

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/AMOTL1.fsa Feb 1 11:09:50 2022

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Pavo_muticus	-----MDLGENWELDEANWLSHGG-----IHPFVGVKG--	28
Pavo_cristatus	-----MDLGENWELDEANWLSHGG-----IHPFVGVKG--	28
Gallus_gallus	-----MDLGENWELDEANWLSHGG-----IHPFVGVKG--	28
Chelonia_mydas	-----MGSMDLGDNRKLDGINWLTQSG-----IFHFASDRG--	31
Mus_musculus	-----MRRAKSRRG--	9
Rattus_norvegicus	MQAFDESCMHEGLGGSMDLSGNWLTLEDGSWLSPTG-----DRHFPNGRGE-	45
Canis_lupus_familiaris	-----MCKRAAGSMDLSEKWPLEEGTWLSHAG-----IHHFANTRG--	36
Equus_caballus	-----MDLSEKWPLEEGAWLSHAG-----IHHFANTRV--	28
Bos_taurus	-----MDLSEKWPLEEGTWLSHAG-----VHHFANTRG--	28
Homo_sapiens	-----MWR-----AKLRR--	8
Callithrix_jacchus	-----MLDWSWNSGSKTRGLG--GIWGSSYLSARPIQALKIILRLRRSH	42
Pan_troglodytes	-----MDLSEKWTLLEGAWLSHAG-----IHHFASTR--	28
Macaca_mulatta	-----MDLSEKWTLLEGAWLSHAG-----IHHFANTRG--	28
Rhinatrema_bivittatum	-----	
Xenopus_tropicalis	-----MAAYFYTLSSLINPHR-----AFCFPASVT--	25
	1.....10.....20.....30.....40.....50.....60	

Pavo_muticus	-----DNELSEGAPALFARDQLGSSAACYKPTSPGOILEDIVFLY	68
Pavo_cristatus	-----DNELSEGAPALFARDQLGSSAACYKPTSPGOILEDIVFLY	68
Gallus_gallus	-----DNELSEGAPALFARDQLGSSAACYKPTSPGOILEDTGFLY	68
Chelonia_mydas	-----DNEISEGAPAFRLDQLGPLSASYNPSSPVQILEDIGFLY	71
Mus_musculus	-----PCEPVLRAPPPICYSPSSPVQILEDIPAYFY	39
Rattus_norvegicus	-----SDFVDTTPASFSPPEELAPPPICYSPGSPAQILEDHAYFY	84
Canis_lupus_familiaris	-----DSEFVEASPAPHSPEELGPPPVCYSPGSPTPILEDPNYIF	76
Equus_caballus	-----DSEFVEASPASYSPDELGPSPVCYSPSSPVPILEDPNYFF	68
Bos_taurus	-----DNEFVEASPAPYSPEEFGPPACYSPPSSPVQILEDPSYFF	68
Homo_sapiens	-----GTCEPAVKGSPSACYSPSSPVQVLEDSTYFS	39
Callithrix_jacchus	RTNDFPSVGGGQTTQQSRESDESEFVETLSSSYSPDELGPPACYSPGSLVQILEDSTNYFS	102
Pan_troglodytes	-----DSEFVEASPASYSPDELGSPSACYSPSSPVQVLEDSTYFS	68
Macaca_mulatta	-----DSEFVEASPASYSPDELGSPSACYSPSSPVQVLEDATYFS	68
Rhinatrema_bivittatum	-----	
Xenopus_tropicalis	-----AVLSAQQISTTSNKTDPRSHDQLQIMEERWAADERTKLIPY	66
70.....80.....90.....100.....110.....120	

		*
Pavo_muticus	QDHQLFAGRHDISPLTAEAVS-AKEKAA-----EEALCTLHPPAFLRSSEVEM	115
Pavo_cristatus	QDHQLFAGRHDISPLTAEAVS-AKEKAA-----EEALCTLHPPAFLRSSEVEM	115
Gallus_gallus	QDHQLFAGRHDISPLTAEAVS-AKEKAA-----EEALCTLHPPAFLRSSEVEM	115
Chelonia_mydas	QDHQLFTSRLDVSPLTAEATVSGAKNKAV-----EDPLCNFHPSPNFLRISSEVEM	119
Mus_musculus	PDLQLYSGRHEASTLTVEASG-GLRGKS-----VEDPLSSFHSPNFLRTPEVEM	87
Rattus_norvegicus	PDLQLYSGRHEASTLTVEANG-GLRGKS-----VEDPLSSFHSPNFLRTPEVEM	132
Canis_lupus_familiaris	PDFQLYSGRREASALTVEATGS-SIREKV-----VEDPVCHFQPPSLRLTSEVEM	125
Equus_caballus	PDFQLYSGRHEASALTVEANG-SIREKV-----VEDPLGNFHPNPNFLRISEVEM	116
Bos_taurus	PDFQLYFGRHEAS-LTVEANS-SIREKVATYWITGCFIVEDPLCNFHPNPNFRIPEVEM	126
Homo_sapiens	PDFQLYSGRHETSALTVEATS-SIREKV-----VEDPLCNFHPSPNFLRISEVEM	87
Callithrix_jacchus	PDFQLYSGRHETPALTVEATS-SIKEKV-----VEDPLCNFHPSPNFLRISEVEM	150
Pan_troglodytes	PDFQLYSGRHETSALTVEATS-SIREKV-----VEDPLCNFHPSPNFLRISEVEM	116
Macaca_mulatta	PDFQLYSGRHETSALTVAATS-SIREKV-----VEDPLCNCHSPNFLRISEVEM	116
Rhinatrema_bivittatum	-----M	1
Xenopus_tropicalis	TGHHHLHGARRGSDTSNVISAEFWQDPS-----ETQLPGFLPDLLRISEVEM	114
130.....140.....150.....160.....170.....180	

