

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/ZC0006.fst Tue Feb 14:56:09 2022

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Mus_musculus	-----MGDTAKPYFVKRTKDRGIIDDDFRRGHPQDDYLIMDDYAKGHSSK	46
Rattus_norvegicus	-----MGDTAKPYFVKRTKDRGIIDDDFRRGHPQDDYLIMDDYAKGHSSK	46
Homo_sapiens	-----MGDTAKPYFVKRTKDRGTMDDDDFRRGHPQDDYLIIDDHAKGHGSK	46
Pan_troglodytes	-----MGDTAKPYFVKRTKDRGTMDDDDFRRGHPQDDYLIIDDHAKGHGSK	46
Macaca_mulatta	-----MGDTAKPYFAKRTKDRGTMDDDDFRRGHPQDDYLIIDDHAKSHGSK	46
Callithrix_jacchus	-----MGDTAKPYFVKRTKDRGTIDDDFRRGHPQDDYLIMDDYAKGHGSK	46
Canis_lupus_familiaris	-----MGDAAKPYFVKRTKDRGSIDDDFRRGHPQDDYLIMDDYAKGHSSK	46
Equus_caballus	MGLRYKVRKLKSKTMDGAVKPYFMKRAKDRGNIDDDFRRGHPQDDYLIMDDYAKGHSGK	60
Bos_taurus	-----MGDATKPYFVRRPKERGTTIDDDFRRGHPQDDYLIMDDYAKGHSSK	46
Pavo_muticus	-----MGDTAKPYITKQSKEPEMLFEEEFKGGLLRKDYQVTDEYGNHGSNK	46
Pavo_cristatus	-----MGDTAKPYITKQSKEPEMLFEEEFKGGLLRKDYQVTDEYGNHGSNK	46
Gallus_gallus	-----MGDTAKPYFTKQSKEPEMLFEEEFKGGLLRKDYQVMDEYGNHGSNK	46
Anas_platyrhynchos	-----MGDAAKPPFAKQDKKPEMC-EEELKGSPLQKDCQAMDEYGNHGSNK	45
Rhinatrema_bivittatum	-----	
Xenopus_tropicalis	-----MGDAAK-----GVKHHAIMDEEYKRPVVKQS---IGNHETIHGVKK	38

1.....10.....20.....30.....40.....50.....60

Mus_musculus	MEKGLPKKKISPKNYGNTPRKGLYGVSSNPYAFKNPIYSQPAWMNDNHKDNKKWLSDEL	106
Rattus_norvegicus	MEKGLPKKKMSPKNYGNTPRKGLYAVSSNPYAFKNPMYSQPAWMNDNHKDNKKWLSDEL	106
Homo_sapiens	MEKGLQKKKITPGNYGNTPRKGPCAVSSNPYAFKNPIYSQPAWMNDSHKQSKRWLSDEH	106
Pan_troglodytes	MEKGLQKKKITPGNYGNTPRKGPCAVSSNPYAFKNPIYSQPAWMNDSHKQSKRWLSDEH	106
Macaca_mulatta	MEKGLQKKKITPGNYGNTPRKGPCAVSSNPYAFKNPIYSQPAWMNDNHKQSKRWLSDEH	106
Callithrix_jacchus	MEKGLQKKKITPVNYGNTPRKGPCAVSSNPYAFKNPIYSQPAWINDNHKQSKRWLSDER	106
Canis_lupus_familiaris	MEKGLPKKKITPGNYGNTPRKGPYAVSSNPYAFKNPIYSQPAWMNENHKQSKRWLSDEL	106
Equus_caballus	MEKGLPKKKISPKNYGNTPRKGPYAVSSNPYAFKNPIYSQPAWINDNHKQSKRWLSDEL	120
Bos_taurus	MEKGLPKKKVTPGNYGNTPRKGPYAVSSNPYAFKNPIYSQPTWINDNHRDQSKRWLSDEL	106
Pavo_muticus	IDISLQKKKGTPGHYGGSPRRGPRSVFSSPNSLKNITHSQGSKLSDTQKDQIKKWISDDH	106
Pavo_cristatus	IDISLQKKKGTPGHYGGSPRRGPRSVFSSPNSLKNITHSQGSKLSDTQKDQIKKWISDDH	106
Gallus_gallus	IDINLQKKKGAPGHYGGSPRRGPRSVFSSPNSLKNITHSQGSKLSDTQKDQIKKWISDDH	106
Anas_platyrhynchos	MDISMQKKRGTPGHYGNTPRRGPRNILSSPHSLKNITHSQGLKFSDTQKDQIKKWISDDH	105
Rhinatrema_bivittatum	-----	
Xenopus_tropicalis	IQVDSQRKP-IPVICSNSPRNLGHQS-----TFKNYSRSPNSRPSNIHKDGHKRWLTDVP	92

