

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/ANKRD31.pep Feb 1 11:13:01 2022

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Pavo_muticus      -----CMSVCCAECSTFLPASHKGFPMWDSQTFKKNRFSLFNTSMILTTEIG----- 47
Pavo_cristatus    -----CMSVCCAECSTFLPASHKGFPMWDSQTFKKNRFSLFNTSMILTTEIG----- 47
Gallus_gallus     MGQPHPHSCMSGCCAGCSLLLVSHKGFPMWDSQTFQKNRLSPINTSMILTTEIG----- 55
Chelonia_mydas    -----MKEGGDISDSDETVEGVSVTESDLDEEELHMKRLSFVNKDISLITETIFADE- 54
Rhinatrema_bivittatum -----
Homo_sapiens      -----MEEGVQAPDWSDDETVEIGSVTESDLEEKELPWRRLLFDDQASLKSEFSLHPD-- 53
Pan_troglodytes   -----MEEGVQAPDWSDDETVEIGSVTESDLEEKELPWRRLLFDDQASLKSEFSLHPD-- 53
Macaca_mulatta    -----MEEGVQDPDWSDDETVEIGSVTESDLEEKELRWRRLLFDDQDTALKSEFSLHPD-- 53
Callithrix_jacchus -----MEEGVQAPDWSDDETVEIGSVTECDLEEEELPWRRLLFDDQDTSLRSEFSLHPD-- 53
Canis_lupus_familiaris -----MEAGGQAADYSDDETVIDGSVTESDPEEEELPWRRLLFDDQDTSLRSEYSLHPD-- 53
Equus_caballus    -----MEAGAQAPDWSDDETVEIGSVTESDPEEEELPWRRLLFDDQDTHTLSEFSFHGP-- 53
Bos_taurus        -----MEEGSAADWSDDETVEIGSVTESDPEEEALPWRRLLFNODTSLRSEFSLHPSKD 55
Heterocephalus_glaber -----MEEDAQAPDWSDDETVEIGSVAESDKDEELPWRRLLFDDQDKSLTSEFYLPQG-- 53
Mus_musculus      -----MENGAEASDCSDDETVEIGSVTENEPDEELPWRRLLLNODTTTCRSEFCFHSG-- 53
Rattus_norvegicus -----MEKGDQASDCSDDETVEIGSVTENELEDEL PWRRLFLS-QDTTFTSEFCFHSG-- 52
Xenopus_tropicalis -----MQEASVDIMSAGVNFPGGDATTNVTKKELVAT----- 33
1.....10.....20.....30.....40.....50.....60

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Pavo_muticus      -----GVFSPEINCVAPEPS----- 62
Pavo_cristatus    -----GVFSPEINCVAPEPS----- 62
Gallus_gallus     -----GVFSPEISCIVDPDS----- 70
Chelonia_mydas    ---IRRVNGVLENLSPEIQLVCKFSDNLENMKQKNQINPLAHKRRETEQSQSLLQGAVFT 111
Rhinatrema_bivittatum -----
Homo_sapiens      -----TRGMCKGMPSPPEIQLGFKLREDLQEQM----- 80
Pan_troglodytes   -----TRGMCKGMPSPPEIQLGFKLREDLQEQM----- 80
Macaca_mulatta    -----TRGMCEGMPSPPEIQLGFKLKEDLQEQM----- 80
Callithrix_jacchus -----TRGMCKGMPSPPEIQLGFKIRKDLQEQM----- 80
Canis_lupus_familiaris -----RSGMCKGT-SPEIQLGFKLRENPREQK----- 79
Equus_caballus    -----ISGTCKGTPSPPEIHLGFKLGEDPQEQM----- 80
Bos_taurus        PTQDIRNLNCQTGASSPEIQVRFRRFREDPQEQM----- 87
Heterocephalus_glaber -----ISAMCKGTPSPPEIQLGCKLREDSQEQI----- 80
Mus_musculus      -----VDGMQKGIIHSPPEIQGLKLRKDSQEQN----- 80
Rattus_norvegicus -----INGTQNGMHSPEIQGLKLRKDSQEQN----- 79
Xenopus_tropicalis ----- 33
.....70.....80.....90.....100.....110.....120

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Pavo_muticus      -----YENOVYQKLSYEDLSPEAILCPDTFLEEILTP--- 94
Pavo_cristatus    -----YENOVYQKLSYEDLSPEAILCPDTFLEEILTP--- 94
Gallus_gallus     -----YENOVYQKLSYEDLSPEAILCPDTFLEEIVTP--- 102
Chelonia_mydas    TKISQPGLLLNASVGLDDMSGFLKTERKISHRLTDEDDSPERSILLSAVVKEILMAPKE 171
Rhinatrema_bivittatum -----
Homo_sapiens      -----NKNKMMPVLS EDTILQ-SQDETERNQALLQTRKNC 114
Pan_troglodytes   -----NKNKMMPVLSKDTILQSQDETERNQALLQTRKNC 115
Macaca_mulatta    -----SKNRMMPILS EDTILQ-SQDETERNQALLQTRKNC 114
Callithrix_jacchus -----NKNKMMPVPSKDIIILQSQDETVQNCAPLQTRKNC 115
Canis_lupus_familiaris -----SKNKIMP-LSDTALLOQPQDEMEQNQTLFQNRKSF 113
Equus_caballus    -----STNKTMPVLS EDVAVLQKPQDEMEKNRTLLLLASKGC 115
Bos_taurus        -----RINQTMILILIEDTVLQOPQDEMEQNGALLQFRKSH 122
Heterocephalus_glaber -----NKS KMMPILS EDGLQQLQDETAQNOGVLOTRKNF 115
Mus_musculus      -----NKNKLLLLS EDLVLPQDKTAQNOVLLQTTKEF 115
Rattus_norvegicus -----DKNEVLRALS EDLVLPQDETQNOVLLQTRKEL 114
Xenopus_tropicalis -----PEKTYIHHGIDDTAKGEAVSDKIETEVINNRETS 67
.....130.....140.....150.....160.....170.....180

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Pavo_muticus      ---QDIFLHVLEDCQRPTVAVIDTDN--SIKEQPSNNDKDLSLSAFGKILMESLSLSEPS 149
Pavo_cristatus    ---QDIFLHVLEDCQRPTVAVIDTDN--SIKEQPSNNDKDLSLSAFGKILMESLSLSEPS 149
Gallus_gallus     ---QDIFLHVLEDCQRPTVAVIDTDN--SIKEQLSNNDKDLSSAFGKILMESLSLSEQS 157
Chelonia_mydas    WTSENVFPGVLKDCQSATMTTITEIDT--RVKDNSLEKSTPDFILSSTSEKISRETLTEQS 229
Rhinatrema_bivittatum -----
Homo_sapiens      SMFIGSFRQSGLSLNHQNIEGPEAES-PEVLPHIEKELSEGRDSPEVSLLSGTAITVSDT 173
Pan_troglodytes   SMFIGSFRQSGLSLNHQNIEGPEAES-PEVLPHIEKELSEGRDSPEVSLLSGTAITVSDT 174
Macaca_mulatta    SMFIGSFHQSGLSLNHQNIEGPEADETPEVLPHIEKELSDGRDSPEVSLLSGTAITVSDM 174
Callithrix_jacchus SMFIGSFHQSGLSLNHQNIEGPEAES-PEVLPHMEKELSEGRDSPEVSLLSGTAITVSDM 174
Canis_lupus_familiaris PLFTVSFSAQAKPLNHQSIQGPAAEN-SEILPNPEKELSDTNSPEISFLSGTATKVSDV 172
Equus_caballus    PMFVVSFPNAELSLKHQNIQGPAAEN-PEVLPHPEKELSDARDSPESISLLSDTAVKVSDT 174
Bos_taurus        PVFTVSFPQAGFSLNHRSLGPEAAEN-PEVLTHPEKELSRNRDSPESISLLSNISIKESDT 181
Heterocephalus_glaber AMSPVVSFPQAGFSLNQNIGGPEAAEN-TEVLPYLEKELSEDGRDSPESISLLSNIAITVSGM 174
Mus_musculus      PVFTVSFPHPPEVSWSHQNTGGHEAEN-CENLPHSKKELRENSDSPESVSLLSGTSPVAPDL 174
Rattus_norvegicus PVFVSVPHPPEVSWSHQNTGGGPAEI-CEHLPHSEKELSENSDSPESVSLLSGTSLMASDL 173
Xenopus_tropicalis FITSSSFEELNISDLLKSPGGSELFK-----LSETEFEHYLSCIDVATESNSILTPE 119
.....190.....200.....210.....220.....230.....240

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Pavo_muticus      LGTGELEISDWLRFPSDPGSPTAINPLNGVLEYPD RVFSSDAPADENSADALVELVTHLN 209
Pavo_cristatus    LGTGELEISDWLRFPSDPGSPTAINPLNGVLEYPD RVFSSDAPADENSADALVELVTHLN 209
Gallus_gallus     LGADELESDSLRLFLSDSGSPTVINPLHVLEYPD CVFSSDAPSDKNSDALPVELVTELN 217
Chelonia_mydas    IMADEFEIRDLLKPLSDSESPEMINPLHDTLQCQGDALAVDISVDENSNVLELLELTALN 289
Rhinatrema_bivittatum -----
Homo_sapiens      VAVKETSLVEPEKILAAPNTFFEPKREVMTMTSEETKDEESSLETFVSALERSLLTSPES 233
Pan_troglodytes   VAVKETSLVEPEKILAAPNTFFEPKREVMTMTSEETKDEESSLETFVSALERSLLTSPES 234
Macaca_mulatta    VAVKETSLIEPEKILAAPNTFFEPKREVLTMTSEETKDEENSLETFVSALERLLTSPES 234
Callithrix_jacchus VAVKETSLIEPEKILAAPNTFFEPKREVLTMTSEETKDEENSLETFVSALERLLTSPES 234
Canis_lupus_familiaris MVVKEKSLVEPEKILAVPNKFSESGKEALLTMNSEETQDEESSLKT FVSALERLLTSPES 232
Equus_caballus    VTIKEKSLLLKPEKILAAPNTFSEPGKEVLTMTSEETKDEESSLETFVSALERLLTSPES 234
Bos_taurus        FAVKEKSLLEPE-----KEPSEEGALMTSEENKDEESSLETFVSALERVLTSPEI 232
Heterocephalus_glaber VAVEEKSLIETEKISAAPKSYHPGKEVLTMTSKETNNEESSLETFVSALERLLTSPES 234
Mus_musculus      VALKER-LTEPVKTLAVPNTLSEPGKEVLTMTSKETKDEESSLETFVSALERLLTSPES 233
Rattus_norvegicus VTLKEQ-LTEPVKTLAVPNTFSEPGKEVLTMTSKETKDEESSLETFVSALERLLTSPES 232
Xenopus_tropicalis LVAAINMLEGEAYTDHWAGSFTEEGVDKEKPAEEDQFRKAVLGELDEDFTEISSHNKRN 179
.....250.....260.....270.....280.....290.....300

