

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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| | **: | . | : | : | *: | * | ***: | . | | | | | | | | | |
|------------------------|-----|-------|-------|-------|------|-------|-------|-------|---------|----------|------|-------|------|------|------|----|----|
| Pavo_muticus | MTR | --- | PLGVG | SPSP | PPAT | RSGR | -HFRP | ----- | AAG-RGA | ADYRNQ | SITE | EFFK | PVLK | 49 | | | |
| Pavo_cristatus | MTR | --- | PLGVG | SPSP | PPAT | RSGR | -HFRP | ----- | AAG-RGA | ADYRNQ | SITE | EFFK | PVLK | 49 | | | |
| Gallus_gallus | MTR | --- | PLGVG | SPSP | PPAT | RSGR | -HFRP | ----- | AAG-RGA | ADCRNQ | SITE | EFFK | PVLK | 49 | | | |
| Chelonia_mydas | MTR | --- | HLGAG | CSAQ | SGPG | TGPR | -HFKP | ----- | AAAG | RESARD | CRNQ | SITD | FFKP | PAPK | 50 | | |
| Mus_musculus | MTR | RCMP | ARPG | FPS | SPAG | SSPP | RCHLR | PGST | APAA | AAGKRT | ESPG | DRKQ | SII | DFFK | PAAK | 60 | |
| Rattus_norvegicus | MTR | RCMP | ARPG | FPS | SPAG | SSPP | RCHLR | PGST | TAAA | AAGKRT | ESPG | DRNQ | SII | DFFK | PASK | 60 | |
| Homo_sapiens | MTR | RCMP | ARPG | FPS | SPAG | SSPP | RCHLR | PGST | AHAA | AAGKRT | ESPG | DRKQ | SII | DFFK | PASK | 60 | |
| Pan_troglodytes | MTR | RCMP | ARPG | FPS | SPAG | SSPP | RCHLR | PGST | AHAA | AAGKRT | ESPG | DRKQ | SII | DFFK | PASK | 60 | |
| Macaca_mulatta | MTR | RCMP | ARPG | FPS | SPAG | SSPP | RCHLR | PGST | AHAA | AAGKRT | ESPG | DRKQ | SII | DFFK | PASE | 60 | |
| Callithrix_jacchus | MTR | RCMP | ARPG | FPS | SPAG | SSPP | RCHLR | PGST | APAA | AAGKRT | ESPG | DRKQ | SII | DFFK | PASK | 60 | |
| Bos_taurus | MTR | RCMP | ARPG | FPS | SPAG | SSPP | RCHLR | PGST | VAAA | AAGKKTER | PGDR | KQ | SII | DFFK | PASK | 60 | |
| Canis_lupus_familiaris | MTR | RCMP | ARPG | FPS | SPAG | SSPP | RCHLR | PGST | APAA | AAGKRT | KSPG | DRKQ | SII | DFFK | PASK | 60 | |
| Equus_caballus | MTR | RCMP | ARPG | FPS | SPAG | SSPP | RCHLR | PGST | VAAA | AAGKRT | ESPG | DRKQ | SII | DFFK | PASK | 60 | |
| Xenopus_tropicalis | MTR | RGSS | LSQ | GS | SRD | SAHL | FP | GVGQ | ----- | SVDR | ---- | SAKN | QHIT | AFFK | PALR | 44 | |
| Rhinatrema_bivittatum | MTQ | P---- | SVSS | RF | SL | FL | FP | PKKR | ----- | SGNRE | SF | RVGN | QA | ITNY | FRPT | QK | 44 |
| | 1 | | 10 | | 20 | | 30 | | 40 | | 50 | | 60 | | | | |

| | | : | : | . | . | : | | .. | ... | |
|------------------------|---------------|--------------------|----------------|----------------|-------------------|--------------------|------|--------|-----|-----|
| Pavo_muticus | QELGHKDRSVLCS | SSDTGNVKDAGIGLSVLR | AECFEKQTT | - | PAKKVRRKKMPDPTPKT | SPI | | | | 108 |
| Pavo_cristatus | QELGHKDRSVLCS | SSDTGNVKDAGIGLSVLR | AECFEKQTT | - | PAKKVRRKKMPDPTPKT | SPI | | | | 108 |
| Gallus_gallus | QELGHKDRSVLCS | SSDTGNVKDAGIGL | PVLR | AECFEKQTT | - | PAKKVRRKKMPDPTPKT | SPI | | | 108 |
| Chelonia_mydas | Q----- | DRIVLCS | SPDKRNVKNGD | SVICTERFEKKIS | - | SQKKTRREKIPVQSPNKS | SPV | | | 104 |
| Mus_musculus | Q----- | DKHMLDSPQKS | NIKYRGNGLS | ITGTEQFERKLS | - | SPKKLKPKRMS | --- | SEESPI | | 111 |
| Rattus_norvegicus | Q----- | DKHMLDS- | QKSDIKYRGNGLS | ITGTEQFERKLS | - | SPKKPKPKRMS | --- | SEESPI | | 110 |
| Homo_sapiens | Q----- | DRHMLDSPQKS | NIKYGGSR | LSITGTEQFERKLS | - | SPKESKPKRVP | --- | PEKSPI | | 111 |
| Pan_troglodytes | Q----- | DRHMLDSPQKS | NIKYGGSR | LSITGTEQFERKLS | - | SPKSKPKRVP | --- | PEKSPI | | 111 |
| Macaca_mulatta | Q----- | ERHMLDSPQKS | NIKYGGSR | LSITGTEQFERKLS | - | SPKKSKPKRVP | --- | PEKSPI | | 111 |
| Callithrix_jacchus | Q----- | DRHMLDSPQKS | NIKYGGSR | LSITGTEQFERKLS | - | SPKKSKPKRVA | --- | PEKSPI | | 111 |
| Bos_taurus | Q----- | DRRMLDSPQKS | NIKYGESGLS | ISGTEQFERKLS | - | SPKSSKPKRVP | --- | SEKSPV | | 111 |
| Canis_lupus_familiaris | Q----- | DRHMLDSPQKS | DIKYGGSGLS | ITGTEQFERKLS | - | SPKSKPKRVP | --- | SEKGTI | | 111 |
| Equus_caballus | Q----- | DRHMLDSPQKS | NIKYGGSGLS | ITGTEKFERKPS | - | SPKESKPKRVP | --- | SEKGTI | | 111 |
