

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/ABCD10.p Tue Feb 1 10:57:45 2022

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                                :  **  :  *::
Pavo_muticus      -----MENILAGLCGTS PEDPLPVW      20
Pavo_cristatus    -----MENILAGLCGTS LEDPLPVW      20
Gallus_gallus     -----MENILAGLCGTT PEDPLPVW      20
Mus_musculus      -----MEGLLAQLCGTDAARPLPLW      20
Rattus_norvegicus -----MEGLLAQLCGTDAARPLPLW      20
Homo_sapiens      -----MERLLAQLCGSSAAWPLPLW      20
Pan_troglodytes   -----MERLLAQLCGSSAAWPLPLW      20
Macaca_mulatta    ---MPGDGETRGEKQMERWVTSVKSNGETSYLSTFGEASMERLLAQLCGSSAAWPLPLW      57
Callithrix_jacchus -----MERLLVQLCGSSAAWPLPLW      20
Canis_lupus_familiaris -----MERFLAQLCDTSVLHPLPVW      20
Equus_caballus    MHQCAGSPGPV ESSFFRLEVPDVC GGDTRQGEKPRLSEASMERLLAQLCGTS AVQPLPVW      60
Bos_taurus        -----MERFLARLCGTSALQPLPVW      20
Xenopus_tropicalis -----MEDAVAQLCGSQPADMPVW      20
Danio_rerio       -----MGGDTGAAEFISELCHTDVDSPPFPVW      26
Callorhinchus_milii -----MADFLATLCHTDVDNPFVVL      20
1.....10.....20.....30.....40.....50.....60

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Pavo_muticus      VHGRVGHCFNQLALNVVPHVILAAVSACFLGTPRSGSGMSHRR-GWRCRIAMSFVLAGLL      79
Pavo_cristatus    VHGRVGHCFNQLALNVVPHVILAAVSACFLGTPRSGSGMSHRR-GWRCRIAMSFVLAGLL      79
Gallus_gallus     VHGRVGHCFNQLALNVVPHVILAAVSACFLGTPRSGSGMSHRR-GWRCRIAMSFVLAGLL      79
Mus_musculus      EGDTTGHCFTQLVLSALPHALLAVLSACHLGTPRTTNHSPALNPGWRLRLAASFLLSIFP      80
Rattus_norvegicus EGDTTGHCFTQLVLSALPHALLAVLSACHLGTPRTNNIIQFPNPGWRLRLTASFLLSVFP      80
Homo_sapiens      EGDTTGHCFTQLVLSALPHALLAVLSACYLGTPRSPDYILPCSPGWRLRLAASFLLSVFP      80
Pan_troglodytes   EGDTTGHCFTQLVLSALPHALLAVLSACYLGTPRSPDYILPCSPGWRLRLAASFLLSVFP      80
Macaca_mulatta    EGDTTGHCFTQLVLSALPHALLAVLSACYLGTPRSPDYILPCSPGWRLRLAASFLLSVFP      117
Callithrix_jacchus EGDTTGHCFTQLVLSALPHALLAVLSACYLGTPRSPDHILPCSPGWLLRLAASFLLSIFP      80
Canis_lupus_familiaris EGDAGHCFTQLVLSALPHALLAVLSACHWGTPRNPEYILYCSPGWRLRLTASFLLFIFP      80
Equus_caballus    EGDTTGHCFTQLVLSALPHALLAVLSACHWGAPRYPDYILHCSGWRIRLAASFLLSIFP      120
Bos_taurus        EGDTTGHCFTQLVLSALPHALLAVLSACHWGHPRYPDYTPRCSPGWRLRLTASVLLAVFP      80
Xenopus_tropicalis IKGHIGICFNQLVLS S I PHLIFALTSACHAGAHRRSS-QCHLNPLWVCRMVASFLLSLLI      79
Danio_rerio       QNGTISPCANQLLLGSLPHAVFAVISACYISVRLIHIVSSLPFGWSLRAASTLLVFLLF      86
Callorhinchus_milii INGGLSHCFNLLVLSVLP H S F L A C I S A C Y L G T A R - S R W R G S V W C G W R C R I T A S F L L A L L F      79
.....70.....80.....90.....100.....110.....120

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      :  *::      : : *  .  : : : *  *  *  :      *  *  *
Pavo_muticus      LADIIPATISQ-QELGPVYLEVLASGIAALTWLTHGFALIMLCRSIHGSTRGPAALALLT      138
Pavo_cristatus    LADIIPATISQ-QELGPVYLEVLASGIAALTWLTHGFALIMLCRSIHGSTRGPAALALLT      138
Gallus_gallus     LADIVPAAISQ-QELGPVYLEALASGIAALTWLTHGLALIMLCRSIHGSTRGPAVALLT      138
Mus_musculus      LLDLLPVVLP P G S R P G P L W L E V L A G C V T A V A W F T H S L A L W A L V H S P H G S R G P L A L A A      140
Rattus_norvegicus LLDLLPVVLP P V S H P G P L W L E V L A G C V T A V A W F T H S L A L W A L V H S P H G S R G P L A L A A      140
Homo_sapiens      LLDLLPVALPPGAGPGPIGLEVLAGCVAAVAWISHSLALWVLAHSPHGHRSRGPLALALVA      140
Pan_troglodytes   LLDLLPVALPPGAGPGPIGLEVLAGCVAAVAWISHSLALWVLAHSPHGHRSRGPLALALVA      140
Macaca_mulatta    LLDLLPVALPPGAGPGPIGLEVL E G C V A A V A W I S H S L A L W V L S H S S H G S R G P L A L A V A      177
Callithrix_jacchus LLDLLPVALPPGAGPGPIGLEVL T G C V A A V A W I S H S L A L W V L A H S P H G S R G P L A L A V A      140
Canis_lupus_familiaris LLDLLPVALPPGAGPGPIGLEVL A G G V A A V A W I S H C L A L W A L A H S P H G S R G P L A L A A      140
Equus_caballus    LLDLLPVTLPPGAGPGPKGLELLAGGVAAVAWMSHSLALWALAHS PHGHRSRGPLALALAA      180
Bos_taurus        LLDLLPVILPPGAGPGPTGLEVLAGGVAAMAWISHSLALWVLVHTPYGHRSRGPLALALAA      140
Xenopus_tropicalis L T D M V L G C L F P -- W Q V P Y T V E M L C G G V A C L S W I T H F L A L L S L R K A W C S Q P R G P V T L M L P V      137
Danio_rerio       I G D L V L V F E L Q --- A P D I Y L D T L A D G C G M L A F L V H F G A I L S L Q K S I Y R R T R G P A L L P V A L      143
Callorhinchus_milii LMDVLVVVAWTF-DLATLWLEVLAGLVSAWL VHGM AAVT L S R L P L G S Q W G P V P L G C L P      138
.....130.....140.....150.....160.....170.....180

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Pavo_muticus      LLPLPSLLITFVWYCSGTAWSPA--PAVSRFTILCLQLASLLTYVISYLLPA---AD 193
Pavo_cristatus    LLPLPSLLITFVWYCSGTAWSPA--PAVSRFTILCLQLASLLTYVISYLLPA---AD 193
Gallus_gallus     LLPLPSLLITLVWYCSGTAWSPA--PAVSRFAILCLQLASLLTYVISYLLPA---AD 193
Mus_musculus      FLPTPALVLTLLWHCQRGTFLPPLL--PGPLGRVCLLILQLAAVLAYGLGWAAPG---GP 195
Rattus_norvegicus FLPTPALVLTLLWHCQRGTFLPPLL--PGPLGRVCLLILQLAAVLAYGLGWAAPG---GP 195
Homo_sapiens      LLPAPALVLTVLWHCQRGTLLPPLL--PGPMARLCLLILQLAALLAYALGWAAPG---GP 195
Pan_troglodytes   LLPAPALVLTVLWHCQRGTLLPPLL--PGPVARLCLLILQLAALLAYALGWAAPG---GP 195
Macaca_mulatta    LLPAPALVLTVLWHCQRGTLLPPLL--PGPVARLCLLILQLAALLAYALGWAAPG---GP 232
Callithrix_jacchus LLPAPALVLTVLWHCQRGTLLPPLR--PGPVARLCLLILQLAALLAYALGWAAPG---GP 195
Canis_lupus_familiaris FLPAPALVLTLLWHCQRGTLLPPLL--PGPLSRLCLLILQLAALLAYGLGWAVPG---AS 195
Equus_caballus    FLPAPALVLTLLWHCQRGTLLPPLL--PGPLSRLCLLILQLAALLAYGLGWAVPG---VP 235
Bos_taurus        FLPAPALVLTLLWHCQRGTLLPPLL--AGPLSRLCLLILQLAALLAYGLGWAVPG---QP 195
Xenopus_tropicalis LLLIPTLVITLMGFLDGATSQPLH--PILLSRFCLCLRLCCIFVYLGAFLLGLRCFRP 195
Danio_rerio       ILSIPNLAFNLT--VCTQEIHHGVSQPLQVIRLAFTVTRGALVLVYLLGYIFPC---YR 198
Callorhinchus_milii LLPIPTLIITLVSDCRGLGYLSDWDSPPPAILRSALVCIELSLLFIYLLAFIISC---LR 195
.....190.....200.....210.....220.....230.....240

