

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/GA Opte: Tue Feb 1 12:11:22 2022

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      .  :: *      *..   ...  *  :      *      :      *:      *
Pavo_muticus      -----MSLLQSALDFLAGPGTILGAAS--RD-QNDFVGQTVEMGEMKLRIR--R  43
Pavo_cristatus    -----MSLLQSALDFLAGPGTILGAAS--RD-QNDFVGQTVEMGEMKLRIR--R  43
Gallus_gallus     -----MSLLQSALDFLAGPGTILGAAS--RD-QNDFVGQTVEMGEMKLRIR--R  43
Anas_platyrhynchos -----MSLLQSALDFLAGPGSLGAAS--RD-QNDFVGQTVEMGDMRLRLVR--R  43
Chelonia_mydas    -----MSLLQSAWDFLAGPGSLGAAS--RD-HNDFVGQTVELGDMKLRIR--R  43
Latimeria_chalumnae -----MSQSLFQSALDFLAGPGSGGAAS--RD-QNDFVGQTVEMGEMKLRIR--R  45
Rhinatrema_bivittatum -----MSLLQSALEFLAGPGSLGAVSGRD-QNDFVGQTVELGALRLRLVR--R  44
Homo_sapiens      -----MSLLQSALDFLAGPGSLGGASGRD-QSDFVGQTVELGELRLRLVR--R  44
Pan_troglodytes   -----MSLLQSALDFLAGPGSLGGASGRD-QSDFVGQTVELGELRLRLVR--R  44
Macaca_mulatta    -----MSLLQSALDFLAGPGSLGGASGRD-QSDFVGQTVELGELRLRLVR--R  44
Callithrix_jacchus -----MSLLQSALDFLAGPGSLGGASGRD-HSDFVGQTVELGELRLRLVR--R  44
Rattus_norvegicus -----MSLLQSALDFLAGPGSLGGASGRD-QSDFVGQTVELGELRLRLVR--R  44
Mus_musculus      -----MSLLQSALDFLAGPGSLGGASGRD-QSDFVGQTVELGELRLRLVR--R  44
Canis_lupus_familiaris MRVSPKAGVKSAGLGAIKYAEAGAADARMLSAAPGRCRRRRRRGLCSDNTEHLCRVFNTNR  60
Equus_caballus    -----MSLLQSALDFLAGPGSLGGASGRD-QTDFVGQTVELGELRLRLVR--R  44
Bos_taurus        -----MSLLQSALDFLAGPGSLGGASGRD-QTDFVGQTVEMGELRLRLVR--R  44
Xenopus_tropicalis -----MSLLQSALDFLAGPGSLGGAG--RD-QHDFVGQTVEMGDMKMRVK--R  43
1.....10.....20.....30.....40.....50.....60

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      .  :: *****:*.*: **:;*****:*****.*:*****.***
Pavo_muticus      VIAEGGFADFVYEAQDLGSGKDYALKRLLSNEEEKNKAIIEVCFMKKLSGHPNIVQFCSA  103
Pavo_cristatus    VIAEGGFADFVYEAQDLGSGKDYALKRLLSNEEEKNKAIIEVCFMKKLSGHPNIVQFCSA  103
Gallus_gallus     VIAEGGFADFVYEAQDLGSGKDYALKRLLSNEEEKNKAIIEVCFMKKLSGHPNIVQFCSA  103
Anas_platyrhynchos VIAEGGFADFVYEAQDLGSGKEYALKRLLSNEEEKNKAIIEVCFMKKLSGHPNIVQFCSA  103
Chelonia_mydas    VIAEGGFADFVYEAQDLGSGKDYALKRLLSNEEEKNRAIIEVCFMKKLSGHPNIVQFSSA  103
Latimeria_chalumnae VIAEGGFADFVYEAHDLGSGKEYALKRLLSNEEEKNKAIIEVCFMKKLSGHPNIVQFSSA  105
Rhinatrema_bivittatum VIAEGGFADFVYDAEDLQSGKEYALKRLLSNEEEKNKAIIEVCFMKKLSGHPNIVQFCSA  104
Homo_sapiens      VIAEGGFADFVYEAQDVGSGREYALKRLLSNEEEKNRAIIEVCFMKKLSGHPNIVQFCSA  104
Pan_troglodytes   VLAEGGFADFVYEAQDVGSGREYALKRLLSNEEEKNRAIIEVCFMKKLSGHPNIVQFCSA  104
Macaca_mulatta    VLAEGGFADFVYEAQDVGSGREYALKRLLSNEEEKNRAIIEVCFMKKLSGHPNIVQFCSA  104
Callithrix_jacchus VLAEGGFADFVYEAQDVGSGREYALKRLLSNEEEKNRAIIEVCFMKKLSGHPNIVQFCSA  104
Rattus_norvegicus VLAEGGFADFVYEAQDLGSGREYALKRLLSNEEEKNRAIIEVCFMKKLSGHPNIVQFCSA  104
Mus_musculus      VLAEGGFADFVYEAQDLGSGREYALKRLLSNEEEKNRAIIEVCFMKKLSGHPNIVQFCSA  104
Canis_lupus_familiaris FTVDRGFADFVYEAQDLASGREYALKRLLSNEEEKNRAIIEVCFMKKLSGHPNIVQFCSA  120
Equus_caballus    VLAEGGFADFVYEAQDLGSGREYALKRLLSNEEEKNRAIIEVCFMKKLSGHPNIVQFCSA  104
Bos_taurus        VLAEGGFADFVYEAQDLGSGREYALKRLLSNEEEKNRAIIEVCFMKKLSGHPNIVQFCSA  104
Xenopus_tropicalis VIAEGGFADFVYEAQDVGSGKDYALKRLLSNEEEKNKSIIEICFMKKLSGHPNIVQFCSA  103
.....70.....80.....90.....100.....110.....120

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*****.***:* ***:***:*** : * :*.***:*****:*****:
Pavo_muticus      ASIGKEESDTGQGEFLLLTELCKGQLVFLKKVEPKGPISCDTVLKIFYQTCRAVOHMHK  163
Pavo_cristatus    ASIGKEESDTGQGEFLLLTELCKGQLVFLKKVEPKGPISCDTVLKIFYQTCRAVOHMHK  163
Gallus_gallus     ASIGKEESDTGQGEFLLLTELCKGQLVFLKKVEPKGPISCDTVLKIFYQTCRAVOHMHK  163
Anas_platyrhynchos ASIGKEESDTGQGEFLLLTELCKGQLVFLKKVEPKGPISCDTVLKIFYQTCRAVOHMHK  163
Chelonia_mydas    ASIGKEESDTGQGEFLLLTELCKGQLVFLKKVESKGPLSCDTVLIKIFYQTCRAVOHMHK  163
Latimeria_chalumnae ASIGKEESDTGQAEFLLITELCRGQVVEFLKKAESKGPLSCDTILKIFYQTCRAVOHMHK  165
Rhinatrema_bivittatum ASIGKEESDTGQAEFLLLTELCKGQLVFLSKVESKGSLSCDTVLIKIFYQSCRAVOHMHK  164
Homo_sapiens      ASIGKEESDTGQAEFLLLTELCKGQLVFLKKMESRGPLSCDTVLIKIFYQTCRAVOHMHK  164
Pan_troglodytes   ASIGKEESDTGQAEFLLLTELCKGQLVFLKKMESRGPLSCDTVLIKIFYQTCRAVOHMHK  164
Macaca_mulatta    ASIGKEESDTGQAEFLLLTELCKGQLVFLKKMESRGPLSCDTVLIKIFYQTCRAVOHMHK  164
Callithrix_jacchus ASIGKEESDTGQAEFLLLTELCKGQLVFLKKMESRGPLSCDTVLIKIFYQTCRAVOHMHK  164
Rattus_norvegicus ASIGKEESDTGQAEFLLLTELCKGQLVFLRRVECKGPLSCDSILKIFYQTCRAVOHMHK  164
Mus_musculus      ASIGKEESDTGQAEFLLLTELCKGQLVFLKRVECKGPLSCDSILKIFYQTCRAVOHMHK  164
Canis_lupus_familiaris ASIGKEESDTGQAEFLLLTELCKGQLVDFLKKIESRGPLSCDTVLIKIFYQTCRAVOHMHK  180
Equus_caballus    ASIGKEESDTGQAEFLLLTELCRGQLVFLKKVESKGPLSCDTILKIFYQTCRAVOHMHK  164
Bos_taurus        ASIGKEESDTGQAEFLLLMELCRGQLVFLKKVESKGPLSCDTVLIKIFYQTCRAVOHMHK  164
Xenopus_tropicalis ASIGKEESDTGQGEFLLLTELCRGQLVFLNKAECKGPLSCDTVLIKIFYQTCRAVOHMHK  163
.....130.....140.....150.....160.....170.....180

