

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/GCMaps: Tue Feb 1 12:11:57 2022

Page 1 of 5

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***:.***.*****:* : :* *:* ** ** ** ** :*****:***
Pavo_muticus      MEKFGMNFGGGPKKELLETTIESQKKQLLNQARLKDVIAYKSLINEKEALEASLKVLS 60
Pavo_cristatus    MEKFGMNFGGGPKKELLETTIESQKKQLLNQARLKDVIAYKSLINEKEALEASLKVLS 60
Gallus_gallus     MEKFGMNFGGGPKKELLETTIESQKKQLLNQARLKDVIAYKSLINEKEALEASLKVLS 60
Chelonia_mydas    MEKFGMNFGGGPKKDLLETTIETQKKQLLOYQTRLKDVRAYKSLLEKEALEASLKVLS 60
Mus_musculus      MEKFGMNFGGGPKKDLLETTIETQKKQLLOYQARLKDVRAYKSLLEKEALEASIKVLS 60
Rattus_norvegicus MEKFGMNFGGGPKKDLLETTIETQKKQLLOYQARLKDVRAYKSLLEKEALEASIKVLS 60
Canis_lupus_familiaris MEKFGMNFGGGPKKDLLETTIETQKKQLLOYQARLKDVRAYKSLLEKEALEASIKVLS 60
Equus_caballus    MEKFGMNFGGGPKKDLLETTIETQKKQLLOYQARLKDVRAYKSLMKEKEALEASIKVLS 60
Bos_taurus        MEKFGMNFGGGPKKDLLETTIETQKKQLLOYQTRLKDVRAYKSLLEKEALEASIKVLS 60
Heterocephalus_glaber MEKFGMNFGGGPKKDLLETTIETQKKQLLOYQARLKDVRAYKSLLEKEALEASIKVLS 60
Homo_sapiens      MEKFGMNFGGGPKKDLLETTIETQKKQLLOYQARLKDVRAYKSLLEKEALEASIKVLS 60
Pan_troglodytes   MEKFGMNFGGGPKKDLLETTIETQKKQLLOYQARLKDVRAYKSLLEKEALEASIKVLS 60
Macaca_mulatta    MEKFGMNFGGGPKKDLLETTIETQKKQLLOYQARLKDVRAYKSLLEKEALEASIKVLS 60
Callithrix_jacchus MEKFAMNFGGGPKKDLLETTIETQKKQLFOYQARLKDVRAYKSLLEKEALEASIKVLS 60
Latimeria_chalumnae MEKFGMNFSGGPKKELLETTIEGKKQLVOYQVRLKDVRAYKSLLEKEALEASLKVLS 60
Rhinatrema_bivittatum MEKFGMSFGGGPKKELLDITIEGQRKQLLOYQARLKDVRAYKSLLEKEALEASLKVLS 60
Xenopus_tropicalis MEKLGMSFGGGPKKELQEQVETQRKQLQYQGRLLKDVRAYKSLQKEKEALEASLHVLS 60
1.....10.....20.....30.....40.....50.....60

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.:*:. : : * * * * * * : * : * : * :
Pavo_muticus      ASHEADVGLSGAQPACMAASSSSLADPTD---DKSVHSEDSMGTATSADTTASLAS-AK 116
Pavo_cristatus    ASHEADVGLSGAQPACMAASSSSLADPTD---DKSVHSEDSMGTATSADTTASLAS-AK 116
Gallus_gallus     ASHEADVGLSGAQPACVAASSPSLADPAD---DKSVHSEDSMGTATSADTTASLAS-AK 116
Chelonia_mydas    VSHETDVGLNGAHLADIASSSVSFADSAD---DRSVHSEDSMGTATSVDTAASLTS-AK 116
Mus_musculus      VSHEADVGLSGVQV-----PGLTFPDSVD---DRCSTHSEDSMGTATSLDTAASLTS-VK 111
Rattus_norvegicus VSHEADAGLSGVQV-----PGLTFPDSVD---DRCSTHSEDSMGTATSLDTAASLTS-VK 111
Canis_lupus_familiaris VSHEADVGLTGVQV-----PGLTFPDSVD---DRCSTHSEDSMGTATSLDTAASLTS-TK 111
Equus_caballus    VSHEADVGLGGVQV-----PGLTFPDSVD---DRCSTHSEDSMGTATSLDTAASLTS-TK 111
Bos_taurus        VSHEADVGLAGVQV-----QGLTFPDSVD---DRCSTHSEDSMGTATSLDTAASLTS-TK 111
Heterocephalus_glaber VSHEADVALTGVQV-----SGLTFPDSVD---DRCSTHSEDSMGTATSLDTAASLPS-TR 111
Homo_sapiens      VSHEADVGLAGVQL-----PGLTFPDSVD---DRCSTHSEDSMGTATSLDTAASLTS-TK 111
Pan_troglodytes   VSHEADVGLAGVQL-----PGLTFPDSVD---DRCSTHSEDSMGTATSLDTAASLTS-TK 111
Macaca_mulatta    VSHEADVGLVGVQV-----PGLTFPDSVD---DRCSTHSEDSMGTATSLDTAASLTS-TK 111
Callithrix_jacchus VSHEADVGLAGVQL-----PGVAFPDFVD---DRCSTHSEDSMGTATSVDTAASLTS-TK 111
Latimeria_chalumnae VSQEADLSLSKVDAG---AGANVADSDPGDDRCVHSEDSVGTATSVETAASLTSSTK 116
Rhinatrema_bivittatum VSQEADACLDSGTGTVG---AVISRVEPTD---DLCSVHSEDSIGTISTSVDTGTSTVTS-AK 113
Xenopus_tropicalis TTQEPGTLFS-----ESEEAH---DQHSIHSEDS-----SVDTAGSLPS-AR 98
.....70.....80.....90.....100.....110.....120

