

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/NBAISape: Tue Feb 1 14:07:49 2022

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**                                     **.:*****.*.*.*.*.:*.*.*.:*.:*
Pavo_muticus      MATAGGEGAPRMEGMVAVN-----EEEDGEENILYDLLVNAEWPPETELQPRGNRKHGAS 55
Pavo_cristatus    MATAGGEGAPRMEGMVAVN-----EEEDGEENILYDLLVNAEWPPETELQPRGNRKHGAS 55
Gallus_gallus     MATAGGEGAPRAEGMVAVN-----EEEDGEENILYDLLVNAEWPPETELQPRGNRKHGAS 55
Chelonia_mydas    MAATWGSWEEVEEAAAEEVSG-----EEEEEEENILYDLLINTEWPPETEVQPRGNKKHGAS 56
Mus_musculus      MAAP--ESAPALSPGSAD-----EEETILYDLLVNTTEWPPETEVQPRGNRKHGAS 48
Rattus_norvegicus MAAP--ESAPALSPGSAD-----EEETILYDLLVNTTEWPPETEVQPRGNRKHGAS 48
Homo_sapiens      MAAP--ESGPALSPGTAEG-----EEETILYDLLVNTTEWPPETEVQPRGNQKHGAS 49
Pan_troglodytes   MAAP--ESGPALSPGTAEG-----EEETILYDLLVNTTEWPPETEVQPRGNQKHGAS 49
Macaca_mulatta    MAAP--ESGPALSPSAAEG-----EEETILYDLLVNTTEWPPETEVQPRGNRKHGAS 49
Callithrix_jacchus MAAP--ASGPALSPGAAEG-----EEETILYDLLVNTTEWPPETELQPRGNRKHGAS 49
Canis_lupus_familiaris MAAP--ESAPAAPATAEG-----EEETILYDLLVNTTEWPSETEVSQPRGNRKHGAS 49
Equus_caballus    MAAS--ESAPAVVPGAAG-----EEETILYDLLVNTTEWPPETEVQPRGSRKHGAS 49
Bos_taurus        MASS--EPLPTVNPFGAAEG-----EEETILYDLLVNTTEWPPETEVQPRGNRKHGAS 49
Heterocephalus_glaber MAAP--ESGPALSPGIAEGEETITLDDGEEETILYDLLVNTTEWPPETEVQPRGNRKQHGAS 58
Xenopus_tropicalis MAAP-----SDLTDSGN-----PEENILYDLLINTEWPPPEPTQPRGSRHGAS 44
Rhinatrema_bivittatum MAAPVATAVLEEQEVNTLEM-----EEENVLYDLLVNTTEWPPPEAEQPRGNRGHGAS 52
Latimeria_chalumnae MAEVA-----AAAGDAES-----EEENILYDLLINTEWSLESEVQPRGNREHDS 45
1.....10.....20.....30.....40.....50.....60

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Pavo_muticus      FIITRAITGPALLLLRYIWYSPAKFSLPCGLVRLVNKQINWHLVLASNGKLLAVVDQDRV 115
Pavo_cristatus    FIITRAITGPALLLLRYIWYSPAKFSLPCGLVRLVNKQINWHLVLASNGKLLAVVDQDRV 115
Gallus_gallus     FIITRAITGPALLLLRYIWYSPAKFSLPSGLVRLVNKQINWHLVLASNGKLLAVVDQDRV 115
Chelonia_mydas    FIITRAITGPALFLLQYIWYSPAKFSLPAGLVRLVSKQINWHLVLASHGKLLAVVDQCV 116
Mus_musculus      FIITKAIRDHLLFLRQYIWYSPAPFLLPDGLVRLVNKQINWHLVLANNKLLAAVVDQCV 108
Rattus_norvegicus FIITKAIRDHLLFLRQYIWYSPAPFLLPDGLVRLVNKQINWHLVLANNKLLAAVVDQCV 108
Homo_sapiens      FIITKAIRDRLFLRQYIWYSPAPFLLPDGLVRLVNKQINWHLVLASNGKLLAAVVDQCV 109
Pan_troglodytes   FIITKAIRDRLFLRQYIWYSPAPFLLPDGLVRLVNKQINWHLVLASNGKLLAAVVDQCV 109
Macaca_mulatta    FIITKAIRDRLFLRQYIWYSPAPFLLPDGLVRLVNKQINWHLVLASNGKLLAAVVDQCV 109
Callithrix_jacchus FIITKAIRDRLFLRQYIWYSPAPFLLPDGLVRLVNKQINWHLVLASNGKLLAAVVDQCV 109
Canis_lupus_familiaris FIITKAIRDRLFLRQYIWYSPVPFLLPDGLVRLVNKQINWHLVLASNGKLLAAVVDQCV 109
Equus_caballus    FLITKAIRDHLLFLCQYFWYSPAPFLLPDGLVRLVNKQINWHLVLASNGKLLAAVVDQCV 109
Bos_taurus        FIITKAIRDRLFLRQYIWYSPAPFLLPDGLVRLVNKQINWHLVLASNGKLLAAVVDQCV 109
Heterocephalus_glaber CIITKAIRDRLFLRQYIWYSPAPFLLPDGLVRLVNKQINWHLVLASNGKLLAAVVDQCV 118
Xenopus_tropicalis FVLTKAITGPALYMLQYVWYSPAKFSLPSGLVRMVKQIGWHLVLTSGKLLAAVVDQCV 104
Rhinatrema_bivittatum SIITKAITGPALFILQYLWYSPAKFLLPLGLVRLVSKQINWHLVLASNGKLLATVVDQYV 112
Latimeria_chalumnae SLIAKAITGAVKFVVHYVWYSPATSSLPGLVHLVSKQISWQPALASNGKLLAVVDLCI 105
.....70.....80.....90.....100.....110.....120

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Pavo_muticus      EIRSAKDDFGSTVGICQVPKDPNPQWRRVAWSHDCITLLAYAESTGTVRVFDLMGSELLVI 175
Pavo_cristatus    EIRSAKDDFGSTVGICQVPKDPNPQWRRVAWSHDCITLLAYAESTGTVRVFDLMGSELLVI 175
Gallus_gallus     EMRSKDDFGSTVGICQVPKDPNPQWRRVAWSHDCITLLAYAESSGTVRVFDLMGSELLVI 175
Chelonia_mydas    EIRSAKDDFGSIVGKCQVPKDPNPQWRRVAWSHDCITLLAYAESSGTVRVFDLMGSELFVI 176
Mus_musculus      EIRSAKDDFTSIIGKCQVPKDPKPQWRRVAWSYDCTLLAYAESTGTVRVFDLMGSELFVI 168
Rattus_norvegicus EIRSAKDDFTSIIGKCQVPKDPKPQWRRVAWSYDCTLLAYAESTGTVRVFDLMGSELFVI 168
Homo_sapiens      EIRSAKDDFTSIIGKCQVPKDPKPQWRRVAWSYDCTLLAYAESTGTVRVFDLMGSELFVI 169
Pan_troglodytes   EIRSAKDDFTSIIGKCQVPKDPKPQWRRVAWSYDCTLLAYAESTGTVRVFDLMGSELFVI 169
Macaca_mulatta    EIRSAKDDFTSIIGKCQVPKDPKPQWRRVAWSYDCTLLAYAESTGTVRVFDLMGSELFVI 169
Callithrix_jacchus EIRSAKDDFTSIIGKCQVPKDPKPQWRRVAWSYDCTLLAYAESTGTVRVFDLMGSELFVI 169
Canis_lupus_familiaris EIRSAKDDFTSIIGKCQVPKDPKPQWRRVAWSYDCTLLAYAESTGTVRVFDLMGSELFVI 169
Equus_caballus    EIRSAKDEFTSIIGKCQVPKDPKPQWRRVAWSYDCTLLAYAESTGTVRVFDLMGSELFVI 169
Bos_taurus        EIRSAKDDFTSIIGKCQVPKDPKPQWRRVAWSYDCTLLAYAESMGTVRVFDLMGSELFVI 169
Heterocephalus_glaber EIRSAKDDFTSIIGKCQVPKDPKPQWRRVAWSYDCTLLAYAESTGTVRVFDLMGSELFVI 178
Xenopus_tropicalis EIRSAKDDFGSVIGKCQVPKDPNPQWRRVAWSHDCITLVAYAESTGTVRVFDLMGSELFVI 164
Rhinatrema_bivittatum EIRSAKDDFGSVIGKCQVPKDPNPQWRRVAWSHDCITLLAYTESTGTVRVFDLMGSELFVI 172
Latimeria_chalumnae EIRSAKDDFTSIIGKCQVPKDPNPQWRRVAWSYDCTLLAYAESTGTVRVFDLMGSELFVI 165
.....130.....140.....150.....160.....170.....180

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      *      :  **:*  *:***:****.***:****:***  ****:*:*****  **:***  *  *
Pavo_muticus      SPTASFSGDLSYAIAGLIFLEYKASAOWSAELLVINYRGELRSYLVSVGTNQSFQESHSHF  235
Pavo_cristatus    SPTASFSGDLSYAIAGLIFLEYKASAOWSAELLVINYRGELRSYLVSVGTNQSFQESHSHF  235
Gallus_gallus     SPTASFSGDLSYAIAGLIFLEYKASAOWSAELLVINYRGELRSYLVSVGTNQSFQESHSHF  235
Chelonia_mydas    SPATSFPGDLSYAIAGLIFLEYKASAOWSAELLVINYRGELRSYLVSVGTNQSFQESHSHF  236
Mus_musculus      APASVFAGDLSYAIAGLVFLEYKASAOWSAELLVINYRGELRSYLVSVGTNQSYQESHSHF  228
Rattus_norvegicus APASVFAGDLSYAIAGLVFLEYKASAOWSAELLVINYRGELRSYLVSVGTNQSYQESHSHF  228
Homo_sapiens      SPASSFIGDLSYAIAGLIFLEYKASAOWSAELLVINYRGELRSYLVSVGTNQSYQESHSHF  229
Pan_troglodytes   SPASSFIGDLSYAIAGLIFLEYKASAOWSAELLVINYRGELRSYLVSVGTNQSYQESHSHF  229
Macaca_mulatta    SPASSFIGDLSYAIAGLIFLEYKASAOWSAELLVINYRGELRSYLVSVGTNQSYQESHSHF  229
Callithrix_jacchus SPASSFVGDLSSYAIAGLMFLEYKASAOWSAELLVINYRGELRSYLVSVGTNQSYQESHSHF  229
Canis_lupus_familiaris TPASSLAGDLSYAIAGLIFLEYKASAOWSAELLVINYRGELRSYLVSVGTNQSYQESHSHF  229
Equus_caballus    VPASILAGDLSYAIAGLIFLEYKASAOWSAELLVINYRGELRSYLVSVGTNQSYQESHSHF  229
Bos_taurus        TPASSLAGDLSYAIAGLIFLEYKASAOWSAELLVINYRGELRSYLVSVGTNQSYQESHSHF  229
Heterocephalus_glaber APASSFVGDLSCAIAGLIFLEYKASAOWSAELLVTNYRGELRSYLVSVGTNQSYQESHSHF  238
Xenopus_tropicalis PPQTSFPGDLSYAIAGLIFLEYKASTOWSAELLVINYRGQLKSYLVSVGANQSYQESHSHF  224
Rhinatrema_bivittatum PPANSFPGDFS YAIAGLIFLEYKASTOWSAELLVINYRGQLKSYLVSVGGNQSYQESHSHF  232
Latimeria_chalumnae PPATSFPGDMSYAVAGLIFLEYTASAOWSAOLLVINYRGQLKSYLVSVGTNQSYQESHSHF  225
.....190.....200.....210.....220.....230.....240

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Pavo_muticus      SFSSHYAHGITTIVYHPGHRLLLVGGCETDEDGVSKATACGISAWRVLSGSPHYKQVTSY  295
Pavo_cristatus    SFSSHYAHGITTIVYHPGHRLLLVGGCETDEDGVSKATACGISAWRVLSGSPHYKQVTSY  295
Gallus_gallus     SFSSHYAHGITTIVYHPGHRLLLVGGCETDEDGVSKATACGISAWRVLSGSPHYKQVTSY  295
Chelonia_mydas    NFSSHYAHGITTIVYHGLHRRLLLVGGCETDEDGVSKATSCGISAWRVLSGSPHYKQVTSY  296
Mus_musculus      SFSGHYPHGINTAIYHPGHRLLLVGGCETAELGISKAASCGLSAWRVLSGSPYYKQVTNG  288
Rattus_norvegicus SFADHYPHGVNTAIYHPGHRLLLVGGCETAELGISKAASCGLSAWRVLSGSPYYKQVTNG  288
Homo_sapiens      SFSSHYPHGINTAIYHPGHRLLLVGGCETAEVGMSKASSCGLSAWRVLSGSPYYKQVTNG  289
Pan_troglodytes   SFSSHYPHGINTAIYHPGHRLLLVGGCETAEVGMSKASSCGLSAWRVLSGSPYYKQVTNG  289
Macaca_mulatta    SFSSHYPHGINTAIYHPGHRLLLVGGCETAEVGMSKASSCGLSAWRVLSGSPYYKQVTNG  289
Callithrix_jacchus SFTSHYPHGINTAIYHPGHRLLLVGGCETAEVGVSKASSCGLSAWRVLSGSPYYKQVNSG  289
Canis_lupus_familiaris SFSSHYPHGINTAVYHPGHRLLLVGGCETAEVGISKAASYGLSAWRVLSGSPYYKQVTNG  289
Equus_caballus    SFSSHYPHGISTAIYHPGHRLLLVGGCETAEVGTSKASSSGLSAWRVLSGSPYYKQVTNG  289
Bos_taurus        SFSSHYPHGINTAIYHPGHRLLLVGGCETAEVGISKAASCGLSAWRVLSGSPYYKQVTHG  289
Heterocephalus_glaber NFSSHYPHGINTAVYHPAHRLLLVGGCDEFEVGSRAASCGLFVWRVLSGSPYYKQVTSG  298
Xenopus_tropicalis NFACHYSHGISSAVYSAHRLLLVGGIGTNEEDGVSKATQCGITAWRVLSGSPHYKQVTNN  284
Rhinatrema_bivittatum NFSSHYCHGITAAYVHPGHRLLLVGGCEIGEDGVSKAAQSGITAWRILSGAPYYKQVTSY  292
Latimeria_chalumnae SFSSHYFHGITAAYVHPSHRMLLVGGCESNEDGASKATNCGLTAWRVLSGSPHYKQVTSY  285
.....250.....260.....270.....280.....290.....300

