

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/DNA5.fst Date: Tue Feb 1 11:58:31 2022

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                                *  :::* *  *  .:  * *** :.
Homo_sapiens      -MAALGVAEEAVAAPHPAEGAETAEAVELSRALSRLLPGLEAD--SKPGRRRALEALRRAL  57
Macaca_mulatta    -MAAPGVAEEAVAASHPAEGAEMAEAAELSRALSRLLPGLEAD--SKPGRRRALEALRRAL  57
Callithrix_jacchus -MATPGVAKATEAPHPAEGAEEAETAELSRALSRLLPGLEAD--SKPGRRRALEALRRAL  57
Rattus_norvegicus -MAAPAEAEVAAG-----FAEADAAAELTRALGRLLPGLTE--SKLGRRRALEALEHAL  52
Mus_musculus      -MAAPAEAEVAAAPG---LTEAAEAAELTRALSRLLPGLETE--SKLGRRRALEALEQVL  54
Equus_caballus    -MAALVAAEAAAPPGPAEA---AEAAELSRALSRLLPGLEAD--SKLGRRRALEALQHLL  54
Bos_taurus        -MAALVAPEAAAPQGPTTEAGETTEAAELSRLSRLLPGLEAD--SKLGRRRALEALQRVL  57
Canis_lupus_familiaris -MAALVAAESAASPGLAET---AEAAELSRALSRLLPGLEAD--SKLGRRRALEALQRAL  54
Pavo_muticus      -----MAACGA-----AELAQALSRPLSCLQGPECGRAARLRALEAIRAEV  41
Pavo_cristatus    -----MAACGA-----AELAQALSRPLSCLQGPECGRAARLRALEAIRAEV  41
Gallus_gallus     -----MAACGA-----AELAQALSRPLSCLQGPECGRAARLRALEAIRAEV  41
Anas_platyrhynchos -----MAAA-----AEVAQALSRALSSLOGPDCGRAARLRALETIRAEV  39
Chelonia_mydas    MAEDGALGDQRRV-----AEVVQALGRHLGSLQEP--GRDARLRLRALRAIRAEV  46
Xenopus_tropicalis -MAAD--GEQRAT-----SEVTQALARHLNCLNDE--NKMTRKRALAAIQKEA  43
Rhinatrema_bivittatum -MAAEVEGDRRAA-----SEALQAVARHLNCLGEE--SKSRKRALGSIQKEV  45
1.....10.....20.....30.....40.....50.....60

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Homo_sapiens      EEP-----G-PAADPTAFQGPWARLLLPRLLRCLS-DPAEGCRALAVHLLDLGLRRAAR  109
Macaca_mulatta    EEP-----G-PAADPTAFQGPWARLLLPRLLRCLS-DPAEGCRALAVHLLDLGLRRAAR  109
Callithrix_jacchus EEP-----G-PAADPAAFQGPWARLLLPRLLRCLS-DPAEGCRALAVHLLSLGLRRAAR  109
Rattus_norvegicus EEA-----VRPGTDSAAFQGPWARLLLPRLLRLLT-DPAEGCRALAAHLLDLGLRRAAR  105
Mus_musculus      EEA-----VRPGADSAAFQGPWARLLLPRLLRLLS-DPAEGCRALAAHLLDLGLRRAAR  107
Equus_caballus    EAR-PEAPAADPAAAAAFAFGPWARLLLPRLLRCLA-DPAEGCRALAAHLLDLGLRRAAR  112
Bos_taurus        EAAQPEAPDADPDAAAAAFAFGPWWHLLLPRLLRRLT-DPAEGCRALAVHLLDLGLRRAAR  116
Canis_lupus_familiaris EAAWPEESAANPAAAAAFAFGPWARLLLPRLLRCLA-DPAEGCRALAAHLLSQGLRRAAR  113
Pavo_muticus      QER-----PLSSEAVQAVFEAQLVRPLARCLAGDAAERCRELALQLLHGLSRCER  92
Pavo_cristatus    QER-----PLSSEAVQAVFEAQLVRPLARCLAGDAAERCRELALQLLHGLSRCER  92
Gallus_gallus     QER-----PLSSEAVQEVFEAQLVRPLARCLAGDAAERCRELALQLLHGLSRCER  92
Anas_platyrhynchos QER-----PLPAAVVQEVFGAQLVRPLARCLAGDAAERCRELALQLLRHGLSHGDR  90
Chelonia_mydas    QER-----PLSAPVLQEVFAQLLRPLVRCVLGDPDAERCRELAVQLTYHGLSHSVR  97
Xenopus_tropicalis MNE-----RLSSAVLQDVFL-ELLKPLLRLCLS-DPMEKCRELSVQIIVHCVSNVPR  92
Rhinatrema_bivittatum EDG-----RLSGTALQEVFG-ELLKPLLRLCLA-DPSECRETAVQLLSFCVGVGPR  94
.....70.....80.....90.....100.....110.....120