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* : * ** : * * * . . ** : : : : * * :
Pavo_muticus      GEQGAED-----DKPAGAAPSLKSEEANGSESGVSTSSGEV-PCAASEADKRVQLKLTQL 170
Pavo_cristatus    GEQGAED-----DKPAAAAPSLKSEEANGSESGVSTSSGEV-PCAASEADKRVQLKLTQL 170
Gallus_gallus     GEQGAED-----DKPAAAAASLKSEEANGSEGGGASSGDV-PCAAGEADRRVQLKLTQL 170
Chelonia_mydas    GELGTED-----ERTAAGASLLKSEEANGSESGVSTGSGDV-PVAANEADKRVQLKLTQL 170
Mus_musculus      GEFGVED-----DRAARGPLPPKSEEANGSESGVSSSSGDG-PSAGSEMDKRVHQLKLTQL 165
Rattus_norvegicus GEFGVED-----DRVARGPLPPKSEEANGSESGVSSSSGDG-PSAGSEMDKRVHQLKLTQL 165
Canis_lupus_familiaris GEFGVED-----DRLARGPPPPKSEEANGSESGVSSSSGDG-ASGGGEVDKRLHQLKLTQL 165
Equus_caballus    GEFGVED-----DRLVRGPPPPKSEEANGSESGVSSSSGDG-PSGGGEVDKRLHQLKLTQL 165
Bos_taurus        GEFGIED-----DRLARGPPPLKLEEANGSESGVSCSSGDG-PSGGGEVDKRLHQLKLTQL 165
Heterocephalus_glaber GEFGVED-----DRLARGPLPAKSEEANGSESGVSSSSGDG-TFAGGEVDKRLHQLKLTQL 165
Homo_sapiens      GEFGVED-----DRPARGPPPPKSEEANGSESGVSSSSGDG-PFAGGEVDKRLHQLKLTQL 165
Pan_troglodytes   GEFGVED-----DRPARGPPPPKSEEANGSESGVSSSSGDG-PFAGGEVDKRLHQLKLTQL 165
Macaca_mulatta    GEFGVED-----DRPARGPPPPKSEEANGSESGVSSSSGDG-PFAGGEVDKRLHQLKLTQL 165
Callithrix_jacchus GEFGIED-----DRPARGPPPPKSEEANGSESGVSSSSGDG-PFAGGEVDKRLHQLKLTQL 165
Latimeria_chalumnae GELTEDDRA-APDPLAAVSSLQKSEETSSSESGISTSSGD--QLPSVEADRRVQLKTKV 173
Rhinatrema_bivittatum GELPEEDTAGVDVAPVAGTPVPRSEEANGSESGVSTASGEG-TAAAGDSEKKYLQKAQL 172
Xenopus_tropicalis GGETSED-----ERPDPSQRGGIEEANGSESGVSTASGEGGQATAVETDRKMVOLKNQL 152
.....130.....140.....150.....160.....170.....180

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/GCMaps: Tue Feb 1 12:11:57 2022

