

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/NBED1.fasta Date: Tue Feb 1 14:08:50 2022

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****::***:*****:*****:**** **::***:***::***:***:***:******
MASRERLYELWMLYCNKKDPDYKLWLWDSFVSSYEQFLDVDFEKLPTRVDDIPPGISLLP
MASRERLYELWMLYCNKKDPDYKLWLWDSFVSSYEQFLDVDFEKLPTRVDDIPPGISLLP
MASRERLYELWMLYCSKKDPDYKLWLWDSFVSSYEQFLDVDFEKLPTRVDDIPPGISLLP
MASRERLYELWMLYCNKKDPDYQLWLWDSFVSSYEQFLDVDFEKLPTRVDDVPPGISLLP
MAARERLFELWMLYCTKKDPDYRLWLWDNFVLSYEQFLDVDFEKLPTRVDDMPPGISLLP
MAARERLFELWMLYCTKKDPDYRLWLWDNFVLSYEQFLDVDFEKLPTRVDDMPPGISLLP
MASRERLFELWMLYCTKKDPDYKLWLWDTFVSSYEQFLDVDFEKLPTRVDDMPPGISLLP
MASRERLFELWMLYCTKKDPDYKLWLWDTFVSSYEQFLDVDFEKLPTRVDDMPPGISLLP
MASRERLFELWMLYCTKKDPDYKLWLWDTFVSSYEQFLDVDFEKLPTRVDDVPPGISLLP
MASRERLFELWMLYCSKKDPDYKLWLWDSFVSSYEQFLDVDFEKLPTRVDDVPPGISLLP
MASRERLFELWMLYCTKKDPDYKLWLWDNFVSSYEQFLDVDFEKLPTRVDDVPPGISLLP
MASRERLFELWMLYCTKKDPDYKLWLWDNFVSSYEQFLDVDFEKLPTRVDDVPPGISLLP
MASRERLFELWMLYCTKKDPDYKLWLWDNFVSSYEHFLDVDFEKLPTRVDDMPPGISLLP
MASKERLYELWMLYCNKKDPDYKLWLWDSGFVSSYEQFLDVDFEKMPTRVDDNMPPESLLP
MASRERLYELWMLYCNKKDPDYRLWLWDSFVSGYEQFLDVDFDELPTRIDEPPGLSLLP
1.....10.....20.....30.....40.....50.....60

*:*****:*** ***:** ***:**:*:*****:*****:** ** ** *:**

DNILQVLRQLQLLCVQKMSDGL^{EE}QQQALSLLL^{VK}FFIILCRNLANVEEIGMCSYIN^{HVI}

DNILQVLRQLQLLCVQKMSDGL^{EE}QQQALSLLL^{VK}FFIILCRNLANVEEIGMCSYIN^{HVI}

DNILQVLRQLQLLCVQKMSDGL^{EE}QQQALSLLL^{VK}FFIILCRNLANVEEIGMCSYIN^{HVI}

DNILQVLRQLQLLCVQKISDGL^{EE}QQQALSLLL^{VK}FFIILCRNLANVEEIGTCSYIN^{HII}

DNILQVLRQLQLLHCVKQTADGL^{EE}QQQALSILL^{VK}FFIILCRNLSNVEEIGTCSYIN^{HVI}

DNILQVLRQLQLLHCVKQTADGL^{EE}QQQALSILL^{VK}FFIILCRNLSNVEEIGTCSYIN^{HVI}

DNILQVLRQLQLLCVQKMADGL^{EE}QQQALSILL^{VK}FFIILCRNLSNVEEIGTCSYIN^{YVI}

DNILQVLRQLQLLCVQKMADGL^{EE}QQQALSILL^{VK}FFIILCRNLSNVEEIGTCSYIN^{YVI}

DNILQVLRQLQLLCVQKMADGL^{EE}QQQALSILL^{VK}FFIILCRNLSNVEEIGTCSYIN^{YVI}

DNILQVLRQLQLLCVQKMADGL^{EE}QQQALSILL^{VK}FFIILCRNLSNVEEIGTCSYIN^{YVI}

DNILQVLRQLQLLCVQKMADGL^{EE}QQQALSILL^{VK}FFIILCRNLSNVEEIGTCSYIN^{HVI}

DNILQVLRQLQLLHCVKQMADGL^{EV}QQQALS^VLLV^{VK}FFIILCRNLSNVEEIGTCS^IYIN^{HVI}

DNILQVLRQLQLLCVQKTADGL^{EE}QQALSLLL^{VK}FFIILCRNLSNVEEIGSCSYII^{HII}

DHILQVLRQLQLLYCVQKTADGM^{EE}QQTL^SLLL^{VK}FFIILCRNLSNVEEIGGCCSYIN^{HVI}

.....70.....80.....90.....100.....110.....120

[illegible]

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****:*:*:*****:*****:*****:*****:*****:*****:
Pavo_muticus      SRQKYKPASLTVEFVPPFFYQCFQSEHLKESLKCCLLHLFGAIVAGGORNALQAVSPATM 240
Pavo_cristatus    SRQKYKPASLTVEFVPPFFYQCFQSEHLKESLKCCLLHLFGAIVAGGORNALQAVSPATM 240
Gallus_gallus     SRQKYKPASLTVEFVPPFFYQCFQSEHLKESLKCCLLHLFGAIVAGGORNALQAVSPATM 240
Chelonia_mydas    SRQKYKPASLTVEFIPFFYQCFQSEHLKESLKCCLLHLFGAIVAGGORNALQAVSPATM 240
Mus_musculus      SRQKYKPASLTVEFVPPFFYQCFQSEHLKESLKCCLLHLFGAIVAGGORNALQAVSPATM 240
Rattus_norvegicus SRQKYKPASLTVEFVPPFFYQCFQSEHLKESLKCCLLHLFGAIVAGGORNALQAVSPATM 240
Homo_sapiens      SRQKYKPASLTVEFVPPFFYQCFQSEHLKESLKCCLLHLFGAIVAGGORNALQAVSPATM 240
Pan_troglodytes   SRQKYKPASLTVEFVPPFFYQCFQSEHLKESLKCCLLHLFGAIVAGGORNALQAVSPATM 240
Callithrix_jacchus SRQKYKPASLTVEFVPPFFYQCFQSEHLKESLKCCLLHLFGAIVAGGORNALQAVSPATM 240
Bos_taurus        SRQKYKPASLTVEFVPPFFYQCFQSEHLKESLKCCLLHLFGAIVAGGORNALQAVSPATM 240
Equus_caballus    SRQKYKPASLTVEFVPPFFYQCFQSEHLKESLKCCLLHLFGAIVAGGORNALQAVSPATM 240
Canis_lupus_familiaris SRQKYKPASLTVEFVPPFFYQCFQSEHLKESLKCCLLHLFGAIVAGGORNALQAVSPATM 240
Heterocephalus_glaber SRQKYKPASLTVEFVPPFFYQCFQSEHLKESLKCCLLHLFGAIVAGGORNALQAVSPATM 240
Rhinatrema_bivittatum SRQKFKPATLTVEFIPFFYQCFQSEHLKESLKCCLLHLFGAIVAGGORNALQAVSPATM 240
Xenopus_tropicalis SRQKYKAASLTVEFIPFFYQCFQSEHLKESLKCCLLHLFGAIVAGGORNALQAVSPATI 240
.....190.....200.....210.....220.....230.....240

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****:*:* * * *: . **.* **.* *****:***** *..***** *:*****
Pavo_muticus      EVLMRILADCDNWDGSPPEEVSRAKELTLKCLTEVVHILLNSSSDQROVETSTILENYFK 300
Pavo_cristatus    EVLMRILADCDNWDGSPPEEVSRAKELTLKCLTEVVHILLNSSSDQROVETSTILENYFK 300
Gallus_gallus     EVLMRVLADCDNWDGSPPEEVSRAKELTLKCLTEVVHILLNSSSDQROVETSTILENYFK 300
Chelonia_mydas    EVLMRVLADCDTWDDRDPEEVSRAKELTLKCLTEVVHILLTSSSDQROVETSTILENYFK 300
Mus_musculus      EVLMRVLSDCDSSWEEGDPEEVGRKVELTLKCLTEVVHILLTSSSDQROVETSTILENYFK 300
Rattus_norvegicus EVLMRVLSDCDSSWEEGDPEEVGRKVELTLKCLTEVVHILLTSSSDQROVETSTILENYFK 300
Homo_sapiens      EVLMRVLADCDSSWEDGDPEEVGRKVELTLKCLTEVVHILLSSNSDQROVETSTILENYFK 300
Pan_troglodytes   EVLMRVLADCDSSWEDGDPEEVGRKVELTLKCLTEVVHILLSSNSDQROVETSTILENYFK 300
Callithrix_jacchus EVLMRVLADCDSSWEDGDPEEVGRKVELTLKCLTEVVHILLSSNSDQROVETSTILENYFK 300
Bos_taurus        EVLMRVLADCDSSWEDGNPEEVGRKVELTLKCLTEVVHILLTSSSDQROVETSTILENYFK 300
Equus_caballus    EVLMRVLADCDSSWEDGNPEEVGRKVELTLKCLTEVVHILLTSSSDQROVETSTILENYFK 300
Canis_lupus_familiaris EVLMRVLADCDSSWEDGNPEEVGRKVELTLKCLTEVVHILLTSSSDQROVETSTILENYFK 300
Heterocephalus_glaber EVLMRVLADCDSSWEDGDLEEVGRKVELTLKCLTEVVHILLTSSSDQROVETSTILENYFK 300
Rhinatrema_bivittatum EVLMHVLAADPDADWDSPKEVSRAKELTLKCLTEVVHILLTSSSDQROVETSSILENYFK 300
Xenopus_tropicalis EVLMRILADCDTWNDGDTGEVSRKELTLKCLTEVIHILLVSSSDQROVEISTILENYFK 300
.....250.....260.....270.....280.....290.....300

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***** **.* * *: ** :*:*****:*. :.. :* *: :
Pavo_muticus      LLNSDHSALPKPRRCROWESRFIALQIOMLNTITAMLDCTDRPVLQAIPLNSNCFEHLIR 360
Pavo_cristatus    LLNSDHSALPKPRRCROWESRFIALQIOMLNTITAMLDCTDRPVLQAIPLNSNCFEHLIR 360
Gallus_gallus     LLNSDHSALPKPRRCROWESRFIALQIOMLNTITAMLDCTDRPVLQAIPLNSNCFEHLIR 360
Chelonia_mydas    LLNSDHSALPNRRSRQWENRFIALQIOMLNTITAMLDCTDRPVLQAIPLNSNCFEHLIR 360
Mus_musculus      LLNSDHSALPKQGRSRRWESQFIALQIKMLNTITAMLDCTDRPVLQAIPLNSNCFEHLIR 360
Rattus_norvegicus LLNSDHSALPKQGRSRRWESQFIALQIKMLNTITAMLDCTDRPVLQAIPLNSNCFEHLIR 360
Homo_sapiens      LLNSDHSALPNQRRSRQWENRFIALQIKMLNTITAMLDCTDRPVLQAIPLNSNCFEHLIR 360
Pan_troglodytes   LLNSDHSALPNQRRSRQWENRFIALQIKMLNTITAMLDCTDRPVLQAIPLNSNCFEHLIR 360
Callithrix_jacchus LLNSDHSALPNQRRSRQWENRFIALQIKMLNTITAMLDCTDRPVLQAIPLNSNCFEHLIR 360
Bos_taurus        LLNSDHSALPNQRRSRQWENRFIALQIKMLNTITAMLDCTDRPVLQAIPLNSNCFEHLIR 360
Equus_caballus    LLNSDHSALPNQRRSRQWENRFIALQIKMLNTITAMLDCTDRPVLQAIPLNSNCFEHLIR 360
Canis_lupus_familiaris LLNSDHSALPNQRRSRQWENRFIALQIKMLNTITAMLDCTDRPVLQAIPLNSNCFEHLIR 360
Heterocephalus_glaber LLNSDHSALPIQRRSRQWENRFIALQIKMLNTITAMLDCTDRPVLQAIPLNSNCFEHLIR 360
Rhinatrema_bivittatum LLNSDHSALPKSRRTRHWERRFIALQIOMLNTITAMLDCTDRPVLQAIPLNSNCFEHLIR 360
Xenopus_tropicalis LLNSDHSALSSQRRSRHWENRFITLQIKMLTCMTDMLNCKDRPVLQAIPLNSNCFEHLIR 360
.....310.....320.....330.....340.....350.....360

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:*                                     *** : ** *::: ** : **** : **
Pavo_muticus      LLQNCKLFLNANNKVADKSEKDLANKLLTEMNEDQVFGHLDCLAVSTIQALTAVMHKSP 420
Pavo_cristatus    LLQNCKLFLNANNKVADKSEKDLANKLLTEMNEDQVFGHLDCLAVSTIQALTAVMHKSP 420
Gallus_gallus     LLQNCKLFLNANNKVTDKSEKELANKLLTEMNEDQVFGHLDCLAVSTIQALTAVMHKSP 420
Chelonia_mydas    LLQNCKLFLNANNKVADKSEKDLANKLLTEMNGDQVFGOLDCLAVSTIQALTAVLHKSP 420
Mus_musculus      LLQNCK-----VFQGLDCLAVSAIQALTAVMKSSP 391
Rattus_norvegicus LLQNCKLFLNVHVKVTDKNEKDLANKLLTEMSEDQVFGOLDCLAVSTIQALTAVMKNSP 420
Homo_sapiens      LLQNCKLFLNANNKVADKNEKDLANKLLTEMNEDQVFGOLDCLAISTIQALTAVMKNKSP 420
Pan_troglodytes   LLQNCKLFLNANNKVADKNEKDLANKLLTEMNEDQVFGOLDCLAISTIQALTAVMKNKSP 420
Callithrix_jacchus LLQNCKLFLNANNKVADKNEKDLANKLLTEMNEDQVFGOLDCLAISTIQALTAVMKNKSP 420
Bos_taurus        LLQNCKLFLNANSKVADKNEKDLANKLLTEMNEDQVFGOLDYLAVSAIQALTAVMKNKSP 420
Equus_caballus    LLQNCKLFLNANNKVADKNEKDLANKLLTEMNEDQVFGOLDCLAVSTIQALTAVMKNKSP 420
Canis_lupus_familiaris LLQNCKLFLNANNKVADKNEKDLANKLLTEMNEDQVFGOLDCLAISTIQALTAVMKNKSP 420
Heterocephalus_glaber FLL---LYLNANNKVADKSKKDLANKLLTEMNEDQVFGOLDCLAVSTIQALTAVMKNKSP 406
Rhinatrema_bivittatum LLQNCKLFISASSKVADKSEKDLANKLLTEMNEDQVFOEQLDSLAVSTIQTLTAVKHKSP 420
Xenopus_tropicalis LLQNCRLLLNANYRGAEKSEKELVNKLLTEMNENQVFOERLDRLSVTTIQALTAVKHKSP 420
.....370.....380.....390.....400.....410.....420