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Homo_sapiens      PRDALPRLLPALAARLAGVPARRPP-EACEELRLALVOLLGLAVDLGGAALAPHLDDAL  168
Macaca_mulatta    PRDALPRLLPALAARLASPEPARRPP-EACEELRLALVOLLGLAVDLGGAALAPHLDDAL  168
Callithrix_jacchus PHDALPRLLPALAARLACPEPTRRQP-EVCEELRLALVOLLGLAVDLGGAALAPHLDDAL  168
Rattus_norvegicus PRDALPRLLPALTARLARPESTRPPP-EPCEELRLALVOLLHLAVDLGGAALAPHLDDAV  164
Mus_musculus      PRDALPRLLPALSARLARPELARPPP-EPCEELRLALVOLLHLAVDLGGAALAPHLDDAV  166
Equus_caballus    PRDALPRLLPALAARLAGPEPARRPP-EACEELRLALVOLLGLAVSLGGAALAPYLDDAV  171
Bos_taurus        PRDALPRLLPALAARLASPEPARRPPPEACEELRLALVOLLGLAVRLTGAAFAPHLDDAV  176
Canis_lupus_familiaris PGDALPRLLPALAARLAGPOLARGRPPEACEELRLALVOLLGLAVRLGGAGLAPHLDDAV  173
Pavo_muticus      PGEALPVLLPVLAQRLGPPQG-----AEPCEELRLGLLQLLGLLLRRGGAAVAPYLSDVV  147
Pavo_cristatus    PGEALPVLLPVLAQRLGPPQG-----AEPCEELRLGLLQLLGLLLRRGGAAVAPYLSDVV  147
Gallus_gallus     PGEALPVLLPVLAQRLGPPQG-----AEPCEELRLGLLQLLGLLLRRGGTAVAPYLSDVV  147
Anas_platyrhynchos PEEALPVLLPALAQRCLCPPQG-----FEPCEELRLGLLQLLGLLLQRCGAAVAPYLSDVV  145
Chelonia_mydas    PAEGLPCLLPALAQRCLCPPQGQ---SQEPCEELRLALIQLLGLVLGCGAALAPYLPEVI  154
Xenopus_tropicalis PEDSLPYLMPALSQRLGQQEV-----VEPSEELRLSMVELLSLVVEVCGKKLAPYLDEMI  147
Rhinatrema_bivittatum PEEALPYLVPALLQRLGSPEV-----VEASEELRLALLQLLTIVDVCCKLAPYLDEMV  149
.....130.....140.....150.....160.....170.....180

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Homo_sapiens      RALRCSLLDPFAAVRRESCSCAAALAAQATPDHFHMQSESLIGPLMOTISHQHWKVRVAAI 228
Macaca_mulatta    RALRCSLLDPFAAVRRESCSCAAALAAQATPDHFHMQSESLIGPLMOTISHQHWKVRVAAI 228
Callithrix_jacchus RVLRCSTLLDPFAAVRRESCSCAAALAAQATPDHFHMQSESLIGPLMOTISHQHWKVRVAAI 228
Rattus_norvegicus RALRGALLDPFAAVRREGCECAAALARAIPDFHFHMQSESLIGPLMOTISHQHWKVRVAVI 224
Mus_musculus      RALRAALLDPFAAVRREGCECAAALARATPEHFHMQSESLIGPLMOTISHQHWKVRVAVI 226
Equus_caballus    RVLRCSTLLDPFAAVRRESCECAARLARATPDHFHMQSESLISPLMOTISHQHWKVRVAVI 231
Bos_taurus        RALRCTLLDPFAAVRRESCECAAGLARATPDHFHMQSESLIGPLMOSISHQHWKVRVAVI 236
Canis_lupus_familiaris RVLRCSTLLDPFAAVRRESCECAAGLARATPDHFHMQSESLISPLMOSISHQHWKVRVAVI 233
Pavo_muticus      GILQAALLDHFAEVRRESRCRAVACAQAVPEHFHMQSESLIKPLMOTISHQHYRVRVDVI 207
Pavo_cristatus    GILQAALLDHFAEVRRESRCRAVACAQAVPEHFHMQSESLIKPLMOTISHQHYRVRVDVI 207
Gallus_gallus     GILQAALLDHFAEVRRESRCRAVACAQAVPEHFHMQSESLIKPLMOTISHQHYRVRVDVI 207
Anas_platyrhynchos RILQATLLDHYAEVRRESRCRAVACAQAVPEHFHMQSESLINPLMOTVSHQHYRVRVDVI 205
Chelonia_mydas    HILQATLLDPYPPEVKRESRCRAAASARAMPEHFHMHSEFLIKPLMOTVSHQHFVRVAVI 214
Xenopus_tropicalis KIFQRTIVDPFPDVKKESCKCAANCAQCIPEHFHMQAESLIKPLMOTISHQHSKVRVAVI 207
Rhinatrema_bivittatum RILQRTLVDPFPDVKKESCKCAAHYARCVPPEHFHMQSESLINPLMOTISHQHSKVRVAVI 209
.....190.....200.....210.....220.....230.....240

