

# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep\_msa/LIF Date: Tue Feb 1 13:53:23 2022

Page 1 of 7

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Pavo_muticus      -----MWTNPNLRCCLA-----LAILCLTSFVHSR    25
Pavo_cristatus    -----MWTNPNLRCCLA-----LAILCLTSFVHSR    25
Gallus_gallus     -----MWTNPNLRCCLA-----LAFCLTSLVHSR    25
Anas_platyrhynchos -----MRKNPSLRCLA-----LAILCLTSLVHSQ    25
Chelonia_mydas    -----MWNNPSLRCLA-----IAFLHLLSLIYSQ    25
Mus_musculus      -----MAAYSWWROPSWMVDNKRSMTPNLPWLLSALTLLHLTMHA 41
Rattus_norvegicus -----MGAFSWWROPSWMADNKRGRMTPSLPWLLSALTLLHLMHV 41
Homo_sapiens      -----MMDIYVCLKRPSWMVDNKRMRITASNFQWLLSTFILLYLMNQV 42
Pan_troglodytes   MPEAALWKPRGRITDCIAQMMDIYVCLKRPSWMVDNKRMRITASNFQWLLSAFILLYLMNQV 60
Macaca_mulatta    -----MMDIYVCLKRASWMVDNKRMRITASNFQWLLSTFILLYLMNQV 42
Callithrix_jacchus -----MOTDCIAQTMDIYLCCLKRPSWMVASKRMRITASNFQWLLSIFILLYLMNQV 50
Canis_lupus_familiaris -----MMNISLRLRRPPWVDSNGRRMTSHFQWLLLTFFILLYLMNQV 42
Felis_catus       -----MMNISLRLRRPSRMVDGKRMRMTSSFQRLLLTFFILLYLMNQV 42
Equus_caballus    -----MDFTLCLTORRMVDSKRMRMTSNFQWPLLTFFILLYLMNQV 41
Bos_taurus        -----MMDISLCVKRPSWLVDRKRMRMASNSQWLLLTAVLLYLTNQV 42
Heterocephalus_glaber -----MDISLCWRQPSGMVGSKRMRMPANFRWLIVATFVLLYLLNQV 41
Rhinatrema_bivittatum -----MWHKLYFLFLLAT-----VLSCLLNCL    22
Xenopus_tropicalis -----MKEKLHCCLLA-----VVFCEWPSPT    22
1.....10.....20.....30.....40.....50.....60

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Pavo_muticus      EIG-SQGDPQNLKCVTHNLRKMVCTWDISSKRRHGQT-EFCYTT-----ECFKTKEKRV    77
Pavo_cristatus    EIG-SQGDPQNLKCVTHNLRKMVCTWDISSKRRHGQT-EFCYTT-----ECFKTKEKRV    77
Gallus_gallus     EIG-SQGDPQNLKCVTHNLRKMVCTWEISSERRHGQT-EFCYAT-----ECFKTKEERV    77
Anas_platyrhynchos EIG-SPGDPQNLKCVTHNLRKMVCTWDVSSRRRHGQT-DFCYTTNDHPLTECFKTKEKRV    83
Chelonia_mydas    ETG-FPEAPWSLKCIITHDLNRMICSWDATSSANLGLTYKICYTNSSEFPSPVCTETGGKRA 84
Mus_musculus      NGL-KRGVQ-DLKCTTNNMRVWDCSWPAPLGVSPGTVKDICKDR---FHSCHPLETTNV    96
Rattus_norvegicus NGL-KRGVQDLKCTTNNMRVWDCSWPAPLGVSPGTVKDICKDR---PHSCHRLETTNV    97
Homo_sapiens      NSQ-KKGAPHDLKCVTNNLQVWNCWSKAPSGTGRGTDYEVCIENR---SRSCYQLEKTSI    98
Pan_troglodytes   NSQ-KKGAPHDLKCVTNNLQVWNCWSKAPSGTGRGTDYEVCIENR---SRSCYQLEKTSI   116
Macaca_mulatta    NSQ-KKGAPRDLKCVTNNLQVWDCYWKAPSGTGRGTDYEVCIENR---SHSCYQLEKTSI    98
Callithrix_jacchus NSQ-KKEGPHDLKCVTNNLQVWDCSWKAPSGTSHGTNYEVCIENR---SHSCYRLEKTSI   106
Canis_lupus_familiaris TSE-KRGAPRDLKCIITNNLRVWDCSWKAPSAAGHGTVYEICENR---SHSCYQSEKTSI    98
Felis_catus       NSQ-KRGAPRDLKCIITNNLQVWDCSWKAPSGAGHGTYIEVCIENR---SRSCYQSEKANA    98
Equus_caballus    NSQ-KKGAPHDLKCIITNNLQVWDCSWKAPSGAGHGTFYEVCIENG---SYSCYPSEKTSI    97
Bos_taurus        NSQ-KKSTPHDLKCVTNNLQVWDCSWRALFGAGRAASYEVCIENR---SRICYLLEKN-T    97
Heterocephalus_glaber NSQ-KKG-TRDLKCTTNNLQVWDCSWKAPLGTGRGTIYKVCIEDR---PRSCHQLEKTSI    96
Rhinatrema_bivittatum HCO-ERGSPEGFKCVTHNLETWICSWDASPNSTSLKTVYEVCSNIR--DLPCVCFSEENSI    79
Xenopus_tropicalis KTQDSPGFFQNLQCFTHNLETIVCSWDTPNATKSDILYQICYSAS--KPPSCFNISKSAL    80
.....70.....80.....90.....100.....110.....120

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Pavo_muticus      EIPVPESSTTVKITYTISISGTAFAIRRFIEHKDISFVPLTPRILSLTPDFSTFTLTLKW    137
Pavo_cristatus    EIPVPESSTTVKITYTISISGTAFTTRRFIEHKDISFVPLTPRILSLTPDFSTFTLTLKW    137
Gallus_gallus     EIPVPESSTTVKITYTISISGTAFAIRHFEIHKDISFVPLAPRILSLTPDFSTFTLTLKW    137
Anas_platyrhynchos EIPVPESSTTIKITTSNISGTPFAIRFEIHKDISFIPLAPHILSLTPDFSTFTLTLKW    143
Chelonia_mydas    DIPVAMGSTNIQITTLNASGTPLATETFVLPEENVSLIPLTPQILNLNADFSTYTLYLKW    144
Mus_musculus      KIPALS-PGDHEVTINYLNQFQS---KFTLNEKDVSILIPETPEILDLSADFSTSSLLLKW    152
Rattus_norvegicus KIPALS-PGDHEVTINYQNGFQS---KFTLNEKDVSILVDPDPEILSLSADFSTSTLQLKW    153
Homo_sapiens      KIPALS-HGDYEITINSLHDFGSSTSKFTLNEQNVSLIPDTPPEILNLSADFSTSTLYLKW    157
Pan_troglodytes   KIPALS-HGDYEITINSLHDFGSSTSKFTLNEQNVSLIPDTPPEILNLSADFSTSTLYLKW    175
Macaca_mulatta    KIPALS-HGDYEITINSLHDFGSSTSKFTLNEQNVSLIPDTPPEILNLSADFSTSTLYLKW    157
Callithrix_jacchus KIPALS-HGDYEITINSLHDFGSSTSKFTLNEKNVSLIPDTPPEILNLSADFSTSTLYLKW    165
Canis_lupus_familiaris KIPALL-PGDHEITINRLYDFGNPISKFTLNEKNVSLIPDTPPEILNLSADFSTSTLHLKW    157
Felis_catus       KIPALL-PGDHEITINRLYDFGNPISKFTLNEKNVSLIPDTPPEILNLSADFSTSTLHLKW    157
Equus_caballus    KIPALS-PGDHEVVISPLRDFGSSISKFILSEKNVSLIPDTPPEILNLSADFSTSTLHLKW    156
Bos_taurus        TIPPLL-PGHEITIVHPLYEFGSSSKFILNEKNISLIPETPEILNLSADFSTSTLHLKW    156
Heterocephalus_glaber KIPALS-PGDHEITINSLHDSSESSISTFMLNEKNVSLIPDTPPEILNLSADFSTSTLYLKW    155
Rhinatrema_bivittatum EIKDVL-FAEVEIKITAKNDLGSTDKTFRVSAPDVALVPDTPPEILTAPDFESSTFIVEW    138
Xenopus_tropicalis EVEFET-IAPLRITIKASNVQGTPEITFQKTMODIPFPAPPEILSVVDPHQDITLLIQW    139
.....130.....140.....150.....160.....170.....180