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****:*****:*****:*****:*****:*****:*****:*****:*****
Pavo_muticus      QKPPIIHRDLKVENLLISNOGTIKLCDFGSATTVAAYPDYSSWAQKRALVEEEITRNTTP 223
Pavo_cristatus    QKPPIIHRDLKVENLLISNOGTIKLCDFGSATTVAAYPDYSSWAQKRALVEEEITRNTTP 223
Gallus_gallus     QKPPIIHRDLKVENLLISNOGTIKLCDFGSATTVAAYPDYSSWAQKRALVEEEITRNTTP 223
Anas_platyrhynchos QKPPIIHRDLKVENLLISNOGTIKLCDFGSATTVAAYPDYSSWAQKRALVEEEITRNTTP 223
Chelonia_mydas    QKPPIIHRDLKVENMLISNOGTIKLCDFGSATTIAHYPDYSSWAQKRAIVEEEITRNTTP 223
Latimeria_chalumnae QKPPLIHRDLKVENLLISNOGTIKLCDFGSATSIAHYPDYSSWAQKRAMVEDEITRNTTP 225
Rhinatrema_bivittatum QKPPIIHRDLKVENLLISNOGTIKLCDFGSATTIAHYPDYSSWAQKRAIVEDEMTNTTP 224
Homo_sapiens      QKPPIIHRDLKVENLLLISNOGTIKLCDFGSATTISHYPDYSSWAQRRALVEEEITRNTTP 224
Pan_troglodytes   QKPPIIHRDLKVENLLLISNOGTIKLCDFGSATTISHYPDYSSWAQRRALVEEEITRNTTP 224
Macaca_mulatta    QKPPIIHRDLKVENLLLISNOGTIKLCDFGSATTISHYPDYSSWAQRRALVEEEITRNTTP 224
Callithrix_jacchus QKPPIIHRDLKVENLLISNOGTIKLCDFGSATTISHYPDYSSWAQRRALVEEEITRNTTP 224
Rattus_norvegicus QKPPIIHRDLKVENLLLISNOGTIKLCDFGSATTISHYPDYSSWAQKRAMVEEEITRNTTP 224
Mus_musculus      QKPPIIHRDLKVENLLLISNOGTIKLCDFGSATTISHYPDYSSWAQKRAMVEEEITRNTTP 224
Canis_lupus_familiaris QKPPIIHRDLKVENLLLISNOGTIKLCDFGSATTISHYPDYSSWAQRRALVEEEITRNTTP 240
Equus_caballus    QKPPIVHRDLKVENLLLISNOGTIKLCDFGSATTILHYPDYSSWAQKRALVEDEITRNTTP 224
Bos_taurus        QKPPIIHRDLKVENLLLISNOGTIKLCDFGSATTISHYPDYSSWAQRRALVEEEITRNTTP 224
Xenopus_tropicalis QKPPIIHRDLKVENLLISNOGTIVKLCDFGSSTTIAHYPDYNWTAQQRATVEDEVTRNTTP 223
.....190.....200.....210.....220.....230.....240

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:*****:*****:*****:*****:*****:*****:*****:*****
Pavo_muticus      MYRTPEMIDLYSNFPISSEKQDIWALGCILYLLCFRQHPFEDGAKLRIVNGKYAIPQNDTR 283
Pavo_cristatus    MYRTPEMIDLYSNFPISSEKQDIWALGCILYLLCFRQHPFEDGAKLRIVNGKYAIPQNDTR 283
Gallus_gallus     MYRTPEMIDLYSNFPISSEKQDIWALGCILYLLCFRQHPFEDGAKLRIVNGKYAIPQNDTR 283
Anas_platyrhynchos MYRTPEMIDLYSNFPISSEKQDIWALGCILYLLCFRQHPFEDGAKLRIVNGKYTIPQNDTR 283
Chelonia_mydas    MYRTPEMIDLYSNFPISSEKQDIWALGCILYLLCFRQHPFEDGAKLRIVNGKYSIPQNDTR 283
Latimeria_chalumnae MYRTPEIIDLYSNFPISSEKQDIWALGCILYLLCFRQHPFEDGAKLRIVNGKYSIPQNDTR 285
Rhinatrema_bivittatum IYRTPEIIDLYSNFPISSEKQDIWALGCILYLLCFRQHPFEDGAKLRIVNGKYSIPQNDTR 284
Homo_sapiens      MYRTPEIIDLYSNFPISSEKQDIWALGCILYLLCFRQHPFEDGAKLRIVNGKYSIPPHDTQ 284
Pan_troglodytes   MYRTPEIIDLYSNFPISSEKQDIWALGCILYLLCFRQHPFEDGAKLRIVNGKYSIPPHDTQ 284
Macaca_mulatta    MYRTPEIIDLYSNFPISSEKQDIWALGCILYLLCFRQHPFEDGAKLRIVNGKYSIPPHDTQ 284
Callithrix_jacchus MYRTPEIIDLYSNFPISSEKQDIWALGCILYLLCFRQHPFEDGAKLRIVNGKYSIPPHDTQ 284
Rattus_norvegicus MYRTPEIVDLYSNFPISSEKQDIWALGCILYLLCFRQHPFEDGAKLRIVNGKYSIPVNDTR 284
Mus_musculus      MYRTPEIVDLYSNFPISSEKQDIWALGCILYLLCFRQHPFEDGAKLRIVNGKYSIPVNDTR 284
Canis_lupus_familiaris MYRTPEIVDLYSNFPISSEKQDIWALGCILYLLCFRQHPFEDGAKLRIVNGKYSIPVNDTR 300
Equus_caballus    MYRTPEIVDLYSNFPISSEKQDIWALGCILYLLCFRQHPFEDGAKLRIVNGKYSIPVNDTR 284
Bos_taurus        MYRTPEIVDLYSNFPISSEKQDIWALGCILYLLCFRQHPFEDGAKLRIVNGKYAIPADDTR 284
Xenopus_tropicalis MYRTPEIIDLYSNFPISSEKQDIWALGCILYLLCFRQHPFEDGAKLRIVNGKYSVPQNDTR 283
.....250.....260.....270.....280.....290.....300