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Homo_sapiens      EATGAVIHFGNGKSVDDVLSHFAQRLFDVPOVRRAVASVVGWLLCLRDRYSFFHKLIP 288
Macaca_mulatta    EATGAVIQFGNGKSVDDVLSHFAQRLFDVPOVRRAVASVVGWLLRLRDRYSFFHKLIP 288
Callithrix_jacchus EATGTVIQFGNGKSVDDVLSHFAQRLFDVPOVRRAVASVVGWLLHLRDRYSFFHKLIP 288
Rattus_norvegicus EATGTVIQFGNGSVDDVLSHFAQRLFDVPOVRQAVTSVVGWLLNLRDRYSFFHKLIP 284
Mus_musculus      EATGTVIQFGSGNSVDDVLSHFAQRLFDVPOVRQAVTSVVGWLLNLRDRYSFLHKLIP 286
Equus_caballus    EATGTVIQFGSGKSVDDVLPHFAQRLFDVPOVRQAVTCVVGWLLSLRDRYSFFHKLIP 291
Bos_taurus        EATGAIIQFGSGKSVDDVLPHFAQRLFDVPOVRQAVMRVVGWLLSLRDRYSFFHKLIP 296
Canis_lupus_familiaris EATGTVIQFGNGKSVDDVLPHFAQRLFDVPOVRQAVTVVGWLLDLRDRYSFFHKLIP 293
Pavo_muticus      QATGAVIQFGNGKSVDDVLSQLAQLRFDEIPKVRQAVTTVVGWLLHLRDRYSFHKLIP 267
Pavo_cristatus    QATGAVIQFGNGKSVDDVLSQLAQLRFDEIPKVRQAVTTVVGWLLHLRDRYSFHKLIP 267
Gallus_gallus     QATGTVIQFGNGKSVDDVLSHLAQLRFDEIPKVRQAVTTVIGEWLLHLRDRYSYFHKLIP 267
Anas_platyrhynchos QATGAVIQFGNGKSVDDVLSHLAQLRFDEIPKVRQAVTTVIGEWLLHLRDRYSYFHKLIP 265
Chelonia_mydas    QATGTVIQFGNGKSVDDVLSHLAQLRFDEIPQVRQAVTSVVGWLLHLRDRYSYFHKLIP 274
Xenopus_tropicalis QTTGTVIQFGSGKSVDDVMSHLAQLRFDDSIQVRQAVTVVGDWLLQLRDRYSFYHKLIP 267
Rhinatrema_bivittatum QTTGTVIQYGNKSVDDVLSHLAQLRFDDAPQVRQAVTSIVGNWLLHLRDRYSYFHKLIP 269
.....250.....260.....270.....280.....290.....300

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Homo_sapiens      LLLSSLNDEVPEVRQLAASLWEDVGLWQKENEEDLKDKLDFAPPTPPHYPPHERRPVLG 348
Macaca_mulatta    LLLSSLNDEVPEVRQLAVSLWEDVGLWQKENEEDLKDKLDFAPPTPPHYPPHEHRPVLG 348
Callithrix_jacchus LLLSTIDDEMPEVRQLSASLWEDVGLWQRENEEDLKDKLDFTPPPPPHYPPHEHRPVLG 348
Rattus_norvegicus LLLSSFSDEMPEVRQTATSLWEKVGLWQENEADLKDKLDFASPPPPNYPEHESRPGLG 344
Mus_musculus      LLLSSFSDEMPEIRQTATSLWEKVGLWQENEADLKDKLDFASPPPPNYPEHESRPGLG 346
Equus_caballus    LLLSSFDDDVPEVARVAANLWEQVGLWQKENEEDLKDKLDFASAPAHHPSPENRPALG 351
Bos_taurus        LLLSGFHDEIPEIASEASSLWERVGLWQTENEEDLKDKLDFASPPPAHHPSPGSRPGLG 356
Canis_lupus_familiaris LLLSSLEDDIPEIALMATSLWEKVGLWQRENEEDLKDKLDFATPPPAHHPSPENRPVLG 353
Pavo_muticus      LLLSSVTDDIPENVTLAWTYWEKIGLOWEKENEEDLKDKMDFSVP-PSHYPKGVTRPGLG 326
Pavo_cristatus    LLLSSVTDDIPENVTLAWTYWEKIGLOWEKENEEDLKDKMDFSVP-PSHYPKGVTRPGLG 326
Gallus_gallus     LLLGSVTDDIPENMTLAWTYWEKVGLWQEKENEEDLKDKMDFSVP-PSHYPKGVTRPGLG 326
Anas_platyrhynchos LLLGSFTDEIPENMTLAWTYWEKIGLOWEKENEEDLKDKMDFSVS-PSHYPKGVTRPGLG 324
Chelonia_mydas    LLLSSFTDEMPENKQLAVSYWKRIGLWQEKENEEDLKDKLDFYSA-PSHYPEGLVRPELG 333
Xenopus_tropicalis LLLSSTTDEIPEIRKLALDYWEKIGSOWEKENEEDLKDKLDFSAPCPLYYPAGVQRPGLG 327
Rhinatrema_bivittatum LLLSSLNDEIPEIRQLAVGYWEKIGLOWQENEEDLKDKLDFAAPCPQYPERVDRPGLG 329
.....310.....320.....330.....340.....350.....360

