

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/RODaps: Tue Feb 1 14:27:37 2022

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Xenopus_tropicalis      --MSRTRSQNGG-IG---CAPLGFIVAAAILLALG---ASGEMEIPDLNDPLGQMDSHDR    50
Rhinatrema_bivittatum  --MQRSRGEAGGPIGALLRALLLLLLAGPRPVLH---AAGEMELPDSRDPLGOADGHDR    54
Mus_musculus           ----MARGWVRPSRVPLCARAVWTAAALLLWTPW---TAGEVEDSEAITLGLQPDGPDSD    52
Rattus_norvegicus      -MTKLPHKHQLRLVVGKFFPGKTRLHIVTVFWEDFGCONHSGEVEDSEAITLGLQDGPDS    59
Homo_sapiens           ----MARGSALPRRPLLCIPAVWAAAALLLSVSR---TSGEVEVLDPNNDPLGPLDGDQDG    52
Pan_troglodytes        ----MARGSALPRRPLLCIPAVWAAAALLLSVSR---TSGEVEVLDPNNDPLGPLDGDQDG    52
Macaca_mulatta         ----MARGSALPRRPLLCIPAVWAGAALLLSVSR---ASGEVEVPDNDPLGPLDGDQDG    52
Callithrix_jacchus     ----MARGAALPRRALLCFPAVCAAGLLLSVSR---TSGEVEVPDLNDPLGPLDGDQDS    52
Heterocephalus_glaber  ----MAQSGSLPPR---CAPTVWAAVALLLSSPQ---TSGEVEVPDPSDPLGHLDGQEG    49
Canis_lupus_familiaris ----MARGSAPP---LLCAPAVWVAAAALLLCAPR---TSGEVEVPDANDPLGOLDGDQDG    49
Equus_caballus         ----MARGSALP---LLCVPAVWAAAALLLSVPR---TSGEVEVPDNDPLGOLDGHDS    49
Bos_taurus            ----MARGSALR---WLCVPAVWAVAALLLCVSR---ASGQAEVPDSSDPLGOLDGHDS    49
Gallus_gallus         ----MVPAA-----ALRLLALLVAAVLLRLR---AAGEMEIPDSNDPLGHVGLER    44
Anas_platyrhynchos     ----MVPAAAGPAGRRGAAGRILTLAAAAILRLR---AAGEMEIPDSNDPLGHVDGLER    52
Pavo_cristatus         -----
Pavo_muticus           -----
Chelonia_mydas         MVRTGAARGAPAQRRGAASLLALLAASLLLLY---AAGEMEIPDSNDPLSQVDGHDR    56
Latimeria_chalumnae    -----DEYHTLPSG-----MVHKDKFFMGNQFGSTG    26
1.....10.....20.....30.....40.....50.....60

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Xenopus_tropicalis      LGATPRGYFLTFLFEPVNNITIVQGQAATLHCKVSGNPLPNVKWLKNDAPVVQEPKRITIR    110
Rhinatrema_bivittatum  LLPTPQGYFLTFLFEPVNNITIVQGQATLHCRVEGNPLPNIRWLKNDAPVVQEPKRITIR    114
Mus_musculus           PLPTLKGYFLNFLEPVNNITIVQGQTAILHCKVAGNPPPNVRWLKNDAPVVQEPRRVIIR    112
Rattus_norvegicus      PLPTLKGYFLNFLEPVNNITIVQGQTAILHCKVAGNPPPNVRWLKNDAPVVQEPRRVIIR    119
Homo_sapiens           PIPTLKGYFLNFLEPVNNITIVQGQTAILHCKVAGNPPPNVRWLKNDAPVVQEPRIIIR    112
Pan_troglodytes        PIPTLKGYFLNFLEPVNNITIVQGQTAILHCKVAGNPPPNVRWLKNDAPVVQEPRIIIR    112
Macaca_mulatta         PIPTLKGYFLNFLEPVNNITIVQGQTAILHCKVAGNPPPNVRWLKNDAPVVQEPRIIIR    112
Callithrix_jacchus     PIPTLKGYFLNFLEPVNNITIVQGQTAILHCKVAGNPPPNVRWLKNDAPVVQEPRIIIR    112
Heterocephalus_glaber  PIPTLKGYFLNFLEPVNNITIVQGQTAVLHCKVAGNPPPNVRWLKNDAPVVQEPRIIIR    109
Canis_lupus_familiaris PIPTLKGYFLNFLEPVNNITIVQGQTAILQCKVAGNPTPTVRWLKNDAPVVQEPRRVIIR    109
Equus_caballus         PIPTLKGYFLNFLEPVNNITIVQGQTAILHCKVAGNPPPSVRWLKNDAPVVQEPRRVIIR    109
Bos_taurus            PVPTLKGYFLNFLEPVNNITIVQGQTAILHCKVAGNPPPSVRWLKNDAPVVQEPRRVIIR    109
Gallus_gallus         PIPTPKGYFLTFLFEPVNNITIVQGQTAILHCKVAGNPSPNVRWLKNDAPVVQEPRIIIR    104
Anas_platyrhynchos     PIPTPKGYFLTFLFEPVNNITIVQGQTAILHCKVAGNPSPNVRWLKNDAPVVQEPRIIIR    112
Pavo_cristatus         -----
Pavo_muticus           -----
Chelonia_mydas         QIPTPKGYFLTFLFEPVNNITIVQGQTAILHCKVAGNPSPNVRWLKNDAPVVQEPRIIIR    116
Latimeria_chalumnae    HRASCEDFFLTFLFEPVNNITIVQGQMATLHCKVAGNPAPTIKWLKNDAPVVQEPRIIIR    86
.....70.....80.....90.....100.....110.....120