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*:***.***. :*:*** :***:***:***:***:***:***:***:***
Pavo_muticus      YSVFHDLIIRSTLKVNPEERLSITELVNQLQEIAAARNVNPSPITELLEQNGGYGNNAQP 343
Pavo_cristatus    YSVFHDLIIRSTLKVNPEERLSITELVNQLQEIAAARNVNPSPITELLEQNGGYGNNAQP 343
Gallus_gallus     YSVFHDLIIRSTLKVNPEERLSITELVNQLQEIAAARNVNPSPITELLEQNGGYGNNAQP 343
Anas_platyrhynchos YSVFHDLISSSLKVNPEERLSITELVNQLQEIAAARNVNPSPITELLEQNGGYGNNAQP 343
Chelonia_mydas    YTVFHDLIIRSTLKVNPEERLSITELVNQLQEIAAARNVNPSPITELLEQNGGYGNNAVP 343
Latimeria_chalumnae YTVFHDLIIRSTLKVNPEERLSITELVNQLQEIAAARNVNPSPITELLEQNGGYGNNAQP 344
Rhinatrema_bivittatum YTVFHDLIIRSTLKVNPEERLSITELVNQLQEIAAARNVNPSPITELLEQNGGYGNNAQP 344
Homo_sapiens      YTVFHSILIRAMLQVNPEERLSIAEVVHQLQEIAAARNVNPSPITELLEQNGGYGSATLS 344
Pan_troglodytes   YTVFHSILIRAMLQVNPEERLSIAEVVHQLQEIAAARNVNPSPITELLEQNGGYGSATLS 344
Macaca_mulatta    YTVFHSILIRAMLQVNPEERLSIAEVVHQLQEIAAARNVNPSPITELLEQNGGYGSTVLS 344
Callithrix_jacchus YTVFHSILIRAMLQVNPEERLSIAEVVHQLQEIAAARNVNPSPITELLEQNGGYGSAALS 344
Rattus_norvegicus YTVFHDLIIRGMLKVNPEERLSIAEVVRQLQEIAAARNVNPSPITELLEQNGGYGNSGSP 344
Mus_musculus      YTVFHDLIIRAMLKVNPEERLSIAEVVRQLQEIAAARNVNPSPITELLEQNGGYGNSGSP 344
Canis_lupus_familiaris YSVFHDLIIRATLKVNPEERLSITELVNQLQEIAAARNVNPSPITELLEQNGGYGNVAVPS 360
Equus_caballus    YSVFHSILIRAMLKVNPEERLSITELVNQLQEIAAARNVNPSPITELLEQNGGYGHAAPP 344
Bos_taurus        YSVFHSILIRAMLKVNPEERLSITELVNQLQEIAAARNVNPSPITELLEQNGGYGHAAPP 344
Xenopus_tropicalis YTVFHSILIRAMLKVNPEERLSITELVNQLQEIAAARNVNPSPITELLEQNGGYGNTVIQ 343
.....310.....320.....330.....340.....350.....360

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                                *. : *. * :*:***:*****::*:*****
Pavo_muticus      RISVTSVSQSSKPAQQLNNIYNAGLTVAECDQTYGG-FFDILRGGTERFFTNIKDTSSKV 402
Pavo_cristatus    RISVTSVSQSSKPAQQLNNIYNAGLTVAECDQTYGG-FFDILRGGTERFFTNIKDTSSKV 402
Gallus_gallus     RISVTSVSQSSRPAGQLNNIYNAGLTVAECDQTYGG-FFDILRGGTERFFTNIKDTSSKV 402
Anas_platyrhynchos RVSVTSVSQSSKPAQQLNNMYNAGLTVAECDQTYGG-FFDILRGGTERFFTNIKDTSSKV 402
Chelonia_mydas    RMSASSVPQGSKPAGQLNNMYNAGLTVAECDQSYVG-FFDILKGGTERFFTNIKDTSSKV 402
Latimeria_chalumnae RPPVTSTSQDFRPAGQLNNMYNSGLTEMD--QSYGGGFFDILKGGTERFLSNIKDTSSKV 402
Rhinatrema_bivittatum RTPASTLPQGPKSAGQFNNMYNAGLTVAECDQSYGG-FFDILKGGTERFLSNIKDTSSKV 403
Homo_sapiens      R-----GPPPPVGPAGSGYSGGLALAEYDQPYGG-FLDILRGGTERLFTNLKDTSSKV 396
Pan_troglodytes   R-----GPPPPVGPAGSGYSGGLALAEYDQPYGG-FLDILRGGTERLFTNLKDTSSKV 396
Macaca_mulatta    R-----GPPPLVGPAGSGYSGGLALAEYDQPYGG-FLDILRGGTERLFTNLKDTSSKV 396
Callithrix_jacchus R-----GPPPPVGPAGSGYSGGLALAEYDQPYGG-FLDILRGGTERLFTNLKDTSSKV 396
Rattus_norvegicus R-----AQPPSGGPVNS--SGVLALAEYDQPYGG-FLDILRGGTERLFTNLKDTSSKV 394
Mus_musculus      R-----AQPPCGGTVNS--SGVLALAEYDQPYGG-FLDILRGGTERLFTNLKDTSSKV 394
Canis_lupus_familiaris R-----GPPPPGG--SSSGYSGGLALAEYDQPYGG-LLDILRGGTERLFTNLKDTSSKV 411
Equus_caballus    R-----GLSPGGPTSSSYSGGLVVAEYDQPYGG-LLDILRGGTERLFTNLKDTSSKV 396
Bos_taurus        -----GSTGSS--LVVTEYEYDQPYGG-FLDILRGGTERLFTNLKDTSSKV 385
Xenopus_tropicalis R-----SSSGAPQNSKPLAHGGLTLTDDDTSGG-FFDILKGGTERILSNIKDTSSKV 395
.....370.....380.....390.....400.....410.....420

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****:*****::*:*****      *****:*****:***:.
Pavo_muticus      IQSVANYAKGDLDISYITSRIA-----VMSFPAEGVESAIKNNIEDVRLCLDSKHP 453
Pavo_cristatus    IQSVANYAKGDLDISYITSRIA-----VMSFPAEGVESAIKNNIEDVRLCLDSKHP 453
Gallus_gallus     IQSVANYAKGDLDISYITSRIA-----VMSFPAEGVESAIKNNIEDVRLCLDSKHP 453
Anas_platyrhynchos IQSVANYAKGDLDISYITSRIA-----VMSFPAEGVESAIKNNIEDVRLCLDSKHP 453
Chelonia_mydas    IQSVANYAKGDLDISYITSRIA-----VMSFPAEGVESAIKNNIEDVRLFLDSKHP 453
Latimeria_chalumnae IQSVANYAKGDLDISYITSRIA-----VMSFPAEGVESAIKNNIEDVRLFLDSRHP 453
Rhinatrema_bivittatum IQSVANYAKGDLDISYITSRIA-----VMSFPAEGVESAIKNNIEDVRLFLDSKHP 454
Homo_sapiens      IQSVANYAKGDLDISYITSRIA-----VMSFPAEGVESAIKNNIEDVRLFLDSKHP 447
Pan_troglodytes   IQSVANYAKGDLDISYITSRIA-----VMSFPAEGVESAIKNNIEDVRLFLDSKHP 456
Macaca_mulatta    IQSVANYAKGDLDISYITSRIA-----VMSFPAEGVESAIKNNIEDVRLFLDSKHP 447
Callithrix_jacchus IQSVANYAKGDLDISYITSRIA-----VMSFPAEGVESAIKNNIEDVRLFLDSKHA 447
Rattus_norvegicus IQSVANYAKGDLDISYITSRIA-----VMSFPAEGVESAIKNNIEDVRLFLDAKHP 445
Mus_musculus      IQSVANYAKGDLDISYITSRIA-----VMSFPAEGVESAIKNNIEDVRLFLDAKHP 445
Canis_lupus_familiaris IQSVANYAKGDLDISYITSRIA-----VMSFPAEGVESAIKNNIEDVRLFLDSKHP 462
Equus_caballus    IQSVANYAKGDLDISYITSRIA-----VMSFPAEGVESAIKNNIEDVRLFLDSKHP 447
Bos_taurus        IQSVANYAKGDLDISYITSRIA-----VMSFPAEGVESAIKNNIEDVRLFLDSKHP 436
Xenopus_tropicalis IQSVTNYAKGDLDISYITSRIA-----VMSFPAEGVESAIKNNIEDVRLFLDSKHP 446
.....430.....440.....450.....460.....470.....480