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Homo_sapiens	CRELVFRNLSKILPALCHDITDWVVGTRVKSAQLLPVLLLHAEDHATQHLEVVLRITLFOA	408
Macaca_mulatta	CRELVFRNLSKILPALCHDITDWVVGTRVKSAQLLPVLLLHAEDHATQHLEIVLRITLFOA	408
Callithrix_jacchus	CRELVFRNLSKILPALCHDITDWVVGTRVKSAQLLPVLLLHAEDHTTQHLEIVLRITLFLA	408
Rattus_norvegicus	CRELVFRNLSKVLPAICHDITDWVVGTRLKAAQLLPVLLLHAEDHITQHLEIVLRITLHOA	404
Mus_musculus	CRELVFRNLSKVLPAICHDITDWVVGTRVKAAQLLPVLLLHAEDHITQHLEIVLRITLHOA	406
Equus_caballus	CRELVFRSLSKILPAVCHDITDWVAGTRVKAAQLLAVLLLHAEDHVTQHLELLLRITLLRA	411
Bos_taurus	CRELVFRNLSKILPAVCHDIDDVWAGTRVKSAQLLAVLLLHAEDHVTQHLEPVLRRALLRA	416
Canis_lupus_familiaris	CRELVFRNLSKILPAICHDITDWVVGTRVKAAQLLSVIMLHAEDHITQHLEVIILRTLQRA	413
Pavo_muticus	CRELVSRNLSKVLPAICRDLTDWVESTRVKASQLLYVLLLHAEDHITQHMLLLLRALYQA	386
Pavo_cristatus	CRELVSRNLSKVLPAICRDLTDWVESTRVKASQLLYVLLLHAEDHITQHMLLLLRALYQA	386
Gallus_gallus	CRELVSRNLSKVLPGLCDLTDWVESTRVKASQLLYVLLLHAEDHITQHMLLLLRALYQA	386
Anas_platyrhynchos	CRELVSRNLSKILPGLCHDITDWVENTRIKASQLLYTLLLHAEDHITQHMDLLLRITLYQA	384
Chelonia_mydas	CRELVTNRNLSKILPGLCHDVTDWVEGTRIKASQLLFILLHAEDHITQHMLLLLRITLYRV	393
Xenopus_tropicalis	CRELIFRNLSKILPAISRDTVTDWVAGTRIKASQLLAVLLLHGEDHITQHMLLLSTLYRS	387
Rhinatrema_bivittatum	CRELFRNLSKILPAISRDIADWVVGTRIKASQLLTVILLHAEDHMTQHMLLLSTLYHA	389
370.....380.....390.....400.....410.....420	

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[illegible]