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

Mus_musculus	AGNADSWREFKPGPRIPVISRSRKESFOESDDAYRWQEGRGCR-----VRRLFQKDLSSLE	163
Rattus_norvegicus	AGNADSWREFKPGPRIPVLSRSRKESFOESDITYRWQEGRGCR-----VRRLFQKDLASLE	163
Homo_sapiens	TGNSDNWREFKPGPRIPVINRQRKDSFOENEDGYRWQDTRGCRT-----VRRLFHKDLTSLE	163
Pan_troglodytes	TGNSDNWREFKPGPRIPVINRQRKDSFOENEDGYRWQDTRGCRT-----VRRLFHKDLTSLE	163
Macaca_mulatta	TGNSDNWREFKPGPRIPVINRQRKDSFOENEDGYRWQDTRGCRT-----VRRLFHKDLTSLE	163
Callithrix_jacchus	TGNSDNWREFKPGPRIPVINRPRKDSFOENEDGYRWQDTRGCRT-----VRRLFHKDLTSLE	163
Canis_lupus_familiaris	AGNSDTWREFKPGPRIPVINRPRKDSFOESDGYRWQDGRGCRT-----VRRLFHKDLTSLE	163
Equus_caballus	AGNSDSWREFKPGPRIPVINRPRKDLFOESDGYRWQDGRGCRT-----VRRLFHKDLTSLE	177
Bos_taurus	ANNSDSWREYKPGPRIPVINRPRRDSFOESDGYRWQDGRGCRT-----VRRLFHKELTNLD	163
Pavo_muticus	RGTSDSWRDYRSGIWIPMHNRTKDSFHEVEG-----AGNRN-----VRRQLQKDLAD-E	155
Pavo_cristatus	RGTSDSWRDYRSGIWIPMHNRTKDSFHEVEG-----AGNRN-----VRRQLQKDLAD-E	155
Gallus_gallus	RGNSDSWRDYRSGIWIPMHNRTKDSFHEVEG-----AGNRN-----VRRQLQKDLAD-E	155
Anas_platyrhynchos	RGTSDSWREYRSVAWIPMHSRTKDSYHEVEG-----AGNRN-----VRRQLQKDLTN-E	154
Rhinatrema_bivittatum	-----	
Xenopus_tropicalis	RSHSDNWDRDKHQP-----FNRTRNDS-TNEQEEAQNWRDGGERSNESGRRHNQKGIT-S-K	147