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****:..* *****:.*.****:*****:..:..****:..
Pavo_muticus      RGSEEEVAAGTVLQRLIQEQLRYGNPSENMNLLAIQHQAATGSAGPSNSTASTLSSTENLAP 175
Pavo_cristatus    RGSEEEVAAGTVLQRLIQEQLRYGNPSENMNLLAIQHQAATGSAGPSNSTASTLSSTENLAP 175
Gallus_gallus     RGSEEEVAAGTVLQRLIQEQLRYGNPSENMNLLAIQHQAATGSAGPSNSTASTLSSTENLAP 175
Chelonia_mydas    RGSEEDVAAGTVLQRLIQEQLRYGNPSENMNLLAIQHQAATGSAGPSNSTASTLSSTENLAP 179
Mus_musculus      RGSEEDVASGRVLQRLIQEQLRYGTPTENMNLLAIQHQAATGSAGPAH-ATTNFSSTETLTQ 146
Rattus_norvegicus RGSEEDVASGRVLQRLIQEQLRYGTPTENMNLLAIQHQAATGSAGPAH-STNFSSTETLTQ 191
Canis_lupus_familiaris RGSEDAAGTVLQRLIQEQLRYGTPTENMNLLAIQHQAATGSAGPAH-PANFSSTENLAQ 184
Equus_caballus    RGSEDAAGTVLQRLIQEQLRYGTPTENMNLLAIQHQAATGSAGPAH-PTNFSSTENLTQ 175
Bos_taurus        RGSEDAAGTVLQRLIQEQLRYGTPTENMNLLAIQHQAATGSAGPAH-PTN-FSSTENLAQ 184
Homo_sapiens      RGSEDAAGTVLQRLIQEQLRYGTPTENMNLLAIQHQAATGSAGPAH-PTNFSSTENLTQ 146
Callithrix_jacchus RGSEDAAGTVLQRLIQEQLRYGTPTENMNLLAIQHQAATGSAGPAH-PTNFSSTENLTQ 209
Pan_troglodytes   RGSEDAAGTVLQRLIQEQLRYGTPTENMNLLAIQHQAATGSAGPAH-PTNFSSTENLTQ 175
Macaca_mulatta    RGSEDAAGTVLQRLIQEQLRYGTPTENMNLLAIQHQAATGSAGPAH-PTNFSSTENLTQ 175
Rhinatrema_bivittatum RGSEEEVAGTVLQRLIQEQLRYGNPSENMNLLAIQHQAATGSAGPTNSTASTLSSTENLAH 61
Xenopus_tropicalis RGSEEDVATGTVLQRLIQEQLRYGNPSENMNFLAIQHQAATGSAGPTNIATNTVSSTENIPQ 174
.....190.....200.....210.....220.....230.....240

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*** *: *****:.*.*** *:.* :..*****:****
Pavo_muticus      EDPQMVQPSARQEPQGEHQGDGAAMEKOPRAAPPHSSEELPTYEEAKAQSQYFRGQPP 235
Pavo_cristatus    EDPQMVQPSARQEPQGEHQGDGAAMEKOPRAAPPHSSEELPTYEEAKAQSQYFRGQPP 235
Gallus_gallus     EDPQMVQPSARQEPQGEHQGDGAAMEKOPRAAPPHSSEELPTYEEAKAQSQYFRGQPP 235
Chelonia_mydas    EDPQMLQPSARQEPQGEHQVDNTVMEKQSRATQPHQNNNEELPTYEEAKAQSQFFRGQQP 239
Mus_musculus      EDPQMVQPSARQEPQGEHQGDNTVMEKQVRSTQPPQNNNEELPTYEEAKAQSQFFRGQQQ 206
Rattus_norvegicus EDPQMVQPSARQEPQGEHQGDNTVMEKQVRSTQPPQNNNEELPTYEEAKAQSQFFRGQQQ 251
Canis_lupus_familiaris EDPQMVQPSARQEPQGEHQVDNTVMEKQGRSAQPPQNNNEELPTYEEAKAQSQFFRGQQQ 244
Equus_caballus    EDPQMVQPSARQEPQGEHQVDNTVMEKQVRSTQPPQNNNEELPTYEEAKAQSQFFRGQQQ 235
Bos_taurus        EDPQMVQPSARQEPQGEHQVDNTVMEKQVRSAQPPQNNNEELPTYEEAKAQSQFFRGQQP 244
Homo_sapiens      EDPQMVQPSARQEPQGEHQVDNTVMEKQVRSTQPPQNNNEELPTYEEAKAQSQFFRGQQ- 205
Callithrix_jacchus EDPQMVQPSARQEPQGEHQVDNTVMEKQVRSTQPPQNNNEELPTYEEAKAQSQFFRGQQ- 268
Pan_troglodytes   EDPQMVQPSARQEPQGEHQVDNTVMEKQVRSTQPPQNNNEELPTYEEAKAQSQFFRGQQ- 234
Macaca_mulatta    EDPQMVQPSARQEPQGEHQVDNTVMEKQVRSTQPPQNNNEELPTYEEAKAQSQFFRGQQ- 234
Rhinatrema_bivittatum EDPQMVHQSARQEPQGEHQGDNTVMEKQLRASQPPQNNNEELPTYEEAKAQSQFFRGQQP 121
Xenopus_tropicalis EDPQMVNQSARQEPQGEHVDNTVMEKTMRTPLQONSEELPTYEEAKAQSQFFRGQQ- 233
.....250.....260.....270.....280.....290.....300