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:***** * : :*****. **: **: ** : **** : ***** : ** : **
Pavo_muticus      AAKEVFKERIGYAHYIEVLKSLGQPSRELLEELMNMAVEGDHMAVGILGISNVQPLLLLI 480
Pavo_cristatus    AAKEVFKERIGYAHYIEVLKSLGQPSRELLEELMNMAVEGDHMAVGILGISNVQPLLLLI 480
Gallus_gallus     AAKEVFKERIGYAHYIEVLKSLGQPSRELLEELMNMAVEGDHMAVGILGISNVQPLLLLI 480
Chelonia_mydas    AAKEVFKERIGYAHYIEVLKSLGQPSRELLEELMNMAAEGDHMSVGILGISNVQPLLLLI 480
Mus_musculus      AAKEVFKERIGYMHMFVLKSLGQPPQELLKELMNMAVEGDHTSVGILGISNVQPLLVLI 451
Rattus_norvegicus AAKEVFKERIGYMHMFVLKSLGQPPQELLKELMNMAVEGDHTSVGILGISNVHPLLVLI 480
Homo_sapiens      AAKEVFKERIGYTHMFEVLKSLGQPPLELLKELMNMAVEGDHTSVGILGISNVQPLLLLI 480
Pan_troglodytes   AAKEVFKERIGYTHMFEVLKSLGQPPLELLKELMNMAVEGDHTSVGILGISNVQPLLLLI 480
Callithrix_jacchus AAKEVFKERIGYTHMFEVLKSLGQPPPELLKELMNMAVEGDHTSVGILGISNVQPLLLLI 480
Bos_taurus        AAKEVFKERIGYTHMFEVLKSLGQPPLELLKELMNMAVEGDHTSVGILGISNVQPLLLLI 480
Equus_caballus    AAKEVFKERIGYTHMFEVLKSLGQPAVELLKELMNMAVEGDHTSVGILGISNVQPLLLLI 480
Canis_lupus_familiaris AAKEVFKERIGYTHMFEVLKSLGQPPLELLKELMNMAVEGDHTSVGILGISNVHPLLLLI 480
Heterocephalus_glaber AAKEVFKERIGYTHMFEVLKSLGQPPLELLKELMNMAVEGDHTSVGILGISNVQPLLLLI 466
Rhinatrema_bivittatum AAKEVFKERIGYAHMFVLKSLGQPSRKLLLEELMNMAVEGDHTAVGILGISNVQPLLLLI 480
Xenopus_tropicalis AAKEVFKERIGYAHFLDVLKSLGQPTRLLLEELMNMAVEGDHNIVGILGISNVQPLLLLI 480
.....430.....440.....450.....460.....470.....480

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**::: ** : **** : ** : **** : ** : **** : ** : **** : ** : **** : **
Pavo_muticus      QWLPELESHDLQIFISNWLRRICCNQSRATCVNADMVIRIETLNHHSALHCTCAENL 540
Pavo_cristatus    QWLPELESHDLQIFISNWLRRICCNQSRATCVNADMVIRIETLNHHSALHCTCAENL 540
Gallus_gallus     QWLPELESHDLQIFISNWLRRICCNQSRATCVNADMVIRIETLNHHSALHCTCAENL 540
Chelonia_mydas    QWLPELESHDLQIFISNWLKRICCNQSRATCVNANMVICIIETLNHHSALHCTCAENL 540
Mus_musculus      QWLPELESHDLQIFVSDWLKKICCNQSRATCVNANMGIKIIEALESHSSLHRTCAENL 511
Rattus_norvegicus QWLPELESHDLQIFISDWLKKICCNQSRATCVNANMGIKIIEALESHSSLHRTCAENL 540
Homo_sapiens      QWLPELQSHDLQIFISDWLKRICCNQSRATCVNANMGIRIETLDSHSSLHRTCAENL 540
Pan_troglodytes   QWLPELQSHDLQIFISDWLKRICCNQSRATCVNANMGIRIETLDSHSSLHRTCAENL 540
Callithrix_jacchus QWLPELQSHDLQIFISDWLKRICCNQSRATCVNANMGIRIETLDSHSSLHRTCAENL 540
Bos_taurus        QWLPELESHDLQVFIISDWLKKICCNQSRATCVNANMGIRIIEALNSHSSLHRTCAENL 540
Equus_caballus    QWLPELESHDLQIFISDWLKRICCNQSRATCVNANMGIRIETLDSHSSLHRTCAENL 540
Canis_lupus_familiaris QWLPELESHDLQIFISDWLKRICCNQSRATCVNANMGIRIETLDSHSSLHRTCAENL 540
Heterocephalus_glaber QWLPELESHDLQIFISDWLKRICCNQSRATCVNANMGIRIETLDSHSSLHRTCAENL 526
Rhinatrema_bivittatum QWFPELESYDLQIFISDWLKRICCNQSRATCVNANMGIRIETLDSHSSLHRTCAENL 540
Xenopus_tropicalis QWLPEIQSHDLQIFISEWLKRICCNQSRATCVNANMGIRIETLDSHSSLHRTCAENL 540
.....490.....500.....510.....520.....530.....540

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*.: *****:****: :*: **.*: *** ** **.* :** :*:****
Pavo_muticus      IALLGSLGSLGSMGSEELLQLIRLLRTEEPKQAHYPVVPVRAILAMARKOGMASALQYFN 600
Pavo_cristatus    IALLGSLGSLGSMGSEELLQLIRLLRTEEPKQAHYPVVPVRAILAMARKOGMASALQYFN 600
Gallus_gallus     IALLGSLGSLGSMGSEELLQLIRLLRTEEPKQAHYPVVPVRAILAMARKOGMASALQYFN 600
Chelonia_mydas    IALQGSLSGSLGSMSSSEELHRLMLRLRLTNEPKQSHPYVIPVMRAILAMARKOGLDSAMOYFN 600
Mus_musculus      IAIHGSLGSLGSLGSSSEIIRLLRLRLRVDESECIHPYITIPVTRAVLTMARKLSFESALQYFN 571
Rattus_norvegicus IAIHGSLGSLGSLGSSSEELRLLRLRLRVDESECIHPYITIPVTRAILIMARKLSFESALQYFN 600
Homo_sapiens      IAIHGSLGSLGSLGSSSEIIRLLRLRLRVDESESVHPYVTPVTRAILMARKLSLESALQYFN 600
Pan_troglodytes   IAIHGSLGSLGSLGSSSEIIRLLRLRLRVDESESVHPYVTPVTRAILMARKLSLESALQYFN 600
Callithrix_jacchus IAIHGSLGSLGSLGSSSEIIRLLRLRLRVDESESVHPYVTPVTRAVLTMARKLSLESALQYFN 600
Bos_taurus        IALHGSLGSLGSLGSSSEIIRLLRLRLRVDESESVHPYVTPVTRAILMARKQSLESALQYFN 600
Equus_caballus    IALHGSLGSLGSLGSSSEIIRLLRLRLRVDESECVHPYATPVTRAILMARKQSLESALQYFN 600
Canis_lupus_familiaris IALHGSLGSLGSLGSSSEIIRLLRLRLRVDESEYIHPYVTPVTRAILMARKQSLESALQYFN 600
Heterocephalus_glaber IAIHGSLGSLGSLGSSSEEVRRLLRLRLRVDESESVHPYVTPVTRAILMARKLSLESALQYFN 586
Rhinatrema_bivittatum ISLLGSLGSLGSMSSSEELHQLMRLRLTDEPKKSHPYIIPVTRAVLAMARKOGLVSALQYFN 600
Xenopus_tropicalis IGLLGSLGSLGSMSSSEELFHLLSLRLTKEHKQSHPYVIPVTRALLATRKQGLCSALQYFN 600
.....550.....560.....570.....580.....590.....600

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*.: *****:**.:*****:* :*:****. :.. *****.* **
Pavo_muticus      LCHSMAGIAPVPSIQKWPGSAFSAFWLCLDQDQVDPSTASKTG-KRKQLYSFFTGS GMGF 659
Pavo_cristatus    LCHSMAGIAPVPSIQKWPGSAFSAFWLCLDQDQVDPSTASKTG-KRKQLYSFFTGS GMGF 659
Gallus_gallus     LCHSMAGIAPVPSIQKWPGSAFSAFWLCLDQDQVDPSTASKTG-KRKQLYSFFTGS GMGF 659
Chelonia_mydas    LSPSMAGIAPVPIHKWPGSAFSAFWLCLDQDQVDPDIISKGGGKRKQLYSFFTGS GMGF 660
Mus_musculus      LSHSMAGISVPAIQKWPGSAFSFTAFLDQDPLTLGSANKGG-KRKQLYSFFTGS GMGF 630
Rattus_norvegicus LSHSMAGISVPIIQKWPGSAFSFTAFLDQDPLSLGNANKGG-KRKQLYSFFTGS GMGF 659
Homo_sapiens      LSHSMAGISVPIIQKWPGSAFSFTAFLDQDQTLGLIANKGG-KRKQLYSFFTGS GMGF 659
Pan_troglodytes   LSHSMAGISVPIIQKWPGSAFSFTAFLDQDQTLGLIANKGG-KRKQLYSFFTGS GMGF 659
Callithrix_jacchus LSHSMAGISVPIIQKWPGSAFSFTAFLDQDQTLGLIANKGG-KRKQLYSFFTGS GMGF 659
Bos_taurus        LSHSMAGISVPSIQKWPGSAFSFTAFLDQDQTLGLIANKGG-KRKQLYSFFTGS GMGF 659
Equus_caballus    LSHSMAGITVPSIQKWPGSAFSFTAFLDQDQTLPGSANKGG-KRKQLYSFFTGS GMGF 659
Canis_lupus_familiaris LSHSMAGITVPSIQKWPGSAFSFTAFLDQDQTLGLIANKGG-KRKQLYSFFTGS GMGF 659
Heterocephalus_glaber LSHSMAGISVPSIQKWPGSAFSFTAFLDQDQTLVGISSNGG-KRKQLYSFFTGS GMGF 645
Rhinatrema_bivittatum LSHSMAGIAPVTIQKWPGSAFTFYTWLCLDQDQFTSSVSSKGG-KRKQLYSFFTGS GMGF 659
Xenopus_tropicalis LSHSLAGIAPVTIQKWPGSAFSFTAFLDQDQFSFAVSSSGT-KRKQLYSFFTGS GMGF 659
.....610.....620.....630.....640.....650.....660

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***** ** *****:***** **: .* *****:***:*****.*:*** **
Pavo_muticus      EAFITCSGVLVAVCTKREYATVMLPEHCFDLSLWHNITIVHMPGKRPFQGSFVYIYVNG 719
Pavo_cristatus    EAFITCSGVLVAVCTKREYATVMLPEHCFDLSLWHNITIVHMPGKRPFQGSFVYIYVNG 719
Gallus_gallus     EAFITCSGVLVAVCTKREYATVMLPDHCFDLSLWHNITIVHMPGKRPFQGSFVYIYVNG 719
Chelonia_mydas    EAFITCSGVLVAVCTKREYATVMLPDHCFDLSLWHNITIVHMPGKRPFQGSFVYIYVNG 720
Mus_musculus      EAFITHSGVLVAVCTKREYATVMLPDHSFCDLSLWHNITIVHMPGKRPFQGSFVYIYDNG 690
Rattus_norvegicus EAFITHSGMLVAVCTKREYATVMLPDHSFCDLSLWHNITIVHMPGKRPFQGSFVYIYDNG 719
Homo_sapiens      EAFITHSGMLVAVCTKREYATVMLPDHSFCDLSLWHNITIVHMPGKRPFQGSFVYIYDNG 719
Pan_troglodytes   EAFITHSGMLVAVCTKREYATVMLPDHSFCDLSLWHNITIVHMPGKRPFQGSFVYIYDNG 719
Callithrix_jacchus EAFITHSGMLVAVCTKREYATVMLPDHSFCDLSLWHNITIVHMPGKRPFQGSFVYIYDNG 719
Bos_taurus        EAFITHSGMLVAVCTKREYATVMLPDHSFCDLSLWHNITIVHMPGKRPFQGSFVYIYDNG 719
Equus_caballus    EAFITHSGTLVAVCTKREYATVMLPDHSFCDLSLWHNITIVHMPGKRPFQGSFVFIYDNG 719
Canis_lupus_familiaris EAFITHSGMLVAVCTKREYATVMLPDHSFCDLSLWHNITIVHMPGKRPFQGSFVYIYDNG 719
Heterocephalus_glaber EAFITHSGMLVAVCTKREYATVTLPDHSFCDLSLWHNITIVHMPGKRPFQGSFVYIYDNG 705
Rhinatrema_bivittatum EAFITSSGMLVAVCTKREYATVMLPEICFCDLSLWHNITIVHMPGKRPFQGSFVYIYVNG 719
Xenopus_tropicalis EAFITSSGVLVAVCTKREYATVMLPDHCFCDLSLWHNITIVHMPGKRPFQGSFVYIYVNG 719
.....670.....680.....690.....700.....710.....720

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*      ****:***:***.*      ****.*****.*****.*      *      ***:****.
Pavo_muticus      QQKISAPLRFPAMNEPFTSCCIGSAGQRTTTPPPSQIPDPFFSSPVMPHRTSLGGILSPG      779
Pavo_cristatus    QQKISAPLRFPAMNEPFTSCCIGSAGQRTTTPPPSQIPDPFFSSPVMPHRTSLGGILSPG      779
Gallus_gallus     QQKISAPLRFPAMNEPFTSCCIGSAGQRTTTPPPSQIPDPFFSSPIMPHRTSLGGILSPG      779
Chelonia_mydas    QQKISAPLRFPAMNEPFTSCCIGSAGQRTTTPPPSQIPDPFFSSPITPHRTSLGGILSPA      780
Mus_musculus      QQKVSAPLRFPAMNEPFTSCCIGSAGQRTTTPPPSQIPDPFFSTPITPHRTSFGGILSSA      750
Rattus_norvegicus QQKVSAPLRFPAMNEPFTSCCIGSAGQRTTTPPPSQIPDPFFSTPITPHRTSFGGILSSA      779
Homo_sapiens      QQKVSAPLRFPAMNEPFTSCCIGSAGQRTTTPPPSQIPDPFFSSPITPHRTSFGGILSSA      779
Pan_troglodytes   QQKVSAPLRFPAMNEPFTSCCIGSAGQRTTTPPPSQIPDPFFSSPITPHRTSFGGILSSA      779
Callithrix_jacchus QQKVSAPLRFPAMNEPFTSCCIGSAGQRTTTPPPSQIPDPFFSSPVTPHRTSFGGILSSA      779
Bos_taurus        QQKVSAPLRFPAMNEPFTSCCIGSAGQRTTTPPPSQIPDPFFSSPITPHRTSFGGILSSA      779
Equus_caballus    QQKVSAPLRFPAMNEAFVSCCIGSAGQRTTTPPPSQIPDPFFSSPITPHRTSFGGILSSA      779
Canis_lupus_familiaris QQKVSAPLRFPAMNEPFTSCCIGSAGQRTTTPPPSQIPDPFFSSPITPHRTSFGGILSSA      779
Heterocephalus_glaber QPKVSAPLRFPAMNEPFTSCCIGSAGQRTTTPPPSQIPDPFFSSPITPHRTSFGGILSSA      765
Rhinatrema_bivittatum QQMLSAPLKFPMSNEPFTSCCIGSAGQRTTTPPPSQIPDPFFSFAVPSRTSLSGILSSP      779
Xenopus_tropicalis QQKASAPLKFPMSNEAFTSCCIGSAGQRTTTPPPSQIPDPPISPPSAGTRTSLGGILSSP      779
.....730.....740.....750.....760.....770.....780