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Pavo_muticus      SMSGSVVQPDTPVVPVPSKRQLNTKEVQANSEHDIARQMGDDSVQITSM LAPRLPMIQVDKS 269
Pavo_cristatus    SMSGSVVQPDTPVVPVPSKRQLNTKEVQANSEHDIARQMGDDSVQITSM LAPRLPMIQVDKS 269
Gallus_gallus     SVSGSVIQPDIPVVPVPSKRQLNTKEEQANSEHDIARQVGDCTQITSMLEPPLVQIDKS 277
Chelonia_mydas    SFSESVVQPLRQLVGKEREVNAEEHLRSEPSIF-QIDDC TQITVNFEPQFSVKQLEET 348
Rhinatrema_bivittatum -----
Homo_sapiens      TQEERLFLVLSDFDRKELMNPLSDSLSSISIPLNWSACHRD LLEDAKDDALPAELLEAL 293
Pan_troglodytes   TQEERLFLVLSDFDCKELMNPLSDSLSSISIPLNWSACHRD LLENAKDDALPAELLEAL 294
Macaca_mulatta    TQEERLFLVLSDFDSKELMDPLSDSLSSISIPLNWSACHRD SLENAKDDALPAELLEAL 294
Callithrix_jacchus AQEERLFLVLSDFDPKELMNPLSDSLSSISIH LNAWSACHRD LQENVKDDALPAELLEAL 294
Canis_lupus_familiaris PQEERLFEIMSDFESKELTNPLSNPSSTSVSL----TCHRD LLENPKDDGLPAELLAAL 288
Equus_caballus    TQEERLFEIS-DLEPRELMNPLSNSSSSMSVPL----TCHRD LLENPKDDALPELLAAL 289
Bos_taurus        SQEERLFRKMNDFEPRELANPLSNSSSSISIP L----TCHRD FLEDPKDDALPVEVSTAL 288
Heterocephalus_glaber TQEKRLFKTMDNFDFTGELMNALSNSSSSMSVSL SALSAPYCRD LLENAEDDALPELLAAL 294
Mus_musculus      TQEERLLEVMDDFNPQELFSTLSNLGSSVSVPLN AWAAQGRDELENKADAALPAKLLAAV 293
Rattus_norvegicus TQEERLLEIMNDFSPQEFLLTSLNSMSSVSVPS SALSAGDRDELGNKAGAVLPAQLLAAI 292
Xenopus_tropicalis SQEEQIHEQLSPRTEQDSIEKELSSYN-----FEQNV LERVLEET 220
.....310.....320.....330.....340.....350.....360

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Pavo_muticus      KALTGSSSLQRTTTEQLVSGHQKGKEVISNYWSATYNEKRTRKGSSHL----- 316
Pavo_cristatus    KALTGSSSLQRTTTEQLVSGHQKGKEVISNYWSATYNEKRTRKGSSHL----- 316
Gallus_gallus     EPLTGSSSLQRTTTEQLVSDHQKGKEVISNYWNATCKKKGTRKGSSHL----- 324
Chelonia_mydas    KALTEAAFGQTLDEQLVGNQKNQDLIISDYCNVASYDKQAGEGNSGSG----- 395
Rhinatrema_bivittatum -----
Homo_sapiens      NTLSEAKVETICHRKEGGSSLIARNECLEVEFNFSQTINEDCTQIAET----- 340
Pan_troglodytes   NTLSEAKVETICHRKEGGSSLIARNECLEVEFNFSQTINEDCTQIAET----- 341
Macaca_mulatta    NTLSEAKMETICHRKEGGSSLIARNECLEVEFNFSQTINEDCTQIAET----- 341
Callithrix_jacchus NTLSEAKVETICHRKEGGSSLSARNECLEVEFNFSQTSEDRTQIAET----- 341
Canis_lupus_familiaris NTLSEGNVEPICHREEGGSSLSAGNEYSGGEPKMSQTSDECTQITEVNSESLCSAPLFEQ 348
Equus_caballus    NTLSETKVGPICHREEGSSLSAGIQCCLGMEPNMSQTSDECTQIAEGNFESVCSTAPFEQ 349
Bos_taurus        NTLSDAKVEPICHRRKEGGISLGAGNECSGVEPGMSQTSDECTQITEVDFETLCSTPPFEQ 348
Heterocephalus_glaber NTLSEDKTELICHRKKEGGSLRGRNEYLE--PDSSQTINEDCTQITET----- 339
Mus_musculus      N--TGADVGPSCQGGQEKSSSVSGGNGCLAVQPIMSQVDECTQIAQN----- 338
Rattus_norvegicus NTLPGADVGPICQGGQERSSSVSGGNGCLEVQPMASQKDECTHIAQN----- 339
Xenopus_tropicalis CNIRDADWQEHCTERHHSNSKVEGKKFLRTQIVPDCARNSNRQNEDE----- 267
.....370.....380.....390.....400.....410.....420

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Pavo_muticus      -----AKAVLCSETTKTTSQ---RIMELGETSSVR 343
Pavo_cristatus    -----AKAVLCSETTKTTSQ---RIMELGETSSVR 343
Gallus_gallus     -----VEAVLCAETTKTTSQ---RIMELRETSIR 351
Chelonia_mydas    -----IENTSDVETTKATSYTLRKSTRIRENCTRK 425
Rhinatrema_bivittatum -----
Homo_sapiens      -----LQDPNPISGLQTLAHQNTSCEPLSNKRNSNSVTNSSDQE 379
Pan_troglodytes   -----LQDPNPISGLQTLAHQNTSCEPLSNKRNSNSVTNSSDQE 380
Macaca_mulatta    -----LQDPNPISGLQTLAHQNTSCEPLSNKRNSNSVTNSSDQE 380
Callithrix_jacchus -----LQDSNPISGLQTLAHQNTSCEPLSNKRNSNSVTNSSDQE 380
Canis_lupus_familiaris DSKVGELQDKHLSPOHVNSSILGDPNPFGQLTLVHQNVPSCDPLNNKGNNSVENKSDQD 408
Equus_caballus    DSKLAEPEDKRLSVQOQVRPSTIEDPDPFALETLAHQNVTSQDPLNNKGNNSPVENSFDQD 409
Bos_taurus        DSKLAELQDKHLPVQQS---LEDPNPFELQMLVHQNVTSCDPLNNKGNNSYLENNSDQD 403
Heterocephalus_glaber VKDSNPFPESPLARQNVTSQDPLNNKGNNSKPNPMDNGSDQE 377
Mus_musculus      -----IEDPKPFRLOTTLTHENATSYEQINKKNSDPIKNTSTQE 377
Rattus_norvegicus -----IEDPKPFRLOTTLTHENATSYEQINKKNSDPMKNTSTQK 378
Xenopus_tropicalis -----TETMDTRQENSNMLDIMQINDSTTSI 293
.....430.....440.....450.....460.....470.....480

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Pavo_muticus      YGNSVSSHEQMPKGLQKLPHN--TRSKAKYFSKIQ-----KSSKNKQDPEINMSQEA 393
Pavo_cristatus    YGNSVSSHEQMPKGLQKLPHN--TRSKAKYFSKIQ-----KSSKNKQDPEINMSQEA 393
Gallus_gallus     YTDSVSSHEQMPKGLQKLPHSRTTGSKAKYFSKIQ-----KSSKNKQDPEINMSQEL 403
Chelonia_mydas    HIHEVSSCYKMLEETQQRISYNDDEETGNKLSSKDFGTQDSACKDSKEQCSPEAGTYQTS 485
Rhinatrema_bivittatum -----
Homo_sapiens      TACVLRSSSRLEKLKVS RD-AKYS DHMYKMPEKILPKILGCEDLTNNNSSAQNFRMODPA 438
Pan_troglodytes   TACVLRSSSRLEKLKVS RD-AKYS DHMYKMPEKILPKILGCEDLTNNNSSAQNFRMODPA 439
Macaca_mulatta    TVCVLRSSSRLEKLKVS RD-AKYS DHMYKMPEKILPKILGCEDLTNNNSSAQNFRMODPA 439
Callithrix_jacchus TACVLRSSSRLEKLKIS RD-AKYS DHMYKMPEKILPKIIGYEDLTNNNSSAQNFRMODPA 439
Canis_lupus_familiaris IPRVLRSSSR---RLK-GRD-AKHIDDVYKMPEKILPKILVCEDQTTNNSSSTKNFRMODPA 463
Equus_caballus    SPCVLRSSSR---RLKVGRDGAKCTDGMKMPFWILPKILGSEDQTTNNSSSTENFRMODKPA 466
Bos_taurus        PPHVLRSSSR---RLKVRE-VKPTDDMYKMPEKILPKILGREDQTTNNSSSTENFRMONPA 459
Heterocephalus_glaber TPCVLRSSSRLEELKIS RD-AECTDDMYKMPEKIVPKMHSCEQINNKS-IENFRMODPV 435
Mus_musculus      TPRVLRSSSRLEKLKASRDVVHTEA-VLKKPERILSNILSFKDQINSIFTTDSF----- 430
Rattus_norvegicus TPRVLRSSSRLEKLKASRD-VHIDV-ILRPERILSEALSCKDRINSIFTTENF----- 430
Xenopus_tropicalis KDRICCTAGIRRSQRISKRASIEQSIYKN----- 323
.....490.....500.....510.....520.....530.....540

