Chelonia_mydas    VLPLQVKTNLFKEPA-----SHVM-----DGRECNNSTGTLHSDSCRTG----- 930
Mus_musculus      -QPCSTSQPPLLGD-----NSLVN-----NSKQCNSACSPKPDINLQASGRQGG----- 715
Rattus_norvegicus -QPCSTSRRPSHLGET-----NSLVN-----KNKQCDSACSPKLDTSLOVSGRQGG----- 721
Homo_sapiens      GRTCTTPQLAHLKDS-----VCLAS-----DTKQFDSSGSPAKPHTTLQVSGRQGG----- 797
Pan_troglodytes   GRTCTTPQLAHLKDS-----VCLAS-----DTKQFDSSGSPAKPHTTLQVSGRQGG----- 797
Macaca_mulatta    GQTCRTTPQLAHLKDS-----VCLAS-----DSKQFDRSSSPAKPHTTLQVSGRQGG----- 795
Callithrix_jacchus GRTCCIPRLAHLKDS-----VCLAS-----DGKQCDSSSSPAKPHTTLQVSGRQGG----- 793
Bos_taurus        GQTCSPRRLSHLKAT-----VSLAG-----NRKQGNWSRPSKLDSSQHVAGRAGQ----- 803
Equus_caballus    RPTCSTPQLPHLKSDH-----VSLAN-----DHKQCNSWASPPELDLSLHVSGRKGK----- 797
Canis_lupus_familiaris RPTCSTPQLPHLKSDH-----VSLAN-----DHKQCNSWASPPELDLSLHVSGRKGK----- 801
Rhinatrema_bivittatum CCREISTDTSQGEHGCTLLA-----DTSQQLQNCVSDVLSDDGGEDAIHVLAQARR 920
Latimeria_chalumnae RPPSQIAKTLAVPGPSDSVKDEKTHDSLILLTATPDLDGWLNESCWSAEKKKKHALLPG-- 988
Xenopus_tropicalis SPKLEKPTATINKTLP-----AQSS-----ADELKSRLRGEVIEKEVNESKAEQCVILA 1007
.....1090.....1100.....1110.....1120.....1130.....1140

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Pavo_muticus      TPCHLEDERCPNNRSDGAVDLEKHQSQSKHKGSSRASPEQEK--TEAEQLTPVLLGGLR 999
Pavo_cristatus    TPCHLEDERCPNNRSDGAVDLEKHQSQSKHKGSSRASPEQEK--TEAEQLTPVLLGGLR 999
Gallus_gallus     TTCHLEVERCPSNRSRSDGAVDLEKHQSQSKHKGSSRASPEQKN--TEAEQLTPVLLDGLR 1001
Chelonia_mydas    -----SDCRSDEAVPLKEYCQPGS---GSKECCGAENK--LTAEELAVVILSDSLR 975
Mus_musculus      PACDSDSGPGQATPLPVESFTFRENOLCGNACLELHEHSTEQ-----TETADRPACDNLN 769
Rattus_norvegicus ATCDSDSGPGQATPLPIESFTFREDOLCGSACLELHEHSTEQ-----TEIADLPACDSL 775
Homo_sapiens      PTCDCDSVPPGTPPPPIESFTFKENQLCRNTCQELHKHSVEQ-----TETAELPASDSIN 851
Pan_troglodytes   PTCDCDSVPPGTPPPPIESFTFKENQLCRNTCQELHKHSVEQ-----TETAELPASDSIN 851
Macaca_mulatta    PTCDCDSALPGTPPPPIESFTFKVNLGNTCQELHKHSIEQ-----TETAELPASDSIN 849
Callithrix_jacchus PTCDCESVLQGTTPPTESFTFKENQLYGNTCQELHKRSVQQ-----NEVAVLPASGSIN 847
Bos_taurus        PSCDPDSGPGQATTLPTESFTYEASQLQ-----ESQRHSAEQ-----TEIAEVPAGWSLH 852
Equus_caballus    PSCDCDSGPGQATPLPNESFTFQENQLHGNTCLESWKLSVEQ-----TEIADVPACDRVN 851
Canis_lupus_familiaris PSCDCDSGPGQATPLPTESVFPKDNOLCGNPQESWKQSTEQEQSASLTVEAELPACQSSN 861
Rhinatrema_bivittatum AHESKMYSQEGKLLASILMCRNELQCDDSKCCTGDPREKNKGKAESASGMLCAILEGK 980