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Pavo_muticus      EDDIRTAQR-RGLLRIMNLRFYSSRGTEODGIFKMNLSPDGTLLAAIHFSGKLTWISIPS  354
Pavo_cristatus    EDDIRTAQR-RGLLRIMNLRFYSSRGTEODGIFKMNLSPDGTLLAAIHFSGKLTWISIPS  354
Gallus_gallus     EDDIRTAQR-RGLLRIMNLRFYSSRGTEODGIFKMNLSPDGTLLAAIHFSGKLTWISIPS  354
Chelonia_mydas    EDDTGTAQR-SGLLRIMNFRFYSSRGTEODGVFKMNLSPDGTLLAAIHFSGKLTWIGIPS  355
Mus_musculus      GDRVTEVPKTLGLLKLLSVKLSPRLGQEQDGIFKMNLSPDGSLLAAIHFSGKLSIWAIPS  348
Rattus_norvegicus GDRVTEVPKTLGLLKLLSVKFYTRQGQEQDGIFKMNLSPDGSLLAAIHFSGKLSIWAIPS  348
Homo_sapiens      GDGVTAVPKTLGLLRMLSVKFYSRQGQEQDGIFKMNLSPDGMLLAAIHFSGKLSIWAIPS  349
Pan_troglodytes   GDRVTAVPKTLGLLRMLSVKFYSRQGQEQDGIFKMNLSPDGMLLAAIHFSGKLSIWAIPS  349
Macaca_mulatta    GDRVTAVPKTLGLLRMLSVKFYSRQGQEQDGIFKMNLSPDGMLLAAIHFSGKLSIWAIPS  349
Callithrix_jacchus GERVTAVPKTLGLLRMLSVKFYSRQGQEQDGIFKMNLSPDGMLLAAIHFSGKLSIWAIPS  349
Canis_lupus_familiaris GDRVTAVPKTLGLLRMLSVKFYSRQGQEQDGIFKMNLSPDGTLLAAIHFSGKLSIWAIPS  349
Equus_caballus    GDRVTAVPKTLGLLRMLSVKFYSHQGQEQDGIFKMNLSPDGTLLAAIHFSGKLSIWAIPS  349
Bos_taurus        GDRVTAVPKTLGLLRMLSGKFYSRQGQEQDGIFKMNLSPGGTLLAAIHFSGKLSIWAIPS  349
Heterocephalus_glaber GDSVTEAPKTLGLLRMLSTGKFYSHQGQEQDGIFKMNLSPDGNLLAAIHFSGKLSVWAVPS  358
Xenopus_tropicalis EDDVGTAQKRKGFWIRIMNFRSPRHGTEODGIFKMNLSPDGKLLSAIHFSGRLTIWNIPS  344
Rhinatrema_bivittatum EDNVSATLKRRLRIMNLRFSRQGRDQDGIFKLSLSPDGTLLAAIHFSGKLTWIGLPS  352
Latimeria_chalumnae EEDIGADQRRRGFFRLMNRFYSSRQSEODGVFKMNLSPNGTLLAAIHFSGQLTLWEIPS  345
.....310.....320.....330.....340.....350.....360

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*:      * * * * *:***:      * ***:***: * * *:***: * * *****:
Pavo_muticus      LRQQGEWDQTDQLGYDEVNPDWKLSSSEKRRKKIKDKESYYPLIDVNWADSSVILARCSGA 414
Pavo_cristatus    LRQQGEWDQTDQLGYDEVNPDWKLSSSEKRRKKIKDKESYYPLIDVNWADSSVILARCSGA 414
Gallus_gallus     LRQQGEWDQTDQPGYDEVNPDWKLSSSEKRRKKIKDKESYYPLIDVNWADSSVILARCSGA 414
Chelonia_mydas    LKLOGEWDQSDQPGYDEINPDWRLSTEKRKKIKDKESYYPLMDVNWAAENAVILARCSGA 415
Mus_musculus      LKQQGVWRQDEQPGYNELNPDWRLSPEKRKKVKDKESFYPLIDVNWADGAVTLARCSGA 408
Rattus_norvegicus LKQQGVWRQDEQPGYDELNPDWTLSPPEKRKKVKDKESFYPLIDVNWADGAVTLARCSGA 408
Homo_sapiens      LKQQGEWQNEQPGYDDLNPDWRLSTEKRKKIKDKESFYPLIDVNWADSAVTLARCSGA 409
Pan_troglodytes   LKQQGEWSQNEQPGYDDLNPDWRLSTEKRKKIKDKESFYPLIDVSWWADSAVTLARCSGA 409
Macaca_mulatta    LKQQGEWSQNEQPGYDDLNPDWRLSTEKRKKVKDKESFYPLIDVNWADSAVTLARCSGA 409
Callithrix_jacchus LKQQGEWSQNEQPGYDDLNPDWTLSTEKRKKIKDKESFYPLIDVNWADSAVTLARCSGA 409
Canis_lupus_familiaris LKQQGEWNQNEQPGYDDLNPDWRLSIEKRKKIKDKESFYPLIDVNWAAANAVTLARCSGA 409
Equus_caballus    LKQQGEWNQNEQPGYDDLNPDWRLSTEKRKKIKDKESFYPLIDVNWADTAVTLARCSGA 409
Bos_taurus        LKQQGEWTQHEQPGYDDLNPDWRLSTEKRKKIKDKESFYPLIDVNWADSAVTLARCSGA 409
Heterocephalus_glaber LRQLRVWEQSEQPGYDDLNPDWRLSAEKRKKIKDKESLYPLIDVNWADGAVTLARCSGA 418
Xenopus_tropicalis LKLOGGWEQNEQPGYDEINPDWRTSVEKRKKMKDKESYYPLTDINWADNAVILARCSGS 404
Rhinatrema_bivittatum LKQQGKWHQNDQPGYDEINPNWRSSLEKRKKMKDKESFYSLIDVNWADNAVILARCSGA 412
Latimeria_chalumnae LKLRAEWIQDMQPGYDEINPELNSIEKRKKIKDKESLYPLIDVNWADNAVILARCSGA 405
.....370.....380.....390.....400.....410.....420

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Pavo_muticus      LTVSSVKTLRNLGKSCWFEFSSPOVTSAHDDGGFLSLECEIKLVPKRLRLSRPGDEDEG 474
Pavo_cristatus    LTVSSVKTLRNLGKSCWFEFSSPOVTSAHDDGGFLSLECEIKLVPKRLRLSRPGDEDEG 474
Gallus_gallus     LTVSSVKTLRNLGKSCWFEFSSPOVTSAHDDGGFLSLECEIKLVPKRLRLSRPGDEDEG 474
Chelonia_mydas    LTVSSVKTLRNLGKSCWFEFSSPOVTSAHDDGGFLSLECEIKLVPKRLRLSRPGDEDEG 475
Mus_musculus      LTVSSAKSLKNLGKSCWFEFSSPOVTSAHDDGGFLSLECEIKLVPKRLRLSRPGDEDEG 468
Rattus_norvegicus LTVSSSKSLKNLGKSCWFEFSSPOVTSAHDDGGFLSLECEIKLVPKRLRLSRPGDEDEG 468
Homo_sapiens      LTVSSVKTLRNLGKSCWFEFSSPOVTSAHDDGGFLSLECEIKLVPKRLRLSRPGDEDEG 469
Pan_troglodytes   LTVSSVKTLRNLGKSCWFEFSSPOVTSAHDDGGFLSLECEIKLVPKRLRLSRPGDEDEG 469
Macaca_mulatta    LTVSSVKTLRNLGKSCWFEFSSPOVTSAHDDGGFLSLECEIKLVPKRLRLSRPGDEDEG 469
Callithrix_jacchus LTVSSVKTLRNLGKSCWFEFSSPOVTSAHDDGGFLSLECEIKLVPKRLRLSRPGDEDEG 469
Canis_lupus_familiaris LTVSSVKTLRNLGKSCWFEFSSPOVTSAHDDGGFLSLECEIKLVPKRLRLSRPGDEDEG 469
Equus_caballus    LTVSSVKTLRNLGKSCWFEFSSPOVTSAHDDGGFLSLECEIKLVPKRLRLSRPGDEDEG 469
Bos_taurus        LTVSSVKTLRNLGKSCWFEFSSPOVTSAHDDGGFLSLECEIKLVPKRLRLSRPGDEDEG 468
Heterocephalus_glaber LTIFSVKTLRNLGKSCWFEFSSPOVTSAHDDGGFLSLECEIKLVPKRLRLSRPGDEDEG 478
Xenopus_tropicalis LTVSSVKTLRNLGKSCWFEFSSPOVTSAHDDGGFLSLECEIKLVPKRLRLSRPGDEDEG 464
Rhinatrema_bivittatum LTVSSVKTLRNLGKSCWFEFSSPOVTSAHDDGGFLSLECEIKLVPKRLRLSRPGDEDEG 472
Latimeria_chalumnae LTVSSVKTLRNLGKSCWFEFSSPOVTSAHDDGGFLSLECEIKLVPKRLRLSRPGDEDEG 465
.....430.....440.....450.....460.....470.....480

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Pavo_muticus      EDDSDSE--DENSADRYFSYLKQGLYFVTEMERFAPPRKRPRITITKNFRLVSLRSTTPE 532
Pavo_cristatus    EDDSDSE--DENSADRYFSYLKQGLYFVTEMERFAPPRKRPRITITKNFRLVSLRSTTPE 532
Gallus_gallus     EDDSDSD--DENSADRYFSYLKQGLYFVTEMERFAPPRKRPRITITKNFRLVSLRSTTPE 532
Chelonia_mydas    EDDSDSD--DVSADRYFSYLKQGLYFVTEMERFAPPRKRPRITITKNFRLVSLRSTTPE 533
Mus_musculus      EDDSDSD--DVSADRYFSYLKQGLYFVTEMERFAPPRKRPRITITKNFRLVSLRSTTPE 526
Rattus_norvegicus DDDSDSD--DENSADRYFSYLKQGLYFVTEMERFAPPRKRPRITITKNFRLVSLRSTTPE 526
Homo_sapiens      EDDSDSD--DENSADRYFSYLKQGLYFVTEMERFAPPRKRPRITITKNFRLVSLRSTTPE 527
Pan_troglodytes   EDDSDSD--DENSADRYFSYLKQGLYFVTEMERFAPPRKRPRITITKNFRLVSLRSTTPE 527
Macaca_mulatta    EDDSDSD--DENSADRYFSYLKQGLYFVTEMERFAPPRKRPRITITKNFRLVSLRSTTPE 527
Callithrix_jacchus EDDSDSD--DENSADRYFSYLKQGLYFVTEMERFAPPRKRPRITITKNFRLVSLRSTTPE 527
Canis_lupus_familiaris EDDSDSD--DENSADRYFSYLKQGLYFVTEMERFAPPRKRPRITITKNFRLVSLRSTTPE 527
Equus_caballus    EDDSDSD--DENSADRYFSYLKQGLYFVTEMERFAPPRKRPRITITKNFRLVSLRSTTPE 527
Bos_taurus        EDDSDSD--DENSADRYFSYLKQGLYFVTEMERFAPPRKRPRITITKNFRLVSLRSTTPE 526
Heterocephalus_glaber EDDSDSD--DENSADRYFSYLKQGLYFVTEMERFAPPRKRPRITITKNFRLVSLRSTTPE 536
Xenopus_tropicalis DDDSDCD--DENSADRYFSYLKQGLYFVTEMERFAPPRKRPRITITKNFRLVSLRSTTPE 522
Rhinatrema_bivittatum NDDSDCD--DENSADRYFSYLKQGLYFVTEMERFAPPRKRPRITITKNFRLVSLRSTTPE 530
Latimeria_chalumnae EDDSDSDSDDESSTKAKYFGYIKQGLYFVTEMERFAPPRKRPRITITKNFRLVSLRSTTPE 525
.....490.....500.....510.....520.....530.....540

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*****:.*: * ** *: :*****:*****. ** *: :*****:*****
Pavo_muticus          ELYQRKIDN EEEYEEALSLAQAYGLDSDLVYQROWRKS AVN VASIQDYLSKIKKRAWVLHE 592
Pavo_cristatus        ELYQRKIDN EEEYEEALSLAQAYGLDSDLVYQROWRKS AVN VASIQDYLSKIKKRAWVLHE 592
Gallus_gallus         ELYQRKIDN EEEYDEALSLAQTYGLDSDLVYQROWRKS AVN VASIQDYLSKIKKRAWVLHE 592
Chelonia_mydas        ELYQRKIDN EEEYGEALSLAQAYGLDSDLVYQROWRKS STVNIASIQDYLSKIKKRSWVLHE 593
Mus_musculus          ELYQRKIDN SEDYEEALCLAH TYGLDSDLVYQROWRKS AVN SASIHN YLSKIKKRSWVLHE 586
Rattus_norvegicus     ELYQRKIEE EEEYEEALSLAH TYGLDSDLVYQROWRKS AVN IASIQNYLSKIKKRSWVLHE 586
Homo_sapiens          ELYQRKIEE EEEYEEALSLAH TYGLDSDLVYQROWRKS AVN VASIQNYLSKIKKRSWVLHE 587
Pan_troglodytes       ELYQRKIEE EEEYEEALSLAH TYGLDSDLVYQROWRKS AVN VASIQNYLSKIKKRSWVLHE 587
Macaca_mulatta        ELYQRKIEE EEEYEEALSLAH TYGLDSDLVYQROWRKS SVN VASIQNYLSKIKKRSWVLHE 587
Callithrix_jacchus    ELYQRKIEE EEEYEEALALAH TYGLDSDLVYQROWRKS AVN IASIQNYLSKIKKRSWVLHE 587
Canis_lupus_familiaris ELYQRKIEE EEEYEEALTLAQ TYGLDSDLVYQROWRKS SVN IASIQNYLSKIKKRSWVLHE 587
Equus_caballus        ELYQRKIEE EEEYEEALSLAQ TYGLDSDLVYQROWRKS AVN IASIQNYLSKIKKRSWVLHE 587
Bos_taurus            ELYQRKIEE EEEYEEALSLAQ TYGLDSDLVYQROWRKS AVN IASIQNYLSKIKKRSWVLHE 586
Heterocephalus_glaber ELYQRKIEE EEEYEEALSLAH TYGLDSDLVYQROWRKS AVN IASIQNYLSKIKKRSWVLHE 596
Xenopus_tropicalis    ELYQRKIDN EEEYGEALSLAQAYGLDSDLVYQROWRKS AVN VASIQDYLSKIKKRSWVLHE 582
Rhinatrema_bivittatum ELYQRKIEE EEEYGEALSLAHAYGLDSDLVYQROWRKS AVN IASIQDYLSKIKKRSWVLHE 590
Latimeria_chalumnae   ELYQRKIDN EEEYGEALSLAQAYGLDSDLVYQROWRKS AVN IASIQDYLSKIKKRSWVLHE 585
.....550.....560.....570.....580.....590.....600