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Pavo_muticus      CQENENRKADQRRRSKRIRDKMROEVYHRSFTN--PQYHFMLSRLNRRNAYGETLLHRAVV 451
Pavo_cristatus    SQNENRKADQRRRSKRIRDKMROEVYHRSFTN--PQYHFMLSRLNRRNAYGETLLHRAVV 451
Gallus_gallus     SQNEDRKADQRRRSKRIRDKMROEVCHKSFTN--PQYCVTLRLNRRNACGETLLHRAVA 461
Chelonia_mydas    TMNVNSKVEQMRKSQRLAKKITKQTSVKNFSTAPVASIPLSKICKKNLFGETLLHKAVA 545
Rhinatrema_bivittatum -----
Homo_sapiens      LMIDGKEKNMHSARFKNGKQIRKNEQFSGKKEKMKVNKISLHSINRRNIFGENLVYKAAL 498
Pan_troglodytes   LMIDGKEKNMHSARFKNGKQIRKNEQLSGKKEKMKVNKISLRSINRRNIFGENLVYKAAL 499
Macaca_mulatta    LMIDSKEKNMHSRRFKNGKQIRKNEQFPGKKEKMKVNKISLGSINRRNIFGENLVYKAAL 499
Callithrix_jacchus LMTDGKEKNMHSARFKSGEQIRKNEQFSGRKEKMKVKKILLSSINRRNSFGENLVYQAAL 499
Canis_lupus_familiaris LKIQGGKGNMYSTRLKNREQIRRNQNLAKGKEKVKMDKISLRLNRRNIFGENLLYQAAL 523
Equus_caballus    LMIEGKRKNMHSRLKSREQIRKNNKLAGKKEKMKMNKLSRLSINRRNVFGENLLYKAAL 526
Bos_taurus        LKIEGKGKTVPSRLKNGEQIKKNRKLGE---EKMKNKVTLANINRRNIFGENLLYKAAV 516
Heterocephalus_glaber LMIEDKKN---ISRFGKQIRKNERLILKKEKLNKMLSGINRRNVFGETLLYRAAL 491
Mus_musculus      ----SKRKNMHS SGFK-NEQIRKSEQLRKKNGTGEMKKMCLCTINRRNVFGENLLYKAAL 485
Rattus_norvegicus ----SKRKNMHS SRFG-NEQIRKNEQLRIKN----- 456
Xenopus_tropicalis ----- 323
                .....550.....560.....570.....580.....590.....600

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Pavo_muticus      AEDLNHVHNLIKAGANVDDKDYG-WTALHEASLGGHYQIANELLKAGADVNARGGEQITP 510
Pavo_cristatus    AEDLNHVHNLIKAGANVDDKDYG-WTALHEASLGGHYQIANELLKAGADVNARGGEQITP 510
Gallus_gallus     AEDLNVIHNLIKAGANVDDKDYG-WTALHEASLEGHYQIAKELLKAGADVNARGDEQITP 520
Chelonia_mydas    EDDTDLVRKIIVGANVNTQDYAGWTPLHEASVEGFYKTANELLKAGADVNCKGSEQVTP 605
Rhinatrema_bivittatum -----
Homo_sapiens      HDDADLVHHCIIKGGGNVNQPSYAGWTALHEASVGGFYRTASELLKGGADVNIKGLYQITP 558
Pan_troglodytes   HDDADLVHHCIIKGGGNVNQPSYAGWTALHEASVGGFYRTASELLKGGADVNIKGLYQITP 559
Macaca_mulatta    NDDADLVHHCIIKGGGNVNQPSYAGWTALHEASVGGFYRTASELLKGGADVNIKGMQITP 559
Callithrix_jacchus HDDADLVHHCIIKGGGNVNQPSYAGWTALHEASVGGFYRTASELLKGGADVNIKGMQITP 559
Canis_lupus_familiaris HNDVDLIHRYIITKGGGNVNQPSYAGWTALHEASVGGFYQAASELLKGGAHVNIKGMQITP 583
Equus_caballus    HNDADLVHYCIKGGGNVNQPSYAGWTALHEASVGGLYQIASSELLKGGADVNIKGMQITP 586
Bos_taurus        HNDIGLVHYYIEKGGGNVNQPSYAGWTALHEASLGGFYQTVSELLKGGADVNIKGMQITP 576
Heterocephalus_glaber YDDADLVQCCIIKGGANVNQPSYAGWTALHEASVGGFYRTANELLKGGADVNIKGMQITP 551
Mus_musculus      HNDVDLVRCIIKNGENVNQPSYDGTALHEASIGGYQAASELLKGGADVNVKGYQITP 545
Rattus_norvegicus ----- 456
Xenopus_tropicalis ----- 323
                .....610.....620.....630.....640.....650.....660

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Pavo_muticus      LHDVAVKEGRYEVAAALLLHYGADPLLKNEMGRSALDEASDPRMRLLKRLHARSERD-SVS 569
Pavo_cristatus    LHDVAVKEGRYEVAAALLLHYGADPLLKNEMGRSALDEASDPRMRLLKRLHARSERD-SVS 569
Gallus_gallus     LLNAVKEGHHYKVAALLLHYGADPLLKNEMGTSALDEASDPCMKRLLKRLHARSERD-SVS 579
Chelonia_mydas    IQDAVKEGHHYEVAAALLLWYGADPLFKNEKGRCAFDEATDQRMKKLLESYITKSRRG-STG 664
Rhinatrema_bivittatum -----
Homo_sapiens      LHDVAVMNGHYKVAELLLLNGADPLFRNDDGKCALDEAKDLCKRLLERYIPKHQKC-LTS 617
Pan_troglodytes   LHDVAVMNGHYKVAELLLLNGADPLFRNDDGKCALDEAKDLCKRLLERYIPKHQKC-LTS 618
Macaca_mulatta    LHDVAVVNGHYKVAELLLLNGADPLFRNDDGKCALDEAKDLCKRLLERYIPKHQKC-LTS 618
Callithrix_jacchus LHDVAVMNGHYKVAELLLLNGADPLFRNDDGKCALDEAKDSCKRLLERYIPKHQKC-LTL 618
Canis_lupus_familiaris LHDVAVNGHYKVAELLLLNGADPLLKSDNGKCALDEAKDSCKRLLERYIPKHQKC-LTS 643
Equus_caballus    LHDVAVMNGHYKVAELLLLNGADPLFRSDSGKCALDEAKDSHMQRLLERYIPKHQKH-LIS 645
Bos_taurus        LHDVAVNGHYQVAELLLLNGADPLFRNDNGKCALDEAKDSRMRLLERFVPHKRNRL-LAS 635
Heterocephalus_glaber LHDVAVNGHHKVAELLLLNGADPLFRSDNGKCALDEAKDSRMRLLEKYVPOCKH-LTS 610
Mus_musculus      LHDVAVMNRHYKVAELLLMSGADPLFRSDHGTALDEAKDSMETLLMKYIPQKQKC-HLS 604
Rattus_norvegicus ----- 456
Xenopus_tropicalis ----- 323
                .....670.....680.....690.....700.....710.....720

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Pavo_muticus      GGGDAENTLSAQSTEDTNLHQ----- 590
Pavo_cristatus    GGGDAENTLSAQSTEDTNLHQ----- 590
Gallus_gallus     GGGDAENTLSAQSTEDTNLHK----- 600
Chelonia_mydas    AKKDVESTLNAQRINDTNQHOLEVHSDSPVHNSDVGNNTSKQGFNFEQSSKENSIRNS 724
Rhinatrema_bivittatum -----
Homo_sapiens      AQRSSIDPLDIEDVYQHKKPKFSSKSHIWHVYNENSNRQKLEHVKNKGSKASLFI--NK 675
Pan_troglodytes   AQRSSIDPLDIEDVYQHKKPKFSSKSHIWHVYNENSNRQKLEHVKNKGSKASLFI--NK 676
Macaca_mulatta    AQRSSIDPLDIEDVYQHKKPKFSSKSHIWHVYNENSNRQKLEHVKNKGSKESLFI--NK 676
Callithrix_jacchus AQRNSTDPLDIEDVYQHKKPKFSSKSHICHVCNENCNRQKQDHVKVNERKESLFININK 678
Canis_lupus_familiaris AQKNNTDSLIDEEANQHKKPKFSSKNLIGFVRDENSNRQKSEHVEVDKGSKEGLFIN--K 701
Equus_caballus    AHKDSSTLDLVEDVHQQHKKPKLNSKNCVGFSGCDENSNRQKPEHVKVDERSKVLFVN--K 703
Bos_taurus        AOKNSLDPDGEDAHPHKKPKFSSKNHSGFVYDENSNRQKPEHVEVKNKGSKKSLFIN--- 692
Heterocephalus_glaber DQRKRIDTRDVEDVHQQHKKTKFSPKNRTGFVCNENSNRQKPEHVEVKNKRSKEGFFIN--- 667
Mus_musculus      AQRNSTDPAHVEDMFQKKPKLSSNNYTEFICDENFDRQEPGHLEINKGSNNLLMSK--- 661
Rattus_norvegicus ----- 456
Xenopus_tropicalis ----- 323
.....730.....740.....750.....760.....770.....780

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Pavo_muticus      ----- 590
Pavo_cristatus    ----- 590
Gallus_gallus     ----- 600
Chelonia_mydas    KGSISRVPFEDHRLLEKNKSKDRRLVPTQTKKSAGTVEKIVSIEINVCEYRTIVSPSDTSRD 784
Rhinatrema_bivittatum -----
Homo_sapiens      EDVYEYYQKDPKNTKFGKSKHKQSTLDOIYSTG-----LRKGNLHNVKDPNT 722
Pan_troglodytes   EDVYEYYQKDPQNTKFGKSKHKQSTLNQIYSTG-----LRKGNLHNVKDPNT 723
Macaca_mulatta    EDVYEYYQKDPQNTKFGKSKHKQSTLNQIYSTG-----LRKGNLHNVKDPNT 723
Callithrix_jacchus EDVYEYYQKDSRNTKFGKSKHKRSTLNQIYSTG-----PRKRSIYNVKDSNT 725
Canis_lupus_familiaris EVVYEYYQKDSKDTKFGKSKHKRQSTFNEIHSTRR-----LRKKNLHNVKDPNT 749
Equus_caballus    EDVYEYYQKDSKSTKFGKSKNKQSTVNQMYSTG-----LRKGNLHNVKDPNT 750
Bos_taurus        TDIYEYYQKDSKSTKFGKSKNKQSTVNQMYSTG-----FRKKNLHNVKDPNT 739
Heterocephalus_glaber EDIYECYPQNSKIITRFGKSKHKQSTLYQTYATG-----LKKGNLHNVKDPNT 714
Mus_musculus      EYVCEHCQKDSNTTKFGKS-----NLNSVKNKSR 690
Rattus_norvegicus ----- 456
Xenopus_tropicalis ----- 323
.....790.....800.....810.....820.....830.....840