Page 2 of 5

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:***.:*:***** ***: **:.: : : : :***:..**
Pavo_muticus      ATLTSALSTVTQEKSRMEASYQADKKMKQDLDDAVKKVEDETDRLETELRSVQEQLAET 230
Pavo_cristatus    ATLTSALSTVTQEKSRMEASYQADKKMKQDLDDAVKKVEDETDRLETELRSVQEQLAET 230
Gallus_gallus     ATLTSALSTVTQEKSRMEASYQADKKMKQDLDDAVKKVEDETDRLETELRSVQEQLAET 230
Chelonia_mydas    ATLTSALSTVTQEKSRMEASYLADKKMKQDLDEASKKAEEDRSKLEAEMKCVQEQLAET 230
Mus_musculus      ATLTSALSTVTQEKSRMEASYLADKKMKQDLEDANKKAEERGRLEGDLKVLQEQIAET 225
Rattus_norvegicus ATLTSALSTVTQEKSRMEASYLADKKMKQDLEDANKKAEERGRLEGDLKGLQEQIAET 225
Canis_lupus_familiaris ATLTSALSTVTQEKSRMEASYLADKKMKQDLEDANKKAEERGRLEGELKGLQEQIAET 225
Equus_caballus    ATLTSALSTVTQEKSRMEASYLADKKMKQDLEDANKKAEERGRLEGELKGLQEQIAET 225
Bos_taurus        ATLTSALSTVTQEKSRMEASYLADKKMKQDLEDANKKAEERGRLEGELKGLQEQIAET 225
Heterocephalus_glaber ATLTSALSTVTQEKSRMEASYLADKKMKQDLEDANKKAEERGRLEGELKGLQEQIAET 225
Homo_sapiens      ATLTSALSTVTQEKSRMEASYLADKKMKQDLEDANKKAEERGRLEGELKGLQEQIAET 225
Pan_troglodytes   ATLTSALSTVTQEKSRMEASYLADKKMKQDLEDANKKAEERGRLEGELKGLQEQIAET 225
Macaca_mulatta    ATLTSALSTVTQEKSRMEASYLADKKMKQDLEDANKKAEERGRLEGELKGLQEQIAET 225
Callithrix_jacchus ATLTSALSTVTQEKSRMEASYLADKKMKQDLEDANKKAEERGRLEGELKGLQEQIAET 225
Latimeria_chalumnae STLTNALSTVTQEKSRMEASYQADKKMKQELDDLASKIEEERGRHEMVKGLQEQLAET 233
Rhinatrema_bivittatum ATLTSALATVTQEKSRMEASYQADKKLMQEMEELSKMLETEKGSLEVLRLVQEQIVET 232
Xenopus_tropicalis STLTSALATVTQEKSRMEASYQADKRNAQEMEELMLSFVQERTKLQEEISIQEQLAET 212
.....190.....200.....210.....220.....230.....240

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*****:***:*****:*.:***:***:*** ** ***: **:**:*: ** : .
Pavo_muticus      KARLITQQHNDRAEQSDHAVMLRELQKLLQSERALRQDAELKLEETREVLAGRVCMDRA 290
Pavo_cristatus    KARLITQQHNDRAEQSDHAVMLRELQKLLQSERALRQDAELKLEETREVLAGRVCMDRA 290
Gallus_gallus     KARLITQQHNDRAEQSDHAVMLRELQKLLQSERALRQDAELKLEETREVLAGRVCMDRA 290
Chelonia_mydas    KARLITQQHNDRAEQSDHAVMLRELQKLLQSERILRQDVELKLEETREALAGRIVYVADRV 290
Mus_musculus      KARLITQQHNDRAEQSDHALMLRELQKLLQEERTQRQDLELRLEETREALAGRAYAADQV 285
Rattus_norvegicus KARLITQQHNDRAEQSDHALMLRELQKLLQEERTQRQDLELRLEETREALAGRAYAADQV 285
Canis_lupus_familiaris KARLITQQHNDRAEQSDHAVMLRELQKLLQEERTQRQDLELRLEETREVLAGRAYAAGQM 285
Equus_caballus    KARLITQQHNDRAEQSDHALMLRELQKLLQEERTQRQDLELRLEETREALAGRAYAAGQM 285
Bos_taurus        KARLITQQHNDRAEQSDHALMLRELQKLLQEERAQRQDLELRLEETREALAGRAYAAGQM 285
Heterocephalus_glaber KARLITQQHNDRAEQSDHALMLRELQKLLQEERTQRQDLELRLEETREALAGRAYAADQV 285
Homo_sapiens      KARLITQQHNDRAEQSDHALMLRELQKLLQEERTQRQDLELRLEETREALAGRAYAAEQM 285
Pan_troglodytes   KARLITQQHNDRAEQSDHALMLRELQKLLQEERTQRQDLELRLEETREALAGRAYAAEQM 285
Macaca_mulatta    KARLITQQHNDRAEQSDHALMLRELQKLLQEERTQRQDLELRLEETREALAGRAYAAEQM 285
Callithrix_jacchus KARLITQQHNDRAEQSDHALMLRELQKLLQEERTQRQDLELRLEETREALAGRAYAAEQM 285
Latimeria_chalumnae KARLITQQHNDRAEQSDHAVMLRELQKLLQDERASRDVELRLEETREALAEKMYAAERA 293
Rhinatrema_bivittatum KARLITQQHNDRAEQSDHALMLRELQKLLQEERDLRQDCELRLLEETREVLASRVDAERV 292
Xenopus_tropicalis KARLISQQHNDRAEQSDTHVIMLRELQKLLQGERDHRQEAELRLLEEARQELAGKLAGISEL 272
.....250.....260.....270.....280.....290.....300