$\dot{\gamma}_1$ $\dot{\gamma}_2$ $\dot{\gamma}_3$ $\dot{\gamma}_4$ $\dot{\gamma}_5$ $\dot{\gamma}_6$ $\dot{\gamma}_7$ $\dot{\gamma}_8$ $\dot{\gamma}_9$ $\dot{\gamma}_{10}$ $\dot{\gamma}_{11}$ $\dot{\gamma}_{12}$ $\dot{\gamma}_{13}$ $\dot{\gamma}_{14}$ $\dot{\gamma}_{15}$ $\dot{\gamma}_{16}$ $\dot{\gamma}_{17}$ $\dot{\gamma}_{18}$ $\dot{\gamma}_{19}$ $\dot{\gamma}_{20}$ $\dot{\gamma}_{21}$ $\dot{\gamma}_{22}$ $\dot{\gamma}_{23}$ $\dot{\gamma}_{24}$ $\dot{\gamma}_{25}$ $\dot{\gamma}_{26}$ $\dot{\gamma}_{27}$ $\dot{\gamma}_{28}$ $\dot{\gamma}_{29}$ $\dot{\gamma}_{30}$ $\dot{\gamma}_{31}$ $\dot{\gamma}_{32}$ $\dot{\gamma}_{33}$ $\dot{\gamma}_{34}$ $\dot{\gamma}_{35}$ $\dot{\gamma}_{36}$ $\dot{\gamma}_{37}$ $\dot{\gamma}_{38}$ $\dot{\gamma}_{39}$ $\dot{\gamma}_{40}$ $\dot{\gamma}_{41}$ $\dot{\gamma}_{42}$ $\dot{\gamma}_{43}$ $\dot{\gamma}_{44}$ $\dot{\gamma}_{45}$ $\dot{\gamma}_{46}$ $\dot{\gamma}_{47}$ $\dot{\gamma}_{48}$ $\dot{\gamma}_{49}$ $\dot{\gamma}_{50}$ $\dot{\gamma}_{51}$ $\dot{\gamma}_{52}$ $\dot{\gamma}_{53}$ $\dot{\gamma}_{54}$ $\dot{\gamma}_{55}$ $\dot{\gamma}_{56}$ $\dot{\gamma}_{57}$ $\dot{\gamma}_{58}$ $\dot{\gamma}_{59}$ $\dot{\gamma}_{60}$ $\dot{\gamma}_{61}$ $\dot{\gamma}_{62}$ $\dot{\gamma}_{63}$ $\dot{\gamma}_{64}$ $\dot{\gamma}_{65}$ $\dot{\gamma}_{66}$ $\dot{\gamma}_{67}$ $\dot{\gamma}_{68}$ $\dot{\gamma}_{69}$ $\dot{\gamma}_{70}$ $\dot{\gamma}_{71}$ $\dot{\gamma}_{72}$ $\dot{\gamma}_{73}$ $\dot{\gamma}_{74}$ $\dot{\gamma}_{75}$ $\dot{\gamma}_{76}$ $\dot{\gamma}_{77}$ $\dot{\gamma}_{78}$ $\dot{\gamma}_{79}$ $\dot{\gamma}_{80}$ $\dot{\gamma}_{81}$ $\dot{\gamma}_{82}$ $\dot{\gamma}_{83}$ $\dot{\gamma}_{84}$ $\dot{\gamma}_{85}$ $\dot{\gamma}_{86}$ $\dot{\gamma}_{87}$ $\dot{\gamma}_{88}$ $\dot{\gamma}_{89}$ $\dot{\gamma}_{90}$ $\dot{\gamma}_{91}$ $\dot{\gamma}_{92}$ $\dot{\gamma}_{93}$ $\dot{\gamma}_{94}$ $\dot{\gamma}_{95}$ $\dot{\gamma}_{96}$ $\dot{\gamma}_{97}$ $\dot{\gamma}_{98}$ $\dot{\gamma}_{99}$ $\dot{\gamma}_{100}$

Homo_sapiens	QPHLAAIATELAQAHICQASENDLYLERLLLQVQALVSVCHEDCGVASLQLLDVLLTIVA	528
Macaca_mulatta	QPHLAAIATELAQAHICQASENDLYLERLLLQVQTLVSVCREDCGVGSLQLMDVLLTIVA	528
Callithrix_jacchus	QPHLKAIATELAQAHICQASENDLYLEHLLLQVQALVSVCKDCSTASLQLMDVLLTIVA	528
Rattus_norvegicus	QPHLKVIATELAQEHICQSENNLYLEHLLLQVQTLVSVQEDCCAASLQLEVLVTIMA	524
Mus_musculus	QPHVTVIATELAQEHICQSENNLYLEHLLLQVQALLSVQEDCRAASLQFLEVLVTIMA	526
Equus_caballus	QPHVKGIAATALAQPHISQGAENHLYGEHLLLQVQALIAVCREDCRGSSLQLMFVLVTIMA	531
Bos_taurus	RPHVKVIATELAQAHICQSENNRLYGERLLQCVQAVVSAGREDCRGAGEPLLEVLVTIVLA	536
Canis_lupus_familiaris	QPHLKVIATELAQPHVQCGSENNLLHGEHLLLQVQTLVSVQEDCRGCSLQLMFVLVTIMA	533
Pavo_muticus	QPHLSSLGNTLSQAGVCQTSEEVLYMEQLLCCVRALIEVQEDCQEICLQLMKVLVTIMA	506
Pavo_cristatus	QPHLSSLGNTLSQAGVCQTSEEVLYMEQLLCCVRALIEVQEDCQEICLQLMKVLVTIMA	506
Gallus_gallus	QPHLSDLGDTLSQAGVCQRSEEVLYMEQLLCCVRALIEVQEDCQGCICLQLMKVLVAVMA	506
Anas_platyrhynchos	QPHLTDLGNMLSQAGVCQRSEEVLYMEQLLYCVEALIEVQEDCKEICLQLLKVLVTIMA	504
Chelonia_mydas	KPHLSYLANTLSQPEICQRSEEFYMEQLLCCVQATIEVQEDCKETSLLQLMKVLVTIMA	513
Xenopus_tropicalis	KTHLTKIASVISQSEICQSGSEKVLVQEQLMCCIQSLIGMCRQDCTEVSILPCKMKVLIAILA	507
Rhinatrema_bivittatum	KPHLNNIASLTLOPEICQSGSEKTLYLEQLLGCIALIKVCGDCNEISLQLMKVLVTIMS	509
490.....500.....510.....520.....530.....540	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Homo_sapiens      LAGATGLRDKAQETMDSLAMVEGVSSCDLYRKHIGPLLERVTASHLDWTAHSPelloFS 588
Macaca_mulatta    LASVTGLRDKAQETMDLLARAEDVSGCDLYRKHMGPPLERVTASHLDWTAHSPelloFS 588
Callithrix_jacchus LTGSTSLRDKAQETMDLLATAEGVSSCDLYRKYMGPPLERATASHLDWTAHSPelloFS 588
Rattus_norvegicus VSDAVSLEKKAQKTMDTLAEVEDIPSSCDLYRKHLGALLERLTASHGEWTVHVSQOLLKFT 584
Mus_musculus      VSDAVGLEKKAQKTMDTLAEVEDIPSSCDLYRKHVGALLERLTASHGEWAVHVSQOLLKFT 586
Equus_caballus    SSGATGLGDKVQETMDALATVESVDSSCDLYREHAGPLLEWLAASHHDWTVHSAELLQLD 591
Bos_taurus        LWGPAGLSDKVQETLAALAAVEGMDGSDLFRRARVSPLEWLAASHRDWTVHGSVELLQLD 596
Canis_lupus_familiaris LSGATGLSDKVQETMDALATVQEVNSRCDLYREHIGPLVEWLAATQNDWTVHGSVELLQLT 593
Pavo_muticus      APSSQHLKEKAEETMCSLAEVORLDGFLYLYKQHILQLEWVSVSHDSWTCYSPEILQLD 566
Pavo_cristatus    APSSQHLKEKAEETMCSLAEVORLDGFLYLYKQHILQLEWVSVSHDSWTCYSPEILQLD 566
Gallus_gallus     VPNSEHLKEKAEETMCSLAEVQQLDGFYLYKQHILQLEWVSVSHDSWTCYSPEILQLG 566
Anas_platyrhynchos TPDSQHLKEKAEETVCSLAEVQQLDSFCLYKQHIIQLEWVSVSHDSWTCYSPEILQLD 564
Chelonia_mydas    IPRAEHLNEKVEESMCSLAQVQHLGFLDLYKQHIDQLMEWVSVSHDRWCYSPPELLQLD 573
Xenopus_tropicalis SPASESLNNKVKQDTLLSLSEVGLNGPHDLYRQHMQQLLDWVSESHNHWTSSYSVEQIQFE 567
Rhinatrema_bivittatum IPSGEKLQGVQETICLLAEVSLGGFLHLYRQHIDQLMEWVSLTKQHWTSYSIERLRFE 569
.....550.....560.....570.....580.....590.....600