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Pavo_muticus      RHEFLSINSSWQDQLISEPGISLSDQGVAEDEGSWLSRFFYAWMNPLMKRGYQWKLNQ 253
Pavo_cristatus    RHEFLSINSSWQDQLISEPGISLSDQGVAEDEGSWLSRFFYAWMNPLMKRGYQWKLNQ 253
Gallus_gallus     RHDLISINSSWQDQLISEPGISVSDQGVAEDEGSWLSRFFYAWMNPLMKRGYQWKLNQ 253
Mus_musculus      Q-----EPWTHDPFLSS----ESQETEVAEDGESWLSRFSYAWLAPLLARGVRGELQQ 244
Rattus_norvegicus R-----EPWTHDPFLSP----ESQEREVAEDGESWLSRFSYAWLAPLLARGVRGELRO 244
Homo_sapiens      R-----EPWAEPEPLL----EDQEEVAEDGESWLSRFSYAWLAPLLARGACGELRO 243
Pan_troglodytes   R-----EPWAEPEPLL----EDQEEVAEDGESWLSRFSYAWLAPLLARGACGELRO 243
Macaca_mulatta    R-----EPWAEPEPLL----EDQEEVAEDGESWLSRFSYAWLAPLLARGACGELQQ 280
Callithrix_jacchus R-----EPWAEPEPLL----EDQEEVAEDGESWLSRFSYAWLAPLLARGACGELRO 243
Canis_lupus_familiaris R-----RPWAEELLSS----QGQSEVAEDGESWLSRFSYAWLTPLLARGARGELRO 243
Equus_caballus    Q-----EPWAEPEFLS----EGQEEVAEDGESWLSRFSYAWLTPLMARGARGELRO 283
Bos_taurus        R-----EPWAEPELLS----EGQEEVAEDGESWLSRFSYAWLAPLLARGARGELRO 243
Xenopus_tropicalis SLSLSVNADDDDESPLLTSS--FYTPERQHPAEDGESWLSRFFYLWLNPLLRQGARGGLKH 253
Danio_rerio       TQRDLLSCNAEDEAPLIVT--FEPFEEVTVAEDEGSLLSRLLYLWLNPLLRNKGKRGELGR 256
Callorhinchus_milii AG-ELVEG-VSEREPELLPR--AGYPEGRPVEEDGAGCLSRFLYLWLNPMMERGRSGELSR 251
.....250.....260.....270.....280.....290.....300

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*  *  **  *  :  :  .
Pavo_muticus      PQDVCLLPRLKQAARVCDHFYACWQKKAAVHQUEEETVSLTSPPIAGGDGS---SNALD 309
Pavo_cristatus    PQDVCLLPRLKQAARVCDHFYACWQKKAAVHQUEEETVSLTSPPIAGGDGS---SNALD 309
Gallus_gallus     PQDVCLLPRLKQAARVCDRFYACWQKKAAVHQUEEETVSLTSPPIAGGDGS---SNALD 309
Mus_musculus      PRDTCRLPRLHLPAYLARVFAHWK----- 269
Rattus_norvegicus PQDTCRLPRLHLPAYLARVFAHWK----- 269
Homo_sapiens      PQDICRLPHRLQPTYLARVFAHWQ----- 268
Pan_troglodytes   PQDICRLPHRLQPTYLARVFAHWQ----- 268
Macaca_mulatta    PQDICRLPHRLHPTYLARVFSHWQ----- 305
Callithrix_jacchus PQDICRLPHRLHPTYLARVFAHWQ----- 268
Canis_lupus_familiaris PQDTCRLPRLHPTYLARIFQAHWQ----- 268
Equus_caballus    PQDTCRLPRLHPTYLARVFAHWQ----- 308
Bos_taurus        PQDTCRLPRLHPTYLARVFAHWQ----- 268
Xenopus_tropicalis PGDVLLLPCHLGTARICQHFQSKSS----- 278
Danio_rerio       PSDVFELPSRLRTKSVTRRFYQCWEKCLHSRALERPERPDRRPRGNLQDNSWSEAQPERI 316
Callorhinchus_milii PCDVCLLPALAIRQVEERMAECWQRCRGASWVSAGQGDPSKSWRGLE-----QPEVA 304
.....310.....320.....330.....340.....350.....360

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      *  .:: :** :  ** **: .  *. * *****. ** :.*  *:
Pavo_muticus      RSHHAQ EAVQLLSVLHAAFGLRFYSLGLLKLAGSLLSFSGPLLLNLLVNFMESQ EPLSH 369
Pavo_cristatus    RSHHAQ EAVQLLSVLHAAFGLRFYSLGLLKLAGSLLSFSGPLLLNLLVNFMESQ EPLSH 369
Gallus_gallus      RSHHAQ ETVRLLSVLHAAFGLRFYSLGLLKLAGSLLGFSGPLLLNLLVNFMESRQ EPLSH 369
Mus_musculus       ----- EGAQLWRALYRAFGCCYLALGLLKMVGTM LGFSGP LLLSLLVGFLEEGQ EPLSH 323
Rattus_norvegicus  ----- EGAQLWRALYGAFGCCYIALGLLKMVGTM LGFSGP LLLSLLVGFLEEGQ EPLSH 323
Homo_sapiens       ----- EGARLWRALYGAFGRCYLALGLLKLVGTM LGFSGP LLLSLLVGFLEEGQ EPLSH 322
Pan_troglodytes    ----- EGARLWRALYGAFGRCYLALGLLKLVGTM LGFSGP LLLSLLVGFLEEGQ EPLSH 322
Macaca_mulatta     ----- EGARLWRALYRAFGRCYLTGLGLLKLVGTM LGFSGP LLLSLLVGFLEEGQ EPLSH 359
Callithrix_jacchus ----- EGAQLWRALYGAFGQYYLALGLLKLVGTM LGFSGP LLLSLLVGFLEEGQ EPLSQ 322
Canis_lupus_familiaris ----- EGVRLWKALYKAFGRHYLALGLLKLVGTM LGFSGP LLLSLLVGFLEEGQ EPLSN 322
Equus_caballus     ----- EGARLWRALYGAFGRCYALGLLKLVGTM LGFSGP LLLSLLVGFLEEGREPLSN 362
Bos_taurus         ----- EGARLWRTLHGAFGHCYALGLLKLVGTM LGFSGP LLLSLLVGFLEEGREPLSH 322
Xenopus_tropicalis ----- STILRLLP TLHASFGARYYALGLLKLVGTM LGFSGP LLLNLLVNFMEAADEPLSW 333
Danio_rerio        CEGEAEHEVKLLQVLHKAFGLRYLLGGLKLVASMLAFAGP LLLGGLVGFMETEGAPLSK 376
Callorhinchus_milii PSLVEQ EELCLLSVFHRAFGRRYYMLGLLKLMA SMLGFVGP LLLSCLVTYMSDSQ PVSL 364
.....370.....380.....390.....400.....410.....420

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      *.  .:*** . . .*. * : ::: * : * . ::: :* *:::  **
Pavo_muticus      GVLVALGLFAGSFV GALLRNQFSYEVQKVTLMVRAAVISAIYRKALRVGSTSLSRFTVGE 429
Pavo_cristatus    GVIFYALGLFAGSFV GALLRNQFSYEVQKVTLMVRAAVISAIYRKALRVGSTSLSRFTVGE 429
Gallus_gallus      GVLVALGLFAGSFV GALLRNQFSYEVQKVTLMVRAAVISAIYRKALRVGSTSLSCFTVGE 429
Mus_musculus       GLLYVLGLAGGTVISAVLQNYGYEVRKVTLOARVAVLSTLYRKALKLGP---SRPPTGE 380
Rattus_norvegicus  GLLYVLGLASGSVISAVLQNYGYEVRKVTLOARVAVLSTLYRKTLKLG---SRPPTGE 380
Homo_sapiens       GLLYALGLAGGAVLGAVLQNYGYEVYKVTLOARGAVLNILYCKALQLGP---SRPPTGE 379
Pan_troglodytes    GLLYALGLAGGAVLGAVLQNYGYEVYKVTLOARGAVLNILYCKALQLGP---SRPPTGE 379
Macaca_mulatta     GLLYALGLASGAVLGAVLQNYGYEVCKVKLOARGAVLNILYRKTLQLGP---SRPPTGE 416
Callithrix_jacchus GLLYALGLAGGAVLGAVLQNYGYEVRKVALQARGAVLNILYCKALQLGP---SRPPVGE 379
Canis_lupus_familiaris GLLYALGLAGGAILGAVLQNYGYEIRKVTLOARGAVLNILYRKALQLGP---RRPPAGE 379
Equus_caballus     GLLYALGLASGAILGAVLQNYGYEVRKVTLOARGAVLNILYRKALHLGP---RRPPAGE 419
Bos_taurus         GLLYALGLTGGAVLGAVLQNYGYEVRKVALQARGAVLNILYRKALQLGP---RRPPAGE 379
Xenopus_tropicalis GILYTLGLFSSCF LAALLQNF THEVNKLILAVRASVLT SVYRKAIRGVGTGLAGFSKGE 393
Danio_rerio        GVWCAVGLFASTFLAALLKNIFVYEVSKVALEAAVIST IYCKALKVNAPSLARFNMGE 436
Callorhinchus_milii GFAYALGLCLSTLTAAFLSNQFSYQVLKVSLEAAAMVCAVYRKALRVNATLS SFTTGE 424
.....430.....440.....450.....460.....470.....480