| Xenopus_tropicalis | T----- | DSCKLELSQ | ----- | AEDGCLKKLSSAK | ----- | RQKRLPVKSPNRS | SPI | | | 82 |
| Rhinatrema_bivittatum | P----- | DSILSGSPQ | QGSISHDLVALPAS | GEQLAKSVKPSAAK | FRKRIPRLSPSR | SPI | | | | 99 |
| |70..... | 80..... | 90..... | 100..... | 110..... | 120 | | | | |

| | .. : : | *: | .. : |
|------------------------|--|---------------|--|
| Pavo_muticus | LDAFQRG--IEKKGNVNILEDNAVC | KAPGS | SAWPRVVIRKLFVTAASPRN |
| Pavo_cristatus | LDAFQRG--IEKKGNVNILEDNAVC | KAPGS | SAWPRVVIRKLFVTAASPRN |
| Gallus_gallus | LDAFQRG--IEKKGNVNILEDNAVC | KAPGS | SAWPRVVIRKLFATTAASPRN |
| Chelonia_mydas | MDDLRLGANRRERKDS | PKILENNR | PCMVLNKKYPKVVVIRKLLMSAGSPN |
| Mus_musculus | LEAFMKG-GKEHHKDRGVHESRRP | CMSLS | -KYLPKGAGIYAPSS---- |
| Rattus_norvegicus | LEAFMKG-GKEHHKDRGVHESRRP | CMSLS | TKYLPKGAGIYAPSS---- |
| Homo_sapiens | IEAFMKG-VKEHHEDHGIHESRRP | CLSL | ASKYLAKGTNIYVPSS---- |
| Pan_troglodytes | IEAFMKG-VKEHHEDHGIHESRRP | CLSL | ASKYLAKGTNIYVPSS---- |
| Macaca_mulatta | IEAFMKG-VKEHHEDHGIHESRRP | CLSL | ASKYLAKGTNIYVPSS---- |
| Callithrix_jacchus | IEAFMKGKVGERHKDHGVRESRRP | PCVSL | ASKYLAKGANIYVPSS---- |
| Bos_taurus | LEAFIKG-VKEHHRDRGVHESRQPCV | SLDT | KYSKA-VTKYVPPS---- |
| Canis_lupus_familiaris | LEAFMKG-VKEHHKDGGIHESRRP | CVSI | ATKYPKA-VTEVYVPP---- |
| Equus_caballus | LKAFMKG-VKEQHRDSGVHESCRP | CVSLG | TKYPK---TIFVPPS---- |
| Xenopus_tropicalis | MEAF | LQ | RKSEKLS-----ALIG----- |
| Rhinatrema_bivittatum | MDAFLR | NAKKEKLDSTESC | VNCNKHGSLSPKVVVRKLPISSEPPFQICKQRSDDGSS |
| |130.....140.....150.....160.....170.....180 | | |

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Pavo_muticus      EQGRSEKYLDVTRTLLSCENSWEQKTD CMDVEETSSDSD-RWV-LAEADSRKACARNNGS 224
Pavo_cristatus    EQGRSEKYLDVTRTLLSCENSWEQKTD CMDVEETSSDSD-RWV-LAEADSRKACARNNGS 224
Gallus_gallus     EQGRSEKYLDVTRTLLSCENSWEQKTD CMDVEETSSDSD-RWV-LAEADSRKACARNNGN 224
Chelonia_mydas    EPGRNETCPKTRTPF-YENGWEORIDCVDLEEASDVASKWVSTSEADILKNYARSNGN 223
Mus_musculus      KHSPE-----RRKSLFIHESNREKND--DRGKNSEDSR-KQATATEGDIFKHSRSIS 218
Rattus_norvegicus KHSPE-----RRKSLFIHESNREKND--DRGKNSEDSR-KQVPEATEGDIFKNSRSVSS 218
Homo_sapiens      KHSPE-----RRKSLFIHENN-EKND--DRGKTNADSK-KQTTVAEADIFNNSRSLSS 218
Pan_troglodytes   KHSPE-----RRKSLFIHENN-EKND--DRGKTNADSK-KQTTVAEADIFNNSRSLSS 218
Macaca_mulatta    KHSPE-----RRKSLFIHENS-EKND--DRGKTNADSK-KQTTVAEADIFKNSRSLSS 218
Callithrix_jacchus KHSPE-----RRKSLFIHENR-EKND--DRGKTNADSK-KQTTVAEADIFKNSRSLSS 219
Bos_taurus        KHSPE-----GRKSHFIHENSREKNDG--NRGRISADSK-KQATVTEADIFKNSRSLSS 215
Canis_lupus_familiaris KHSPE-----RRKSLFIHENSREKND--DRDKTSADSK-KQATVTEADIFKNSRSLSS 218
Equus_caballus     KHSPE-----RRKSLFTHENSREKQDR--DRGKTNADSK-KQATGAEADIFKNSRSLSS 216
Xenopus_tropicalis SE-----GD-----SSNLDDR-----H 120
Rhinatrema_bivittatum AERGQLVSCDYSKKQKTNMSPFEGDKLDSILPTDAVIDILKDNSSSSNRNNTSQHPTS 219
.....190.....200.....210.....220.....230.....240

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Pavo_muticus      ASSASLCQSSGLLLKLPCTPPDSKFRALGALHREGKQKTRRTKOPKAHHLKP---FART 281
Pavo_cristatus    ASSASLCQSSGLLLKLPCTPPDSKFRALGALHREGKQKTRRTKOPKAHHLKP---FART 281
Gallus_gallus     ANSTPLCQNSGLLLKLPCTPPDSKFRALGTLHRRGGKQKTHKTKRSKAHHLKP---FSRT 281
Chelonia_mydas    VNNKPLCQKAGHSTKLQYSPVESQFWLPLETYCKEKEKKRQRMEOPKLOPFSPVKVFLGP 283
Mus_musculus      RSSLSRHHPG-----ESTLGARFQLSLASYCREREQKKLRKEQMEQINSE-----N 265
Rattus_norvegicus RSSLSRHHPG-----ESPLGARFQLSLASYCREREQKKLRKEQMEQINSE-----N 265
Homo_sapiens      RSSLSRHHPE-----ESPLGAKFQLSLASYCRERELKRLRKEQMEQINSE-----N 265
Pan_troglodytes   RSSLSRHHPE-----ESPLGAKFQLSLASYCRERELKRLRKEQMEQINSE-----N 265
Macaca_mulatta    RSSLSRHHPG-----ESPLGAKFQLSLASYCRERELKRLRKEQMEQINSE-----N 265
Callithrix_jacchus RSSLSRHHPG-----ESPLGAKFQLSLASYCRERELKRLRKEQMEQINSE-----N 266
Bos_taurus        RSSLSRHHPG-----ESPLGAKFQLSLASYCRERELKRLRREQMEQINSE-----N 262
Canis_lupus_familiaris RSSLSRHHPG-----ESPLGAKFQLSLASYCRERELKRLRREQMEQINSE-----N 265
Equus_caballus     RSSLPRHQPG-----ESPLGAKFQLSLASYCRERELKRLRREQMEQINSE-----N 263