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* : :*: : **: .: .: .*** :*: * * :* : : * :*
Pavo_muticus      EG----YELQIKQLSQEVEDLKRELQAVQEEKKPDPVQDLQEEIANLKNHFQAQLLOE 346
Pavo_cristatus    EG----YELQIKQLSQEVEDLKRELQAVQEEKKPDPVQDLQEEIANLKNHFQAQLLOE 346
Gallus_gallus     EG----YELQIKQLSQEVEDLKRELQAVQEEKKPDPVQDLQEEIANLKNHFQAQLLOE 346
Chelonia_mydas    EE----SELQTKQLSRVVEELKRELQAVQEEENSKPDPRLQELQDEIASLKSHPQAQLLOE 346
Mus_musculus      EG----FELQTKQLTREVEELKGELOAIRDEKNRPDPRLQELQEEAARLKSHPQAQLLOE 341
Rattus_norvegicus EG----FELQTKQLTREVEELKGELOAIRDEKNRPDPRLQELQEEAARLKSHPQAQLLOE 341
Canis_lupus_familiaris EG----FELQTKQLTREVEDLKGELOALREEKNRPDPRLQELQEEAARLKSHPQAQLLOE 341
Equus_caballus    EG----FELQTKQLSREVEELKGELOALREEKNRPDPRLQELQEEAARLKSHPQAQLLOE 341
Bos_taurus        EG----FELQTKQLTREVEELKGELOALRDEKNQDPRLQELQEEAARLKSHPQAQLLOE 341
Heterocephalus_glaber EG----FELQTKQLTREVEELKGELOAIRDEKNRPDPRLQELQEEATCLKSLFQAQLLOE 341
Homo_sapiens      EG----FELQTKQLTREVEELKSELOAIRDEKNQDPRLQELQEEAARLKSHPQAQLLOE 341
Pan_troglodytes   EG----FELQTKQLTREVEELKSELOAIRDEKNQDPRLQELQEEAARLKSHPQAQLLOE 341
Macaca_mulatta    EG----FELQTKQLTREVEELKSELOAIRDEKNQDPRLQELQEEAARLKSHPQAQLLOE 341
Callithrix_jacchus EG----FELQTKQLTREVEELKSELOAIRDEKNQDPRLQELQEEAARLKSHPQAQLLOE 341
Latimeria_chalumnae GD----CELQAKQLSKEAELKRKLQSAEEDRDNDPRLQEMQEEITGVKAHFQSQLOOE 349
Rhinatrema_bivittatum EG----YEARARQLSQVLEELRSELRAVQEEHKKPDPVQDLQDEMAGVKKHFQMQLOOE 348
Xenopus_tropicalis EGRSEVAEEQNRKLRKDLLEELRKEIMEARRQGAEPDPAVKKLQALDRVKEEMHALLOOE 332
.....310.....320.....330.....340.....350.....360

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/GCMaps: Tue Feb 1 12:11:57 2022

Page 3 of 5

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Pavo_muticus      MRKTAQAEEQLRQHAQMEEQRVADLEGQVSEVSGLLGTYEKAKQKQDMVIOKLKDRIVQL 406
Pavo_cristatus    MRKTAQAEEQLRQHAQMEEQRVADLEGQVSEVSGLLGTYEKAKQKQDMVIOKLKDRIVQL 406
Gallus_gallus     MRKTAQAEEQLRQHAQMEEQRVADLEGQVSEVSGLLGTYEKAKQKQDVVIOKLKDRIVQL 406
Chelonia_mydas    MRKTAQAEEQLRQHAQMEEQRVADLEGQVSEVSGLLGTYEKAKQKQDMVIOKLKDRIVQL 406
Mus_musculus      MRKTALAEDQLRQSQVVEEQRVAALNQISEVSELLGTYEKAKQKQDLAIQKLKERILQL 401
Rattus_norvegicus MRKTALAEDQLRQSQVVEEQRVAALNQISEVSELLGTYEKAKQKQDLAIQKLKERILQL 401
Canis_lupus_familiaris MRKTALAEDQLRQSQVVEEQRVAALNQISEVSELLGTYEKAKQKQDLAIQKLKERILQL 401
Equus_caballus    MRKTALVEDLLRQSQVVEEQRVAALNQISEVSELLGTYEKAKQKQDLAIQKLKERILQL 401
Bos_taurus        MRKTAVAEDQLRQSQVVEEQRVAALNQISEVSELLGTYEKAKQKQDLAIQKLKERILQL 401
Heterocephalus_glaber IRKTALAEDQLRQSQVVEEQRVAALNQISEVSELLGTYEKAKQKQDLAIQKLKERILQL 401
Homo_sapiens      MRKTALAEDQLRQSQVVEEQRVAALNQISEVSELLGTYEKAKQKQDLAIQKLKERILQL 401
Pan_troglodytes   MRKTALAEDQLRQSQVVEEQRVAALNQISEVSELLGTYEKAKQKQDLAIQKLKERILQL 401
Macaca_mulatta    MRKTALAEDQLRQSQVVEEQRVAALNQISEVSELLGTYEKAKQKQDLAIQKLKERILQL 401
Callithrix_jacchus MKKTALAEDQLRQSQVVEEQRVAALNQISEVSELLGTYEKAKQKQDLAIQKLKERILQL 401
Latimeria_chalumnae MRKVAQTEEQLRQSQVVEEQRVAALNQISEVSELLGTYEKAKQKQDVVIOKLKDRIVQL 409
Rhinatrema_bivittatum MRKVALADEQLRQSQVVEEQRVAALNQISEVSELLGTYEKAKQKQDMVIOKLKERIVQL 408
Xenopus_tropicalis RKKKLDEEQETMQRFLQEEQRICSLQSEVSEMSSELLGAAETSKORDQATIRKLRLRLQL 392
.....370.....380.....390.....400.....410.....420