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      :*::**::*: **  **** *.*: : :::**:*: ***:**:.*: :*::**::***
Pavo_muticus      IVNFMSTDTISRLINFCLSFHEVWSLPFQFAITLYLLYQQVGVAFLGGLALALLLV PINKV 489
Pavo_cristatus    IVNFMSTDTISRLINFCLSFHEVWSLPFQFAITLYLLYQQVGVAFLGGLALALLLV PINKV 489
Gallus_gallus      IVNFMSTDTISRLVNFCLSFHEVWSLPFQFAITLYLLYQQVGVAFLGGLALALLLV PINKV 489
Mus_musculus       VLNLLGTD SERLLNFAGSFHEAWGLPQLAITLYLLYQQVGMAFLAGLVLALLLV PPNKV 440
Rattus_norvegicus  VLNLLGTD SERLLNFAGSFHEAWGLPQLAITLYLLYEQVGVAFLAGLVLALLLV PPNKV 440
Homo_sapiens       ALNLLGTD SERLLNFAGSFHEAWGLPQLAITLYLLYQQVGVAFFVGG LILALLLV PPNKV 439
Pan_troglodytes    ALNLLGTD SERLLNFAGSFHEAWGLPQLAITLYLLYQQVGVAFFVGG LILALLLV PPNKV 439
Macaca_mulatta     ALNLLGTD SERLLNFAGSFHEAWGLPQLAITLYMLYQQVGVAFFVGG LILALLLV PPNKV 476
Callithrix_jacchus ALNLLGTD SERLLNFAGSFHEAWGLPQLAITLYLLYQQVGVAFFVGG LILALLLV PPNKV 439
Canis_lupus_familiaris ALNLLGTD SERLLNFAGSFHEAWGLPQLAITLYLLHQQVGVAFFVGG LILALLLV PPNKV 439
Equus_caballus     ALNLLGTD SERLLNFAGSFHEAWGLPQLAITLYLLHQQVGVAFFVGG LILALLLV PPNKV 479
Bos_taurus         VLNLLGTD SERLLNFAGSFHEAWGLPQLAITLYLLHQQVGVAFFVGG LILALLLV PPNKV 439
Xenopus_tropicalis IVNFMSTADRI SNFCRSFHEVWSLPQFSVTLYLLYLQVGIAFLGGLGLAVLL PINKV 453
Danio_rerio        VVNFMSTDTDRVVNFFNSFHEVWSLPQFVLALYLLYLQVGVAFLGGVGVAVLLV PPNKV 496
Callorhinchus_milii IVNFMSTDTTERLMNFFPSFHELWSLPLTFVAVTLYLLHLQVGVAFLGGLGVAILLV PPNKV 484
.....490.....500.....510.....520.....530.....540

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:*.::: . :*.*** ***:**:* *::: * : * : * : * :
Pavo_muticus      IANRIMMSNAEMLKHKDTRVKLMTTEFLSGIRVIKIFYAWEKHFSTRINTCRAKELQKLRAI 549
Pavo_cristatus    IANRIMMSNAEMLKHKDTRVKLMTTEFLSGIRVIKIFYAWEKHFSTRINTCRAKELQKLRAI 549
Gallus_gallus     IANRIMESNAEMLKHKDARVKLMTTEFLSGIRVIKIFYAWEKHFSTRINTCRAKELQKLRAI 549
Mus_musculus      IATRIMASNQEMLRHKDARVKLMTTELLSGIRVIKFFRWEQALGDRVKACRTKELGRLRVI 500
Rattus_norvegicus IATRIMANNQEMLRHKDARVKLMTTELLSGIRVLKFFRWEQALGDRVKACRTKELGRLRVI 500
Homo_sapiens      IATRIMASNQEMLOHKDARVKLVTELLSGIRVIKFCGWEQALGARVEACRARELGRLRVI 499
Pan_troglodytes   IATRIMASNQEMLOHKDARVKLVTELLSGIRVIKFCGWEQALGARVEACRARELGRLRVI 499
Macaca_mulatta    IATRIMASNQEMLRHKDARVKLVTELLSGIRVIKLCGWEQALGARVEACRARELGRLRVI 536
Callithrix_jacchus IATRIMASNQEMLRHKDARVKLVTELLSGIRVIKFCGWEQALGARVEACRARELGRLRVI 499
Canis_lupus_familiaris IATRIMASNQEMLOHKDARVKLMTTELLSGVRVIKFFGWEQALGARVEACRAQELGRLRVI 499
Equus_caballus    IATRIMASNQEMLOHKDARVKLMTTELLSGVRVIKFFGWEQALGARVEACRAQELGRLRVI 539
Bos_taurus        IATRIMASNQEMLOHKDARVKLVTELLSGMRVIKFFGWEQALGTRVEACRARELGRLRVI 499
Xenopus_tropicalis IANRIVDYNSDLNHHKDAVKLMTTELLSGMRVVKFYTWKHFHFAEAVTSLREKELRSLRAL 513
Danio_rerio       LASRILENNKHMLOHKDGRVKLMTTEILFGIRVLKYNNWEEHFTQKIEBEARKKELHHLKLL 556
Callorhinchus_milii IASKIIQSTSDMLQHKDARVKLMTTEILFGIRVLKFYTWKHFISMVQSCRKELSCIKVI 544
.....550.....560.....570.....580.....590.....600

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: ***.*** ***:**:* *::: * : * : * : * :
Pavo_muticus      KYLDAVCVYLWAAALPVVVSIVIFITYVLMGHQLTATKVFTALALVGMILILPLNSFPWVLN 609
Pavo_cristatus    KYLDAVCVYLWAAALPVVVSIVIFITYVLMGHQLTATKVFTALALVGMILILPLNSFPWVLN 609
Gallus_gallus     KYLDAVCVYLWAAALPVVVSIVIFITYVLMGHQLTATKVFTALALVGMILILPLNSFPWVLN 609
Mus_musculus      KYLDAACVYLWAAALPVVICITIFITYVLMGHQLTATKVFTALALVRMLILPLNFPWVIN 560
Rattus_norvegicus KYLDAACVYLWAAALPVVICIFITYVLLGHQLTATKVFTALALVRMLILPLNFPWVIN 560
Homo_sapiens      KYLDAACVYLWAAALPVVISIVIFITYVLMGHQLTATKVFTALALVRMLILPLNFPWVIN 559
Pan_troglodytes   KYLDAACVYLWAAALPVVISIVIFITYVLMGHQLTATKVFTALALVRMLILPLNFPWVIN 559
Macaca_mulatta    KYLDAACVYLWAAALPVVISIVIFITYVLMGHQLTATKVFTALALVRMLILPLNFPWVIN 596
Callithrix_jacchus KYLDAACVYLWAAALPVVISIVIFITYVLMGHLLTATKVFTALALVRMLILPLNFPWVIN 559
Canis_lupus_familiaris KYLDAACVYLWAAALPVVISIVIFITYVLMGHQLTATKVFTALALVRMLILPLNFPWVIN 559
Equus_caballus    KYLDAACVYLWAAALPVVISIVIFITYVLMGHQLTATKVFTALALVRMLILPLNFPWVIN 599
Bos_taurus        KYLDAACVYLWAAALPVVISIVIFITYVLMGHQLTATKVFTALALVRMLILPLNFPWVIN 559
Xenopus_tropicalis KMLDAVCVYLWAAALPVVISIITFITIVLLGHQLTAAKVFTALALVGMILILPLNFPWVLN 573
Danio_rerio       KYLDAVCVYTWAALPVVISILTFITYVLLGNLTAAKVFSTLALVGMILILPLNAFPWVLN 616
Callorhinchus_milii NYLDAVCVYTWAALPVVISILTFMTYVLLGHKLTAAPKVFTLALVEMLIPLNFPWILN 604
.....610.....620.....630.....640.....650.....660