Xenopus_tropicalis VVSKRRLFSN-----DVPNTENKRRDE-----ENKS-----ELFNHCK----- 153
Rhinatrema_bivittatum ICSRKSLQTN-----KFQTSQEGTCRQERELIWSMEQSKQSSCSPLAIVSGAN----- 267
.....250.....260.....270.....280.....290.....300

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Pavo_muticus      SVSHQNG-YSRKTSHSGSREVASDEPSQPKQDSKLDISSPNS-----LRMSPEKAAG 333
Pavo_cristatus    SVSHQNG-YSRKTSHSGSREVASDEPSQPKQDSKLDISSPNS-----LRMSPEKAAG 333
Gallus_gallus     SVSHQNG-YSRKISRSGSRDTSDDASQPKQDSKYDISSPNA-----LRMSPEKAAS 333
Chelonia_mydas    GISNQNGCLLRKRSSASWETASDDSSQSKQVSKPEVSSPLL-----SRWSSEKAVN 336
Mus_musculus      SFSEASNLCLKSSGVGKCKPRHEHSKHTEAVPGKSNLSNLEN-----GHLSRKRSS- 317
Rattus_norvegicus SFSEASNLCLKSSGVGKCKPRHEHSKHNEAVPGKSNLSNLEN-----GHLSRKRSS- 317
Homo_sapiens      SFSEASNLCLKSS-IERKYKPRQEQRKQNDIIPGKNLSNLEN-----GHLSRKRSS- 316
Pan_troglodytes   SFSEASNLCLKSS-IERKYKPRQEQRKQNDIIPGKNLSNLEN-----GHLSRKRSS- 316
Macaca_mulatta    SFSEASNLCLKSSSIERKYKPRQEQSKQNDVIPGKNLSNLEN-----EHLRKRSS- 317
Callithrix_jacchus SFSEASNLCLKSSSIERKYKPRQEQSKQNDVIPKTNLSNLEN-----GHLSRKRSS- 318
Bos_taurus        SFSEASNLCLKSSSIERKCKPRQEQSKQNDVTAGNSNLSNLEN-----GHLSRKRSS- 314
Canis_lupus_familiaris SFSEASNLCLKSSSIERKCKPRQEQSKQNDVTAGNSNLSNLEN-----GHLSRKRSS- 317
Equus_caballus     SFSEATNLCLKSSSIGRKYKTRQEEGKQNDVTPGKSNLSNLEN-----GHLSRKRSS- 315
Xenopus_tropicalis -FFEQNG-----CSGGDVSKPKIHFFITSEAK-----G 180
Rhinatrema_bivittatum -ILNQENGSPFMPKSGLAQWEAISDGLPSKQTLIFEDSPKSVGSKLLHDKSTTKPKGG 326
.....310.....320.....330.....340.....350.....360

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      .      .      *.:      :      *
Pavo_muticus      VWKSQSVPIVSRSSQMP-----GKRKR TVMSVYANSSNPCEEASSNDPALRRSSATGK      387
Pavo_cristatus    VWKSQSVPIVSRSSQMP-----GKRKR TVMSVYANSSNPCEEASSNDPALRRSSATGK      387
Gallus_gallus     VWKSQSVPLVGRSQRSS-----GKRKR TVSVYANSSNPCEEASSNDPALRRSSATGK      387
Chelonia_mydas    IWKNQSFRLNSKISSGLSKQKDFPGKKKRISMNDLKSSGKPVVQSLNEPHFSRSSSEKYQ      396
Mus_musculus      ---SDSWELS--GSKQNK----FSDKRKRNSVSDLKSTKEPIIPKARES FLEKRPD-TS      367
Rattus_norvegicus ---SDSWELS--GSKQNK----FSDKRKRNSVSDLKSTKEPVIPKAKES FLEKRPD-TS      367
Homo_sapiens      ---SDSWEPTSAGSKQNK----FPEKRKRNSVSDLKSTRESMIPKAKES FLEKRPD-GP      368
Pan_troglodytes   ---SDSWEPTSAGSKQNK----FPEKRKRNSVSDLKSTRESMIPKAKES FLEKRPD-GP      368
Macaca_mulatta    ---SDSWEPTSAGAKQNK----FPEKRKRNSVSDLKSTRESMIPKAKES FLEKRPD-GP      369
Callithrix_jacchus ---SDSWEPTSAGSKQNK----FPDKRKRNSVSDLKSTRESMIPKAKES FLEKRPD-GP      370
Bos_taurus        ---SDSWGPTSAGSKQNK----FPDKRKRNSVSDLKSTRESMIPKAKES FLEKRPD-GP      366
Canis_lupus_familiaris ---SDSWEPASAGSKQNK----FPDKRKRNSVSDLKSTRESIIPKVKES FLEKRPD-GP      369
Equus_caballus     ---SDSWEPASAGSKQNK----FPDKRKRNSVSDLKSTRESIIPKAKES FLEKRPD-TP      367
Xenopus_tropicalis QARCLSLHEHGSVSPE-----KGKENILLITRGLCSLVK-----214
Rhinatrema_bivittatum SCPPICLTSLTSLGSEGHKNQSFHGKRKRGRISRSLOSSRKSGTRSSDAVLITS PDMLK      386
.....370.....380.....390.....400.....410.....420

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Pavo_muticus      NRKPTSVKNIVLKS PCVDVLOLMEP AALPRCDSPHSEFYLDSSHENEKN NYSSGALSSY-      446
Pavo_cristatus    NRKPTSVKNIVLKS PCVDVLOLMEP AALPRCDSPHSEFYLDSSHENEKN NYSSGDLSSY-      446
Gallus_gallus     NRRSTLVKNVVLKSPCMDALQLMEEAALPRCDSPHSEFYLDSSHENEKN NYSSGGLSSY-      446
Chelonia_mydas    SRKSEFIKHIVLESPGNVLOLEDAAMSHREDLP LSEYFDISHKKEGNSSYVGLSPLN      456
Mus_musculus      HQREKFIRHIALKTPG-GVLRLEDIAKEPEDETDRSSAD SAPSNAG-----412
Rattus_norvegicus HPREKFIRHIALKTPG-GVLRLEDIAKEPEDETDRSSAD LAPSNSG-----412
Homo_sapiens      HQKEKFIKHIALKTPG-DVLRLEDISKEPSDETGDSSAG LAPSNSGNSG-----416
Pan_troglodytes   HQKEKFIKHIALKTPG-DVLRLEDISKEPNDETGDSSAG LAPSNSGSSG-----416
Macaca_mulatta    HQKEKFIKHIALKTPG-DVLRLEDISKEPNDETDRSSAG LAPSNSG-----414
Callithrix_jacchus HQKEKFIKHIALKTPG-DVLRLEDISKEPNYETDRPSAG LAPSNSG-----415
Bos_taurus        HQKEKFIKHIALKTPG-DVLRLEDISKDPSEEDCSSAG LPTNSG-----411
Canis_lupus_familiaris HQKEKFIKHIALKTPG-DVLRLEDISKEPSEEVDRSSGGLAPS NSGH-----415