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*:*****. *: :*: * ** *: :*****:*****. ** *: :*****:*****
Pavo_muticus          CLERV PENVDA AKKLLQYGLKGTDL EALVAIGKGEDGGRFILPGEADIG-IPYENFLSPD 651
Pavo_cristatus        CLERV PENVDA AKKLLQYGLKGTDL EALVAIGKGEDGGRFILPGEADIG-IPYENFLSPD 651
Gallus_gallus         CLERV PENVDA AKKLLQYGLKGTDL EALVAIGKGEDGGRFILPGEADIG-IPYENFLSPD 651
Chelonia_mydas        CLERV PENVDA AKKLLQYGLKGTDL EALIAIGKGEDGGRFILPGEVDVDEV PYEEFLSPD 653
Mus_musculus          CLERV PENVDA AKKLLQYGLKGTDL EALVAIGKGVDDGRFTLP GDIDIDS IAYEELSPAD 646
Rattus_norvegicus     CLERV PENVDA AKKLLQYGLKGTDL EALVAIGKGVDDGRFTLP GDVDLDG ITYEELSPPH 646
Homo_sapiens          CLERV PENVDA AKKLLQYGLKGTDL EALLAIGKGA DDGRFTLPGEIDIDSISYEELSPPD 647
Pan_troglodytes       CLERV PENVDA AKKLLQYGLKGTDL EVL LAIGKGA DDGRFTLPGEIDIDSISYEELSPPD 647
Macaca_mulatta        CLERV PENVDA AKKLLQYGLKGTDL EALLAIGKGA DEGRFTLPGEVDIDNISYEELSPPD 647
Callithrix_jacchus    CLERV PENVDA AKKLLQYGLKGTDL EALLAIGKGVDDGRFTLPGETDIDNIPYEELSPPV 647
Canis_lupus_familiaris CLERV PENVDA AKKLLQYGLKGTDL EALVAIGKGA DDGRFTLPGEVDIDSIPYEELSPPD 647
Equus_caballus        CLERV PENVDA AKKLLQYGLKGTDL EALLAIGKGA DDGRFTLPGERDIDGIAYEELSPN 647
Bos_taurus            CLERV PENVDA AKKLLQYGLKGTDL EALLAIGKGA DDGRFTLPGE MIDNISYEELSPPE 646
Heterocephalus_glaber CLERV PENVEA AKKLLQYGLKGTDL EALLALQRGVHTSRFTLP GDVDIDGV PYEELSAPL 656
Xenopus_tropicalis    CLERV PENVDA AKKLLMFLGKGTDL EALTAINGEDGGRFILP GDVDLDV PYEEFLSPD 642
Rhinatrema_bivittatum CVERVP ESVDAA KLLQYGLKGT DVEALIAIGKREDDGRFTLPGEVDIDEIPYEEFFTPA 650
Latimeria_chalumnae   CVERVP ENVDAT KELLQYGLKGADLEALIAIGKGEDGGRFILPGEVDIDELPYEDFLSHI 645
.....610.....620.....630.....640.....650.....660

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*:          :. :. :. :* :*: :*****. * * ** *: :***** ** :***** .*:
Pavo_muticus          EE-TDTRKEKEARKHQELL SLNFSKLTLEQKELCRSRLKLLTYLDRLETYEEILGGPHS 710
Pavo_cristatus        EE-TDTRKEKEARKHQELL SLNFSKLTLEQKELCRSRLKLLTYLDRLETYEEILGGPHS 710
Gallus_gallus         EE-TDTKKEKEARKHQELL SLNFSKLTLEQKELCRSRLKLLTYLDRLETYEEILGGPHS 710
Chelonia_mydas        EE-AENRKEREARKHQELL SVNFSKLTLEQKELSRSLKLLSYLDRLATYEEILGGPHA 712
Mus_musculus          KEP SKSKRQ EELKKRRDLLKLVNFSKLTLEQKELCRCLKLLTFLDRLATYEEILGAPHA 706
Rattus_norvegicus     KEP AQSKRQ KELKKRHELLKLVNFSKLTLEQKELCRCLKLLTFLDRLATYEEILGAPHA 706
Homo_sapiens          EEP AKNKK EKELKKRQ ELLKLVNFSKLTLEQKELCRCRKLLTYLDRLATYEEILGVPHA 707
Pan_troglodytes       EEP AKNKK EKELKKRQ ELLKLVNFSKLTLEQKELCRCRWLLTYLDRLATYEEILGVPHA 707
Macaca_mulatta        EEP AKNKK EKELKKRQ ELLKLVNFSKLTLEQKELCRCRKLLTYLDRLATYEEILGVPHA 707
Callithrix_jacchus    EEP AKNKK EKFTKRQ ELLKLVNFSKLTLEQKELCRCRKLLTYLDRLATYEEILGVPHA 707
Canis_lupus_familiaris EEP AKNKK EKIKKRRELLKLVNFAKLTLEQKELCRCLKLLTYLDRLATYEEILGVPHA 707
Equus_caballus        EEP AKRKREKDVKKRRELLKLVNFSKLTLEQKELCRCLKLLTYLDRLATYEEILGVPHA 707
Bos_taurus            EEP AEKKKK EKELKKRRELLKLVNFSKLTLEQKELCRCLKLLTYLDRLATYEEILGVPHA 706
Heterocephalus_glaber EEL TRRQ KEKALGRHELLKLVNFS ELTLEQKELCRCLKLLTYLDRLATYEEILGVPHA 716
Xenopus_tropicalis    EE-AESRREKENEKREQL LQLVNFANLTLEQKELCRCLKLLTYLDRLS TYEEILGGAHA 701
Rhinatrema_bivittatum EE-AENLKERENRKRO ELLKVNFNFSKLTLEQKELCRCLKLLTYLDRLS TYEEILGGPHA 709
Latimeria_chalumnae   EE-MHRRKKREDEKRO ELLKFVDFSKLTLEQKELCRCLKLLAYLDRLATYEEILGGPHA 704
.....670.....680.....690.....700.....710.....720

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/NBAs **Date: Tue Feb 1 14:07:49 2022**

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: . : . : * .   * * * . * *   * * * * * * * *   * : * * * *   * * : * * : * : * * *   * * * *   * * * * * * * * * * . *
AEQHYDGEFFKKFRNQNIVL$ARTYARE$SNVRALEILFTFHGSALLPHRQAILSNFPETT
AEQHYDGEFFKKFRNQNIVL$ARTYARE$SNVRALEILFTFHGSALLPHRQAILSNFPETT
AEQHYDGEFFKKFRNQNIVL$ARTYARE$SNVRALEILFTFHGSALLPHRQAILSNFPETT
AEQRYDAEFFKKFRNQNIVL$ARTYARE$SNVRALEILFTYHGSDDLPHRLAILSNFPETT
SEQRYDAEFFKKFRSQNIVL$ARTYARE$SNVQALEILLTYHGSDDLPHRLAILSNFPETT
SEQRYDAEFFKKFRSQNIVL$ARTYARE$SNVQALEILLTYHGSDDLPHRLAILSNFPETT
SEQRYDAEFFKKFRNQNIVL$ARTYAQESNVQALEILFTYHGSDDLPHRLAILSNFPETT
SEQRYDAEFFKKFRNQNIVL$ARTYAQESNVQALEILFTYHGSDDLPHRLAILSNFPETT
SEQRYDAEFFKKFRNQNIVL$ARTYAQESNVQALEILFTYHGSDDLPHRLAILSNFPETT
SEQRYDAEFFKKFRNQNIVL$ARTYAQESNVQALEILFTYHGSDDLPHRLAILSNFPETT
SEHRYDAEFFKKFRNQNIVL$ARTYAQESNVQALEILFTYHGSDDLPHRLAILSNFPETT
SEQRYDAEFFKKFRNQNIVL$ARTYARE$SNVQALEILFTYHGSDDLPHRLAILSNFPETT
SEQRYDAEFFKKFRNQNIVL$ARTYARE$SNVRALEILFTYHGSDDLPHRLAILSNFPETT
SGQRYDAEFFKKFRSQNIVL$ARTYARE$SNVQALEILFTYHGSDDLPHRLAILSNFPETT
SEQRYDAEFFKTFRRQNIVL$SARIYARE$SNVAALEILFTYHGSDDLPHRLAILSNFPETT
AEERYDAEFFKKFRSQNIVL$ARTYARE$SNVQALEILFTYHGSDDLPHTLAILSNFPETT
AEQRYDAGFFKKFRNQNIVL$SARTCARE$SNVQALEILFTYHGSSELLPHRLAILSNFPETT
AEERYDSEFFKKFRNQNIVL$SARTYARE$SNVQALDILFTYHGSSELLPHRLAILSNFPEPT
.....730.....740.....750.....760.....770.....780

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***:: *** ** . * ::** *:.* ** ** *: :.* ** * **:* *

SPHEYAFLLLPEACYEQGTLKIIPWNEQKHREEDWCEKADCRTIVEPTLQDESEFLYESQP
SPHEYAFLLLPEACYEQGTLKIIPWNEQKHREEDWCEKADCRTIVEPTLQDESEFLYESQP
SPHEYAFLLLPEACYEQGTLKIIPWNEQKHREEDWCEKADCRTIVEPTLQDESEFLYESQP
SPHEYSFLLPEACCRQDVLMLIPWNEQKHREEDWCENPCKMIFEPVLQDEDEFFYGALP
SPHEYAVLLPEACWNNDLSLTIIPWAEHKKHRAEDWCEELECRMVVEPSLQDDSEFLYAAQP
SPHEYAVLLPEACWNNDLSLTIIPWAEQKHRAEDWCEELECRMVVEPGLQDDSEFLYAAQP
SPHEYSVLLPEACFNGLSLMIIPWHEHKKHRAKDWCEEELACRMVVEPNLQDESEFLYAAQP
SPHEYSVLLPEACFNGLSLMIIPWHEHKKHRAKDWCEEELACRMVVEPNLQDESEFLYAAQP
SPHEYSVLLPEACFNGLSLMIVPWHEHKKHRAKDWCEEELACRMVVEPNLQDESEFLYAAQP
SPHEYSVLLPEACFNGLSLMIIPWHEHKKHRAKDWCEEELACRMVVEPSLQDESEFLYAAQP
SPHEYAVLLPEACYNGDALVLIIPWNEHKKHRDKDWCEELECRMVVEPSLQDESEFLYAAQP
SPHEYSVLLPEACYNGDSLMIIPWHERKKHRDKDWCEELECRMVVEPSLQDESEFLYAAQP
SPHQYSALLPEACYDGLSLVIVPWHEHKKHRDEDWCEELECRMVVEPSLPDESEFLYTAQP
SPHQYSALLPEACHHGGSLVIIPWRERKKHRAADWCEEAECRMVVEPSPDGSEFLYATQP
SPHEYDTLLP-ACVDEGELKIVPWNEREHRDKDWCEAPECKTMIEPCPADPSEFLYEEQP
SPHEYPIILLPEACFEAGELVIVPWNEQKHHRDKDWCEESNCKSIVEPSSQDEAEFLYEEQP
SPHDFAILLPEACYEDGLVLIIPWNEQRHRDMDWCEKPKCRKVIENHKDEGEFLYEEQP
.....790.....800.....810.....820.....830.....840

* : . : * . * : : * : * * * * * * * * * : . * : * : * :
 ELLKYRTTELSVELVTDWYLSRAQIEIKYAMQVDCALSLVRLGMERNIPGLQVLCNLIIT
 ELLKYRTTELSVELVTDWYLSRAQIEIKYAMQVDCALSLVRLGMERNIPGLQVLCNLIIT
 ELLKYRTTELSVELVTDWYLTRAQIEIKYAMQVDCALSLVRLGMERNIPGLQVLCNLIIT
 ELLKYRTTKLSIDLVS DWYWNRAQIEIENYAMQVDCALSLVRLGMERNIPGLQVLCNLIIT
 ELLQYRTPLQITVEKVMWYQSRADIEHHAGQVDCALSLVRLGVERHIPGLLTLCCDLVT
 ELLQYRTPLQITVEKAMAWYRSRAQDIEHHAGQVDCALSLVRLGMERHIPGLLTLCCDLVT
 ELLRFRMTQITVEKVMWYQTRAEEIEHYARQVDCALSLIRLGMERNIPGLLVLCNLIIT
 ELLRFRMTQITVEKVVWYQTRAEEIEHYARQVDCALSLIRLGMERNIPGLLVLCNLIIT
 ELLRFRMTQITMEKVMWYQTRAEEIEHYALQVDCALSLIRLGMERNIPGLLVLCNLIIT
 ELLRFRMTQITVEKVMWYQTRAEEIEHYSLOVDCALSLIRLGMERNIPGLLVLCNLIIT
 ELLRYRTPLQITVEKVMWYQTRAEEIEHYARQVDCALSLIRLGMERNIPGLLVLCNLIIT
 ELLRFRTPQLAVEKVMWYQSRADIEHYARQVDCALSLIRLGMERSIPGLLVLCNLIIT
 ELLRYRSSRLAVEEVMWYGSRAEEIEHYARQVDCALSLIRLGMERNIPGLLVLCNLIIT
 ELLPFRTPQLAVEEVMWYRSRAEEIEHHAGQVDCALSLIRLGMERQIPGLLVLCNLIIT
 ELLTYKTQQLSIDLVKSWYWNRAQEVENYARLVNALSILVRLGIERNIPGLQILSDDLVT
 ELIKYRSTKLPTVDLVTNWNRAEEIESYARQVDCALSLVRLGKERNIHGLQVLCDDLVT
 EQQKYRTLEPSIALLTWYWNRAKIEIESYARQVDCALSLVRLGKERNIPGLEALCDDLIT
850.....860.....870.....880.....890.....900