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Homo_sapiens      VIVAQSGPALGEALPHVPTTLRACLOPSQDPQMRKLKFSILSTVLLRATDTINSQGQFPS 648
Macaca_mulatta    VIITQSGPALGEALPHVPTTLRACLOPSRDPQMRKLKFSILSTVLLRATDTIDSQGQFPS 648
Callithrix_jacchus VIIAQSGPALGEALPHIMPTTLRACLOPSRDPQMRKLKFSILSTMLLRAADTIDSQGQLPS 648
Rattus_norvegicus VLLTQAGPAVGAEALQHVIPITLRACLOPTTDPHMRKLKFSILSLLLRPKDITVDSQGQFHG 644
Mus_musculus      VLLTQAGPAVGAEALQHVIPITLRACLOPSTDPHMRKLKFSILSMLLRPKDITVDSQGQFRG 646
Equus_caballus    VVVTHAGPALGELLQPLIPVLRSCLOPARDPAMRLQLFSILSRVLLRAKETVDSQGQLHS 651
Bos_taurus        VVLSHSGPALGEALPQLVPILRSCLOPARDPAMRLKLFSTLTGVLLGAPETVDSQGQLHG 656
Canis_lupus_familiaris VVVTHAGPALGEVLPPLMPILRSCLOPARDPQMRRLKLFSCLSRVLLNAKQITIDSQGQFHH 653
Pavo_muticus      VIATHSGPVIGEAVHDFILILKTCLOPNKDPQMRKLKFTVLSELLQKANETINSQGLFPS 626
Pavo_cristatus    VIATHSGPVIGEAVHDFILILKTCLOPNKDPQMRKLKFTVLSELLQKANETINSQGLFPS 626
Gallus_gallus     VIATHSGPVIGEALHDFILILKTCLOPNKDPQMRKLKFTVLSELLQKANETINSQGLFPS 626
Anas_platyrhynchos VIANHSGPVIGEALDDFILILKTCLOPNKDPQMRKLKFTVLSELLQKANETVNSQGLFPS 624
Chelonia_mydas    VIATHSGPIIGEALQDFILILKTCLOPTKDPMPMRKLKFTILSOLLQKANETINSQGQFLS 633
Xenopus_tropicalis VIAVESGPVMGETLHLFVPILKTCLOPTREPQMRKLKFTMLSKLLLKASETVNSQGQLHR 627
Rhinatrema_bivittatum IIVTESGPVIGEALHHLIPILKTCLOPTQEPQMRKLKFTMLSKLLLKAHETVNSRGQFHS 629
.....610.....620.....630.....640.....650.....660