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Xenopus_tropicalis      KTDYGSRLRIQDLDTTDTGYQCVAATNGIKTITATGVLFVRLG--PTNSPNHNTQDDYHK    168
Rhinatrema_bivittatum  KTDYGSRLRIQDLDTTDTGYQCVAATNGLKTITATGVLFVRLG--PTHSPNHNFDQDYQE    172
Mus_musculus           KTEYGSRLRIQDLDTTDTGYQCVAATNGLKTITATGVLYVRLG--PTHSPNHNFDQDDQE    170
Rattus_norvegicus      KTEYGSRLRIQDLDTTDTGYQCVAATNGLKTITATGVLYVRLG--PTHSPNHNFDQDDQE    177
Homo_sapiens           KTEYGSRLRIQDLDTTDTGYQCVAATNGMKTITATGVLFVRLG--PTHSPNHNFDQDYHE    170
Pan_troglodytes        KTEYGSRLRIQDLDTTDTGYQCVAATNGMKTITATGVLFVRLG--PTHSPNHNFDQDYHE    170
Macaca_mulatta         KTEYGSRLRIQDLDTTDTGYQCVAATNGMKTITATGVLFVRLG--PTHSPNHNFDQDYHE    170
Callithrix_jacchus     KTEYGSRLRIQDLDTTDTGYQCVAATNGMKTITATGVLFVRLG--PTHSPNHNFDQDYHE    170
Heterocephalus_glaber  KTEYGSRLRIQDLDTTDTGYQCVAATNGVKTITATGVLYVRLG--PTHSPNHNFDQDYQE    167
Canis_lupus_familiaris KTEYGSRLRIQDLDTTDTGYQCVAATNGVKTITATGVLFVRLG--PTHSPNHNFDQDYHE    167
Equus_caballus         KTEYGSRLRIQDLDTTDTGYQCVAATNGVKTITATGVLFVRLG--PTHSPNHNFDQDYHE    167
Bos_taurus            KTEYGSRLRIQDLDTTDTGYQCVAATNGVKTITATGVLFVRLG--PTHSPNHNFDQDYHE    167
Gallus_gallus          KTDYGSRLRIQDLDTTDTGYQCVASNGMKTITATGVLFVRLG--PTNSPNHNLDQEDYHG    162
Anas_platyrhynchos     KTDYGSRLRIQDLDTTDTGYQCVASNGMKTITATGVLFVRLG--PTNSPNHNLDQEDYHE    170
Pavo_cristatus         -----REDYHG    6
Pavo_muticus           -----REDYHG    6
Chelonia_mydas         KTDYGSRLRIQDLDTTDTGYQCVAATNGMKTITATGVLFVRLG--PTNSPNHNFDQEDYHE    174
Latimeria_chalumnae    KTDSGSRLRIQDLDTTDTGYQCVASNSIKTITGTGLLVKLDQTPHSPKFEVPEKD-HE    145
.....130.....140.....150.....160.....170.....180

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:*****  ****:***:****:***** **:*
Xenopus_tropicalis      DGFCQPYRGIACARFIGNRTIYVDSLQMOGEIENRITAAFTMIGTSTHLSDCSQFAIPS 228
Rhinatrema_bivittatum  DGFCQPYRGIACARFIGNRTIYVDTLQMOGEIENRITAAFTMIGTSTHLSDCSQFAIPS 232
Mus_musculus           DGFCQPYRGIACARFIGNRTIYVDSLQMOGEIENRITAAFTMIGTSTQLSDCQSQFAIPS 230
Rattus_norvegicus      DGFCQPYRGIACARFIGNRTIYVDSLQMOGEIENRITAAFTMIGTSTHLSDCSQFAIPS 237
Homo_sapiens           DGFCQPYRGIACARFIGNRTIYVDSLQMOGEIENRITAAFTMIGTSTHLSDCSQFAIPS 230
Pan_troglodytes        DGFCQPYRGIACARFIGNRTIYVDSLQMOGEIENRITAAFTMIGTSTHLSDCSQFAIPS 230
Macaca_mulatta         DGFCQPYRGIACARFIGNRTIYVDSLQMOGEIENRITAAFTMIGTSTHLSDCSQFAIPS 230
Callithrix_jacchus     DGFCQPYRGIACARFIGNRTIYVDSLQMOGEIENRITAAFTMIGTSTHLSDCSQFAIPS 230
Heterocephalus_glaber  DGFCQPYRGIACARFIGNRTIYVDSLQMOGEIENRITAAFTMIGTSTHLSDCSQFAIPS 227
Canis_lupus_familiaris DGFCQPYRGIACARFIGNRTIYVDSLQMOGEIENRITAAFTMIGTSTHLSDCSQFAIPS 227
Equus_caballus         EGFCQPYRGIACARFIGNRTIYVDSLQMOGEIENRITAAFTMIGTSTHLSDCSQFAIPS 227
Bos_taurus            DGFCQPYRGIACARFIGNRTIYVDSLQMOGEIENRITAAFTMIGTSTHLSDCSQFAIPS 227
Gallus_gallus         DGFCQPYRGIACARIIGNRTIYVDSLQMOGEIENRITAAFTMIGTSTHLSDCSQFAIPS 222
Anas_platyrhynchos    DGFCQPYRGIACARIIGNRTIYVDSLQMOGEIENRITAAFTMIGTSTHLSDCSQFAIPS 230
Pavo_cristatus        DGFCQPYRGIACARIIGNRTIYVDSLQMOGEIENRITAAFTMIGTSTHLSDCSQFAIPS 66
Pavo_muticus          DGFCQPYRGIACARIIGNRTIYVDSLQMOGEIENRITAAFTMIGTSTHLSDCSQFAIPS 66
Chelonia_mydas        DGFCQPYRGIACARIIGNRTIYVDSLQMOGEIENRITAAFTMIGTSTHLSDCSQFAIPS 234
Latimeria_chalumnae   DGFCQPYRGAACARFIGNKTIIYVENLQMOGETENCITEFAMKYSLKVCTKIQVYQFTSAS 205
.....190.....200.....210.....220.....230.....240