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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** :***: : ***:* :*: :*:*** :*.:*.:*****:*:***** :.
Pavo_muticus      LETVVYETDGDRTLTTLKELVEMKDIEKLRLLMKNSDEKYMKNVYQWMIPFLHRCENOSP 950
Pavo_cristatus    LETVVYETDGDRTLTTLKELVEMKDIEKLRLLMKNSDEKYMKNVYQWMIPFLHRCENOSP 950
Gallus_gallus     LETVVYETDGDRTLTTLKELVEMKDIEKLRLLMKNSDEKYMKNVYQWMIPFLHRCENOSP 950
Chelonia_mydas    LEMLIYETGCDLTTLTKDLLEMKDSEKLRLLMVNSDERYVKNVYQWMVPFLHRCENOSP 952
Mus_musculus      LETLVYEAGCDFTLTLKDLQOMKDFEKLRLLMERCSEDNYVTSAYQWMVPFLHRCENOSP 946
Rattus_norvegicus LETLVYEAGCDFTLTLKDLQOMKDFEKLRLLMERCSEDNYVTSAYQWMVPFLHRCENOSP 946
Homo_sapiens      LETLVYEAGCDLTTLTKELQOMKDIKLRLLMNSCEDKYVTSAYQWMVPFLHRCENOSP 947
Pan_troglodytes   LETLVYEAGCDVTLTLTKELQOMKDIKLRLLMNSCEDKYVTSAYQWMVPFLHRCENOSP 947
Macaca_mulatta    LETLVYEAGCDVTLTLTKELQOMKDIKLRLLMNSCENKYVTSAYQWMVPFLHRCENOSP 947
Callithrix_jacchus LETLVYEAGCDLTTLTKELQOMKDIKLRLLMNSCEDKYVTSAYQWMVPFLHRCENOSP 947
Canis_lupus_familiaris LEALVYETGCDLTTLTKELQOMKDIKLRLLMNSCEDKYVTSAYQWMVPFLHRCENOSP 947
Equus_caballus    LEALVYEAGCDLTTLTKELQOMKEIEKLRLLMNSCEDKYVTSAYQWMVPFLHRCENOSP 947
Bos_taurus        LEALVYEAGCDLTTLTKELQOMKDIKLRLLMNSCEDKYVTSAYQWMVPFLHRCENOSP 946
Heterocephalus_glaber LETLVYEAGCDLTTLTAEQMKDIEKLRLLMNSCEDKYVTSAYQWMVPFLHRCENOSP 956
Xenopus_tropicalis LETLVYEAGCEPSLTTLKELOQIKDIDKLKLLMANASEEHYVKNAYQWMVPLHRCENOSP 940
Rhinatrema_bivittatum LETLVYEAGFDIVLTTLKDLQOLQDIEKLRLLMKNSSEKRYVKNAYQWMVPFLHRCENOSP 949
Latimeria_chalumnae LETLVYEAGCDVTLTLKELQOMKDIKLRLLMNSSEERYVKNAYQWMVPFLHRCENOSP 944
.....910.....920.....930.....940.....950.....960

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* *.*:*****:*** ** :***:*** ***: * :**** ** .** * *.**
Pavo_muticus      GLANSLFKEYLVTLAKEDLTLPKIFQNSKPCQOKIIPEDQOLMIMALECIYSCERDDQ 1010
Pavo_cristatus    GLANSLFKEYLVTLAKEDLTLPKIFQNSKPCQOKIIPEDQOLMIMALECIYSCERDDQ 1010
Gallus_gallus     GLANSLFKEYLVTLAKEDLTLPKIFQNSKPCQOKIIPEDQOLMIMALECIYSCERDDQ 1010
Chelonia_mydas    GLANTLFREYLVSLAKEDLKFPLKIFQNSKPCQOKIIPEDQOLMIMALECIYSCERDDQ 1012
Mus_musculus      GAANELLREYLVTLAKGDLKPLKIFQNSKPCQOKIIPEDQOLMIMALECIYSCERDDQ 1006
Rattus_norvegicus GAANELLREYLVTLAKGDLKPLKIFQNSKPCQOKIIPEDQOLMIMALECIYSCERDDQ 1006
Homo_sapiens      GVANELLKEYLVTLAKGDLKPLKIFQNSKPCQOKIIPEDQOLMIMALECIYSCERDDQ 1007
Pan_troglodytes   GVANELLKEYLVTLAKGDLKPLKIFQNSKPCQOKIIPEDQOLMIMALECIYSCERDDQ 1007
Macaca_mulatta    GVANELLKEYLVTLAKGDLKPLKIFQNSKPCQOKIIPEDQOLMIMALECIYSCERDDQ 1007
Callithrix_jacchus GVANELLKEYLVTLAKGDLKPLKIFQNSKPCQOKIIPEDQOLMIMALECIYSCERDDQ 1007
Canis_lupus_familiaris GVANELLKEYLVTLAKGDLKPLKIFQNSKPCQOKIIPEDQOLMIMALECIYSCERDDQ 1007
Equus_caballus    GVANELLKEYLVTLAKGDLKPLKIFQNSKPCQOKIIPEDQOLMIMALECIYSCERDDQ 1007
Bos_taurus        GVANELLKEYLVTLAKGDLKPLKIFQNSKPCQOKIIPEDQOLMIMALECIYSCERDDQ 1006
Heterocephalus_glaber GVAKELLREYLVTLAKGDLKPLKIFQNSKPCQOKIIPEDQOLMIMALECIYSCERDDQ 1016
Xenopus_tropicalis GLANELLREYLVTLAKDLDLPLKIFQNSKPCQOKIIPEDQOLMIMALECIYSCERDDQ 1000
Rhinatrema_bivittatum GLANELLKEYLVTLAKEDLDFPLKIFQNSKPCQOKIIPEDQOLMIMALECIYSCERDDQ 1009
Latimeria_chalumnae GLADELLKEYLVTLAKEDLKLPLKIFQNSKPCQOKIIPEDQOLMIMALECIYSCERDDQ 1004
.....970.....980.....990.....1000.....1010.....1020

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* :*:*****:*** * : * *** ***: :*****:*:*:*:*:*:*:*:*:
Pavo_muticus      LALCYDILECLPQRGYGPETDRTSSLHDAVDELERILSVSELLEKHGLQKPVSVFKDTKD 1070
Pavo_cristatus    LALCYDILECLPQRGYGPETDRTSSLHDAVDELERILSVSELLEKHGLQKPVSVFKDTKD 1070
Gallus_gallus     LALCYDILECLPQRGYGPETDRTSSLHDAVDELERILSVSELLEKHGLQKPVSVFKDTKD 1070
Chelonia_mydas    LSFCDYDILECLPQRGYGPETDLTKTLHDKVDELEQILSVSELLEKHGLQKPVSVFKDTQN 1072
Mus_musculus      LSLCYDILECLPQRGCGHNTKVTSSLHDMVDQLEKILSVSELLEKHGLQKPVSVFKNTQS 1066
Rattus_norvegicus LSLCYDILECLPQRGCGHNTKVTSSLHDMVDQLEKILSVSELLEKHGLQKPVSVFKNTQS 1066
Homo_sapiens      LCLCYDILECLPERGYGDKTEATTKLHDMVDQLEQILSVSELLEKHGLQKPVSVFKNTQS 1067
Pan_troglodytes   LSLCYDILECLPERGYGDKTEATTKLHDMVDQLEQILSVSELLEKHGLQKPVSVFKNTQS 1067
Macaca_mulatta    LSLCYDILECLPERGYGDKTEATTKLHDMVDQLEQILSVSELLEKHGLQKPVSVFKNTQS 1067
Callithrix_jacchus LSLCYDILECLPERGYGDKTEVTPTLHDMVDQLEQILSVSELLEKHGLQKPVSVFKNTQS 1067
Canis_lupus_familiaris LSLCYDILECLPQRGYGHKTEVTTALHDMVDQLEQILSVSELLEKHGLQKPVSVFKNTQS 1067
Equus_caballus    LSLCYDILECLPQRGYGHKTEVTTALHDMVDQLEQILSVSELLEKHGLQKPVSVFKNTQS 1067
Bos_taurus        LALCYDILECLPQRGYQKTEVTTALHDMVDQLEHILSVSELLEKHGLQKPVSVFKNTQS 1066
Heterocephalus_glaber LPLCYGILECLPQRGCGQKTEVTTALHDMVDQLEHILSVSELLEKHGLQKPVSVFKNTQS 1076
Xenopus_tropicalis LAFCDYDILECLPQRGYGCESAVTKSLHDKVDQLEQILSVSELLEKHGLQKPVSVFKNTQS 1060
Rhinatrema_bivittatum LSLCYDVLECLPQRGYGCETDITKSLHDKVDQLEQILSVSELLEKHGLQKPVSVFKNTQS 1069
Latimeria_chalumnae LSLCYDILECLPQRGYQGETDVTIKLHDKVDQLEHILSVSELLEKHGLQKPVSVFKNTQS 1064
.....1030.....1040.....1050.....1060.....1070.....1080

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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      .*** .*:*****:***:*.*.* :*: *****:* :** ** ***:...*:***:****
Pavo_muticus      DAEFEARKLMIRLTRHTGRKQPSVNEQWKELLQDMLDMQKVYTCLQSDACYEIFTESLL 1130
Pavo_cristatus    DAEFEARKLMIRLTRHTGRKQPSVNEQWKELLQDMLDMQKVYTCLQSDACYEIFTESLL 1130
Gallus_gallus     NAEFEARKLMIRLTRHTGRKQPSVSEMQWKELLQDMLDMQKVYTCLQSDACYEIFTESLL 1130
Chelonia_mydas    IPEQAELKLMIRLTRHTGRKQPPVNEHMKGLLQDMLDMQNVYTCLEPDSACYEIFTESLL 1132
Mus_musculus      SSEEARSLMVRLTRHTGRKQPSVGESHWRMLLQDMLTMQOHVYTCLDSSACYEIFTESLL 1126
Rattus_norvegicus SSEEARSLMVRLTRHTGRKQPSVGESHWRMLLQDMLTMQOHVYTCLDSSACYEIFTESLL 1126
Homo_sapiens      SSEEARKLMVRLTRHTGRKQPPVSESHWRLLQDMLTMQONVYTCLDSDACYEIFTESLL 1127
Pan_troglodytes   SSEEARKLMVRLTRHTGRKQPPVSESHWRLLQDMLTMQONVYTCLDSDACYEIFTESLL 1127
Macaca_mulatta    SSEEARKLMVRLTRHTGRKQPPVSESHWRLLQDMLTMQONVYTCLDSDACYEIFTESLL 1127
Callithrix_jacchus SSEEARKLMVRLTRHTGRKQPPVSESHWRLLQDMLTMQONVYTCLDADACYEIFTESLL 1127
Canis_lupus_familiaris SSEEARKLMVRLTRHTGRKQPPVSESHWRMLLQDMLTMQONVYTCLDSDACYEIFTESLL 1127
Equus_caballus    SSEEARKLMVRLTRHTGRKQPPVSESHWRMLLQDMLTMQONVYTCLDADACYEIFTESLL 1127
Bos_taurus        SSEEARKLMVRLTRHTGRKQPPVSESHWRVLLQDMLTMQONVYTCLDSDACYEIFTESLL 1126
Heterocephalus_glaber SAEFEARKLMVRLTRHTGRKQPPVSESHWRALLQDMLTVQSVYTCLDPSACHEIFTESLL 1136
Xenopus_tropicalis SAEFEARKLIVRLTRHTGRKQPPVSESHWKGLLQDILEMQONVYKCLDADTCYEIFAESLL 1120
Rhinatrema_bivittatum RPEEARNLMIRLTRHTGRKQPPVSESHWKGLLQDILLDMQONVYKCLDSDACYEIFTESLL 1129
Latimeria_chalumnae STEEAKQLMVRLTRHTGRKQPPVSETHWKGLLQDMLDMQSVYKCLNPDTCYEIFTESLL 1124
.....1090.....1100.....1110.....1120.....1130.....1140

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      **. :*:*****:***.*.*.* :*: :*: :*: :*: *****:*****:..
Pavo_muticus      CSSSVDNIHLAQMMHCSIWSVDQPVSS--SKGKPYRVSYTRSIELVLAASREYFNSSTS 1188
Pavo_cristatus    CSSSIDNIHLAQMMHCSIWSVDQPVSS--SKGKPYRVSYTRSIELVLAASREYFNSSTS 1188
Gallus_gallus     CSSSIDNIHLAQMMHCSIWSVDQPVSS--SKGKPYRVSYTRSIELVLAASREYFNSSTS 1188
Chelonia_mydas    CSSHLENIHLAQMMHCSVWSVDPVSVASKGKPRYRVSYEKSIVKLVAAGREYFNSSTS 1192
Mus_musculus      CSSRLENIHLAQMMQCSACLDNPPAGALHKGRAQYRVSYERSIDLVAASREYFNSSTN 1186
Rattus_norvegicus CSSRLENIHLAQMMQCSACSDNLPAGVHKGKPYRVSYERSIDLVAASREYFNSSTS 1186
Homo_sapiens      CSSRLENIHLAQMMHCSACSENPPAGIAHKGKPHYRVSYEKSIDLVAASREYFNSSTN 1187
Pan_troglodytes   CSSRLENIHLAQMMHCSACSENPPAGIAHKGKPHYRVSYEKSIDLVAASREYFNSSTN 1187
Macaca_mulatta    CSSRLENIHLAQMMHCSACSENPPGGIAHKGKPHYRVSYEKSIDLVAASREYFNSSTN 1187
Callithrix_jacchus CSSRLENIHLAQMMHCSAFSANLPAGIAHKGKPHYRVSYEKSIDLVAASREYFNSSTN 1187
Canis_lupus_familiaris CSSRLENIHLAQMMHCSACINPPASGAHKGKTYRVSYERSIDLVAASREYFNSSTN 1187
Equus_caballus    CSSRLENIHLAQMMHCSACSMNPPASVAHKGRTQYRVSYQKSIDLVAASREYFNSSAS 1187
Bos_taurus        CSSRLENIHLAQMMHCSACISPPNSIAHKGKTYFRVSYEKSIDLVAASREYFNSSTN 1186
Heterocephalus_glaber CSSRLENVQLAGQLMHCRAGLANPPASAAQKGRLOYRVGYEKSIVLVAASREYFNSSTS 1196
Xenopus_tropicalis CSGRLENIHLAQMMHCNLSIDLVPVSIITKGRAQYKVNIEKSVALVLAASREYFNSSAT 1180
Rhinatrema_bivittatum CSGRLENIHLAQMMHCSSLPIDPRGSTALKGKEHYKVYFSGKSIELVLAAGREYFNSSTS 1189
Latimeria_chalumnae CSSRLENIHLAQMMQCSSVPVDLTVNVASRGKASKVSYEKSIELVLAASREYFNSSAN 1184
.....1150.....1160.....1170.....1180.....1190.....1200

