

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/RNF217ep Tue Feb 14:26:53 2022

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Gallus_gallus      MG-----EQSSLS-----APRAAAAPSPAGGPREDGPEETPLIRE--- 38
Pavo_cristatus    -----
Pavo_muticus      -----
Chelonia_mydas    MG-----EQSSLS-----TLRAAAAEAPFPAGGAREPGQEAAGPRDPF--- 38
Homo_sapiens      MG-----EEQSTVSGGGGPQESQTLASGTAGHPEPPRPQGDSARAPPLRAASAE---- 49
Pan_troglodytes   MG-----EEQSTVSGGGGPQESQTLASGTAGHPEXPRPQGDSARAPPLRAASAE---- 49
Macaca_mulatta    MG-----EEQSTVSGGGGPQESQTLAGGTAGHPEPPRPQGDSARAPPLRAASAE---- 49
Callithrix_jacchus MG-----EEQSTVSGGGGPQESQTLAGGTAGHPEPPRPQGDSARPPPLCAASAE---- 49
Bos_taurus        MG-----EEQSTVSGAGGPLEARIYAGDAAGPPEPPRPPGHSAGAPGPRAASAE---- 49
Equus_caballus    MG-----EEQSTVSGGGGASPEARPPASGVPGPHESPRPRGDLAGAPGPRAASAE---- 49
Mus_musculus      MG-----EEQSTVSGSGG---ARASGGGSAGQPEsprprgdrvrtagpRAAASSS--- 47
Canis_lupus_familiaris MG-----EEQGALS-----GAAGPPEPPSPRADGGPE----- 27
Rattus_norvegicus -----
Heterocephalus_glaber ME-----AED-----PGRAPR-RGE----- 14
Rhinatrema_bivittatum MGSWPPGMEDEEQIDVNVVDKAGMLPGGGGPEEEGRPGPRATDRRGSAFDCGSDADRDR 60
Xenopus_tropicalis MG-----MGDQHEEPHNTGNTGSSEEEADEEEEEEDGGRERGQIPASDRVSAIAYD--- 51
1.....10.....20.....30.....40.....50.....60

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Gallus_gallus      -----AAGP---GGSG 45
Pavo_cristatus    -----
Pavo_muticus      -----
Chelonia_mydas    -----EPGSRRRSGE 48
Homo_sapiens      -----PSGGGCGSD 58
Pan_troglodytes   -----PSSGGGCGSD 58
Macaca_mulatta    -----PSGGGCGSD 58
Callithrix_jacchus -----PSDGGGCGSD 58
Bos_taurus        -----PSGGGCGSD 58
Equus_caballus    -----PNDGGCRGD 58
Mus_musculus      -----RPNGGGGGRD 57
Canis_lupus_familiaris -----PQGGGRGPE 36
Rattus_norvegicus -----
Heterocephalus_glaber ----- 14
Rhinatrema_bivittatum VYLELGRIEAPLTGRSRKKQQQQRRTATTEEDGGSSEERGMVLRASQIRREQRSTDGAE 120
Xenopus_tropicalis -----DRELATS 58
.....70.....80.....90.....100.....110.....120

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Gallus_gallus      GEPPPSAGPE-----RRGGGGDAAGEDEEETAGPE----- 75
Pavo_cristatus    -----
Pavo_muticus      -----
Chelonia_mydas    QEPLPAGAPG-----SPERSVEPPPPPEPPAEPEG----- 78
Homo_sapiens      WGCADTSAPEPARSLGPPGWSKSRAPAQPAGLALTGPLNPQTLPLQLELEEEEEEEAGDRK 118
Pan_troglodytes   WGCADTSAPEPARSLGPPGWSKSRAPAQPAGLALTGPLNPQTLPLQLELEEEEEEEAGDGK 118
Macaca_mulatta    WGCADTSAPEPARSLGAPGWRKSRAPAQPAGLALTGPLNPQTLQLELEEEEEEEAGDRK 118
Callithrix_jacchus WGCADTSAPEPARSLGAPGWRKSRAPAQPAGLALTGPLNPQTLRLQLELEEEEEEEAGDRK 118
Bos_taurus        SGCADAGAPEPAESRGAPSWKSRAPGQAPAGLALPGPLNPQALQKOLA--EEEEETGERN 116
Equus_caballus    LGCVDPTSTPEPARTLGAPGRKSPAAGQAPAGLALPGPLNPQTLQQQL--EEEEEEAGDRN 116
Mus_musculus      PGCVDASVQEPASNRPAG-----QPARLPISGPLDPQSLQLER--EAEAGAPR-- 106
Canis_lupus_familiaris RG-----GRRAGLALPGPLDPRALRPQPC----- 60
Rattus_norvegicus -----
Heterocephalus_glaber ----- 14
Rhinatrema_bivittatum MGSRAWRNSSPDGARSPDGTRGDLVPGRAAEIPEGTRGGNGSDSAGVSEGTRENAGESK 180
Xenopus_tropicalis VDCEEHRVDS-----ISAVHYEGPLASCYDTPPS----- 88
.....130.....140.....150.....160.....170.....180