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* **::***:*** * : . . ** : * : * : * :
Pavo_muticus      GTLEAKVSLDRIQRFLELVDQDLETYIALG-----SPSGTVS-AIDIRGA 653
Pavo_cristatus    GTLEAKVSLDRIQRFLELVDQDLETYIALG-----SPSGTVS-AIDIRGA 653
Gallus_gallus     GTLEAKVSLDRIQRFLELVDQDLEAYIALG-----SPSGTAT-AIDIRGA 653
Mus_musculus      GLLESKVSLDRIQRFDLPSYSPEAYYSP-----DPPAEPST-ALELHEA 604
Rattus_norvegicus GLLESKVSLDRIQRFDLPSYSPEAYYSP-----DPPTEPST-VLELHEA 604
Homo_sapiens      GLLEAKVSLDRIQLFLDLPNHNPOAYYSP-----DPPAEPST-VLELHGA 603
Pan_troglodytes   GLLEAKVSLDRIQLFLDLPNHNPOAYYSPDCGRLGAQIKWLLCS-DPPAEPST-VLELHGA 618
Macaca_mulatta    GLLEAKVSLDRIQLFLDLPNHNPOAYYSP-----DPPTEPST-VLELHGA 640
Callithrix_jacchus GLLEAKVSLERIQLFLDLPNHNPEAYYSP-----DPPTEPST-ILELHGA 603
Canis_lupus_familiaris GLLEAKVSLDRIQRFDLDPNHNPOVYYSP-----DPPTEPST-ALELHEA 603
Equus_caballus    GLLEAKVSLDRIQRFDLDPNHNPEAYYSP-----DPPTEPST-VLELREA 643
Bos_taurus        GLLEAKVSLDRIQCFDLDPNHDPOAYYSP-----DPPTEPST-ALELHEA 603
Xenopus_tropicalis GVLEAKVSLERIQLFMDLPEQDLLNYYSQ-----EPPADPSS-ALELSEA 617
Danio_rerio       GTLEAKVSLDRIQRFLLAVQDQDLSVYYSQVCE-----DPPS-----AVQMVQA 660
Callorhinchus_milii GILEAKVSLERIQRFLLKLSQDQLSSYYTSTEL-----SGPEDSGCWAVKLHDA 653
.....670.....680.....690.....700.....710.....720

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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***                               *      : * * : * * : : : ****.*****
Pavo_muticus      DFSWVPVKEENTTSQPLS-----TGSLOLHIENLSVRKGMLLGVVGKVGSGKSSLLA 704
Pavo_cristatus    DFSWVPVKEENTTSQPLS-----TGSLOLHIENLSVRKGMLLGVVGKVGSGKSSLLA 704
Gallus_gallus     DFSWVPVKEESTSQPLS-----TGSLOLHIENLSVRKGMLLGVVGKVGSGKSSLLA 704
Mus_musculus      LFSWDPVG-----ASQKTFISHLEVKKGMLVGIVGKVGCGKSSLLA 645
Rattus_norvegicus LFSWDPVG-----TSQKTFISHLEVKKGMLVGIVGKVGCGKSSLLA 645
Homo_sapiens      LFSWDPVG-----TSLETTFISHLEVKKGMLVGIVGKVGCGKSSLLA 644
Pan_troglodytes   LFSWDPVG-----TSQETTFISHLEVKKGMLVGIVGKVGCGKSSLLA 659
Macaca_mulatta    LFSWDPVG-----TSQETTFISHLEVKKGMLVGIVGKVGCGKSSLLA 681
Callithrix_jacchus LFSWDPVG-----TSQETTFISHLEVKKGMLVGIVGKVGCGKSSLLA 644
Canis_lupus_familiaris LFSWDPVG-----TSQEIFINHLLEVKKGVVLVGIVGKVGCGKSSLLA 644
Equus_caballus    LFSWDPVR-----TSQETTFISHLEVKKGVVLVGIVGKVGCGKSSLLA 684
Bos_taurus        LFSWDPVG-----TSQETTFISHLEVKKGMLVGIVGKVGCGKSSLLA 644
Xenopus_tropicalis AFSWMPPEESEDSS-----GSLQLFIEHLSVQKGVVLVGIVGKVGCGKSSLLA 662
Danio_rerio       SFSWK-QSEEDSVSIPDDITEEGSPPRS FYLHALNLNVKMSLVVVVGKVGCGKSSLLA 719
Callorhinchus_milii TFSWVHQRASASDLSQPDSSS---SQEGSLFLCNLNLRVKQ GALVGVVLGKVGCGKSSLLA 710
.....730.....740.....750.....760.....770.....780

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*::*: : * : . *::*:**.*** *::*:***: : : *.*::**
Pavo_muticus      AITGELIRQGGQVYICDLEQGFGLATQEPWIOFTTVRENILFGRQYDARLYEEVVEACAL 764
Pavo_cristatus    AITGELIRQGGQVYICDLEQGFGLATQEPWIOFTTVRENILFGRQYDARLYEEVVEACAL 764
Gallus_gallus     AITGELIKQGGQVYICDLEQGFGLATQEPWIOFTTVRENILFGRQYDARLYEEVVEACAL 764
Mus_musculus      AITGELHRLCGWVAVSEL SKGFGLATQEPWIOCATIRDNLFGKTFDAQLYREVLEACAL 705
Rattus_norvegicus AITGELHRLCGWVAVSDLSKGFGLATQEPWIOCATIRDNLFGKTFDAQLYREVLEACAL 705
Homo_sapiens      AIAGELHRLRGHVAVRGLSKGFGLATQEPWIOFATIRDNLFGKTFDAQLYKEVLEACAL 704
Pan_troglodytes   AIAGELHRLRGHVAVQGLSKGFGLATQEPWIOFATIRDNLFGKTFDAQLYKEVLEACAL 719
Macaca_mulatta    AVAGELHRLRGRVAVWGLSKGFGLATQEPWIOFATIRDNLFGKTFDAQLYKEVLEACAL 741
Callithrix_jacchus AITGELHRLRGHVAVWGLSKGFGLATQEPWIOFATIRDNLFGKTFDSQLYKEVLEACAL 704
Canis_lupus_familiaris AVAGELHRLRGRVAVWGLSKGFGLATQEPWIOFATIRDNLFGKTFDAQLYKEVLEACAL 704
Equus_caballus    AIAGELHRLHGVAVWGLSKGFGLATQEPWIOFATIRDNLFGKTFDAQLYQVLEACAL 744
Bos_taurus        AITGELHRLRGQVAVWGLSKGFGLATQEPWIOFATIRDNLFGKTFDAQLYKEVLEACAL 704
Xenopus_tropicalis ALTGELSRSGGELFASHQELGFGFAAQEPWIOFATIRENILFGKEFNKLYQGVLEACAL 722
Danio_rerio       AITGELTRCGGEVVFVQGREQGFGLAVQEPWIOHATVQDNILFGRDYDNMFYQSVIQACAL 779
Callorhinchus_milii AITGEINRKDGTVS SVLERGFGLTTQEAWIQHMTIQDNILFGKEFDKRYHVDVIEACAL 770
.....790.....800.....810.....820.....830.....840

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:***                               **:*****:*****:***
Pavo_muticus      SEDLN-----ILPAGDQTEVGENGVTLSGGQKARIALA 797
Pavo_cristatus    SEDLN-----ILPAGDQTEVGENGVTLSGGQKARIALA 797
Gallus_gallus     SEDLN-----ILPAGDQTEVGENGVTLSGGQKARIALA 797
Mus_musculus      NDDL S-----ILPAGDQTEVGEKGVTLSSGGQKARIALA 738
Rattus_norvegicus NDDL S-----ILPAGDQTEVGEKGVTLSSGGQKARIALA 738
Homo_sapiens      NDDL S-----ILPAGDQTEVGEKGVTLSSGGQKARIALA 737
Pan_troglodytes   NDDL S-----ILPAGDQTEVGEKGVTLSSGGQKARIALA 752
Macaca_mulatta    NDDL S-----ILPAGDQTEVGEKGMTLSGGQKARIALA 774
Callithrix_jacchus NDDLSSLSCKGIGSGPEGNGEVPDPLGHLFHQILPAGDQTEVGEKGVTLSSGGQKARIALA 764
Canis_lupus_familiaris TDDLH-----ILPAGDQTEVGEKGVTLSSGGQKARIALA 737
Equus_caballus    NDDL S-----ILPAGDQTEVGEKGVTLSSGGQKARIALA 777
Bos_taurus        DEDLS-----ILPAGDQTEVGEKGVTLSSGGQKARIALA 737
Xenopus_tropicalis NDDL S-----ILPSGDQTEVGENGVTLSGGQKARIALA 755
Danio_rerio       ADDLN-----ILPGGDQTEVGENGVTLSGGQKSRLALA 812
Callorhinchus_milii SEDLN-----MLPAGDQTEVGENGITLSGGQKARIALA 803
.....850.....860.....870.....880.....890.....900