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:  *      :.:  *  :  .:  *  :.:  *  :
Xenopus_tropicalis      FCHFVFPLCDD--GTSKPRELCRDECEVLENDLCRQEYNIARSNPLILMLQLHLPNCEELP 286
Rhinatrema_bivittatum  FCHFVFPLCEESSRTPKPRELCRDECEVLENDLCRQEYNIARSNPLILMLQLPLNCEELP 292
Mus_musculus           FCHFVFPLCDARSRAPKPRELCRDECEVLENDLCRQEYTIARSNPLILMLQLPKCEALP 290
Rattus_norvegicus      FCHFVFPLCDARSRAPKPRELCRDECEVLENDLCRQEYTIARSNPLILMLQLPKCEALP 297
Homo_sapiens           FCHFVFPLCDARSRTPKPRELCRDECEVLESIDLQREYTIARSNPLILMLQLPKCEALP 290
Pan_troglodytes        FCHFVFPLCDARSRAPKPRELCRDECEVLESIDLQREYTIARSNPLILMLQLPKCEALP 290
Macaca_mulatta         FCHFVFPLCDARSRAPKPRELCRDECEVLESIDLQREYTIARSNPLILMLQLPKCEALP 290
Callithrix_jacchus     FCHFVFPLCDARSRAPKPRELCRDECEVLESIDLQREYTIARSNPLILMLQLPKCEALP 290
Heterocephalus_glaber  FCHFVFPLCDARSRAPKPRELCRDECEVLESIDLQREYTIARSNPLILMLQLPKCEALP 287
Canis_lupus_familiaris FCHFVFPLCDARSRAPKPRELCRDECEVLESIDLQREYTIARSNPLILMLQLPKCEALP 287
Equus_caballus         FCHFVFPLCDARSRAPKPRELCRDECEVLESIDLQREYTIARSNPLILMLQLPKCEALP 287
Bos_taurus            FCHFVFPLCDARSRAPKPRELCRDECEVLESIDLQREYTIARSNPLILMLQLPKCEALP 287
Gallus_gallus         FCHFVFPLCDERSRTPKPRELCRDECEVLENDLCRQEYNIARSNPLILMLQLPKCEDLP 282
Anas_platyrhynchos    FCHFVFPLCDERSRTPKPRELCRDECEVLENDLCRQEYNIARSNPLILMLQLPKCEDLP 290
Pavo_cristatus        FCHFVFPLCDERSRTPKPRELCRDECEVLENDLCRQEYNIARSNPLILMLQLPKCEDLP 126
Pavo_muticus          FCHFVFPLCDERSRTPKPRELCRDECEVLENDLCRQEYNIARSNPLILMLQLPKCEDLP 126
Chelonia_mydas        FCHFVFPLCDERSRTPKPRELCRDECEVLENDLCRQEYNIARSNPLILMLQLPKCEDLP 294
Latimeria_chalumnae   SLGAGY-WCVRTSSYGNSHEDGAHSICGRSFGSYHFSKIVMVLLGVEVDYSID 264
.....250.....260.....270.....280.....290.....300

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Xenopus_tropicalis      LPESPEAANCMRIGIPVEKLNRYQCYNGTGTGYRGSVIVTKSGHQCPWSNVPHSHSL 346
Rhinatrema_bivittatum  LPERPEASSCMRIGIPAEKLNRYHQCYNGSGSDYRGTVSSTKSGHQCPWSSQFPHSHHL 352
Mus_musculus           MPESPDAANCMRIGIPAERLGRYHQCYNGSGADYRGMASTTKSGHQCPWALQHPHSHRL 350
Rattus_norvegicus      MPESPDAANCMRIGIPAERLGRYHQCYNGSGTDYRGMASTTKSGHQCPWALQHPHSHRL 357
Homo_sapiens           MPESPDAANCMRIGIPAERLGRYHQCYNGSGMDYRGTAATTKSGHQCPWALQHPHSHHL 350
Pan_troglodytes        MPESPDAANCMRIGIPAERLGRYHQCYNGSGMDYRGTAATTKSGHQCPWALQHPHSHHL 350
Macaca_mulatta         MPESPDAANCMRIGIPAERLGRYHQCYNGSGTDYRGTAATTKSGHQCPWALQHPHSHHL 350
Callithrix_jacchus     MPESPDAANCMRIGIPAERLGRYHQCYNGSGTDYRGTAATTKSGHQCPWALQHPHSHRL 350
Heterocephalus_glaber  MPESPDAANCMRIGIPVERLGRYHQCYNGSGSDYRGTAATTKSGHQCPWALQHPHSHQL 347
Canis_lupus_familiaris LPESPDAANCMRIGIPAERLGRYHQCYNGSGTDYRGTAATTKSGHQCPWGLQHPHSHHL 347
Equus_caballus         MPESPDAANCMRIGIPAERLGRYHQCYNGSGTDYRGTAATTKSGHQCPWALQHPHSHHL 347
Bos_taurus            MPESPDAANCMRIGIPAERLGRYHQCYNGSGTDYRGTAATTKSGHQCPWALQHPHSHHL 347
Gallus_gallus         RPDITLEAANCIRIGIPVERLSRYHQCYNGSGADYRGTVSVTKSGHICQHWDSQSPHNHDL 342
Anas_platyrhynchos    RPDITLEAANCIRIGIPVERLSRYHQCYNGSGADYRGTVSVTKSGHICQHWDSQSPHNHDL 350
Pavo_cristatus        RPDITLEAANCIRIGIPVERLSRYHQCYNGSGADYRGTVSVTKSGHICQHWDSQSPHNHDL 186
Pavo_muticus          RPDITLEAANCIRIGIPVERLSRHHCYNGSGADYRGTVSVTKSGHICQHWDSQSPHNHDL 186
Chelonia_mydas        LPDITLEAANCIRIGIPVERLNRYHQCYNGSGADYRGTVSVTKSGHNCQHWDSQHPHNHDL 354
Latimeria_chalumnae   PPTD-----HHCYNGSGADYRGTVSVTKSGHSCQPWNSRFPHPHSHHL 305
.....310.....320.....330.....340.....350.....360