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File: /media/morpheus/disk1/fst/pep\_msa/LIF Date: Tue Feb 1 13:53:23 2022

Page 2 of 7

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      .   .   :           :: :*.
Pavo_muticus      SDNGSAFPGYGLDASWEIEILRKGG---KKLESYNSKLTHEDIHSWNWKSMDPLECTSHY 194
Pavo_cristatus    SDNGSAFPYGLDASWEIEILRKGG---KKLESYNSKLTHEDIHSWNWKSMDPLECTSHY 194
Gallus_gallus     SDNGSAFPYGLDASWEIEVLNRGNN--VTRETYNSKLIHEDIHSWNWKSMDPLECTSHH 195
Anas_platyrhynchos SDNGSIFPGYGLDAFWQIEILRKETMEKVTEVITYSKLTHEDIILSWNWTSDMPLECTSHY 203
Chelonia_mydas    NDSGSVVFQHELDASWQIQILRKETMETVILMNYDSKLTGKDSIVSWNWTSDIPLECTSHH 204
Mus_musculus      NDRGSALPHPSNATWEIKVLQNPRTPEVALVLLNTMLSGKDTVQHWNWTSDLPLOCATHS 212
Rattus_norvegicus NDKGSALPYPSNATWEVKVLQNPRTPEVALVSLNTVLSGKDKGHHWNWTSELPLQCATHS 213
Homo_sapiens      NDRGSVFPHRSNVIWEIKVLKESMELVKLVTHNTTLNGKDTLHHWSWASDMPLECAIHF 217
Pan_troglodytes   NDRGSVFPHRSNVIWEIKVLKESMELVKLVTHNTTLNGKDTLHHWSWASDMPLECAIHF 235
Macaca_mulatta    NDRGSVFPHRSNVIWEIKILRKESMELVKLVTHNTTLNGKDTLHHWSWASDMPLECAIHF 217
Callithrix_jacchus NDRGSVFPHRSNVIWEIKVLKESMELVKLVTHNTTLNGKDTLHHWSWASDMPLECAIHF 225
Canis_lupus_familiaris NDRGSVFPHQLTVIWEIKILRKENMEIVKLITHNTTVNGKDTVHHWSWTSDMPLECAIHS 217
Felis_catus       NDRGSIFPRHLNVIWEIKILRKENTEIILKLVTHNTTVNGKDTVHHWSWASDMPLECTTHS 217
Equus_caballus    SDRGSVLPHRSNVIWEIKILRKKNMEIVKSVTHNTTLNGKDTVHHWSWTSDMPLECATHY 216
Bos_taurus        NDKGSVFPFHSNVIWEIKVLHKKNMEIVKLVITYSTTLNGRDTIHHWNWTSDMPLECAIHY 216
Heterocephalus_glaber NDKGSVFPFHSNIIWEVKVLKDSMELVELVITYNTTLNGRDTIVHHWSWASDMPLECATHH 215
Rhinatrema_bivittatum KMNFPGFNGTSQVIWEIKILQNN--VISTVPYITWTEQESIVQWKWMSDLPLECADHS 196
Xenopus_tropicalis SVDNATLLSEVEVLCIILRSENMDIVSNATWKKRWTPSDTAFYWNWTSDFPLLCTSHS 199
.....190.....200.....210.....220.....230.....240

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      * **   :   : * : ** **           : *   . . . : . * : : . **
Pavo_muticus      VRIRHYINITQFDGHKDWSWSPVEVVPKGDTEPSGSGLFPODTVVAVGNSNVTFCCVHEE 254
Pavo_cristatus    VRIRHYINITQFDGHKDWSWSPVEVVPKGDTEPSGSGLFPODTVVAVGNSNVTFCCVHEE 254
Gallus_gallus     VRIRHYINITQFDGPKDWSAWS--RVVVPKGDTEPSGSGLFPODTVVAVGNSNVTFCCVHKE 254
Anas_platyrhynchos VKIRCFINITQFVGHKDWSWSPVEVSPKGDTEPHGSGVFPQDTVVAVGNSDVTICCVHEE 263
Chelonia_mydas    VKIRCYINDLYFSGRKEWSEWSPIKTVPGKDTKLSAVVFPQDKVVLVGSNVTFCCLYND 264
Mus_musculus      VSIRWHIDSPHFSGYKEWSDWSPLKNISWIRN--TETNVFPQDKVVLVGSNMTICCMSPT 270
Rattus_norvegicus VSIRWHIDYPRFSGYKEWSEWSPKKNISWTRN--TETNVFPQDKVVLVGSNMTICCISTT 271
Homo_sapiens      VEIRCYIDNLHFSGLEEWSWSPVKKNISWIPD--SQTQVFPQDKVILVGS DITFCCVSQE 275
Pan_troglodytes   VEIRCYIDSLHFSGLKEWSDWSPVKNISWIPD--SQTQVFPQDKVILVGS DITFCCVSQE 293
Macaca_mulatta    VEIRCYIDSLHFSGRKEWSDWSPVKNISWMPD--SQTQVFPQDKVILVGS DITFCCISQE 275
Callithrix_jacchus VEIRCRIDSLHFSGRKEWSDWSPVKNISWTPD--SQTQVFPQDKVILVGS DITFCCVSQE 283
Canis_lupus_familiaris VGIRCYVDDPHFSGRKEWSDWSPLKNISWSPD--SQTQVFPQDKVILVGS DITFCCVTQE 275
Felis_catus       VAIRCYVDDPHFSGRKEWSDWSPLKNISWSPD--SQTQVFPQDKVILVGS DITFCCVTQE 275
Equus_caballus    VGIRCYVDDTHFSGHKEWSDWSQLKNVSWSPD--SQTQVFPQDKVILVGS DVIVCCVTRD 274
Bos_taurus        VGIRCYIDDPQFSGHKEWSDWSLLKNISLPPD--SQTQVFPQDKVILVGS DITVCCVTQE 274
Heterocephalus_glaber VRIRCYIDSLHFSGLKEWSDWSPVKNISWTS--SQTQVFPQDNIIILVGS DITFCCISQE 273
Rhinatrema_bivittatum VKIRSYIDEAYFPGHKEWSDWSVVKTIPTGHDSLOEPTVFPEKSVVPVGSNVMFCCVAEH 256
Xenopus_tropicalis VQIRCLINDQYYIGEKGWSNWSRPYTVYGSTE---EKAYPTDKVVPVGTNMTFCCITVQS 255
.....250.....260.....270.....280.....290.....300