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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***: : :*****:.* **:. **:* * .*:***** * :*: :*:
Pavo_muticus      RAVYQEKELYLLDDPLAAVDADVANHLMQKCILGILQHKTTRILCTHRTEFLEKADALLLM 857
Pavo_cristatus    RAVYQEKELYLLDDPLAAVDADVANHLMQKCILGILQHKTTRILCTHRTEFLEKADALLLM 857
Gallus_gallus     RAVYQEKELYLLDDPLAAVDADVANHLMQKCILGILQHKTTRILCTHRTEFLEKADALLLM 857
Mus_musculus      RAVYQEKALYLLDDPLAAVDADVANHLLHRCILGVLSHSTRLLCTHRTEYLERADVLLM 798
Rattus_norvegicus RAVYQEKTLYLLDDPLAAVDADVANHLLHRCILGVLGHSTRLLCTHRTEYLERADLVLLM 798
Homo_sapiens      RAVYQEKELYLLDDPLAAVDADVANHLLHRCILGMLSYTTRLLCTHRTEYLERADAVLLM 797
Pan_troglodytes   RAVYQEKELYLLDDPLAAVDADVANHLLHRCILGMLSHSTRLLCTHRTEYLERADVLLM 812
Macaca_mulatta    RAVYQEKELYLLDDPLAAVDADVANHLLHRCILGMLSHSTRLLCTHRTEYLERADVLLM 834
Callithrix_jacchus RAVYQEKELYLLDDPLAAVDADVANHLLHSCILGVLSHSTRLLCTHRTEYLERADVLLM 824
Canis_lupus_familiaris RAIYQEKELYLLDDPLAAVDADVASHLLHRCILGVLSHSTRLLCTHRTEYLEKADLVLLM 797
Equus_caballus    RAVYQEKELYLLDDPLAAVDADVANHLLHRCILGVLSHSTRLLCTHRTEYLERADVLLM 837
Bos_taurus        RAVYQEKELYLLDDPLAAVDADVATHLLHRCILGALSHSTRLLCTHRTEYLERADMVLL 797
Xenopus_tropicalis RAVYQDKDIYLLDDPLAAVDADVAHLMKCEILGILKNKTRILCTHRELLDKADIVLLM 815
Danio_rerio       RAVYMDKEIYLLDDPLAAVDADVAAHLMKCEILGILKDKTRILCTHRIEFVDKADVLLM 872
Callorhinchus_milii RAVYMDQDLYLLDDPLAAVSDVAGHLMCEICIMGILKDKTRILCTHRAEFLNKADVLLM 863
.....910.....920.....930.....940.....950.....960

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: * : :.* :*.***:
Pavo_muticus      DNGRIIKTGPPADILPLVESVPKFKDMNKRNDKADSDEQGQEEVIETEAEESSQ--DKC 915
Pavo_cristatus    DNGRIIKTGPPADILPLVESVPKFKDMNKRNDKADSDEQGQEEVIETEAEESSQ--DKC 915
Gallus_gallus     DNGRIIKTGPPADILPLVESVPKFKDMNKRNDKADSDEQGQEEVIETETEESSQ--DKC 915
Mus_musculus      EAGQLVRTGPPSEILPLVQAVPTAWAEKEQVATSGQSPSVCDLERTTEEELEVEQ--STC 856
Rattus_norvegicus EAGRLVRAGPPSEILPLVQAAPTALADKEQVTDGQSPSVHNLKKT--EELDVAQ--NTS 855
Homo_sapiens      EAGRLIRAGPPSEILPLVQAVPKAWAENGQESDSATAQSVQNPEKTK--EGLEEEQ--STS 854
Pan_troglodytes   EAGRLIRAGPPSEILPLVQAVPKAWAENGQESDSATAQSVQNPEKTK--EGLEEEQ--STS 869
Macaca_mulatta    EAGRLIQAGPPSEILPLVQVPKAWAENGQKSDSATAQSVQNPEKTK--EGLEEEQ--STS 891
Callithrix_jacchus EAGRLIRAGPPSEILPLVQAVPKAWAENGQESDSATAQSVQNPEKTK--WGLEEEQ--STS 881
Canis_lupus_familiaris EAGRLLRAGPPSEILPLVQAVPKAWAEEGQEADSAAVQSVGNLEKTK--ERLEVEE--KTC 854
Equus_caballus    EAGRLVQAGPPSEILPLVQAVPKAWAEDGQESDSATAQSVRNPEKTK--ERLEVEE--STS 894
Bos_taurus        EAGRLVRAGPPSEILPLVQAAPRAWAEDGQESDRATASMENPKKTK--EGLEVEE--SAS 854
Xenopus_tropicalis EGGKMVGSGTPDKILPLVESRNRRGSRGQTMNHISQAEEQSLDEEEEAENEGNPIQPI 875
Danio_rerio       DNGMIVKTGAPSEVLSLVK--GPK-----DSKNSSNAKEKDSAGSEEMEASEPEL--KAE 923
Callorhinchus_milii DNGRIIRADTPAEILPLVQ--ATSSIHSKAPSQQPAESAMKGSIVVEEAVDIVC--TDS 920
.....970.....980.....990.....1000.....1010.....1020

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:*. . *:: ** : * : * : : * :*:***:.* :*: :*:
Pavo_muticus      -LLHKEEEKKEGALDFQVYKAYWLAMGSCALSTILLSLLMQASRNISDWWLSHWISSIS 974
Pavo_cristatus    -LLHKEEEKKEGALDFQVYKAYWLAMGSCALSTILLSLLMQASRNISDWWLSHWISSIS 974
Gallus_gallus     -LLHKEEEKKEGALDFQVYKAYWLAMGSCALSTILFSLLMQASRNISDWWLSHWISSIS 974
Mus_musculus      GCLVQEEESKSEGAVALHVYRAYWRAMGSLAAAILVSLLMQATRNGADWWLAHWLSQLK 916
Rattus_norvegicus GRLVQEEESKSEGAVALHVYRAYWRAMGSLATAILILLSLLMQATRNGADWWLAHWLSQLK 915
Homo_sapiens      GRLLQEEESKKEGAVALHVYQAYWKAVGQGLALAILFSLLMQATRNGADWWLSHWISSQLK 914
Pan_troglodytes   GRLLQEEESKKEGAVALHVYQAYWKAVGQGLALAILFSLLMQATRNGADWWLSHWISSQLK 929
Macaca_mulatta    GGLLQEEESKKEGAVALHVYQAYWKAVGQGLALAILFSLLMQATRNGADWWLSHWISSQLK 951
Callithrix_jacchus GRLLQEEESKKEGAVALHVYQAYWKAVGRGLVLAILFSLLMQATRNGADWWLSHWISSQLK 941
Canis_lupus_familiaris GHLLQEEESKKEGAVALHVYRAYLRAVGLGLALAILILLSLLMQATRNGADWWLSHWISSQLK 914
Equus_caballus    GRLLQEEESKKEGAVAFHVYRAYWRAMGWGLALAILILLSLLMQATRNGADWWLSHWISSQLK 954
Bos_taurus        QLRQEEESKKEGAVAFHVYRAYWRAMGWMALAILFSLLMQATRNGADWWLSHWISSQLK 914
Xenopus_tropicalis TAEVGQEEKQEGAVALQVYWAYWKAVGGCLAGSVLLALFLMQASRNISDWWLSHWISSQLQ 935
Danio_rerio       LEMFGEEQKQMGTLSSWAVYRSYWKAVGGCMVAVALLALFLMQASKNVSDWWLSHWISS--H 981
Callorhinchus_milii VQVS--EEDKKVGAVTLRVYSAYWHAVGCCLAFLSILVSLLMQASRNVSDDWWLSNWNISNLQ 979
.....1030.....1040.....1050.....1060.....1070.....1080