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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*: :.*.: *****.* :.***** *: :*.***:*:* * :.: :.* *****
SSADHPEIGGGGHAYCRNPGGQMEGPWCFTLNKHNVRMELCDIPACRTRDNTKMEILYILVP
TSAEFPEIGGGGHAYCRNPGSQSEGPWCFTQNKNVRMELCEVPACSTRDKTKMEILYILVP
SSTFEFPELGGGHAYCRNPGGQMEGPWCFTQNKNVRVELCDVPPCSPRDGSKMGILYILVP
SSTFEFPELGGGHAYCRNPGGQMEGPWCFTQNKNVRVELCDVPPCSPRDGSKMGILYILVP
SSTDFFPELGGGHAYCRNPGGQMEGPWCFTQNKNVRMELCDVPSCSPRDS SKMGILYILVP
SSTDFFPELGGGHAYCRNPGGQMEGPWCFTQNKNVRMELCDVPSCSPRDS SKMGILYILVP
SSTDFFPELGGGHAYCRNPGGQMEGPWCFTQNKNVRMELCDVPSCSPRDS SKMGILYILVP
SSTDFFPELGGGHAYCRNPGGQMEGPWCFTQNKNVRMELCDVPSCSPRDS SKMGILYILVP
SSSDFFPELGGGHAYCRNPGGQMEGPWCFTQNKNVRMELCDVPSCSPRDS SKMGILYILVP
TSADFPELGGGHAYCRNPGGQMEGPWCFTQNKNVRMELCDVPSCSPQDS SRMGILYILVP
TSADFPELGGGHAYCRNPGGQMEGPWCFTQNKNVRMELCDVPSCSPQDGS RMGILYILVP
TSTDFFPELGGGHAYCRNPGGQMEGPWCFTQNKNVRMELCDVPSCSPQDS SRMGILYILVP
TSTOFFPELGGGHAYCRNPGGQMDGPWCFTKNKNVRMELCDIPSCSPRDN SKMGILYILVP
TSAOFFPELGGGHAYCRNPGGQMDGPWCFTKNKNVRMELCDIPSCSPRDN SKMGILYILVP
TSTOFFPELGGGHAYCRNPGGQMDGPWCFTKNKNVRMELCDIPSCSPRDN SKMGILYILVP
TSTOFFPELGGGHAYCRNPGGQMDGPWCFTKNKNVRMELCDIPSCSPRDN SKMGILYILVP
TSTOFFPELGGGHAYCRNPGSQMDGPWCFTQNKNVRMELCEVPSCSPRDN SKMGILYILVP
TSLFFPELRGGGHAYCRNPGGQMEAPWCFTQENNVREL CNIPVCNPREN SKMEILYILVP
.....370.....380.....390.....400.....410.....420

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[illegible]

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LSTVRFMEELGEDRFGKVYKGHLFGTTPGEQTQTVAIAIKTLKDKVEVALREEFKHEAMMRS
LSTVRFMEELGEDRFGKVYKGHLFGTAPGEQTQAIAIAIKTLKDKVEVALREEFKHEAMMRS
LSTVRFMEELGEDRFGKVYKGHLFGPAPGEPTQAVAIAIKTLKDKAEGPLREEFRQEAMLRA
LSTVRFMEELGEDRFGKVYKGHLFGPAPGEPTQVVAIAIKTLKDKAEGPLREEFRQEAMLRA
LSAVRFMEELGEDRFGKVYKGHLFGPAPGEQTQAVAIAIKTLKDKAEGPLREEFRHEAMLRA
LSAVRFMEELGEDRFGKVYKGHLFGPAPGEQTQAVAIAIKTLKDKAEGPLREEFRHEAMLRA
LSAVRFMEELGEDRFGKVYKGHLFGPAPGEQTQAVAIAIKTLKDKAEGPLREEFRHEAMLRA
LSAVRFMEELGEDRFGKVYKGHLFGPAPGEQTQAVAIAIKTLKDKADGPLREEFRHEAMLRA
LSAVRFMEELGEDRFGKVYKGHLFGPGPSEQTQAVAIAIKTLKDKAEGPLREEFRHEAMLRA
LSSVRFMEELGEDRFGKVYKGHLFGPAPGEQSQAIAIAIKTLKDKAEGPLREEFRHEAMLRA
LSTVRFMEELGEDRFGKVYKGHLFGTTPGEQTQAVAIAIKTLKDKAEGPLREEFRHEAMLRA
LSTVRFMEELGEGRFGKVYKGHLFGPAPGEQTQAVAIAIKTLKDKAEGPLREEFRHEALLRA
LSTVRFMEELGEERFGKVYKGHLFGTAPGEQTQAVAIAIKTLKDKAELSLREEFKHEAMMRS
LSTVRFMEELGEERFGKVYKGHLFGTAPGEQTQAVAIAIKTLKDKAELALREEFKHEAMMRS
LSTVRFMEELGEERFGKVYKGHLFGTAPGEQTQAVAIAIKTLKDKAELSLREEFKHEAMMRS
LSTVRFMEELGEERFGKVYKGHLFGTTPGEQTQAIAIAIKTLKDKAELALREEFKHEAMMRS
LSAVRFLIELGEDRFGKVYKGHLVSAAPGEQTQVIAIAIKTLKDKVEVPLREEFRHEAMMRS
490 500 510 520 530 540