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*:*****. * **.:*****:*** ***** * .*:*** **.* :*:***
Pavo_muticus      GHYAVYNLSPRTYRPSRFHNRVSECGWPARRAPNLQNLYSICKNMHLWLKQDQKNVCIVH 513
Pavo_cristatus    GHYAVYNLSPRTYRPSRFHNRVSECGWPARRAPNLQNLYSICKNMHLWLKQDQKNVCIVH 513
Gallus_gallus     GHYAVYNLSPRTYRPSRFHNRVSECGWPARRAPNLQNLYSICKNMHLWLKQDQKNVCIVH 513
Anas_platyrhynchos GHYAVYNLSPRTYRPSRFHNRVSECGWPARRAPNLQNLYSICKNMHLWLKQDQKNVCIVH 513
Chelonia_mydas    GHYAVYNLSPRTYRPSRFHNRVSECGWPARRAPNLQNLYSICKNMHLWLKQDQKNVCIVH 513
Latimeria_chalumnae GHYAVYNLSPRTYRPSRFHNRVSECGWPARRAPNLQNLYSICKNMHLWLKQDQKNVCIVH 513
Rhinatrema_bivittatum GHYAVYNLSPRTYRPSRFHNRVSECGWPARRAPNLQNLYSICKNMHLWLKQDQKNVCIVH 514
Homo_sapiens      GHYAVYNLSPRTYRPSRFHNRVSECGWAARRAPHLHTLYNICRNMHAWLRQDHKNVCVH 507
Pan_troglodytes   GHYAVYNLSPRTYRPSRFHNRVSECGWAARRAPHLHTLYNICRNMHAWLRQDHKNVCVH 516
Macaca_mulatta    GHYAVYNLSPRTYRPSRFHNRVSECGWAARRAPHLHTLYNICRNMHAWLRQDHKNVCVH 507
Callithrix_jacchus GHYAVYNLSPRTYRPSRFHNRVSECGWAARRAPHLHTLYNICRNMHAWLRQDHKNVCVH 507
Rattus_norvegicus GHYAVYNLSPRIYRASKFHNRVTECGWAVRRAPHLHSLYTLCSRMHAWLRQDHKNVCVH 505
Mus_musculus      GHYAVYNLSPRIYRASKFHNRVTECGWAVRRAPHLHSLYTLCSRMHAWLRQDHKNVCVH 505
Canis_lupus_familiaris GHYAVYNLSPRTYRPSRFHNRVSECGWAARRAPHLHSLYTLCSRMHAWLRQDHKNVCVH 522
Equus_caballus    GHYAVYNLSPRTYRPSRFHNRVSECGWAARRAPSLHSLYTLCSRMHAWLRQDHKNVCVH 507
Bos_taurus        GRYAVYNLSPRTYRPSRFHNRVSECGWAVRRAPSLHSLYTLCSRMHAWLRQDHKNVCVH 496
Xenopus_tropicalis GHYAVYNLCLRKYPSPRFHNRVSECGWAGRRAPNLMLNLYSICKNMHLWLKQDQKNVCIVH 506
.....490.....500.....510.....520.....530.....540

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: *****::: : *****.* *.*****::: : : *****::: : ***
IIPHSPKPIILVRSIIIMTPVPLFSKQRNGCRPFCCEVYVGDERTVTTTSQEYDKMKEFKIEDGK
IIPHSPKPIILVRSIIIMTPVPLFSKQRNGCRPFCCEVYVGDERTVTTTSQEYDKMKEFKIEDGK
IIPHSPKPIILVRSIIIMTPVPLFSKQRNGCRPFCCEVYVGDERITTTTSQEYDKMKEFKIEDGK
IIPHSPKILIKSIIIMTPVPLFSKQRNGCRPFCCEVYVGDERTVTTTSQEYDKMKEFKIEDGK
IIPHSPKPIILIKSIIIMTPVPLFSKLRNGCRPFCCEVYVGDERTVTTTSQEYDKMKDFKIEDGK
IIPHSPKPILVKSIIVLTPVPLFNKQRNGCRPFCCEVYVGDERTVTTTSQEYDKMKDYKIEDGK
IIPHSPKPIFVKSIIIMTPVPLFNKQSGCRPFCCEVYVGEERVITTTTSQEYDKMKDFKIEDGK
ITPHSPKPIILVRVMTIPVPLFSKQSGCRPFCCEVYVGDERTVTTTSQEYDKMRDFKIEDGK
ITPHSPKPIILVRVMTIPVPLFSKQSGCRPFCCEVYVGDERTVTTTSQEYDKMRDFKIEDGK
ITPHSPKPIILVRVMTIPVPLFSKQSGCRPFCCEVYVGDERTVTTTSQEYDKMRDFKIEDGK
ITPHSPKPIILVRVMTIPVPLFSKQSGCRPFCCEVYVGDERTVTTTSQEYDKMRDFKIEDGK
ITPHSPKMLVKSIVVMTIPVPLFSKQRNGCRPFCCEVYVGEERVITTTTSQEYDRMKEFKIEDGK
ITPHSPKMLVKSIVVMTIPVPLFSKQRNGCRPFCCEVYVGEERVITTTTSQEYDRMKEFKIEDGK
ITPHSPKPIILKAVVMTIPVPLFSKQRNGCRPFCCEVYVGDERTVTTTSQEYDKMRDFRIEDGK
ITPHSPKPIILKAVVMTIPVPLFSKQRNGCRPFCCEVYVGDERTVTTTSQEYDRMRDFKIEDGK
VTPHSPKPIILKAVVMTIPVPLFSKQSGCRPFCCEVYVGDERTVTTTSQEYDKMRDFKIEDGK
IIPHSPKPIILIRAITIPVPLFSKQRNGCRPFCCEVYVGDERTVTTTSQEYDKMRDFRNEEDGK