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:.*.      :..      **:*****.*****:****.      :      *      ***.*****.
Pavo_muticus      SWGGMLAKPELITKMISAGTQDSEWGCPTSLEGQLGSVIFHEALOPPOVKALYLAGPNC      839
Pavo_cristatus    SWGGMLAKPELITKMISAGTQDSEWGCPTSLEGQLGSVIFHEALOPPOVKALYLAGPNC      839
Gallus_gallus     SWGGMLAKPELITKMISAGTQDSEWGCPTSLEGQLGSVIFHEALOPPOVKALYLAGPNC      839
Chelonia_mydas    SWGGLLGKSELVTKLISAGTQDSEWGCPTSLEGQLGSVIFHEALOPSQVKALYLAGPNC      840
Mus_musculus      SWGGTIEKSKLFTKLISAGTQDSEWGCPTSLEGQLGSVIFHEALOPPOVKALYLAGPNC      810
Rattus_norvegicus SWGGTVEKSKLFTKLISAGTQDSEWGCPTSLEGQLGSVIFHEALOPPOVKALYLAGPNC      839
Homo_sapiens      SWGGTIEKSKLITKLISAGTQDSEWGCPTSLEGQLGSVIFYEALOPPOVKALYLAGPNC      839
Pan_troglodytes   SWGGTIEKSKLITKLISAGTQDSEWGCPTSLEGQLGSVIFYEALOPPOVKALYLAGPNC      839
Callithrix_jacchus SWGGTNEKSKLITKLISAGTQDSEWGCPTSLEGQLGSVIFYEALOPPOVKALYLAGPNC      839
Bos_taurus        SWGGTIEKSKLITKLISAGTQDSEWGCPTSLEGQLGSVIFYEALOPPOVKALYLAGPNC      839
Equus_caballus    SWGGTIEKSKLITKLISAGTQDSEWGCPTSLEGQLGSVIFCEALOPPOVKALYLAGPNC      839
Canis_lupus_familiaris SWGGSLEKSKLITKLISAGTQDSEWGCPTSLEGQLGSVIFYEALOPPOVKALYLAGPNC      839
Heterocephalus_glaber SWGGAIEKSKSVTKLISAGTQDSEWGCPTSLEGQLGSVIFCEALOPPOVKVLYLAGPNC      825
Rhinatrema_bivittatum TWGGLLGNSEFATKLISAGTQDSEWGSPTSLEGQLGSVIVFHEALQLSQVKALYLAGPNC      839
Xenopus_tropicalis SWSGTHGKTDGVTKLISAGTQDSEWGSPTSLEGHLGSVLIFHDVLQAAQVKTLYLAGPNS      839
.....790.....800.....810.....820.....830.....840

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*      **      :      :::**      :::**      ***:*.*****.*      :*****:*****:***
Pavo_muticus      LTPWKSQEPEVADLP SKVLLHYTPKACRNPICLDLSANLLHGRLTGKVVNWDIKDMINC      899
Pavo_cristatus    LTPWKSQEPEVADLP SKVLLHYTPKACRNPICLDLSANLLHGRLTGKVVNWDIKDMINC      899
Gallus_gallus     LTPWKSQEPEVADLP SKVLLHYTPKACRNPICLDLSANLLHGRLTGKVVNWDIKDMINC      899
Chelonia_mydas    LTPWKSQESEVADLP SKVLLHYTPKACRNPICLDLSTNLLHGRLTGKVVNWDIKDMINC      900
Mus_musculus      LSPWKCQDCDMADLP SNILLHYTGKACKNSICLDLSANCLHGRLTGKVVNWDIKDIINC      870
Rattus_norvegicus LSPWKCQDCDMADLP SNILLHYTGKACKNSICLDLSSNCLHGRLTGKVVNWDIKDIINC      899
Homo_sapiens      LSPWKCQESDMADLP GNILLYYTAKACKNSICLDLSTNCLHGRLTGKVVNWDIKDIINC      899
Pan_troglodytes   LSPWKCQESDMADLP GNILLYYTAKACKNSICLDLSTNCLHGRLTGKVVNWDIKDIINC      899
Callithrix_jacchus LSPWKSQESDMADLP GNILLYYTAKACKNSICLDLSTNCLHGRLTGKVVNWDIKDIINC      899
Bos_taurus        LSPWKFFQESDMADLP GNVLHYTAKACKNAICLDLSTNCFHGRLTGKVVNWDIKDVINC      899
Equus_caballus    LSPWKFFQESDMADLP GNVLHYTAKACKNSICLDLSANCLHGRLTGKVVNWDIKDIINC      899
Canis_lupus_familiaris LSPWKFFQESDMADLP GNILLYYTAKACKNSICLDLSTNCLHGRLTGKVVNWDIKDIINC      899
Heterocephalus_glaber LSPWKCQESDMTDLP GKVLLHYTAKACKNSICLDLSTNCLHGRLTGKVVNWDIKDIINC      885
Rhinatrema_bivittatum LCPWKTLESEADLP GKILLHYTPKACRNPICLDLSPNLLHGRLTGKVVNWDIKDMINC      899
Xenopus_tropicalis LSLWKSQESELTDLP TKLLLYYTAKACKNPICLDLSSNVLHGRLTGKVVNWDIKDMINC      899
.....850.....860.....870.....880.....890.....900

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/NBEDA1d.p Tue Feb 1 14:08:50 2022

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***:* ***** . * : * * : : :*:***:***:***:
Pavo_muticus      IGGINVLFPLLEQISFLGRQMPEKSVGETLPPEVVTPEGDWVVLSSSTKASEARLEKNIV 959
Pavo_cristatus    IGGINVLFPLLEQISFLGRQMPEKSVGETLPPEVVTPEGDWVVLSSSTKASEARLEKNIV 959
Gallus_gallus     IGGINVLFPLLEQISFLGRQMPEKSVGETLPPEVVTPEGDWVVLSSSTKASEARLEKNIV 959
Chelonia_mydas    IGGLNVLFPLLEQISFLNGQVPERSEGETIPQELVTPIEGDWVVLSSSTKASEARLEKNIV 960
Mus_musculus      IGGLNVLFPLLEQISHFSEGQISEAMSENTVPELVTPSEQECMGLASTRASESRLEKNLI 930
Rattus_norvegicus IGGLNVLFPLLEQISHVSEGOACEAVSENTVPELITPIEQEGMVASTKASESRLEKNLI 959
Homo_sapiens      IGGLNVLFPLLEQISHFSEGQIPEEKNESTVPESVTPVEGDWLVTSTKASESRLEKNLI 959
Pan_troglodytes   IGGLNVLFPLLEQISHFSEGQIPEEKNESTVPESVTPVEGDWLVTSTKASESRLEKNLI 959
Callithrix_jacchus IGGLNVLFPLLEQISHFSEGQIPEEKNESTVPESVTPVEGDGLILTSTKASESRLEKNLI 959
Bos_taurus        IGGLNVLFPLLEQISHFSEGQIPEGLNESTVSELITPVEGDWVVLSTKASESRLEKNLI 959
Equus_caballus    IGGLNVLFPLLEQISHSSEGOIAEGMNESTVSELITPVEGDWVVLSTKASESRLEKNLI 959
Canis_lupus_familiaris IGGLNVLFPLLEQISRFEGQISEGMNESTVSELITPVEGDWVVLSTKASESRLEKNLI 959
Heterocephalus_glaber IGGLNVLFPLLEQISHLSEGRITEGRRESTVPESEVAPVEGDSVVLSTKASESRLEKNLI 945
Rhinatrema_bivittatum IGGLNVLFPLLEQISCLSEQMPDGFEEELGAAEVMTPAEGDWVVSSTKASEARLEKNIV 959
Xenopus_tropicalis IGGLNSLFPLLEQISYLNELPCEKTDSCVTATEHLTPIEGDFVVLSSSTKASEARLEKNIV 959
.....910.....920.....930.....940.....950.....960

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*****:***:***:***:***:***:***:***:***:***:***:***:***:
Pavo_muticus      ATFILVIKHFIRRHVNQENLIHCHGVATLGTLLQKVPISILMDVNVLMVAVQLLIEQVSVE 1019
Pavo_cristatus    ATFILVIKHFIRRHVNQENLIHCHGVATLGTLLQKVPISILMDVNVLMVAVQLLIEQVSVE 1019
Gallus_gallus     ATFILVIKHFIRRHVNQENLIHSHGVATLGTLLQKVPISILMDVNVLMVAVQLLIEQVSVE 1019
Chelonia_mydas    ATFILMIKHFIRHPINQDNLIHSHGVATLGALLQKVPISILMDVNVLMVAVQLLIEQVSVE 1020
Mus_musculus      ATFILIVKHFIQRHPINQDNLIHSHGVATLGALLQKVPISILMDVNVLMVAVQLLIEQVSLE 990
Rattus_norvegicus ATFILIVKHFIQRHPINQDNLIHSHGVATLGALLQKVPISILMDVNVLMVAVQLLIEQVSLE 1019
Homo_sapiens      ATFILIVKHFIQRHPINQDNLIHSHGVATLGALLQKVPISILMDVNVLMVAVQLLIEQVSLE 1019
Pan_troglodytes   ATFILIVKHFIQRHPINQDNLIHSHGVATLGALLQKVPISILMDVNVLMVAVQLLIEQVSLE 1019
Callithrix_jacchus ATFILIVKHFIQRHPINQDNLIHSHGVATLGALLQKVPISILMDVNVLMVAVQLLIEQVSLE 1019
Bos_taurus        ATFILIVKHFIQRHPINQDNLIHSHGVATLGALLQKVPISILMDVNVLMVAVQLLIEQVSLE 1019
Equus_caballus    ATFILIVKHFIQRHPINQDNLIHSHGVATLGALLQKVPISILMDVNVLMVAVQLLIEQVSLE 1019
Canis_lupus_familiaris ATFILIVKHFIQRHPINQDNLIHSHGVATLGALLQKVPISILMDVNVLMVAVQLLIEQVSLE 1019
Heterocephalus_glaber ATFILILKHLIRHPINQDNLIHSHGVATLGALLQKVPISILMDVNVLMVAVQLLIEQVSLE 1005
Rhinatrema_bivittatum ATFILMIKHFIRHPINQENLIHSHGVATLGALLQKVPISILMDVNVLMVAVQLLIEQVSVE 1019
Xenopus_tropicalis ATFILLIKHLIRHPINQEVLTYSHGVAITLGVLQKVSIGNLMDVNVLMVAVQLLIEQVSVE 1019
.....970.....980.....990.....1000.....1010.....1020

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.* ***** ***** :** *****:*****:*****:*****:***:***:***:***:
Pavo_muticus      KNLQLLQQMYQHLLFDFSIWNSGDFPFRIGHIQYLSSTIIKDSRRLFRKKYGVQFLDITLR 1079
Pavo_cristatus    KNLQLLQQMYQHLLFDFSIWNSGDFPFRIGHIQYLSSTIIKDSRRLFRKKYGVQFLDITLR 1079
Gallus_gallus     KNLQLLQQMYQHLLFDFSIWNSGDFPFRIGHIQYLSSTIIKDSRRLFRKKYGVQFLDITLR 1079
Chelonia_mydas    KNVQLLQQMYQHLLFDFSIWNRGDFPFRIGHIQYLSSTIIKDSRRLFRKKYGVQFLDITLR 1080
Mus_musculus      KNTLLLQQMYQCLLDFDRIWNRGDFPFRIGHIQYLSSTIIKDSRRVFRKKYGVQFLDITLR 1050
Rattus_norvegicus KNTLLLQQMYQCLLDFDRIWNRGDFPFRIGHIQYLSSTIIKDSRRVFRKKYGVQFLDITLR 1079
Homo_sapiens      KNMQLLQQMYQYLLFDFRIWNRGDFPFRIGHIQYLSSTIIKDSRRVFRKKYGVQFLDITLR 1079
Pan_troglodytes   KNMQLLQQMYQYLLFDFRIWNRGDFPFRIGHIQYLSSTIIKDSRRVFRKKYGVQFLDITLR 1079
Callithrix_jacchus KNVQLLQQMYQYLLFDFRIWNRGDFPFRIGHIQYLSSTIIKDSRRVFRKKYGVQFLDITLR 1079
Bos_taurus        KNMQLLQQMYQYLLFDFRIWNRGDFPFRIGHIQYLSSTIIKDSRRVFRKKYGVQFLDITLR 1079
Equus_caballus    KNMQLLQQMYQYLLFDFRIWNRGDFPFRIGHIQYLSSTIIKDSRRVFRKKYGVQFLDITLR 1079
Canis_lupus_familiaris KNMQLLQQMYQYLLFDFRIWNRGDFPFRIGHIQYLSSTIIKDSRRVFRKKYGVQFLDITLR 1079
Heterocephalus_glaber KNMLLLQQMYQYLLFDFRVWNRGDFPFRIGHIQYLSSTIIKDSRRVFRKKYGVQFLDITLR 1065
Rhinatrema_bivittatum SNMQLLQQMYQYLLFDFRIWNRGDFPFRIGHIQYLSSTIIKDSRKLFRKKYGVQFLDITLR 1079
Xenopus_tropicalis KNTLLLQQMYQYLLFDFRIWNRGDFPFRIGHIQYVSTIIKDSRKLFRKKYGVQFLDITLR 1079
.....1030.....1040.....1050.....1060.....1070.....1080

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/NBEDA.fst Tue Feb 14:08:50 2022