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Pavo_muticus      ----- 590
Pavo_cristatus    ----- 590
Gallus_gallus     ----- 600
Chelonia_mydas    KTRSRSHKTYDPHVGHNNTGFTVNTSSSKRITRSSVHRNYSDDNICEVGGKPSIPKQTEM 844
Rhinatrema_bivittatum -----
Homo_sapiens      NVPKGIGRRKTQHKRTQVDDVDCN---PRKILAVSPSRRINRLVTYQQHIPETHNDLPPE 779
Pan_troglodytes   NVPKGIGRRKTQHKRTQADDVDCN---PRKILAVSPSRRINRLVTYQQHIPETHNDLPPE 780
Macaca_mulatta    NVPKGIGRRKTQHKRTQVDDVDCN---PRKILAVSPSRRINRLVTYQQCVLETILNDLPPE 780
Callithrix_jacchus NVPKGIGRRNTQHKRTQVDDVDCN---PRKALAVSPSRRINRLVTYQQHIPQTFSDLPEE 782
Canis_lupus_familiaris SMSKDKGRRNTQHKRTQVDDPKQEICIPRKARAVSSSRINRLVTGQPDILQAFDDLPEE 809
Equus_caballus    NVSKDKGRRNTRHKRTQVDDAIQE--SNPRKTAVSSSRINRLVLAQQQHILOTLLDDLPEE 809
Bos_taurus        SVSKDKGRRNTQHKRTQVDDTSQE--SSPRKTAVSSSRINRLVLAQQQHILOTLLDDLPEE 798
Heterocephalus_glaber NVSEKDKGRRNTQHKRTQANDGDCT---SROAIAISSKRINTLVTCQQHILOTLLDDLSE 771
Mus_musculus      NVSKRKGQKNRQKKTKQVDDRDEN---LSQKIGTSSFRRTNKLITQQQHAVQTLSDLPEE 747
Rattus_norvegicus ----- 456
Xenopus_tropicalis ----- 323
.....850.....860.....870.....880.....890.....900

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Pavo_muticus          ----- 590
Pavo_cristatus        ----- 590
Gallus_gallus         ----- 600
Chelonia_mydas        QKEYDFCNSDTPVSEEREKTCGSNNKPSIIMTDQVISLPCTESIPVVKASTEQSENVAL 904
Rhinatrema_bivittatum -----
Homo_sapiens          LCEPSSLTLSLRLNGLDSSTEACSVSKEKHIONLDLSDSQEVQCLELESVDQTEAVSFPG 839
Pan_troglodytes       LCEPSSLTLSLRLNGLDSSTEACSVSKEKHIONLDLSDSQEVQCLELESVDQTEAVSFPG 840
Macaca_mulatta        SCEPSSLTLSLRLNGLDNSTEACSVSKEKHIONLDLSDSQEVQCLELESVDQTEVVSFPG 840
Callithrix_jacchus    SCQPSSITLPSLKNGLGNIEVCSVSKETHIONLDLSDSQEVQCLD-ESVDQTEVVSFPG 841
Canis_lupus_familiaris SHKLFSPALSSLKNGLGNNIEACLVPKETHIOSLDLSDNQEIMKFLG--STDQEEAVLFSR 867
Equus_caballus        SCKLSSPALSSLKSGLGSNIEACSVSKETHIOSLDLSDNQEIKFFELESIDQAEAVSSSD 869
Bos_taurus           SRKPFSSQALSGLNGLRNDVETCSIPRETHVOSLDLSDSQEIKCMEVESIDQAEAVSLLG 858
Heterocephalus_glaber SHEPSSPTLSSLKDGVLNSVAICSVSKEAHTRHLDLSEGOEMOFFGLEIYGQTESGGSFST 831
Mus_musculus          SFELSTTTLSLLENGIG-YNEACLVSKKSDTHVLDSSDGC-----ELESVDQTEAASVSE 801
Rattus_norvegicus     ----- 456
Xenopus_tropicalis    ----- 323
.....910.....920.....930.....940.....950.....960

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Pavo_muticus          ----- 590
Pavo_cristatus        ----- 590
Gallus_gallus         ----- 600
Chelonia_mydas        MELDSHSVLSLCEEISVPLVTAECFMNQDNERHCLNHNKDGSMGDKNLNTAKRKSIIHF 964
Rhinatrema_bivittatum -----
Homo_sapiens          LLLHKEIKLPVVTDDKQPHTLQEQHHVL-YKSHENSNLVPKDERFNKWNENSFLSFVKENS 898
Pan_troglodytes       LLLHKEIKLPVVTDDKQPHTLQEQHHVL-YKSHENSNLVPKDERFNKWNENSFLSFVKENS 899
Macaca_mulatta        LSLHKEITLPLVTTDDKQPHTLQEQHHVL-YKSYENSNLVQKDERFNKWNENSFLSFVKENS 899
Callithrix_jacchus    LSLHKEITLPLVTTDDKQPHTLQEQHHVL-YKSHENSCLVQKDSFNKWEKAFLSFVKENS 900
Canis_lupus_familiaris LSLQKEIKLPVVTDDKQPHTLQEQHHISPYKSPENSNGKKCENLSKWNENSFVSFIKENF 927
Equus_caballus        FSLHKEIKLPVLTAD-QPYTHQEQQCVSPYKSPENSNSGOKDETINKWNENSFLSFVKRSF 928
Bos_taurus           LSLHEKTKLLLVTTDDKQPHTLQEQHHISPYKSHENSNSQKDESL-KWEKFSFVSFIKENF 917
Heterocephalus_glaber PSLHKEVKLPVSTD-QPHVYQEQQCSF-VISHKNSNSGKKVKTFNKWNENSFLSFVKEHS 889
Mus_musculus          LSSYKEIKLLPVTTTHQOPHTNQEQYSSP-YKSLGNSSNEKGKATNKWEDSFFSFIKGRS 860
Rattus_norvegicus     ----- 456
Xenopus_tropicalis    ----- 323
.....970.....980.....990.....1000.....1010.....1020

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Pavo_muticus          ----- 590
Pavo_cristatus        ----- 590
Gallus_gallus         ----- 600
Chelonia_mydas        VEENIIYTENNRPDQFLYSENFDRDQINFIDIDRDRIINDEEQLSKHSLPLFEDISLQGNWL 1024
Rhinatrema_bivittatum -----
Homo_sapiens          DNDDDDDCSTSEKAITSKKVLCSTGGKKHYNFKENLTNKKEMGFOQFLLSEDHLSQENEL 958
Pan_troglodytes       DNDDDDDCSTSEKAITSKKVLCSTGGKKHYNFKENLTNKKEMGFOQFLLSEDHLSQENEL 959
Macaca_mulatta        DNDDDD-CCTSEKAITSKKVMCSTGCKKHCFNFKENLTNRREKDFQFQFLVSEDHFSQENEL 958
Callithrix_jacchus    VNDDDD-FSTSEKAILSKKVTCSTGCKKNHYNFKENLTNRKEMDFQFQFLLSEDHFSQENEL 959
Canis_lupus_familiaris NNVDDDDCFTSEKTVTCKTVVCSTGCKSHCNFKENVTNRKEMDFQFVPSFDHFSQENEL 987
Equus_caballus        NNDDDDCCTSEKTVTSEKVICSTDWKNHYNYKENIKN-KEEDFQFQFLPSEEHFSQECLE 987
Bos_taurus           NNDDHGDSCASEETVISKKVISSSGCENHDTYTNKTNREEMDFQFQFLPSQDHFPOENEL 977
Heterocephalus_glaber YN-YNGDFCIAETAITSEMVTCTSECKN--YYQENLRNREERDFQQLLPSEDHFLQESSEL 946
Mus_musculus          ADSDSDCHTLDKSIASPKEGMSH-----DHHEIMTGQEVDSQQRLSSENYFSQENDL 913
Rattus_norvegicus     ----- 456
Xenopus_tropicalis    ----- 323
.....1030.....1040.....1050.....1060.....1070.....1080

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Pavo_muticus      QGSLQTDSEELACANLTGSGRADILQOTIGNEVONTYTNILDDRISCTECTLKINTETVL 650
Pavo_cristatus    QGSLQTDSEELACANLTGSGRADILQOTIGNEVONTYTNILDDRISCTECTLKINTETVL 650
Gallus_gallus     QGSLGASEELACANLTDSGRADILQOTVENEMOSTYTNILDDRASCMECTLKINTETLL 660
Chelonia_mydas    ESGSLTTFSPKGTVNLTDSDSTVLSEQYIENENQNIYKNISKDVKCTVQTLQISTEILS 1084
Rhinatrema_bivittatum -----
Homo_sapiens      KAVSLTTLPEQEAVNFSYSDNAVIS-EHVANYEQCIFGPSFDHSHGNPEQNSLACMRTLL 1017
Pan_troglodytes   KAVSLTTLPEQEAVNFSYSDNAVIS-EHVANYEQCIFGPSFDHSHGNPEQNSLACMRTIL 1018
Macaca_mulatta    QAVSLTTLPEQEAVNFSHSDNAVIS-EHVANYEQCIFGPSFDHSHGNPEQNSLACMRTLS 1017
Callithrix_jacchus KSVSLTTLPEQEAVNFSDSNIVISEQHVANCEQGIFGPSFDHSHGNPEQNSLVCMTLS 1019
Canis_lupus_familiaris KVCSLTIQ--QEAVNLSDSNTIGPEQRVATIEQCKCKTSFDHSHGNSEHTSLACPRTFS 1045
Equus_caballus    KAGSLTVLPQQEAVNFSDSNIIIVSEH-VSNYEQCIYGTSTFDRSCGNPEHSSLACTRTLS 1046
Bos_taurus        KEDSLTILPQQEAVSFNSNIIIVSEH-VSNYEQCSCGTSFDHSHGNPEHTPLACIGTVL 1036
Heterocephalus_glaber KESSLTTFPQQEAVNISNSDKAVISEQHVANYEQCIYGTSTFDRSFGNREQTSLACTRTVS 1006
Mus_musculus      KVHPLTTHPQEEAVNFCDN--LISVQHTPDYKNCLHEISFGNSYAKTEQSSTSCTRPPS 971
Rattus_norvegicus ----- 456
Xenopus_tropicalis ----- 323
.....1090.....1100.....1110.....1120.....1130.....1140