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:.*. :.*:*****.****.*****:.*.*****
Pavo_muticus      -----AGPGFYVTGSS-GQKSRTTEGRPTVSRAGSGQAHKDDALKEL 275
Pavo_cristatus    -----AGPGFYVTGSS-GQKSRTTEGRPTVSRAGSGQAHKDDALKEL 275
Gallus_gallus     -----AGPGFYVAGTS-GQKSRTTEGRPTVSRASSGQAHKDDALKEL 275
Chelonia_mydas    G-----AVGPSFYIAGVS-SQKSRTTEGRPTVNRANSQAHKDEALKEL 281
Mus_musculus      QQQQQQQQQQQQQQQGQGPLSHTYYMAGGT-SQKSRTTEGRPTVNRANSQAHKDEALKEL 265
Rattus_norvegicus QQQQQQQQQQQQQ---GQGPLGHTYYMAGGT-SQKSRTTEGRPTVNRANSQAHKDEALKEL 307
Canis_lupus_familiaris QQQ-QQQQ-----PGAVGHGYMAGGS-SQKARTEGRPTVNRANSQAHKDEALKEL 294
Equus_caballus    QQQ-QQQ-----GAVSHGYMAGGT-SQKARTEGRPTVNRANSQAHKDEALKEL 283
Bos_taurus        PPPPPQQQ-----PGAVGHSYYMAGGA-SQKARTEGRPTVSRANSQAHKDEALKEL 295
Homo_sapiens      --QQQQQQ-----GAVGHGYMAGGT-SQKSRTTEGRPTVNRANSQAHKDEALKEL 253
Callithrix_jacchus --QQQQQQ-----QGAVGHGYMAGGT-SQKSRTTEGRPTVNRANSQAHKDEALKEL 317
Pan_troglodytes   --QQQQQQ-----GAVSHGYMAGGT-SQKSRTTEGRPTVNRANSQAHKDEALKEL 282
Macaca_mulatta    --QQQQQQ-----QGAVGHGYMAGGT-SQKSRTTEGRPTVNRANSQAHKDEALKEL 283
Rhinatrema_bivittatum -----VAVGPGYYAAGMVGSQKSKTEGRPTVSRANSQAHKDEALKEL 164
Xenopus_tropicalis -----LAPVTSGYCVAGLVANHSKTEGRPTVSRASSGQAHQDEALKEL 277
.....310.....320.....330.....340.....350.....360

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*****:***** *****:*** . ... *: : * * : *****:
Pavo_muticus      KQGHVRSLSERIMQLSLERNGAKQHPPAPAGSKGLKATAAP-----SKGMDPRGPPPEY 329
Pavo_cristatus    KQGHVRSLSERIMQLSLERNGAKQHPPAPAGSKGLKATAAP-----SKGMDPRGPPPEY 329
Gallus_gallus     KQGHVRSLSERIMQLSLERNGAKQHPPAPAGNKGKLAAPAP-----SKGMDPRGPPPEY 329
Chelonia_mydas    KQGHVRSLSERIMQLSLERNGAKQHPPTSGSNKGFKTGGPPP-TOPSGKMDPRGPPPEY 340
Mus_musculus      KQGHVRSLSERIMQLSLERNGAKQHLPSSGNGKSFKAGGEPSPAQPVCKALDPRGPPPEY 325
Rattus_norvegicus KQGHVRSLSERIMQLSLERNGTQHLPSGNGKSFKAGGEPSPAQPVCKALDPRGPPPEY 367
Canis_lupus_familiaris KQGHVRSLSERIMQLSLERNGAKQHLPSSGNGKGFKAAGGPPSPAQAGKVLDPRGPPPEY 354
Equus_caballus    KQGHVRSLSERIMQLSLERNGAKQHLPSSGNGKGFKAAGGPPSPAQAGKVLDPRGPPPEY 343
Bos_taurus        KQGHVRSLSERIMQLSLERNGAKQHLPSPGNGKAFKAAGGPPSPAQPAKMLDPRGPPPEY 355
Homo_sapiens      KQGHVRSLSERIMQLSLERNGAKQHLPSSGNGKGFKAAGGPPSPAQAGKVLDPRGPPPEY 313
Callithrix_jacchus KQGHVRSLSERIMQLSLERNGAKQHLPSSGNGKGFKAAGGPPSPAQAGKVLDPRGPPPEY 377
Pan_troglodytes   KQGHVRSLSERIMQLSLERNGAKQHLPSSGNGKGFKAAGGPPSPAQAGKVLDPRGPPPEY 342
Macaca_mulatta    KQGHVRSLSERIMQLSLERNGAKQHLPSSGNGKGFKAAGGPPSPAQAGKVLDPRGPPPEY 343
Rhinatrema_bivittatum KQGHVRSLSERIMQLSLERNGAKQHPPTSGSIKGLKA-VGPPSPAQFCGKGTDPGPPPDY 223
Xenopus_tropicalis KQGHVRSMSERIM-LSLERNGAKQHPSTSGSIKGLRN-GAPSPVQPPAKEMQRGPPPDY 335
.....370.....380.....390.....400.....410.....420