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::*      . *: :*: **: *:*****.***: :*****.****. :****: **
Pavo_muticus      VYYGSGCKDSDLAPDDLRTIRTSYGLIKYFLSKGGTHEEIQSIVGYIAATSEEEQLWGI 1139
Pavo_cristatus    VYYGSGCKDSDLAPDDLRTIRTSYGLIKYFLSKGGTHEEIQSIVGYIAATSEEEQLWGI 1139
Gallus_gallus     VYYGSGCKDSDLAPDDLRTIRMSYGLIKYFLSKGGTHEEIQSIVGYIAATSEEEQLCGI 1139
Chelonia_mydas    IYYGSGYKDSDLTPDDLRTIQTFLYGLIKYFLSKGGTHEEIQSIMGYIAVTSEEEQLCGI 1140
Mus_musculus      IYYGHGSTCNELSPDDIRTIRTSYGLIKYFLCKGGTHEEIQSIIGYIAATNEEEQLFGI 1110
Rattus_norvegicus IYYGHSSICNELSPDDIRTIRTSYGLIKYFLCKGGSHEEIQSIIGYIAATNEEEQLFGI 1139
Homo_sapiens      IYYGNGCKYNELSLDDIRTIRTSYGLIKYFLCKGGSHEEIQSIMGYIAATNEEEQLFGI 1139
Pan_troglodytes   IYYGNGCKYNELSLDDIRTIRTSYGLIKYFLCKGGSHEEIQSIMGYIAATNEEEQLFGI 1139
Callithrix_jacchus IYYGNGCKYNELSLDDIRTIRTSYGLIKYFLCKGGSHEEIQSIMGYIAATNEEEQLFGI 1139
Bos_taurus        IYYGNDCKYNELSPDDIRTIRTSYGLIKYFLSKGGTHEEIQSIMGYIAATNEEEQLLGI 1139
Equus_caballus    IYYGSDCKYSELSDDDIRTIRTSYGLIKYFLCKGGTHEEIQSIMGYIAATNEEEQLFGI 1139
Canis_lupus_familiaris IYYGTDCKYSELSDDDIRTIRTSYGLIKYFLCKGGTHEEIQSIMGYIAATNEEEQLFGI 1139
Heterocephalus_glaber IYYGSGCKYNELSLDDIQTIRSSLYGLIKYFLCKGGTHDEIQSIMGYIAATNEEEQLFGI 1125
Rhinatrema_bivittatum IHY--SGIEENDLSLEDMITIRTSYGLIKYFLSKGATHEEIQSIMGYIAATNEEEQLCGI 1138
Xenopus_tropicalis IYY--SKENALAADDLTIRTSYGLIKYFLSKGGAPEEIQSIIGYIAATNEEEQLYGI 1136
.....1090.....1100.....1110.....1120.....1130.....1140

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*::: ** .. *****:****.***:*****:*.***:.*: :*:.*:****.:.**
Pavo_muticus      LDVLFSLHSSSAPDQLFLLLFEPGNADILYALLHQRYSDRRLRELVEFKIMEEMLKCTKV 1199
Pavo_cristatus    LDVLFSLHSSSAPDQLFLLLFEPGNADILYALLHQRYSDRRLRELVEFKIMEEMLKCTKV 1199
Gallus_gallus     LEVLFSLHSSSAPDQLFLLLFEPGNADILYALLHQRYSDRVRELVEFKIMEEMLKCTKV 1199
Chelonia_mydas    LDVLFSLHSSSAPDQLFLLLFEPGNADILYALLHQRYSDRRLRELVEFKIMEEMLKCTKV 1200
Mus_musculus      LDILFSLLRTPSTRGQLFLLLFEPGNADILYALLNQRYSDKLREIIFKVMEQMLKCTNV 1170
Rattus_norvegicus LDILFSLLRTPSTRGQLFLLMFEPGNADILYALLNQRYSDKLREIIFKVMEQMLKCTNV 1199
Homo_sapiens      LDVLFSLLRTPSTRGQLFLLLFEPGNADILYALLNQRYSDKLREIIFKVMEQMLKCTNV 1199
Pan_troglodytes   LDVLFSLLRTPSTRGQLFLLLFEPGNADILYALLNQRYSDKLREIIFKVMEQMLKCTNV 1199
Callithrix_jacchus LDVLFSLLRTPSTRGQLFLLLFEPGNADILYALLNQRYSDKLREIIFKVMEQMLKCTNV 1199
Bos_taurus        LDILFSLLRTPSTRGQLFLLLFEPGNADILYALLNQRYSDKLREIIFKVMEQMLKCTNV 1199
Equus_caballus    LDILFSLLRTPSTRGQLFLLLFEPGNADILYALLNQRYSDKLREIIFKVMEQMLKCTNV 1199
Canis_lupus_familiaris LDMLFSLLRTPSTRGQLFLLLFEPGNADILYALLNQRYSDKLREIIFKVMEQMLKCTNV 1199
Heterocephalus_glaber LDVLCSLLRTPSTRGQLFLLLFEPGNADILYALLNQRYSDKLREIIFKVMEQMLKCTNV 1185
Rhinatrema_bivittatum LEILFNLLHTGTTQDQLFLLLFEPGNADILYALLNQRYSDKLREIIFKVMEQMLKCNKV 1198
Xenopus_tropicalis LEIILHLLNGSPVLDQLFLLLFEPGSADMLYALLNQRYSDKLREIIFKVMEQMLKCNKV 1196
.....1150.....1160.....1170.....1180.....1190.....1200

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**:::.*:****:*****:****.:. **.*:.*: :*:.*: :*:.*:****:.*:..
Pavo_muticus      YERSKHRMRLREVGYSGLGLLLNESSTVSLIKNLLNQVLHADPAVNYKDLLAVVHLAHT 1259
Pavo_cristatus    YERSKHRMRLREVGYSGLGLLLNESSTVSLIKNLLNQVLHADPAVNYKDLLAVVHLAHT 1259
Gallus_gallus     YERSKHRMRLREVGYSGLGLLLNESSTVSLIKNLLNQVLHADPAVNYKDLLAVVHLAHT 1259
Chelonia_mydas    YERSKQRMRLREVGYSGLGLLLNESPTVSLIKNLLNQVLYADPVVNYRDLLAVVHLAHT 1260
Mus_musculus      YERSKQIRLRLREVGYSGLGLLLNESPTVSLIKNLLNQVLYADPVVNYRDLLAVVHLAHT 1230
Rattus_norvegicus YERSKQIRLRLREVGYSGLGLLLNESPTVSLIKNLLNQVLYADPVVNYRDLLAVVHLAHT 1259
Homo_sapiens      YERSKQIRLRLREVGYSGLGLLLNESPTVSLIKNLLNQVLYADPVVNYRDLLAVVHLAHT 1259
Pan_troglodytes   YERSKQIRLRLREVGYSGLGLLLNESPTVSLIKNLLNQVLYADPVVNYRDLLAVVHLAHT 1259
Callithrix_jacchus YERSKQIRLRLREVGYSGLGLLLNESPTVSLIKNLLNQVLYADPVVNYRDLLAVVHLAHT 1259
Bos_taurus        YERSKQIRLRLREVGYSGLGLLLNESPTVSLIKNLLNQVLYADPVVNYRDLLAVVHLAHT 1259
Equus_caballus    YERSKQIRLRLREVGYSGLGLLLNESPTVSLIKNLLNQVLYADPVVNYRDLLAVVHLAHT 1259
Canis_lupus_familiaris YERSKQIRLRLREVGYSGLGLLLNESPTVSLIKNLLNQVLYADPVVNYRDLLAVVHLAHT 1259
Heterocephalus_glaber YERSKQIRLRLREVGYSGLGLLLNESPTVSLIKNLLNQVLYADPVVNYRDLLAVVHLAHT 1245
Rhinatrema_bivittatum YERSKQIRLRLREVGYSGLGLLLNESPTVSLIKNLLNQVLYADPVVNYRDLLAVVHLAHT 1258
Xenopus_tropicalis YERSKQIRLRLREVGYSGLGLLLNESPTVSLIKNLLNQVLYADPVVNYRDLLAVVHLAHT 1255
.....1210.....1220.....1230.....1240.....1250.....1260

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/NBEDA1.fst Tue Feb 14:08:50 2022

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: : : : : * : : : : : : : : : : * : : : : : * : : : : : * : : : : :
Pavo_muticus      SDINMRVVICRKVLHLLRSQPDAAQQISQQLGWQDTLIRLFLKENSEVQIGFRE-SRADS 1318
Pavo_cristatus    SDINMRVVICRKVLHLLRSQPDAAQQISQQLGWQDTLIRLFLKENSEVQIGFRE-SRADS 1318
Gallus_gallus     SDINMRVVICRKVLHLLHSQPDAAQQISQQLGWQDTLIRLFLKENSEVQIGFRE-NRADS 1318
Chelonia_mydas    ADINVRVAICKKVLQLLHSQPDAAQQIAQQLAWQETLVRLFLKENSDIRNGLKE-SRTDS 1319
Mus_musculus      THVNVVRVLCRKILQILQSQPDAAQISQQVGWQDTFVRLFLKANFENVNLSLNKHGKTIS 1290
Rattus_norvegicus AHVNVVRVLCRKILQILQSQPDAAQISQQVGWQDTFVRLFLKANFENVNLSLNKHGKTIS 1319
Homo_sapiens      AHINVRVAICRKVLQILQFQPDAAHQISQQVGWQDTLVRLFLKAKFENGNTLHKHSRAVL 1319
Pan_troglodytes   AHINVRVAICRKVLQILQSQPDAAHQISQQVGWQDTLVRLFLKAKFENGNTLHKHSRAVL 1319
Callithrix_jacchus AHINVRVAICRKVLQILQFHPDAAHQISQQVGWQDTLVRLFLKAKFENGNTLHKHSRAVL 1319
Bos_taurus        AYINVRVVICRKMLQILQSQPDAAHQISQQVGWQDTLVKLFLKANFENGNTLHKHNRAII 1319
Equus_caballus    AHINVRVVICRKILQILQSQPDAAHQISQQVGWQDTLVRLFLKANFENGNTLHKHSRAVS 1319
Canis_lupus_familiaris THINVRVVVCKKILQILQSQPDAAHQISQQVGWQDTLVKLFLKMFENGNTLHKHSRAVS 1319
Heterocephalus_glaber TYINVRVVLCKKILQILQSQPDAAHQISQQVGWQDTLVRLFLKADFENGNTLHKHSRAVL 1305
Rhinatrema_bivittatum ADLTVRVAICRKVLHLLQTQLEAAQICQQLCWQETLVRLFLKENSETRNGRKD-SRAGS 1317
Xenopus_tropicalis ADLTVRVAVCRKILQLLQFQHDAAFOVCQOVGWQETLVRFLLKENLECKSNFRA-SCTDS 1314
.....1270.....1280.....1290.....1300.....1310.....1320

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: : : : : : : : : : : * : : : : :
Pavo_muticus      SREEKKKPPAEELQKYHADKMEGDKADTFASVNGLFQDWSLEDNKSILNVPA--HFSAMPL 1376
Pavo_cristatus    SREEKKKPPAEELQKYHADKMEGDKADTFASVNGLFQDWSLEDNKSILNVPA--HFSAMPL 1376
Gallus_gallus     LREEKKKPPAEELQKYHTDKMEGDKSDTFVSVNGLFQDWSLEDNKSILNVPA--HFSAMPL 1376
Chelonia_mydas    TKEDEKKIPAEELQKCYPDQAEKGKASSFASVNGSYDQWSVEDSKSLDVTN--CFSGTLL 1377
Mus_musculus      MKEN-KNMSTEDVKRNF-EKLDDEK---MMLADVSSDHWSEDSQSLNSN-----TPLFQ 1340
Rattus_norvegicus VKEN-KNMSTEDVKRTF-EKLDDEK---MTLADISSDHWSEDSQSLNSN-----TPLFQ 1369
Homo_sapiens      MKDNDKNMSTEDTKKNSDEKTDDEKITSFASANVSSDQWSLEDRHSLDSN-----TPLFQ 1374
Pan_troglodytes   MKDNDKNMSTEDTKKNSDEKTDDEKITSFASANVSSDQWSLEDRHSLDSN-----TPLFQ 1374
Callithrix_jacchus MKDNDKYMSTEDTKKNFDEKTDDEKITSFSSAKVSSDQWSLEDRHSLDSN-----TPLYQ 1374
Bos_taurus        VKDNDKNISVEDMKRSFDEKTDDEKIASFASAHVSSDEWSLEDRHSLDSN-----MPLFQ 1374
Equus_caballus    MKDNDKNISADDNKRNFDEKMDEEKINSFASTNVSSDQWSLEDRRSLDSN-----TPLFQ 1374
Canis_lupus_familiaris MKDNDKNISAEDTRNRFDEKTDDEKINSFASANVPSDQWSLEDRHSLDSN-----TPLFQ 1374
Heterocephalus_glaber IKEISKNTSVEDIKRNLDDEKINFILSANVSSNPWSSSEDRQSLDSN-----TLLIQ 1360
Rhinatrema_bivittatum VREDEKRLSAEEMQKRHAKKADEDRVDDITLSLSLCKWYLEDNKSILNSTRSFNSLAMD 1377
Xenopus_tropicalis IKEDEQNAVSEETQKQSSEEVMDQADGCTLNNNQYNSYFPEESKSLDSNQSSCALLDD 1374
.....1330.....1340.....1350.....1360.....1370.....1380

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: : * : : : * : : : * : : : : * : : : : * : : : : * : : : : *
Pavo_muticus      EDASTAEMSFKSEEDREELWHSNPSHLSDLSSVDSYELAEVVNQMTDSLPSPIENRK 1436
Pavo_cristatus    EDASTAEMSFKSEEDREELWHSNPSHLSDLSSVDSYELAEVVNQMTDSLPSPIENRK 1436
Gallus_gallus     EDASTAEMSFKSEEDREELWHSNPSHLSDLSSVDSYELADVVNQMTDSLPSPIENRK 1436
Chelonia_mydas    EGTSTVEEMTSRSEDQEELWHSNPSHLHLDLSMDSYELADSGNQMTDSMPSTPSPIENRK 1437
Mus_musculus      EDSSEGELSFKSENQEEFWHSNTSHLSLDLSDGIDACELSDSGSQVPDSSPSTPSPVESTK 1400
Rattus_norvegicus EDSSEGELSFRSENQEEFWHSNTSHLSLDLSDGIDASELSDSGSQMPDSSPSTPSPVESTK 1429
Homo_sapiens      EDSSVGELSFKSENQEEFWHSNPSHLSDLSDGIDSCMSDSDSGSQVPDPSLPSTPSPVESTK 1434
Pan_troglodytes   EDSSVGELSFKSENQEEFWHSNPSHLSDLSDGIDSCMSDSDSGSQVPDPSLPSTPSPVESTK 1434
Callithrix_jacchus EDSSMGELSFKSENQEEFWHSNPSHFRDLSDGIDSCMSDSDSGSQVPDPSLPSTPSPIESTK 1434
Bos_taurus        EDSSMGELSFKSENQEEFWHNNPSPLSLDLSDGIDSCELSDGGSQMPDPSLPSTPSPVESTK 1434
Equus_caballus    EDSSVGELSFKSENQEEFWHNSPSHLSDLSDRIDSCELSDSGGQMPDPSLPSTPSPIESTK 1434
Canis_lupus_familiaris EDSSVGELSFKSENQEEFWNNLSHLSDLSDGIDSCELSDNGSHMPDPSLPSTPSPIESTK 1434
Heterocephalus_glaber EDTSVRELSFKSENQE-LWHSNSSLHSLDLSDGVDTCESLSDSGSQMPDPSLPSTPSPVES-K 1418
Rhinatrema_bivittatum DETSVNEIPLRLNQEEVWPSDPAFLRLNLCSTTS-EVGDNGNQITSLPSTPSPDSSK 1436
Xenopus_tropicalis EESIFSEAQYKVEDQGNWPSDHSHTLTLTPFDAGFREN---QIPGSLPSTPSPVENSK 1431
.....1390.....1400.....1410.....1420.....1430.....1440