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* * * .:***** :*****:*****:*****:
AVIPLGITVQGDVLIVIIYHARSTLGGRLQAKMASMKMFQIQFHTGFVPRNATTVKFAKYD
AVIPLGITVQGDVLIVIIYHARSTLGGRLQAKMASMKMFQIQFHTGFVPRNATTVKFAKYD
AVIPLGITVQGDVLIVIIYHARSTLGGRLQAKMASMKMFQIQFHTGFVPRNATTVKFAKYD
AVIPLGITVQGDVLIVIIYHARSTLGGRLQAKMASMKMFQIQFHTGFVPRNATTVKFAKYD
AVIQLGITVQGDVLIVIIYHARSTLGGRLQAKMASMKMFQIQFHTGFVPRNATTVKFAKYD
AEIPLGITVQGDVLIVIIYHARSTLGGRLQAKVR-----YD
AEIPLNITVQGDVLVIIYHARSTLGGRLQAKMASMKMFQIQFHTGFVPRNATTVKFATYD
AVIPLGVITVQGDVLIVIIYHARSTLGGRLQAKMASMKMFQIQFHTGFVPRNATTVKFAKYD
AVIPLGVITVQGDVLIVIIYHARSTLGGRLQAKMASMKMFQIQFHTGFVPRNATTVKFAKYD
AVIPLGVITVQGDVLIVIIYHARSTLGGRLQAKMASMKMFQIQFHTGFVPRNATTVKFAKYD
AVIPLGVITVQGDVLIVIIYHARSTLGGRLQAKMASMKMFQIQFHTGFVPRNATTVKFAKYD
AVIPLGITVQGDVLIVIIYHARSTLGGRLQAKMASMKMFQIQFHTGFVPRNATTVKFAKYD
AVIPLGITVQGDVLIIIIYHARATLGGRLQAKMASMKMFQIQFHTGFVPRNATTVKFAKYD
AVIPLGVITVQGDVLIIIIYHARATLGGRLQAKMASMKMFQIQFHTGFVPRNATTVKFAKYD
AVIPLGVITVQGDVLIIIIYHARATLGGRLQAKMASMKMFQIQFHTGFVPRNATTVKFAKYD
AVIPLGVITVQGDVLIIIIYHARATLGGRLQAKMASMKMFQIQFHTGFVPRNATTVKFAKYD
AVIPLGVITVQGDVLIIIIYHARATLGGRLQAKMASMKMFQIQFHTGFVPRNATTVKFAKYD
AVIPLGVITVQGDVLIIIIYHARATLGGRLQAKMASMKMFQIQFHTGFVPRNATTVKFAKYD
AEIPLNVTVQGDVLIVIIYHARSTLGGRLQAKMTSMKMFQIQFHTGFVPRNATTVKFAKYD
      670      680      690      700      710      720

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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*****:***:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*
Pavo_muticus      LDACDIQEKYPDLFQVNLEVEVEPRDRPSCEQLPWDNMNIKGLNPKILFSTREEQQEILS 753
Pavo_cristatus    LDACDIQEKYPDLFQVNLEVEVEPRDRPSCEQLPWDNMNIKGLNPKILFSTREEQQEILS 753
Gallus_gallus     LDACDIQEKYPDLFQVNLEVEVEPRDRPSCEQLPWDNMNIKGLNPKILFSTREEQQEILS 753
Anas_platyrhynchos LDACDIQEKYPDLFQVNLEVEVEPRDRPSCEQLPWDNMNIKGLNPKILFSTREEQQEILS 753
Chelonia_mydas    LDACDIQEKYPDLFQVNLEVEVEPRDRPSCEQLPWDNMNIKGLNPKILFSSREEQQEILS 753
Latimeria_chalumnae LDACDIQEKYPDLFQVNLEVDVEPRDRPSKTLTPWENFATKGLNPKILFSTREEQQEILS 728
Rhinatrema_bivittatum LDACDIQEKYPDLFQVNLEVEVEPRDRPSKPNHDSPPWENMNMKGLNPKILFSSREEQQEILS 754
Homo_sapiens      LDACDIQEKYPDLFQVNLEVEVEPRDRPSREAPPWENSSMRGLNPKILFSSREEQQDILS 747
Pan_troglodytes   LDACDIQEKYPDLFQVNLEVEVEPRDRPSREAPPWENSSMRGLNPKILFSSREEQQDILS 756
Macaca_mulatta    LDACDIQEKYPDLFQVNLEVEVEPRDRPSREAPPWENSSMRGLNPKILFSSREEQQDILS 747
Callithrix_jacchus LDACDIQEKYPDLFQVNLEVEVEPRDRPSREAPPWENSSMRGLNPKILFSSREEQQDILS 747
Rattus_norvegicus LDACDIQEKYPDLFQVNLEVEVEPRDRPSRDVPPWENTSLRGLNPKILFSSNREEQQDILS 745
Mus_musculus      LDACDIQEKYPDLFQVNLEVEVEPRDRPSREAPPWENTSLRGLNPKILFSSNREEQQDILS 745
Canis_lupus_familiaris LDACDIQEKYPDLFQVNLEVEVEPRDRPSREAPPWESTSMRGLNPKILFSSREEQQDILS 762
Equus_caballus    LDACDIQEKYPDLFQVNLEVEVEPRDRPSREAPPWESTSMRGLNPKILFSSREEQQDILS 747
Bos_taurus        LDACDIQEKYPDLFQVSLVEVEVEPRDRPGHEAPPWEGAGMRGLNPKILFSSREEQQDVLIS 736
Xenopus_tropicalis LDACDIQEKYPDLFQVNLEVEVSSRDQATSSPPWENINTKRLNPKILFSSREEQQEMLS 746
.....730.....740.....750.....760.....770.....780

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*****:***:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*:..*
Pavo_muticus      KFGKPELPRQPGSTAQYEAASQLDLSSSAPTETE-SPHSSGTDANFFHSLDWKE--- 809
Pavo_cristatus    KFGKPELPRQPGSTAQYEAASQLDLSSSAPTETE-SPHSSGTDANFFHSLDWKE--- 809
Gallus_gallus     KFGKPELPRQPGSTAQYEAASQLDLSSSAPTEGE-SPHSSGTDANFFHSLDWKE--- 809
Anas_platyrhynchos KFGKPELPRQPGSTAQYEAASQLDLSSSALTETE-SSHSSGTDANFFHSLDWKE--- 809
Chelonia_mydas    KFGKPELPRQPGSTAQYEAESKLEQSPESAPTEPD-SPQSSSTDGNNFFHTLDWEE--- 809
Latimeria_chalumnae KFGKPELPRQPGSTAQYEAETIHRSEPSQESLSTEPE-SPLNDNNGNQFFQTLDWQAE-- 785
Rhinatrema_bivittatum KFGKPELPRQPGSTAQLKKKWTSONTLKANSTSDSPSQQKAMLMQITSTTLDWKD--- 811
Homo_sapiens      KFGKPELPRQPGSTAQYDAGAG----SPEAEPDSD-SPPSSSADASRFLHTLDWQE--- 799
Pan_troglodytes   KFGKPELPRQPGSTAQYDAGAG----SPEAEPDSD-SPPSSSADASRFLHTLDWQE--- 808
Macaca_mulatta    KFGKPELPRQPGSTAQYDAGAG----SPEAEPDSD-SPPSSSADTSRFLHTLDWQE--- 799
Callithrix_jacchus KFGKPELPRQPGSTAQYDAGVG----SPEAEPDSD-SPPSSSADTSRFLHTLDWQE--- 799
Rattus_norvegicus KFGKPELPRQPGSTAQYDAEAG----SPEAETESD-SPQSSSTDNHFHFLHTLDWQE--- 797
Mus_musculus      KFGKPELPRQPGSTAQYDAEAG----SPEAETESD-SPQSSSTDNHFHFLHTLDWQE--- 797
Canis_lupus_familiaris KFGKPELPRQPGSTAQYDAEAG----SLDAEPTESD-SPQSSGTDTSHFHFLHTLDWHE--- 814
Equus_caballus    KFGKPELPRQPGSTAQYDAEAG----SPDTEPTESD-SPQSSSADTPHFHFLHTLDWHE--- 799
Bos_taurus        KFGKPELPRQPGSTAQYDAEAG----PADAEPPESD-SPHSS-VDADHFHFLHTLDWRE--- 787
Xenopus_tropicalis KFGKPELPRQPGSTAQYEGDIN----MEKPSPDLS-SETLQKNFFQTLDWQDQSG 798
.....790.....800.....810.....820.....830.....840