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      :      *****:      :      :
Pavo_muticus      DQENKTLAIAASSRSPADVNVVEANLDVNVLDKMEKLKQLLQAAAKKSQPMLDIEKLCE 466
Pavo_cristatus    DQENKTLAIAASSRSPADVNVVEANLDVNVLDKMEKLKQLLQAAAKKSQPMLDIEKLCE 466
Gallus_gallus     DQENKTLAIAASSRSPADVNVVEANLDVNVLDKMEKLKQLLQAAAKKSQPTLDIEKLCE 466
Chelonia_mydas    DLENKTLAIAASSRSPVDIHTTEASLDVNVLDKMEKLKQLLQAAAKKSQPTLDIEKLCE 466
Mus_musculus      DLENKTLALAASSRSPSLDIHGDESSLDINVLKDKMEKLKQLLQAAAKKSQPTLDIEKLCE 461
Rattus_norvegicus DLENKTLALAASSRSPSLDIHGDESSLDINVLKDKMEKLKQLLQAAAKKSQPTLDIEKLCE 461
Canis_lupus_familiaris DLENKTLALAASSRSPSLDIHGDESSLDINVLKDKMEKLKQLLQAAAKKSQPTLDIEKLCE 461
Equus_caballus    DLENKTLALAASSRSPSLDIHGDESSLDINVLKDKMEKLKQLLQAAAKKSQPTLDIEKLCE 461
Bos_taurus        DLENKTLALAASSRSPSLDIHGDESSLDINVLKDKMEKLKQLLQAAAKKSQPTLDIEKLCE 461
Heterocephalus_glaber DLENKTLALAASSRSPSLDIHGDESSLDINVLKDKMEKLKQLLQAAAKKSQPTLDIEKLCE 461
Homo_sapiens      DLENKTLALAASSRSPSLDIHGDESSLDINVLKDKMEKLKQLLQAAAKKSQPTLDIEKLCE 461
Pan_troglodytes   DLENKTLALAASSRSPSLDIHGDESSLDINVLKDKMEKLKQLLQAAAKKSQPTLDIEKLCE 461
Macaca_mulatta    DLENKTLALAASSRSPSLDIHGDESSLDINVLKDKMEKLKQLLQAAAKKSQPTLDIEKLCE 461
Callithrix_jacchus DLENKTLALAASSRSPSLDIHGDESSLDINVLKDKMEKLKQLLQAAAKKSQPTLDIEKLCE 461
Latimeria_chalumnae DLENKTLALAASSRSPSLDIHGDESSLDINVLKDKMEKLKQLLQAAAKKSQPTLDIEKLCE 461
Rhinatrema_bivittatum DMENKTLAIAASSRSLADLNVEESSLDINVLKDKMEKLKQLLQAAAKKSQPTLDIEKLCE 468
Xenopus_tropicalis EAENKTLALTSSMQTPSEVTFN----- 414
.....430.....440.....450.....460.....470.....480