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus	PFSG	QPEKELDVIGNVGFS	AAADLSLF	---	ENQGGGDNELVQLL	TDILL	CTMWKGIERSD							1492
Pavo_cristatus	PFSG	QPEKELDVIGDVGFS	AAADLSLF	---	ENQGGGDNELVQLL	TDILL	CTMWKGIERSD							1492
Gallus_gallus	PFSG	QPEKELDVISDVGFS	AAADLSLF	---	ENQGGGDNELTQLL	TDILL	CTMWKGIKESD							1492
Chelonia_mydas	PFSG	QPKKESSIIDMGFS	VDLSLF	---	ENQGSSEELLQLL	TDVLL	CVMWKGLERFD							1492
Mus_musculus	SFSI	QSDKERSITNEMGFS	DDFSFL	---	ESQERCEEEELFOLL	TNILNY	VCKGLEKSD							1455
Rattus_norvegicus	SFSV	QSDKDRITNEMGFS	DDFSFL	---	ESQERCEEEELFOLL	TNILNY	VLCKGLEKSD							1484
Homo_sapiens	SFSV	HSDRESSITNDMGFS	DDFSLL	---	ESQERCEEEELLQLL	THILNY	VCKGLEKSD							1489
Pan_troglodytes	SFSV	HSDKESSITNDMGFS	DDFSLL	---	ESQERCEEEELLQLL	THILNY	VCKGLEKSD							1489
Callithrix_jacchus	SFSV	HSGKESSITNDMGFS	DDFSLL	---	ESQERCEEEELLQLL	TNILNY	VCKGLEKSD							1489
Bos_taurus	PPFV	QPKKESSIVNDVGFS	DDFSLL	---	ENKERCEEEELLQLL	TNILSC	IMCKGLEKSD							1489
Equus_caballus	SFSV	PSDKESSITSDTGFS	DDFSLL	---	ESQERCEEEELLQLL	TNILSY	VCKGLEKSD							1489
Canis_lupus_familiaris	SFSV	QSDKKESSIISDTGFG	DDFSLL	---	ESQERCEEEELLQLL	TNILNY	VCKGLEKSD							1489
Heterocephalus_glaber	SFSA	QSDKKECSAS	DTGFS	DDFSLL	---	ESQEKCEEEELLQLL	TDILNY	IMYKGLEKSD						1472
Rhinatrema_bivittatum	TFCVS	QPDREPSVISDMNFS	DELSLC	GNYESQ	KDYEEELVOLL	TDILL	CVMWKGLDRSD							1495
Xenopus_tropicalis	QFVMN	QSDKDESNLKNVFFR	DDL	SLSVN	MESREDCEEELVOLL	TDILL	CLMWKGLDKSD							1490
	1450.....	1460.....	1470.....	1480.....	1490.....	1500			

[illegible]

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Pavo_muticus	R	L	L	L	I	V	D	F	L	A	E	G	L	V	N	S	N	L	W	T	E	K	L	L	E	E	L	V	T	L	M	D	S	L	S	V	W	Y	S	A	G	P	E	A	T	W	F	S	Q	V	Q	V	O	L	L	L	G	F	1612	
Pavo_cristatus	R	L	L	L	I	V	D	F	L	A	E	G	L	V	N	S	N	L	W	T	E	K	L	L	E	E	L	V	T	L	M	D	S	L	S	V	W	Y	S	A	G	P	E	A	T	W	F	S	Q	V	Q	V	O	L	L	L	G	F	1612	
Gallus_gallus	R	L	L	L	I	V	D	F	L	A	E	G	L	V	N	S	N	L	W	T	E	K	L	L	E	E	L	V	I	L	M	D	S	L	S	V	W	Y	S	A	G	P	E	A	T	W	F	S	Q	V	Q	I	O	L	L	L	G	F	1612	
Chelonia_mydas	R	L	L	L	I	V	D	F	L	A	E	G	L	V	N	S	N	L	W	T	E	K	L	L	E	E	L	V	T	L	I	D	S	L	S	L	W	Y	S	A	G	P	E	W	I	K	S	Q	V	Q	V	O	L	L	L	G	F	1612		
Mus_musculus	R	L	M	L	I	V	D	F	L	Q	S	E	G	L	V	N	S	N	M	W	T	E	K	L	L	E	D	A	T	Q	L	L	D	C	L	S	V	W	Y	S	E	N	P	A	W	K	L	S	Q	I	Q	T	O	L	L	L	E	F	1575	
Rattus_norvegicus	R	L	M	L	I	I	D	F	L	Q	S	E	G	L	V	N	S	N	M	W	T	E	K	L	L	E	D	T	Q	L	L	D	C	L	S	V	W	Y	S	E	N	P	V	W	K	L	S	Q	I	Q	I	O	L	L	L	E	F	1604		
Homo_sapiens	R	L	V	L	I	I	D	F	L	Q	S	E	G	L	V	N	S	N	M	W	T	E	K	L	L	E	D	M	L	L	F	D	C	L	S	V	C	Y	S	E	S	P	V	W	K	L	S	Q	I	Q	I	O	L	L	L	G	F	1609		
Pan_troglodytes	R	L	V	L	I	I	D	F	L	Q	S	E	G	L	V	N	S	N	M	W	T	E	K	L	L	E	D	M	L	L	F	D	C	L	S	V	C	Y	S	E	S	P	V	W	K	L	S	Q	I	Q	I	O	L	L	L	G	F	1609		
Callithrix_jacchus	R	L	M	L	I	I	D	F	L	Q	S	E	G	L	V	N	S	N	M	W	T	E	K	L	L	E	D	M	L	L	F	D	C	L	S	V	W	Y	S	E	N	P	L	V	W	K	L	S	Q	I	Q	I	O	L	L	L	G	F	1609	
Bos_taurus	R	L	T	L	I	I	D	F	L	Q	S	E	G	L	V	N	S	N	M	W	T	E	K	L	L	E	D	L	M	L	L	F	D	C	L	S	V	W	Y	S	E	N	P	V	G	K	L	S	Q	I	Q	I	O	L	L	L	G	F	1609	
Equus_caballus	R	L	M	L	I	V	D	F	L	Q	S	E	G	L	V	N	S	N	M	W	T	E	K	L	L	E	N	M	Q	L	F	D	G	L	S	V	W	Y	S	E	S	P	V	W	K	L	S	Q	I	Q	I	O	L	L	L	G	F	1609		
Canis_lupus_familiaris	R	L	I	V	I	I	D	F	L	Q	S	E	G	L	V	N	S	N	M	W	T	E	K	L	L	E	D	L	M	L	L	F	D	G	L	S	V	C	C	S	E	S	T	I	W	R	E	L	P	O	I	Q	I	O	L	L	L	G	F	1609
Heterocephalus_glaber	R	L	I	L	I	I	D	F	L	Y	S	E	G	L	V	N	S	I	W	T	E	K	L	L	E	I	M	L	L	F																														

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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* ..:****:****:*****: . * ****:***** :*.:*:* ** *:****:
Pavo_muticus      I A Q D N L Q V C A M A A A K L N T L L Q T K V I E S Q P E A C Y L L G K L E G I L S R S I E E K T E T Y S F L I P L V 1672
Pavo_cristatus    I A Q D N L Q V C A M A A A K L N T L L Q T K V I E S Q P E A C Y L L G K L E G I L S R S I E E K T E T Y S F L I P L V 1672
Gallus_gallus     I A K D N L Q V C A M A A A K L N T L L Q T K V I E S Q P E A C Y L L G K L E G I L S R S I E E K T E T Y S F L I P L V 1672
Chelonia_mydas    I G Q D N L Q V C A M A A A K L N T L L Q T K V I E S Q A E A C Y L L G K L E G I L S R S I K E K T E T Y A F L I P L V 1672
Mus_musculus      I G R G S L Q V C A M A S A K L N A L L Q T K V I E N Q D E A C Y I L G K L E H I L S R S I K E Q T E I Y S F L I P L L 1635
Rattus_norvegicus I G R G S L Q V C A M A S A K L N A L L Q T K V I A N Q D E A C Y I L G K L E H I L S R S I K E Q T E I Y S F L I P L L 1664
Homo_sapiens      I G R G N L Q V C A M A S A K L N T L L Q T K V I E N Q D E A C Y I L G K L E H V L S Q S I K E Q T E I Y S F L I P L V 1669
Pan_troglodytes   I G R G N L Q V C A M A S A K L N T L L Q T K V I E N Q D E A C Y I L G K L E H V L S Q S I K E Q T E I Y S F L I P L V 1669
Callithrix_jacchus I G R G N L Q V C A M A S A K L N T L L Q T K M F E N Q D E A C Y I L G K L E H V L S Q S I K E Q T E I Y S F L I P L V 1669
Bos_taurus        I G K G N L Q V C A M A S A K L N T L L Q T K V I E N Q D E A C Y I L G K L E H V L S Q S I K E Q T E I Y S F L I P L V 1669
Equus_caballus    I G R G N L Q V C A M A S A K L N T L L Q T K V I E N Q D E A C Y I L G K L E H V L S Q S V K E Q T E T Y S F L I P L V 1669
Canis_lupus_familiaris I G R G N V Q V C A M A S A K L N T L L Q T K V I E N Q E A C Y I L G K L E H V L S Q S I K E Q T E I Y S F L I P L V 1669
Heterocephalus_glaber I E S G S L Q V C A V A S A K L N T L L Q T K V I E S Q E E A C Y I L G K L E C V L S Q S I K E Q T E I Y S F L I P L V 1652
Rhinatrema_bivittatum I G Q S N L Q V C A M A A A K L N T L L Q T K V I E N Q E E A C Y L L G K L E G I L S R S I R E Q T E T Y S F L I P I V 1675
Xenopus_tropicalis I A Q D N L Q V C A M A A A K L N T L L Q T K V I E N Q E E A C Y L L G K L E G I L G S I K E K T E T Y S F L I P I V 1670
.....1630.....1640.....1650.....1660.....1670.....1680
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***:***:****:***** ** ..* ****:*** :*.:*:* ** *:***
Pavo_muticus      R T L V S K I Y E L L F M N L H L P S L P S T N G S P S F F E D F Q E Y C R S D E W K V Y I D K Y I I P N M K Q Y E E N 1732
Pavo_cristatus    R T L V S K I Y E L L F M N L H L P S L P S T N G S P S F F E D F Q E Y C R S D E W K V Y I D K Y I I P N M K Q Y E E N 1732
Gallus_gallus     R T L V S K I Y E L L F M N L H L P S L P S T N G S P S F F E D F Q E Y C R S D E W K V Y I D K Y I I P N M K H Y E E N 1732
Chelonia_mydas    R T L V S K V Y Q L L F M N L H L P S L P L T N G S P S F F E D F R E Y C S S D E W Q V Y I D K Y I I P Y M K Q Y E V N 1732
Mus_musculus      R T L V S K I Y E L L F M N L H L P S L P T N G S A S F F E D F Q E Y C N S E E W Q V Y I E K Y I V P Y M K Q Y E A H 1695
Rattus_norvegicus R T L V S K I Y E L L F M N L H L P S L P T N G S T S V F E D F Q E Y C N S N E W Q V Y I E K Y I V P Y M K Q Y E A H 1724
Homo_sapiens      R T L V S K I Y E L L F M N L H L P S L P T N G S S S F F E D F Q E Y C N S N E W Q V Y I E K Y I V P Y M K Q Y E A H 1729
Pan_troglodytes   R T L V S K I Y E L L F M N L H L P S L P T N G S S S F F E D F Q E Y C N S N E W Q V Y I E K Y I V P Y M K Q Y E A H 1729
Callithrix_jacchus R T L V S K I Y E L L F M N L H L P S L P T N G S S S F F E D F Q E Y C N S N E W Q V Y I E K Y I V P Y M K Q Y E T H 1729
Bos_taurus        R T L V S K I Y E L L F M N L H L P S L P T N G S A S F F E D F Q E Y C S N E W Q V Y I E K Y I V P Y M K K Y E T H 1729
Equus_caballus    R T L V S K I Y E L L F M N L H L P S L P T N G S S S F F E D F Q E Y C S S N E W Q V Y I E K Y I V P Y M K Q Y E T H 1729
Canis_lupus_familiaris R T L V S K I Y E L L F M N L H L P S L P T N G S S S F F E D F Q E Y C S S N E W Q V Y I E K Y I V P Y M K Q Y E T H 1729
Heterocephalus_glaber R T L V S K I Y E L L F M N L H L P S L P T N V S S S F F E D F Q E Y C S T N E W Q V Y I E K Y I L P Y M K Q Y E T H 1712
Rhinatrema_bivittatum R T L L S K I Y Q L L F M N L H L P S L P S T N G S P S F F E D F Q E Y C S S D E W R I Y I D K Y I V Q Y M K Q Y E V D 1735
Xenopus_tropicalis R T L V S K I Y Q L L F M H L H L P S L P I T N G N P S L F E D F Q E Y C N S D E W R I F I D K Y I I L Y M K Q Y E V D 1730
.....1690.....1700.....1710.....1720.....1730.....1740
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:* :* ** ***.*:** *****:*: *****:*:* *:***.*:***** **
Pavo_muticus      S F R H G H E Q M A L Y W K D C Y E A F M V N M H K R D R E R G E S K L K F Q E H F V E P F S R K A R Q E N L R Y N S M 1792
Pavo_cristatus    S F R H G H E Q M A L Y W K D C Y E A F M V N M H K R D R E R G E S K L K F Q E H F V E P F S R K A R Q E N L R Y N S M 1792
Gallus_gallus     S F R H G H E Q M A L Y W K D C Y E A F M V N M H K R D R E R G E S K L K F Q E H F V E P F S R K A R Q E N L R Y N S M 1792
Chelonia_mydas    T F S D G H E R M A L Y W K D C Y E A L M V N M H K R D R E R G E S K L K F Q E C F V E P F N R K A R Q E N L R Y N S M 1792
Mus_musculus      T F Y D G H E N M A L Y W K N C Y E A L M V N M H K R D R E G G E S K L K F Q E Y F V E P F N R K A R Q E N L R Y N N M 1755
Rattus_norvegicus T F Y D G H E N M A L Y W K N C Y E A L M V N M H K R D R E G G E S K L K F Q E Y F V E P F N R K A R Q E N L R Y N N M 1784
Homo_sapiens      T F Y D G H E N M A L Y W K D C Y E A L M V N M H K R D R E G G E S K L K F Q E L F V E P F N R K A R Q E N L R Y N N M 1789
Pan_troglodytes   T F Y D G H E N M A L Y W K D C Y E A L M V N M H K R D R E G G E S K L K F Q E L F V E P F N R K A R Q E N L R Y N N M 1789
Callithrix_jacchus T F Y D G H E N M A L Y W K D C Y E A L M V N M H K R D R E G G E S K L K F Q E L F V E P F N R K A R Q E N L R Y N N M 1789
Bos_taurus        T F Y D S H E S M A L Y W K D C Y E A L M V N M H K R D R D G G E S K L K F Q E F F V E P F N R K V R Q E N L R Y N N M 1789
Equus_caballus    T F Y D G H E N M A L Y W K D C Y E A L M V N M H K R D R E G G E S K L K F Q E F F V E P F N R K A R Q E N L R Y N N M 1789
Canis_lupus_familiaris T F Y N N H E S M A L Y W K N C Y E A L M V N M H K R D R E G G E S K L K F Q E F F V E P F N R K A R Q E N M R Y N N T 1789
Heterocephalus_glaber T F Y D G Q E N M A L Y W K S C Y E A L M V N M H K R D R E G G E S K L K F Q E F F V E P F N R K A R Q E N L R Y N N M 1772
Rhinatrema_bivittatum T F S S S R E H M A I Y W K D C H E A L M V N M H K R D R E R G E S K L R F Q E F F V E P F N R R A R Q E N L R Y N S M 1795
Xenopus_tropicalis T F G K C H E Q M A T Y W K E C Y E A Q M V N M H K R E R E R G E S K L K F K E F F L E P F N R K T R Q E N S R Y N N M 1790
.....1750.....1760.....1770.....1780.....1790.....1800
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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus      LKQLNSQHTATLRLQWRAAQLYLLSERGPWSEMKQHPVHWKLSNVENFSRMRLKLVQNYNF 1852
Pavo_cristatus    LKQLNSQHTATLRLQWRAAQLYLLSERGPWSEMKQHPVHWKLSNVENFSRMRLKLVQNYNF 1852
Gallus_gallus     LKQLNSQHTATLRLQWRAAQLYLLSERGPWSEMKQHPVHWKLSNVENFSRMRLKLVQNYNF 1852
Chelonia_mydas    LKQLNSLHTATLRLQWRAAQLYLTCEQGPWAERKONPIHWKLSNVENYSRMRLKLVQNYNF 1852
Mus_musculus      IKQLNSQQLAAVRRWKAIRLYLTCERGPWAEKKONRIHWKLANVENYSRMRLKLVPNYNF 1815
Rattus_norvegicus IKQLTSQQLAASRHWKAIRLYLTCERGPWAEKKONRIHWKLANVENYSRMRLKLVPNYNF 1844
Homo_sapiens      LKQLSSQQLATLRRWKAIQLYLTCERGPWAKRKONPIHWKLANVENYSRMRLKLVPNYNF 1849
Pan_troglodytes   LKQLSSQQLATLRRWKAIQLYLTCERGPWAKRKONPIHWKLANVENYSRMRLKLVPNYNF 1849
Callithrix_jacchus LKQLSSQQLATVRRWKAIHLYLTCERGPWAKRKONPIHWKLANAENYSRMRLKLVPNYNF 1849
Bos_taurus        LKQLSSQQLATLRRWKAVKLYLTCERGPWAKRKONPIHWKLANVENYSRMRLKLVPNYNF 1849
Equus_caballus    LKQLSSQQLAALRRWKAVQLYLTCERGPWAEKKONPIHWKLANVENYSRMRLKLVPNYNF 1849
Canis_lupus_familiaris LKQLSSQQLITLRRWKAVQLYLTCERGPWAEKKONPIHWKLANVENYSRMRLKLVPNYNF 1849
Heterocephalus_glaber LKQLSSQRLAALRLWKAVQPYLTCERGPWAEKKONPIHWKLANVENYSRMRLKLVPNYNF 1832
Rhinatrema_bivittatum LKQLNSQNTATLRLQWKAQRYLTCEQGPWANRKENSNHWKLSSVENYSRMRLKLVQNYNF 1855
Xenopus_tropicalis LKQVNSQYATLRLQWKAQRYLFCERGPWADRKENWQYKWLSTVENYSRMRLKLVQNLNF 1850
.....1810.....1820.....1830.....1840.....1850.....1860