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Pavo_muticus      VHELVAATTGEVSSFGSPSSSDGVLNINEQKAPQPETRGEILLNAEESTRRCHMKETKDA 710
Pavo_cristatus    VHELVAATTGEVSSFGSPSSSDGVLNINEQKAPQPETRGEILLNAEESTRRCHMKETKDA 710
Gallus_gallus     VSELLATTGKVSSSGSPSNSTDDVLNANEQKVPQPETRGGILLSAEESTGKCHTKETKDA 720
Chelonia_mydas    LHEFSAAVNRADSESPENFSISVLMF---FAHQTDGMRMMLSAEESTGRCCTEKIEDE 1141
Rhinatrema_bivittatum -----
Homo_sapiens      THEASKLTINHVELFKKPQDY-IPRAPTFMLNQTDTHIVEKMAKN--CDTERNYIDRDOKI 1074
Pan_troglodytes   THEASKLTINHVELFKKPQDY-IPRAPTFMLNQTDTHIVEKMAKN--CDTERNYIDRDOKI 1075
Macaca_mulatta    THEVSKLTINHVELFKKPQDY-IPREPTFLMKQADTHIVEEVAKN--CDAERNYTDRDKKI 1074
Callithrix_jacchus TQEVSKLTINHVELFKKPQDC-IPRAPTFMLNQTDTHIVEEVAKN--CDTERNYIDRDOKL 1076
Canis_lupus_familiaris TQEASKLTSHVKLFKRPQDF-SSRAPTFLIDQTDIHIIVEKVNER--EDPKKNCNDGSRKT 1102
Equus_caballus    THEGSKLTSHVELFRPQDR-SPSAPSPVTKEDTICPVGKVNQK--EDTERSYPDKAOKT 1103
Bos_taurus        THEVSELTSHKLIKPNQDY-SPSILTPMLNQTDLHVVEKVNKE--GDTKRNYTDTGQET 1093
Heterocephalus_glaber THEVSKLTSHVEKLKPPQDN-SPRESTPLVNQIDTHIMEKVVELKEETERNSSDKGQKP 1065
Mus_musculus      TQKVSPLTVEVELLKGLQDSLARDSSPLVNQAGIHSLEKQDT----DKNYTKKGPNT 1026
Rattus_norvegicus ----- 456
Xenopus_tropicalis ----- 323
.....1150.....1160.....1170.....1180.....1190.....1200

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Pavo_muticus      HSLEILFR-ALQLRDKKIRQIKRKRQDLK-----D 739
Pavo_cristatus    HSLEILFR-ALQLRDKKIRQIKRKRQDLK-----D 739
Gallus_gallus     HSLEILFR-ALQLRDKKIHQIKRKRQDIK-----D 749
Chelonia_mydas    MNSEINTSAALQLHEKEAFRVKRRQDLREIILDLDLYSTSCINKNSLHPSQLTOETEQE 1201
Rhinatrema_bivittatum -----
Homo_sapiens      IYSNEPLSIVAHSQVIETTKVEKRRONHL----- 1103
Pan_troglodytes   IYSNEPLSIVAHSQVIETTKVEKRRONHL----- 1104
Macaca_mulatta    IYSNEPLSIVVHSQVIETTKVEKRRONHL----- 1103
Callithrix_jacchus SYSNEPLLRVVHSQVIETTKAEKRRON-L----- 1104
Canis_lupus_familiaris SSSNGPLSTVVNSQVIETTAVEKRRQDL----- 1131
Equus_caballus    SSSNEPLSTVVHSQVIETSTVEKRRQDL----- 1132
Bos_taurus        SPSNRPSSSGVPFQVMETTKVEKRC----- 1118
Heterocephalus_glaber ---RLFPTVVHSQKIEIINVEKNNEYLP----- 1090
Mus_musculus      SSSSRPLPTVVHSQVIEITKAERREDLP----- 1055
Rattus_norvegicus ----- 456
Xenopus_tropicalis ----- 323
.....1210.....1220.....1230.....1240.....1250.....1260

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Pavo_muticus	TNSKSDKGRFARMGGIEGTE-----KNKEGSGKSN---VLLQFSEFEVQTKRLRLDPQE	790
Pavo_cristatus	TNSKSDKGRFARMGGIEGTE-----KNKEGSGKSN---VLLQFSEFEVQTKRLRLDPQE	790
Gallus_gallus	TNSKSDKGRFAGVGGTEGTE-----KNKEGSGKSN---VLLQFSEFEVQTKRLRLDPQE	800
Chelonia_mydas	TSQKSDDGMTAERSGEQSTGRCTEKNEAEGTAKNNTPIMLQLLETETIQTERIRQDLQE	1261
Rhinatrema_bivittatum	-----	
Homo_sapiens	-----ESETIHNIDSHSTDNMSKELANISKLSQREKKEISHKPDEELTNNISGDEITIR	1157
Pan_troglodytes	-----ESETIHDIDSHSTDNMSKELANISKLSQREKKEISHKPDEELTNNISGDEITIR	1158
Macaca_mulatta	-----ESETIHDIDSHSTDNMMKELANISKLSQREKKEISHKPGR-----	1143
Callithrix_jacchus	-----ESETMCDTDSHSTDMMNKDLANISQLSQREKKEISHKPDEELTNNISGDEITIR	1158
Canis_lupus_familiaris	-----KSKTIHDTVFYSTDNISKELTNISQLRQEEKEISHKADEELTNNINGDESTMR	1185
Equus_caballus	-----ESKTVHNIDVHSSDNMMKELSGISQLSQREEKEISHKPDEELTNNINGDRSTVR	1186
Bos_taurus	-----ESKAVQNIQFHSSTD--SEELTNISQLSQREEKEISHKPGEEFVN---GDENIIR	1167
Heterocephalus_glaber	-----ENELIPKNKFCSTKNMKELTNISEFNQOE-KEISHKPDEELPNIIIEDENIVR	1143
Mus_musculus	-----GNEPINNTDFYSTD--INKELANSSQLNRKEKENVRKSDAELTHNDSEAEITLK	1108
Rattus_norvegicus	-----	456
Xenopus_tropicalis	-----	323
1270.....1280.....1290.....1300.....1310.....1320	

Pavo_muticus	TREKTDLCSSVRKNKLSSTCSKFNQASAOQTTKKSVETKKR-----KKK	834
Pavo_cristatus	TREKTDLCSSVRKNKLSSTCSKFNQASAOQTTKKSVETKKR-----KKK	834
Gallus_gallus	TRQKTDLCSSVSQNKLSSTRSKFNQASAOQTSKKSVETKT-----KKK	843
Chelonia_mydas	TSQNTDLCANNSNSSLNLSQFSQAEEQEMPEKSKSLSSKEEVAAVSAOPTYIIRAGIKKR	1321
Rhinatrema_bivittatum	-----	
Homo_sapiens	NCEEIIEKTESEIHMPTINSQEHKTVQNFRRKRSFLKTTTCNL-----GMKAGRINKR	1208
Pan_troglodytes	NCEEIIEKTESEIHMPTINSQEHKTVQNFRRKRSFLKTTTCNL-----GMKTGGINKR	1209
Macaca_mulatta	-----MKTGGINKR	1152
Callithrix_jacchus	NCEEIIEKTESEIHMPTINIQEHETVQNFRRKRSFLKTTTR-K-----GMKTGGINKR	1208
Canis_lupus_familiaris	NGE-KEEKTDSEIHMSN-IECKKVQNFRRKRONLLKATRSQ-----EMKTAGINKR	1234
Equus_caballus	SCEEKKEKADSEIYMRMNIQEHKKVRNFRKRQSFASKATCSQ-----EMKTAGINKR	1237
Bos_taurus	NCKEKKKEKPDSEIHMPTHIQSHKKIQNFRRKKNVSRATCSQ-----EMKTSGIDKR	1218
Heterocephalus_glaber	NCEEKKEKIDSEIYIPTNTQEYRKDNFGRKQSFASKATCNQDSVLLGKFAEMKTTGISKR	1203
Mus_musculus	SCEEKKNMDSETHSPCDIQEHRKDNFRRKRCSLKAPCSQ-----GVNITGIGKR	1159
Rattus_norvegicus	-----EVNITAGINKR	466
Xenopus_tropicalis	-----TLHNIHKR	331
1330.....1340.....1350.....1360.....1370.....1380	

Pavo_muticus	NAKGETELHIAAKRGNLSLVKTLISAGIPVNEQDNAGWTAIHEASAGGFTDVISSELLKAG	894
Pavo_cristatus	NAKGETELHIAAKRGNLSLVKTLISAGIPVNEQDNAGWTAIHEASAGGFTDVISSELLKAG	894
Gallus_gallus	NAKGETELHVAARSGNLSLVKTLISAGIPVNEQDNAGWTAIHEASAGGFTDVISSELLKAG	903
Chelonia_mydas	NAKGESRLHLAARKGDLNLSLVKTLIASGLCVNLKDNAGWTAIHEASNRGFTEVILELLKAG	1381
Rhinatrema_bivittatum	-----	
Homo_sapiens	NARGESQLHLAVRRGNLPLVKALIESGADVNLNDNAGWTPLEHASNEGSIDIIVELLKAG	1268
Pan_troglodytes	NARGESQLHLAVRRGNLPLVKALIESGADVNLNDNAGWTPLEHASNEGSIDIIVELLKAG	1269
Macaca_mulatta	NARGESRLHLAARKGNLSLVKALIESGADVNLNDNAGWTPLEHASNEGSIDIIVELLKAG	1212
Callithrix_jacchus	NARGKSRLHLAARRGNLSLVKALIESGADVNLNDNAGWTPLEHASSKGSIDIIVELLKAG	1268
Canis_lupus_familiaris	RARGESRLHLAARRGTLNLSLVKALIESGADVNLKDNAGWTPLEHASTKRSNDKIVELLKAG	1294
Equus_caballus	NARGESRLHLAARRGNLSLVKALIESGADVNLQDNAGWTPLEHASGEGCDDIIVELLKAG	1297
Bos_taurus	NATGESRLHLAARRGHLNLSLVKALIESGADVNLKDNAGWTPLEHKAASNGWSDVIVELLKAS	1278
Heterocephalus_glaber	NARGESQLHSAARRGDLNLSLVQILIESGADVNLKDNAGWTPLEHASNEGFSDIIVELLKAG	1263
Mus_musculus	NKKGESQLHVAARGGNLSRVKVLIEARADVNLKDNAGWTPLEHKAASGGFDDVIIELLQAG	1219
Rattus_norvegicus	NAKGESRLHVASKGGNLSLVKMLIESGADVNLKDNAGWTPLEHKAASGGFDDIIVELLKAG	526
Xenopus_tropicalis	NHMGETQLHLAARKGDLNLSLVKALIESGADVNLKDNAGWTPLEHKAASGGFDDIIVELLHAG	391
1390.....1400.....1410.....1420.....1430.....1440	