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Gallus_gallus          -----TPG-VGESAAE-----GPE--GSSGRRRPA-RR      99
Pavo_cristatus        -----
Pavo_muticus          -----
Chelonia_mydas        -----AGGEPGAPPEE-----GPGRDWGSSSSRRRLAPRR      108
Homo_sapiens          EGGDEQQEAPPGEELP-----RTRVGAADGLVLDVLGQRRPPLAKR      160
Pan_troglodytes       EGGDEQQEAPPGEELP-----RTRAGAADGLVLDVLGQRRPPLAKR      160
Macaca_mulatta        EGGDEQQEAPPGEELP-----RTRAGAADGLVLDVLGQRRPPLAKR      160
Callithrix_jacchus    EGGDEQQEAPPGEELP-----GTRAGAADGLVLDVLGQRRPPLAKR      160
Bos_taurus            ESGDEQQEAPPGEELP-----TRVHVGAPDGLVLDVLGPRRPPPAKR      160
Equus_caballus        EEGDEQQEAPPGEELP-----RTRAGAPDQLVLDVLAPRRPLSAKR      158
Mus_musculus          -----EAPPGQQP-----PDGLLLDVLAAQRHPPPAKP      133
Canis_lupus_familiaris -----PEPQPEPQPEP-----GPRARAADLVLDVLGPRRPLSARR      96
Rattus_norvegicus     -----
Heterocephalus_glaber -----PSRAEPS-----RLRRR      27
Rhinatrema_bivittatum PGTNQSCASPLEQQQQRESDCRATSEGRGDAASPSRLQEGGGPADSLGAAAASSSPR      240
Xenopus_tropicalis    -----DRDIEAVGCQPGAG-----TVSRAQGGGSIAVKTRKRC      121
.....190.....200.....210.....220.....230.....240

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Gallus_gallus          HVYCTVYCVENDRP--GPGSPPGPGSAQP-----PARRGVAAGG-----      136
Pavo_cristatus        -----P-----PARRGVAAGG-----      11
Pavo_muticus          -----P-----PARRGVAAGG-----      11
Chelonia_mydas        HVYCTVYCVENDRAGAGGPPPPAAAPGAL-----PARRGPIG-----      145
Homo_sapiens          QVFCSVYCVESDLPEAPASEQLSPPASPP-----GAPPVLNPPSTRSSFFSPRLSLPT      213
Pan_troglodytes       QVFCSVYCVESDLPEAPASEQLSPPASPP-----GAPPVLNPPSTRSSFFSPRLSLPK      213
Macaca_mulatta        QVFCSVYCVESDLPEAPASEQLSPPASPP-----GAPPVLNPPSTRSSFFSPRLSLPT      213
Callithrix_jacchus    QVFCSVYCVESDLPEAPASEQLSPPASPL-----GAPPVFNPPSTRSSLPSRLSLPT      213
Bos_taurus            QVFCSVFCVENDLSEVPSAERLSLPASPP-----RAPPVFNPPSTPSSFFSPQLSLPA      213
Equus_caballus        QVFCSVFCVENDLPEVPTAEQLSPPALPP-----RAPPVFNPPSTPSSFFSPRLSLPA      211
Mus_musculus          QVLCVYCVESDLPEAPSAESPSPSESP-----QAPLGPIPASPPPSFFSPSLSLPA      186
Canis_lupus_familiaris QVLCVFCVENDLPEAPAAEPQRPPPA-----PAP-TPTPRAPPVLSAPPAPPAP-      147
Rattus_norvegicus     -----
Heterocephalus_glaber Q-----QGSEAQRDSPAISLP-----PRPPAPRGP-----      52
Rhinatrema_bivittatum GVVPWTLGVEPLVEPPGAGLPPRSEESQPGKRHVYCTVYCVENDHPGDGPGAPCPAPAPL      300
Xenopus_tropicalis    SVLCTVYCVESDLSSDLPLPLYHIDEGLP-----ELPTRASRLS-----      160
.....250.....260.....270.....280.....290.....300