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      :      :      :      :      :      :      :      :      :      :      :      :      :      :      :      :
Pavo_muticus      LELPKGTEAGDGEKATALYQQELKQKKEEFERYKMRAQVVLKNKSVKDGNLAKELEEAQ 526
Pavo_cristatus    LELPKGTEAGDGEKATALYQQELKQKKEEFERYKMRAQVVLKNKSVKDGNLAKELEEAQ 526
Gallus_gallus     LELPKGTEAGDGEKATALYQQELKQKKEEFERYKMRAQVVLKNKSAKDGNLAKELEEAQ 526
Chelonia_mydas    LELPKGTEAGDGEKATALYQQELKQKKEEFERYKMRAQVVLKNKSAKDVNFAKELEDTG 526
Mus_musculus      PEIMANSEAADGEKATALYQQELKQKKEEFERYKMRAQVVLKSKNTKDGSLGKELEEAQ 521
Rattus_norvegicus PDIMANSEAADGEKATALYQQELKQKKEEFERYKMRAQVVLKSKNTKDGSLGKELEEAQ 521
Canis_lupus_familiaris LEIMPSSEAADGEKASVLYQQELKQKKEEFERYKMRAQVVLKSKNTKDGSLGKELEEAQ 521
Equus_caballus    LEIMPSSEAADGEKASVLYQQELKQKKEEFERYKMRAQVVLKSKNTKDGSLGKELEEAQ 521
Bos_taurus        LEIMPSSEAADGEKASVLYQQELKQKKEEFERYKMRAQVVLKSKNTKDGSLGKELEEAQ 521
Heterocephalus_glaber LEIMPSSEAADGEKATTIYQQELKQKKEEFERYKMRAQVVLKSKNTKDGSLGKELEEAQ 521
Homo_sapiens      LEIMPSSEAADGEKATALYQQELKQKKEEFERYKMRAQVVLKSKNTKDGSLGKELEEAQ 521
Pan_troglodytes   LEIMPSSEAADGEKATALYQQELKQKKEEFERYKMRAQVVLKSKNTKDGSLGKELEEAQ 521
Macaca_mulatta    LEIMPSSEAADGEKATALYQQELKQKKEEFERYKMRAQVVLKSKNTKDGSLGRELEEAQ 521
Callithrix_jacchus LEIMTSSETADGEKATALYQQELKQKKEEFERYKMRAQVVLKSKNTKDGSLGRELEEAQ 521
Latimeria_chalumnae VNSSVNSEATDGEKATVLYQQELKQKKEEFERYKMRAQVVLKSKNTKDGSLGRELEEAQ 529
Rhinatrema_bivittatum IELAHEATEADGEKASVLYQQELKQKKEEFERYKMRAQVVLKSKNTKDGHLGKELEDTG 528
Xenopus_tropicalis FNKGEDMDEGPEQHASVLFYQQELQQLKEEFERYKSRAQGVLRITKGAREG----ELEAGK 470
.....490.....500.....510.....520.....530.....540

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/GC Claps: Tue Feb 1 12:11:57 2022

Page 4 of 5

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	:::*.*.**:*:::::* .	
Pavo_muticus	EEEMHKQDRDALAVLAEKDQELEQLRSVMLPYAGLQGTKNYMAS---GTDTSADPPAN	642
Pavo_cristatus	EEEMHKQDRDALAVLAEKDQELEQLRSVMLPYAGLQGTKNYMAS---GTDTSADPPAN	642
Gallus_gallus	EEEMHKQDRDALAVLAEKDQELEQLRSVVLPTGLQGSKNYMAP---GTDTASSDPPAN	642
Chelonia_mydas	EEEMHKQDRDALAVLSEKDQELEQLRSLAIPYG-LQGSKNYLAP---GSDISSDDLMDGA	641
Mus_musculus	EEELHKQDRDALAVLAEKDLEQLRSVALSSG-LPGRRSPVGG---VGGGLGDPADT	636
Rattus_norvegicus	EEELHKQDRDALAVLAEKDLEQLRSVALSSG-LPGRRSPVGG---VGGGLGDPDDP	636
Canis_lupus_familiaris	EEELHKQDRDALAVLAEKDLEQLRSAALSSG-LPGRRSPVG-----GGGPGELADV	633
Equus_caballus	EEELHKQDRDALAVLAEKDLEQLRSVALSSG-LPGHRSVPG-----GGGPGDPADT	633
Bos_taurus	EEELHKQDRDALAVLAEKDLEQLRSVALSSG-LPGRRSPVG-----GAGPRDQADT	633
Heterocephalus_glaber	EEELHKQDRDALAVLTEKDLEQLRSVALSCG-LPGRRSPVG-----GGGPRDPADT	633
Homo_sapiens	EEELHKQDRDALAVLTEKDLEQLRSVALASG-LPGRRSPVG-----GGGPGDPADT	633
Pan_troglodytes	EEELHKQDRDALAVLTEKDLEQLRSVALASG-LPGRRSPVG-----GGGPGDPADT	633
Macaca_mulatta	EEELHKQDRDALAVLTEKDLEQLRSVALASG-LPGRRSPVG-----GGGPGDPADT	633
Callithrix_jacchus	EEELHKQDRDALAVLAEKDLEQLRSVALASG-LPGRRSPVG-----GGGPGDVADT	633
Latimeria_chalumnae	EEEMHKQDRDALAILAEKDHELEHLRTLSESSS-LPGYRSYIDNKLIVDGEEDQDDAQAG	648
Rhinatrema_bivittatum	EEEMHKQDRDALAILAEKDQELEQIRSMPPPYG-LQVPKSYVAAR---TEASPESAGG	643
Xenopus_tropicalis	EEFVRQHRERVLAVLAEKDQELEKLREIKITV-----VPL	566
610.....620.....630.....640.....650.....660	