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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*****:***:* :***:** :*:*.* .*****:***:***:***
Xenopus_tropicalis  RLQHPNIVCLIGTVTKQPMCMIFGYSAHSDLHEFLVMRSPHSDVGSTDDDKTVKSTLEP  586
Rhinatrema_bivittatum RLQHPNIVCLLGIVTKQPMCMIFGYSAHSDLHEFLVMRSPHSDVGSTDDDKTVKSALEP  592
Mus_musculus        RLQHPNIVCLLGIVTKDQPLSMIFSYCSHGDLHEFLVMRSPHSDVGSTDDDRITVKSALEP  589
Rattus_norvegicus   RLQHPNIVCLLGIVTKDQPLSMIFSYCSHGDLHEFLVMRSPHSDVGSTDDDRITVKSALEP  596
Homo_sapiens        RLQHPNIVCLLGIVTKDQPLSMIFSYCSHGDLHEFLVMRSPHSDVGSTDDDRITVKSALEP  589
Pan_troglodytes     RLQHPNIVCLLGIVTKDQPLSMIFSYCLHGDLHEFLVMRSPHSDVGSTDDDRITVKSALEP  589
Macaca_mulatta      RLQHPNIVCLLGIVTKDQPLSMIFSYCSHGDLHEFLVMRSPHSDVGSTDDDRITVKSALEP  589
Callithrix_jacchus  RLQHPNIVCLLGIVTKQPLSMIFSYCSHGDLHEFLVMRSPHSDVGSTDDDRITVKSALES  589
Heterocephalus_glaber RLQHPNIVCLLGIVTKDQPLSMIFSYCSHGDLHEFLVMRSPHSDVGSTDDDRITVKSALEP  586
Canis_lupus_familiaris RLQHPNIVCLLGIVTKDQPLSMIFSYCSHGDLHEFLVMRSPHSDVGSTDDDRITVKSALEP  586
Equus_caballus      RLQHPNIVCLLGIVTKDQPLSMIFSYCSHGDLHEFLVMRSPHSDVGSTDDDRITVKSALEP  587
Bos_taurus          RLQHPNIVCLLGIVTKDQPLSMIFSYCPHGDLHEFLVMRSPHSDVGSTDDDRITVKSALEP  586
Gallus_gallus       RLQHPNIVCLLGIVTKQPI SMIFSYCSHGDLHEFLVMRSPHSDVGSTDDDRITVKSTLEP  581
Anas_platyrhynchos  RLQHPNIVCLLGIVTKQPI SMIFSYCSHGDLHEFLVMRSPHSDVGSTDDDKTVKSTLEP  589
Pavo_cristatus      RLQHPNIVCLLGIVTKQPI SMIFSYCSHGDLHEFLVMRSPHSDVGSTDDDKTVKSTLEP  425
Pavo_muticus        RLQHPNIVCLLGIVTKQPI SMIFSYCSHGDLHEFLVMRSPHSDVGSTDDDKTVKSTLEP  425
Chelonia_mydas      RLQHPNIVCLLGIVTKQPI SMIFSYCSHGDLHEFLVMRSPHSDVGSTDDDKTVKSALEP  593
Latimeria_chalumnae RLQHPNIVCLLGIMTKQPMRMIFSYTPHGDLHEFLVMRSPHSDVGSTDDDKTVKSTLEL  544
.....550.....560.....570.....580.....590.....600

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***. : :***:***:***:***:***:***:***:***:***:***:***:***
Xenopus_tropicalis  TDFLHIVTQIAAGMEFLSSHVVHKDLAARNVLVFDKLSVKISDLGLFREYVAADYYKLM  646
Rhinatrema_bivittatum SDFLHIVTQIAAGMEFLSSHVVHKDLATRNVLVFDKLNMKISDLGLFREYVSADYYKLM  652
Mus_musculus        PDFVHVVAQIAAGMEFLSSHVVHKDLATRNVLVYDKLNVRISDLGLFREYVSADYYKLM  649
Rattus_norvegicus   PDFVHVVAQIAAGMEFLSSHVVHKDLATRNVLVYDKLNVRISDLGLFREYVSADYYKLM  656
Homo_sapiens        PDFVHLVAQIAAGMEYLSSHVVHKDLATRNVLVYDKLNVKISDLGLFREYVAADYYKLL  649
Pan_troglodytes     PDFVHLVAQIAAGMEYLSSHVVHKDLATRNVLVYDKLNVKISDLGLFREYVAADYYKLL  649
Macaca_mulatta      PDFVHLVAQIAAGMEYLSSHVVHKDLATRNVLVYDKLNVKISDLGLFREYVAADYYKLL  649
Callithrix_jacchus  PDFVLLVAQIAAGMEYLSSHVVHKDLATRNVLVYDKLTVKISDLGLFREYVAADYYKLL  649
Heterocephalus_glaber PDFVHVAAQIAAGMEYLSSHVVHKDLATRNVLVYDKLTVKISDLGLFREYVSADYYKLM  646
Canis_lupus_familiaris PDFVHVVAQIASGMEYLSSHVVHKDLATRNVLVYDKLNVKISDLGLFREYVSADYYKLM  646
Equus_caballus      PDFVHVVAQIASGMEYLSSHVVHKDLATRNVLVYDKLNVKISDLGLFREYVSADYYKLM  647
Bos_taurus          PDFVHVVAQIAAGMEYLSSHVVHKDLATRNVLVYDKLTVKISDLGLFREYVSADYYKLT  646
Gallus_gallus       ADFFHIVTQIAAGMEYLSSHVVHKDLATRNILVFDKLNVKISDLGLFREYVAADYYKLM  641
Anas_platyrhynchos  ADFFHIVTQIAAGMEYLSSHVVHKDLATRNILVFDKLNVKISDLGLFREYVAADYYKLM  649
Pavo_cristatus      ADFFHIVTQIAAGMEYLSSHVVHKDLATRNILVFDKLNVKISDLGLFREYVAADYYKLM  485
Pavo_muticus        ADFFHIVTQIAAGMEYLSSHVVHKDLATRNILVFDKLNVKISDLGLFREYVAADYYKLM  485
Chelonia_mydas      ADFFHIVTQVAGMEYLSSHVVHKDLATRNILVFDKLNVKISDLGLFREYVSADYFKLM  653
Latimeria_chalumnae ADFLHILTQIAAGMEYLSSHVVHKDLATRNVLVCDKLNMKISDLGLFREYVSADYYKLM  604
.....610.....620.....630.....640.....650.....660