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Gallus_gallus          DPLSAGGSIEVVDLYLLPEPF---SGLIGG-----DFGPLLVLVLSRCVCLCEEKPV      182
Pavo_cristatus        DPLSAGGSIEVVDLYLLPEPF---SGLIGG-----DFAPLLVLVLSRCVCLCEEKPV      57
Pavo_muticus          DPLSAGGSIEVVDLYLLPEPF---SGLIGG-----DFAPLLVLVLSRCVCLCEEKPV      57
Chelonia_mydas        DPLTSGGSIEL-DFYLLPEPF---SGLIAG-----DFGPLLVLVLSRCVCLCEEKPI      190
Homo_sapiens          DSLSPDGGSIIELEFYLAPEPF-SMPSLLGAPPYSGLGGVGDPYVPLMVLMLCRVCLEDKPI      272
Pan_troglodytes       DSLSPDGGSIIELEFYLAPEPF-SMPSLLGAPPYSGLGGVGDPYAPLMVLMCRVCLEDKPI      272
Macaca_mulatta        DSLSPDGGSIIELEFYLAPEPF-SMPSLLGAPPYSGLGGVGDPYAPLMVLMCRVCLEDKPI      272
Callithrix_jacchus    DSFSPDGGSIIELEFYLAPEPF-SMPSLLGAPPYSGLGGVGDPYAPLMVLMCRVCLEDKPI      272
Bos_taurus            DPLSPDGGSIIELEFYLAPEPF-SVPSLLGAPPYSDLGGVGDPYAPLMVLMCRVCLEDKPI      272
Equus_caballus        DPLSPDGGSIIELEFYLAPEPF-SVPSLLGAPPYSGLGGVGDAYAPLMVLMCRVCLEDKPI      270
Mus_musculus          DPLSPDGGSIIELEFYLAPEPF-SVPGLLGAPPYSGLGGVGDPYAPLMVLMCRVCLEDKPI      245
Canis_lupus_familiaris ---APDGGSIELDFYLAPEPFPAAPGLPGAPPYFQLAGLGDYGPLMVLMCRVCLEDKPI      204
Rattus_norvegicus     -----MVLMLCRVCLEDKPI      14
Heterocephalus_glaber -----ELDPHPVPEPF-SVAGLLGAPPYAGPGGVAGPRAPLAVLLCRVCLEDKPI      101
Rhinatrema_bivittatum SLSSSPGGLELELFRPPGPF-SVSSLIESSLVG--SPYAGDYGRLLIALTCRVCLEDKQI      357
Xenopus_tropicalis    -----STGELALSPTSLELELSPILISN-----VGDSALKVMMSCRVCLDRSL      204
.....310.....320.....330.....340.....350.....360

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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****.:*:*****.: : **.*:*
FLELSRIDSSSTKPCPOCKHFTTFRRRGHIPTPAKLENKYK-----
FLELSRIDSSSTKPCPOCKHFTTFRRRGHIPTPAKLENKYK-----
FLELSRIDSSSTKPCPOCKHFTTFRRRGHIPTPAKLENKYK-----
FLELSRIDSSSTKPCPOCKHFTTFRRRGHIPTPKLENKYK-----
FLELGRIDSSSTKPCPOCKHFTTFKKKGHIPTPSRSESKYK-----
FLELGRIDSSSTKPCPOCKHFTTFKKKGHIPTPSRSESKYK-----
FLELGRIDSSSTKPCPOCKHFTTFKKKGHIPTPSRSESKYK-----
FLELGRIDSSSTKPCPOCKHFTTFKKKGHIPTPSRSESKYK-----
FLELGRIDASTKPCPOCKHFTTFKKKGHIPTPSRSESKYK-----
FLELGRIDSSSTKPCPOCKHFTTFKKKGHIPTPSRSESKYK-----
FLELGRIDSSSTKPCPOCKHFTTFKKKGHIPTPSRSESKYK-----
FLELGRIDSSSTKPCPOCKHFTTFKKKGHIPTPSRSESKYK-----
FLELGRIDSSSTKPCPOCKHFTTFKKKGHIPTPSRSESRYK-----
FLELGHIDSSTKPCPOCKHFTTVKKKGHIPTPSRSESKYKRHLGDEALAAADLWTLPTRP
FLELSRMDSSSTKPCPOCKHFTTFKRKGHIPTPTTSENKFK-----
FLELSRDSSSTKPCPOCKHFTTFRSKTHIPNLTKSENKLK-----
.....430.....440.....450.....460.....470.....480