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      :   *   . *: *   . *: : *   *   ** *:           *: : : . **
Pavo_muticus      GRQVQRMSYGAKDYPLIRLSSRSSAIRVLNANASDASGTNIVCRMS--ENGMDGTIVLFVGY 313
Pavo_cristatus    GRQVQRMSYGAKDYPLIRLSSRSSAIRVLNANASDASGTNIVCRMS--ENGMDGTIVLFVGY 313
Gallus_gallus     GQQIQRMSYGAKDYPLIRLSSRSSAIRVLNANASSASGTNIVCTMS--EDWMDGAVLFVGY 313
Anas_platyrhynchos GQQIKRMTYGPEVYPLIRLSSRSSAIRVLNANASDTSGTNVVCSLS--EDGMDGTIVLFVGY 322
Chelonia_mydas    GESIKSMQYGSKSYSLHLKSRSSAIQVQNVASIPSGTNVWCSSL--PDNAAGTVLFVGY 323
Mus_musculus      --KVLSGQIGNTLRPLIHLYGQTVAIHILNIPVSENSGTNIIFIT--DDDVGTVVVFAGY 326
Rattus_norvegicus --KVLSGQIGNTFRPLIHLYGETVAINILNIPVSENSGTNVIFST--VDDVGTVVVFAGY 327
Homo_sapiens      --KVLALIGHTNCPLIHLDGENVAIKIRNISVSASSGTNVVFTT--EDNIFGTIVIFAGY 331
Pan_troglodytes   --KVLALIGHTNCPLIHLDGENVAIKIRNISVSASSGTNVVFTT--EDNIFGTIVIFAGY 349
Macaca_mulatta    --KVLALIGHTNCPLIHLDGENVAIKIHNISVSASSGTNVVFTT--EDNIFGTIVIFAGY 331
Callithrix_jacchus --KVLALIGHTNCPLIHLDGESVAIKIHNISVSASSGTNVVFTT--EDNIFGTIVVFAGY 339
Canis_lupus_familiaris --KVLSAQIGQTNCPILHLDGENVAIKIHNISVSANS GTNVVFTT--EDNIFGTIVVFAGY 331
Felis_catus       --KVLSAQIGQTNCPILHLDGENVAIKIHNISVSANS GTNVVFTT--EDNIFGTIVIFAGY 331
Equus_caballus    --NVSSAQIGLTKCPLIHLDGKNVAIKIHNISVSASSGTNVVFTT--EDNIYGTIVLFAGY 330
Bos_taurus        --KVLSAQIGSTHCPLIHLDGENVAIRIRNISASASSGTNVVFSV--EDNIFGTIVVFAGY 330
Heterocephalus_glaber --KVLQAQIGSKNCPLIHLDGENVAIKIHNISVSSENSGTNVIFIT--EDYIYGTIVIFAGY 329
Rhinatrema_bivittatum --LTSITYGVTHYTLIHLISNYSSAIVNNVNMSEASGTNVICYLTRSPGIVGAVIFVGY 313
Xenopus_tropicalis GTKIMS AELGNDRYPLIPLSSNSSAIVRIQNM TMTSEESGDNLIFYT--DVLVVGTVVVFVGY 313
.....310.....320.....330.....340.....350.....360

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# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep\_msa/LIF Date: Tue Feb 1 13:53:23 2022

Page 3 of 7

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** *: ..*** : * * *:*** :. * * * * *
Pavo_muticus      GPDVPEDLSCETSNFVIKCTWKPGRASGLYGVRGTKYSLIESISGKNVSCEVNEMKK-- 371
Pavo_cristatus    GPDVPEDLSCETSNFVIKCTWKPGRASGLYGVRGTKYSLIESISGKNVSCEVNEMKK-- 371
Gallus_gallus     GPDTPKGLSCETSNFVIKCTWKPGRATGLYKARGTKYSLTESISGKNVSCEVNEMKK-- 371
Anas_platyrhynchos APDIPQNLSCETSNFELIKCTWKPGRPSGLYKGRGTKYSLFERISGKNVSCEVNEMNK-- 380
Chelonia_mydas    APDTPQNLNCETSTFITITCSWNPGRPTGLYSQRQTKYLFERISRENTVCEVKELNK-- 381
Mus_musculus      PPDVPPQKLSCEHDLKEIICSWNPGRIITGLVGPRNTEYTLFESISGKSAVFHRIEGLTNE 386
Rattus_norvegicus PPDVPPQKLSCEHDLKEIICSWNPGRIITGLVGPRNTEYTLFESISGKSAVFHRIEGLTNE 387
Homo_sapiens      PPDTPQQLNCETHDLKEIICSWNPGRVITLVGPRATSYTLVESFSGKYVRLKRAEAPTNE 391
Pan_troglodytes   PPDTPQQLNCETHDLKEIICSWNPGRVITLVGPRATSYTLVESFSGKYVRLKRAEAPTNE 409
Macaca_mulatta    PPDTPQQLNCETHDLKEIICSWNPGRATLVGPRATSYTLLESFSGKYVRFKRAEAPTNG 391
Callithrix_jacchus PPDTPQQLDCETHDLKEIICSWNPGRSTGLVGPRATITVTLYESFSGKYVRYKRDEAPTNE 399
Canis_lupus_familiaris PPDIPQKVCNCTYDLKEIVCTWNPGRPTALVGPRNTSYTLFESFSGKYVRFKRVEAPTNE 391
Felis_catus       PPDIPQKLCNCTYDLKEIICTWNPGRPTALVGPRNTSYTLFESFSGKYVRFKRVEAPTNE 391
Equus_caballus    PPDIPQKLCNCTYDLKEIVCSWNPGRPTALVGPRVTSYTLFESFSGKNVRFRKREASTNE 390
Bos_taurus        PPDIPQKLCNCTYDLKEIICTWNPGRPTSLGPRSTSYTLFESFSGKYVRFKQDEVSANE 390
Heterocephalus_glaber PPDVPPQKLCNCTHDLKEIVCTWNPGRPTALVGPRSTNYNLFESFSGKYVRFKNAEVPNTNE 389
Rhinatrema_bivittatum PPDTPQDFNCETRDLLKIIICSWNPGRPTGLYGGRETIVILHERISGVNVSCANPEVTK-E 372
Xenopus_tropicalis PPDIPQNLSCETMNLRCIGCQWNPGRITGLYGERETIYTLRESYSGLKCVACDN---TEE 370
.....370.....380.....390.....400.....410.....420