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Pavo_muticus      PYKAKVAAAVSPSSKAPDHGLFYGEQHPAGPQDVLKASYVAPQPSRTEVAVVRYQPPPEY 389
Pavo_cristatus    PYKAKVAAAVSPSSKAPDHGLFYGEQHPAGPQDVLKASYVAPQPSRTEVAVVRYQPPPEY 389
Gallus_gallus     PYKAKVAAAVSPNSKAPDHGLFYGEQHPAGPQDVLKASYVAPQPSRTEVAVVRYQPPPEY 389
Chelonia_mydas    PYKAK--QVVSFVSKTQEHGLFYNDQH-SGMMQILKPSYPAPLPARTEGAVVRYQPPPEY 397
Mus_musculus      PFKTK--PMKSPVSKNDHGLFYNDQHHPGVLHEMVKP-YPAPQPARTEVAVLRYQPPPEY 382
Rattus_norvegicus PFKTK--PMKSPVSKNDHGLFYSDQHHPGVLHEMVKP-YPAPQPARTEVAVLRYQPPPEY 424
Canis_lupus_familiaris PYKTK--QIMSPVSKTQEHGLFYSDQHHPGMLHEMVKP-YPAPQPARTEVAVLRYQPPPEY 411
Equus_caballus    PFKTK--QMMSPVSKTQEHGLFYSDQHHPGMLHEMVKP-YPAPQPARTEVAVLRYQPPPEY 400
Bos_taurus        PFKTK--QMVSPVSKTQEHGLFYSDQHHPGMLHEMVKP-YPAPQPARTEVAVLRYQPPPEY 412
Homo_sapiens      PFKTK--QMMSPVSKTQEHGLFYSDQHHPGMLHEMVKP-YPAPQPVRTDVAVLRYQPPPEY 370
Callithrix_jacchus PFKTK--QMMSPVSKTQEHGLFYSDQHHPGMLHEMVKP-YPAPQPVRTDVAVLRYQPPPEY 434
Pan_troglodytes   PFKTK--QMMSPVSKTQEHGLFYSDQHHPGMLHEMVKP-YPAPQPVRTDVAVLRYQPPPEY 399
Macaca_mulatta    PFKTK--QMMSPVSKTQEHGLFYSDQHHPGMLHEMVKP-YPAPQPVRTDVAVLRYQPPPEY 400
Rhinatrema_bivittatum PFKAK--QVMSFVNKTQDHGLFYNDQPSGLVQDILKP-YPAPQPARTEVAVLRYQHPPEY 280
Xenopus_tropicalis PSKVK--QIVSPMNKMQEQVHYINEQHPGAQDVSKP-FLTIQPAR--SEVLRYQHPPEY 390
.....430.....440.....450.....460.....470.....480

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Pavo_muticus      GVTSRQCQ-PPFPPPPAQHSPMSSQDSSAAGPLLPGSLPPLP--ASSSAQPP--VPPGQ 444
Pavo_cristatus    GVTSRQCQ-PPFPPPPAQHSPMSSQDSSAAGPLLPGSLPPLP--ASSSAQPP--VPPGQ 444
Gallus_gallus     GVTSRQCQ-PPFPPPPAQHSPMSSQASSAAGPLLPGSLPPLP--APSSAQPP--VPPGQ 444
Chelonia_mydas    GVTSRQCQ-PAFSPVPVQHSPMSSQASSITGPLHSATLPQLP--SAVTAQSPATAPSQ 454
Mus_musculus      GVTSRPCQ-LPFPS-TVQHSPMSSQTSSIGGTLHSVSLPLPLPISLAASQPLPAS-PNQ 439
Rattus_norvegicus GVTSRPCQ-LPFPS-TVQHSPMSSQTSSISGPLHSVSLPLPLPMSLAAPQPPPAS-PSQ 481
Canis_lupus_familiaris GVTSRPCQ-LPFPS-TVQHSPMSSQNPPVSGPLHSVSLPLPLPMTLAAPQPPPAASPSQ 469
Equus_caballus    GVTSRPCQ-LPFPS-TVQHSPMSSQNSSISGPLHSVSLPLPLPMTLAAPQPPPAASPSQ 458
Bos_taurus        GVTSRPCQ-LPFPS-TAQHSPVSSQNSSVSGPLHSVSLPLPLPAPPALGAAPPPPAASPSQ 470
Homo_sapiens      GVTSRPCQ-LPFPS-TMQHSPMSSQTSSASGPLHSVSLPLPLPMALGAPQPPPAASPSQ 428
Callithrix_jacchus GVTSRPCQ-FPFPS-TMQHSPMSSQTSSVSGPLHSVSLPLPLPMPALGAPQPPPAASPSQ 492
Pan_troglodytes   GVTSRPCQ-LPFPS-TMQHSPMSSQTSSASGPLHSVSLPLPLPMALGAPQPPPAASPSQ 457
Macaca_mulatta    GVTSRPCQ-LPFPS-TMQHSPMSSQTSSASGPLHSVSLPLPLPMALGAPQPPPAASPSQ 458
Rhinatrema_bivittatum GVTSRQCH-VPFQSMFVQHHRMSSQASSVTGLLHSVSPSPVAL-----ATQLPPVMPPSQ 334
Xenopus_tropicalis NITSRQCQLPFPLVPLQHHSPMSSQASSFSGLHSTPLPLLP--TNMPPHSPSPSPSQ 448
.....490.....500.....510.....520.....530.....540