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Pavo_muticus      NSHQDASDLRDNLGVYQTOPSSESLLLEVVKQVKVSDLEDDVLELPEEDTAASSNMDEKD 1912
Pavo_cristatus    NSHQDASDLRDNLGVYQTOPSSESLLLEVVKQVKVSDLEDDVLELPEEDTAASSNMDEKD 1912
Gallus_gallus     NSHQDASDLRDNLGVYQAQPSSESLLLEVVKQVKVSDLEDDVLELPEEDTAASSNMDEKD 1912
Chelonia_mydas    NSHQEASDLRDNLGMQQTQPSSESLLLEVVKQVKVSDMEDDILELPEEDTAGASMDEKE 1912
Mus_musculus      KTHEEASALRDNLGVQHLQPSDDSLLLEVVKQVKVSDMEEDKLELLEEDMAARVNIDEKE 1875
Rattus_norvegicus KTHEEASALRDNLGVQHLQPSDDALLLEVVKQVRLSDVEEDRLELLEEDTAASALTDEKE 1904
Homo_sapiens      KTHEEASALRDNLGIQHSQPSDDTLLEVVKQVKVSDMVEDKLDLPEEDITARVNVDEKE 1909
Pan_troglodytes   KTHEEASALRDNLGIQHSQPSDDTLLEVVKQVKVSDMVEDKLDLPEEDITARVNVNEKE 1909
Callithrix_jacchus KTHEEASALRDNLGIQHQPSSDLSLLLEVVKQVKVSDMEEDKLDLPEEDMTARVNIDEKE 1909
Bos_taurus        KTHEEASALRDNLGVQHSQPSDDSLLLEVVKQVKVSDMEEDKLDLPEEEITARVNIDEKE 1909
Equus_caballus    KTHEEASALRDNLGVQHSQPSDDSLLLEVVKQVKVSDMEEDKLDLPEEEITARVNIDEKE 1909
Canis_lupus_familiaris KTHEEASALRDNLGVQHSQPSDDSLLLEVVKQVKVSDMEEDKLDLPEEDVTARVNTDEKE 1909
Heterocephalus_glaber KTHEEASALRDNLGIQHSQPSDDSLLLEVAKQVKVNDMEEDKLELFEEDITARVNIGEKE 1892
Rhinatrema_bivittatum DSHLDASALRDNLGVQQSEPSSSESLLLEVVKQVKVSDVEDDGFVPEDDPAASANMNEKE 1915
Xenopus_tropicalis DAHLEASALRDNLGVQQTETPSSESLLLEAAKQVKVSDLEEDQLELPEEE--NVVNMNDKE 1908
.....1870.....1880.....1890.....1900.....1910.....1920

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* *****: * *:***: * :.***:*****: * . * * * : * * * * * : * :
Pavo_muticus      EQSQKEKLILSENCELVTVIDVIPGRLEVTTQHLVFFDGSIEKEEGVGDFKWHLSQIRE 1972
Pavo_cristatus    EQSQKEKLILSENCELVTVIDVIPGRLEVTTQHLVFFDGSIEKEEGVGDFKWHLSQIRE 1972
Gallus_gallus     EQSQKEKLILSENCELITVIDVIPGRLEVTTQHLVFFDGSVEKEEGVGDFKWHLSQIRE 1972
Chelonia_mydas    EQGQKEKLVLSECELITLIDVIPGRLEVTTQHICFYDGSIEKEEGVGDFKWSLYQIRE 1972
Mus_musculus      EQNQKEKLVLTEDCELITVIDIIPGRLEVTTQHIYFHDNSVEKEDGLGFDFKWPWSQIRE 1935
Rattus_norvegicus EQDQKEKLVLTEDCELITVIDIIPGRLEVTTQHIYFHDNSIEKEDGQGFDFKWPWSQIRE 1964
Homo_sapiens      EQDQKEKLVLMEDECELITIIDVIPGRLEITTQHIYFYDGSIEKEDGVGFDFKWPWSQIRE 1969
Pan_troglodytes   EQDQKEKLVLMEDECELITIIDVIPGRLEITTQHIYFYDGSIEKEDGVGFDFKWPWSQIRE 1969
Callithrix_jacchus EQEQKEKLILMEDECELITIIDVIPGRLEITTQHIYFYDGSIEKEDGVGFDFKWPWSQIRE 1969
Bos_taurus        EQNQKEKLVLSEDECELITIIDVIPGRLEITTQHIYFYDGSIEKEDGVGFDFKWPWSQVRE 1969
Equus_caballus    EQDQKEKLVLSEDECELITIIDVIPGRLEITTQHIYFYDGSIEKEDGVGFDFKWPWSQVRE 1969
Canis_lupus_familiaris EQDQKEKLVLSEDECELITIIDVIPGRLEITTQHIYFYDGSIEKEDGVGFDFKWPWSQVRE 1969
Heterocephalus_glaber EQDQKEKLVLTEDCELITIIDVIPGKLEITTQHIYFYDGSIEKEDGVGFDFKWPWSQIRE 1952
Rhinatrema_bivittatum EPSQKEKLVLSEDECELITIMDVISGRLEITTQHIYFYDGSIEKEEGVGDFKWSLSQIRE 1975
Xenopus_tropicalis EQIQKEKLVLSECDLITVMDAISGHLEVTTQHIYFYDGSTIEKEEGVGDFKWPWSQIRE 1968
.....1930.....1940.....1950.....1960.....1970.....1980

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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*****
Pavo_muticus      IHLRRYNLRRSALEIFLTDQTNFYFLNFKKEVRNKVYSRILSLRSPNI-SGTRSPQELFKA 2031
Pavo_cristatus    IHLRRYNLRRSALEIFLTDQTNFYFLNFKKEVRNKVYSRILSLRSPNI-SGTRSPQELFKA 2031
Gallus_gallus     IHLRRYNLRRSALEIFLTDQTNFYFLNFKKEVRNKVYSRILSLRSPNI-SGTRSPQELFKA 2031
Chelonia_mydas    IHLRRYNLRRSALEIFLTDQTNFYFLNFKKEVRNKVYSRILSLRSPNI-YGTRSPQELFKA 2031
Mus_musculus      IHLRRYNLRRSALEIFHVDQSNFYFLNFKKEVRNKIYSRLLSLHSPSTG-YGTRSPQELFKA 1994
Rattus_norvegicus IHLRRYNLRRSALEIFHVDQSNFYFLNFKKEVRNKVYSRLLSLHSPNS-YGTRSPQELFKA 2023
Homo_sapiens      IHLRRYNLRRSALEIFHVDQSNFYFLNFKKEVRNKIYSRLLSLHSPNSYYGSRSPQELFKA 2029
Pan_troglodytes   IHLRRYNLRRSALEIFHVDQSNFYFLNFKKEVRNKIYSRLLSLRSPNSYYGSRSPQELFKA 2029
Callithrix_jacchus IHLRRYNLRRSALEIFHVDQSNFYFLNFKKEVRNKIYSRLLSLHSPNSYYGSRSPQELFKA 2029
Bos_taurus        IHLRRYNLRRSALEIFHVDQSNFYFLNFKKEVRNKVYSRLLSLHSPNS-YGTRSPQELFKA 2028
Equus_caballus    IHLRRYNLRRSALEIFHVDQSNFYFLNFKKEVRNKVYSRLLSLHSPNS-YGTRSPQELFKA 2028
Canis_lupus_familiaris IHLRRYNLRRSALEIFHVDQSNFYFLNFKKEVRNKVYSRLLSLHSPNS-YGTRSPQELFKA 2028
Heterocephalus_glaber IHLRRYNLRRSALEIFHADQSNFYFLNFKKEVRNKVYSRLLSLNPSNS-YGTRSPQELFKA 2011
Rhinatrema_bivittatum VHLRRYNLRRSALEIFLIDQTNFYFLNFKKEVRNRMYSRILSLCPTNL-YGARSPOELLKL 2034
Xenopus_tropicalis IHLRRYNLRRSALEIFLIDQTNFYFLNFKKEVRNKVYSRILSLRLPNI-YGTRSPQELLKA 2027
.....1990.....2000.....2010.....2020.....2030.....2040

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*** ****:***:*****:***:*****:*****:*.*****:****
Pavo_muticus      SGLMQKWNREISNFDYLIQLNTMAGRTYNDLAQYPVFPWILRDYTSSEELDLNPAVFRD 2091
Pavo_cristatus    SGLMQKWNREISNFDYLIQLNTMAGRTYNDLAQYPVFPWILRDYTSSEELDLNPAVFRD 2091
Gallus_gallus     SGLMQKWNREISNFDYLIQLNTMAGRTYNDLAQYPVFPWILRDYTSSEELDLNPAVFRD 2091
Chelonia_mydas    SGLMQKWNREISNFDYLIQLNTMAGRTYNDLAQYPVFPWILQDYTSSEELDLNPAVFRD 2091
Mus_musculus      SGLTQKWNREITNFDYLIQINTMAGRTYNDLAQYPVFPWILQDYTSSEELDLNPTVFRD 2054
Rattus_norvegicus SGLTQKWNREITNFDYLIQINTMAGRTYNDLAQYPVFPWILQDYTSSEELDLNPTVFRD 2083
Homo_sapiens      SGLTQKWNREISNFDYLIQINTMAGRTYNDLAQYPVFPWILQDYTSSEELDLNPAVFRD 2089
Pan_troglodytes   SGLTQKWNREISNFDYLIQINTMAGRTYNDLAQYPVFPWILQDYTSSEELDLNPAVFRD 2089
Callithrix_jacchus SGLTQKWNREISNFDYLIQINTMAGRTYNDLAQYPVFPWILQDYTSSEELDLNPAVFRD 2089
Bos_taurus        SGLTQKWNREISNFDYLIQINTMAGRTYNDLAQYPVFPWILQDYTSSEELDLNPTVFRD 2088
Equus_caballus    SGLTQKWNREISNFDYLIQINTMAGRTYNDLAQYPVFPWILQDYTSSEELDLNPTVFRD 2088
Canis_lupus_familiaris SGLTQKWNREISNFDYLIQINTMAGRTYNDLAQYPVFPWILQDYTSSEELDLNPTVFRD 2071
Heterocephalus_glaber SGLTQKWNREISNFDYLIQINTMAGRTYNDLAQYPVFPWILQDYTSSEELDLNPTVFRD 2071
Rhinatrema_bivittatum SGLTQKWDREISNFDYLIQLNTIAGRTYNDLAQYPVFPWILQDYTSSEELDLNPAVFRD 2094
Xenopus_tropicalis SGLTQKWNREISNFDYLIQLNTIAGRTYNDLAQYPVFPWILQDYTSSEELDLNPAVFRD 2087
.....2050.....2060.....2070.....2080.....2090.....2100