Equus_caballus     HPREKFIRHIALKTPG-GVLRLEDISKEPTEEDCSSAG LAPSNSGH-----413
Xenopus_tropicalis -----ENESTGTVLLVESTSQSLSSD-----235
Rhinatrema_bivittatum DYKSKFGSQVQKPFSSGMLQEKALDDKATEKFYFSENQLDCLSKDEDS DSCSCPSLSL      446
.....430.....440.....450.....460.....470.....480

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      .:.*      :
Pavo_muticus      CAQRLSENSQASVVDTKENQLOVANSRFYLDKSLP-SQEKSAVL--SPHHGKQINTIVPT      503
Pavo_cristatus    CAQRLNENSQASVVDTKENQLOVANSRFYLDKSLP-SQEKSAVL--SPHHGKQINTIVPT      503
Gallus_gallus     SAQRLNENSQVSVDTKENQLOVANS HFYLDKSLP-SQERSAVL--SPHHVKQITTTILT      503
Chelonia_mydas    SGHCANKNDQIHVADTKENQLOATRSHFLLEKSTLSQEKATVKTYIRELTKTQNTACT      516
Mus_musculus      -HHSSRNSDQVHSASTKETKI QKP-----HLPLPOEKSTIKRASNLQKNKPAGSVTS      463
Rattus_norvegicus -HHSSKNSDQVHAASKDTKTQKP-----HLPLPOEKSTAKRASNLQKSKPAGSVTS      463
Homo_sapiens      -HHSTRNSDQIQVAGTKETKM QKP-----HLPLSQEKSAIKKASNLQKNKTASSTTK      467
Pan_troglodytes   -HHSTRNSDQIRVAGTKETKM QKP-----HLPLSQEKSAIKKASNLQKNKTASSMTK      467
Macaca_mulatta    -HHSTRNSDQIRVAGAKETKM QKP-----HLPLPOEKSAIKKASNPQKNKTSSMTK      465
Callithrix_jacchus -HHSSRNSDQIRVASTKETKM QKP-----HLPLPOEKSAVKKASNLQKNKTASSVTS      466
Bos_taurus        -HQIRGSDQNRVASTKETKI PKP-----HLSLPQEKSAVKKASNLQKNKTASSVAS      461
Canis_lupus_familiaris --HSSRNSDQIRVASTKETKM QKP-----HLSLPQEKSAVRKASNLQKNKTASSVAS      465
Equus_caballus     --HSSRNSDQIRVASTKETKM QKP-----HLSLPQEKSAVKKASNLQKNKTASSVAS      463
Xenopus_tropicalis -----SSK-----ACEDMEAESIPSQEPS-----254
Rhinatrema_bivittatum LLSSNWKADPSSLASSKENLLOVSP-----SCLSTESGSKASPAASRGRTVINGFAHTLSK      502
.....490.....500.....510.....520.....530.....540

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Pavo_muticus      KGVK----SHLQSAVFSQVIPKR-----CMCNGADSIPPSN---TFSRTEE-- 542
Pavo_cristatus    KGVK----SHLQSAVFSQVIPKR-----CMCNGADSIPPSN---TFSRTEE-- 542
Gallus_gallus     KGVK----SHLQNDVFSQVIPKR-----CMRNRADSIPPSN---TFSRTEE-- 542
Chelonia_mydas    EEMKCLRSSSHIQSASSSQVLETKEQDRVROTEPILCKDDNVQLPSDSHKNFTKSKENT 576
Mus_musculus      -KETKLPLLSHVPSAVSSSRVPLNAKN--CTLPVPKKDKERSSSKERSGHSSTESSKHKEHR 520
Rattus_norvegicus -KETKLPLLSHVPSAVSSSRVPLNAKN--CTLPVLKKDKERSSSKERSGHSSTESSKHKEHK 520
Homo_sapiens       EKETKLPLLSRVPSAGSSSLVPLNAKN--CALPVSKDKERSSSKERSGHSSTESSKHKEHK 525
Pan_troglodytes   EKETKLPLLSRVPSAGSSSLVPLNAKN--CALPVSKDKERSSSKERSGHSSTESSKHKEHK 525
Macaca_mulatta    EKETKLPLLSHVPSAGSSSLVPLNAKN--CTLPVSKRDKERSSSKERSGHSSTESSKHKEHK 523
Callithrix_jacchus -KETKLPLLSHVPSAGSSSRVPLNAKN--CTPPVSKRDKERSSSKERSGHSSTESSKHKEHK 523
Bos_taurus        QETKLLPLLSHVPSAGSSSRVPLNAKN--CTLPVPKKDKERSSPKERSGHSSTESSKHKEHK 519
Canis_lupus_familiaris KETKLLPLLSHVPSAGSSSRVPLNAKN--CTLPVPKKEKERSSSKERSGHSSTESSKHKEHK 523
Equus_caballus     KETKLLPLLSHVPSAGSSSRVPLNAKN--CTLPVPKKDKERSSSKERSGHSSTESSKHKEHK 521
Xenopus_tropicalis -----SSSSFSSEDSSESFSFSTKRPKRLKTKFRKRSSSSDEEALMSLEN-- 300
Rhinatrema_bivittatum TCSEFPKDIKYMDPASHDQTATFSAHAFSTKTSKPSRKAEDLSSESCEQSYVGNNGD 562
.....550.....560.....570.....580.....590.....600

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Pavo_muticus      -KAL--EDVSDFCPVEGSKKLTDLLEESDKRVQRSIPFKQG-CEDNNRMSSE--LTAELKV 596
Pavo_cristatus    -KAL--EDVSDFCPVEGSKKLTDLLEESDKRVQRSIPFKQG-CEDNNRMSSE--LTAELKV 596
Gallus_gallus     -KAL--EDVSDSCPVEGSKKLTDLLEESDERVQCSLPFKQG-CEDNNCISSE--LAGELKV 596
Chelonia_mydas    VKTS--EDNSNLPSEVEIIGKPVFSVKIGKVVARSLYFEDG-CSANSSSSSQ--ISNELNI 631
Mus_musculus      AKTI--KAVSNNESSGKNSGGSLHSEYAPPTASPPAALEVVPSPVSPAAPSD-----KESS 573
Rattus_norvegicus AKTI--KAVSNNESSGKNSGGSLHSEYAPPTASPPAALEVVPSPVSPAAPSD-----KESS 573
Homo_sapiens       AKTN--KADSNVSSGKISGGPLRSEYGTPTKSPPAALEVVPSPVSPAAPSDKAPSEGESESS 583
Pan_troglodytes   AKTN--KADSNVSSGKISGGPLRSEYGTPTKSPPAALEVVPSPVSPAAPSDKAPSERESS 583
Macaca_mulatta    AKTN--KADSNVSSGKISGGPLRSEYGTPTKSPPAALEVVPSPVSPAAPSDKAPSERESS 581
Callithrix_jacchus AKTN--KADSNVSSGKISGGPLRSEYGTPTKSPPAALEVVPSPVSPAAPSDKAPSEKESS 581
Bos_taurus        AKTN--KADSNISSGKISEGSLRSEYGTPTKSPPAALEVVPSPVSPAAPSDKAPSDKESS 577