	:	:	:	*	*	.	*::	*	**:	*	**	::*	:.	*	:	:	:	:	:	:	:																																					
Pavo_muticus	G	S	T	E	I	L	P	A	L	H	L	S	T	N	A	E	P	T	F	F	I	L	Y	A	E	Q	L	R	K	V	E	I	V	A	L	R	K	O	K	H	K	L	E	M	O	V	H	O	L	E	K	V	L	V	E	E		702
Pavo_cristatus	G	S	T	E	I	L	P	A	L	H	L	S	T	N	A	E	P	T	F	F	I	L	Y	A	E	Q	L	R	K	V	E	I	V	A	L	R	K	O	K	H	K	L	E	M	O	V	H	O	L	E	K	V	L	V	E	E		702
Gallus_gallus	G	S	T	E	I	L	P	A	L	H	L	S	T	N	A	E	P	T	F	F	I	L	Y	A	E	Q	L	R	K	V	E	I	V	A	L	R	K	O	K	H	K	L	E	M	O	V	H	O	L	E	K	V	L	V	E	E		702
Chelonia_mydas	I	S	S	E	N	L	T	Q	A	L	H	L	A	A	N	E	P	T	F	F	L	Y	A	E	Q	L	R	K	V	E	I	V	S	L	R	K	O	K	H	K	L	E	V	H	O	L	E	R	L	L	V	E	E		701			
Mus_musculus	A	S	S	D	S	L	T	Q	A	L	Q	L	A	A	N	E	P	T	F	F	L	Y	A	E	Q	L	R	K	V	E	I	T	S	L	R	K	O	K	H	R	L	E	V	E	A	H	O	L	E	R	L	L	E	E	G		696	
Rattus_norvegicus	A	S	S	D	S	L	T	Q	A	L	Q	L	A	A	N	E	P	T	F	F	L	Y	A	E	Q	L	R	K	V	E	I	T	S	L	R	K	O	K	H	R	L	E	V	E	A	H	O	L	E	R	L	L	E	E	G		696	
Canis_lupus_familiaris	S	A	P	D	S	L	T	Q	A	L	Q	L	A	A	N	E	P	T	F	F	L	Y	A	E	Q	L	R	K	V	E	I	T	S	L	R	K	O	K	H	R	L	E	V	E	V	H	O	L	D	R	L	L	E	E	G		693	
Equus caballus	S	S	S	D	S	L	T	Q	A	L	Q	L	A	A	S	E	P	T	F	F	L	Y	A	E	Q	L	R	K	V	E	I	T	S	L	R	K	O	K	H	R	L	E	V	E	V	H	O	L	D	R	L	L	E	E	G		693	
Bos_taurus	S	P	P	D	S	L	T	Q	A	L	Q	L	A	A	V	S	E	P	T	F	F	L	Y	A	E	Q	L	R	K	V	E	I	T	S	L	R	K	O	K	H	R	L	E	V	E	V	H	R	L	D	R	L	L	E	E	G		693
Heterocephalus glaber	S	S	A	D	S	L	T	Q	A	L	Q	L	A	V	A	N	E	P	T	F	F	L	Y	A	E	Q	L	R	K	V	E	I	T	S	L	R	K	O	K	Y	R	L	E	V	E	V	H	O	L	D	R	L	L	E	E	G		693
Homo_sapiens	S	S	S	D	S	L	T	Q	A	L	Q	L	A	A	N	E	P	T	F	F	L	Y	A	E	Q	L	R	K	V	E	I	T	S	L	R	K	O	K	H	R	L	E	V	E	V	H	O	L	D	R	L	L	E	E	G		693	
Pan_troglodytes	S	S	S	D	S	L	T	Q	A	L	Q	L	A	A	N	E	P	T	F	F	L	Y	A	E	Q	L	R	K	V	E	I	T	S	L	R	K	O	K	H	R	L	E	V	E	V	H	O	L	D	R	L	L	E	E	G		693	
Macaca_mulatta	S	S	S	D	S	L	T	Q	A	L	Q	L	A	A	N	E	P	T	F	F	L	Y	A	E	Q	L	R	K	V	E	I	T	S	L	R	K	O	K	H	R	L	E	V	E	V	H	O	L	D	R	L	L	E	E	G		693	
Callith																																																										