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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      .      .      ::      *      *      :      :      :      :      :      :
Pavo_muticus      QTANTSVMVSSASLP-----STKLLLFIVGLVSPIQALDTPVPSNASVDVNFYLTIVY      1028
Pavo_cristatus    QTANTSVMVSSASLP-----STKLLLFIVGLVSLIQALDTPVPSNASVDVNFYLTIVY      1028
Gallus_gallus     QTANTSVMASSTSLP-----STKLLLFIVGLVSPIQALDTPVPSNASVDVNFYLTIVY      1028
Mus_musculus      AGRNGSREDPASCSPGSTALFSPRLLLFSPGNLYTPLLSTPLHKAASNGTADVHFYLTIVY      976
Rattus_norvegicus AGRNSSEERPASSSPRSMGFFSPRLLLFSPGNLY-----IPLHKATSNNGSSDVHFYLTIVY      970
Homo_sapiens      AE-NSSQEAQPSSTSPASMGFLSPQLLLFSPGNLYIP--VFPLPKAAPNGSSDIRFYLTIVY      971
Pan_troglodytes   AE-NSSQEAQPSSTSPASMGFLSPQLLLFSPGNLYTP--VFPLPKAAPNGSSDIRFYLTIVY      986
Macaca_mulatta    AE-NSSQEVQASTSPASTGLFSPQLLLFSPGNLYTP--VFPLPKAAPNGSSDIHFYLTIVY      1008
Callithrix_jacchus AE-NSSQEAALASTSPASMGFLCPQLLLFSPGNLYTP--VFPLPRAAPNGSSDLRFYLTIVY      998
Canis_lupus_familiaris ANKNNSQEVPAPTNPGSTGLLSAQLLLFSPRNLYTS--VFPLPKTASNGSSDIRFYLTIVY      972
Equus_caballus    AAKNGSQEVPPSTSLGSTGLLSAQLLLFSPGSLYTS--VFPLPKAAPNGSSDIRFYLTIVY      1012
Bos_taurus        AAKNSSQEAALAPTRLGSMGPLSAQLLLFSPGSLCTS--VFPLPKAAPNGSSDLRFYLTIVY      972
Xenopus_tropicalis DSPRNVSLTNLTSSS---FPSASLLLFSPGGLVSP--ISSVHSAEKNSSLDITFYLSVY      989
Danio_rerio       MKDNMTELVSVSATP-----LLMLSFLSPGRLVFN-APARGSESSGNMSSSELKFYMTIVY      1034
Callorhinchus_milii HQSNMSGNGSSTSSS-----TFPHLLLFYSNLFIS-PVTVG---GNLSSQVKFYLTIVY      1028
.....1090.....1100.....1110.....1120.....1130.....1140

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      .      :      *      :      :      *      :      :      :      :      :      :      :
Pavo_muticus      GSIAGANSFLTIFRAFLFAYGTIRAIVIHKRLLQRVIKATVTFFDTTPTGRILNRFSSD      1088
Pavo_cristatus    GSIAGANSFLTIFRAFLFAYGTIRAIVIHKRLLQRVIKATVTFFDTTPTGRILNRFSSD      1088
Gallus_gallus     GGIAGANSFLTIFRAFLFAYGTIRAIVIHKRLLQRVIKATVTFFDTTPTGRILNRFSSD      1088
Mus_musculus      ATIAGVNSLCTLLRAVLFAAGALQAAALHHRLLHRLLMAPVTIFYDSTPSGRVLNRFSSD      1036
Rattus_norvegicus ATIAGVNSLCTLLRAVLFAAGALQAAALHHRLLHRLLMAPVTIFYDSTPSGRVLNRFSSD      1030
Homo_sapiens      ATIAGVNSLCTLLRAVLFAAGTLQAAATLHRRLLHRLVLMAPVTFFNATPTGRILNRFSSD      1031
Pan_troglodytes   ATIAGVNSLCTLLRAVLFAAGTLQAAATLHRRLLHRLVLMAPVTFFNATPTGRILNRFSSD      1046
Macaca_mulatta    ATIAGVNSLCTLLRAVLFAAGTLQAAATLHRRLLHRLVLMAPVTFFNATPTGRILNRFSSD      1068
Callithrix_jacchus ATIAGVNSLCTFLRAVLFAAGTLQAAATLHRRLLHRLVLMAPVTFFNATPTGRILNRFSSD      1058
Canis_lupus_familiaris ATIAGVNSLCTFLRAVLFAAGTLQAAATLHRRLLHRLVLMAPVTFFDSTPAGRVLNRFSSD      1032
Equus_caballus    ATIAGVNSLCTLLRAVLFAAGTLQAAATLHRRLLHRLVLMAPVTFFDSTPMGRVLNRFSSD      1072
Bos_taurus        ATIAGVNSLCTLLRAVLFAAGTLQAAATLHRRLLHRLVLMAPVTFFDSTPTGRVLNRFSSD      1032
Xenopus_tropicalis GGIAVANSIFTALRAFLFALGTIVHAAVVIHRRLLSSVLQATVSFFDSTPIGRILNRFSSD      1049
Danio_rerio       GSIAAANTVFTAARAFLFAYGAICAAATVHKKLLSSVLKATMTFFDTTPTGRILNRFSSD      1094
Callorhinchus_milii GCIAASNTVFTALRAFLFAYSIRAATTIHNKLLKQVLKATVTFFDTPVGRIVNRFSSD      1088
.....1150.....1160.....1170.....1180.....1190.....1200

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      :      .      :      :      :      :      :      :      :      :      :      :
Pavo_muticus      LYCVDDSLPFILNIFLANMYGLLGMLVIITYGLPWIGLVLLPLAALYFSIQRYRHTSRE      1148
Pavo_cristatus    LYCVDDSLPFILNIFLANMYGLLGMLVIITYGLPWIGLVLLPLAALYFSIQRYRHTSRE      1148
Gallus_gallus     LYCVDDSLPFILNIFLANMYGLLGMLVIITYGLPWIGLVLLPLAALYFSIQRYRHTSRE      1148
Mus_musculus      VACVDDSLPFLNILLANSVGLLGLLAVLGSGLPWLLLLLPPLSFVYYSVQGYRASFRE      1096
Rattus_norvegicus VACVDDSLPFLNILLANSVGLLGLLAVLGSGLPWLLLLLPPLSFYIYGVQRRYRASFRE      1090
Homo_sapiens      VACADDSLPFILNILLANAAGLLGLLAVLGSGLPWLLLLLPPLSIMYHVQRHYRASSRE      1091
Pan_troglodytes   VACADDSLPFILNILLANAAGLLGLLAVLGSGLPWLLLLLPPLSIMYHVQRHYRASSRE      1106
Macaca_mulatta    VACVDDSLPFILNILLANAAGLLGLLAVLGSGLPWLLLLLPPLSIYYHVQRHYRASSRE      1128
Callithrix_jacchus VACVDDSLPFILNILLANAAGLLGLLAVLGSGLPWLLLLLPPLSIYYKVQRHYRASSRE      1118
Canis_lupus_familiaris VACADDSLPFILNILLANAAGLLGLLAVLGSGLPWLLLLLPPLSVLYYRVQRHYRASSRE      1092
Equus_caballus    VACADDSLPFILNILLANAAGLLGLLAVLGSGLPWLLLLLPPLSVIYYRVQRHYRASSRE      1132
Bos_taurus        VACADDSLPFILNILLANAAGLLGLLAVLGSGLPWLLLLLPPLSIYYRVQSHYRASSRE      1092
Xenopus_tropicalis LYCVDDSLPFVLNIFLAFTFGLLGMVMISYGLPWILPVLLPLCLLYYYLQRFYRHSSRE      1109
Danio_rerio       IYSVDDSLPFVLNILLANVFGLLGMLIVMSYGLPWVLLPLVPLGALYYQTQCFYRYSSRE      1154
Callorhinchus_milii LYCMDDTLPFILNIFLANLFGLLGTIVIVIIYGLPWIVLMLLPLAALYFHIQRYRHTSRE      1148
.....1210.....1220.....1230.....1240.....1250.....1260

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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**** *:: *:::****:***. :*.      *** *      ** **** * : :::***
Pavo_muticus      LKRLYSVTLSPIYTHFSETLSGLSSIRAMRAAQRFELENELRLEQNORCLFASNTIAMOWL 1208
Pavo_cristatus    LKRLYSVTLSPIYTHFSETLSGLSSIRAMRAAQRFELENELRLEQNORCLFASNTIAMOWL 1208
Gallus_gallus     LKRLYSVTLSPIYTHFSETLSGLSSIRAMRAAQRFELENELRLEQNORCLFASNTIAMOWL 1208
Mus_musculus      LRLGSLTWSPLYSHLADTLAGLPVLRAGATYRFEENQRLLELNQRCQFASYATMOWL 1156
Rattus_norvegicus LRLGSLTWSPLYSHLADTLAGLPVLRAGATYRFEENQRLLELNQRCQFASYATMOWL 1150
Homo_sapiens      LRLGSLTWSPLYSHLADTLAGLSVLRATGATYRFEENQRLLELNQRCQFATSATMOWL 1151
Pan_troglodytes   LRLGSLTWSPLYSHLADTLAGLSVLRATGATYRFEENQRLLELNQRCQFATSATVOWL 1166
Macaca_mulatta    LRLGSLTWSPLYTHLADTLAGLSVLRATGATYRFEENQRLLELNQRCQFATSATMOWL 1188
Callithrix_jacchus LRLGSLTWSPLYTHLADTLAGLPVLRAGATYRFEENQRLLELNQRCQFATSATMOWL 1178
Canis_lupus_familiaris LRLSSLTWSPLYTHLADTLAGLPVLRAGATSRFEENQRLLELNQRCQFAASATIOWL 1152
Equus_caballus    LRLSSLTWSPLYTHLADTLAGLPVLRATGATYRFEENQRLLELNQRCQFAASATMOWL 1192
Bos_taurus        LRLGSLTWSPLYTHLADTLAGLPVLRAGATYRFEENQRLLELNQRCQFAASATMOWL 1152
Xenopus_tropicalis LKRLQSITLSPIYTHFSETLTGLTTIRATHDRFEACVSRLEVNQRCMFASNAAVOWL 1169
Danio_rerio       LKRLCSLTSPVYSHFSETLSGLSTVRGSGHTTRFEENQRLLEQNORCLFNSNAAMOWL 1214
Callorhinchus_milii LKRLSSLSLSIYTFSETLTGLSTIRASRAMDRFEWENASRLETNORCLFASGTATIOWL 1208
.....1270.....1280.....1290.....1300.....1310.....1320