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Pavo_muticus      ADVNSRGLDGIPLIHDAVYINSLEAARILLQHGANPCERNDSGKSALDEACDDEMKEILLM 954
Pavo_cristatus    ADVNSRGLDGIPLIHDAVYINSLEAARILLQHGANPCERNDSGKSALDEACDDEMKEILLM 954
Gallus_gallus     ADVNSRGLDGIPLIHDAVYINSLEAARILLQHGANPCERNDSGKSALDEACDDEMKEILLT 963
Chelonia_mydas    ADVNSKSLDGTLPIDHDAVSGNYFKAVNILLHHGANPNEKDKYGKNALDEACNDKMKELLK 1441
Rhinatrema_bivittatum -----
Homo_sapiens      AKVNCENIDGILPLHDAVANNHLKAAEILLONGANPNQKDQKQKSALDEADDEKMKELLR 1328
Pan_troglodytes   AKVNCENIDGILPLHDAVANNHLKAAEILLONGANPNQKDQKQKSALDEADDEKMKELLR 1329
Macaca_mulatta    AKINCANIDGTLPIDHDAVANNHLKAAEILLONGANPNQKDQKQKSALDEADDEKMKELLK 1272
Callithrix_jacchus ANVNCENIDGILPLHDAVANSHLKATEILLONGANPNQKDQKQKSALDEADDEKMKELLK 1328
Canis_lupus_familiaris ANVNCEKLGILPLHDAVANNHLKAAEILLPHGANPNQKNQKQKTALDEADNEKMKELLI 1354
Equus_caballus    ANVNCENLDGILPLHDAVANSHLKAAEILLQHGANPNQKDQKQKTALDEADDEKMKELLK 1357
Bos_taurus        ANVNCENVGILPLHDAVANNHLKAAEILLQHGANPNQKDEKQKTALDEADDEKMKELLK 1338
Heterocephalus_glaber ANVNCESIHGILPLHKAVASNNHLKAAEILLQHGANPNQEDQTKTALDEADNEKMKELLK 1323
Mus_musculus      ANVNCENIDGIVPLHGASAGNHLKAAEILLEHGANPNQKDQKQKTALDEADDEKMKELLK 1279
Rattus_norvegicus ANVNCENVGILPLHGASAGNHLKAAEILLEHGANPSQKDQKQKTALDEADDEKMKELLK 586
Xenopus_tropicalis ADVNSKSLDGIPLIHDAVMGNHYKAAKLLLEFGADPFKEDNENAFDKSCSKGMTQLLI 451
.....1450.....1460.....1470.....1480.....1490.....1500

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Pavo_muticus      SYCSVEYVLPVETSDVTVAKWSYCRSRRQKSVCLKCCENGDMISLETQSEK-----YSVN 1008
Pavo_cristatus    SYCSVEYVLPVETSDVTVAKWSYCRSRRQKSVCLKCCENGDMISLETQSEK-----YSVN 1008
Gallus_gallus     SYCSIEYVFPVESDVTVAKWNCCRSRRQKSICLKCCENGDTISLEPQSEK-----YGVN 1017
Chelonia_mydas    SYGATESAVAYETTEVTGP-----SRSRRPHTHTCYDCCKKADVPLVLHDMTREKCGTHES 1497
Rhinatrema_bivittatum -----
Homo_sapiens      SYGAIETVNRDESDAIVNEKIPAVRSKRHKQCFDCKTIDSSLSHQERSRESLSVHQT 1388
Pan_troglodytes   SYGAIETVNRDESDAIVNEKIPAVRSKRHKQCFDCKTIDSSLSHQERSRESLSVHQT 1389
Macaca_mulatta    SYGAIETDNRDERDAIVNEKIPAVRSKRHKQCFDCKTIDSPFLSHQERSRESLSVHQT 1332
Callithrix_jacchus SYGAIQTNNRDESQDGVNEKIPAVRSKRHKQCFDCKTIDSPFLSYQERPRESLSAHQT 1388
Canis_lupus_familiaris SFGAIETDNRNESNATVTVKIPAVQPKRHKWCFDCKTIDPPSLSQREKRRESYPVHQA 1414
Equus_caballus    SYGAVETDNRDESNAVAVKIPAVRSKRHKRCFCGCKTIDLPSSLHQKKARESIPVRQI 1417
Bos_taurus        SYGAIETDNRDGSDAVVIVKIPDVARRRHKQCICDDSKTVDTPSISHQEKTEENLSMHQT 1398
Heterocephalus_glaber SYGAIETNNRDESNAAVTVKSPTVWSKRYKQCLGVEDETVDPPTPSHQERRENFPVHQT 1383
Mus_musculus      SYGAISTNGEKRNSIDLVKIPTVQPKRYKQFICDNDKAIGSPVPSHKAKKSESLPVHQT 1339
Rattus_norvegicus SHGAIETAHGEERSSIVPVKIPAIRPKRYKPFICDNDKAVGSPAPSHKAKRSESRPVHQT 646
Xenopus_tropicalis SYSRTLQTASQEN-----VSEISEGDNMQDKANSHASSVTPRNPTRERCGLTLY 500
.....1510.....1520.....1530.....1540.....1550.....1560

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Pavo_muticus      TVAAIQDVEKKQKELLLELRTSEDADVVTQGLSQIEGTLNKVFQAEQKAGRDALAKNYRA 1068
Pavo_cristatus    TVAAIQDVEKKQKELLLELRTSEDADVVTQGLSQIEGTLNKVFQAEQKAGRDALAKNYRA 1068
Gallus_gallus     TVAAIQDVEKKQKELLLELRTSEDADVFIQGLSQIESTLNKVFQAEARNADRDALAKKYRS 1077
Chelonia_mydas    IIAITLQDIEKKQKELLLEFEVRNPKDEGLYIHGLSQIQDTLNEVLAKQKAERDVLAKKYRA 1557
Rhinatrema_bivittatum -----
Homo_sapiens      LSAILQDIEEKQEYLLFEIRNPEDAEQYIEKMLKIKKIMDNVLAKQKAERDDLAKKYRV 1448
Pan_troglodytes   LSAILQDIEEKQEYLLFEIRNPEDAEQYIEKMLKIKKIMDNVLAKQKAERDDLAKKYRV 1449
Macaca_mulatta    LSAILQDIEEKQENLLEFEIRNPEDAEQYIEKMLNIKEIMDNVLAKQKAERDDLAKKYRI 1392
Callithrix_jacchus LSAILQDIEEKQENLLEFEIRNPEDAEQYIEKMLEIKEIMDNVLAKQKAERDDLAKKYRV 1448
Canis_lupus_familiaris ISAILQDIEEKQGNLLEFEIRTPEDAEQIEKMLEIKEIMDYVLAKQKAERDDLAKKYRV 1474
Equus_caballus    VSATLQDIEEKQEDLLEFEIRTPPEADQYTEKMLEIKEVVDNVLAQKAERDDLAKKYRV 1477
Bos_taurus        ISAILQDIEEKQENLLEFEIRTPEDAEQYAAEMLEIKEVMDNVLAQKAERDDLAKKYRV 1458
Heterocephalus_glaber ISAILQDIEENQETLLEFEIRNSKDAEQYIKRMLEIKEIMDNVLSKQKAERDDLAKKYRV 1443
Mus_musculus      ISAILQDIEEKQENLLKLEIRNSEDEEQYIGKMLEIKEVMDNILAQKTERDDLAKKYRV 1399
Rattus_norvegicus ISAILKDLEEKQETLLKFEIRNSEDEEQYIEKMLDIKEVMDNILAQKTERDDLAKKYRV 706
Xenopus_tropicalis TLDTSIEDINNROGKLLLEILTPLD---AEETCLVKANLNDVVKMOKNEREILAKKYRA 556
.....1570.....1580.....1590.....1600.....1610.....1620

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Pavo_muticus      SAESFKKGEQREQVANLSSTQKNLLTVVQNKKLLQKIENYRKRKQVFRASDSEKQ---- 1124
Pavo_cristatus    SAESFKKGEQREQVANLSSTQKNLLTVVQNKKLLQKIENYRKRKQVFRASDSEKQ---- 1124
Gallus_gallus     SAESFKKGARRGEVANLSYRONNLMTVVQNKRLLOKIENYRKTKQVFVAPDSEKQ---- 1133
Chelonia_mydas    SVESFKQGalREQLVKLASROKSLLVVAKKOKELGOKIKNYKKAKQVYSRCSKKQIPNFI 1617
Rhinatrema_bivittatum -----
Homo_sapiens      SIESFKHGALREQLANLAAROKSLLVVAKKOKKISLKIONCRNVTSLPCLSLRKLPPRSE 1508
Pan_troglodytes   SIESFKHGALREQLANLAAROKSLLVVAKKOKKISLKIONCKNVTSLPCLSLRKLPPRSE 1509
Macaca_mulatta    SIESFKHGALREQLANLVAROKSLLVVAKKOKKRISLKIONYKNVTSLPCLSLRKFPPRSE 1452
Callithrix_jacchus SIESFKHGALREQLASLATROKSLLVAKKOKKISLKIONYKNVASLSCPNIPLRKLPPRSE 1508
Canis_lupus_familiaris SIESFKQGVLRQLANLATROKSLLVVAKKOKKITEKIONYKNITSLSGPSLRKPPSSSE 1534
Equus_caballus    SVASFQGVLRQLASLAAROKSLLVVAKKOKKISERIQKYQDVASLSGLSLRKP-SSSE 1536
Bos_taurus        SIESFKHGVLRQLANLAAROKSLLVVAKKOKKISQKFHTYKNATSLSGLSFRKLPPSSSE 1518
Heterocephalus_glaber SVESFKHGVLRQLANLATROKLLVAAKKOKNISLKIONYKNVTSLSGLSRKLSSSLD 1503
Mus_musculus      SMESFKHGALREQLANLATROKSLLVVAKKOKKIRLKIONYKNATAVSGVGLRKLPCNSD 1459
Rattus_norvegicus SMESFKHGALREQLANLATROKSLLVVAKKOKKIRLKIONYKTATPSSGNNLRKLPCNSD 766
Xenopus_tropicalis SVDSFKQGIILREKIAELAARONILQQVVCQKEVSKIAAHKQSKKSDAYRLQSSSFLHS 616
.....1630.....1640.....1650.....1660.....1670.....1680