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/AMOTL1.fasta Tue Feb 1 11:09:50 2022

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:::.*:*****:::*****:*****:.*::.*:.*:
TTTKRESLDKAMRNKLEGEIRRLHDFNRDLRERLETANRQLASRDFDGHEDKSTESLYVT
TTTKRESLDKAMRNKLEGEIRRLHDFNRDLRERLETANRQLASRDFDGHEDKSTESLYVT
TTTKRESLDKAMRNKLEGEIRRLHDFNRDLRERLETANRQLASRDFDGHEDKSTEDLYVT
TTTKRESLDKAMRNKLEGEIRRLHDFNRDLRDLRLETANRQLASREFDGHEDKATEGFYAS
STTKRESLDKAMRTKLEGEIRRLHDFNRDLRDLRLETANRQLSSREYDGHEDKAAESHYVS
STTKRESLDKAMRNKLEGEIRRLHDFNRDLRDLRLETANRQLSSREYEGHEDKAAESHHMS
STTKRESLDKAMRNKLEGEIRRLHDFNRDLRDLRLETANRQLSSREYDGHEDRATEGLYAS
STTKRESLDKAMRNKLEGEIRRLHDFNRDLRDLRLETANRQLSSREYDGHEDRAAEGLYAS
STTKRESLDKAMRNKLEGEIRRLHDFNRDLRDLRLETANRQLSSREYDGHEDRAAEGLYAS
STTKRESLDKAMRNKLEGEIRRLHDFNRDLRDLRLETANRQLSSREYEGHEDKAAEGHYAS
STTKRESLDKAMRNKLEGEIRRLHDFNRDLRDLRLETANRQLSSREYEGHEDKAAEGHYAS
STTKRESLDKAMRNKLEGEIRRLHDFNRDLRDLRLETANRQLSSREYEGHEDKAAEGHYAS
STTKRESLDKAMRNKLEGEIRRLHDFNRDLRDLRLETANRQLSSREYEGHEDKAAEGHYAS
STTKRESLDKAMRNKLEGEIRRLHDFNRDLRDLRLETANRQLSSREYEGHEDKAAEGHYAS
TTTKKESLDKALRNKLEGEIRRLHDFNRDLRDLRLETANRQIGCREYDGHEDKATEGHYIQ
SSAKRESLDKAMKNRLEGEIRRLHDFNRDLRDLRLETANRQLASREYNGPEALEEGNVAL
.....610.....620.....630.....640.....650.....660

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:***.***:*:*:***:*:*:***:*****.***:*:*****.*.***:
 QNKEHLKEKEKLEME LAAMRSANEDQRRHIEILDQALNNAQAKVIKLEELRRKQAYVEK
 QNKEHLKEKEKLEME LAAMRSANEDQRRHIEILDQALNNAQAKVIKLEELRRKQAYVEK
 QNKEHLKEKEKLEME LAAMRSANEDQRRHIEILDQALNNAQAKVIKLEELRRKQAYVEK
 QNKEHLKEREKLEME LAATVRSASEDQRRHIEILDQALNNAQAKVIKLEELRRKQAYVEK
 QNKEFLKEKEKLEME LAAVRTASEDHRRHIEILDQALSNAQARVIKLEELREKQAYVEK
 QNKEFLKEKEKLEME LAAVRTASEDHRRHIEILDQALSNAQARVIKLEELREKQAYVEK
 QNKEFLKEKEKLEME LAAVRTASEDHRRHIEILDQALSNAQARVIKLEELREKQAYVEK
 QNKEFLKEKEKLEME LAAVRTASEDHRRHIEILDQALSNAQARVIKLEELREKQAYVEK
 QNKEFLKEKEKLEME LAAVRTASEDHRRHIEILDQALSNAQARVIKLEELREKQAYVEK
 QNKEFLKEKEKLEME LAAVRTASEDHRRHIEILDQALSNAQARVIKLEELREKQAYVEK
 QNKEFLKEKEKLEME LAAVRTASEDHRRHIEILDQALSNAQARVIKLEELREKQAYVEK
 QNKEFLKEKEKLEME LAAVRTASEDHRRHIEILDQALSNAQARVIKLEELREKQAYVEK
 QNKEFLKEKEKLEME LAAVRTASEDHRRHIEILDQALSNAQARVIKLEELREKQAYVEK
 QNKEHLKEREKLEME LAASASSEDQRRHIEILDQALSNAQAKVVKLEELRRKQVYVEK
 KNKEHLKEKERLEME LAALRTINEDQRRHIEILDQALNSAQAKVIKLEELRRKQVYVEE
670.....680.....690.....700.....710.....720