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*****:.. *:: *:::****:***** *****:*.:****: ::: **
Pavo_muticus      DIRLQMIGVAVITAIAGIAIIHQKQGLGNPGLVGLALSVALSVTNLLSGLISSFTTTETM 1268
Pavo_cristatus    DIRLQMIGVAVITAIAGIAIIHQKQGLGNPGLVGLALSVALSVTNLLSGLISSFTTTETM 1268
Gallus_gallus     DIRLQMIGVAVITAIAGIAIIHQKQGLGNPGLVGLALSVALSVTNLLSGLISSFTTTETM 1268
Mus_musculus      DIRLQMGAAVVSIAIAGIALVHQOGLANPGLVGLVLSVALSLTGLLSGLVSSFTQTTEAM 1216
Rattus_norvegicus DIRLQMGAAVVSIAIAGIALVHQOGLANPGLVGLVLSVALSLTGLLSGLVSSFTQTTEAM 1210
Homo_sapiens      DIRLQMGAAVVSIAIAGIALVHQOGLANPGLVGLSLSVALSLTGLLSGLVSSFTQTTEAM 1211
Pan_troglodytes   DIRLQMGAAVVSIAIAGIALVHQOGLANPGLVGLSLSVALSLTGLLSGLVSSFTQTTEAM 1226
Macaca_mulatta    DIRLQMGAAVVSIAIAGIALVHQOGLANPGLVGLSLSVALSLTGLLSGLVSSFTQTTEAM 1248
Callithrix_jacchus DIRLQMGAAVVSIAIAGIALVHQOGLANPGLVGLSLSVALSLTGLLSGLVSSFTQTTEAM 1238
Canis_lupus_familiaris DIRLQMGATVVSIAIAGIALVHQOGLANPGLVGLSLSVALSLTGLLSGLVSSFTQTTEAM 1212
Equus_caballus    DIRLQMGAAVVSIAIAGIALVHQOGLADPGLVGLSLSVALSLTGLLSGLVSGFTQTTEAM 1252
Bos_taurus        DIRLQMGAAVVSIAIAGIALVHQOGLANPGLVGLSLSVALSLTGLLSGLVSSFTQTTEAM 1212
Xenopus_tropicalis DIRLQMIGVMVVAISVIAIIHQKQSGDPGLVGLALSVALSITGILSGLISSFTQTTEAM 1229
Danio_rerio       DIRLQMIAVTVVTGISVIAVHQKLSIDPGLVGLSLSVALSITNLLSGLIFSYAQTEMQ 1274
Callorhinchus_milii DIRLQMGVAVVTAIAIAVIEHQMKVGDPLVGLALSVALSITNVLSGLVSNFTQTTEAMQ 1268
.....1330.....1340.....1350.....1360.....1370.....1380

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:***:** ***: :* *.
Pavo_muticus      MVSVERTEEYTTDIPVEPQDKLVQVA----- 1294
Pavo_cristatus    MVSVERTEEYTTDIPVEPQDKLVQVA----- 1294
Gallus_gallus     MVSVERTEEYTTDIPMEPQDKLVQVA----- 1294
Mus_musculus      MVSVERLEEYSCDVPQEPHSPLOSP----- 1242
Rattus_norvegicus MVSVERLEEYSCDIPQEPHGPQPS----- 1236
Homo_sapiens      LVSVERLEEYTCDLPOEPQGPLOLG----- 1237
Pan_troglodytes   LVSVERLEEYTCDLPOEPQGPLOLG----- 1252
Macaca_mulatta    LVSVERLEEYSCDLPQEPQGPLOVGLYPDRPKLWNPEGPSVPRNFFLFTHPSPSAPIT 1308
Callithrix_jacchus LVSVERLEEYSCDLPQEPQGMLOLG----- 1264
Canis_lupus_familiaris LVSVERLEEYSCDLPQEPQGPRLG----- 1238
Equus_caballus    LVSVERLEEYSCDLPQEPDRLLQLG----- 1278
Bos_taurus        LVSVERLEEYSCDLPQEPGRQPLG----- 1238
Xenopus_tropicalis MVSVERTEEYSTTLPSESAEGSLQVE----- 1255
Danio_rerio       LVSIERTEEYSTSIPQEPQASLEVL----- 1300
Callorhinchus_milii MVSVERIEEYSTEIPTEPHSTLOVP----- 1294
.....1390.....1400.....1410.....1420.....1430.....1440

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus	-----A	1295
Pavo_cristatus	-----A	1295
Gallus_gallus	-----A	1295
Mus_musculus	-----HQORI	1247
Rattus_norvegicus	-----HQR-V	1240
Homo_sapiens	-----T	1238
Pan_troglodytes	-----T	1253
Macaca_mulatta	SLHDDQNSSPCPFFRISYSLTFPLTLFISHYPPLLTIGSSSPSPSSPLSPTHGLHQLGT	1368
Callithrix_jacchus	-----T	1265
Canis_lupus_familiaris	-----V	1239
Equus_caballus	-----I	1279
Bos_taurus	-----I	1239
Xenopus_tropicalis	-----L	1256
Danio_rerio	-----D	1301
Callorhinchus_milii	-----D	1295

.....1450.....1460.....1470.....1480.....1490.....1500

Pavo_muticus	DWPSQGLVEFQQVILAYRAGLPNALDGVSTFVYPGEKVGIVGRTGSGKSTLFLALFRMLE	1355
Pavo_cristatus	DWPSQGLVEFQQVILAYRAGLPNALDGVSTFVYPGEKVGIVGRTGSGKSTLFLALFRMLE	1355
Gallus_gallus	DWPSQGLVEFQQVILAYRAGLPNALDGVSTFVYPGEKVGIVGRTGSGKSTLFLALFRMVE	1355
Mus_musculus	SWLTQGSVEFQDVVLVYRPGLPNALDGVTFRVEPGEKLGIVGRTGSGKSSLLFLVLFRLLE	1307
Rattus_norvegicus	SWLTQGSVEFQDVVLVYRPGLPNALDGVTFRVEPGEKLGIVGRTGSGKSSLLFLVLFRLLE	1300
Homo_sapiens	GWLTQGGVEFQDVVLAYRPGLPNALDGVTFVCVQGEKLGIVGRTGSGKSSLLLVLFRLLE	1298
Pan_troglodytes	GWLTQGGVEFQDVVLAYRPGLPNALDGVTFVCVQGEKLGIVGRTGSGKSSLLLVLFRLLE	1313
Macaca_mulatta	GWLTQGGVEFQDVVLAYRPGLPNALDGVTFVCVQGEKLGIVGRTGSGKSSLLLVLFRLLE	1428
Callithrix_jacchus	GWLTQGSVEFQDVVLVYRPGLPNALDGVTFRVPGEKLGIVGRTGSGKSSLLLVLFRLLE	1325
Canis_lupus_familiaris	GWLTQGSVEFQDVVLVYRPGLPNALDGVTFRVPGEKLGIVGRTGSGKSSLLLVLFRLLE	1299
Equus_caballus	GWLTQGSVEFQDVVLVYRPGLPNALDGVTFRVPGEKLGIVGRTGSGKSSLLLVLFRLLE	1339
Bos_taurus	SWLSQGSVEFQNVVLVYRPGLPNALDGVTFRVPGEKLGIVGRTGSGKSSLLLVLFRLLE	1299
Xenopus_tropicalis	DWPTNGHIEFRNVVLCYRLGLPNALDGVSTFISPGEKIGIVGRTGSGKSTLFLALFRMME	1316
Danio_rerio	RWPERARVEFVDVVLVYRPGLPNALDGVSTFVLPGEKIGIVGRTGSGKSSLLFLALFRMVE	1361
Callorhinchus_milii	TWPAQGLVEFRDVLVYRPGLPNALDGVSTFVLPGEKIGIVGRTGSGKSSMFLALFRMVE	1355