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      *: * * *.*** ***** * * :*****: :.. ***:***: ***** :*.:*:*
Pavo_muticus      LTDCCMDLARCCQLITVDCPSAIOEELDILIRALGYLEEFVVKILPLQVRLCSDRLGLVKD 1248
Pavo_cristatus    LTDCCMDLARCCQLITVDCPSAIOEELDILIRALGYLEEFVVKILPLQVRLCSDRLGLVKD 1248
Gallus_gallus     LTDSCMDLARCCQLITVDCPSAIOEELDILIRALGYLEEFVVKILPLQVRLCSDRLGLIKD 1248
Chelonia_mydas    LTDSCMDLARCCQLITVDCPSAIOEELDILIRALSYLEEFGLRILPLQVRLCSDRLSLIKD 1252
Mus_musculus      LTDSCMDLARCCQLITDRPAATIOEELDLIQALGYLEEFVVKITLPLQVRLCSDRLSLIKE 1246
Rattus_norvegicus LTDSCMDLARCCQLITDRPAATIOEELDLIQALGYLEEFVVKILPLQVRLCSDRLSLIKE 1246
Homo_sapiens      LTDSCMDLARCCQLITDRPPATIOEELDLIQAVGCLEEFVVKILPLQVRLCPDRISLIKE 1247
Pan_troglodytes   LTDSCMDLARCCQLITDRPPATIOEELDLIQAVGCLEEFVVKILPLQVRLCPDRISLIKE 1247
Macaca_mulatta    LTDSCMDLARCCQLITDRPPATIOEELDLIQAVGCLEEFVVKILPLQVRLCPDRISLIKE 1247
Callithrix_jacchus LTDSCMDLARCCQLITDRPPATIOEELDLIEAVGCLEEFVVKILPLQVRLCPDRISLIKE 1247
Canis_lupus_familiaris LTDSCMDLARCCQLITDRPAATIOEELDLIQALGCLEEFVVKILPLQVRLRGDRISLIKE 1247
Equus_caballus    LTDSCMDLARCCQLITDRPTATIOEELDLIQALGCLEEFVVKILPLQVRLCSDRIGLIKE 1247
Bos_taurus        LTDTCMDLARCCQLITDRPAATIOEELDLIQALGCLEEFVVKILPLQVRLCSDRIGLVKE 1246
Heterocephalus_glaber LADSCMDLARCCQLIADRPATIOEELDLIQALGCLEEFVVKILPLQVRLCSDRISLIKE 1256
Xenopus_tropicalis LTDNCMDLARSCLQLITDCPNVQOEELDLIRSLGYLEEFVVKILPLQVRLCSNRLSLIKK 1240
Rhinatrema_bivittatum LTDSCMDLARTCLQLISDCPNVQOEELDLVRLALGYLEEFVVKILPLQVRLCSDRLSLVKT 1249
Latimeria_chalumnae LTDNCMDLARCCQLITVDCPPVIOEELDLICALNQLEELGVKILPLQVRLCSDRLSLIKE 1244
.....1210.....1220.....1230.....1240.....1250.....1260

```

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/NBA **Saps: Tue Feb 1 14:07:49 2022**

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* : . . . . . **** : *** * : *** : . : : * : **** ** : **** : ** : . : . : *** : *
CLSOLPTNYKQSAKLLGLANLLRVAGDDQMERKGQVLILLVEQALSFQDYKAASMHCOEL
CLSOLPTNYKQSAKLLGLANLLRVAGDDQMERKGQVLILLVEQALSFQDYKAASMHCOEL
CLSOLPTNYKQSAKLLGLANLLRVAGDDQMERKGQVLILLVEQALSFQDYKAASMHCOEL
CIAOLPTNYKQSAKLLGLADLLRVAGDDQTERKGQVLILLVEQALHFQDYKAASMHCOEL
CVSQSPTCYKQSAKLLGLAELLRVAGEDPEGRRGQVLILLVEQALNVHDYKVASMYCQQL
CVSQSPTCYKQSAKLLGLAELLRVAGEDPEERHGGQVLILLVEQALNVHDYKAAS TYCOEL
CISQSPTCYKQSTKLLGLAELLRVAGENPEERRGQVLILLVEQALRFHDYKAASMHCOEL
CISQSPTCYKQSTKLLGLAELLRVAGENPEERRGQVLILLVEQALRFHDYKAASMHCOEL
CISQSPTCYKQSTKLLGLAELLRVAGEDPEERRGQVLILLVEQALRFHDYKAANMHCOEL
CISQSPTCYKQSTKLLGLGELLRVAGEDPEERRGQVLILLVEQALRFHDYKAANMHCOEL
CICQSPTCYKQSAKLLGLAELLRVAGEDPEERRGQVLILLVEQALRFHDYKAASVHCOEL
CICQSPTCYKQSAKLLGLAELLRVAGEDPEERRGQVLILLVEQALRFHDYKAANVHCOEL
CICQSPMCYKQSTKLLDLAELLRVAGEDPEERRGQVLILLVEQALRFHDYKAANVHCOEL
CISRSPTCYKQSAKLLGLAELLRVAGEDLEERRGQVLILLVEQALRLHDYKAANVHCOEL
CITQCPSTYKQSAKLLTLANLLRLAGCDETDRKGQVLTLLAEQALDSQDYRAASGHCOEL
CIAESPTNYKQSAKLLCLANLLRVAGDDKAERKGQVLTLLAEQALNFQDYRAANMHCOEL
CITQCPYAYKQSTKLLGLANLLRVAGNDHVRRKGQVLTLLAEQALQFQDYKVTNIHCOEL
.....1270.....1280.....1290.....1300.....1310.....1320

```

[illegible]

* . : * : . : :

```
AVNYRLLPSEGG--ENVNTSGPSSLTSKDT--EDGTNIS
AVNYRLLPSEGG--ENVNTSGPSSLTSKDT--EDGTNIS
AVNYQLLPSEGG--ENVNTSGPSSLMSKDT--EDDTNIS
AVNYQLRPSEGG--ENITISVPSSLITKETP--QEEISIP
RVNFEIHP-EGE--NIS---ASPLPVKVLQ--EDAAAL
RVNFEIHP-EGE--NINV--VSPLTGKVLQ--EDDTSL
RVNFQIHH-EGG--ENIS--ASPLTSKAVQ--EDEVGVP
RVNFQIHH-EGG--ENIS--ASPLTSKAVQ--EDEVGVP
RVNFQIHH-EGG--ENIS--ASPLTSKAVQ--EDEVGVP
RVNFQIHH-EGG--ENIS--ASSLTSKAVH--EDEVGVP
KVNFIHP-EGG--ESIN--IPLLSKTLQ--EGEASVP
KVNFIHP-EGG--EGVS--ASLLTSKAPQ--EDEVSVP
RVNFQIHP-EGG--ESIN--MSPLMSKALQ--EDEVSVP
RVNSQIHL-EGG--ESVG--VSPLIGKVPP--EAEPGFP
AVSYQIQPGGEDERENSHHAGPPALSNRD-----ACQADAKAP
AVNYQIRPSEG---EHMHVSGPSSLISKEPQQVVSREAILKGGQLESTTNSVSNQAEIKTVS
AVNYQIHPSEG---ENVNSTSCAPSASKE-----LHQAEIRIF
```

1390 1400 1410 1420 1430 1440

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/NBASeqs Date: Tue Feb 1 14:07:49 2022

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      .  :*: :*: :*: :*: :*: :*: :*: :*: :*: :*: :
Pavo_muticus      ASQSADLLYWTAKTMKVLSTNTMTTKAMLHAVSDGQWWKRSITYLRPLHGOELG-DVLK 1462
Pavo_cristatus    ASQSADLLYWTAKTMKVLSTNTMTTKAMLHAVSDGQWWKRSITYLRPLHGOELG-DVLK 1462
Gallus_gallus     ASQSADLLYWTAKTMKVLSTNTMTTKAMLHAVSDGQWWKRSITYLRPLHGOELG-DVLK 1462
Chelonia_mydas    SSQSADFLYWTAKTMKVLSTNTTTTTKAMLHAVSDGQWWKRSITYLRPLHGOEFG-DVLK 1467
Mus_musculus      GSSSADLLHWTTATTMKVLSTNTTTTTKAVLQAVSDGQWWKSLAYLRPLQGOEFG-RAYR 1455
Rattus_norvegicus GSSSADLLQWTTATTMRVLSNTTTTTRAVLQAVSDGQWWKSLAYLRPLQGODFG-GAYR 1456
Homo_sapiens      GSNSADLLRWTTATTMKVLSTNTTTTTKAVLQAVSDGQWWKSLTYLRPLQGOEFG-GAYQ 1458
Pan_troglodytes   GSNSADLLRWTTATTMKVLSTNTTTTTKAVLQAVSDGQWWKSLTYLRPLQGOEFG-GAYQ 1458
Macaca_mulatta    GSNSADLLRWTTATTMKVLSTNTTTTTKAVLQAVSDGQWWKSLTYLRPLQGOEFG-GAYQ 1458
Callithrix_jacchus GSNSADLLHWTTATTMKVLSTNTTTTTKAVLQAVSDGQWWKSLTYLRPLQGOEFG-GAYQ 1458
Canis_lupus_familiaris GSN-SDLFWSTAATMKVLSSTTTTTKAVLQAVSDGQWWKSLAYLRPLHGOEFG-GVYQ 1457
Equus_caballus    GSNSADLLHWTTAATMKVLSNTTTTTKAVLQAVSDGQWWKSLTYLRPLQGREFG-GAYR 1458
Bos_taurus        GSNSADLLHWTTATTMKVLSTNTTTTTKAVLQAVSDGQWWKSLTYLRPLQGOEFG-GVYQ 1457
Heterocephalus_glaber GSGSADLLSWTTAATMKVLSNTTTTTRAVLQAVSDRQWWKSLTYLRPLQGOEFG-GSHQ 1467
Xenopus_tropicalis SVQSADLLQRTTATTMKVLTNTTMTTKAVLHAVSDGQWWKSLTYLRPLQAOESDDEVIK 1458
Rhinatrema_bivittatum ASQSTDLLYRTTATTMKVLSTNTMTTKAVLHAVSDGQWWKSLTYLRPLQADGFG-DALK 1485
Latimeria_chalumnae SSPSADLLHRTTAKTMEVLSNTTMTTKAVLHAVSDAQWWKSLTYLRPLHDOGLG-TALK 1458
.....1450.....1460.....1470.....1480.....1490.....1500

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      .  :*: :*: :*: :*: :*: :*: :*: :*: :*: :*: :
Pavo_muticus      SGLGENVTVEKQGCHPFYESLIADPYVAESEVSYGTYQNNLSLESAFVLLRTEKLTETKS 1522
Pavo_cristatus    SGLGENVTVEKQGCHPFYESLIADPYVAESEVSYGTYQNNLSLESAFVLLRTEKLTETKS 1522
Gallus_gallus     SGLGENVTVEKQGCHPFYESLIADPYVAEAEISYGTYQNNLSLESAFVLLRTEKLTETKS 1522
Chelonia_mydas    SSSGANAAVEKQSCHPFYESLIVAPCVAESEVAYAGFOHSSSESFAFVLLRTGKLAETKS 1527
Mus_musculus      IGIVANDDLERQGCHPFYESVIANPFVTE-----VPVESFAFVLLRTGKLTETAK- 1504
Rattus_norvegicus IGTVANDDLERQGCHPFYESVIANPFVTEQ-----VPVESLAEVLLRTGKLAEAK- 1506
Homo_sapiens      IGTTANEDLEKQGCHPFYESVISNPFVAESEGYDITYQHVPVESFAFVLLRTGKLAEAKN 1518
Pan_troglodytes   IGTTANEDLEKQGCHPFYESVISNPFVTESEGYDITYQHVPVESFAFVLLRTGKLAEAKN 1518
Macaca_mulatta    IGTTANEDLEKQGCHPFYESVISNPFVTESEGYDITYQHVPVESFAFVLLRTGKLAEAKN 1518
Callithrix_jacchus IGTTANEDLEKQGCHPFYESIISNPFVTESEVITYQYHVPVESFAFVLLRTGKLAEAKN 1518
Canis_lupus_familiaris IGTTANESLEKQGCHPFYESVLSDFVTESEAGTYDPHQHVPVESFAFVLLRTGKLAEAKT 1517
Equus_caballus    IRVANEDLEKQGCHPFYESVISNPFVAESEVITYDITYQHVPVESFAFVLLRTGKLAEAKT 1518
Bos_taurus        IGTRANEGLEKQGCHPFYESVISNPFVTESEVITYDITYQHVPVESFAFVLLRTGKLAEAKT 1517
Heterocephalus_glaber DGAVASEDLQKQGCHPFYESVISNPFVPESEGVTCDFQVPEVSLAEILLRTGKLAEAGT 1527
Xenopus_tropicalis STTGANVRVGKQGCHPFYESLIINPFIAESEATYATYQHSPRESFAFVLLRTGKLAEAKT 1518
Rhinatrema_bivittatum SMSGANAGVGKQGCHPFYESVIVNPFIAEESIYTTYQHSPRESFAFVLLRTGKLAEAKT 1545
Latimeria_chalumnae CMVGDNADLEKQGCHSFYESLFEDPFIDKTEVITYTVYDNNPVENFAFVLLRTGKLTETKS 1518
.....1510.....1520.....1530.....1540.....1550.....1560