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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*****:*:* * * * *:* *****:*** **:: . . . . * *:* *::
Pavo_muticus      VEKLOQALTLQAACEKREOMERRLRTRLERELDSLMOORQGSFOPSSLPEHNAPALME 684
Pavo_cristatus    VEKLOQALTLQAACEKREOMERRLRTRLERELDSLMOORQGSFOPSSLPEHNAPALME 684
Gallus_gallus     VEKLOQALTLQAACEKREOMERRLRTRLERELDSLMOORQGSFOPSNLPEHNAPALME 684
Chelonia_mydas    VEKLOQALTLQAACEKREOMERRLRTRLERELDSLMOORQGNVQAESLPEHNAPALME 694
Mus_musculus      VEKLOQALTLQLSACEKRGOMERRLRTWLERELDALTQOKHGTGPPVSLPECNAPALME 679
Rattus_norvegicus VEKLOQALTLQLSACEKRGOMERRLRTWLERELDALTQOKHGNQGPVNLPEYNAPALME 721
Canis_lupus_familiaris VEKLOQALTLQLSACEKREOMERRLRTWLERELDALTQOKHGNSOPAGVSEYNAPALLE 709
Equus_caballus    VEKLOQALTLQLSACEKREOMERRLRTWLERELDALTQOKHGNQGPVNLPEYNAPALME 698
Bos_taurus        VEKLOQALTLQLSACEKREOMERRLRTWLERELDALTQOKHGNSOPASLPEYNAPALME 710
Homo_sapiens      VEKLOQALTLQLSACEKREOMERRLRTWLERELDALTQOKHGNQGPANMPEYNAPALLE 668
Callithrix_jacchus VEKLOQALTLQLSACEKREOMERRLRTWLERELDALTQOKHGNQGPANMPEYNAPALLE 732
Pan_troglodytes   VEKLOQALTLQLSACEKREOMERRLRTWLERELDALTQOKHGNQGPANMPEYNAPALLE 697
Macaca_mulatta    VEKLOQALTLQLSACEKREOMERRLRTWLERELDALTQOKHGNQGPANVPEYNAPALLE 698
Rhinatrema_bivittatum VEKLOQALTLQAACEKREOLERRLRTRLERELESLRTOQRHPNCHAVSVPEYNAPALMD 574
Xenopus_tropicalis VEKLOQALTLQAAGEKREOLEMRLRTRLERELESLRMOORQTNCTSNPEYNTPLMD 688
.....730.....740.....750.....760.....770.....780

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*::*** *****:***:****:***:*::***: .**:*::..
Pavo_muticus      LVREKEERILALEADMTKWEQKYLEESTIRHFAMNAAATAATERDASVPSHSHNGSYGES 744
Pavo_cristatus    LVREKEERILALEADMTKWEQKYLEESTIRHFAMNAAATAATERDASVPSHSHNGSYGES 744
Gallus_gallus     LVREKEERILALEADMTKWEQKYLEESTIRHFAMNAAATAATERDTSAPSHSHNGSYGES 744
Chelonia_mydas    LVREKEERILALEADMTKWEQKYLEESTIRHFAMNAAATAATERDTSVINHSRNGSYNEN 754
Mus_musculus      LVREKEERILALEADMTKWEQKYLEESTIRHFAMNAAAAATAERDTTISNHSRNGSYGES 739
Rattus_norvegicus LVREKEERILALEADMTKWEQKYLEESTIRHFAMNAAAAATAERDTTISNHSRNGSYGES 781
Canis_lupus_familiaris LVREKEERILALEADMTKWEQKYLEESTIRHFAMNAAAAATAERDTTIINHSRNGSYGES 769
Equus_caballus    LVREKEERILALEADMTKWEQKYLEESTIRHFAMNAAAAATAERDTTIINHSRNGSYGES 758
Bos_taurus        LVREKEERILALEADMTKWEQKYVEESAIRHFAMNAAAAATAERDTTIVNHSRNGSYGES 770
Homo_sapiens      LVREKEERILALEADMTKWEQKYLEESTIRHFAMNAAAAATAERDTTIINHSRNGSYGES 728
Callithrix_jacchus LVREKEERILALEADMTKWEQKYLEESTIRHFAMNAAAAATAERDTTIINHSRNGSYGES 792
Pan_troglodytes   LVREKEERILALEADMTKWEQKYLEESTIRHFAMNAAAAATAERDTTIINHSRNGSYGES 757
Macaca_mulatta    LVREKEERILALEADMTKWEQKYLEESTIRHFAMNAAAAATAERDTTIINHSRNGSYGES 758
Rhinatrema_bivittatum LLREKEETILALEADMTKWEQKYLEESAMRHFAMDAATAAAQORDTTIINHSRNGSYNDN 634
Xenopus_tropicalis LLRKKEETILALEADMTKWEQKYLEESAMRHFAMDAATAAAQORDTTIINHSRNGSHNDN 748
.....790.....800.....810.....820.....830.....840