Canis_lupus_familiaris AKTD--KADSNVSSGKISGGSLHSEYSTPTKSPPAALEVVPSPVSPAAPSDKAPSDKESS 581
Equus_caballus     AKTNNNKADSDVSSGKVCGGSLRSEYGTPTKSPPAALEVVPSPVSPAAPSDKAPSDKASS 581
Xenopus_tropicalis ----YLKPKPTALPSTP-----QQPLPSTSPFSSPMTPLNNN----- 334
Rhinatrema_bivittatum SANLYVMAKSLPLVTRDKDVKLPFIEEKLSDSCSFSPIPKQRNNSLNKQLGTLSSTEE 622
.....610.....620.....630.....640.....650.....660

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Pavo_muticus      GSTCTEMC-----NNGKSKSSFDSEDETLECIILDDDDDD-ETFIPLQEIL 642
Pavo_cristatus    GSTCTEMC-----NNGKSKSSFDSEDETLECIILDDDDDD-ETFIPLQEIL 642
Gallus_gallus     GRTCTEMC-----NMNGKSKSSFDSEDETLECIILDDDDDD-ETFIPLQEIL 643
Chelonia_mydas    ES-STITS-----VLNRKLSISSDSEDESFCNLDSD---EEEMLLPLQDIL 674
Mus_musculus      GNSNAGSN-----ALKRKFRGDFDSDEESLGYNLESDE--EEETLKSLEEIM 618
Rattus_norvegicus GNSNAGSS-----ALKRKFRGDFDSDEESLGYNLESDE--EEETLKSLEEIM 618
Homo_sapiens       GNSNAGSS-----ALKRKLRGDFDSDEESLGYNLDSD--EEETLKSLEEIM 628
Pan_troglodytes   GNSNAGSS-----ALKRKLRGDFDSDEESLGYNLDSD--EEETLKSLEEIM 628
Macaca_mulatta    GNSNAGSS-----ALKRKLRGDFDSDEESLGYNLDSD--EEETLKSLEEIM 626
Callithrix_jacchus GNSNAGSN-----ALKRKLRGDFDSDEESLGYNLDSD--EEETLKSLEEIM 626
Bos_taurus        GNSNAGSS-----ALKRKLRGDFDSDEESLGYNLESDE--EEETLKSLEEIM 622
Canis_lupus_familiaris GNSNAGSN-----ALKRKLRGDFDSDEESLGYNLDSD--EEETLKSLEEIM 626
Equus_caballus     GNSNAGSN-----ALKRKLRGDFDSDEESLGYNLDSD--EEETLKSLEEIM 626
Xenopus_tropicalis ----- 334
Rhinatrema_bivittatum ELSSDSHSFTLVPEQNKYFSKRLRRRLQDSFDSEGEFGDCNLDSD--EEILKPLQEIM 679
.....670.....680.....690.....700.....710.....720

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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      .
      *.*.*.*.*:***. ....:
Pavo_muticus      SSSSRPQTEALEGDSFDDLFKG--TTALTHHLSKPPVGTQVSYVNSLEHLLKEKEQSKRL 700
Pavo_cristatus    SSSSRPQTEALEGDSFDDLFKG--TTALTHHLSKPPVGTQVSYVNSLEHLLKEKEQSKRL 700
Gallus_gallus     SSSSRPQTAALEGDSFDDLFKG--TAALTDHLSKPPVGTQVSYVNSLEHLLKEKEQSKRL 701
Chelonia_mydas    SSTSKSRAGTPEGACLEDLSQDSLTPSPKRPLSKIPVVSQVSYVNSLEHLLKEKEESKRV 734
Mus_musculus      ALNFS-RTPTTSG-KPPAVSKG----LRSQSSDYMEYAQSGTYTNTLERLVKEMEDTQRL 672
Rattus_norvegicus ALNFS-QTPTASG-KPPAFSKG----LRPQSSDYMEYAQSGTYTNTLERLVKEKEDTQRL 672
Homo_sapiens      ALNFN-QTPAATG-KPPALSKG----LRSQSSDYTGHVHPGTYTNTLERLVKEMEDTQRL 682
Pan_troglodytes   ALNFN-QTPATTG-KPPALSKG----LRSQSSDYIEHVHPGTYTNTLERLVKEMEDTQRL 682
Macaca_mulatta    ALNFN-QTPATTG-KPPALSKG----LRSQSSDYTEHVHPGTYTNTLERLVKEMEDTQRL 680
Callithrix_jacchus ALNFS-QTPATTG-KPPALSKG----LRSQSSDYTEPAHPGTYTNTLERLVKEMEDTQRL 680
Bos_taurus        ALNFN-QTPTATG-KPPALSKG----LRSQSSDYTEHAHSGTYTNTLERLVKEMEDTHRL 676
Canis_lupus_familiaris ALNFN-QTPSSTG-KPP-LSKG----LRSQSSDYTEHGHSHTYNTLDRLVKEMEDTQRL 679
Equus_caballus     ALNFN-QTPATTG-KPPALSKG----LRPQSSDYTEHVCSGTYTNTLERLVKEMEDTQRL 680
Xenopus_tropicalis CI-----AATPEQVANSLSRLVKKEKESERV 360
Rhinatrema_bivittatum CISRLPEGTPEKALEVASQHSCTSPKFPAAAPVAVVNLDCLLKEKREAERL 731
.....730.....740.....750.....760.....770.....780

```

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      .*:::***:***. : : : :*:***:***:..**** **
Pavo_muticus      DELEKRLREDIQR-KESDSSDG--ENEDAVENGDLSEEHRAFIKRFVVAHAIPDYHPGE 757
Pavo_cristatus    DELEKRLREDIQR-KESDSSDG--ENEDAVENGDLSEEHRAFIKRFVVAHAIPDYHPGE 757
Gallus_gallus     DELEKRLREDIQR-KEIDSSDG--EDENAVENGDLSEEHRAFIKRFVVAHAIPDYHPGE 758
Chelonia_mydas    DELEKQLQEDMQE-IGLNSSTGDEEQENSDEDRDLSEEHRAFIKRFVVSDAIPDHPGE 793
Mus_musculus      DELQKKLQEDIRQGRGIKSPLRITGDQDSTDDGDLLEEHRFLKKFSVTIDAIPDHPGE 732
Rattus_norvegicus DELQKKLQEDIRQGRGIKSPIRIGDQDSTDDGDLLEEHRFLKKFSVTIDAIPDHPGE 732
Homo_sapiens      DELQKKLQEDIRQGRGIKSPIRIGEDSTDDGDLLEEHRFLKKFSVTIDAIPDHPGE 742
Pan_troglodytes   DELQKKLQEDIRQGRGIKSPIRIGEDSTDDGDLLEEHRFLKKFSVTIDAIPDHPGE 742
Macaca_mulatta    DELQKKLQEDIRQGRGIKSPIRIGEDSTDDGDLLEEHRFLKKFSVTIDAIPDHPGE 740
Callithrix_jacchus DELQKKLQEDIRQGRGIKSPIRIGEDSTDDGDLLEEHRFLKKFSVTIDAIPDHPGE 740
Bos_taurus        DELQKKLQEDIRQGRGIKSPIRIGDHDSTDDGDLLEEHRFLKKFSITIDAIPDHPGE 736