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      :*: :*: :*: :*: :*: :*: :*: :*: :*: :*: :
Pavo_muticus      EAKDLLPTTEVLLQLASDALPNDMALALAYLLALPOVVDANKCFEKQLHSAISLQLASY 1582
Pavo_cristatus    EAKDLLPTTEVLLQLASDALPNDMALALAYLLALPOVVDANKCFEKQLHSAISLQLASY 1582
Gallus_gallus     EAKDLLPTTEVLLQLASDALPKDMTLALAYLLALPOVVDANKCFEKQLHSAISLQLASY 1582
Chelonia_mydas    EGEDLFPATEVLLQLASDALPNDMTLSLAYLLALPOVVDANKCFEKQSHSALSLSQLASY 1587
Mus_musculus      --TQVFPTTEVLLQLASDALPNDMTLALAYLLALPOVLDANKCFEKQAHSALSLSQLAAY 1562
Rattus_norvegicus --AQVFPTTEVLLQLASDALPNDMTLALAYLLALPOVLDANKCFEKQAHSALSLSQLAAY 1564
Homo_sapiens      KGE-VFPTTEVLLQLASEALPNDMTLALAYLLALPOVLDANRCFEKQSPSALSLSQLAAY 1577
Pan_troglodytes   KGE-VFPTTEVLLQLASEALPNDMTLALAYLLALPOMLDANRCFEKQSPSALSLSQLAAY 1577
Macaca_mulatta    KGEVFPTTEVLLQLASEALPNDMTLALAYLLALPOVLDANRCFEKQSPSALSLSQLAAY 1578
Callithrix_jacchus KGE-VFPTTEVLLQLASEALPNDMTLALAYLLALPOVLDANRCFEKQSHSALSLSQLAAY 1577
Canis_lupus_familiaris EGEEVFPTTEVLLQLASDALPNDMTLALAYLLALPOVLDANKCFEKQAHSALSLSQLAAY 1577
Equus_caballus    EAEEVFPTTEVLLQLASDALPNDMTLALAYLLALPOVLDANKCFEKQSHSALSLSQLATY 1578
Bos_taurus        EGEEVFPTTEVLLQLASDALPNDMTLALAYLLALPOVLDANKCFEKQSHSALSLSQLAAY 1577
Heterocephalus_glaber EGQAVLPTTEVLLQLASDALPGDVTLLALAYLLSLPQVLDANRCFEKQSHSALSLSQLAVY 1587
Xenopus_tropicalis EGESLFPATEVLLQLASDTLPNDITMSVAYLLALPOVVDANKCFEKQSHSALSLSQLAAY 1578
Rhinatrema_bivittatum EGENLFPATEVLLQLSNDALPKDLTSLAYLLALPOVVDANKCFEKQSHSALSLSQLAAY 1605
Latimeria_chalumnae EGRNLFPAATEVLLKLASDALPKDMTLALAYLLALPOVIDANKCFEKLSHSALSLSQLAAY 1578
.....1570.....1580.....1590.....1600.....1610.....1620

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/NBAISape: Tue Feb 1 14:07:49 2022

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***** :*:*** :*:***:*. . :*:*** :*: * . :*: * :* *.*
Pavo_muticus      YSLQIYARLAPCFKDKCHPLYRADPEELIKMVTQHVTQYACADWPEEIATLINOLHYHNE 1642
Pavo_cristatus    YSLQIYARLAPCFKDKCHPLYRADPEELIKMVTQHVTQYACADWPEEIATLINOLHYHNE 1642
Gallus_gallus     YSLQIYARLAPCFKDKCHPLYRADPEELIKMVTQHVTQYAYADWPEEIATLINOLHYHNE 1642
Chelonia_mydas    YSLQIYAHLAPCFKDKCHPLYRADPKELIKMVTKHVSQCSYADWPEEIATLIKOLYYHNE 1647
Mus_musculus      YSLQIYARLAPCFRDKCHPLYRVPDKELIKMVTGHVAQHGHGWPEDLLSLROLHYHNE 1622
Rattus_norvegicus YSLQIYARLAPCFRDKCHPLYRVPDKELIKMVTGHVAQHGHGWPEDLLSLROLHYHNE 1624
Homo_sapiens      YSLQIYARLAPCFRDKCHPLYRADPKELIKMVTGHVTRHEHEAWPEDLLSLTKOLHCYNE 1637
Pan_troglodytes   YSLQIYARLAPCFRDKCHPLYRADPKELIKMVTGHVTRHEHEAWPEDLLSLTKOLHCYNE 1637
Macaca_mulatta    YSLQIYARLAPCFRDKCHPLYRADPKELIKMVTGHVTRHGHEAWPEDLVSLTKOLHYHNE 1638
Callithrix_jacchus YSLQIYARLAPCFRDKCHPLYRADPKELIKMVTGHVTRHGHEAWPEDLVSLTKOLHYHNE 1637
Canis_lupus_familiaris YSLQIYARLAPCFRDKCHPLYRADPNELIKVTVTRHVSRYGQEAWPEDLASLTKOLQFYNE 1637
Equus_caballus    YSLQIYARLAPCFRDKCHPLYRADPKELIKMVTGHVTRYGCSWPEDLASLTKOLHYHNE 1638
Bos_taurus        YSLQIYAQLAPCFRDKCHPLYRADPKELIKMVTGHVTRYGHEAWPEELALSLTKOLHYHNE 1637
Heterocephalus_glaber YSLQIYARLAPCSRDNCHPVYRAHPKEVIRMTSVYVTRRGQEAWPEDLASLTAHLHYHNE 1647
Xenopus_tropicalis YSLQIYAHLAPCFKDKCHPLYRADPNEIIMVTAYVSEYANTNWPMEIVTLIEQLHYHNE 1638
Rhinatrema_bivittatum YSLQIYAHLAPCFKDKCHPLYRADLKEIKMVTKYVSEYANTNWSVEVMTLIEQLHYHNE 1665
Latimeria_chalumnae YALQISARLTPCFKDKCHPLYRASPSMLIKMVTKHVTVHASADWPEELETTLIEQLHYHNE 1638
.....1630.....1640.....1650.....1660.....1670.....1680

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*: * *: * * : * :*****: * *****: * *: : * :***** :.
Pavo_muticus      RLLDFTQAQILQGLGKGVQVQVFTADGQYKRETIILGLAETLEENVYKIAVSLAQRYSVPL 1702
Pavo_cristatus    RLLDFTQAQILQGLGKGVQVQVFTADGQYKRETIILGLAETLEENVYKIAVSLAQRYSVPL 1702
Gallus_gallus     RLLDFTQAQILQGLGKGVQVQVFTADGQYKRETIILGLAETLEENVYKIAVSLAQRYSVPL 1702
Chelonia_mydas    RLLDFTQAQILQGLGKGVQVQVFTADGQYKRETIILGLAETLEENVYKIALSLAQRYSVPL 1707
Mus_musculus      RLLDFTQAQILQGLRKGVDVQVFTADGQYKRETIILGLAETLEENVYSIALSLAQRYSISQ 1682
Rattus_norvegicus RLLDFTQAQILQGLRKGVDVQVFTADGQYKRETIILGLAETLEENVYSIALSLAQRYSISQ 1684
Homo_sapiens      RLLDFTQAQILQGLRKGVDVQVFTADGQYKRETIILGLAETLEESVYSIALSLAQRYSVSR 1697
Pan_troglodytes   RLLDFTQAQILQGLRKGVDVQVFTADGQYKRETIILGLAETLEESVYSIALSLAQRYSVSC 1697
Macaca_mulatta    RLLDFTQAQILQGLRKGVDVQVFTADGQYKRETIILGLAETLEESVYSIAVSLAQRYSVSR 1698
Callithrix_jacchus RLLDFTQAQILQGLRKGVDVQVFTADGQYKRETIILGLAETLEESVYSIALSLAQRYSVSR 1697
Canis_lupus_familiaris RLLDFTQAQILQGLRKGVDVQVFTADGQYKRETIILGLAETLEESVYSIALSLAQRYSVSR 1697
Equus_caballus    RLLDFTQAQILQGLRKGVDVQVFTADGQYKRETIILGLAETLEENVYSIALSLAQRYSVSR 1698
Bos_taurus        RLLDFTQAQILQGLRKGVDVQVFTADGQYKRETIILGLAETLEENVYSIALSLAQRYSVSR 1697
Heterocephalus_glaber KLLDFTQAQILQGLGKGVQVQVFTADGQYKRETIILGLAETLEENVYKIALSLAQRYSVSC 1707
Xenopus_tropicalis RLIDFTQAQILQGLRKGVDVQVFTADGQYKRETIILGLTETLDENVFKISLSLAQRYSVPL 1698
Rhinatrema_bivittatum RLMDFTQAQILHELKGVQVQVFSADAQYKRETIILGLTETLDENVYKISLSLAQRYSVPL 1725
Latimeria_chalumnae QLTDFQAQILQGLGKGVQVQVFAADSQYKRETIILGLAETLEDHVYKISLSLAQRYSIAL 1698
.....1690.....1700.....1710.....1720.....1730.....1740

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* * * *:***:***** * * * . : : * * .*: :*:** *:*** : * *
Pavo_muticus      WEVYMIHLEFLFTDSGLSTLEIEERARSLGLFETLKTSPETLYEHMVKYVYPSIEGRDHQ 1762
Pavo_cristatus    WEVYMIHLEFLFTDSGLSTLEIEERARSLGLFETLKTSPETLYEHMVKYVYPSIEGRDHQ 1762
Gallus_gallus     WEVYMIHLEFLFTDSGLSTVEIEERASLGLFETLKTSPETLYEHMVKYVYPSIEGRDHQ 1762
Chelonia_mydas    WEVYMIHLEFLFTDSGLSTGEIEDRAQSLGLFETLKTNPALHEHMAKYVYPGIEGIDHQ 1767
Mus_musculus      WEVFMTHLEFLFSDSGLSTGEIEKRAQTLHLFETLKTDPESFHKHMVKYIYPTIEGLDHE 1742
Rattus_norvegicus WEVFMTHLEFLFSDSGLSTGEIEKRAQALHLFETLKTDPESFHKHMVKYIYPTIEGLDHE 1744
Homo_sapiens      WEVFMTHLEFLFTDSGLSTLEIENRAQDLHLFETLKTDPFAFHQHMVKYIYPTIEGGFDHE 1757
Pan_troglodytes   WEVFMTHLEFLFTDSGLSTLEIENRAQDLHLFETLKTDPFAFHQHMVKYIYPTIEGGFDHE 1757
Macaca_mulatta    WEVFMTHLEFLFTDSGLSTLEIENRAQDLHLFETLKTDPFAFHQHMVKYIYPTIEGGFDHE 1758
Callithrix_jacchus WEVFMTHLEFLFADSGLSTLEIENRAQDLHLFETLKTDPFAFHQHMVKYIYPTIEGGFDHE 1757
Canis_lupus_familiaris WEVLMTHLEFLFTDSGLSTVEIENRAQALHLFETLKTDPFAFHQHMVKYIYPTIEGGFDHE 1757
Equus_caballus    WEVFMTHLEFLFTDSGLSTVEIENRAQALHLFETLKTDPFAFHQHMVKYIYPTIEGGFDHE 1758
Bos_taurus        WEVFMTHLEFLFTDSGLSTGEIENRAQSLHLFETLKTDPFGFHKHMVKYIYPTIEGGFDHE 1757
Heterocephalus_glaber WAVFMTHLEFLFTDSGLSTAEIETRAAQ-LFETLKTDPFAFHQHMVKYIYPSISGLDHE 1766
Xenopus_tropicalis WEVYMIHLEFLFTDSGLSTAEIEGRAQHLGILATLKTTPESFYEHMTKYVYPTIEGKDLQ 1758
Rhinatrema_bivittatum WEVYMIHLEFLFTDSGLSTLEIEERAEALSLETLKMNPEAFHEHMAKYVYPSIEGRDHQ 1785
Latimeria_chalumnae WEVYMIHLEFLFTDSGLSTKEIEDRAQALCLFETLKTSPDAFYEHMNKYVYPSIDGTDHV 1758
.....1750.....1760.....1770.....1780.....1790.....1800

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/NBAISape: Tue Feb 1 14:07:49 2022

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*:  **:***:****.      :***. *:***:*.:.*.***:*. * . * *:..
Pavo_muticus      RLLYYFTLLENCGCSEVVKHTVKPETHIRLLKKFKAVAPGLNYKKLMDENENPLETLEPI 1822
Pavo_cristatus    RLLYYFTLLENCGCSEVVKHTVKPETHIRLLKKFKAVAPGLNYKKLMDENENPLETLEPI 1822
Gallus_gallus     RLLYYFTLLENCGCSEVVKHTVKPETHIRLLKKFKAVAPGLNYKKLMDENENPLETLEPI 1822
Chelonia_mydas    RLLYYFTLLENCGCSEFVKHAIKPETHIRLLKKFKAIAPDLNYKKLTDENVSPGLVLEPI 1827
Mus_musculus      RLLYYFTLLESCGCANFETTAIKPEIHIRLLKKFKVVASGLNYKKLTDKSEDALEALEPV 1802
Rattus_norvegicus RLLYYFTLLESCGCADFETAIAIKPEIHIRLLKKFKVVASGLNYKKLTDKSEDALEALEPV 1804
Homo_sapiens      RLQYYFTLLENCGCADLGNCAIKPETHIRLLKKFKVVASGLNYKKLTDENMSPLEALEPV 1817
Pan_troglodytes   RLLYYFTLLENCGCADSGNCAIKPETHIRLLKKFKVVASGLNYKKLTDENMSPLEALEPV 1817
Macaca_mulatta    RLLYYFTLLENCGCADLGNYAIAIKPETHIRLLKKFKVVASGLNYKKLTDENMSPLEALEPV 1818
Callithrix_jacchus RLLYYFTLLENCGCAGLEKYAIAIKPETHIRLLKKFKVVASGLNYKKLTDENMSPLEALEPV 1817
Canis_lupus_familiaris RLLYYFSLLESCGCADFGKYAIAIKPETHIRLLKKFKVVASGLNYKKLTDENMSPLEALEPV 1817
Equus_caballus    RLLYYFTLLENCGCADFGKYAIAIKPETHIRLLKKFKVVASGLNYKKLTDENMSPLEALEPV 1818
Bos_taurus        RLLYYFTLLESCGSADFGKYAIAIKPETHIRLLKKFKVVASGLDYKKLTDENMSPLEALEPI 1817
Heterocephalus_glaber RLLCYFTLLDSCGCADFGDPVMKPKTHIQLLKKFKVIAAGLNYKKLTDGSTNPLEALEPV 1826
Xenopus_tropicalis RFLYYFTLLENCGCSQFVKHLIKPDSHIKLLKKLKAVASGLDYKKLTDANSSPLESLESV 1818
Rhinatrema_bivittatum RLLYYFTLLEKCGCSQYVVKHTIKPETHIKLLKKLKAVASGLNYKNLTDKNINPLTAELEPV 1845
Latimeria_chalumnae RLLYYFTLLENCGCGEYVKQVIKPDTHIRLLKKFKAVASGLNYKKLTDDESDCPLEALKPV 1818
.....1810.....1820.....1830.....1840.....1850.....1860