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*. :*****:***: :** * *****:***:*****:*****:***: .**
Xenopus_tropicalis  GNSMLPIRWMSP EAITYGKFSVSDSIWSYGVLWEVFSYGLQPYCGYSNQDVEMVRNRQ  706
Rhinatrema_bivittatum GNNLLPIRWMSP EAIMYGKFSIDSDIWSYGVLWEVFSYGLQPYCGYSNQDVEMIRNRQ  712
Mus_musculus        GNSLLPIRWMSP EAVMYGKFSIDSDIWSYGVLWEVFSYGLQPYCGYSNQDVEMIRSRQ  709
Rattus_norvegicus   GNSLLPIRWMSP EAVMYGKFSIDSDIWSYGVLWEVFSYGLQPYCGYSNQDVEMIRSRQ  716
Homo_sapiens        GNSLLPIRWMSP EAIMYGKFSIDSDIWSYGVLWEVFSYGLQPYCGYSNQDVEMIRNRQ  709
Pan_troglodytes     GNSLLPIRWMSP EAIMYGKFSIDSDIWSYGVLWEVFSYGLQPYCGYSNQDVEMIRNRQ  709
Macaca_mulatta      GNSLLPIRWMSP EAIMYGKFSIDSDIWSYGVLWEVFSYGLQPYCGYSNQDVEMIRNRQ  709
Callithrix_jacchus  GNSLLPIRWMSP EAITYGKFSIDSDIWSYGVLWEVFSYGLQPYCGYSNQDVEMIRNRQ  709
Heterocephalus_glaber GNSLLPIRWMSP EAIYVGKFSIDSDIWSYGVLWEVFSYGLQPYCGYSNQDVEMIRSRQ  706
Canis_lupus_familiaris GSALLPIRWMSP EAIMYGKFSVSDSIWSYGVLWEVFSYGLQPYCGHSNQDVEMVRSRQ  706
Equus_caballus      GSALLPIRWMSP EAIMYGKFSVSDSIWSYGVLWEVFSYGLQPYCGHSNQDVEMVRSRQ  707
Bos_taurus          GNALLPIRWMSP EAIMYGKFSVSDSIWSYGVLWEVFSYGLQPYCGHSNQDVEMVRSRQ  706
Gallus_gallus       GNSLLPIRWMSP EAIMFGKFSIDSDIWSYGVLWEVFSYGLQPYCGYSNQDVEMIRNRQ  701
Anas_platyrhynchos  GNSLLPIRWMSP EAIMYGKFSIDSDIWSYGVLWEVFSYGLQPYCGYSNQDVEMIRNRQ  709
Pavo_cristatus      GNSLLPIRWMSP EAIMYGKFSIDSDIWSYGVLWEVFSYGLQPYCGYSNQDVEMIRNRQ  545
Pavo_muticus        GNSLLPIRWMSP EAIMYGKFSIDSDIWSYGVLWEVFSYGLQPYCGYSNQDVEMIRNRQ  545
Chelonia_mydas      GNSLLPIRWMSP EAIMYGKFSVSDSIWSYGVLWEVFSYGLQPYCGYSNQDVEMIRNRQ  713
Latimeria_chalumnae GTSSLPIRWMSP EAIMYGKFSIDSDIWSYGVLWEVFSYGLQPYCGYSNQDVEMIPNRQ  664
.....670.....680.....690.....700.....710.....720