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. *: * *::***:***: *****:*****:***:*****:***:*** ** ..* *::**
Pavo_muticus      TLEARGWQEEEEIVQANRRCDMEYTIKNLHAKIIEKDAMIKVLQQRSRKDPGKADSASL 804
Pavo_cristatus    TLEARGWQEEEEIVQANRRCDMEYTIKNLHAKIIEKDAMIKVLQQRSRKDPGKADSASL 804
Gallus_gallus     TLEARGWQEEEEIVQANRRCDMEYTIKNLHAKIIEKDAMIKVLQQRSRKDPGKADSASL 804
Chelonia_mydas    SLEVRIWQEEEEIVQANRRCDMEYTIKNLHAKIIEKDAMIKVLQQRRLRKDAGKTDSTSL 814
Mus_musculus      SLEAHIWQEEEEVQANRRCDMEYTIKNLHAKIIEKDAMIKVLQQRSRKDGKTDASL 799
Rattus_norvegicus SLEAHIWQEEEEVQANRRCDMEYTIKNLHAKIIEKDAMIKVLQQRSRKDGKTDSSSL 841
Canis_lupus_familiaris SLEAHIWQEEEEVQATRRCQDMEYTIKNLHAKIIEKDAMIKVLQQRSRKDGKSDSSSL 829
Equus_caballus    SLEAHIWQEEEEVQATRRCQDMEYTIKNLHAKIIEKDAMIKVLQQRSRKDAAKTDSSSL 818
Bos_taurus        SLEAHIWQEEEEVQATRRCQDMEYTIKNLHAKIIEKDAMIKVLQQRSRKDGKTDSSSL 830
Homo_sapiens      SLEAHIWQEEEEVQANRRCDMEYTIKNLHAKIIEKDAMIKVLQQRSRKDGKTDSSSL 788
Callithrix_jacchus SLEAHIWQEEEEVQANRRCDMEYTIKNLHAKIIEKDAMIKVLQQRSRKDGKTDSSSL 852
Pan_troglodytes   SLEAHIWQEEEEVQANRRCDMEYTIKNLHAKIIEKDAMIKVLQQRSRKDGKTDSSSL 817
Macaca_mulatta    SLEAHIWQEEEEVQANRRCDMEYTIKNLHAKIIEKDAMIKVLQQRSRKDGKTDSSSL 818
Rhinatrema_bivittatum PSEVRIWQEEEEIMQANRRCDMEYTIKNLHAKIIEKDAMINVLOQRSRKVAGKTDASTL 694
Xenopus_tropicalis SLEVRSWQEDEEIIQANRKFDMEHTIKNLHAKIIEKDAMIKVLHQRSRKDPGKNDSSSL 808
.....850.....860.....870.....880.....890.....900

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/AMOTL1.fst Tue Feb 1 11:09:50 2022

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*****.: *.:***** *****: **:
Pavo_muticus      RPARSVPSIAAAA-----GTHSRQTSLTSSQTTEKKKEEK-IWKGSIGLLLGKEHH 854
Pavo_cristatus    RPARSVPSIAAAA-----GTHSRQTSLTSSQTTEKKKEEK-IWKGSIGLLLGKEHH 854
Gallus_gallus     RPARSVPSIAAAA-----GTHSRQTSLTSSQTTEKKKEEK-IWKGSIGLLLGKEHH 854
Chelonia_mydas    RPARSVPSIAAAT-----GAHSRQTSLTSSQIAEEKKEEK-TWKGSIGLLLGKDHH 864
Mus_musculus      RPARSVPSIAAAT-----GTHSRQTSLTSSQTTEKKKEEK-TWKGSIGFLLGKEHQ 850
Rattus_norvegicus RPARSVPSIAAAT-----GTHSRQTSLTSSQIAEDKKEEK-TWKGSIGFLLGKEHQ 891
Canis_lupus_familiaris RPARSVPSIAAAT-----GTHSRQTSLTSSQLAEEKKEEK-TWKGSIGLLLGKEHH 879
Equus_caballus    RPARSVPSIAAAT-----GTHSRQTSLTSSQLAEEKKEEK-TWKGSIGLLLGKEPH 868
Bos_taurus        RPARSVPSIAAAT-----GTHSRQTSLTSSQLAEEKKEEK-TWKGSIGLLLGKEHN 880
Homo_sapiens      RPARSVPSIAAAT-----GTHSRQTSLTSSQLAEEKKEEK-TWKGSIGLLLGKEHH 838
Callithrix_jacchus RPARSVPSIAAAT-----GTHSRQTSLTSSQLAEEKKEEK-TWKGSIGLLLGKEHY 902
Pan_troglodytes   RPARSVPSIAAAT-----GTHSRQTSLTSSQLAEEKKEEK-TWKGSIGLLLGKEHH 867
Macaca_mulatta    RPARSVPSIAAAT-----GTHSRQTSLTSSQLAEEKKEEK-TWKGSIGLLLGKEHH 868
Rhinatrema_bivittatum RPARSVPSIAAAAAAAASTGAGAHSRQTSLTCTQIAEEKKEEK-TWKGSIGLLLGKEHH 753
Xenopus_tropicalis RPARSVPSIAAVTLPN---TSTGVHSRQTSVNSNQAEEKKEEK-ARKGSIGLNQKDDHH 864
.....910.....920.....930.....940.....950.....960