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*:***:*.*****  :** .  :*:***:  **: :** ** : :*: * : ** *
Pavo_muticus      LTSQNILSISKLAPKIPKKGDSMLSPSSLYAVWLQNLFWNGDHHLIKIPETMDEWLHAY 1882
Pavo_cristatus    LTSQNILSISKLAPKIPKKGDSMLSPSSLYAVWLQNLFWNGDHHLIKIPETMDEWLHAY 1882
Gallus_gallus     LTSQNILSISKLAPKIPKKGDSMLSPSSLYAVWLQNLFWNGDHHLIKIPETMDEWLHAY 1882
Chelonia_mydas    LTSQNILSISKLAPKIPKKGDSMLSPSSVYTIWLQKLFWNGDRKLIKIPETTPPEWLSAY 1887
Mus_musculus      LTSQNILSISKLAPRIPIKGKGQMLSPSSLYTVWLQKLFWAGDPHLIKQAPESSAEWLHAC 1862
Rattus_norvegicus LTSQNILSISKLAPRIPIKEKGQMLSPSSLYTVWLQKLFWAGDPHLIKQAPESSAEWLHAY 1864
Homo_sapiens      LSSQNILSISKLVKPIPEKDGQMLSPSSLYTIWLQKLFWTGDPHLIKQVPGSSPEWLHAY 1877
Pan_troglodytes   LSSQNILSISKLVKPIPEKDGQMLSPSSLYTIWLQKLFWTGDPHLIKQVPGSSPEWLHAY 1877
Macaca_mulatta    LSSQNILSISKLVKPIPEKDGQMLSPSSLYTIWLQKLFWTGDPHLIKQVPGSSPEWLHAY 1878
Callithrix_jacchus LSSQNILSISKLVKPIPEKDGQMLSPSSLYTIWLQKLFWTGDPHLIKQVPGSSPEWLHAY 1877
Canis_lupus_familiaris LSSQNILSISKLVKPIPAKDGQMLSPSSLYAIWLQKLFWTGDPHLMKQAPESSPEWLRAY 1877
Equus_caballus    LSSQNILSISKLVKPIPEKDGQMLSPSSLYTIWLQKLFWTGDPHLIKQAPESSPEWLHAY 1878
Bos_taurus        LSSQNILSISKLVKPIPEKDGQMLSPSSLYTIWLQKLFWTGDPHLIKQVPAQPEWLHAY 1877
Heterocephalus_glaber LSSQNILSISKLAPRIPIKKGQMLSPSSLYTIWLQKLFWTGDPHLIKQVPAQPEWLRAY 1886
Xenopus_tropicalis LTSQNVLAISKALRIPDVNGEMLTSSAVHLAWLKKVFWNGDPQLKKAPESGTEWSHAY 1878
Rhinatrema_bivittatum LTSQNVLSISKLASRIPDKDGSLLSPSSIHAVWLQKLFWKGDPHLLKNVQSPVPEWSQAY 1905
Latimeria_chalumnae LTSQNVLSISKLIPIKIPKKGDSMLSPSTVHAVWLQMLFWNGDPQLIKKPPQSPVPEWLHAY 1878
.....1870.....1880.....1890.....1900.....1910.....1920

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: * ***:*** * *:.:. * :***.*.:.*.***:*. * * * : : * * :
Pavo_muticus      DVCSKYFDRLLDPDDIITFIDEITFSSKAVTKLPVEARIEVTKKAVKAVKHLSEKSRKKPS 1942
Pavo_cristatus    DVCSKYFDRLLDPDDIITFIDEITFSSKAVTKLPVEARIEVTKKAVKAVKHLSEKSRKKPS 1942
Gallus_gallus     DVCSKYLDRLDPDDVITFIDAITFSSKAVTKLPVEARIEVTKKAVETVKHLSEKSRKKPS 1942
Chelonia_mydas    DVCACYFDRLLPGDIVTFLDDVTFSSKAVTKLSVDARLEMTNKAIKAMQOIIEKSRKKNS 1947
Mus_musculus      DVCLKYFDRLLCPDDLITVMDAITFSPKAVSKLSVEAREEMTRKAIKTIKHFIEKPRKNS 1922
Rattus_norvegicus DVCLKYFDRLLGPHDLITVVDAITFSPKAVSKLSVEAREEMTRKAIKTVKHFIKPRKNS 1924
Homo_sapiens      DVCMKYFDRLLHPGDLITVVDVAVTFSPKAVTKLSVEARKEMTRKAIKTVKHFIKPRKNS 1937
Pan_troglodytes   DVCMKYFDRLLHPGDLITVVDVAVTFSPKAVTKLSVEARKEMTRKAIKTVKHFIKPRKNS 1937
Macaca_mulatta    DVCMKYFDRLLHPGDLITVVDVAVTFSPKAVTKLSVEARKEMTRKAIKTVKHFIKPRKNS 1938
Callithrix_jacchus DVCVKYFDRLLHPGDLITVVDAITFSPKAVTKLSVEVRKEITRKAIKTVKHFIKPRKNS 1937
Canis_lupus_familiaris DVCMKYFDRLLHPGDLITVVDAITFSPKAVTKLSVEARKEMTRKAIKQVVKHFIEKPRKNS 1937
Equus_caballus    DVCMKYFDRLLQPGDLITVVDAITFSPKAVTKLSVEARKEMTRKAIKTVKHFIKPRKNS 1938
Bos_taurus        DVCMKYFDRLLPGDLITVVDVAVTFSPKAVTKLSLEARKEMTGKAIKAVRHFIKPRKNS 1937
Heterocephalus_glaber DACVKYFDRLLHPSDALITVLSAEAVTKLSVEVREEMTRKATAITVTHLMEKSRKNS 1946
Xenopus_tropicalis DTCRKYLRLNPGDIMAFSDEISFSPQAVTKLTVEITRTEMTKKTITAVKQFMKQKKNP 1938
Rhinatrema_bivittatum DICGKYFDRLLPEDLVTFIDEITFSSKAINKLTIDARTEMTKKALRAVKQITEPKKKSP 1965
Latimeria_chalumnae NICAKYFDRLLPEDMISFIDVTFSSRAVSKLTVEARIEMTKKAIAAEHISKKPSKQIS 1938
.....1930.....1940.....1950.....1960.....1970.....1980

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:      . . . :      ** : ** : * :      * : . : *      : * : ** : ** :
Pavo_muticus      ENDMEDAKNPAAAYEKTILNHLQOSLAHLETILTHSFITYLKNSEQDVLQKYGYLYDLSRSE 2002
Pavo_cristatus    ENDMEDAKNPAAAYEKTILNHLQOSLAHLETILTHSFITYLKNSEQDVLQKYGYLYDLSRSE 2002
Gallus_gallus     ENDMGDAKDPAAAYEKTILNHLQOSLAHLETILTHSFITYLKNSEQDVLQKYGYLYDLSRSE 2002
Chelonia_mydas    EDGMDGTGSTPVAYEKALNHLQOSLAHLETILNHRFITSILKNSEDOEMLQKYGHLYDLSRSE 2007
Mus_musculus      EEDPQEGRGSQATYPDALAHLETSLAHLETILSHSFILSLRNSEQEILQKYSFYDLSRSE 1982
Rattus_norvegicus EEDPQEGSGSQATYADALAHLETSLAHLETILSHSFILSLKNSEQEVLQKYSYLYDLSRAE 1984
Homo_sapiens      EDEAQEAKDSKVITYADTLNHLQOSLAHLETILSHSFILSLKNSEQETLQKYSYLYDLSRSE 1997
Pan_troglodytes   EDETQEAKDSKVITYADTLNHLQOSLAHLETILSHSFILSLKNSEQATLQKYSYLYDLSRSE 1997
Macaca_mulatta    EDETQEAKDSKVITYADALNHLQOSLAHLETILSHSFILSLKNSEQETLQKYSYLYDLSRSE 1998
Callithrix_jacchus EDETQEAVDKSVITYADTLNHLQOSLAHLETILSHSFIVSLKNSEQETLQKYSYLYDLSRSE 1997
Canis_lupus_familiaris EDDIQEASDSKVITYGDAQSHLEKSLAHLETILSHSFIVSLKNSEQEILQKYGDLYDLSRSE 1997
Equus_caballus    EEDIQEVSDSRVITYADALNHLQOSLAHLETILNHSFIISLKNSEQETLQKYSYLYDLSRSE 1998
Bos_taurus        EEDTEEAGGSQVTYADALNHLQOSLAHLETILNHSFIISLKNSEQEMLQKYGYLYDLSRSE 1997
Heterocephalus_glaber EDDIQEASTSAVTYADALGHLQKSLAHLETILGHSFVLSLKNSEQEALRRYSYLYDLSRSE 2006
Xenopus_tropicalis GDGTQIC-NSSVTYEVAFNHLQOSLVHLETILNHSFIISLKNSEQEALRRYSYLYDLSRSE 1997
Rhinatrema_bivittatum EDDAQISGNSPVTYEGALNHLQOSLAHLETILGHSFIITYLKNIDQDLQKYGHLYDLSRSE 2025
Latimeria_chalumnae EDSSQVAVNSPVSFEVLHHLQOSLAHLETIFGQSFIISLKNSEQAFLQHYHLYDLSRSE 1998
.....1990.....2000.....2010.....2020.....2030.....2040

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:      . * : : : * . * * : : * : * :      :      : * : *
Pavo_muticus      RDQIHEQAVTMCIDGQPLDMIQOLIEVAVGDLCLSTKDIVQCAIKKIICMLSGN-DGSTS 2061
Pavo_cristatus    RDQIHEQAVTMCIDGQPLDMIQOLIEVAVGDLCLSTKDIVQCAIKKIICMLSGN-DGSTS 2061
Gallus_gallus     RDQIHEQAVTMCIDGQPLNMIQRLIEVAVGDLCLSTKDIVQCAIKKIICMLSGN-DDSTS 2061
Chelonia_mydas    KEKIHDQAVAMCIDGQPLDMIQOLLEVAVGDLSPRDIQCAINKIVFALSCKGAECTL 2067
Mus_musculus      KEKIHDQAVAMCLDGQPLRMIQOLLEVAIGPVNISPKDIVHTAITQIISALSGGSADLGG 2042
Rattus_norvegicus KGKLNQAVAMCLDGQPLRMIQOLLEVAIGPVNISPKDVVHTAITQIISALSGTGADLGG 2044
Homo_sapiens      KEKLHDEAVAICLDGQPLAMIQOLLEVAVGPLDISPKDIVQSAIMKIISALSGGSADLGG 2057
Pan_troglodytes   KEKLHDEAVAICLDGQPLAMIQOLLEVAVGPLDISPKDIVQSAIMKIISALSGGSADLGG 2057
Macaca_mulatta    KEKLHDEAVAICLDGQPLAMIQOLLEVAVGPLDISPKDIVQSAIMKIISALSGGSADLGG 2058
Callithrix_jacchus KEKLHDEAVAICLDGQPLMIQOLLEVAVGPLDISPKDIVQSAIMKIISALSGGSADLGG 2057
Canis_lupus_familiaris EGKLRQAVAMCLDGLPLRMIQOLLQVAVGPLDISPKDVVQGAIRKIISVLSGGSADLGG 2057
Equus_caballus    KGKLVNQAVAMCLDGQPLRMIQOLLEVAVGPLDISPKDIVQSAIMKIISALSGGSADLGG 2058
Bos_taurus        KEKVYNQAVAMCLDGQPLRMIQOLLEVAVGPLDISPKDIVQSAITEIVSALSGGSADLGG 2057
Heterocephalus_glaber KEPLHHLAVTMCLEGQPLGTIROLLEVAVGPDLSPKDVMSAIVRIISVLSGGSADLGG 2066
Xenopus_tropicalis TEKIKELALTMCIHGESLGTIQKLLGVAAGPLGIGARDIVNYSYTEKIILSLRGNELDQSF 2057
Rhinatrema_bivittatum REKIHDLAVTICMDGQSLDIIQKLLDVAVGPLGISLRDVVYSVAVKNIMNSLSGNEADVPL 2085
Latimeria_chalumnae KEKIQELAVTMSMDGQPLNMIQOLLEVSVSGSLGISPRAVVQNAVETIIHVLNR-NDKDFTP 2057
.....2050.....2060.....2070.....2080.....2090.....2100

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: ** : ** : : * : . : * : * : : * : * : * : : * : * : * :
Pavo_muticus      VRDPLGILEGIVSAVQASVEKGEKVSSDDLLEWLRPFCDGDSLPVKPRIKVLQILEQAF 2121
Pavo_cristatus    VRDPLGILEGIVSAVQASVEKGEKVSSDDLLEWLRPFCDGDSLPVKPRIKVLQILEQAF 2121
Gallus_gallus     VKDPLGILEGIVSAVHASVEKGEKVSSDDLLEWLRPFCDGDSLPVKPRIKVLQILEQDF 2121
Chelonia_mydas    IKDPLQILEGIVSAVHASAEKGEKLVSSDDLLEWLRPFCDGDSLPVKPRIKVLQILEQAF 2127
Mus_musculus      SRDPLQVLEGVVAVRTSVDNGEELVSAEDVLQWLRPFCAEDTYPVRPRIQVLQILGQSF 2102
Rattus_norvegicus SRDPLQVLEGVVAVRTSVDNGEELVSAEDVLQWLRPFCAEDTYPVRPRIQVLQILGQSF 2104
Homo_sapiens      PRDPLKVLEGVVAAVHASVDKGEELVSPEDLLEWLRPFCAEDTYPVRPRIQVLQILGQSF 2117
Pan_troglodytes   PRDPLKVLEGVVAAVHASVDKGEELVSPEDLLEWLRPFCAEDTYPVRPRIQVLQILGQSF 2117
Macaca_mulatta    PRDPLKVLEGVVAAVHASVDKGEELVSPEDLLEWLRPFCAEDTYPVRPRIQVLQILGQSF 2118
Callithrix_jacchus PRDPLKVLEGVVAAVHASVDKGEELVSPEDLLEWLRPFCAEDTYPVRPRIQVLQILGQSF 2117
Canis_lupus_familiaris SGDPLQVLEGVVAAVHASVDKGEELVSPEDLLEWLRPFCAEDTYPVRPRIQVLQILGQSF 2117
Equus_caballus    PGDPLQVLEGVVAAVHASVDKGEELVSPEDLLEWLRPFCAEDTYPVRPRIQVLQILEQSF 2118
Bos_taurus        PADPLHILEGVVAAVHASVDEGEELVSPEDLLEWLRPFCAEDTYPVRPRIQVLQILGQSF 2117
Heterocephalus_glaber TGDPLRVLEGMIAAVHASVDSGEQLVAPEDLLEWLRPFCAEDTYPVRPRIQVLQILEQSF 2126
Xenopus_tropicalis VKDPLKVLESIVKEVHLSIERGVLLVSSDDLLEWLRPFCDGDSLPVKPRIDVLQIMEQTF 2117
Rhinatrema_bivittatum AKEPLKVLEDIVSAVHASVEKGEKLVSSADDLLEWLRPFCDGDSLPVKPRIDVLQIMEQAF 2145
Latimeria_chalumnae GKDPLQVLEAIVSAVHASVDEKGGRLVSSDDLLEWLRPFCDGDSLPVKPRIEVLQILEQAF 2117
.....2110.....2120.....2130.....2140.....2150.....2160