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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** ***** :: **::** *** * ****:* :* :* :*.*****::**
Xenopus_tropicalis VLLCPDDCPAWIYTLMLCEWSEFPARRPRFKDIHTRLRTWENMSNYNSSAQTSGASNTTQ 766
Rhinatrema_bivittatum VLPCPDDCPAWIYALMLECWNEFFPARRLRFKDLHSRLRTWENISNYNSSAQTSGASNTTQ 772
Mus_musculus VLPCPDDCPAWVYALMIECWNEFFSRRRPRFKDIHSRLRSWGNLSNYNSSAQTSGASNTTQ 769
Rattus_norvegicus VLPCPDDCPAWVYALMIECWNEFFSRRRPRFKDIHGRRLRSWGNLSNYNSSAQTSGASNTTQ 776
Homo_sapiens VLPCPDDCPAWVYALMIECWNEFFSRRRPRFKDIHSRLRAWGNLSNYNSSAQTSGASNTTQ 769
Pan_troglodytes VLPCPDDCPAWVYALMIECWNEFFSRRRPRFKDIHSRLRAWGNLSNYNSSAQTSGASNTTQ 769
Macaca_mulatta VLPCPDDCPAWVYALMIECWNEFFSRRRPRFKDIHSRLRAWGNLSNYNSSAQTSGASNTTQ 769
Callithrix_jacchus VLPCPDDCPAWVYALMIECWNEFFSRRRPRFKDIHSRLRAWGNLSNYNSSAQTSGASNTTQ 769
Heterocephalus_glaber VLPCPDDCPAWVYALMIECWNEFFSRRRPRFKDIHSRLRAWGNLSNYNSSAQTSGASNTTQ 766
Canis_lupus_familiaris VLPCPDDCPAWVYALMIECWNEFFSRRRPRFKDIHSRLSAWGSLSYNSAQTSGASNTTQ 766
Equus_caballus VLPCPDDCPAWVYALMIECWNEFFSRRRPRFKDIHSRLRAWGNLSYNSAQTSGASNTTQ 767
Bos_taurus VLPCPDDCPAWVYALMIECWNEFFSRRRPRFKDIHSRLRAWGNLSYNSAQTSGASNTTQ 766
Gallus_gallus VLPCPDDCPAWVYALMIECWNEFFSRRRPRFKDIHNRRLRTWGNLSNYNSSAQTSGASNTTQ 761
Anas_platyrhynchos VLPCPDDCPAWVYALMIECWNEFFSRRRPRFKDIHNRRLRTWGNLSNYNSSAQTSGASNTTQ 769
Pavo_cristatus VLPCPDDCPAWVYALMIECWNEFFSRRRPRFKDIHNRRLRTWGNLSNYNSSAQTSGASNTTQ 605
Pavo_muticus VLPCPDDCPAWVYALMIECWNEFFSRRRPRFKDIHNRRLRTWGNLSNYNSSAQTSGASNTTQ 605
Chelonia_mydas VLPCPDDCPAWVYALMIECWNEFFSRRRPRFKDIHNRRLRTWGNISNYNSSAQTSGASNTTQ 773
Latimeria_chalumnae VLPCPDDCPGFLHLLMLDCWNEFPARRPRFKDIHTRLRTWESIISNYNSSAQTSGASNTTQ 724
.....730.....740.....750.....760.....770.....780

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Xenopus_tropicalis TSSLSTSPVSNVSNARYVGPQKQKAPFPQPFIPMKGQIRPMVPPPQLYIPVNGYQPMMA 826
Rhinatrema_bivittatum TSSLSTSPVSNVSNARYVGPQKQKAPFPQPFIPMKGQIRPMVPPPQLYIPVNGYQPMMA 832
Mus_musculus TSSLSTSPVSNVSNARYMAPKQKAPFPQPFIPMKGQIRPLVPPAQLYIPVNGYQPVPA 829
Rattus_norvegicus TSSLSTSPVSNVSNARYMAPKQKAPFPQPFIPMKGQIRPLVPPAQLYIPVNGYQPVPA 836
Homo_sapiens TSSLSTSPVSNVSNARYVGPQKQKAPFPQPFIPMKGQIRPMVPPPQLYIPVNGYQPVPA 829
Pan_troglodytes TSSLSTSPVSNVSNARYVGPQKQKAPFPQPFIPMKGQIRPMVPPPQLYIPVNGYQPVPA 829
Macaca_mulatta TSSLSTSPVSNVSNARYMGPKQKAPFPQPFIPMKGQIRPMVPPPQLYIPVNGYQPVPA 829
Callithrix_jacchus TSSLSTSPVSNVSNARYVGPQKQKAPFPQPFIPMKGQIRPMVPPPQLYIPVNGYQPVPA 829
Heterocephalus_glaber TSSLSTSPVSNVSNARYVGPQKQKAPFPQPFIPMKGQIRPMVPPPQLYIPVNGYQPVPA 826
Canis_lupus_familiaris TSSLSTSPVSNVSNARYGGPKQKAPFPQPFIPMKGQIRPMVPPPQLYIPVNGYQPVPA 826
Equus_caballus TSSLSTSPVSNVSNARYGGPKQKAPFPQPFIPMKGQIRPMVPPPQLYIPVNGYQPVPA 827
Bos_taurus TSSLSTSPVSNVSNARYGGPKQKAPFPQPFIPMKGQIRPMVPPPQLYIPVNGYQPVPA 826
Gallus_gallus TSSLSTSPVSNVSNARYIGPKQKTPAFPQPFIPMKGQMRPMVPPPQLYIPVNGYQPMMA 821
Anas_platyrhynchos TSSLSTSPVSNVSNARYIGPKQKTPAFPQPFIPMKGQMRPMVPPPQLYIPVNGYQPMMA 829
Pavo_cristatus TSSLSTSPVSNVSNARYIGPKQKTPAFPQPFIPMKGQMRPMVPPPQLYIPVNGYQPMMA 665
Pavo_muticus TSSLSTSPVSNVSNARYIGPKQKTPAFPQPFIPMKGQMRPMVPPPQLYIPVNGYQPMMA 665
Chelonia_mydas TSSLSTSPVSNVSNARYVGPQKQKAPFPQPFIPMKGQIRPMVPPPQLYIPVNGYQPMMA 833
Latimeria_chalumnae TSSLSTSPVSNVSNARYMGPKQKAPFPQPFIPMKGQIRPMVPPPQLYIPVNGYQPMMA 784
.....790.....800.....810.....820.....830.....840