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: .*: * * * :. : * * .. :
Pavo_muticus      ERICGFPVLADQKTYSFVLGVSNPIGQTEASLLVDLNQVRNPETPEKLTVSGNSSTSVRL 431
Pavo_cristatus    ERICGFPVLADQKTYSFVLGVSNPIGQTEASLLVDLNQVRNPETPEKLTVSGNSSTSVRL 431
Gallus_gallus     KHVCGFPVLADQKTYSFILGASNPIGQTEASLLVDLNQVRNPETPEKLTASGNSSTSVHL 431
Anas_platyrhynchos ERVCGFPVLGDQKTYNFLLGVSNPIGQTEASLLVDISQVRHPKPEKLTVSGNSSTSVHL 440
Chelonia_mydas    KHHCDFPVHANQKIYSFTILGASNPLGRAESSLLIDVNQVRNLETPDKFTVSANSSTNAHL 441
Mus_musculus      TYRLGVQMHPGQEIHNFTLTGRNPLGQAQSAVINVTERTVAPHDPISLKVVDINSTVVTTF 446
Rattus_norvegicus TYWLTLMKMAPDQEIHNFTLTARNPLGQTESAIVINATERTVALHVPISLKVVDINSTVVTTL 447
Homo_sapiens      SYQLLFQMLPNQEIYNTFLNAHNPLGRSQSTILVNITEKVYPHTPTSFVKVDINSTAVKL 451
Pan_troglodytes   SYQLLFQMLPNQEIYNTFLNAHNPLGRSQSTILVNITEKVYPHTPTSFVKVDINSTAVKL 469
Macaca_mulatta    SYQLFFQMLPNQEIYNTFLNAHNPLGRSESTILVNITEKVYPHTPTSFVKVDINSTAVKL 451
Callithrix_jacchus SYQLFFQMLPNQEIYNTFLNAHNPLGQSESTILVNITEKVYPHTPTSFVKVDINSTAVTL 459
Canis_lupus_familiaris SYQLFFQMRPNQEIYNTFLNARNPLGRSESTILVNITEKVYPRIPTSIKVKDINSTAVML 451
Felis_catus       SYQLFFQMRPNQEIYNTFLNARNPLGRSESTILVNITEKVYPRIPTSIKVKDINSTAVIL 451
Equus_caballus    SHQLFFQMLPNQEIYNTFLNAHNPLGQSESMILVNITEKVYPHSPTSVKVKVDINSTAVTL 450
Bos_taurus        NYQLFQLQILSSQEIHNFTLTNAQNLLGQTESTLLVNITEKVHPRIPTSILKAKDINSTAVIL 450
Heterocephalus_glaber SYRVLFKMIIPNQEYNTFLSGHNPLGQSESTILINITERVSPHTPTSFVKVDINSTAVTL 449
Rhinatrema_bivittatum LCNCFDFVINNONLYNTFLRASNPNSSEASSSIDVIQVRHSEAPSKIADADLSRSIQ 432
Xenopus_tropicalis QVSKCDVSKGQSLYAFSLQAQNPGLKQSASLSFNVTYRVHPKAPENIKLVDISPTEVSL 430
.....430.....440.....450.....460.....470.....480

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Pavo_muticus      HWFINGSFAEIRLLCQIEISSGHSEQKLHNVSMPGGKFSTYTAQLNALHPYTKYRFRVRC 491
Pavo_cristatus    HWFINGSFAEIRLLCQIEISSGHSEQKLHNVSMPGGKFSTYTAQLNALHPYTKYRFRVRC 491
Gallus_gallus     RWFINGSFAEIRLLCQIEISSGHSEQKLHNVSMPGGKFSNYTAQLNALHPYTKYQFKVRC 491
Anas_platyrhynchos RWFINGSFAEIRLLCQIEISSGHSEQKLHNVSMPGGKFSNYTAQLNTLHPYTKYWFRVRC 500
Chelonia_mydas    SWYIPGNFIQIRLLCQIEINNSNSERQLRNVSVAGAENSNYRARDALHPYATYTFVRVC 501
Mus_musculus      SWYLPGNFTKINLLCQIEICKANSKKEVRNATIRGAEDSTYHVAVDKLNPHYATYTFVRVC 506
Rattus_norvegicus SWYLPGNFTKINLVQCQIEICKANSKKEVRNVTMRGAEDSTYHVAVDKLNPHYTYTFVRVC 507
Homo_sapiens      SWHLPGNFAKINFLCQIEIKKSNSVQEQRVNVTIKGVENSSYLVALDKLNPHYTYTFRIRC 511
Pan_troglodytes   SWHLPGNFAKINFLCQIEIKKSNSVQEQRVNVTIKGVENSSYLVALDKLNPHYTYTFRIRC 529
Macaca_mulatta    SWHLPGNFAKINFLCQIEIKKSNTVQEQRVNVTIKGVENSSYLVALDKLNPHYTYTFRIRC 511
Callithrix_jacchus SWHLPGNFAKINLLCQIEIKKSNSVQEQRVNVTIKGVENSSYLVALDKLNPHYTYTLRIRC 519
Canis_lupus_familiaris SWHLPGNFAKIKLLCQIEINKTNSVQELRNVTIRGVENSSYLVAVDQLNPHYTYTFRIRC 511
Felis_catus       SWHLPGNFAKIKLLCQIEINKTNSVQELRNVTIRGVENSSYLVAVDQLNPHYTYTFRIRC 511
Equus_caballus    SWRLPGNFAKIKFLCQIEINKTNSIQELRNVTIKGVENSSYLVAVDKLNPHYTYTFRIRC 510
Bos_taurus        SWHLPGNFTKVKLLCQIEINKTNSIQELRNVTIRGVENSSYLVAVDKLNPHYTYTFRIRC 510
Heterocephalus_glaber SWHLSGSFAKINLLCQIKINKANSQELRNITIKGVENSSYRVAVDKLNPHYTYTFRIRC 509
Rhinatrema_bivittatum SWFLSGKFTLMRLQCQIINISIANEETEPNMSMDGAIDSYFALVDLHPFTAYVLSVRC 492
Xenopus_tropicalis TWFLDGNFVSLKLCICEIVRTSNEKEEMRNTVIGSEDGNYSYIDNLHPFYQYDVIRIRC 490
.....490.....500.....510.....520.....530.....540

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# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep\_msa/LIF Date: Tue Feb 1 13:53:23 2022

Page 4 of 7

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Pavo_muticus      SAADHFWRWSDWSGTEHTTLEAPPARGPDWRE--RSPSGRSLRIFWKPLSLSEANGKI 549
Pavo_cristatus    SAADHFWRWSDWSGTEHTTLEAPPARGPDWRE--RSPSGRSLRIFWKPLSLSEANGKI 549
Gallus_gallus     SAADHFWRWSDWSGTEHTTLEAPPARGPDWRE--RSPSGKSLRIFWKPLSLSEANGKI 549
Anas_platyrhynchos SAADHFWRWSDWSRIEHTTLEAPPARGPDWRE--RSPSGKSLKIFWKPLSLSEANGKI 558
Chelonia_mydas    SASEHFWRWWSKWSEKKLTLEAPPARGPDWRE--RSPVRETTLTVFWKPLLLSEANGII 559
Mus_musculus      S-SKTFWKWSRWSDEKRHLTTEATPSKGPDTWRE--WSSDGKNLIIVWKPLPINEANGKI 563
Rattus_norvegicus S-SETFWKWSKWSNEKRYLTTEATPSKGPDTWRE--WSSDGKNLIIVWKPLPINEANGKI 564
Homo_sapiens      S-TETFWKWSKWSNKKQHLTTEASPSKGPDTWRE--WSSDGKNLIIVWKPLPINEANGKI 568
Pan_troglodytes   S-TETFWKWSKWSNKKQHLTTEASPSKGPDTWRE--WSSDGKNLIIVWKPLPINEANGKI 586
Macaca_mulatta    S-TETFWKWSKWSNKKQHLTTEAIPSKGPDTWRE--WSSDGKNLIIVWKPLPINEANGKI 568
Callithrix_jacchus S-TEAFWKWSKWSNKKQHLTTEAIPSKGPDTWRE--WSSDGKNLIIVWKPLPINEANGKI 576
Canis_lupus_familiaris S-TETFWKWSKWSNEKKYLTTEAIPSKGPDTWRE--WSSDGKNLIIVWKPLPINEANGKI 568
Felis_catus       S-AETFWKWSKWSNEKKYLTTEAIPSKGPDTWRE--WSSDGKNLIIVWKPLPINEANGKI 568
Equus_caballus    S-TETFWKWSKWSNEKQYLTTEAIPSKGPDTWRE--WSSDGKNLIIVWKPLPVNEANGKI 567
Bos_taurus        S-TDPFWKWSKWSNEKQCLTTEAIPSKGPDIWRE--WSSDGRNLIIVWKPLPINEAYGKI 567
Heterocephalus_glaber S-SETYWKWSKWSNEKQHLTTEATPSKGPDTWRE--WSSDGKNLIIVWKPLPINDANGKI 566
Rhinatrema_bivittatum STLENFWKWSEWSHEKKHTTLEAPPSSGKLIWREIWNSEGRNLIIVWKPLSNLEANGRV 552
Xenopus_tropicalis ATLDPFWKWSNRAVKGHTLPAAPANNLDIWLVNGRHLGGRTVTIVWKHLPINEANGKI 550
.....550.....560.....570.....580.....590.....600