Canis_lupus_familiaris DELQKKLQEDIRQGRGIKSPIRIGDQDSTDDGDLLEEHRFLKKFSVTIDAIPDHPGE 739
Equus_caballus     DELQKKLQEDIRQGRGIKSAVRIGEDSTDDGDLLEEHRFLKKFSVTIDAIPDHPGE 740
Xenopus_tropicalis KEIEKKLQEDIEKGQ-SMQFLD---TECDTDEGDIIEHREFLQKYSIDLNGIPDQPPGE 416
Rhinatrema_bivittatum DELEKKLQDDIKRGVRELSSAG---EEESTDEEILSEEQRAFIKRFVVAHAIPDHPGE 788
.....790.....800.....810.....820.....830.....840

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      ::*: :*: :*: * *: : : :*: * :*: *
Pavo_muticus      DVFDLSISGKIFNQHDLDLRNFHFIPQNPKEKLLVSSDVTQQLFLAVHGFLS-SYSCSVC 816
Pavo_cristatus    DVFDLSISGKIFNQHDLDLRNFHFIPQNPKEKLLVSSDVTQQLFLAVHGFLS-SYSCSVC 816
Gallus_gallus     DVFDLSISGKIFNQHDLDLRNFHFIPQNPKEKLLVSSDVTQQLFLAVHGFLS-TYSCSVC 817
Chelonia_mydas    EIFHFSNNGNIFNQNLDRNSGFIPQNPKEKLLLRSEVTQQLSLATQGFSLCAYSCTQC 853
Mus_musculus      EIFNFLNSGKIFNQYTLDRDSGFIGESAVEKLILKSGKTDQIFLTTQGFLLTAYHYVQC 792
Rattus_norvegicus EIFNFLNSGKIFNQYTLDRDSGFIGESAVEKLILKSGKTDQIFLTTQGFLLTAYHYVQC 792
Homo_sapiens      EIFNFLNSGKIFNQYTLDRDSGFIGQSAVEKLILKSGKTDQIFLTTQGFLLTAYHYVQC 802
Pan_troglodytes   EIFNFLNSGKIFNQYTLDRDSGFIGQSAVEKLILKSGKTDQIFLTTQGFLLTAYHYVQC 802
Macaca_mulatta    EIFNFLNSGKIFNQYTLDRDSGFIGQSAVEKLILKSGKTDQIFLTTQGFLLTAYHYVQC 800
Callithrix_jacchus EIFNFLNSGKIFNQYTLDRDSGFIGQSAVEKLILKSGKTDQIFLTTQGFLLTAYHYVQC 800
Bos_taurus        EIFNFLNSGKIFNQYTLDRDSGFIGQSAVEKLILKSGKTDQIFLTTQGFLLTAYHYVQC 796
Canis_lupus_familiaris EIFNFLNSGKIFNQYTLDRDSGFIGQSAVEKLILKSGKTDQIFLTTQGFLLTAYHYVQC 799
Equus_caballus     EIFNFFNSGKIFNQYTLDRDSGFIGQSAVEKLILKSGKTDQIFLTTQGFLLTAYHYVQC 800
Xenopus_tropicalis EIFHLDKSGLIFNHHTLDRNSEYSAQSSEENVIFRCGAENQFILATEGFLSFLYRYKTC 476
Rhinatrema_bivittatum EIFHLSAEGKLFNRHTLYLKNFGFNAQTAEERLLSSGKAQQLILITQGFLLAYRLVQC 848
.....850.....860.....870.....880.....890.....900

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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| | *: ::*:*****: . . .:*. *::* . . .*:*** *:*****: | |
|------------------------|--|-----|
| Pavo_muticus | PVPVLKWLFFOMMSVHPSYCVSTQILDKLIETITLNN-ASISDEQSKPWIPSLADVTIAVFFVN | 875 |
| Pavo_cristatus | PVPVLKWLFFOMMSVHPSYCVSTQILDKLIETITLNN-ASISDEQSKPWIPSLADVTIAVFFVN | 875 |
| Gallus_gallus | PIPIPLKWLFFOMMSVHPSYCVSTQILDRLIETITLNN-ASISDEQSKPWIPSLADVTITVLVN | 876 |
| Chelonia_mydas | PMPVLKWLFFOMMSVHSDYYVSTQILDITLMEITIKN-ASINDAQSKAWIPSLSDISAFIN | 912 |
| Mus_musculus | PVPVLKWLFRMMSVHTDCIVSVQILSTLMEITIRN-DTFSDSPVWPWIPSLSDIAAVFFN | 851 |
| Rattus_norvegicus | PVPVLKWLFRMMSVHTDCIVSVQILSTLMEITIRNADTFSDSPVWPWIPSLSDIAAVFFN | 852 |
| Homo_sapiens | PVPVLKWLFRMMSVHTDCIVSVQILSTLMEITIRN-DTFSDSPVWPWIPSLSDVAAVFFN | 861 |
| Pan_troglodytes | PVPVLKWLFRMMSVHTDCIVSVQILSTLMEITIRN-DTFSDSPVWPWIPSLSDVAAVFFN | 861 |
| Macaca_mulatta | PVPVLKWLFRMMSVHTDCIVSVQILSTLMEITIRN-DTFSDSPVWPWIPSLSDIAAVFFN | 859 |
| Callithrix_jacchus | PVPVLKWLFRMMSVHTDCIVSVQILSTLMEITIRN-DTFNDSPVWPWIPSLSDIAAVFFN | 859 |
| Bos_taurus | PVPVLKWLFRMMSVHTDCIVSMQILSTLMEITIRN-DTFSDSPIWPWIPSLSDIAAVFFN | 855 |
| Canis_lupus_familiaris | PVPVLKWLFRMMSVHTDCIVSVQILSTLMEITIRN-DTFSDSPVWPWIPSLSDIAAVFFN | 858 |
| Equus_caballus | PVPVLKWLFRMMSVHTNCIVSVQILSTLMEITIRN-DTFSDSPVWPWIPSLSDIAAVFFN | 859 |
| Xenopus_tropicalis | PVVLKMWLFQIVAVHPSYITIGIKLLNLTIKITSNN-LSNSKQNEAPWMPSLLDVATVFMN | 535 |
| Rhinatrema_bivittatum | PVPLLRWLFFOMSVQLDNIVSAQILKILLDLTVSS-FSSCSQFRPWIPSLSDIAAVFFN | 907 |
| |910.....920.....930.....940.....950.....960 | |

| | ** : : **** *** * :: : | * . : ** :: *::* | |
|------------------------|---|------------------|-----|
| Pavo_muticus | MGITFRSLFPLOHLPNPNFNERDILSRQGTVSKEOPGGFTNSASPAFSSSLPESNLMNVIK | | 935 |
| Pavo_cristatus | MGITFRSLFPLOHLPNPNFNERDILSRQGTVSKEOPGGFTNSASPAFSSSLPESNLMNVIK | | 935 |
| Gallus_gallus | MGIRLRSFLFPLOHLPNPNFNERDILSQMGTVSKEOLGGFTNSASPAFSSSLPESNLMNVIK | | 936 |
| Chelonia_mydas | MGVPRFSFLFPLOHLPPTFSEDDILSEMCIIVGKQTSQ--ETSAGPAFSSCLPETNLIINVVK | | 970 |
| Mus_musculus | MGVGFGSLFPLETLQPDFNEENLISETQKTLGGKGESE--DSPYSPVFSALPETNLIINVVK | | 909 |
| Rattus_norvegicus | MGVGFGALFPLETLQPDFNEDSLISETQKTLGGKGESE--DSSYNPVFSALPETNLIINVVK | | 910 |