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.*.:** :*:***:***:*.** :*: * **.* :* .*: * :****
Pavo_muticus      HLSDSDSKLLVYFRTQAVLRVCWPETKVEITDIESEEKRYELFLRLLESSHKPCDFOHLV 2181
Pavo_cristatus    HLSDSDSKLLVYFRTQAVLRVCWPETKVEITDIESEEKRYELFLRLLESSHKPCDFOHLV 2181
Gallus_gallus     HLNDSDSKLLVYFRTQAVLRACWPETKVDITDIESEEKRCFLRLRLLESSHKPCDFOHLV 2181
Chelonia_mydas    HLSDSDSRLLVFFRTHAVLKACWPETKVEIIDIEENKRYSLFQELLNSSNSQSEFOHLV 2187
Mus_musculus      HLSEEDGKLLVFFRTEAILRAAWPQROVDIADIENEENRHTLSELELLESSHREVEFOHLI 2162
Rattus_norvegicus HLSEEDNKKLLVFFRTEAILRAAWPQROVDVADTESEESRHSLSFMELLESSHHEVEFOHLI 2164
Homo_sapiens      HLTEEDSKLLVFFRTEAILKASWPQROVDIADIENEENRYCLFMELLESSHHEAEFOHLV 2177
Pan_troglodytes   HLTEEDSKLLVFFRTEAILKASWPQROVDIADIENEENRYCLFMELLESSHHEAEFOHLV 2177
Macaca_mulatta    HLTEEDSKLLVFFRTEAILKASWPQROVDIADIENEENRYRVMELLESSHHEAEFOHLV 2178
Callithrix_jacchus HLTEEDSKLLVFFRTEAILKASWPQROVDIADIENEENRYCLFVLELLESSHHEVEFOHLV 2177
Canis_lupus_familiaris NLTEEDGKLLVFFRTEAILKATWQROVDIADIENEENRYSLFVLELLESSHQEVEFOHLV 2177
Equus_caballus    HLNEEDGKLLVFFRTEAILKAAPQROVDIADIENEENRYSLFIELLESSHQEVEFOHLV 2178
Bos_taurus        HLTEEDGKLLVFFRTEAILKATWQROVDVSDVADEEKRCFLTELLEASHREVEFOHLV 2177
Heterocephalus_glaber RLTEEDSRLLVFFRTEAILKAAPQROVDVADVASEEQRCALFSELDDSSHREAEFOHLA 2186
Xenopus_tropicalis NLSDEDIKLLVFFRTEAVLKASWPKKVEVADIENEKRSLSFMELLDISHSGAEFOHLV 2177
Rhinatrema_bivittatum RLNDSDSKLLVFFRTEAVLKACWPEIKVEISDIEHEEKRYHLFLELLNSSHRDTEFOHLV 2205
Latimeria_chalumnae HLSDSDSRLLVFFRTEAVLKAIWPNROVEVADVDSSEEKRYELFTELLNLSGSETEFOHLV 2177
.....2170.....2180.....2190.....2200.....2210.....2220

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***:****: * *: * .** : : .*:***: : *
Pavo_muticus      LLLQAWPPMEMSSRS CADDNPWVKLVTVMLQRYPPEEKDSMGNEILKICRSLYDTKYKLP 2241
Pavo_cristatus    LLLQAWPPMEMSSRS CADDNPWVKLVTVMLQRYPPEEKDSMGNEILKICRSLYDTKYKLP 2241
Gallus_gallus     LLLQAWPPMEMSSRS CADDNPWVKLVTVMLQRYPPEEKDSMGNEILKICRSLYGTKYKLS 2241
Chelonia_mydas    LLLQAWPPMKASIASIAYTSNPNWVKLGTVMLSRCPTQKENTGNEILKICRSLYETKHMLP 2247
Mus_musculus      LLLQAWPPMKSECV--LANNPWVRLVTAMLTRCTEENKQSLGDEVLKICRSLYNTTOMLP 2220
Rattus_norvegicus LLLQAWPPMKSECVSSIANNLWVRLVTVMLTRCTTENKQRLGDEVLKICRSLYNSGOMLP 2224
Homo_sapiens      LLLQAWPPMKSEYV--ITNPNWVRLATVMLTRCTMENKEGLGNEVLKMCRSLYNTKQMLP 2235
Pan_troglodytes   LLLQAWPPMKSEYV--ITNPNWVRLATVMLTRCTMENKEGLGNEVLKMCRSLYNTKQMLP 2235
Macaca_mulatta    LLLQAWPPMKSEYV--ITNPNWVRLATVMLTRCTIENKEELGNEVLKMCRSLYNTKQMLP 2236
Callithrix_jacchus LLLQAWPPMKSEYV--ITDNPWVRLATVMLTRCTMENKERLGNEVLKMCRLYNTKQMLP 2235
Canis_lupus_familiaris LLLQAWPPMRHDSVTSISSNPWVRLATVMLTRCTAENKAALGNEVLKICRSLYNTKQMLP 2237
Equus_caballus    LLLQAWPPMKCEYVTSITSNPNWVRLATVMLTRCTVENKEGLGNEVLKICRSLYNTKQMLP 2238
Bos_taurus        LLLQAWPPMKREYV--VTNPNWVRLATVMLTRCTTENKEGLGNEVLKMCRSLYNTKQMLP 2235
Heterocephalus_glaber LLLHAWPPMRSEHAAGATRNPNWRLAAAMLRRWPAQSEENVGDTVLRMCRSVHHTQMLP 2246
Xenopus_tropicalis LLLQAWPPMKGAASVLEGNPWVKLVNAMLS SCDKEHKEET SNEILKMCRSLYNSRHTLS 2237
Rhinatrema_bivittatum LLLQAWPPPKNTNLACTCDNPWVKLGTAMLCSCKSEQENVGNEVLKICRSLYSTKHMLS 2265
Latimeria_chalumnae LLLQAWPPVINEEISNTERNPWVQLGTTMLSKSTGEQKGTMGNEVLKICRSLYSTKHMLS 2237
.....2230.....2240.....2250.....2260.....2270.....2280

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.: : * :*:***: * : * : .: .*: * :** :****:
Pavo_muticus      VECIKELCLLLLNSLLPSLKLIVESMDQLHTMALKQITAVTKVDDSNCDAEILSLLL 2301
Pavo_cristatus    VECIKELCLLLLNSLLPSLKLIVESMDQLHTMALKQITAVTKVDDSNCDAEILSLLL 2301
Gallus_gallus     VECIKELCLLLLNSLLPSLKLIVESMDQLHTMALKQITAVTKVDDSNCDAEILSLLL 2301
Chelonia_mydas    VECTKELCLLLLNSLLPSLKLIVESRDQLHALALEQITAVAKIDGSSCDSEILSLLL 2307
Mus_musculus      VEGVKELCLLLLHQSLLLPSLKLIVESGDESLQAMALEQISAVTKVDDSNCDQELLSSLLV 2280
Rattus_norvegicus VQGVKELCLLLLHQSLLLPSLKLIVESGDETLQAMALEQISAVTKVDDSNCDQELLSSLLV 2284
Homo_sapiens      AEGVKELCLLLLNSLLPSLKLIVESRDEHLHEMALEQITAVTTVDDSNCDQELLSSLL 2295
Pan_troglodytes   AEGVKELCLLLLNSLLPSLKLIVESRDEHLHEMALEQITAVTTVDDSNCDQELLSSLL 2295
Macaca_mulatta    VEAVKELCLLLLNSLLPSLKLIVESRDEHLREMALEQITAVTTVDDSNCDQELLSSLL 2296
Callithrix_jacchus AEGVKELCLLLLNSLLPSLKLIVESRDERLHGMALEHIAAVTTVDDSNCDQELLSSLL 2295
Canis_lupus_familiaris AEGVKELCSLLLSQSLLLPALKLIVESQDES LHAVALHITAIKVNDDSNCDQELLSSLL 2297
Equus_caballus    AECVKELCSLLLDQSLLLPALKLIVESADEDLHAAALEQIAAFAEVDDSNCDQELLSSLL 2298
Bos_taurus        AEGVKELCSLLLGQALLPSLKLIVESPDRLHTMALDHTTAAIKVNDDSNCDQELLSSLL 2295
Heterocephalus_glaber AEAMKELCLLLRDRALLPSLKLIVESPELRLVLEQVAATQVDDSNCDPELLSSLL 2306
Xenopus_tropicalis VECIRGICLTLDDHTVLLSPKLIVESNEKDLHIKALELLSAVNVKSELNCDAEILSLLL 2297
Rhinatrema_bivittatum VECIKELCLVLLNSLLPSLKLIVESQDQLQALAEQISAVSKVSTVNCDEVLSSLL 2325
Latimeria_chalumnae VECIKHVNISLLDL SLLVPALKLMVESKDQDLQMQALQITAVTKVDESNCDAEILSLLL 2297
.....2290.....2300.....2310.....2320.....2330.....2340

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      :*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*
Pavo_muticus      NAKLVVKCISTAFYPRLLIDHLLANQAEAGGWDVEEIAKQLKEAGFNAEAGSLLLSYRGTHP 2361
Pavo_cristatus    NAKLVVKCISTAFYPRLLIDHLLANQAEAGGWDVEEIAKQLKEAGFNAEAGSLLLSYRGTHP 2361
Gallus_gallus     NAKLVVKCISTAFYPRLLIDHLLANQAEAGGWDVEEIAKQLKEAGFNAEAGSLLLSYRGTHP 2361
Chelonia_mydas    NAKLVVKCISTVFYPHLINHLLANQEEGHWDVEEIAKQLQEAGFSAEAGSLMMSYKGIHP 2367
Mus_musculus      DARLLVKCVSTPFYPHIVGHLVANNQGRWNIIEELARHLQEAGHEVEAGSLLLAVQGTHR 2340
Rattus_norvegicus DARLLVKCVSTPFYPHIIAHLVANNQGRWNAEELARHLQEAGHEAEAGSLLLAVQGTHR 2344
Homo_sapiens      DAKLLVKCVSTPFYPRIVDHLASLQGRWDAEELGRHLREAGHEAEAGSLLLAVRGTHQ 2355
Pan_troglodytes   DAKLLVKCVSTPFYPHIVDHLASLQGRWDAEELGRHLREAGHEAEAGSLLLAVRRTHR 2355
Macaca_mulatta    DAKLLVKCVSTPFYPRIVDHLASLQGRWDAEELGRHLQEAGHKAEGSLLLAVRGTHR 2356
Callithrix_jacchus DAKLLVKCVSTPFYPCIVDHLASLQGCWDAEELGRHLREAGHEAEAGSLLLAVRGTHR 2355
Canis_lupus_familiaris DARLLVKCISTAFYPRIIEHLVASPRPGRWDAEGLARHLREAGHEAEAGSLLLAVRGTHR 2357
Equus_caballus    DAKLLVKCISTPFYLHVIEHLLASPOGRWDVEQLARHLREAGHEAEAGSLLLAVRGTHR 2358
Bos_taurus        DAKLLVKCLSTPFYPRLIKHLASPOHGRWDPEELARQLWEAGHEAEAGSLLLAARGTHR 2355
Heterocephalus_glaber DAGLLVPCIPTRFYPHLIRHLLAE--QGRWDEEQLAQLRAAGHEAEAGSLLLAVRGTHR 2364
Xenopus_tropicalis DAKLVVKCVSTVFYPHLIYHLLSKQEDTQWDVEEIAKELHSGFHAEGSLLMTYRGTHP 2357
Rhinatrema_bivittatum DAKLVVKCVSTLFYPHLINHLLVKQEEGQWDVEEVANQLHTAGCDAEAGSLMMSYRGLHP 2385
Latimeria_chalumnae DAKLVVKCISTAFYPHLIKHLANQESGCWNIEEIAQQLQAADCTAEAGSLMLSYSRAHP 2357
      .....2350.....2360.....2370.....2380.....2390.....2400

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     .:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*:*
Pavo_muticus      ALRTFTSALQTIQHWI 2377
Pavo_cristatus    ALRTFTSALQTIQHWI 2377
Gallus_gallus     ALRTFTSALQTIQHWI 2377
Chelonia_mydas    ALRTYSTALSALQHWI 2383
Mus_musculus      VFRTFSIALSAVRQWV 2356
Rattus_norvegicus VFRTFSIALSALRQWV 2360
Homo_sapiens      AFRTFSTALRAAQHWV 2371
Pan_troglodytes   AFRTFSTALRAAQHWV 2371
Macaca_mulatta    TLRTFSTALRAAQHWV 2372
Callithrix_jacchus ALRTFSTALHAARHWV 2371
Canis_lupus_familiaris ALRTFSAALSAGRQWV 2373
Equus_caballus    ALRTFSTALSAGQHWL 2374
Bos_taurus        ALRTFSTALGAAQHWV 2371
Heterocephalus_glaber ALRTFRAALGTGQPSM 2380
Xenopus_tropicalis ALRTFTSALTSLIKRWL 2373
Rhinatrema_bivittatum ALRTFNATAFATIKHWL 2401
Latimeria_chalumnae ALSTFSTALRVIKKWL 2373
      .....2410.....

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