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****.*.:*****:*****.*:*.:*****.*:*****:*.:*
-IQCPSCQFVWCFKCHSPWHEGVNCKEYKKGDKLLRHWANEIEHGORNAQKCPKCKIHIQ
-IQCPSCQFVWCFKCHSPWHEGVNCKEYKKGDKLLRHWANEIEHGORNAQKCPKCKIHIQ
-IQCPSCQFVWCFKCHSPWHEGVNCKEYKKGDKLLRHWANEIEHGORNAQKCPKCKIHIQ
-IQCPTCQLVWCFKCHSPWHEGVNCKEYKKGDKLLRHWASEIEHGORNAQKCPKCKIHIQ
-IQCPCTCFVWCFKCHSPWHEGVNCKEYKKGDKLLRHWASEIEHGORNAQKCPKCKIHIQ
-IQCPTCFQFVWCFKCHSPWHEGVNCKEYKKGDKLLRHWASEIEHGORNAQKCPKCKIHIQ
-IQCPTCFVWCFKCHSPWHEGVNCKEYKKGDKLLRHWASEIEHGORNAQKCPKCKIHIQ
-IQCPTCFIWCFKCHSPWHEGVNCKEYKKGDKLLRHWASEIEHGORNAQKCPKCKIHIQ
-IQCPTCFVWCFKCHSPWHEGVNCKEYKKGDKLLRHWASEIEHGORNAQKCPKCKIHIQ
-IQCPTCFVWCFKCHSPWHEGVNCKEYKKGDKLLRHWASEIEHGORNAQKCPKCKIHIQ
-IQCPTCFIWCFKCHSPWHEGVNCKEYKKGDKLLRHWASEIEHGORNAQKCPKCKIHIQ
-KIQCPACQFVWCFKCHSPWHEGVNCKEYKKGDKLLRHWASEIEHGORNAQKCPKCKIHIQ
-IQCPSCQFVWCFKCHSPWHEGVNCKEYKKGDKLLRHWANEVEHGORNAQKCPKCKIHIQ
-IQCPSCQFIWCFKCHAPWHEGVNCKEYKKGDKLLRHWANEIEHGORNAQKCPKCKVHIQ
.....490.....500.....510.....520.....530.....540

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:*****:*****
Gallus_gallus      RTEGCDHMTCSQCNTNFCYRCGERYQLRFFGDHTSNLSIFGCKYRYLPERPHLRRRLVRG 401
Pavo_cristatus    RTEGCDHMTCSQCNTNFCYRCGERYQLRFFGDHTSNLSIFGCKYRYLPERPHLRRRLVRG 276
Pavo_muticus      RTEGCDHMTCSQCNTNFCYRCGERYQLRFFGDHTSNLSIFGCKYRYLPERPHLRRRLVRG 276
Chelonia_mydas    RTEGCDHMTCSQCNTNFCYRCGERYQLRFFGDHTSNLSIFGCKYRYLPERPHLRRRLVRG 409
Homo_sapiens      RTEGCDHMTCSQCNTNFCYRCGERYQLRFFGDHTSNLSIFGCKYRYLPERPHLRRRLVRG 491
Pan_troglodytes   RTEGCDHMTCSQCNTNFCYRCGERYQLRFFGDHTSNLSIFGCKYRYLPERPHLRRRLVRG 491
Macaca_mulatta    RTEGCDHMTCSQCNTNFCYRCGERYQLRFFGDHTSNLSIFGCKYRYLPERPHLRRRLVRG 491
Callithrix_jacchus RTEGCDHMTCSQCNTNFCYRCGERYQLRFFGDHTSNLSIFGCKYRYLPERPHLRRRLVRG 491
Bos_taurus        RTEGCDHMTCSQCNTNFCYRCGERYQLRFFGDHTSNLSIFGCKYRYLPERPHLRRRLVRG 491
Equus_caballus    RTEGCDHMTCSQCNTNFCYRCGERYQLRFFGDHTSNLSIFGCKYRYLPERPHLRRRLVRG 489
Mus_musculus      RTEGCDHMTCSQCNTNFCYRCGERYQLRFFGDHTSNLSIFGCKYRYLPERPHLRRRLVRG 464
Canis_lupus_familiaris RTEGCDHMTCSQCNTNFCYRCGERYQLRFFGDHTSNLSIFGCKYRYLPERPHLRRRLVRG 423
Rattus_norvegicus RTEGCDHMTCSQCNTNFCYRCGERYQLRFFGDHTSNLSIFGCKYRYLPERPHLRRRLVRG 233
Heterocephalus_glaber KTEGCDHMTCSQCNTNFCYRCGERYQLRFFGDHTSNLSIFGCKYRYLPERPHLRRRLVRG 341
Rhinatrema_bivittatum RTEGCDHMTCSQCNTNFCYRCGERYQLRFFGDHTSNLSIFGCKYRYLPERPHLRRRLVRG 576
Xenopus_tropicalis RTEGCDHMTCSQCNTNFCYRCGERYQLRFFGDHTSNLSIFGCKYRYLPERPHVRRRLVRG 423
.....550.....560.....570.....580.....590.....600