.....130.....140.....150.....160.....170.....180

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      . : : * : . : : : ..****. ** *:*****:*
Mus_musculus      AMSEMEAGSPENKKQSRPRKPRRTEDSEQDGLDGPVIDESVLSTKELLGLOQAEER 223
Rattus_norvegicus AMTEVEAGSPENKKQSRPRKPRRTEDIEQDGELEGPVIDESVLSTKELLGLOQAEER 223
Homo_sapiens      TTSEMEAGSPENKKQSRPRKPRKTRNEENEQDGDLEGPVIDESVLSTKELLGLOQAEER 223
Pan_troglodytes   TTSEMEAGSPENKKQSRPRKPRKTRNEENEQDGDLEGPVIDESVLSTKELLGLOQAEER 223
Macaca_mulatta    TTSEMEAGSPENKKQSRPRKPRKTRNEENEQDGDLEGPVIDESVLSTKELLGLOQAEER 223
Callithrix_jacchus TTSEMEAGSPENKKQSRPRKPRKTRNEENEQDGDLEGPVIDESVLSTKELLGLOQAEER 223
Canis_lupus_familiaris TMSEMEAGSPENKKQSRPRKPRRTTRNEENEQDGDLEGPVIDESVLSTKELLGLOQAEER 223
Equus_caballus    TMSEMETGSPENKKQSRPRKPRRTTRNEENEQDGDLEGPVIDESALSTKELLGLOQAEER 237
Bos_taurus        TMSEMEAGSPENKKPRSRPRKPRRTTRNDENEQDGDLEGPVIDESVLSTKELLGLOQAEER 223
Pavo_muticus      DVPDMORGSSSEMKKLR-KTRRSRRSRKDENDQDDEADGPVIDESALSAKELLGLOQAEER 214
Pavo_cristatus    DVPDMORGSSSEMKKLR-KTRRSRRSRKDENDQDDEADGPVIDESALSAKELLGLOQAEER 214
Gallus_gallus     DMSDMORGSSSEMKKLR-KTRRSRRSRKDEYDQDDEVDGPVIDESVLSAKELLGLOQAEER 214
Anas_platyrhynchos DVPEMOKGNPEMKKLR-KTRRSRRTRKDECDHDDVDGPVIDEPQLSAKELLGLOQAEER 213
Rhinatrema_bivittatum -----MNQKKPKRPRKMRDERQPEVDFDSTVIDESALSKKELLGLOQAEDR 47
Xenopus_tropicalis DYVDGHTGVADTFKQE-KKRFDRRRCKSERDEEDYIESPVIDESALSQKDLLGLOQAEER 206
      .....190.....200.....210.....220.....230.....240

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      *** : ***:..* * * * : * : * : * : * : * : * : * : * : * : * : * : * :
Mus_musculus      LKRDCIDRLKRRPRNCPTAKYTKCLCDALIDSIPFAHKHIKEKRHKKNLKEKEEELLTT 283
Rattus_norvegicus LKRDCIERLKRRSRNCPTAKYTKCLCDALIDSIPFAHKHIKEKRHKKNLKEKEEELLTT 283
Homo_sapiens      LKRDCIDRLKRRPRNYPTAKYTKCLCDVLIESIAFAHKHIKEKRHKKNLKEKEEELLTT 283
Pan_troglodytes   LKRDCIDRLKRRPRNYPTAKYTKCLCDVLIESIAFAHKHIKEKRHKKNLKEKEEELLTT 283
Macaca_mulatta    LKRDCVDRLLKRRPRNYPAKYTKCLCDVLIESIAFAHKHIKEKRHKKNLKEKEEELLTT 283
Callithrix_jacchus LKRDCIDRLKRRPRNYPTAKYTKCLCDVLIESIAFAHKHIKEKRHKKNLKEKEEELLTT 283
Canis_lupus_familiaris LKRDFIDRLKRRPRNYPTAKYTKCLCDVLIESIAFAHKHIKEKRHKKNLKEKEEELLTT 283
Equus_caballus    LKRDCIDRLKRRPRNYPTAKYTKCLCDVLIESIAFAHKHIKEKRHKKNLKEKEEELLTT 297
Bos_taurus        LKRDCIDRLKRRPRNYPTAKYTKCLCAVLIESIAFAHKHIKEKRHKKNLKEKEEELLTT 283
Pavo_muticus      LKRDFIYRLKKQPRSYPSAKYACKLCDVLIESVAFAHKHIKEKRHKKSIIKEKEEQLLSA 274
Pavo_cristatus    LKRDFIYRLKKQPRSYPSAKYACKLCDVLIESVFAHKHIKEKRHKKSIIKEKEEQLLSA 274
Gallus_gallus     LKRDFIYRLKKQPRSYPSAKYACKLCDVLIESVFAHKHIKEKRHKKSIIKEKEEQMLST 273
Anas_platyrhynchos LKRDCIYRLKKQPRSYPSAKYACKLCDVLIESVAFAHKHIKEKRHKKSIIKEKEEQMLST 273
Rhinatrema_bivittatum LRRDCIYRLKRRPRNYPTATYSCKLCDVLIESVSAHKHIKEKRHKKNLKEKEEELLTT 107
Xenopus_tropicalis LKRDCIYRLKRRPRKYPTAVYCCCKLCDALVESVSAHKHIKEKRHKKNLREKKEEELLTN 266
      .....250.....260.....270.....280.....290.....300