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.:*****.*****: .**:* **:* *.*
Pavo_muticus      EHPPGPALPPPLP-SLSCASMPAP-AAASHAKTGSKDNSTQTDKSTELFWPATASFPGRGR 912
Pavo_cristatus    EHPPGPALPPPLP-SLSCASMPAP-AAASHAKTGSKDNSTQTDKSTELFWPATASFPGRGR 912
Gallus_gallus     EHLPGPALPPPLP-SLSCAPVLAP-AAASHAKTGSKDSSTQTDKSTELFWPATASFPGRGR 912
Chelonia_mydas    DHSSIPALPPLPP-SLSCAAPSLPVSASHAKTGSKDSSTQTDKSSLEFWPNTASFPGRGR 923
Mus_musculus      GQASAPLLPTTPASALSIPASTTSASSTHAKTGSKDSSTQTDKSTELFWPMSASLPGRGR 910
Rattus_norvegicus GQASAPLLPATPASALSPPTSTTSASSTHAKTGSKDSSTQTDKSTELFWPMSASLPGRGR 951
Canis_lupus_familiaris EHAS-----MPPAAALSPSTILANSAGSAHAKTGSKDSSTQTDKSAELWWPSTASLPGRGR 934
Equus_caballus    EHASTPLLPTPSATALCPTASATSASSAHAKTGSKDSSTQTDKSAELFWPMSASLPNRRGR 928
Bos_taurus        DHASTPLLPTPSAATLSPPTPGTSASSAHAKTGSKDSSTQTDKSAELFWPGVASLPTRSR 940
Homo_sapiens      EHASAPLLPPPPPTSALSSIASTTAASSAHAKTGSKDSSTQTDKSAELFWPMSASLPGRGR 988
Callithrix_jacchus EHASAPLLPPPPPTSALSPSTTAASSAHAKTGSKDSSTQTDKSAELFWPNMASLPGRGR 962
Pan_troglodytes   EHASAPLLPPPPPTSALSSIASTTAASSAHAKTGSKDSSTQTDKSAELFWPMSASLPGRGR 927
Macaca_mulatta    EHASAPLLPPPPPTSALSSIASTTAASSAHAKTGSKDSSTQTDKSAELFWPNMASLPGRGR 928
Rhinatrema_bivittatum EHSPASLLPPSSSLSPPTAP-LTPVNVSHAKTGSKDNSTQTDKNPELFWPNSASFPGRGR 812
Xenopus_tropicalis EIPSPSLLLLLPPS--LFLPPPIPLVTASHAKTGSKDNSTQTEKSPLEFWPNSASLPGRGR 922
.....970.....980.....990.....1000.....1010.....1020

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.: **: ** : . : :* :. ** : :*. . . :* :*: : *****
LGTTPTHSPVPRPPGARPAGEKLENS-SHGKPPDSKGRVSSLLHKPEFPDTD-MMEVLI 969
LGTTPTHSPVPRPPGARPAGEKLENS-SHGKPPDSKGRVSSLLHKPEFPDTD-MMEVLI 969
LGTTPTHSPVPRPPGARPAGEKLENS-SHGKPPDSKGRVSSLLHKPEFPDTD-MMEVLI 969
LSTTPSNNSPALRHTGAKGTRDKLENSPSHGKLSDNKGRVSSLVQKPEFPDAD-MMEVLI 981
LSTAPSNNSPILKHAPAAKGAVEKQENS PGHGKASEHRGRVSNLLHKPEFPDGE-MMEVLI 968
LSTAPSNNSPVLKHAPAAKGTVKQENS PGHGKSEHRGRVSSLLQKPEFPDGE-IMEVLI 1009
LSVTPSNSPILKHPLAKGTAEKSENPLGHGKSPEHKSRVSSVLHKPEFPDGE-MMEVLI 992
LSATPSNSPVLRHHPVAKGTAEKPENSPGHGKSPDHKGRVSSLLHKPEFPDGE-MMEVLI 986
LSGTPSNNSPVLKHAPAAKGTAEKLENSPGHGKSPDHKGRVSNLLHKPEFPDGE-MMEVLI 998
LSTTPAHSPVLKHAPAAKGTAEKLENSPGHGKSPDHRGRVSSLLHKPEFPDGE-MMEVLI 956
LSTTPAHSPVLKHAPAAKATAEKLENSPGHGKSPDHRGRVSSLLHKPEFPDGE-MMEVLI 1020
LSTTPAHSPVLKHHPVAKGTAEKLENSPGHGKSPDHRGRVSSLLHKPEFPDGE-MMEVLI 985
LSTTPAHSPVLKHAPAAKGTAEKLENSPGHGKSPDHRGRVSSLLHKPEFPDGE-MMEVLI 986
LSTTPSSSPLLRRHTASKGNGDKPDNPASHGKPHDQKGRASTLNHKPDPDPDGD-MMEVLI 870
INMTPSSSPLLRRHTANK-ACEKLDNSPVLGKTPDHRGRVGNTHAKNDFPEAENTMEVLI 980
.....1030.....1040.....1050.....1060.....1070.....

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