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Homo_sapiens      YLETVTKDILAPNLQWHAGRTAAAIRTAAVSCLWALTSSEVLSAEQIRDVOETLMPQVLT 708
Macaca_mulatta    YLETVTKDILAPNLQWHAGRTAAAIRTAAVSCLWALTSSEVLSAEQIQDVOETLMPQVLT 708
Callithrix_jacchus YLEMVTKDILAPNLQWHAGRTAAAIRTAAVSCLWAFTSSEVLSAEQIRDVOETLMPQVLT 708
Rattus_norvegicus YLDMVINDILAPNLQWHAGRTAAAIRTATISCLWALISSDILSAQVQEAQETLMPQVLA 704
Mus_musculus      YLDMVINDILAPNLQWHAGRTAAAIRTAASCLWALISSDILSAQVQEAQETLMPQVLA 706
Equus_caballus    YLDTLVKDILVLPNLQWHAGRTAAAIRTAAVSCLWALISSESLSAEQLREVQEAALTPQILT 711
Bos_taurus        YLDTLVQDIFVLPNLQWHAGRTAAAIRTAAVSCLWALVSSGGLSDGQIQDMQETLMPQILT 716
Canis_lupus_familiaris YLDTVTKDILVLPNLQWHAGRTAAAIRTAAVSCLWALISSEVLSEEQIQQVQETLMPHILT 713
Pavo_muticus      YLEVVIKDILAPNLQWHAGRTAAAIRTTAVSCLWALIHCOMLAPEEILKVKDALMPQIIA 686
Pavo_cristatus    YLEVVIKDILAPNLQWHAGRTAAAIRTTAVSCLWALIHCOMLAPEEILKVKDALMPQIIA 686
Gallus_gallus     YLEIVIKDILAPNLQWHAGRTAAAIRTTAVSCLWALIHCOMLAPEEILKVKDALMPQIIA 686
Anas_platyrhynchos YLEIVIKDILAPNLQWHAGRTAAAIRTTAVSCLWALIHCEILSPEEILKVKDVLMPQIIA 684
Chelonia_mydas    YFEIVIKEILAPNLQWHAGRTAAAIRTTAVSCLWALIYSEMLSPKEIFKLEDALMPQVIA 693
Xenopus_tropicalis YFESFIKNMIMPNLKWQAGRTAGAIRTVAVSCLWVLLQSETLTHQEVQLVEDDLMPQVIT 687
Rhinatrema_bivittatum YVETLIKDMLVLPNLQWHAGRTAAAIRTSVAVSCLWALLHGQILSTEQLLQVQEMLMPQVIS 689
.....670.....680.....690.....700.....710.....720

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/DNA5.fst Date: Tue Feb 1 11:58:31 2022

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:::***:  **:* *:  .:  ::  .  ***:*****.: **: **: :*
Homo_sapiens      TLEEDSKMTRLISCR IINTFLKTS GGMTDPEKLIRIYPELLKRLDDVSN DVRMAAASTLV 768
Macaca_mulatta    TLEEDSQMTRLISCR IINTFLKTS GGMTDPEKLIRIYPELLKRLDDVSN DVRMAAASTLV 768
Callithrix_jacchus TLEEDSQMTRLISCR IINTFLKTLGSMIDPKLIKIYPELLKRLDDVSN DVRMAAASTLV 768
Rattus_norvegicus TLEEDSQMTRLISCR IISRFKNSGDTMEPEKFLKVYPELLKRLDDVSN DVRMAAASALL 764
Mus_musculus      TLEEDSQMTRLISCR IINMFLKNSGDTMEPEKFLKVYPELLKRLDDVSN DVRMAAASALL 766
Equus_caballus    TLEEDAQVTRLVSCRI IDAFMKASGAVVGPDELVKVYPELLKRLDDVSN DVLAAASTLA 771
Bos_taurus        TLEEDSQMTRLISCR IINFLKTSNGVIDPKFIKIYPELLKRLDDVSD DVLAAATSALV 776
Canis_lupus_familiaris TLEEDSQMTRLISCR IINRFLKSSSGIIDPKFIRIYPELLKRLDDVSH EVRLAATSALV 773
Pavo_muticus      AMDEDSKISRLMGCRI VGGVLKVCGRQFDEIQLGKTYPEVLKRLDDASAD VRLAAAHALT 746
Pavo_cristatus    AMDEDSKISRLMGCRI VGGVLKVCGRQFDEIQLGKTYPEVLKRLDDASAD VRLAAAHALT 746
Gallus_gallus     AMDEDSKISRLMGCRI VGGILKVCGRQFDEIQLGKTYPEVLKRLDDASAD VRLTAAHILT 746
Anas_platyrhynchos AMDEDSKISRLMGCRI VGVFLKVCGRQFDEIQLTKIYPEVLKRLDDASRD VRLAAARTLT 744
Chelonia_mydas    TLDEDSKMTRLMACRI VSVILNICGKQFDLDKLNINYPELLKRLDDAAH DVLAAQAALT 753
Xenopus_tropicalis TLEEDSKMCRMLSCRI IRALLSACERQLHPDKLNKIYPELLKRLDDASD EVRAAAAKTLS 747
Rhinatrema_bivittatum TLDEDSKMTRLMACRI INVILICGNQFDPDKLNKIYPELLKRLDDASAE VRIAATAKTLI 749
.....730.....740.....750.....760.....770.....780