| Homo_sapiens | MGIDFRSLFPLENLPDFNEDYLVSETQTTSRGKGESE--DSSYKPIFSTLPETNLIINVVK | | 919 |
| Pan_troglodytes | MGIDFRSLFPLENLPDFNEDYLVSETQTTSRGKGESE--DSSYKPIFSTLPETNLIINVVK | | 919 |
| Macaca_mulatta | MGIDFRSLFPLENLPDFNEDYLVSETQTTSRGKGESE--DSSYKPIFSTLPETNLIINVVK | | 917 |
| Callithrix_jacchus | MGIDFRSLFPLETLQPDFNEDYLVSETQTTPGGRESE--DSSYKPIFSTLPETNLIINVVK | | 917 |
| Bos_taurus | MGIDFRSLFPLENLPDFNEDNLVSETQMTLGVKENE--DSSYKPIFSSSLPETNLIINVVK | | 913 |
| Canis_lupus_familiaris | MGIDFRSLFPLENLPDFNEDNLVSETQMTWGRDGSE--DSFCKPIFSTLPETNLIINVVK | | 916 |
| Equus_caballus | MGIDFRSLFPLENLPDFNEDNLVSETQMTLGEKGSE--DSSEKPIFSALPETNLIINVVK | | 917 |
| Xenopus_tropicalis | MGVDFDMLFPPLPHLPVFCCDDLVPAVPLSLRLGNK---NGPTQAFITVPEMQMTNVIK | | 592 |
| Rhinatrema_bivittatum | MGVNFKSLFPLOHLPDFNKEDIIAEMRGIMAT-EAV---VGAGPAFFCPVENIINVVK | | 963 |
| |970.....980.....990.....1000.....1010.....1020 | | |

| | :. * . ** : . : : * : : * : : * * : ** . * : . : : : : * : : * : . : ** : . : | |
|------------------------|---|------|
| Pavo_muticus | FLDFCTTVIQDGYTDQEILLLLLLLLFKISLEKOLKQVSLIDFQCLLTKLLISIKDWGTKM | 995 |
| Pavo_cristatus | FLDFCTTVIQDGYTDQEILLLLLLLLFKISLEKOLKQVSLIDFQCLLTKLLISIKDWGTKM | 995 |
| Gallus_gallus | FLDFCTTVVQDGYTDEEILLLLLLLLFKISLEKOLKHVSLIDFQCLLTKLLMSIKDWDTKM | 996 |
| Chelonia_mydas | FLGFCCTTMYPDGYADQELLVLVLLFKISLEKRLQOIPLIDLQGLLLNLLKNIRDWDAQM | 1030 |
| Mus_musculus | FLGLCTSIHPEGYQDGEIMLLILMLFKMSLEKELKOIPLVDFQSLLINLMKNIRDWNTKV | 969 |
| Rattus_norvegicus | FLGLCTSIHPEGYQDGEIMLLILMLFKMSLEKELKOIPLVDFQSLLINLMKNIRDWNTKV | 970 |
| Homo_sapiens | FLGLCTSIHPEGYQDREIMLLILMLFKMSLEKOLKOIPLVDFQSLLINLMKNIRDWNTKV | 979 |
| Pan_troglodytes | FLGLCTSIHPEGYQDREIMLLILMLFKMSLEKOLKOIPLVDFQSLLINLMKNIRDWNTKV | 979 |
| Macaca_mulatta | FLGLCTSIHPEGYQDREIMLLILMLFKMSLEKOLKOIPLVDFQSLLINLMKNIRDWNTKV | 977 |
| Callithrix_jacchus | FLGLCTSIHPEGYQDREIMLLILMLFKMSLEKOLKOIPLVDFQSLLINLMKNIRDWNTKV | 977 |
| Bos_taurus | FLGLCTSIHPEGYQDREIMLLILMLFKMSLEKELKOIPLVDFQSLLINLMKNIRDWNTKV | 973 |
| Canis_lupus_familiaris | FLGLCTSIHPEGYQDREIMLLILMLFKMSLEKOLKOIPLVDFQSLLINLMKNIRDWNTKV | 976 |
| Equus_caballus | FLGLCTSIHPEGYQDREVMLLILMLFKMSLEKOLKOIPLVDFQSLLINLMKNIRDWNTKV | 977 |
| Xenopus_tropicalis | VLGYCTAVYPEIFSDQDTLLLLIVLLKKIHLETOLKSSPIVDLHVLVGNLLHNFRDWEIKM | 652 |
| Rhinatrema_bivittatum | FLGFCCTTVLPEGYKDQENLLLLILLCKIRLEKOLKMLPVEFQCLLENLLKNIQDWDAKM | 1023 |
| |1030.....1040.....1050.....1060.....1070.....1080 | |

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      :*. * : :*: : * : :*****.   ***: *  **  .:::***.:: : .
Pavo_muticus      PELCLGVSELSSQHNNLLWLVLVPSWITRGREVRRLSLVIIAKLLNKKHMRIPDDCDK 1055
Pavo_cristatus    PELCLGVSELSSQHNNLLWLVLVPSWITRGREVRRLSLVIIAKLLNKKHMRIPDDCDK 1055
Gallus_gallus     PELCLGVSELSSQHNNLLWLVLVPSWITRGREVRRLSLVIIAKLLNKKHMRIPDDCDK 1056
Chelonia_mydas    POLCLTISELSSHHHDLWLVLVPSWVKRGRIIRRLSLTIISKLLNKKYTSIPVTSI 1090
Mus_musculus      HELCLGINELSSHPHNNLLWLVLVPSWITSRGRLRQCLSLVMMSKLLDEKHEDIPNANL 1029
Rattus_norvegicus HELCLGINELSSHPHNNLLWLVLVPSWITSRGRLRQCLSLVIIISKLLDEKHEDIPNANL 1030
Homo_sapiens      PELCLGINELSSHPHNNLLWLVLVPSWITSRGRLRQCLSLVIIISKLLDEKHEDVPNASL 1039
Pan_troglodytes   PELCLGINELSSHPHNNLLWLVLVPSWITSRGRLRQCLSLVIIISKLLDEKHEDVPNASL 1039
Macaca_mulatta    RELCLGINELSSHPHNNLLWLVLVPSWITSRGRLRQCLSLVIIISKLLDEKHEDVPNASL 1037
Callithrix_jacchus PELCLGINELSSHPHNNLLWLVLVPSWITSRGRLRQCLSLVIIISKLLDEKHEDVPNANL 1037
Bos_taurus        PELSLAINELSTHPHNNLLWLVLVPSWITSRGRLRQCLSLVIIISKLLDEKREDIPNVNL 1033
Canis_lupus_familiaris PELCLAINELSSHPHNNLLWLVLVPSWITSRGRLRQCLSLVIIISKLLDEKHEDIPNASL 1036
Equus_caballus     PELCLAISELSSHPHNNLLWLVLVPSWITSRGRLRQCLSLVIIISKLLDEKHEDIPNASL 1037
Xenopus_tropicalis PELSLALRDISHHNNYVKIVQLVPSSTESRGRLRGHLSLAFISKLLNENCPDIPLDYSA 712
Rhinatrema_bivittatum PELCLAISDLSTHHHDLKLVLVPSVSMRGROVRKCLSCVIIISKLLKKCCSVLQESDM 1083
.....1090.....1100.....1110.....1120.....1130.....1140

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      *: * : *  **** :*: .          :: : *** * ** *: .