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*****:***:***:***:*****:*.*****:*****:*.***:***
Pavo_muticus      LSKPIGVVNEKNAKAVKEKYDNFEDPLGVIDKFHYGTHYSNAAGVMHYLIRVEPFTTLHI 2151
Pavo_cristatus    LSKPIGVVNEKNAKAVKEKYDNFEDPLGVIDKFHYGTHYSNAAGVMHYLIRVEPFTTLHI 2151
Gallus_gallus     LSKPIGVVNEKNAKAVKEKYDNFEDPLGVIDKFHYGTHYSNAAGVMHYLIRVEPFTTLHI 2151
Chelonia_mydas    LSKPIGVVNEKNAKAVKEKYDNFEDPLGTIDKFHYGTHYSNAAGVMHYLIRVEPFTTLHI 2151
Mus_musculus      LSKPIGVVNEKNAKAMREKYENFEDPMGTIDKFHYGTHYSNSAGVMHYLIRVEPFTTLHI 2114
Rattus_norvegicus LSKPIGVVNEKNAKAMREKYENFEDPMGTIDKFHYGTHYSNSAGVMHYLIRVEPFTTLHI 2143
Homo_sapiens      LSKPIGVVNEKNAKAMREKYENFEDPMGTIDKFHYGTHYSNSAGVMHYLIRVEPFTTLHI 2149
Pan_troglodytes   LSKPIGVVNEKNAKAMREKYENFEDPMGTIDKFHYGTHYSNSAGVMHYLIRVEPFTTLHI 2149
Callithrix_jacchus LSKPIGVVNDKNAKAMREKYENFEDPMGTIDKFHYGTHYSNSAGVMHYLIRVEPFTTLHI 2149
Bos_taurus        LSKPIGVVNDKNAKATREKYENFEDPMGTIDKFHYGTHYSNSAGVMHYLIRTEPFTTLHI 2148
Equus_caballus    LSKPIGVINDKNAKAMREKYENFEDPMGTIDKFHYGTHYSNSAGVMHYLIRTEPFTTLHI 2148
Canis_lupus_familiaris LSKPIGVVNDKNAKAMREKYENFEDPMGTIDKFHYGTHYSNSAGVMHYLIRTEPFTTLHI 2148
Heterocephalus_glaber LSKPIGVVNDKNAKIIQEKYENFEDPMGTINKFHYGTHYSNSAGVMHYLIRVEPFTTLHI 2131
Rhinatrema_bivittatum LSKPIGVVNEKNASAVKEKFENFEDPV--IDKFHYGTHYSNAAGVMHYLMRVEPFTSLHI 2152
Xenopus_tropicalis LSKPIGVVNEKNAAIKDKYESFEDPLGTIDKFHYGTHYSNAAGVMHYLIRVEPYTTLHI 2147
.....2110.....2120.....2130.....2140.....2150.....2160

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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*****:***:*. *****:***:***:***:***:
Pavo_muticus      QLSGRFDCADRQFHSIPATWQALMDNPNDVKELIPEFFYFPEFLENQNGFNLGQLQISK 2211
Pavo_cristatus    QLSGRFDCADRQFHSIPATWQALMDNPNDVKELIPEFFYFPEFLENQNGFNLGQLQISK 2211
Gallus_gallus     QLSGRFDCADRQFHSIPATWQALMDNPNDVKELIPEFFYFPEFLENQNGFNLGQLQISK 2211
Chelonia_mydas    QLSGRFDCADRQFHSIPATWQALMDNPNDVKELIPEFFYFPEFLENQNGFNLGQLQISK 2211
Mus_musculus      QLSGRFDCADRQFHSIPATWQALMDNTYDVKELIPEFFYFPEFLENQNGFNLGHLQVSK 2174
Rattus_norvegicus QLSGRFDCADRQFHSIPATWQALMENTYDVKELIPEFFYFPEFLENQNGFNLGQLQVSK 2203
Homo_sapiens      QLSGRFDCADRQFHSIPATWQALMDNPYDVKELIPEFFYFPEFLENQNGFNLGRLQISK 2209
Pan_troglodytes   QLSGRFDCADRQFHSIPATWQALMDNPYDVKELIPEFFYFPEFLENQNGFNLGRLQVSK 2209
Callithrix_jacchus QLSGRFDCADRQFHSIPATWQALMDNTYDVKELIPEFFYFPEFLENQNGFNLGRLQVSK 2209
Bos_taurus        QLSGRFDCADRQFHSIPATWQALMDNPYDVKELIPEFFYFPEFLENQNGFNLGRLQVSK 2208
Equus_caballus    QLSGRFDCADRQFHSIPATWQALMDNPYDVKELIPEFFYFPEFLENQNGFNLGHLQVSK 2208
Canis_lupus_familiaris QLSGRFDCADRQFHSIPATWQALMDNPYDVKELIPEFFYFPEFLENQNGFNLGCLQVSK 2208
Heterocephalus_glaber QLSGRFDCADRQFHSIPATWQALMDNPYDVKELIPEFFYFPEFLENQNGFNLGHLQVSK 2191
Rhinatrema_bivittatum QLSGRFDCADRQFHSIPATWQALIDNPNDVKELIPEFFYFPEFLENKNGFDLGRQLQISK 2212
Xenopus_tropicalis QLSGRFDCADRQFHSIPATWQALMDNPNDVKELIPEFFYFPEFLENKNGFDLGHQLQITK 2207
.....2170.....2180.....2190.....2200.....2210.....2220
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* ****:***:***:**** *****:*****:*****:*****:*****:*****:
Pavo_muticus      EAVNDVVLPRWAYSPEDFIYKHKRALESEYVSAHLHEWIDLIFGYKQRGPAAVEALNVFY 2271
Pavo_cristatus    EAVNDVVLPRWAYSPEDFIYKHKRALESEYVSAHLHEWIDLIFGYKQRGPAAVEALNVFY 2271
Gallus_gallus     EAVNDVVLPRWAYSPEDFIYKHKRALESEYVSAHLHEWIDLIFGYKQRGPAAVEALNVFY 2271
Chelonia_mydas    EVVNDVVLPRWAYSPEDFIYKHKRALESEYVSAHLHEWIDLIFGYKQRGPAAVEALNVFY 2271
Mus_musculus      ELVNDVILPRWAYSPEDFIYKHKRALESEYVSAHLHEWIDLIFGYKQRGPAAVEALNVFY 2234
Rattus_norvegicus ELVNDVILPRWAYSPEDFIYKHKRALESEYVSAHLHEWIDLIFGYKQRGPAAVEALNVFY 2263
Homo_sapiens      ELVNDVILPRWAYSPEDFIYKHKRALESEYVSAHLHEWIDLIFGYKQRGPAAVEALNVFY 2269
Pan_troglodytes   ELVNDVILPRWAYSPEDFIYKHKRALESEYVSAHLHEWIDLIFGYKQRGPAAVEALNVFY 2269
Callithrix_jacchus ELVNDVILPRWAYSPEDFIYKHKRALESEYVSAHLHEWIDLIFGYKQRGPAAVEALNVFY 2269
Bos_taurus        ELVNDVILPRWAYSPEDFIYKHKRALESEYVSAHLHEWIDLIFGYKQRGPAAVEALNVFY 2268
Equus_caballus    ELVNDVILPRWAYSPEDFIYKHKRALESEYVSAHLHEWIDLIFGYKQRGPAAVEALNVFY 2268
Canis_lupus_familiaris EVVNDVILPRWAYSPEDFIYKHKRALESEYVSAHLHEWIDLIFGYKQRGPAAVEALNVFY 2268
Heterocephalus_glaber ELVNDVILPRWAYSPEDFIYKHKRALESEYVSAHLHEWIDLIFGYKQRGPAAVEALNVFY 2251
Rhinatrema_bivittatum EVVNDVILPRWAYSPEDFIYKHKRALESEYVSAHLHEWIDLIFGYKQSGPAVEALNVFY 2272
Xenopus_tropicalis EQVNDVILPRWAYSPEDFIYKHKRALESEYVSAHLHEWIDLIFGYKQSGPAVEALNVFY 2267
.....2230.....2240.....2250.....2260.....2270.....2280
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**:** ***:***:*****:*****:*****:*****:*****:*****:
Pavo_muticus      YCTYEGAVDLDAITDEKERKALEGMINNFGQTPCQLLKEPHPPRLSAEEVVRQLTRSDTS 2331
Pavo_cristatus    YCTYEGAVDLDAITDEKERKALEGMINNFGQTPCQLLKEPHPPRLSAEEVVRQLTRSDTS 2331
Gallus_gallus     YCTYEGAVDLDAITDEKERKALEGMINNFGQTPCQLLKEPHPPRLSAEEVVRQLTRSDTS 2331
Chelonia_mydas    YCTYEGAVDLDAITDEKERKALEGMINNFGQTPCQLLKEPHPPRLSAEEVVRQLTRSDTS 2331
Mus_musculus      YCSYEGAVDLDAITDEKERKALEGMINNFGQTPCQLLKEPHPPRLSAEEAIVQKQTKTEIS 2294
Rattus_norvegicus YCSYEGAVDLDAITDEKERKALEGMINNFGQTPCQLLKEPHPPRLSAEEAIVQKQTKTEIS 2323
Homo_sapiens      YCSYEGAVDLDAITDEKERKALEGMINNFGQTPCQLLKEPHPPRLSAEEAIVQKQTKIDTS 2329
Pan_troglodytes   YCSYEGAVDLDAITDEKERKALEGMINNFGQTPCQLLKEPHPPRLSAEEAIVQKQTKIDTS 2329
Callithrix_jacchus YCSYEGAVDLDAITDEKERKALEGMINNFGQTPCQLLKEPHPPRLSAEEAIVQKQTKIDTS 2329
Bos_taurus        YCSYEGAVDLDAITDEKERKALEGMINNFGQTPCQLLKEPHPPRLSAEEAIVQKQAKTDTS 2328
Equus_caballus    YCSYEGAVDLDAITDEKERKALEGMINNFGQTPCQLLKEPHPPRLSAEEAIVQKQKMDTP 2328
Canis_lupus_familiaris YCSYEGAVDLDAITDEKERKALEGMINNFGQTPCQLLKEPHPPRLSAEEAIVQKQKTDTS 2328
Heterocephalus_glaber YCSYEGAVDLDAITDEKERKALEGMINNFGQTPCQLLKEPHPPRLSAEEAIVQKQARTDTS 2311
Rhinatrema_bivittatum YCSYEGAVDLDAITDEKERKALEGMINNFGQTPCQLLKEPHPPRLSAEEAIVQKQAKVDPS 2332
Xenopus_tropicalis YCTYEGAVDLDAITDEKERKALEGMINNFGQTPCQLLKEPHPPRLSAEEVVLKQSKLDNV 2327
.....2290.....2300.....2310.....2320.....2330.....2340
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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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	*** :.:*.:**:*:*:* :.:** :* ** ***:* *****: :. . :.* **	
Pavo_muticus	TLNLFQHLTELKSFFFIEGISDGVPIVKA VPRNQSRSFMSQGSPELLVTASLNCVIGTHG	2391
Pavo_cristatus	TLNLFQHLTELKSFFFIEGISDGVPIVKA VPRNQSRSFMSQGSPELLVTASLNCVIGTHG	2391
Gallus_gallus	TLNLFQHLTELKSFFFIEGISDGVPIVKA VPRNQSRSFMSQGSPELLVTASLNCIIGTHG	2391
Chelonia_mydas	TLNLFQHLPELKSFFVEGISDGVPIVKA VPRNQSRSFMSQGSPELLVIASLNCIIGTHG	2391
Mus_musculus	TLNLFQHLTELKSFFFIEGISDGIPLLKAIIPKNQSRSFMSQGSPELLITVSMNYVIGTHG	2354
Rattus_norvegicus	TLNLFQHLPELKSFFIEGISDGIPLLKAIIPRNQSRSFMSQGSPELLITVSMNYVIGTHG	2383
Homo_sapiens	TLNLFQHLPELKSFFIEGISDGIPLLKATIPKNQYRSFMSQGSPELLITISMNYVIGTHG	2389
Pan_troglodytes	ALNLFQHLPELKSFFIEGISDGIPLLKATVPKNQYRSFMSQGSPELLITISMNYVIGTHG	2389
Callithrix_jacchus	TLNLFQHLPELKSFFIEGISDGIPLLKATVPKNQYRSFMSQGSPELLITISMNYVIGTHG	2389
Bos_taurus	TFNLFQHLPELKSFFIEGISDGIPLVKAIVPKNQSRSFMSQGSPELLITLSMNHIIIGTHG	2388
Equus_caballus	SLNLFQHLPELKSFFIEGISDGIPLIKAIVPKNQSRSFMSQGSPELLITVSMNYVIGTHG	2388
Canis_lupus_familiaris	TLNLFQHLSELKSFFIEGISDGVPLIKAIVPKNQSRSFMSQGSPELLVTVSMNYVLGTHG	2388
Heterocephalus_glaber	TLNLFQHLPELKSFFIEGISDGIPLLKAI VPPNQSRSFMSQGSPELLVTVSMNYVIGTHG	2371
Rhinatrema_bivittatum	--NLFLHLPELNCFFIEGIDKIPVKA VPKNQSRSFMSQGSPEMLVTINQSCIIGTHG	2390
Xenopus_tropicalis	TLNLFQNLPLDKLSFFIEGISDDVPVKAIVPKNQSRFLSPGSPPELLVTIVSQTLIIGTHG	2387
2350.....2360.....2370.....2380.....2390.....2400	

	*****.:*****.:* *:*****:** :. *:*****.:*** *****.:***.:***	
Pavo_muticus	WLPYDKNISNYFTFIKDTVTNPKTQRNMSGPFAPGLEITSKLFAVSHDAKLLFSGGHW	2451
Pavo_cristatus	WLPYDKNISNYFTFIKDTVTNPKTQRNMSGPFAPGLEITSKLFAVSHDAKLLFSGGHW	2451
Gallus_gallus	WLPYDKNISNYFTFIKDTVTNPKTQRNMSGPFAPGLEITSKLFAVSHDAKLLFSGGHW	2451
Chelonia_mydas	WLPYDRNISNYFTFIRDPTVTNPKTQRSISGPFAPGLEITSKLFWVSHDAKLLFSGGHW	2451
Mus_musculus	WLPYDRNISNYFTFIKDTVTNPKAQTISGPFAPGLEITSKLFWVSHDAKLLFSGHWD	2414
Rattus_norvegicus	WLPYDRNISNYFTFIKDTVTNPKAQRALSGPFAPGLEITSKLFAVSHDAKLLFSGHWD	2443
Homo_sapiens	WLPYDRNISNYFTFIKDTVTNPKTQRSINGSFAPGLEITSKLFWVSHDAKLLFSGAYWD	2449
Pan_troglodytes	WLPYDRNISNYFTFIKDTVTNPKTQRSINGSFAPGLEITSKLFWVSHDAKLLFSGAYWD	2449
Callithrix_jacchus	WLPYDRNISNYFTFIKDTVTNPKTQRSMNGPFAPGLEITSKLFWVSHDAKLLFSGAYWD	2449
Bos_taurus	WLPYDRNISNYFTFIRDPTVTNPKTQRSMNGPFAPGLEITSKLFIVSHDAKLLFSGHWD	2448
Equus_caballus	WLPYDRSISNYFTFIRDPTVTNPKTQRSMNGPFAPGLEITSKLFIVSHDAKLLFSGHWD	2448
Canis_lupus_familiaris	WLPYDRNISNYFTFIKDTVTNPKTQRSMNGPFAPGLEITSKLFIVSHDAKLLFSGHWD	2448
Heterocephalus_glaber	WLPYDRNISNYFTFIKDTVTNPKTQRSVNGPFAPGLEITSKLFWVSHDAKLLFSGHWD	2431
Rhinatrema_bivittatum	WLPYDKNISNYFTFLKDTLTNPKTQRTISGPFPTGLEITAKLFWVSHDGKLLFSGAYWD	2450
Xenopus_tropicalis	WLPYDRNISNYFTFSKDTVTNPKTQRLLVSGPFAPGLEITSKLFWVSHDGKLVFSGGHW	2447
2410.....2420.....2430.....2440.....2450.....2460	