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*: * : . : : : . * : .***. * . * ***: * :
Pavo_muticus      VSHEVSCYLLEESLEYKEVTEPS--NSTEIKLGRND---CVISVVAKNHAGSSPPSRITS 604
Pavo_cristatus    VSHEVSCYLLEESLEYKEVTEPS--NSTEIKLGRND---CVISVVAKNHAGSSPPSRITS 604
Gallus_gallus     VSHEVSCYLLEESLEYKEVTEPS--NSTEIKLGRND---CVISVVAKNHAGSSPPSRITS 604
Anas_platyrhynchos VSHEVSCYLLEKPLEYKEVTEPS--NSTEIKLGRND---CVISVVAKNHAGSSPPSRITT 613
Chelonia_mydas    LSHEVSCYLRET---MLEVPVPL--NSTEIKLEGND---CLISVVAKNRAGSSPPSRITS 611
Mus_musculus      LSYNVSCSLNEETQSVLEIFDPQ--HRAEIQLSKND---YIISVVARNSAGSSPPSKIAS 618
Rattus_norvegicus LSYNVSCSSSEETQSLSEIPDPQ--HKAIEIKVNKND---YIISVVARNSAGSSPPSKIAS 619
Homo_sapiens      LSYNVSCSSDEETQSLSEIPDPQ--HKAIEIRLDKND---YIISVVAKNSVGSSPPSKIAS 623
Pan_troglodytes   LSYNVSCSSDEETQSLSEIPDPQ--HKAIEIRLDKND---YIISVVAKNSVGSSPPSKIAS 641
Macaca_mulatta    LSYNVSCSSDEETQSLSEIPDPQ--HKAIEIQLDKND---YIISVVAKNSVGSSPPSKIAS 623
Callithrix_jacchus LSYNVSCSSDEETQSLSEIPDPQ--HKAIEIRLDKND---YIISVVAKNSVGSSPPSKIAS 631
Canis_lupus_familiaris LSYNVSCSLDEETQSLSEIPDPQ--HKAELQLDKND---YIISVVAKNSVGSSPPSKIAS 623
Felis_catus       LSYNVSCSLDEETQSLSEIPDPQ--HKAELQLDKND---YIISVVAKNSVGSSPPSKIAS 623
Equus_caballus    LSYNVSCSSDEETQSLSEIPDPQ--HKAELQLDKND---YIISVVAKNSVGSSPPSKIAS 622
Bos_taurus        LSYNVSYSSDEETKSLSEIPDTQ--HRAELQLDKND---YIISVVAKNSAGSSPPSKIAS 622
Heterocephalus_glaber LSYNVSCSSVEETQSLSEIPDPQ--HKAIEIRLDKND---YIISVVAKNSVGSSPPSKIAS 621
Rhinatrema_bivittatum HSHIVLWKESDENSQFKNISIPSPYNRTLIFLHNDDK--IYIINVVANNSAGLSPPATIKS 611
Xenopus_tropicalis HSYMVSWKPIGSHSEPQTIVLAAFNRTQIQLDGDDGNYEITTVANNSAGLSPPSRITT 610
.....610.....620.....630.....640.....650.....660

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: : : : : * : * : : * : : * : : :
Pavo_muticus      VELPSDNVKTIDRAVAMNGIYISWNSYPNMTCGYIVKWCHSSGSEPCSDWQKFPSNTTD 664
Pavo_cristatus    VELPSDNVKTIDRAVAMNGIYISWNSYPNMTCGYIVKWCHSSGSEPCSDWQKFPSNTTD 664
Gallus_gallus     VELPSDNVKTIDRAVAMNGIYISWNSFPNMTCGYIVKWCHSSGSEPCSDWQKFPSNTTD 664
Anas_platyrhynchos VELPSDNVKTIDRAVAMNGIYISWNSYPNMTCGYIVKWCHSSGSEPCSDWQKFPSNTTD 673
Chelonia_mydas    VDLPSDNVKTIDRAVAMNGIYISWNSDPNMTCGYILKWCISGSEPCSDWEMFPSNATD 671
Mus_musculus      MEIPNDDITVEQAVGLGNRIFLTWRHDPNMTCDYVIKWCNSSRSEPCLLDWRKVPNSNTE 678
Rattus_norvegicus MEIPNDDITVEQAVGIGNRIFLSWQHNPNTCDYVIKWCNSSWSEPCLLDWIKVPNSNSTG 679
Homo_sapiens      MEIPNDDLKIEQVVGMGKGILLTWHYDPNMTCDYVIKWCNSSRSEPCLLDWRKVPNSNTE 683
Pan_troglodytes   MEIPNDDLKIEQVVGMGKGILLTWHYDPNMTCDYVIKWCNSSRSEPCLLDWRKVPNSNTE 701
Macaca_mulatta    MEIPNDDLKIEQVVGMGKGILLTWHYDPNMTCDYVIKWCNSSRSEPCLLDWRKVPNSNTE 683
Callithrix_jacchus MEIPNDDLEIEQVVGMGKGILLTWHYDPNMTCDYVIKWCNSSRLEPCLLDWRKVPNSNTE 691
Canis_lupus_familiaris MEIPNDDLKVEQAVGMGNIGILLTWNYPNMTCDYVIKWCNSSRSEPCLLDWKKVPNSNTE 683
Felis_catus       MEIPNDDLKIEQAVGMGNIGILLTWNYPNMTCDYVIKWCNSSRSEPCLLDWKKVPNSNTE 683
Equus_caballus    MEIPNDDLKIEQAVGMGNIGILLTWNYPNMTCDYVIKWCNSSRSEPCLLDWKKVPNSNTE 682
Bos_taurus        MEIPNDDLKIEQALGMGNIRILLTWNYPNMTCDYVIKWCNSSRSEPCLLDWKKVPNSNTE 682
Heterocephalus_glaber MEIPNDDLRLVEQVVGMGKRILLTWHYDPNMTCDYVIKWCNSSRSEPCLLDWKKVPNSNTE 681
Rhinatrema_bivittatum SELPNKDVKIENVIGNKDITVTWDSNTNVCYIVQWRPFSFGSFDLQWETFSSSEKSS 671
Xenopus_tropicalis VOLASDATAELAVGNAGGINITWQSDANATCGYIVQWKPTSPLDTSAMRWKRFTNASS 670
.....670.....680.....690.....700.....710.....720

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# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep\_msa/LIF Date: Tue Feb 1 13:53:23 2022