Pavo_muticus      QMSLLHQYLVYMKPSNLLKMRKDEQONVSEEHVKERVTELEQEVYVYLLIYILLHLVSEA 1115
Pavo_cristatus    QMSLLHQYLVYMKPSNLLKMRKDEQONVSEEHVKERVTELEQEVYVYLLIYILLHLVSEA 1115
Gallus_gallus     QMSLLHQYLVYMKPSNMLKMRKGEQONVSEEHTEERINTELEQEVYVYLLIYILLHLVSEA 1116
Chelonia_mydas    QMSLLYQYLVQMKPSDLLKKMKIEARKE-QDDLSGESVRTELEQAYYLYSLHLVSEV 1149
Mus_musculus      QISVLHRYLVQMKPSDLLKKMVLKKRAEQPNETIDDSLHLELEKQAYYLYILLHLVGEV 1089
Rattus_norvegicus QIPVLHRYLVQMKPSDLLKKMILKKKAEQPNETIDDSLHLDLEKQAYYLYILLHLIGE 1090
Homo_sapiens      QVSVLHRYLVQMKPSDLLKKMVLKKKAEQPDGIIDDSLHLELEKQAYYLYILLHLVGEV 1099
Pan_troglodytes   QVSVLHRYLVQMKPSDLLKKMVLKKKAEQPDGIIDDSLHLELEKQAYYLYILLHLVGEV 1099
Macaca_mulatta    QVSVLHRYLVQMKPSDLLKKMVLKKKAEQPDGTIDDSLHLELEKQAYYLYILLHLVGEV 1097
Callithrix_jacchus QVSVLHRYLVQMKPSDLLKKMVLKKKAEQPNGTIDDSLHLELEKQAYYLYILLHLVGEV 1097
Bos_taurus        QISVLHRYLVQMKPSDLLKKMVLKKRAEQPNSTIDDSLHLELEKQAYYLYILLHLIGE 1093
Canis_lupus_familiaris QISVLHRYLVQMKPSDLLKKMVLKKRAEQPNGTIDDSLHLELEKQAYYLYILLHLVGEV 1096
Equus_caballus     QVSVLHRYLVQMKPSDLLKKMVLKKRAEQPNGTIDDSLHLELEKQAYYLYILLHLVGEV 1097
Xenopus_tropicalis QMSLLCQCLSKMKPSALIRKMQSYNEES-----TQHNLDQEGYVYLYSLTLVNA 763
Rhinatrema_bivittatum QMSYLCKCLVQMKPSTLLKKMAAERTADQNDASAQ-TLQVEQEAYYLYSLNLVNEV 1142
.....1150.....1160.....1170.....1180.....1190.....1200

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      * .          ** ::: ** :*:***** :*****:*.**:::: *
Pavo_muticus      SFFDTVNSDQROHLLKLCGTLDKHIKCDIREDARLFYRTKVVDLARIYGRWODLIONSR 1175
Pavo_cristatus    SFFDTVNSDQROHLLKLCGTLDKHIKCDIREDARLFYRTKVVDLARIYGRWODLIONSR 1175
Gallus_gallus     SFFDTVNSDQROHLLKLCGTLDKHIKCDIREDARLFYRTKVVDLARIYGRWODLIONSR 1176
Chelonia_mydas    SCFDVNSNQRYLLRLCGALEKHVKCDIREDARLFYRTKVVDLARIYGKWQEMIONSR 1209
Mus_musculus      SCSHSLSFGQRKHVFLLCGALEKHVKCDIREDARLFYRTKVVDLARIHGKWQEIIONCR 1149
Rattus_norvegicus SCSHSFSSGQRKHVFLLCGALEKHVKCDIREDARLFYRTKVVDLARIHGKWQEIIONCR 1150
Homo_sapiens      SCSHSFSSGQRKHVFLLCGALEKHVKCDIREDARLFYRTKVVDLARIHGKWQEIIONCR 1159
Pan_troglodytes   SCSHSFSSGQRKHVFLLCGALEKHVKCDIREDARLFYRTKVVDLARIHGKWQEIIONCR 1159
Macaca_mulatta    SCSHSFSSGQRKHVFLLCGALEKHVKCDIREDARLFYRTKVVDLARIHGKWQEIIONCR 1157
Callithrix_jacchus SCSHSFSSGQRKHVFLLCGALEKHVKCDIREDARLFYRTKVVDLARIHGKWQEIIONCR 1157
Bos_taurus        SCSHSFSSGQRKHVFLLCGALEKHVKCDIREDARLFYRTKVVDLARIHGKWQEIIONCR 1153
Canis_lupus_familiaris SCSHSFSSGQRKHVFLLCGALEKHVKCDIREDARLFYRTKVVDLARIHGKWQEIIONCR 1156
Equus_caballus     SCSHSFSSGQRKHVFLLCGALEKHVKCDIREDARLFYRTKVVDLARIHGKWQEIIONCR 1157
Xenopus_tropicalis SSSDEGVSVQRTYLLKLCALAEKHVKCDIREDARYYRTKVVDLARIYGKWQEIILHCSR 823
Rhinatrema_bivittatum SYSDVCPYSQRNYLLELCRTLEKHVKCDIREDARLFYRTKVVDLARIYGKWQELLQSTR 1202
.....1210.....1220.....1230.....1240.....1250.....1260

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      *               : : :
Pavo_muticus      LTQG-----KLHDFWEPDS----- 1189
Pavo_cristatus    LTQG-----KLHDFWEPDS----- 1189
Gallus_gallus     LTQG-----KLHDFWEPDS----- 1190
Chelonia_mydas    PTQG-----KLHDFWEPDL----- 1223
Mus_musculus      PTQG-----QLHDFWVPDS----- 1163
Rattus_norvegicus PTQG-----QLHDFWVPDS----- 1164
Homo_sapiens      PTQG-----QLHDFWVPDS----- 1173
Pan_troglodytes   PTQVSFCYTISCIILNSFAEWHSSYCLK----- 1186
Macaca_mulatta    PTQVSFCYTISFILNSFAEWHSSYCLK----- 1184
Callithrix_jacchus PTQVSFYLVSLNLSFAK----- 1176
Bos_taurus        PTQG-----QLHDFWVPDS----- 1167
Canis_lupus_familiaris PTQG-----QLHDFWVPDS----- 1170
Equus_caballus    PTQG-----QLHDFWVPDS----- 1171
Xenopus_tropicalis PHQG-----KIHDYWDPLYDQSSPG---SSQEECKEKPFAFGNTLQLHCLDK 867
Rhinatrema_bivittatum PDQG-----KLHDYWEVPVLDQIQIGKEMELKEFELDPFSEKNQLEHEVS-- 1247
.....1270.....1280.....1290.....1300.....1310.....

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