	.* **. :. :*.*****. :*.**.****** ***** :	
Pavo_muticus	NSIRVTSLSLTKGKLIQHIRHMDIVTCLAIDYCGIHLISGSRDFTTCMIWQIVQGGVPVGL	2511
Pavo_cristatus	NSIRVTSLSLTKGKLIQHIRHMDIVTCLAIDYCGIHLISGSRDFTTCMIWQIVQGGVPVGL	2511
Gallus_gallus	NSIRVTSLSLTKGKLIQHIRHMDIVTCLAIDYCGIHLISGSRDFTTCMIWQIVQGGVPVGL	2511
Chelonia_mydas	NSIRVTSLSLTKGKLIQHVHRMDIVTCLAIDFCGIHLISGSRDFTTCMIWQIVQGGVPVGL	2511
Mus_musculus	NSIQVMSLTKGKIVSHNIRHIDIVTCLATDYCGIHLISGSRDFTTCMIWQITQGGTPVGL	2474
Rattus_norvegicus	NSIQVMSLTKGKLVSHNIRHIDIVTCLATDYCGIHLISGSRDFTTCMIWQITQGGTPVGL	2503
Homo_sapiens	NSIQVMSLTKGKIISHIIRHMDIVTCLATDYCGIHLISGSRDFTTCMIWQITQGGVPVGL	2509
Pan_troglodytes	NSIQVMSLTKGKIISHIIRHMDIVTCLATDYCGIHLISGSRDFTTCMIWQITQGGVPVGL	2509
Callithrix_jacchus	NSIQVMSLTKGKIISHIIRHMDIVTCLATDYCGIHLISGSRDFTTCMIWQITQGGVPVGL	2509
Bos_taurus	NSIQVMSLTKGKLIISHNIRHMDIVTCLATDYCGIHLISGSRDFTTCMIWQITQGGVPMGL	2508
Equus_caballus	NSIQVMSLTKGKVISHNIRHMDIVTCLATDYCGIHLISGSRDFTTCMIWQITQGGVPVGL	2508
Canis_lupus_familiaris	NSIQVMSLTKGKVISHNIRHMDIVTCLATDYCGIHLISGSRDFTTCMIWQITQGGVPVGL	2508
Heterocephalus_glaber	NSIQVMSLTKGKIISHNIRHMDIVTCLAMDYCGIHLISGSRDFTTCMIWQITQGGAPVGL	2491
Rhinatrema_bivittatum	NSIRVTSLSLTKGKLLAQHIRHMDIVTCLATDYCGIHLISGSRDFTTCMIWQILQGGAPVGL	2510
Xenopus_tropicalis	NSIRVTSLSLTKGKVTSQHIREHMDIVTCLSDFCGIHLISGSRDFTTCMIWQIGQGGD---L	2504
2470.....2480.....2490.....2500.....2510.....2520	

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:***:*****: : * :***** .***:*.*** *::***:***: *.****.:
Pavo_muticus      TPKPLQILYGHTDEVTSVGISTELDMAVSGSRDGTVIIRTIIRKGQYMRITLRPPCESSLLL 2571
Pavo_cristatus    TPKPLQILYGHTDEVTSVGISTELDMAVSGSRDGTVIIRTIIRKGQYMRITLRPPCESSLLL 2571
Gallus_gallus     TPKPLQILYGHTDEVTSVGISTELDMAVSGSRDGTVIIRTIIRKGQYMRITLRPPCESSLLL 2571
Chelonia_mydas    APKPLQILYGHTDEVSSVSIISTELDMVVS GARDSTVIIHTIRKGQYMRITLRPPCESSLLL 2571
Mus_musculus      APKPFQILYGHTDEILSVGISTELDMAVSGSRDGTVIIHTVQKGQYMRITLRPPCESSLFL 2534
Rattus_norvegicus APKPFQILYGHTDEILSVGISTELDMAVSGSRDGSVIIHTIQKGQYLRITLRPPCESSLFL 2563
Homo_sapiens      ASKPFQILYGHTNEVLTVGISTELDMAVSGSRDGTVIIHTIQKGQYMRITLRPPCESSLFL 2569
Pan_troglodytes   ASKPFQILYGHTNEVLTVGISTELDVAVSGSRDGTVIIHTIQKGQYMRITLRPPCESSLFL 2569
Callithrix_jacchus ASKPFQILYGHTDEVLSVSIISTELDMAVSGSRDGTVIIHTIQKGQYMRITLRPPCESSLFL 2569
Bos_taurus        ASKPFQILYGHTDEVLSVAISTELDMAVSGSRDGTVIIHTIQKGQYMRITLRPPCESSLLL 2568
Equus_caballus    ASKPFQILYGHTDEVLSVGISTELDMAVSGSRDGTVIIHTIQKGQYMRITLRPPCESSLLL 2568
Canis_lupus_familiaris ASKPFHILYGHTDEVLSVGISTELDMAVSGSRDGTVIIHTIQKGQYMRITLRPPCESSLLL 2568
Heterocephalus_glaber ASKPFQILYGHTDEVLSVAISTELDMAVSGSRDGTVIIHTIQKGQYMRITLRPPCESSLLL 2551
Rhinatrema_bivittatum APKPMQILYGHTDEISSVSVSTELDMAVSGARDGTVIIHTIRKGQYMRITLRPPCESSLVL 2570
Xenopus_tropicalis SSKPLQILYGHTDEITSVCISTELDTAVSGAKDGAIIHTIRRGQYVRTLRPPSESSLLM 2564
.....2530.....2540.....2550.....2560.....2570.....2580

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Pavo_muticus      TVPNLAVSWEGHIVVHTSIEGKTTLKDKNALHLYSVNGKHLGSETLKEEVSDMCVTGEYI 2631
Pavo_cristatus    TVPNLAVSWEGHIVVHTSIEGKTTLKDKNALHLYSVNGKHLGSETLKEEVSDMCVTGEYI 2631
Gallus_gallus     TVPHLAVSWEGHIVVHTSIEGKTTLKDKNALHLYSVNGKHLGSETLKEEVSDMCVTGEYI 2631
Chelonia_mydas    TVPNLAVSWEGHIVVHTSIEGKTTLKDKNALHLYSVNGKYLGSSELKEEVSDMCVTGEYI 2631
Mus_musculus      TIPSLAISWEGHIVVYSSLEEKSVLKDKNLLHLFSINGKYLGSQVLSEQISDMCII GEHI 2594
Rattus_norvegicus TIPSLAISWEGHIVVYSSLEEKSTLKDKNLLHVF SINGKYLGSQVLSEQISDMCIV GEHI 2623
Homo_sapiens      TIPNLAISWEGHIVVYSSTEKTTLKDKNALHLFSINGKYLGSQILKEQVSDICII GEHI 2629
Pan_troglodytes   TIPNLAISWEGHIVVYSSTEKTTLKDKNALHLFSINGKYLGSQILKEQVSDICII GEHI 2629
Callithrix_jacchus TIPNLAISWEGHIVIYSSIEKTTLKDKNALHLFSINGKYLGSQILKEQISDICI VGEYI 2629
Bos_taurus        TIPNLAISWEGHIVMYSSIEESTSLKDKNALHLFSVNGKYLGSQVLKEQVSDICII GEHI 2628
Equus_caballus    TVPSLAISWEGHVVIYSSIEKTTLKDKNALHVF SVNGKYLRSQVLKEQVSDMCVIGEHV 2628
Canis_lupus_familiaris TVPNLAISWEGHIVIYSCTEKTS LKDKNALHLFSVNGKYLGSQVLTEQVSDICII GEHI 2628
Heterocephalus_glaber TIPNLAISWEGHIVIYSSTEKTTLKDKNVLHLFSVNGKYLGSQVLKEQISDMYII GENI 2611
Rhinatrema_bivittatum TIPNLAVSWDGHIVVHTCIEGKNTLKNKNALHLFSVNGKYLVS EQLQEQISDMCVC GEHI 2630
Xenopus_tropicalis SIPNLAMSLDGHIVIHSSIEGK- SIKNKNALHLYSINGKYLVS ELLKEQVTDMCII SENI 2623
.....2590.....2600.....2610.....2620.....2630.....2640

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Pavo_muticus      VMGSLQGFLSIRDLYSLNLSISPLAMRLPIHCISVTKEYSHILVGLGDKLIIVGVGKPA 2691
Pavo_cristatus    VMGSLQGFLSIRDLYSLNLSISPLAMRLPIHCISVTKEYSHILVGLGDKLIIVGVGKPA 2691
Gallus_gallus     VMGSLQGFLSIRDLYSLNLSISPLAMRLPIHCISVTKEYSHILVGLGDKLIIVGVGKPA 2691
Chelonia_mydas    VMGSLQGFLSIRDLYSLNLSISPLAMRLPIHCISVTKEYSHILVGLGDKLIIVGVGKPA 2691
Mus_musculus      ITGSLQGFLSIRELHSLKLSVITPLAMRLPIHCVSITKEYSHILVGLGDKLIIVGVGKPA 2654
Rattus_norvegicus ITGSLQGFLSVRELHSLKLSIAPLAMRLPIHCVSITKEHSHILVGLGDKLIIVGVGKPA 2683
Homo_sapiens      VTGSIQGFLSIRDHLNLSINPLAMRLPIHCVCVTKEYSHILVGLGDKLIIVGVGKPA 2689
Pan_troglodytes   VTGSIQGFLSVRDHLNLSINPLAMRLPIHCVCVTKEYSHILVGLGDKLIIVGVGKPA 2689
Callithrix_jacchus VTGSLQGFLSIRDHLNLSINPLAMRLPIHCVCVTKEYSHILVGLGDKLIIVGVGKPA 2689
Bos_taurus        VTGSLQGFLSIRDHLNLSINPLAMRSP IHCVCVTKEYSHILVGLGDKLIIVGVGRPA 2688
Equus_caballus    ITGSLQGFLSIRDHLNLSINPLAMRLPIHCVCVTKEHSHILVGLGDKLIIVGVGKPA 2688
Canis_lupus_familiaris ITGSLQGFLSIRDHLNLSMNPLAMRMP IHCVCVTKEYSHILVGLGDKLIIVGVGKPA 2688
Heterocephalus_glaber VTGSLQGFLSIRDHLNLSIITPLDMRLPIHCVCVTKEYSHILVGLGDKLIIVGVGKPA 2671
Rhinatrema_bivittatum VMGSMQGLSIRDLYSLSLSVSSLTLRVP IRCVSVTKENSHVLVGLQDGKLIIVGVGKPA 2690
Xenopus_tropicalis VLGSROGFLSIRDLYSLNLSLTPLVMRVP IHCVSVTKENSHILVGLGDKLIIVGIGKPA 2683
.....2650.....2660.....2670.....2680.....2690.....2700

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/NBEDA14:1 Tue Feb 1 14:08:50 2022

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* :
Pavo_muticus      EVKPTIKNFFYRTVGSSSLISAFHLSKRSPLWQDALRSAPFK-----ALGIKQTAQPDFIR 2746
Pavo_cristatus    EVKPTIKNFFYRTVGSSSLISAFHLSKRSPLWQDALRSAPFK-----ALGIKQTAQPDFIR 2746
Gallus_gallus     EVKPTIKNFFYRTVGSSSLISAFHLSKRSPLWQDALRSAPFK-----ALGIKQTAQPDFIR 2746
Chelonia_mydas    EMR-----SGQLSRK--LWGSSKRLSQIS-----SGETHEYNTQDSK-- 2725
Mus_musculus      EMR-----SGQLSRK--LWGSSKRLSQIS-----AGETHEYNTQDCK-- 2688
Rattus_norvegicus EMR-----SGQLSRK--LWGSSKRLSQIS-----AGETHEYNTQDFK-- 2717
Homo_sapiens      EMRS-----GQLSRKF--WGSS-----KRLSQISAGETHEYNTQDSK-- 2723
Pan_troglodytes   EVKPSISNFI-----SHAVGDY--FGSPSFQLIEKSPILGINKLKAKFDPSKGSK- 2736
Callithrix_jacchus EVKPSISNFI-----SHAVGDY--FGSPSFQLIEKSPILGINKLKAKFDPSKGSK- 2736
Bos_taurus        EMR-----SGQLSRK--LWGSSKRLSQIS-----AGETHEYNTQDSK-- 2722
Equus_caballus    EMR-----SGQLTRK--LWGSSKRLSQIS-----AGETHEYNTQDPK-- 2722
Canis_lupus_familiaris EVKNSIKNFF-----SHTIGDS--FGSPLFQLNOKSPIWMNKLKTKFDPSKGSK- 2735
Heterocephalus_glaber EMR-----SGQLSRK--LWGSSKRLSHIS-----GGESEYNTQDSK-- 2705
Rhinatrema_bivittatum EMR-----SSQLSRK--LWGSSKRLSQIS-----AGETHEYNTQEPQ-- 2724
Xenopus_tropicalis EAR-----SGQISRK--LWGSSRRLSQIS-----SGVIEYNTQAT--- 2716
.....2710.....2720.....2730.....2740.....2750.....2760

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Pavo_muticus      RN 2748
Pavo_cristatus    RN 2748
Gallus_gallus     RD 2748
Chelonia_mydas    -- 2725
Mus_musculus      -- 2688
Rattus_norvegicus -- 2717
Homo_sapiens      -- 2723
Pan_troglodytes   -- 2736
Callithrix_jacchus -- 2736
Bos_taurus        -- 2722
Equus_caballus    -- 2722
Canis_lupus_familiaris -- 2735
Heterocephalus_glaber -- 2705
Rhinatrema_bivittatum -- 2724
Xenopus_tropicalis -- 2716
..

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