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Pavo_muticus      GKSPESGVDDNSSKNDHVQLSDEREESSELSDEEFFTFPGEERAVTVDEGDSVTP-----E 864
Pavo_cristatus    GKSPESGVDDNSSKNDHVQLSDEREESSELSDEEFFTFPGEERAVTVDEGDSVTP-----E 864
Gallus_gallus     GRSPESGVDDTSSKNDHGQLSDEREESDPSDEEFFTFPGEERAVSVDEGDSATP-----E 864
Anas_platyrhynchos GKCPESGPDDNSSKNDNVQLSDEREESDPSDEEFFPAFPSEEKVIVDERDSGTQ-----E 864
Chelonia_mydas    GKDPATGAEDRLSKDNHGLIDDRDESDPSDEEFSAFPSEGKTDLVEEKEKPSPPPE--DD 867
Latimeria_chalumnae GKDGEGISSENHFREDRTGLIDD---SEPSDDDFLSFADCKTKPVEESEKPSSESEQKDP 842
Rhinatrema_bivittatum GKDIEVEGKGHISREDMEGEE----SEPSDEGFAAFSSEPRTVSIEEKRKSAQGEDVKT 867
Homo_sapiens      EKEAETGAENASSKESESALMEDRDESEVSDEGGSPISSEGQEPRADEPPGLAAG---L 856
Pan_troglodytes   EKEAETGAENASSKESESALMEDRDESEVSDDGGSPISSEGQEPRADEPPGLAAG---P 865
Macaca_mulatta    EKEAETGAENASSKESESALMEDRDESEVSDEGGSPVSSEGQEPRADEPPGLAAG---L 856
Callithrix_jacchus EKESETGAEDASPKESSESALMEDRDESEVSDEGGSPISSEGQEPRADEPPGLAAG---L 856
Rattus_norvegicus EKDPETGVDNTSPKESQSNLIADGDGSEVSDEEEASCPSEERKPGAGEDTPRLAAG---T 854
Mus_musculus      EKDPETGLDNTSPKESQSVLIADGDGSEVSDEEEASFPEERKPGAGEDTPRLAAG---T 854
Canis_lupus_familiaris EKDTETSPESHFAKENLSTLAEDAGGSEPSDEEAATPSTESRD-AAEDTTPGPAAR---L 870
Equus_caballus    ERDSETGPGSNIAKESQSAPTEDGGSEPSDEEAVPSSTESRE-LPDEDSSGPPAR---T 855
Bos_taurus        DRDSSVGPEGHAEAGPSAVAEDGCVSEPSDEEAPTPSAESGD-TGDEDVP----- 837
Xenopus_tropicalis VRNAIGDQENVAKEDYENEYLSDSKSEASDEEFYSFPQGNRGRCEENGPVGTDDLSVA 858
.....850.....860.....870.....880.....890.....900

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	***	:	...	:	.	.	:	*	
Pavo_muticus	MSSSS	SENSALS	GPDLFG	DFLN	NPSA	TSTANAF	PP	THSS	SLPP	SSSS	DFNL	NL	NTS	EPPKM	1033
Pavo_cristatus	MSSSS	SENSALS	GPDLFG	DFLN	NPSA	TSTANAF	PP	THSS	SLPP	SSSS	DFNL	NL	NTS	EPPKM	1033
Gallus_gallus	MSSSS	SENSALS	GPDLFG	DFLN	NPSA	ASTANTF	SS	THSS	SLPP	SSSS	DFNL	NL	NTS	EPPKM	1032
Anas_platyrhynchos	MSSSF	ENLSL	PSADLF	GETL	NSN	TSTPNTF	FLS	NSNT	LLV	SSSS	DLLN	FG	KLTS	--KM	1029
Chelonia_mydas	MSSGSE	KP	TLSP	GPDLFG	DFLN	PNA	TSTSSV	F	PS	TQ	SAPP	SSSS	DFLH	NL	VPDLPKM
Latimeria_chalumnae	TSATS	VKET	SS	GPDLFG	DFL	SSN	GSTP	SA	F	PS	TN	SAPP	SSSS	ELFNL	NLSSEPLKM
Rhinatrema_bivittatum	MSSGSE	NCIYS	GPDLFG	NLLN	PNS	ASTPNV	F	PS	TQ	SAPP	SSSS	DFNL	GL	YAS	ETPKM
Homo_sapiens	PSSG	NNS	QPC	SNPDLF	GEFL	NSDS	VTVP	PS	F	PS	AHS	A	PP	CS	ADFLHLGDLPG
Pan_troglodytes	PSSG	NNS	QPC	SNPDLF	GEFL	NSDS	VTVP	PS	F	PS	AHS	A	PP	CS	ADFLHLGDLPG
Macaca_mulatta	LSSD	SDS	QPC	SNPDLF	GEFL	NSDS	AAV	PS	F	PS	AHS	A	PP	SS	ADFLHLGDLPG
Callithrix_jacchus	LS	SD	TD	AQ	PC	SPDLF	CELL	NSDS	AAV	P	PS	AHS	A	PP	AC
Rattus_norvegicus	LP	SS	SD	TQ	PC	SKPDLF	GEFL	NSDS	VAS	ST	A	F	PS	THS	A
Mus_musculus	LS	SN	SD	TQ	PC	SKPDLF	GEFL	NSDS	VAS	ST	A	F	PS	THS	A
Canis_lupus_familiaris	LP	S	GP	NT	Q	PC	S	Q	PDLF	GEFL	HS	ES	P	A	A
Equus_caballus	LP	A	D	P	D	A	Q	P	S	K	PDLF	GEFL	NSD	S	L
Bos_taurus	LP	P	D	V	D	T	P	P	S	Q	PDLF	GEFL	NSD	A	P
Xenopus_tropicalis	M	S	T	S	E	N	K	--	S	S	G	PDLF	E	G	L
	1030	1040	1050	1060	1070	1080			