.....1510.....1520.....1530.....1540.....1550.....1560

Pavo_muticus	LKAGRILLDGVDSRLVGLLELR-----SRLAIIPQDPFLFSGSIRENLDPOGKR	1404
Pavo_cristatus	LKAGRILLDGVDSRLVGLLELR-----SRLAIIPQDPFLFSGSIRENLDPOGKR	1404
Gallus_gallus	LKAGRILLDGVDSRLVGLLELR-----SRLAIIPQDPFLFSGSIRENLDPOGKR	1404
Mus_musculus	PNAGRVLLDNVDTSQLELAELR-----SQLAVIIPQEPFLFSGTVIRENLDPOGLH	1356
Rattus_norvegicus	PSAGQVLLDGVDTSQLELAELR-----SQLAVIIPQEPFLFSGTVIRENLDPOGLH	1349
Homo_sapiens	PSSGRVLLDGVDTSQLELAQLR-----SQLAIIPQEPFLFSGTVIRENLDPOGLH	1347
Pan_troglodytes	PSSGRVLLDGVDTSQLELAQLR-----SQLAIIPQEPFLFSGTVIRENLDPOGLH	1362
Macaca_mulatta	PSSGRVLLDGVDTSQLELAQLR-----SQLAIIPQEPFLFSGTVIRENLDPRGLH	1477
Callithrix_jacchus	PSSGRVLLDGVDTSQLELAQLR-----SQLAIIPQEPFLFSGTVIRENLDPRGLH	1374
Canis_lupus_familiaris	PSSGRVLLDGVDTSQLELAELRSHVLSYPPRS-----SQLAIIPQEPFLFSGTVIRENLDPOGLH	1359
Equus_caballus	PSSGRVLLDGVDTSQLELAELR-----SQLAIIPQEPFLFSGTVIRENLDPOGLH	1388
Bos_taurus	PSSGRVLLDGMVDTSQLELAELR-----SQLAIIPQEPFLFSGTVIRENLDPRGLY	1348
Xenopus_tropicalis	LKEGSILIDNVPSHLLNLELLR-----SRLAIIPQDAFLFSGSVRVNLDPLSYH	1365
Danio_rerio	LNQGOILLDGVDISSVRLSDLR-----SKLAIIPQDPFLFSSSVIRENLDPHGRH	1410
Callorhinchus_milii	LSEGOILIDGIDTKAVSLEELR-----SRLAIIPQDAFLFSGSVIRENLDPLGRH	1404

.....1570.....1580.....1590.....1600.....1610.....1620

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Pavo_muticus      TDAELHEVLEQCHLWDAVTQMGGGLDSELGERGKSLSVGQROLVCLARALLTQAKVLCIDE 1464
Pavo_cristatus    TDAELHEVLEQCHLWDAVTQMGGGLDSELGERGKSLSVGQROLVCLARALLTQAKVLCIDE 1464
Gallus_gallus     TDAELHEVLEQCHLRDAVTQMGGGLDSELGERGKSLSVGQROLVCLARALLTQAKVLCIDE 1464
Mus_musculus      EDRALWQALEQCHLSEVAVAMGGGLDGELGERGQNLISLGQROLVCLARALLTDAKILCIDE 1416
Rattus_norvegicus EDRALWQALEQCHLSEVAMAIGGLDGELGERGRDLSLGQROLVCLARALLTDAKILCIDE 1409
Homo_sapiens      KDRALWQALKQCHLSEVITSMGGGLDGELGEGGRSLSLGQROLVCLARALLTDAKILCIDE 1407
Pan_troglodytes   KDRTLWQALEQCHLSEVITSMGGGLDGELGEGGRSLSLGQROLVCLARALLTDAKILCIDE 1422
Macaca_mulatta    KDRALWQALEQCHLSEVITSMGGGLDGELGEGGRSLSLGQROLVCLARALLTDAKILCIDE 1537
Callithrix_jacchus KDRALWQALEQCHLNEVITSMGGGLDGELGEGGRSLSLGQROLVCLARALLTDAKILCIDE 1434
Canis_lupus_familiaris EDRALWQALEQCHLSEVIVSLGGGLDGELGEGGRSLSLGQROLVCLARALLTDAKILCIDE 1419
Equus_caballus    EDRALWQALEQCHLREVILSLGGGLDGELGEGGRSLSLGQROLVCLARALLTDAKILCIDE 1448
Bos_taurus        EDGALWQALEQCHLSEAIESMGGGLDGELGEGGRSLSLGQROLVCLARALLTDAKILCIDE 1408
Xenopus_tropicalis TDVEILKVLDQCHLQDVVRRIGGLDADVGDRGNFSLGQROLVCLARALLTHAKILCIDE 1425
Danio_rerio       PDYRLLEALEQCHLGNVVQRNGGLDSEVGERGKSLSVGQROLVCLARALLTEANILCIDE 1470
Callorhinchus_milii TEQQLLRVLKQCHLLQLVNRMGGLGAELGEKGRNLSAGQQLVCLARALLTQAKVLCIDE 1464
.....1630.....1640.....1650.....1660.....1670.....1680

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Pavo_muticus      ATASVDQKTDQLLQQTIRQRFADKTVLTIAHRLNTILSDRVLVMOAGRNVVELDSPACLS 1524
Pavo_cristatus    ATASVDQKTDQLLQQTIRQRFADKTVLTIAHRLNTILSDRVLVMOAGRNVVELDSPACLS 1524
Gallus_gallus     ATASVDQKTDQLLQQTIRQRFADKTVLTIAHRLNTILSDRVLVMOAGRNVVELDSPAYLS 1524
Mus_musculus      ATASVDQKTDQLLQQTICKRFANKTVLTIAHRLNTILNSDRVLVLQAGRNVVELDSPSALR 1476
Rattus_norvegicus ATASVDQKTDQLLQQTICKRFANKTVLTIAHRLNTILNSDRVLVLQAGRNVVELDSPSALR 1469
Homo_sapiens      ATASVDQKTDQLLQQTICKRFANKTVLTIAHRLNTILNSDRVLVLQAGRNVVELDSPATLR 1467
Pan_troglodytes   ATASVDQKTDQLLQQTICKRFANKTVLTIAHRLNTILNSDRVLVLQAGRNVVELDSPATLR 1482
Macaca_mulatta    ATASVDQKTDQLLQQTICKRFANKTVLTIAHRLNTILNSDRVLVLQAGRNVVELDSPATLR 1597
Callithrix_jacchus ATASVDQKTDQLLQQTICKRFANKTVLTIAHRLNTILNSDRVLVLQAGRNVVELDSPAALH 1494
Canis_lupus_familiaris ATASVDQKTDQLLQQTICKRFANKTVLTIAHRLNTILNSDRVLVLQAGRNVVELDSPAALR 1479
Equus_caballus    ATASVDQKTDQLLQQTICKRFANKTVLTIAHRLNTILNSDRVLVLQAGRNVVELDSPATLC 1508
Bos_taurus        ATASVDQKTDQLLQQTISKRFANKTVLTIAHRLNTILNSDRVLVLHAGRVAVELGSPAALC 1468
Xenopus_tropicalis ATASVDHQTDQLLQQTIRERFRERTVLTIAHRLNTIMSDRVLVMHAGKLVVELDSPANLS 1485
Danio_rerio       ATASVDQKTDMLLQKTIREKFADKTVLTIAHRLNTIMSDKVLVMHAGKVVEFDSPATLC 1530
Callorhinchus_milii ATASVDQKTDQLLQQTIREEFADKTVLTIAHRLNTVMSDRVLVMOAGRNVKEFDSPLVLS 1524
.....1690.....1700.....1710.....1720.....1730.....1740

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Pavo_muticus      KKDGSLFQRLHSGQQ----- 1540
Pavo_cristatus    KKDGSLFQRLHSGQQ----- 1540
Gallus_gallus     KKDGSLFQRLHSGQQ----- 1540
Mus_musculus      NQPHSLFQQLLQSSQQAHSGLPSGC 1501
Rattus_norvegicus NQPHSLFRQLLQSSQQAHSGLPAAC 1494
Homo_sapiens      NQPHSLFQQLLQSSQQAHSGLGPP 1492
Pan_troglodytes   NQPHSLFQQLLQSSQQAHSGLGPP 1507
Macaca_mulatta    NQPHSLFQQLLQSSQQAHSGLGPP 1622
Callithrix_jacchus NQPHSLFQQLLQSSQQAHSGLGPP 1519
Canis_lupus_familiaris SQPHSLFQQLLQSSQQAHSGLSSR--- 1501
Equus_caballus    SQPHSLFQQLLQSSQQAHSGLSSP--- 1530
Bos_taurus        TQPHSLFQQLLQSSQQAHSGLSSP--- 1490
Xenopus_tropicalis KREDNSFYRLIHSGQL----- 1501
Danio_rerio       QREDNSFYRLIHSGQL----- 1548
Callorhinchus_milii QKQNSHFYRLIHSGQL----- 1540
.....1750.....1760.....

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