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      ** * . . : * : * : * : * : * : * : * : * : * : * : * : * :
Mus_musculus      LPPPAPSIHAGVSAIDRVVQEFGLHSENLDQRLKRVMSVFRHKLPCSLRLYGSSC 343
Rattus_norvegicus LPPPAPSIHAGVSAIDRVVQEFGLHNENLDQRLKCAMENVFOHKLPCSLRLYGSSC 343
Homo_sapiens      LPPPTPSQINAVGIAIDKVVQEFGLHNENLEQRLKIKRIMENVFOHKLPCSLRLYGSSC 343
Pan_troglodytes   LPPPTPSQINAVGIAIDKVVQEFGLHNENLEQRLKIKRIMENVFOHKLPCSLRLYGSSC 343
Macaca_mulatta    LPPPTPSQINAVGIAIDKVVQEFGLHNENLEQRLKIKRIMENVFOHKLPCSLRLYGSSC 343
Callithrix_jacchus LPPPTPSQINAVGIAIDKVVQEFGLHNENLEQRLKIKRIMENVFOHKLPCSLRLYGSSC 343
Canis_lupus_familiaris LPPPTPSQINAVGIAIDKVVQEFGLHNENLEQRLKIKRIMENVFOHKLPCSLRLYGSSC 343
Equus_caballus    LPPPTPSQINAVGIAIEKVVQEFGLHNENLEQRLKIKRIMENVFOHKLPCSLRLYGSSC 357
Bos_taurus        LPPPTPSQINAVGIAIDKVVQEFGLHNENLEQRLKIKRIMENVFOHKLPCSLRLYGSSC 343
Pavo_muticus      LPPPAPSIKAIDVAIENVVQEFGLSNADLQERLKIRTIMEDLLHQLPECSRLRYGSSF 334
Pavo_cristatus    LPPPAPSIKAIDVAIENVVQEFGLSNADLQERLKIRTIMEDLLHQLPECSRLRYGSSF 334
Gallus_gallus     LPPPTPSQIKAIENVVQEFGLSNADLQERLKIRTIMEDLLHQLPECSRLRYGSSC 333
Anas_platyrhynchos LPPPTASQIKAIENVVQEFGLSNEDLEERLNKIKTVMEDVLHQLPECSRLRYGSSC 333
Rhinatrema_bivittatum LPLPTLSIQIAGIAIDKVVQKFGLNHEDVEKRLQIERAMENLIHQKLPCSLRLYGSSC 167
Xenopus_tropicalis LPPPDLLQAEAVTAAICKIVHEHGLDEHDVARRCTIVEAMENLIQKLPGLCSRLRYGSSW 326
      .....310.....320.....330.....340.....350.....360