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      :*: * *: * *: * *:
Pavo_muticus      SSSTSHPDLLGGWDSWAGSSAASNVA SPQLK-SLFEGQVFTTGSQSS--VSSGSSFSQAK 1090
Pavo_cristatus    SSSTSHPDLLGGWDSWADSSAASNVA SPQLK-SLFEGQVFTTGSQSS--VSSGSSFSQAK 1090
Gallus_gallus     SSSTSHPDLLGGWDSWADSSAASNVA SPQLK-SLFEGQVFTTGSQSS--VSSGSSFSQAK 1089
Anas_platyrhynchos SSSTSYPDLLGGWDLGVDCSR SVFTPSA QTK-SAVE-----GSQSG--VSSGPALNOSK 1080
Chelonia_mydas    TSSASHPDLLSGWDSWADSP TTTINLATQQPKKSALEGVLT TGSQTS--VPSGLSFSQAK 1097
Latimeria_chalumnae ATSSSQPDLMGGWD AWNSTLNSSNTVPPQT NKPQAFEGPPLTVGDPTPSVSSSTSSFSQSK 1071
Rhinatrema_bivittatum VSSTS QPDLLSGWDSWATSPNATSIATPQPRKSAFEASESTTASQSSVSLSSDSSFNPTK 1095
Homo_sapiens      TASSSNPDLLGGWAAWTETAASAVAPT PATEGPLFSPGGQPAPCGSQA-----SWTK 1076
Pan_troglodytes   TASSSNPDLLGGWAAWTETAASAVAPT PATEGPLFSSGGQPAPCGSQA-----SWTK 1085
Macaca_mulatta    TASSSNPDLLGGWAAWTETAASAVAPT PATEGPLFSPGGQLAPCGPQA-----SWTK 1076
Callithrix_jacchus TASSSNPDLLGGWAAWAEAAA SATTPVPATEGPLFT-GGQPAPCGPQA-----SWTK 1076
Rattus_norvegicus IASSSHPDLLGGWDTWAETALPGPASM PVEGTLFSSAGHPAPPGPNP-----SQTk 1075
Mus_musculus      IASSSHPDLLGGWDTWADTATPGPASIPVPEGTLFSSAGHPAPPGPNP-----SQTk 1075
Canis_lupus_familiaris TASTSHPDLLGGWEAWAEAP----APAAAAEGPFFSAGGQPAAPSAPG-----SWTK 1084
Equus_caballus    AASTSHPDLLGGWDAWAEAP----APTATEGPL LAPGGQPAPPGPSA-----SRTK 1071
Bos_taurus        TASASHPDLLGAWDAWAEAP----APALAADGTFFSPGDQPAPSGLEA-----GQTK 1033
Xenopus_tropicalis VSSASNPDLLGGWSSWEETSKSSNVFLPKLNKPAFEGPAYSSISHLST--SSSSFSQTK 1090
.....1090.....1100.....1110.....1120.....1130.....1140

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      *.. * : * : * :
Pavo_muticus      SQNFDPFADLANLGSSLP-----1108
Pavo_cristatus    SQNFDPFADLANLGSSLP-----1108
Gallus_gallus     SQNFDPFADLANLGSSLP-----1107
Anas_platyrhynchos SQNVDPFADLANLGSSLP-----1098
Chelonia_mydas    SQNFDPFADLANLGSSLP-----1115
Latimeria_chalumnae SQSFDPFADLGNLGSSLP-----1089
Rhinatrema_bivittatum SSNFDPFADLGNLGSSLP-----1113
Homo_sapiens      SQNPDPFADLGDLSSGLQ-----1094
Pan_troglodytes   SQNPDPFADLGDLSSGLQDPQAQSTVSPRGQVCTCSRRLLPTGKLPKGVADTGAAASPHR 1145
Macaca_mulatta    SQNPDPFADLGDLSSGLQ-----1094
Callithrix_jacchus SQNLDPFADLGDLSSGLQ-----1094
Rattus_norvegicus SQNPDPFADLSDLSSSLQ-----1093
Mus_musculus      SQNLDPFADLSDLSSSLQ-----1093
Canis_lupus_familiaris SQSLDPFADLGDLSSGLQ-----1102
Equus_caballus    SQSLDPFADLGDLSPGLP-----1089
Bos_taurus        SQSQDPFADLGDLSSGLQ-----1051
Xenopus_tropicalis SSGFDPFADLDNLSSSLQ-----1108
.....11150.....1160.....1170.....1180.....1190.....1200

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      .      .      **      :.      :
Pavo_muticus      -GSSTGGFSTSGFAQKTVP SQKSGGQWQKP-----TKAQSTS-WQSQTKSGAQAKPNYT 1160
Pavo_cristatus    -GSSTGGFSTSGFAQKTVP SQKSGGQWQKP-----TKAQSTS-WQSQTKSGAQAKPNYT 1160
Gallus_gallus     -GSSTGGFSTSGFAQKTVP SQKSGGQWQKP-----TKPQT---WQSQA KSGTOAKPNYT 1157
Anas_platyrhynchos -GSSMSGFSGSGFGQKAAPSQKSGNQWQKS-----TKPQSTL-WHSQTKPSTTAKPNYS 1150
Chelonia_mydas    -GPSGGGFAGGFGQKSAPSQKGGNQWQTKKPONTGTSWQSHA-QPQQVKSSQSKPNYT 1173
Latimeria_chalumnae -SSSGAAFTAGSFSQKPAQAPVGGKQWQSNRPQSAGSSWQQAHPKPPQKPTAQSKANYN 1148
Rhinatrema_bivittatum -GSS-VRFPTARLSQKLSQSQKAGTWTQTKPQSASPSWQPQT-KPQQVKSETQAKPKYN 1170
Homo_sapiens      --GSPAGFPFGGFIPKTATTPKGSSSWQTS-RPPAQGASWPPQ-AKPPPKACTQPRPNYA 1150
Pan_troglodytes   HCGSPAGFPFGGFIPKTATTPKGSSSWQTS-RPPAQGASWPPQ-AKPPPKACTQPRPNYA 1203
Macaca_mulatta    --GSPAGFPFGGFIPKTATTA KSGSSWQTS-RPPAQGASWPPQ-AKPPPKACTQPRPNYA 1150
Callithrix_jacchus --GSPAGFPFGGFIPKTATTA KSGSSWQTS-RSPAQGTTPRPPQ-AKPPPKASTQLRPNYA 1150
Rattus_norvegicus --GLPAGLPAGSFVGT SATTHKSNSWQTT-RPTAPGTSWPPQ-AKPAPRASEQLR---- 1145
Mus_musculus      --GLPAGLPAGGFVGAPAPTQKSNSPWQAN-RPTAPGTSWTPQ-AKPAPRASEQLR---- 1145
Canis_lupus_familiaris --GSPAGFAPGAFGAKTAPPTTGGSSWQTTGRPPAQGTWPWPQ-AKPPPKACTQPRPNYA 1159
Equus_caballus    --GSTAGFAPGAFGPKAAPPPKGGSSWQTS-RPPAQGAPWPPQ-ARPPPKTSAQPRPNYT 1145
Bos_taurus        --GSPAAAAPGGFGPKAAPPPKASSWQTS-RPPAQGTWPWPQ-AKPPPKASVPPRPNYT 1107
Xenopus_tropicalis --GSSTQFPSQ---STEKSAQKVSNSWQSVKQPAKPQTGGNPW--QSQA KPATQSKPNYT 1161
.....1210.....1220.....1230.....1240.....1250.....1260