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Pavo_muticus      -----IMNPDVVTYAMGPGASMPYENRVKAHLSSSENRFSAQECSSHYPNNC 1169
Pavo_cristatus    -----IMNPDVVTYAMGPGASMPYENRVKAHLSSSENRFSAQECSSHYPNNC 1169
Gallus_gallus     -----IMNPDVVTYAMGLSSMPTENRIKAHLSSSESRFSAQECSSQYPNNC 1178
Chelonia_mydas    IYHEKDNRRDDLTVDEIVHRDVTVSIDPGAKLTNGNLVEKLLPVEGKFSQDEYSQHNGC 1677
Rhinatrema_bivittatum -----
Homo_sapiens      ISSEKDSQE-----LTSLENLEHPQSGSLSPV---SGSMQETQLSLETWNYSQNTNIC 1558
Pan_troglodytes   ISSEKDSQE-----LTSLENLEHPQSGSLSPV---SGSMQETQLSLETWNYSQNTNIC 1559
Macaca_mulatta    NCSEKDNQE-----LTSLENLEHPQSGSLSPV---CGSMQETQLSLETWNYSQNTNIC 1502
Callithrix_jacchus IFSEKDSQE-----LTSLENLEHPQSVSLSPV---CGSMQETQLSLETWNYSQNNNIC 1558
Canis_lupus_familiaris ISSEKDSQD-----LISLENSLQPSGSLSLVSLTCGSMQETPLSPETWNSSPNTNTC 1587
Equus_caballus    ICSDKDSQE-----LISPETSVQPOSSSLSSVSLVCRRVQETQLSLEAWNDSQNTCTH 1589
Bos_taurus        TSNEKDRQE-----CISLENSMQPQSGPLSPVSLVCRGMQETQSSQEVWHDSQSSTHTC 1571
Heterocephalus_glaber ISSDKESQE-----LTRLNVVQPOLSPFSAVNLDGCGSVGETPLSPETWNDGQNTNIC 1556
Mus_musculus      ISSDKKSQE-----PPTMGDSAHAPGLLAPVSLAYGSMQEIPLSPETWNDGQNTNIC 1512
Rattus_norvegicus ISSDKTSQD-----PPGVGNSALAQSGSLSPNNLAYRSMQEMPFSPEIQSDSQNTNIC 819
Xenopus_tropicalis CNMSPGRNQ-----MPAVWSVSAGLDASITANGSTEATVVPATSGSPDLNNTLQF 666
.....1690.....1700.....1710.....1720.....1730.....1740

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Pavo_muticus      LAETEANKEAVRSNVVSDSTSASENWLRYFYFDDMSMLTNAIELVALPSKPAASSAETTC 1229
Pavo_cristatus    LAETEANKEAVRSNVVSDSTSASENWLRYFYFDDMSMLTNAIELVALPSKPAASSAETTC 1229
Gallus_gallus     LAETEANKEAVRSKVVSDSTSASENWIWKYFYFCDMSRLTN-----ALPSKPAASIAKTTTC 1233
Chelonia_mydas    LDETGANEEASTSKEVSSHALTYENKVREYTCDKTSKSTDITMGTSPSEPVICITPTKC 1737
Rhinatrema_bivittatum -----MTEVERTAKYLTHN-----YSEEC 19
Homo_sapiens      LNSEAVRRGEFSGNDMNSKQNGSDCTLDGF---PKSRHSDGTENKLPQPVAFIGQTEY 1615
Pan_troglodytes   LNSEAVRRGEFSGNDMNSKQNVSDCTLDGF---PKSRHSDGTENKLPQPVAFIGQTEY 1616
Macaca_mulatta    LNSEAVRRGEFSGNDVNSKQNVSDCTLDGF---PKSQHSDGTENKLPQPVAFIGQTEY 1559
Callithrix_jacchus LNSEAVIRGEFSGNEMNSKQNISDCTLDGL---SKSRHSDGTENKLPQPVAFIGQTEY 1615
Canis_lupus_familiaris VNSETVRR-EFSGNELISKQNVNDGTFDGS---PKSRCADGT-KIKLPQPVAFIAQREY 1642
Equus_caballus    LISEMVRREEFSGNELNSKKVKDCTLDGL---SKSRYSDGTEKIKLPQPVAFIAQAEY 1646
Bos_taurus        PNSETVRRREEFSGSEVNSKQNLHDCTLDRL---SKSRHSDGTENQIKVQSVTFIAEAH 1628
Heterocephalus_glaber LNS-----KKFSRSEMNLKQNESDCTLDGF---SNSIHSDDTEKIKLSSQATFIAQTEH 1608
Mus_musculus      LNAEAIIRREEFSGNDINSKQNVQDCTLDGL---LRSKPTDDAEKIASSSQPAALTPHAEN 1569
Rattus_norvegicus LNAEAIIRGEFPGSDTNSKQNVQDCASGGL---LKS-TSDDTEKMTSSSQPVALTSAEY 875
Xenopus_tropicalis ILMRSIGIGDIPANVVTAKESITANGKRLKE-----KSLEIENAFLLDLSGSSFSPPS 717
.....1750.....1760.....1770.....1780.....1790.....1800

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Pavo_muticus      SQQKD-IDHIAVGEQGNKSLD-PTSVNTLNISEAQSTVASSCVCQPGGDCQQVLADED 1287
Pavo_cristatus    SQQKD-IDHIAVGEQGNKSLD-PTSVNTLNISEAQSTVASSCVCQPGGDCQQVLADED 1287
Gallus_gallus     LQQKD-IDHIAVGEQGNKSLN-PTSVANTLNISEAQSSVASNNVCQPGSDCQQ-ALADED 1290
Chelonia_mydas    SQQEK-NNYIAIAKQGSKSPN-PSPVTSMLNISEAESFVINKNIHHPIAECQVLAG-OT 1794
Rhinatrema_bivittatum SQQET-IDHLECTAQANKFYN-PMPISSMLNISETRSGIVNENIHQPTIECQHGLPTDQN 77
Homo_sapiens      SQKE--NDLTEATDKDHEFYV-SSPVIGKLNISETASVLAENAAHPSNIICDQDLSN--- 1669
Pan_troglodytes   SQKE--NDLTEATDKDHEFYV-SSPVIGKLNISETASVLAENAAHPSNIIGDQDLSN--- 1670
Macaca_mulatta    SQKEKENDLTEATDKDHEFCI-PSPVIGKLNISETASVLAENSAHPSNIICDQDLSN--- 1615
Callithrix_jacchus SQKE--TDLIEATDKDHEFCS-PSPITGKLNISETASILAKSDAHPNSVICDQDLSN--- 1669
Canis_lupus_familiaris SQRG--NDLTEPPAPEREPCHNPSSAVTNTLNIAATTSILARNDAHPSAVVCDQAPTIS--- 1697
Equus_caballus    SQKE--NDLTETTAAGHESCS-PSAVTGTILNISETSSEFAQNDTHPSAVICDQALSND--- 1700
Bos_taurus        SQKD--LRGPGSTAKRHVSFS-PSAVTGTILKTSATTSVFAHHDAHPSSVICDQAPSD--- 1682
Heterocephalus_glaber SQKE--NDLIEMTAKDHEFCPS-SATTSILNISECTSSLSQNDPYLSTVISEDQDLYH--- 1662
Mus_musculus      SQAE-----ATVKGCGFDS--SALTGTINISEDKSIKSPNGACLAADPHSQKLSR--- 1617
Rattus_norvegicus SQAEN--FFPETSVMKGYGFDA--PSLTGTINISEDKSIKSONDVCLPAFPQNGLSR--- 928
Xenopus_tropicalis TLQNVITNEHLAFTINTLCMSIN-PVPVTSILIIKETGKTMVQNTNPEVR----- 763
.....1810.....1820.....1830.....1840.....1850.....1860

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Pavo_muticus      IQRYVNKKEAFQOHQVRMASASTDNFPMNHQMFFQSCGNSFNAESMVANFTSSIDYPVNL 1347
Pavo_cristatus    IQRYVNKKEAFQOHQVRMASASTDNFPMNHQMFFQSCGNSFNAESMVANFTSSIDYPVNL 1347
Gallus_gallus     IHTYVNKKDAFQOHQVMASASADNFPNLHEMFFQSCGNSFNAESMVANFTSSIDYPVNL 1350
Chelonia_mydas    LQRCGHRNKASQKQPIVVSESAESISPTLQONIFENNRTSCNVTLGLVS----YVPYPVHI 1850
Rhinatrema_bivittatum LQINAHMKEISHQOCTKLSETVPKSFNSHQKNRIMLNDNSR-----HI 120
Homo_sapiens      ----YDPKRGNRKTSSQQSPTGASESLAHQGI AVLGS DTVHQM KPYLKKSVSVVPCADDS 1725
Pan_troglodytes   ----YDPKRGNRKTSSQQSPTGASESLAHQGI AVLGS DTVHQM KPYLKKSVSVVPCADDS 1726
Macaca_mulatta    ----YHPKRGNRKTASRQSP TGASESLAHQGI AVLGS DTVHLM KPCRKKS SVSAVPRADDS 1671
Callithrix_jacchus ----YDPKRGSRKTTSQEP PRGTSESLAHQGI AALGS DTVNRM KPYPKKS SVSAVPHADDS 1725
Canis_lupus_familiaris ----CDPKRGKRKIASQQPSRG TLES LTHQGT DVLGS NTHGQT KSYPKKPAFTVRRANDS 1753
Equus_caballus    ----CNPKRRTKRTASQQPPRG APESLVHOGIDVLGSETGHQM KPYLKKSAFAVPHANDS 1756
Bos_taurus        ----CDPKEGNRKTAPHQAPGGT PESLAQGVGAFGSDMGQQLKPYFKKSALTVPHANDT 1738
Heterocephalus_glaber ----CDPKRRNKKTASQLPPGGVSESAHQRS AVLGT YTGHAL KPCLKKAASAIPRANDR 1718
Mus_musculus      ----CNPKRRNKKTASQQPSAGAAEPLPQA-PAVLDTYTVHQTLPCLRDAAAASHTDST 1672
Rattus_norvegicus ----CKPKRRNKRTGSQQPSEGA SKPLAQT-VAILDYTA RQTKPCLKKSASVALNADSM 983
Xenopus_tropicalis ----HSYQMPHTEHSHTHHADMVSHQEKMSWFSVNNLTSVGKPHHGMVDQASTSHVASV 819
.....1870.....1880.....1890.....1900.....1910.....1920