Page 5 of 7

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      .: : * *:.* : :.* : * * . ** ** * *** ** :*::*: ::
Pavo_muticus      AVIKSALFRPGVRYNFSLYGCKSSGYQLLNITGYTKELPPKRAPNFTVEETSSDSILVK 724
Pavo_cristatus    AVIKSALFRPGVRYNFSLYGCKSSGYQLLNITGYTKELPPKRAPNFTVEETSSDSILVK 724
Gallus_gallus     AVIKSALFRPGVRYNFSLYGCKSSGYQLLNITGYTKELPPKRAPNFTVEETSSDSILVK 724
Anas_platyrhynchos AVIKSALFRPGVRYNFSLYGCKSSGYQLLNITGYTKELPPKRAPNFTVEETSSDSILVK 733
Chelonia_mydas    AVIKSALFQPGVRYNFSLYGCKHNGYQLLNITGYMKELPPKVAPNFTVEETSSESILVK 731
Mus_musculus      TVIESDQFQPGVRYNFYLYGCTNQGYYLLRSIIGYVEELAPIVAPNFTVEDTSADSILVK 738
Rattus_norvegicus TVIESDQFQPGVRYNFYLYGCTNQGYYLLRSIIGYIEELAPIVAPNFTVEDTSADSILVK 739
Homo_sapiens      TVIESDEFRPGIRYNFFLYGCRNQGYYLLRSIIGYIEELAPIVAPNFTVEDTSADSILVK 743
Pan_troglodytes   TVIESDEFRPGVRYNFFLYGCRNQGYYLLRSIIGYIEELAPIVAPNFTVEDTSADSILVK 761
Macaca_mulatta    TVIESDQFRPGVRYNFFLYGCRNQGYYLLRSIIGYIEELAPTVAPNFTVEDTSADSILVK 743
Callithrix_jacchus TVIESDQFRPGVRYNFFLYGCRNQGYYLLRSIIGYVEELAPIVAPNFTVEDTSADSILVK 751
Canis_lupus_familiaris AVIESDQFRPGVRYSFYLYGCRNEGYLLRSIIGYIEELAPIVAPNFTVEDTSADSILVK 743
Felis_catus       AVIESDQFRPGVRYNFFLYGCRNQGYYLLRSIIGYIEELAPIVAPNFTVEDTSADSLVR 743
Equus_caballus    TVIESDQFRPGVRYHFFLYGCRNQGYYLLRSIIGYIEELAPIVAPNFTVEDTSADSILVK 742
Bos_taurus        TVIESDQFRPGVRYNFSVYGCNQGYYLLRSVIGYVEELAPAVAPNFTVEDTSADSILVK 742
Heterocephalus_glaber AIIESDQFRPGIRYNFFLYGCRNQGYYLLRSIIGYIEELAPIVAPNFTVEDTTADSILVK 741
Rhinatrema_bivittatum ALLTSALFQDGVQYNFSVYGCNDEYQLLNKVGVLVELAPKVAPNATVEQTTSDSVQIK 731
Xenopus_tropicalis CFISADQFPVGVRYNITVFSCSEGQHQQLKRVITGYTEELAPRVAPNFTVLETTNSICVK 730
.....730.....740.....750.....760.....770.....780

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      *: :. * :*:.* . . * * . : : . ***: . * * *
Pavo_muticus      WEDMPIEDCQGFLEGYRLSFAKGEKDALKPRLLESG---NPELVKVNITDLTKKSLKILD 781
Pavo_cristatus    WEDMPIEDCQGFLEGYRLSFAKGEKDALKPRLLESG---NPELVKVNITDLTKKSLKILD 781
Gallus_gallus     WEDMSIEDCQGFLEGYRLSFAKGEKDALRPRLLESG---NPELVKVNITDLTKKSLKILD 781
Anas_platyrhynchos WEDMPIEDCQGFLEGYRLSFAKGEKDALKPRLLESG---NPELVKVNITDLTKKSLKILD 790
Chelonia_mydas    WEDIPVEDCQGFLEGYRLSFAKGEKGTSTKINFMKEG---SPELTVKNITDLTKKSLRILD 788
Mus_musculus      WDDIPVEELRGFLRGYLFYFGKGERDTPKTRSLLEPH---HSDIKLVKNITDISQKTLRIAD 795
Rattus_norvegicus WDDIPVEELRGFLRGYLFYFGKGERDTPKTRSLLETS---HSDIKLVKNITDISQKTLRIAD 796
Homo_sapiens      WEDIPVEELRGFLRGYLFYFGKGERDTSKMRVLESG---RSDIKLVKNITDISQKTLRIAD 800
Pan_troglodytes   WEDIPVEELRGFLRGYLFYFGKGERDTSKMRVLESG---RSDIKLVKNITDISQKTLRIAD 818
Macaca_mulatta    WEDIPVEELRGFLRGYLFYFGKGERDTSKMRVLESG---RSDIKLVKNITDISQKTLRIAD 800
Callithrix_jacchus WEDIPVEELRGFLRGYLFYFGKGERDTSKMRVLVSG---HSDIKLVKNITDMSQKTLRIAD 808
Canis_lupus_familiaris WEDIPVEELRGFLRGYLFYFEKGERDTSKIRGLESG---RSDIKLVKNITDLSQKTLRIAD 800
Felis_catus       WEDIPVEELRGFLRGYLFYFEKGERDTSKIRGLESG---RSDIKLVKNITDLSQKTLRIAD 800
Equus_caballus    WEDIPVEELRGFLRGYLFYFEKGERDTSKMRSLESG---RSDVKNITDISQKTLRIAD 799
Bos_taurus        WEEIPVEELRGFLRGYLFYFEKGERDTSKIMGLEPG---RFDIKLVKNITDISQKTLRIAD 799
Heterocephalus_glaber WEDIPVEELRGFLRGYLFYFEKGEKDSQMRGLESG---HSDIKLVKNITDISQKTLRIAD 798
Rhinatrema_bivittatum WDDIPAAYVQGFMOGYLVVYTKQENGTSKSSSLDLG---RDNTRVKNITDTSVKVLTIND 788
Xenopus_tropicalis WEGIPPEEDLRGFLRGYLVVYIVKQENTTSASSFDIADHADPKNKKINITNPEISMLKIKD 790
.....790.....800.....810.....820.....830.....840

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      **. ***: : * *** . * . . ***: : : ***: * *:.* . :*:.* :*:.*
Pavo_muticus      LQGKTSYQLDLQAYTAGGLSPPNLSLYVVTKEDSVGLIIAILIPVAVVLLGVVASIFCYR 841
Pavo_cristatus    LQGKTSYQLDLQAYTAGGLSPPNLSLYVVTKEDSVGLIIAILIPVAVVLLGVVASIFCYR 841
Gallus_gallus     LQGKTSYQLDLQAYTAGGLSPPNLSLYVVTKEDSVGLIIAILFPVAVVLLGVVTSIFCYR 841
Anas_platyrhynchos LQGKTSYQLDLQAYTAGGLSPPNLSLYVVTKEDSVGLIIAILIPVAVVLLGVVASIFCYR 850
Chelonia_mydas    LQGKTSYRLDLRAYTVGGIGPSKDLVYVVTKENSGLIIAILIPVAVAVVLGVVTSILCYQ 848
Mus_musculus      LQGKTSYHLVLRAYTHGGLGPEKSMFVVTKENSGLIIAILIPVAVAVIVGVVTSILCYR 855
Rattus_norvegicus LQGKTSYHLVLRAYTHGGLGPEKSMFVVTKENSGLIIAILIPVAVAVIVGVVTSILCYR 856
Homo_sapiens      LQGKTSYHLVLRAYTDGGVGPEKSMYVVTKENSGLIIAILIPVAVAVIVGVVTSILCYR 860
Pan_troglodytes   LQGKTSYHLVLRAYTDGGVGPEKSMYVVTKENSGLIIAILIPVAVAVIVGVVTSILCYR 878
Macaca_mulatta    LQGKTSYHLVLRAYTDGGVGPEKSMYVVTKENSGLIIAILIPVAVAVIVGVVTSILCYR 860
Callithrix_jacchus LQGKTSYHLVLRAYTDGGMGPEKSMYVVTKENSGLIIAILIPVAVAVIVGVVTSILCYR 868
Canis_lupus_familiaris LQGKTSYHLVLRAYTDGGMGPEKSMFVVTKENSGLIIAILIPVAVAVIVGVVTSILCYR 860
Felis_catus       LQGKTSYHLVLRAYTDGGMGPEKSMFVVTKENSGLIIAILIPVAVAVIVGVVTSILCYR 860
Equus_caballus    LQGKTSYHLVLRAYTDGGMGPEKSMFVVTKENSGLIIAILIPVAVAVIIVGVVTSILCYR 859
Bos_taurus        LQGKTSYHLVLRAYTDGGMGPEKSMFVVTKENSEGLIIAILIPVAVAVIIGVVTSILCYR 859
Heterocephalus_glaber LQGKTSYHLVLRAYTDGGLGPEKSMFVVTNENSGLIIAILIPVAVAVLIGVVTSILCYR 858
Rhinatrema_bivittatum LQGRTSYHVELQAYTRGGKSLKSLYVVTNDNSVGLILASLMPVAVALLFGVVTSITICYQ 848
Xenopus_tropicalis LQSGTSYRLGLLAYTAGGNGPIKSSNVVTDNDNALGLILAILIPVAVAVLIGVASTICYQ 850
.....850.....860.....870.....880.....890.....900