Latimeria_chalumnae KFLDNRSEPEIADQLVNSGLFRNCTLPCTGSGEMVIVKLDKYGQENINSEPTCQGHSDTN 1048
Xenopus_tropicalis PGSGSLSQYGDITAVNVKPIILMKESLQEVYHVENCAEEFITEQS---CGSQHENPLWTISE 1063
.....1150.....1160.....1170.....1180.....1190.....1200

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*.: * :. * :*: * . . :. * . :*. *
Pavo_muticus      EENLQFISKLDK-SSSCAVDVSVVWWEAAG--CRELCVVTACESSVSLWKQPAL-DCWE 1055
Pavo_cristatus    EENLQFISKLDK-SSSCAVDVSVVWWEAAG--CRELCVVTACESSVSLWKQPAL-DCWE 1055
Gallus_gallus     EENLQFISKLDK-SGSCAVDVSVVWWEAAG--YRELCVVTACESSVSLWKQPAL-DHWE 1057
Chelonia_mydas    ARSLQLASKLKN-SSSSCAVDVSVVWWEAAG--FTELCTVTACETFISLWKPLAS-SQWR 1031
Mus_musculus      PGNLQLVSELKN-SSSSCVDVSVVWWEAAG--AKEPCIVTACEDVSVLWKPLNS-LOWE 825
Rattus_norvegicus PGNLQLVSELKN-SSSSCVDVSVVWWEAAG--TKEPCIIITACEDVSVLWKPLDS-MOWE 831
Homo_sapiens      PGNLQLVSELKN-PSGSCVDVSVVWWEAAG--CKEPCIIITACEDVSVLWKALDA-WOWE 907
Pan_troglodytes   PGNLQLVSELKN-PSGSCVDVSVVWWEAAG--CKEPCIIITACEDVSVLWKALDA-WOWE 907
Macaca_mulatta    PGNLQLVSELKN-PSGSCVDVSVVWWEAAG--CKEPCIIITACEDVSVLWKALDA-WOWE 905
Callithrix_jacchus PGNLQLVSELKN-PSGSCVDVSVVWWEAAG--CKEPCIIITACEDVSVLWKALDA-WOWE 903
Bos_taurus        PGNLQLVSELKN-PSGSCVDVSVVWWEAAG--LKEPCIIITACEYVSVLWKALDI-WOWE 907
Equus_caballus    PGNLQLVSELKN-PSGSCVDVSVVWWEAAG--FKEPCIIITACEYVSVLWKALDI-WOWE 917
Canis_lupus_familiaris PGNLQLVSELKN-PSGSCVDVSVVWWEAAG--FKEPCIIITACEYVSVLWKALDI-WOWE 917
Rhinatrema_bivittatum EGCLQLISKLDK-LSGFCVAVDSSVWWDIDG--SSGKELCTVTACEFSISLWKPEEP-SNWK 1038
Latimeria_chalumnae EETLKLISLTKN-HSHSCGVLDLCSVWWDIDG--RRRLNIVIAACENSVSLSWESLQE-NOWE 1104
Xenopus_tropicalis GGHLRLISQIQDGFCKMIDLCVQWFEFSS--GTEMCIVGASESATSLWRPHSAGROWE 1121
.....1210.....1220.....1230.....1240.....1250.....1260

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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      : * : :.***:** :*      :*:***.* * *: * :      .: : : *
Pavo_muticus      KVYTWQLGEIPVQIIPDPDTCNLVCIALGNLEIGEIRLLLYSSESDFSFKQSLVKSGNIK 1115
Pavo_cristatus    KVYTWQLGEIPVQIIPDPDTCNLVCIALGNLEIGEIRLLLYSSESDFSFKQSLVKSGNIK 1115
Gallus_gallus     KVYTWQLGEIPVQIIPDPDTCNLVCIALGNLEIGEIRLLLYSSESDFSFKQSLVKSGNIK 1117
Chelonia_mydas    KVYTWHLTEIPVQIVPLPDVSNLVCVALGDLGEIRLLLCSSSEDGSLKQSLVKSGNIK 1091
Mus_musculus      KVHTWHFTEVPVLQIVPVPDVYNLICVALGSLEIREIRALLCSSGDDSEKQVLLKSGDIK 885