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Pavo_muticus      SEKPFQNYGYKECEQKQRYTRKNKK-KLQLIDLLELGRIKPGENVLEFTLKEFTCKATL 1406
Pavo_cristatus    SEKPFQSYGYKECEQKQRYTRKNKK-KLQLIDLLELGRIKPGENVLEFTLKEFTCKATL 1406
Gallus_gallus     SEKPFQNYGYKECEQKQKHARKNKK-KLQLIDLLELGRIKPGENVLEFTLKEFTCKATL 1409
Chelonia_mydas    SQNSSSQYSDNQDSEQQQLNRRGNRRKKNQLKDILLELGKIKPGENVLEFKLQDFSHKVTL 1910
Rhinatrema_bivittatum EQLDTPHPGNFNSNKQQMDYTSSEGGKRKIHLIDLILKLGKIKPGEDVLEFKLOGSGYKATL 180
Homo_sapiens      QISSSSSGSQQDTIKKALNYSTAPKKKCIQIKDLILLGRINPGNNILEFKTOETTHKASI 1785
Pan_troglodytes   QISSSSSGSQQDTIKKALNYSTAPKKKCIQIKDLILLGRINPGNNILEFKTOETTHKASI 1786
Macaca_mulatta    QISSSSSGSQQDIKKPLNYSTAPKKKCIQIKDLILLGRINPGNNILEFKTOETTHKASI 1731
Callithrix_jacchus QISSSSRSQQQYTIKKPLNYSTAPKKKCIQIKDLILLGRINPGNNILEFKTOETTHKASI 1785
Canis_lupus_familiaris HSSSPSERGRQHIIKKPVNSSTVPRKKCMQIKDLILLGRINPGNNILEFKTOETTHKASV 1813
Equus_caballus    QSPS-SGSGHQHTIKKPVNYSTAPKKKCMQIKDLILLGRINPGNNILEFKTOETTHKASV 1815
Bos_taurus        QSSSFSGSGYQHTVKKPSNYNTTLKKKCMQIKDLILLGRINPGNNILEFKTOEATHKASV 1798
Heterocephalus_glaber QISSSFESSHQHTIKNPSSFTSTTPKKKCMQIKDLMLLGRINPGNNILEFKTOETTHKASI 1778
Mus_musculus      QSSLSSASAHQHTKTTPHRNTTPRKKAVQLKDLILGRINPGNNILEFKTOETTHRASV 1732
Rattus_norvegicus QISPPSVSAHQPSKKAPHSTTPRKKTVQLKDLILLGRINPGNNILEFKTOETTHRASV 1043
Xenopus_tropicalis QSNPQRSESLTAKSHTGRAIRQRPNKVHIKDLIKNGKLPGEDVLEFKIOEYSHKASL 879
.....1930.....1940.....1950.....1960.....1970.....1980

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* .*.:: . . : . . *: * :*. :*: * .::* * :* : : : :
Pavo_muticus      LTNGKIKTSKNKIFQNPVQWVKDLLGSDIYVTWKYAWNKVAYHGTQLSKLVVEDAPVSND 1466
Pavo_cristatus    LTNGKIKTSKNKIFQNPVQWVKDLLGSDIYVTWKYAWNKVAYRGTQLSKLVVEDAPVSND 1466
Gallus_gallus     LTNGKIKTSKNKIFQNPVQWVKDLLGSDIYVTWKYAWNKVYRGTQLSKLVVENAPVSND 1469
Chelonia_mydas    LGDGKIRTSDNRTYGNPVQWVKALLGNHISVSWKYVWNKVTYLGTLSKILVEEACIPNE 1970
Rhinatrema_bivittatum LWDGTIRTSSSKIFRSPVQWIKALLGDEISVSWKYVLNKVTYL GKELSKYVVEEAVVTQE 240
Homo_sapiens      LLNGKCLKVESGQIYKNPVTWLKDLLGGNSYVTWNYAWSKVTYL GKELLRYVSEDAPIILPE 1845
Pan_troglodytes   LLNGKCLKVESGQIYKNPVTWLKDLLGGNSYVTWNYAWSKVTYL GKELLKYVSEDPVIRPE 1846
Macaca_mulatta    LLNGKCLKVESGQIYKSPVTWLKDLLGGNSYVTWNYAWSKVTYL GKELLKYVSEDAPIILPE 1791
Callithrix_jacchus LLNGKCLKVESGRIYKNPVTWLKDLLGGNSYVTWNYAWNKVTYL GKELLKYVSEDISILPE 1845
Canis_lupus_familiaris LLSGKIKVENGQIYQNPVTWLKDLLGGNSYVTWNYAWSKVTYL GKELLQYVSEEPVPSAE 1873
Equus_caballus    LLSGKIKVENGQIYQSPVTWLKDVLGGSYVTWNYAWSKVTYL GKELLTYISEEIPIPPO 1875
Bos_taurus        LLSGKIKVENGQIYQNPVTWLKDLLGGDRYVTWNYAWSKITYQGKELLKYVSEELPMPPD 1858
Heterocephalus_glaber LMSGKIKVENGQIYQNPVTWLKDLLGGDSYVTWNYAWSKVTYL GKELLKYVSEEVSVPPPE 1838
Mus_musculus      LPSGKCLKGENGQIYQNPVTWLKELLGGGSYVTWNYAWNVTYLGRELVKCVSEEPMSAE 1792
Rattus_norvegicus LLSGKCLKVENGQIYQNPVTWLKDVLGGSYVTWNYAWNKVTYL GKELLKYVSEAPPVSAE 1103
Xenopus_tropicalis LPDGTIKDSTGMIYLELAHWLKAAILGNNISISWKYIINKVTYCGKDLKSCILQKDPMSRE 939
.....1990.....2000.....2010.....2020.....2030.....2040

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. :
Pavo_muticus      LEIPSQQRE-----LAKTVKTFPCTEREAASLP----- 1495
Pavo_cristatus    LEIPSQQRE-----LAKTVKTFPCTEREAASLP----- 1495
Gallus_gallus     LEIPSQQRE-----LPETVKTFPCTEREAASLP----- 1498
Chelonia_mydas    PELPVQKKQPSGIXIFVTLDPGSHTWCHLYHGTTPFTQHTGFSEADSMQOKIPPLPOME 2030
Rhinatrema_bivittatum SALPSQQKQ----- 249
Homo_sapiens      PNSVPQQYQP-----CLPEVACLDDPVQEPNKS----- 1873
Pan_troglodytes   PNSVPQQYQP-----CLPEVACLDDPVQEPNKS----- 1874
Macaca_mulatta    PNSVPQQYQP-----CLPEVACLDDPVQEPNKS----- 1819
Callithrix_jacchus PNSVPQQYQP-----CLPEVACLDDPVQEPNKS----- 1873
Canis_lupus_familiaris PNVVLQQHQ-----CLL----- 1886
Equus_caballus    PNLVSQQHQ-----CLP----- 1888
Bos_taurus        PNLEPQQHQ-----CLPELHAFRSKSRGEEP----- 1885
Heterocephalus_glaber LDVVPQLHQ-----CLP----- 1851
Mus_musculus      LN-PPQLHQ-----HLS----- 1804
Rattus_norvegicus PSSTPQQHQ-----CLS----- 1116
Xenopus_tropicalis FLQPTSDSQA----- 949
.....2050.....2060.....2070.....2080.....2090.....2100

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. . . : : : : : : : : : :
Pavo_muticus      -----VAREFKSFSVQFNSVESPTCFLQFTLFIITCTEEFLPWPVPM 1536
Pavo_cristatus    -----VAREFKSFSVQFNSVESPTCFLQFTLFIITCTEEFLPWPVPM 1536
Gallus_gallus     -----VARELKSFSVQFNSVESLTCFLQFTLFIITCTEEFLPWPVPM 1539
Chelonia_mydas    TGIPLPSLDVEAVEGQTCVQSIKNQEESSLQSDSVKNRSRSLQLNEIVLINNEELLPCHIM 2090
Rhinatrema_bivittatum -----FEELSKQPDLIPTSTYFLQVKNILLISNOEFLPCHIM 286
Homo_sapiens      -----MFEKTKFGQGTRESMQSSPRYLQINEILLISDOEFLPCHIM 1915
Pan_troglodytes   -----MFEKTKFGQGTRESMQSIPRYLQINEILLISDOEFLPCHIM 1916
Macaca_mulatta    -----MFEKTKFGQGTRESLMQSIIPRYLQINEILLISDOEFLPCHVM 1861
Callithrix_jacchus -----MFEKTKFEQGTRESMQSIIPRYLQINEILLISDOEFLPCHIM 1915
Canis_lupus_familiaris -----GTSRESMQSIPPYLQINEVLLISDOEFLPCHIM 1919
Equus_caballus    -----GASRESVQSIPHYLQINEILLISDOEFLPCHIM 1921
Bos_taurus        -----GCDSFLEGTSKESMQSIPHYLQIKEILLISDOEFLPCHIM 1925
Heterocephalus_glaber -----GTSSKSMQNIIPYLYQINEILLISDOEFLPCHLM 1884
Mus_musculus      -----AGTSRESMQIIPHYLQIKEILLISDOEFLPCHVM 1838
Rattus_norvegicus -----AGTSRESMQIIPHYLQIKEILLISDOEFLPCHVM 1150
Xenopus_tropicalis -----AALPSMSSIQKEPLHVFRIKDILLIFDNDEFLPCHIM 986
.....2110.....2120.....2130.....2140.....2150.....2160

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      :.:*:      .      :
Pavo_muticus      EKHWNFYRACED----FGF 1551
Pavo_cristatus    EKHWNFYRACED----FGF 1551
Gallus_gallus      EKHWNFYRACED----FGF 1554
Chelonia_mydas     DQHWKFYVEECEN----FGF 2105
Rhinatrema_bivittatum DQHWKHYIDCDD----LTF 301
Homo_sapiens       DQHWKFCVECEE----LTP 1930
Pan_troglodytes    DQHWKFCVECEE----LTP 1931
Macaca_mulatta     DQHWKFYVGCEE----LTL 1876
Callithrix_jacchus DQHWKFCVECEE----LTL 1930
Canis_lupus_familiaris DQHWKFYVECEE----LTF 1934
Equus_caballus     DQHWKFYVECEE----LTF 1936
Bos_taurus         DEHWKFYVECEE----LTF 1940
Heterocephalus_glaber DQHWKFYVECEE----LTF 1899
Mus_musculus       EQHWKFYVGRSHSEALLSW 1857
Rattus_norvegicus   EQHWKFYVECKK----LSF 1165
Xenopus_tropicalis  DRYWKKFIDSDS----LDL 1001
.....2170.....

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