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# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep\_msa/LIFRpts: Tue Feb 1 13:53:23 2022

Page 6 of 7

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*****:*****.*****.: : . :*:*** **** *:*: : *
Pavo_muticus      KREWIKETFYPEIPNPENSKALQFQKNICEGNKSLKTLEMPCTPN SVEVVETQSAAPKI 901
Pavo_cristatus    KREWIKETFYPEIPNPENSKALQFQKNICEGNKSLKTLEMPCTPN SVEVVETQSAAPKI 901
Gallus_gallus     KREWIKETFYPEIPNPENSKALQFQKNICEGNKSLKTLEMPCTPN TVEVVETQSAAPKI 901
Anas_platyrhynchos KREWIKETFYPEIPNPENSKALQFQKNICEGNKSLKTLEMPCTPN SVEVVETQSAAPKI 910
Chelonia_mydas    KREWIKETFYDPDIPNPENSKALQFQKNICEGNKSLKTLEMPCTPN SVEVVETQSTVLKT 908
Mus_musculus      KREWIKETFYDPDIPNPENCKALQFQKSVCEGNSALKTLEMPCTPN NVEVLESRSIVPKI 915
Rattus_norvegicus KREWIKETFYDPDIPNPENCKALQFQKSVCEGNSALKTLEMPCTPN NHEVLESRSIPPKI 916
Homo_sapiens      KREWIKETFYDPDIPNPENCKALQFQKSVCEGNSALKTLEMPCTPN NVEVLETRSAPFKI 920
Pan_troglodytes   KREWIKETFYDPDIPNPENCKALQFQKSVCEGSSALKTLEMPCTPN NVEVLETRSAPFKI 938
Macaca_mulatta    KREWIKETFYDPDIPNPENCKALQFQKSVCEGSSGLKTLEMPCTPN NVEVLETRSAPFKI 920
Callithrix_jacchus KREWIKETFYDPDIPNPENCKALQFQKSVCEGNSALKTLEMPCTPN NVEVLETRSAPFKI 928
Canis_lupus_familiaris KREWIKETFYDPDIPNPENCKALQFQKSVCEGNSALKTLEMPCTPN NVEVLETRSAPFKI 920
Felis_catus       KREWIKETFYDPDIPNPENCKALQFQKSVCEGNSALKTLEMPCTPN NVEVLETRSAPFKI 920
Equus_caballus    KREWIKETFYDPDIPNPENCKALQFQKSVCEGNSALKTLEMPCTPN SVEVLETRSIVPKI 919
Bos_taurus        KREWIKETFYDPDIPNPENCKALQFQKSVCEGNSALKTLEMPCTPN NVEVLETRSIVPKI 919
Heterocephalus_glaber KREWIKETFYDPDIPNPENCKALQFQKSVCEGSSALKTLEMPCTPN NVEVLETRSTLPKI 918
Rhinatrema_bivittatum KREWIKETFYDPDIPNPENSKALQFQKNISEENTAVKTLEMPCTPN NVEVLETRSTLPKI 908
Xenopus_tropicalis KREWIKETFYDPDIPNPENSKALQFQKNVNEANQGIKTLEMPCTPN NVEVLETRSTLPKI 910
.....910.....920.....930.....940.....950.....960
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***: * . : : : .:***: *: . : :*:
Pavo_muticus      EDTEMMSSKTDIT-----VPEDGSDSETENHVVVSYPPIIEEISNPPMDEPVGLSQVV 956
Pavo_cristatus    EDTEMMSSKTDIT-----VPEDGSDSETENHVVVSYPPIIEEISNPPMDEPVGLSQVV 956
Gallus_gallus     EDTEMMSTTTDIT-----VPEDGSDSETENHVVVSYPPIIEEISNPTMDEPVGLSQVV 956
Anas_platyrhynchos EDTEMMSPAADTV-----VPEDGSDSETENHVVVSYPPIIEEISNPPMDES VGSSQVV 965
Chelonia_mydas    EDTEIVSPVVDSE-----LPEDGSDPETGSHVVVSYPPIIEEISSPLIDEPVGSSQLI 963
Mus_musculus      EDTEIISPVAE-----RPGERSEVDPENHVVVSYPPIIEEITNPAADEVGGASQVV 968
Rattus_norvegicus EDTEITSPVSE-----RPGESSETDPENQAAVSYCPPIIEEITNPAADEAGGASQVV 969
Homo_sapiens      EDTEIISPVAE-----RPEDRSDAEPENHVVVSYPPIIEEIPNPAADEAGGTAQVI 973
Pan_troglodytes   EDTEIISPVAE-----RPEDRSDAEPENHVVVSYPPIIEEIPNPAADEAGGTAQVI 991
Macaca_mulatta    EDTEIISPVAE-----RPEDRSDAEPENHVVVSYPPIIEEIPNPAADEAGGTAQVI 973
Callithrix_jacchus EDTEIISPVAE-----RPEDRSDAEPENHVVVSYPPIIEEIPNPAADEAGGAAQVI 981
Canis_lupus_familiaris EDTEIISPIAE-----RPEESSDAEENHVVVSYPPIIEEITPNPGADEAGGASQVV 973
Felis_catus       EDTEIISPVAE-----RPEESSDAEPENHVVVSYPPIIEEIPNPGVDEAGGTSQVI 973
Equus_caballus    EDTEIISPVAE-----HLEDSSDAEPENHVVVSYPPIIEEIANPGLDEGGGTSQVI 972
Bos_taurus        EDTEIISPVAE-----RPEDRSDAEPENHVVVSYPPIIEEELANPGAE--GGGASQVI 971
Heterocephalus_glaber EDTEIISPVAE-----RPVDS SDVEPENHVVVSYPPIIEEIPNPAVDEPGGTSQVI 971
Rhinatrema_bivittatum MDTELTSPVGENEDLDTHLPEYDSDEGENHVVVISYCPPIIMDEEISSPPIDETVGSQVT 968
Xenopus_tropicalis LDTELHSPVTEDPN--GOTPEEDFDTEENHVVVSYPPISTNEDTGNLASDESASSSQVV 968
.....970.....980.....990.....1000.....1010.....1020
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***:***** :* . : : : *****:*. :. . : : :*****
Pavo_muticus      YIDIQSMYQPQIKPEEESEIDLVTTAGYKPMQLPVSAALKIESRSPAEEESDKTAGYRPQ 1016
Pavo_cristatus    YIDIQSMYQPQIKPEEESEIDLVTTAGYKPMQLPVSAALKIESRSPAEEESDKTAGYRPQ 1016
Gallus_gallus     YIDIQSMYQPQIKPEEESEIDLVTTAGYKPMQLPVSAALKIESRSPAEEESDKTAGYRPQ 1016
Anas_platyrhynchos YIDIQSMYQPQIKPEEESEIDLVTTAGYKPMQLPISALKIESRSPAEEESDKTAGYRPQ 1025
Chelonia_mydas    YIDIQSMYQPQINPEEEPEINFITTAGYKPMQLPINSKMEHSHPTEEDLDKTAGYRPQ 1023
Mus_musculus      YIDVQSMYQPQAKAEEEDVDVPVVGAGYKPMRLPISPAVED--TAAEDEEGKTAGYRPQ 1026
Rattus_norvegicus YIDVQSMYQPQAKAEEEDQDTPVMVAGYKPMRLPINPTAED--TTAEDEADKTAGYRPQ 1027
Homo_sapiens      YIDVQSMYQPQAKPEEEQENDPVGGAGYKPMHLPINSTVED--IAAEEDLDKTAGYRPQ 1031
Pan_troglodytes   YIDVQSMYQPQAKPEEEQENDPVGGAGYKPMHLPINSTVED--IAAEEDLDKTAGYRPQ 1049
Macaca_mulatta    YIDVQSMYQPQAKPEEEQENDPVGGAGYKPMHLPINSTVED--IAAEEDLEKTAGYRPQ 1031
Callithrix_jacchus YIDVQSMYQPQAKPEEEQENNPVGGAGYKPMHLPINSTVED--IAAEEDLDKTVGYRPQ 1039
Canis_lupus_familiaris YIDIQSMYQPQAKPEEEQENDPVGGAGYKPMHLPVSTVED--LAAEDDLDKAAGYRPQ 1031
Felis_catus       YIDVQSMYQPQAKPEEEQESDPVGGAGYKPMHLPITSTVED--LAADADLDKTAGYRPQ 1031
Equus_caballus    YIDIQSMYQPQAKPEEEQENDAVGGAGYKPMHLPVSTVED--LAADDDLEKTAGYRPQ 1030
Bos_taurus        YIDVQSMYQPQAKPEGELEDSDPVGGAGYKPMHLPVSTVDD--LDADDDLDKTAGYRPQ 1029
Heterocephalus_glaber YIDVQSMYQPQAKPEEDQEMDPVVSAGYKPMRLPINSTVEE--SAAEDDIDKTAGYRPQ 1029
Rhinatrema_bivittatum YIDIQSMYQPQAKSEKSENEFVHDSAGYKPMQLSINTATASNHTTDEDDLEQAGYRPQ 1028
Xenopus_tropicalis YIDIQSMYQPQANSEEEPDGNCIDAGYKPMQLAINTVNMEQQPLAEEG--FAAGYRPQ 1026
.....1030.....1040.....1050.....1060.....1070.....1080
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## CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep\_msa/LIFRpt: Tue Feb 1 13:53:23 2022