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/GC **Caps: Tue Feb 1 12:11:57 2022**

Page 5 of 5

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Pavo_muticus	RH QEE VSALQNEIQK NFR DKSREGANLEYLKNIVYRFLTL PDS VGROO TL TAILTILHFS	762
Pavo_cristatus	RH QEE VSALQNEIQK NFR DKSREGANLEYLKNIVYRFLTL PDS VGROO TL TAILTILHFS	762
Gallus_gallus	RH QEE VSALQSEIQK NFR DKSREGANLEYLKNIVYRFLTL PDS LGROO TL TAILTILHFS	762
Chelonia_mydas	KH REE VS TL ODHIQK NLR DKSREGANLEYLKNIVYRFLTL PDS LGROO TL TAILTILHFS	761
Mus_musculus	RH REE V AL QSHIEK NMR DQSREGANLEYLKNIIYRFLTL PDS LGROO TL TAILTILHFS	756
Rattus_norvegicus	RH REE V AL QSHIEK NIR DQSREGANLEYLKNIIYRFLTL PDS LGROO TL TAILTILHFS	756
Canis_lupus_familiaris	RH RER V AL QSHIEK NIR DQSREGANLEYLKNIIYRFLTL PDT LGROO TL TAILTILHFS	753
Equus_caballus	QH REE V AL QSHIEK NIR DQSREGANLEYLKNIIYRFLTL PDT LGROO TL TAILTILHFS	753
Bos_taurus	RH REE V AL QSHIAKHS R DQSREGANLEYLKNIIYRFLTL PDT LGROO TL TAILTILHFS	753
Heterocephalus_glaber	QH REE V AL QSHIEK NIR DQSREGANLEYLKNIIYRFLTL PDS LGROO TL TAILTILHFS	753
Homo_sapiens	RH REE V AL QSHIEK NIR DQSREGANLEYLKNIIYRFLTL PDS LGROO TL TAILTILHFS	753
Pan_troglodytes	RH REE V AL QSHIEK NIR DQSREGANLEYLKNIIYRFLTL PDS LGROO TL TAILTILHFS	753
Macaca_mulatta	RH REE V AL QSHIEK NIR DQSREGANLEYLKNIIYRFLTL PDS LGROO TL TAILTILHFS	753
Callithrix_jacchus	RH REE V AL QSHIEK NIR DQSREGANLEYLKNIIYRFLTL PDS LGROO TL TAILTILHFS	753
Latimeria_chalumnae	RH QEE V GAL MDQVK NIR DQSREGANLEYLKNIIYRFLTL QDS LGROO TL TAILTILHFS	768
Rhinatrema_bivittatum	QH RDEL S TL QEQIKSL R DKSREGANLEYLKNIVYRFLTL QDS LGROO TL TAILTILHFS	763
Xenopus_tropicalis	--KE AN IL Q EQMK N V R DRRREGANMEYLKNVLLGYLTL P DRGRQHTLSALLAVLHFS	682
730.....740.....750.....760.....770.....780	

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Pavo_muticus	PEEKQAVRKQSAHSSWWLSGKR				784
Pavo_cristatus	PEEKQAVRKQSAHSSWWLSGKR				784
Gallus_gallus	PEEKQAVRKQSAHSSWWLSGKR				784
Chelonia_mydas	PEEKQVIMRHSANSWWLSGKR				783
Mus_musculus	PEEKQVLMRLPSSGGSWWPSGKR				778
Rattus_norvegicus	PEEKQVLMRLPSSGGSWWPSGKR				778
Canis_lupus_familiaris	PEEKQVIMRLPTGSSWWPSGKR				775
Equus_caballus	PEEKQVIMRLPTGSSWWPSGKR				775
Bos_taurus	PEEKQAIMRLPVGGGWWPSGKR				775
Heterocephalus_glaber	PEEKQVIMQLPSSGGSWWPSGKR				775
Homo_sapiens	PEEKQVIMRLPTSASWWPSGKR				775
Pan_troglodytes	PEEKQVIMRLPTSASWWPSGKR				775
Macaca_mulatta	PEEKQVIMRLPASASWWPSGKR				775
Callithrix_jacchus	PEEKQVIMRLPASASWWPSGKR				775
Latimeria_chalumnae	PQEKQVVLKHQTS-SWWTSGKR				789
Rhinatrema_bivittatum	PEEKQVIMRHSVGGGWWPSGKR				785
Xenopus_tropicalis	PEERNAALRAQEGSRWWAGSNR				704
790.....800..				