Rattus_norvegicus KVHTWHFTEVPVLQIVPVPDIYSLICVALGSLEIREIRALLCSSGDDSEKQVLLKSGDIK 891
Homo_sapiens      KLYTWHFAEVPVLQIVPVPDVYNLVCVALGNLEIREIRALFCSSDDESEKQVLLKSGNIK 967
Pan_troglodytes   KLYTWHFAEVPVLQIVPVPDVYNLVCVALGNLEIREIRALFCSSDDESEKQVLLKSGNIK 967
Macaca_mulatta    KLYTWHFTEVPVLQIVPVPDVYNLVCVALGNLEIREIRALLCSSDDESEKQVLLKSGNIK 965
Callithrix_jacchus KLYTWHFTEVPVLQIVSVPDVYNLVCVALGNLEIREIRALLCSSDDESEKQVLLKSGNIK 963
Bos_taurus        KIYSWHFTEFPVLQIVAVPDVCNLVCVALGNLEIREIRALLCSPDGKSEKQVLLSSGNIK 968
Equus_caballus    KIYSWHFTEVPVLQIVLVPDVCNLVCVALGNLEIREIRALLCSSDGESEKQVLLSSGNIK 967
Canis_lupus_familiaris KLYSWHFTEVPVLQIVPVPDVYNLVCVALGNLEIREIRALLCSSDGESEKQVLLSSGNIK 977
Rhinatrema_bivittatum LAHMWSFSKMPVQIVPLPGTHCCVCVALGSLAIEELWLLFSRPGENRLQEQVLKCGYIY 1098
Latimeria_chalumnae NTHTWDFTEVPVQIVSIPEAINLICVALGKLEIGEIRTLFYREEGTFRQSLRLSGDMK 1164
Xenopus_tropicalis AAHSWIFTEMPVQIILPLPGEKNIMCVALGNLEILEIWFALFSCPRGLSWEQRVVKLGHT 1181
.....1270.....1280.....1290.....1300.....1310.....1320

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      **      : : : . .      . * : : : : : *      * . *      : : : : : * . * : :
Pavo_muticus      AVLGLKDGRLVSSSRAMQEQQVEIVSLSETGRCKDRQTLMPPEETVLAFAEVEGVRDALV 1175
Pavo_cristatus    AVLGLKDGRLVSSSRAMQEQQVEIVSLSETGRCKDRQTLMPPEETVLAFAEVEGVRDALV 1175
Gallus_gallus     AVLGLRDGKLISSSRAMQEQQVEIVSLSETGRCKDRQTLMPPEETVLAFAEVEGVRDALV 1177
Chelonia_mydas    AVLGLTNRRLVSSSGTLQDQCIIEIISVSEAGRNERQTLMPPEETILAFAEVEGIRDALV 1151
Mus_musculus      AMLGLTKRRLVSSSGTGFNQQIQTIMTFADDGSSKDEQLLMPPEETVLTFAEVQGTQEQALL 945
Rattus_norvegicus AMLGLTKRRLVSSSGTGFNQQIQTIMTFADDGSSKDEQLLMPPEETILTFAEVHGMQEQALL 951
Homo_sapiens      AVLGLTKRRLVSSSGTGLSDQQVEVMTFAEDGGGKENQFLMPPEETILTFAEVQGMQEQALL 1027
Pan_troglodytes   AVLGLTKRRLVSSSGTGLSDQQVEVMTFAEDGGGKENQFLMPPEETILTFAEVQGMQEQALL 1027
Macaca_mulatta    AVLGLTKRRLVSSSGTGLSDQQVEVMTFAEDGGGKENQFLMPPEETILTFAEVQGMQEQALL 1025
Callithrix_jacchus AVLGLTKRRLVSSSGTGLSDQQVEVMTFAEDGGGKENQFLMPPEETILTFAEVQGMQEQALL 1023
Bos_taurus        AVLGLAKRRLVSSSRTLCDQQVEVMTFAEDGGGSKKEQLLMPPEETILTFAEVQGMQEQALL 1028
Equus_caballus    AVLGLTQRRVLVTSSGTGLCDQQVEIMTFAEDGGGSKKEQLLMPPEETILTFAEVQGMQEQALL 1027
Canis_lupus_familiaris AVLGLTGRRVLVSSSGTGLCDQQVEIMTFAEDGRSKEQLLMPPEETVLTFAEVQGMQEQALL 1037
Rhinatrema_bivittatum NVLGLSQRRVLVSSSRGAQQQTLEIISLSEAGRITERQNLMPPEESILAFSEVEGEHSALV 1158