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Xenopus_tropicalis Y-----FYPVQIPMQMAPQPMPPQIIPKPGSHHSGSGSTSTGYVTTAPSNNSMADRVAL 880
Rhinatrema_bivittatum YGAYLPNFYFPVQIPMQMAPQPMPPQIIPKPGSHHSGSGSTSTGYVTTAPSNNTSVADRAAL 892
Mus_musculus YGAYLPNFYFPVQIPMQMAPQPMPPQIIPKPGSHHSGSGSTSTGYVTTAPSNNTSVADRAAL 889
Rattus_norvegicus YGAYLPNFYFPVQIPMQMAPQPMPPQIIPKPGSHHSGSGSTSTGYVTTAPSNNTSVADRAAL 896
Homo_sapiens YGAYLPNFYFPVQIPMQMAPQPMPPQIIPKPGSHHSGSGSTSTGYVTTAPSNNTSMADRAAL 889
Pan_troglodytes YGAYLPNFYFPVQIPMQMAPQPMPPQIIPKPGSHHSGSGSTSTGYVTTAPSNNTSMADRAAL 889
Macaca_mulatta YGAYLPNFYFPVQIPMQMAPQPMPPQIIPKPGSHHSGSGSTSTGYVTTAPSNNTSVADRAAL 889
Callithrix_jacchus YGAYLPNFYFPVQIPMQMAPQPMPPQIIPKPGSHHSGSGSTSTGYVTTAPSNNTSMADRAAL 889
Heterocephalus_glaber YGAYLPNFYFPVQIPMQMAPQPMPPQIIPKPGSHHSGSGSTSTGYVTTAPSNNTSVADRAAL 886
Canis_lupus_familiaris YGAYLSNFYFPVQIPMQMAPQPMPPQIIPKPGSHHSGSGSTSTGYVTTAPSNNTSMADRAAL 886
Equus_caballus YGAYLPNFYFPVQIPMQMAPQPMPPQIIPKPGSHHSGSGSTSTGYVTTAPSNNTSVADRAAL 887
Bos_taurus YGAYLPNFYFPVQIPMQMAPQPMPPQIIPKPGSHHSGSGSTSTGYVTTAPSNNTSVADRAAL 886
Gallus_gallus YGAYLPNFYFPVQIPMQMAPQPMPPQIIPKPGSHHSGSGSTSTGYVTTAPSNASVADRAAL 881
Anas_platyrhynchos YGAYLPNFYFPVQIPMQMAPQPMPPQIIPKPGSHHSGSGSTSTGYVTTAPSNASVADRAAL 889
Pavo_cristatus YGAYLPNFYFPVQIPMQMAPQPMPPQIIPKPGSHHSGSGSTSTGYVTTAPSNASVADRAAL 725
Pavo_muticus YGAYLPNFYFPVQIPMQMAPQPMPPQIIPKPGSHHSGSGSTSTGYVTTAPSNASVADRAAL 725
Chelonia_mydas YGAYLPNFYFPVQIPMQMAPQPMPPQIIPKPGSHHSGSGSTSTGYVTTAPSNASVADRAAL 893
Latimeria_chalumnae YGAYLPNFYFPVQIPMQMAPQPMPPQIIPKPGSHHSGSGSTSTGYVTTAPSNASVADRAAL 844
.....850.....860.....870.....880.....890.....900

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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<i>Xenopus_tropicalis</i>	LADGADEAQLAEDMSNPVQE---	EEG-SVPETELLGDNDTSHLDET-DIQSEA	930		
<i>Rhinatrema_bivittatum</i>	LSEGMEADHMAEDVSRSTLQE---	EEGGTVPETELLGDNDTSHVDEA-EIQSEA	943		
<i>Mus_musculus</i>	LSEGTEDAQNIAEDVAQSPVQEAEEEEEGSVPETELLGDNDTLQVTEAAHVQLEA	944			
<i>Rattus_norvegicus</i>	LSEGTEDVQNMPEDVAQSPVQEAEEEEEGSVPETELLGDSDTLOVNEA-HVHLEA	950			
<i>Homo_sapiens</i>	LSEGADDTQNAPEDEGAQSTVQEAEEEEEGSVPETELLGDCDTLOVDEA-QVQLEA	943			
<i>Pan_troglodytes</i>	LSEGADDTQNAPEDEGAQSPVQEAEEEEEGSVPETELLGDCDTLOVDEA-QVQLEA	943			
<i>Macaca_mulatta</i>	LSEGTEDAQNAPEDGAQSPVQEAEEEE-GSVPETELLGDSDTLOVDEA-QVQLEA	942			
<i>Callithrix_jacchus</i>	LSEGTKDSQNAPEDEGTQIPVQEAEEKEKCSVPETELLGDSDTLOVDEA-QVQLEA	943			
<i>Heterocephalus_glaber</i>	LAEGTETQNIPEDMAQSPVQEAEEQEEGSPVPETELLGDNDTLQVDEA-LVQLEA	940			
<i>Canis_lupus_familiaris</i>	LSEATEDTQNAPEDDAAQSPVQEAEEEEEDGSPVPETELLGDNETLOMDEA-EGQLEA	940			
<i>Equus_caballus</i>	LSEGTEDTQNAPEDEVAQSPVQEAEEEEEDGSPVPETELLGDNDTLQMDEA-EVQLEA	941			
<i>Bos_taurus</i>	LSEGTEDAQNPVEDMAQSPVQEAEEEEEDGSPVPETELLGDNDTLQMSA-EVQLEA	940			
<i>Gallus_gallus</i>	LSEGTDITNNGAEDIAQNPVQE-EEEEEGSVPETELLGDNDTLQMDEA-EIQSEA	934			
<i>Anas_platyrhynchos</i>	LSEGTDITNNGAEDIAQNPVQE-EEEEEGSVPETELLGDNDTLQMDEA-EIQSEA	942			
<i>Pavo_cristatus</i>	LSEGTDITNNGAEDIVQNPVQE-EEEEESVPETELLGDNDTLQMDEA-EIQSEA	778			
<i>Pavo_muticus</i>	LSEGTDITNNGAEDIVQNPVQE-EEEEESVPETELLGDNDTLQMDEA-EIQSEA	778			
<i>Chelonia_mydas</i>	LSEGTDITNNGAEDIAQKPVQE-EEEEEGSVPETELLGDNDTLQMDEA-EIQSEA	946			
<i>Latimeria_chalumnae</i>	LAEGTEDGNIAQ--ASQNPPLLE---	DEESVPETELLGDNDTTPQDEA-ENQSEA	892		