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***          ****::** ::***.***:::*** :*****
Gallus_gallus      SVCGEWINALHRELHKEVIEAAGKLLITPLILILGLALGAVAVVVGFLVFPIYCLCKKOR 461
Pavo_cristatus    SVC-----AGKLLITPLILILGLALGAVAVVVGFLVFPIYCLCKKOR 318
Pavo_muticus      SVC-----AGKLLITPLILILGLALGAVAVVVGFLVFPIYCLCKKOR 318
Chelonia_mydas    SVC-----AGKLLIAPLILVLGLALGAIIVVIGLGFVFIYCLCKKOR 451
Homo_sapiens      SVC-----AGKLFIAPLIMVLGLALGAIIVVIGLGFVFIYCLCKKOR 533
Pan_troglodytes   SVC-----AGKLFIAPLIMVLGLALGAIIVVIGLGFVFIYCLCKKOR 533
Macaca_mulatta    SVC-----AGKLFIAPLIMVLGLALGAIIVVIGLGFVFIYCLCKKOR 533
Callithrix_jacchus SVC-----AGKLFIAPLIMVLGLALGAIIVVIGLGFVFIYCLCKKOR 533
Bos_taurus        SVC-----AGKLFVAPLILVLGLALGAIIVVIGLGFVFIYCLCKKOR 533
Equus_caballus    SVC-----AGKLFVAPLILVLGLALGAIIVVIGLGFVFIYCLCKKOR 531
Mus_musculus      SVC-----AGKLFIAPLILVLGLALGAIIVVIGLGFVFIYCLCKKOR 506
Canis_lupus_familiaris SVC-----AGKLFVAPLILVLGLALGAIIVVIGLGFVFIYCLCKKOR 465
Rattus_norvegicus SVC-----AGKLFIAPLILVLGLALGAIIVVIGLGFVFIYCLCKKOR 275
Heterocephalus_glaber SVC-----AGKLFIAPLILVLGLALGAIIVVIGLGFVFIYCLCKKOR 383
Rhinatrema_bivittatum SVC-----AGKLLIAPLALVLGLALGATVVLIGLGFVFIYCLCKKOR 618
Xenopus_tropicalis SVC-----AGKLLIAPLILVLGLVLGALAIIVIGLGLPIYCLCKKOR 465
.....610.....620.....630.....640.....650.....660

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**::**
Gallus_gallus      KRSRTVSLFLVCNRSEENSNPWPLFLNFRVLLFITGLFSAHHHKVNVVICS 511
Pavo_cristatus    KRSRTVSLFLVCNRYEENSNPWPLFLNFRVPLFITGLFSAHHHKGNVVWS 368
Pavo_muticus      KRSRTVSLFLVCNRYEENSNPWPLFLNFRVPLFISGLFSAHHHKGNVVWS 368
Chelonia_mydas    KRSRTG-----MPW-----460
Homo_sapiens      KRSRTG-----MHW-----542
Pan_troglodytes   KRSRTG-----MHW-----542
Macaca_mulatta    KRSRTG-----MHW-----542
Callithrix_jacchus KRSRTG-----MHW-----542
Bos_taurus        KRSRTG-----MHW-----542
Equus_caballus    KRSRTG-----MHW-----540
Mus_musculus      KRSRTG-----MHW-----515
Canis_lupus_familiaris KRSRTG-----MHW-----474
Rattus_norvegicus KRSRTG-----MHW-----284
Heterocephalus_glaber KRSRTG-----MD-----391
Rhinatrema_bivittatum KRTRTG-----MPW-----627
Xenopus_tropicalis KRTRTG-----MPW-----474
.....670.....680.....690.....700.....710

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