Latimeria_chalumnae IVLGLTDRRVVSCNSGYRKQNVELISLSEGRNEGTLTMSPGESILAFAEVDGEKDALI 1224
Xenopus_tropicalis TARGLSKLRLVCSGGLGPNQVEIILQLEKGRIMRSHTLOPPEASILSFSEVEGEADAVV 1241
.....1330.....1340.....1350.....1360.....1370.....1380

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      . : *      . : : : *      *** : *      : : .      . *      : : * : * : * : : .      . : :
Pavo_muticus      GTTAVNSVAVWNLKTGQLLKKMHIGYSYPASICHRAYSDSGLLFVVLSHPHAKESSESCGN 1235
Pavo_cristatus    GTTAVNSVAVWNLKTGQLLKKMHIGYSYPASICHRAYSDSGLLFVVLSHPHAKESSESCGN 1235
Gallus_gallus     GTTAVNSVVVWNLKTGQLLKKMHIGYSYPASICHRAYSDSGLLFVVLSHPHAKESSEL CGN 1237
Chelonia_mydas    GTTAVNSLVVWNLKTGQILKKMHVGYSPASICHRAYSDSGLLFVVLSHPHAKENESCGN 1211
Mus_musculus      GTTTVNSIVIWNLTGQLLKKMHIDDSYQASVCHGAYSEKGLLFVVVSQPCAKESQALGS 1005
Rattus_norvegicus GTTTVNSIVIWNLTGQLLKKMHIDDSYQTCVCHRAYSEMGLLFIVLSHPCAKESQAFGS 1011
Homo_sapiens      GTTIMNNIVIWNLTGQLLKKMHIDDSYQASVCHKAYSEMGLLFIVLSHPCAKESSESLRS 1087
Pan_troglodytes   GTTIMNNIVIWNLTGQLLKKMHIDDSYQASVCHKAYSEMGLLFIVLSHPCAKESSESLRS 1087
Macaca_mulatta    GTTVMNNIVIWNLTGQLLKKMHIDDSYQASVCHKAYSEMGLLFIVLSHPCAKESSESLQS 1085
Callithrix_jacchus GTTVMNNIVIWNLTGQLLKKMHIDDSYQASVCHKAYSETGLLFIVLSHPCTKESSEFLES 1083
Bos_taurus        GTTIMNNIVIWNLTGQLLKKMHIDASQASVCHKAYSEMGLLFVVLSHPCAEENELSGS 1088
Equus_caballus    GTTIMNNIVIWNLTGQLLKKMHIGDSYQASVCHKAYSEMGLLFVVLSHPCAKESSEALRS 1087
Canis_lupus_familiaris GTTIMNNIVIWNLTGQLLKKMHIGDRYQASVCRKAYSEMGLLFVVLSHPCAKESSELLGS 1097
Rhinatrema_bivittatum GTTVASNIVWNMLTGQLLKMISLGKSYQASVCHKTYSDSGLLFIVLSHPYASDSQSSNG 1218
Latimeria_chalumnae ATTDLYNIVLWNIKTGQLLQSSISIGNSYPTSLCLKAFSDSGLLFAILCNQHNKSESSLD 1284
Xenopus_tropicalis GSTVDNKKVVIWNGATGQLLSTINVGELCGDSACLSAYSQSDSGLLFLLLASPYNSLEAARK 1301
.....1390.....1400.....1410.....1420.....1430.....1440

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      : : . **      *:      **      *::*:*:      .*:***** :...*** . *
Pavo_muticus      PAFRVIAFNPKTARSTGVMFSSLP PGQTGRYLEGEVKDAWAAAVLTSGAIAVWDL LLLGCC 1295
Pavo_cristatus    PAFRVIAFNPKTARSTGVMFSSLP PGQTGRYLEGEVKDAWAAAVLTSGAIAVWDL LLLGCC 1295
Gallus_gallus     PAFRVIAFNPKTARSTGVMFSSLP PGHTGRYLEGEVKDAWAAAVLTSGAIAVWDL LLLGCC 1297
Chelonia_mydas    PAFRMRVFNPKTARSTGVMFSSLP PGHSGRYLEGEVKGVSAAAVLTSGTIAVWDL FLLGQC 1271
Mus_musculus      PVFQLLVINPKTAQSVGVLLCSLP QGQAGRFLEGDVKDHVAAAVLTSGTIAIWDLL LLLGHC 1065