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Homo_sapiens      TWLQCVKGANAKSYYQSSVQYLYRELLVHLDDPERAIQDAILEVLKEGSG LFPDLLVRET 828
Macaca_mulatta    TWLQCVKGADGKSSYYQSSVQYLYRELLVHLDDPERAIQDAILEVLKEGSE LFPDLLVRET 828
Callithrix_jacchus TWLQCVKNADGKAYYQSSIQYLYRELLVHLDDPESAIQDAVLEVLKEGSA LFPDLLVRET 828
Rattus_norvegicus TWLKCIESVDGKSAYQSSVQFLYRELLVHLDDPESAIQDTVLEVLKEGSV LFPDVLVRET 824
Mus_musculus      TWLKCIESLDGKSAYQSSVQFLYRELLVHLDDPESAIQDTVLEVLKEGSV LFPDVLVRET 826
Equus_caballus    TWLRRVESDGSKSCCQSDIQHLYKELLVHLDDPEGAVQDAVLEVLKAGSV LFPDLLVRET 831
Bos_taurus        TWLQRVQSEASKCCYQSSVRHLYRELLVYLDDEHAVQDAVLEALKAGSV LFPDLLVKET 836
Canis_lupus_familiaris TWLACIKNDGKSSYYQSSNIQFLYRELLVYLDDEHAVQDAVLEVLKAGSV LFPPELLVRET 833
Pavo_muticus      DWFKCLKASDVKSAMKSHVEFLYQELLIHLDDQDPDTQNAVLEVLKEGSV LYPELLVREV 806
Pavo_cristatus    DWFKCLKASDVKSAMKSHVEFLYQELLIHLDDQDPDTQNAVLEVLKEGSV LYPELLVREV 806
Gallus_gallus     DWFKCLKDSDVKSAMKSHIEFLYQELLIHLDDQDPDTQSAVLEVLKEGSV LYPELLVREV 806
Anas_platyrhynchos NWFNCVKDSMDKSVMSNIEILYQELLIHLDDQDQDTQNAVILNALKEGS ILYPELLVREI 804
Chelonia_mydas    NWFKCIRNDDEKSILKSNIEFLYRELLIHLDDPDQNIQRAVLEVLKEGSV LYPELLVKET 813
Xenopus_tropicalis HWFKCISDEYDRTTYKGHLEFLYRGLLVHLDDPDASLOVIVLDLLKEGSA VCPSLLVQEI 807
Rhinatrema_bivittatum TWFRCTITDDYERTMYKSHVEFLYQGLLVHLDDPDNSIQIAVLETLKAGSA VYPSILVKEV 809
.....790.....800.....810.....820.....830.....840

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*.  .***:..:***:~:~:
Homo_sapiens      EAVIHKHRSATYCEQLLQHVQAVPATQ----- 855
Macaca_mulatta    EAVIHKHRSATYCEQLLQHVQAVPATQ----- 855
Callithrix_jacchus EAVIHKHRSATYCEQLLQHVQAVPATQ----- 855
Rattus_norvegicus EAVVHKHRSATYCEQLLQHMOTMAAAR----- 851
Mus_musculus      EAVVHKHRSATYCEQLLQHMOTMAAAR----- 853
Equus_caballus    EAVIHKHRSAPAHCEQLLQHVQALPPAP----- 858
Bos_taurus        EAVLHKHRSPTYCEQLLQHLQALPPAQ----- 863
Canis_lupus_familiaris EAVVHKHRSAPAHCCQLLQHLQALPLAQ----- 860
Pavo_muticus      EAAVDKHRTPVYCNQLLHHVQSTRDPA----- 833
Pavo_cristatus    EAAVDKHRTPVYCNQLLHHVQSTRDPA----- 833
Gallus_gallus     EAVIHKHRTPAYCNQLLHHIQTTREAA----- 833
Anas_platyrhynchos EVIHKHRTPVYCNQLLHHIQSAKEPLL----- 832
Chelonia_mydas    EAVEHKHRTPAYCNQLLHHIQSRGE----- 838
Xenopus_tropicalis EAVRHKHRSAPAYCDQLLQHIETY-----TSSTPTECT----- 839
Rhinatrema_bivittatum EAVRHKHRSAPVYCDQLLQHIQSAKDKRDAAILTASGTGGTMAE----- 853
.....850.....860.....870.....880.....

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