Page 7 of 7

	* ..* : :. * . **.* *****.**:** : :. ... **: : :	
Pavo_muticus	ANTNAWNMDTPDSPGSVESNNENASFGSPCSINSRQFLLPKDEEDSPKPSNTGWSFTHF	1076
Pavo_cristatus	ANTNAWNMDTPDSPGSVESNNENASFGSPCSINSRQFLLPKDEEDSPKPSNTGWSFTHF	1076
Gallus_gallus	ANTNAWNMDTPDSPGSVESNNENASFGSPCSINSRQFLLPKDEEDSPKPSNTGWSFTHF	1076
Anas_platyrhynchos	ANTNAWNMDTPDSPGSVESNNENASFGSPCSINSRQFLLPKDEEDSPKPSNTGWSFTHF	1085
Chelonia_mydas	ANTNVWKLSDSPDSPIISQNNENGSGFGSPCSINSRQFLLPKDYEDSPTPNNTGWAFNTNF	1083
Mus_musculus	ANVNTWNLVSPDSPRSTDNSNEVVSFGSPCSINSRQFLIPPKE-EDSPKSNGGGWSFTNF	1085
Rattus_norvegicus	ANVNTWNLVSPDSPRSTDNSNEVVSFGSPCSINSRQFLIPPKE-EDSPKSNGGGWSFTNF	1086
Homo_sapiens	ANVNTWNLVSPDSPRSDNSNEIVSFGSPCSINSRQFLIPPKE-EDSPKSNGGGWSFTNF	1090
Pan_troglodytes	ANVNTWNLVSPDSPRSDNSNEIVSFGSPCSINSRQFLIPPKE-EDSPKSNGGGWSFTNF	1108
Macaca_mulatta	ANVNTWNLVSPDSPRSDNSNEIVSFGSPCSINSRQFLIPPKE-EDSPKSNGGGWSFTNF	1090
Callithrix_jacchus	ANVNTWNLVSPDSPRSDNSNEIVSFGSPCSINSRQFLIPPKE-EDSPKSNGGGWSFTNF	1098
Canis_lupus_familiaris	ANVNTWNLVSPDSPRSTDNSNEIVSFGSPCSINSRQFLIPPKE-EDSPKSSGGGWSFTNF	1090
Felis_catus	ANVNTWNLVSPDSPRSTDNSNEIVSFGSPCSINSRQFLIPPKE-EDSPKSNGGGWSFTNF	1090
Equus_caballus	ANVNTWNLVSPDSPRSTDNSNEIVSFGSPCSINSRQFLIPPKE-EDSPKSNGGGWSFTNF	1089
Bos_taurus	ANVNTWNLVSPDSPRSTDNSNEIVSFGSPCSINSRQFLIPPKE-EDSPKSSGGGWSFTNF	1088
Heterocephalus_glaber	ANVNTWKLVSPPDSPRSTDNSNEIVSFGSPCSINSRQFLIPPKE-EDSAKSSGGGWSFTNF	1088
Rhinatrema_bivittatum	VNVTTWNVLVSPCSPSSSTDNSNENASFGSPCSINSRHFLIPPEEDQTLKPTHAGWSFTSL	1088
Xenopus_tropicalis	ENPSTWAVGSADSPTLGNSNENASFGSPCSITSRHFLIPPVDDKNDLKPTHVGWSLSSL	1086
	.....1090.....1100.....1110.....1120.....1130.....1140	

	**** ::	
Pavo_muticus	FQNKPN	1083
Pavo_cristatus	FQNKPN	1083
Gallus_gallus	FQNKPN	1083
Anas_platyrhynchos	FQNKPN	1092
Chelonia_mydas	FQNKLN	1090
Mus_musculus	FQNKPN	1092
Rattus_norvegicus	FQNKPN	1093
Homo_sapiens	FQNKPN	1097
Pan_troglodytes	FQNKPN	1115
Macaca_mulatta	FQNKPN	1097
Callithrix_jacchus	FQNKSN	1105
Canis_lupus_familiaris	FQNKPN	1097
Felis_catus	FQNKPN	1097
Equus_caballus	FQNKPN	1096
Bos_taurus	FQNKPN	1095
Heterocephalus_glaber	FQNKPN	1095
Rhinatrema_bivittatum	FQNKPD	1095
Xenopus_tropicalis	FQNKQE	1093