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	..***.*****:*.*. *.*.* **.*. *.* **.* :.***: :*. *.*:*****.: :.	
Pavo_muticus	VNFSVIGGREERGVRTPSFGQKPKVSANDFEDLLSNQGFSAKSDKKGPKTIAEMRKQEMS	1220
Pavo_cristatus	VNFSVIGGREERGVRTPSFGQKPKVSANDFEDLLSNQGFSAKSDKKGPKTIAEMRKQEMS	1220
Gallus_gallus	VNFSVIGGREERGVRTPSFGQKPKVSANDFEDLLSNQGFSAKSDKKGPKTIAEMRKQEMS	1217
Anas_platyrhynchos	GNFGVIGGREERGVRTPSFGQKPKVSANDFEDLLSNQGFSAKSDKKGPKTIAEMRKQEMS	1210
Chelonia_mydas	VNFSVIGGREERGIRAPGFGQKPKVSENFEDLLSNQGFSAKSDKKGTKTIAEMRKQEMS	1233
Latimeria_chalumnae	LGFSVIGGREERGIRAPSFGLKPKFSENFEDLLCEOGFAAKLDKKGPRTIAEMRREELT	1208
Rhinatrema_bivittatum	VNFSVIGGREERGIRAPGFGPKPKVSENFVDLLSKQGFSAKIDKKGPRTIAEMRKQEMS	1230
Homo_sapiens	SNFSVIGAREERGVRAPSFAQKPKVSENFEDLLSNQGFSSRSDDKKGPKTIAEMRKODLA	1210
Pan_troglodytes	SNFSVIGAREERGVRAPSFAQKPKVSENFEDLLSNQGFSSRSDDKKGPKTIAEMRKODLA	1263
Macaca_mulatta	ANFSVIGAREERGVRAPSFAQKPKVSENFEDLLSNQGFSSRSDDKKGPKTIAEMRKODLA	1210
Callithrix_jacchus	ANFSVIGAREERGVRAPSFAQKPKVSENFEDLLSNQGFSSRSDDKKGPKTIAEMRKODLA	1210
Rattus_norvegicus	SHFSVIGAREERGVRAPSFAQKPKVSENFEDLLPNQGFSSKSDKKGPKTMAEMRKQELA	1204
Mus_musculus	SHFSVIGAREERGVRVPSFAQKPKVSENFEDLLPNQGFSSKSDKKGPKTMAEMRKQELA	1204
Canis_lupus_familiaris	ANFSVIGGREERGVRAPSFGQKPRVSESFEDLLSHQGFSSKADRKGPRTMAEMRRQQA	1219
Equus_caballus	TNFSVIGGREERGVRAPSFAQKPRVSENFEDLLSNQGFSSKSDKKGPRTIAEMRRQQA	1205
Bos_taurus	SNFSVIGSREERGVRAPSFGQKPRVSENFEDLLSNQGFSSRADRKGPRTIAEMRRQQA	1167
Xenopus_tropicalis	ANFSVIGGREERGIRAPGFGGLKPKVSESFEDLLSNHGFSAKTDRGKGPKTIAEMRRHELT	1221
1270.....1280.....1290.....1300.....1310.....1320	

	: * ** *** : * : *** : ***** : ***** . ** : * : * : * : * : * : * : *	
Pavo_muticus	KDMDPLKLEWIEGKERNIRALISTLHTVLWEGENKWKPVSMA DLVTPEQVKKYRKA	1280
Pavo_cristatus	KDMDPLKLEWIEGKERNIRALISTLHTVLWEGENKWKPVSMA DLVTPEQVKKYRKA	1280
Gallus_gallus	KDMDPLKLEWIEGKERNIRALISTLHTVLWEGENKWKPVSMA DLVTPEQVKKYRKA	1277
Anas_platyrhynchos	KDMDPLKLEWIEGKERNIRALISTLHTVLWEGENKWKPVSIA DLVTPEQVKKYRKA	1270
Chelonia_mydas	KDMDPLKLWDIEGKERNIRALISTLHTVLWEGENKWKPVGMA DLVTPEQVKKYRKA	1293
Latimeria_chalumnae	KDIDPLKLIKLDWIEGKERNIRALISTLHTVLWEGETRWKT VSMADLVTPDQVKKYRKA	1268
Rhinatrema_bivittatum	KDMDPQKLEWIEGKERNIRALISTLHTVLWEGETWKWP IGMADLVTPDQVKKYRKA	1290
Homo_sapiens	KDTPDLKLKLLDWIEGKERNIRALLSTLHTVLWDGESRWTPV GMADLVAPEQVKKH YRRA	1270
Pan_troglodytes	KDTPDLKLKLLDWIDGKERNIRALLSTLHTVLWDGESRWTPV GMADLVAPEQVKKH YRRA	1323
Macaca_mulatta	KDTPDLKLKLLDWIEGKERNIRALLSTLHTVLWDGESRWTPV GMADLVAPEQVKKH YRRA	1270
Callithrix_jacchus	KDTPDLKLKLLDWIEGKERNIRALLSTLHTVLWDGESRWTPV GMADLVAPEQVKKH YRRA	1270
Rattus_norvegicus	RDTPDFKLKLLDWIEGKERNIRALLSTLHTVLWDGESRWTPV SMA DLVTPEQVKK QYRRA	1264
Mus_musculus	RDTPDLKLKLLDWIEGKERNIRALLSTLHTVLWDGESRWTPV SMA DLVTPEQVKK QYRRA	1264
Canis_lupus_familiaris	RDADPLKLKLEWTEGKERNIRALLSTLHTVLWDGESRWAPV GMADLVTPGQVKK QYRRA	1279
Equus caballus	RDTPDLKLKLLDWTEGEKNIRALLSTLHTVLWDGESRWTPV GMADLVTPGQVKK QYRRA	1265
Bos_taurus	RDSPLKLKLEWTEGKERNIRALLSTLHTALWDGESRWTPV GMADLVTPAQVKKH YRRA	1227
Xenopus_tropicalis	KDTPDLKLKILDWIEGKERNIRALISTLHTVLWEGERSWKP VNMAELVTPDQVKKYRKA	1281
1330.....1340.....1350.....1360.....1370.....1380	

	** ***** *:**** *:****:****:****:****: **	
Pavo_muticus	VLVVHPDKATGQPYEQYAKMIFMELSDAWSEFENQGSKSLE	1321
Pavo_cristatus	VLVVHPDKATGQPYEQYAKMIFMELSDAWSEFENQGSKSLE	1321
Gallus_gallus	VLVVHPDKATGQPYEQYAKMIFMELSDAWSEFENQGSKSLE	1318
Anas_platyrhynchos	VLVVHPDKATGQPYEQYAKMIFMELSDAWSEFENQGSKSLE	1311
Chelonia_mydas	VLVVHPDKATGQPYEQYAKMIFMELSDAWSEFENQGSKSLE	1334
Latimeria_chalumnae	VLVVHPDKATGQPYEQYAKMIFMELNDAWSEFENQGSKALF	1309
Rhinatrema_bivittatum	VLIVHPDKATGEPYEQYARMIFIELNDAWSEFENQGSKFLF	1331
Homo_sapiens	VLAVHPDKAAGQPYEQHAKMIFMELNDAWSEFENQGSRLPLF	1311
Pan_troglodytes	VLAVHPDKAAGQPYEQHAKMIFMELNDAWSEFENQGSRLPLF	1364
Macaca_mulatta	VLAVHPDKAAGQPYEQHAKMIFMELNDAWSEFENQGSRLPLF	1311
Callithrix_jacchus	VLAVHPDKAVGQPYEQHAKMIFMELNDAWSEFENQGSRLPLF	1311
Rattus_norvegicus	VLVVHPDKATGQPYEQSAKMIFMELNDAWSEFENQGSRLPLF	1305
Mus_musculus	VLVVHPDKATGQPYEQYAKMIFMELNDAWSEFENQGSRLPLF	1305
Canis_lupus_familiaris	VLVVHPDKAAGQPYEQYAKMIFMELNDAWAEFESQGSRLPLF	1320
Equus_caballus	VLVVHPDKAAGQPYEQYARMIFMELSDAWAEFESQGSRLPLF	1306
Bos_taurus	VLVVHPDKARGQPYEQYARMIFMELNDAWAEFESQGSRLPLF	1268
Xenopus_tropicalis	VLVVHPDKATGQPYEQYAKMIFMELNDAWSEFENQGSRLSE	1322
1390.....1400.....1410.....1420.	