Rattus_norvegicus PVFQLLVINPKTAQSVGVLLCSLP QGQAGRFLEGDVKDHVAAAVLTSGTIAIWDLL LLLGHC 1071
Homo_sapiens      PVFQLIVINPKTTLSVGVMLYCLPPGQAGRFLEGDVKDHCAAAILTSGTIAIWDLL LLLGQC 1147
Pan_troglodytes   PVFQLIVINPKTTLSVGVMLYCLPPGQAGRFLEGDVKDHCAAAILTSGTIAIWDLL LLLGQC 1147
Macaca_mulatta    PVFQLIVINPKTTLSVGVMLYCLPPGQAGRFLEGDVKDQCAAAILTSGTIAIWDLL LLLGQC 1145
Callithrix_jacchus PVFQLIAINPKTTLNVGVMYCLPQ GQAGRFLEGDVKDHCAAAILTSGTIAIWDLL LLLGHC 1143
Bos_taurus        PVFQLIVINPKTTLSRGVMYCLPHGQAGRFLEGDVKDHFAAAVLTSGTIAVWDL LLLGHC 1148
Equus_caballus    PVFQLIVINPKTTLSMGVMYCLPQ GQAGRFLEGDVKDTFAAAVLTSGTIAIWDLL LLLGHC 1147
Canis_lupus_familiaris PVFQLIVINPKTTLSVGVMLYCLPQ GQAGRFLEGDVKDHFAAAVLTSGTIAIWDLL LLLGHC 1157
Rhinatrema_bivittatum VVFTLIATNPMQAAISIPVMSYLLPERCTGRYLEGDVQQR LAAAVLTSGNIAIWDLS LGLC 1278
Latimeria_chalumnae SVLKLVAINPKKGHNSQV LAYTLPAGFRGQYLDGDVSGQTVAAVLTSGAIVLWDLL YLGH 1344
Xenopus_tropicalis CIFTLIAANPKSERCAHVMSY TLP EGQDGRYLEGDIISHNAAVLTSGSVAFWDL PRSHC 1361
.....1450.....1460.....1470.....1480.....1490.....1500

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Pavo_muticus      TALLPPGSDSRWTLVRWSAAGAGLLAGRADGSVCVRYAQHGA----- 1338
Pavo_cristatus    TALLPPGSDSRWTLVRWSAAGAGLLAGRADGSVCVRYAQHGA----- 1338
Gallus_gallus     TALLPPGSDSRWTLVRWSAAGAGLLAGRADGSVCVRYARRGAV----- 1341
Chelonia_mydas    TALLPPNADGNWSLVRWSVTDSCLLAGQKDGSVYVYHYSQAKAVGK----- 1317
Mus_musculus      TALLPPVSDQSWSLVKWSGTD SHLLAGQKDGNIIFYRYF----- 1104
Rattus_norvegicus TALLPPVSDQSWSLVKWSGTD SHLLAGQKDGNIIFYRYF----- 1110
Homo_sapiens      TALLPPVSDQHWSFVKWSGTD SHLLAGQKDGNIIFYVYHYS----- 1186
Pan_troglodytes   TALLPPVSDQHWSFVKWSGTD SHLLAGQKDGNIIFYVYHYS----- 1186
Macaca_mulatta    TALLPPISDQHWSFVKWSGTD SHLLAGQKDGNIIFYVYHYS----- 1184
Callithrix_jacchus TALLPPISDQNSFVKWSGTH SHLLAGQKDGNIIFYHYS----- 1182
Bos_taurus        TALLPPVSGQNSFVKWSGTD SHLLAGQKDGNIIFYRYF----- 1186
Equus_caballus    TALLPPLSDQNSFVKWSGTD SHLLAGQKDGNIIFYRY----- 1185
Canis_lupus_familiaris TALLPPISDQHWSFVKWSGTD SHLLAGQKDGNIIFYRY----- 1195
Rhinatrema_bivittatum TALLPPICDGVWAVRWLYADSCLLAGQKDGSVYVYKYLGT LQKAL----- 1325
Latimeria_chalumnae TAQLAPETDESWSLVRWANLDSCLLAGQKDGHVLIYEYLG TWRK----- 1388
Xenopus_tropicalis SALLITNVDIHWSLVRWTHSMSQVLAGQKNGTIYIYSY TGLAPKEKIKEFEKNGIS 1417
.....1510.....1520.....1530.....1540.....1550.....

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