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	: :*: *:***:* :*****:.*: * . :*:*:***:.*:*	
Mus_musculus	SRLGFRSDVNIDVQFPVMSQPDVLLLVQECLEKNSDSFIDVDADFHARVPVVVCRDKQS	403
Rattus_norvegicus	SRLGFRSDVNIDVQFPVMSQPDVLLLVQECLEKNSDCFIDVDADFHARVPVVVCRHKQS	403
Homo_sapiens	SRLGFKNSDVNIDIQFPAIMSQPDVLLLVQECLEKNSDSFIDVDADFHARVPVVVCREKQS	403
Pan_troglodytes	SRLGFKNSDVNIDIQFPAIMSQPDVLLLVQECLEKNSDSFIDVDADFHARVPVVVCREKQS	403
Macaca_mulatta	SRLGFKNSDVNIDIQFPAIMSQPDVLLLVQDCLEKNSDSFIDVDADFHARVPVVVCREKQS	403
Callithrix_jacchus	SRLGFKNSDVNIDIQFPAIMSQPDVLLLVQECLEKNSDSFVDVDADFHARVPVVVCREKQS	403
Canis_lupus_familiaris	SRLGFKNSDVNIDIQFPAIMSQPDVLLLVQECLEKNSDSFIDVDADFHARVPVVVCKEKQS	403
Equus_caballus	SRLGFKNSDVNIDIQFPAIMSQPDVLLLVQECLEKNSDSFLVDADFHARVPVVVCREKHS	417
Bos_taurus	SRLGFKNSDVNIDIQFPAIMSQPDVLLLVQECLEKNSDSFIDVDADFHARVPVVVCREKQS	403
Pavo_muticus	SGFGFKTSDINIDIQFPASMSQPDVLLLVQESLQNSESFIVDADFHTTRIPVVVCREKQS	394
Pavo_cristatus	SGFGFKTSDINIDIQFPASMSQPDVLLLVQESLQNSESFIVDADFHTTRIPVVVCREKQS	394
Gallus_gallus	SGFGFKTSDINIDIQFPASMSQPDVLLLVQESLQNSESFIVDADFHTTRIPVVVCREKQS	394
Anas_platyrhynchos	SGFGFKTSDINIDIQFPASMSQPDVLLLVQESLQNSESFIEVDADFHTTRIPVVVCREKQS	393
Rhinatrema_bivittatum	SRFGFKNSDLNIDIQFPASISQPDVLLLVQESLQNSGSFIDIVTDFHARVPVVICREKQS	227
Xenopus_tropicalis	TRFGFKNSDLNIDIQFPINMNQPDVLLLVQESLKQSLDFTDFEADFHARVPVVVCREKQS	386
	.....370.....380.....390.....400.....410.....420	
	.*:*****:* *: :*:*. : .*:***** :*:*****.*:*	
Mus_musculus	GLLCKVSAGNENAWLTTHLTALGKLEPRLVPLVIAFRYWAKLCSIDRPEEGGLPPYVFA	463
Rattus_norvegicus	GLLCKVSAGNENAWLTTHLTALGKLEPRLVPLVIAFRYWAKLCSIDRPEEGGLPPYVFA	463
Homo_sapiens	GLLCKVSAGNENACLTTKHLTALGKLEPKLVPLVIAFRYWAKLCSIDRPEEGGLPPYVFA	463
Pan_troglodytes	GLLCKVSAGNENACLTTKHLTALGKLEPKLVPLVIAFRYWAKLCSIDHPEEGGLPPYVFA	463
Macaca_mulatta	GLLCKVSAGNENACLTTKHLTALGKLEPKLVPLVIAFRYWAKLCSIDRPEEGGLPPYVFA	463
Callithrix_jacchus	GLLCKVSAGNENACLTTKHLTALGKLEPKLVPLVIAFRYWAKLCSIDRPEEGGLPPYVFA	463
Canis_lupus_familiaris	GLLCKVSAGNENACLTTNHLTALGKLESKLVPLVIAFRYWAKLCSIDHPEEGGLPPYVFA	463
Equus_caballus	GLLCKVSAGNENACLTTNHLTALGKLESRLVPLVIAFRYWAKLCSIDRPEEGGLPPYVFA	477
Bos_taurus	GLLCKVSAGNENACLTTNHLTALGKLESKLVPLVIAFRYWAKLCSIDRPEEGGLPPYVFA	463
Pavo_muticus	GLICKVSAGNENAYLTTHLATIGKLEPTVASLVIAFRYWAKLCCVDRPEEGGLSPYVFA	454
Pavo_cristatus	GLICKVSAGNENAYLTTHLATIGKLEPTVSLVIAFRYWAKLCCVDRPEEGGLSPYVFA	454
Gallus_gallus	GLICKVSAGNENAYLTTHLATIGKLEPTVSLVIAFRYWAKLCCVDRPEEGGLSPYVFA	454
Anas_platyrhynchos	GLICKVSAGNDNAYLTTHLATIGKLEPSVSVSLVIAFRYWAKLCCVDRPEEGGLSPYVFA	453
Rhinatrema_bivittatum	GLLCKVSAGNENAYLTTHLAALGRLEPSLTPLVIAFRYWAKLCHIDQPEEGGLPPYVFA	287
Xenopus_tropicalis	SLLCKVSAGNENACLTSNLMAALGKLEPRLVSLVIAFRYWAKLCCIDKPEEGGLPPYVLA	446
	.....430.....440.....450.....460.....470.....480	
	.:***:.*.*****:*** *: : : : : :*:*. .	
Mus_musculus	LMAVFFLQQRKEPLLPVYLGSWIEEFSLNKLGNFSLKDVVEKDSVVWEYTDNSTGDTSSAK	523
Rattus_norvegicus	LMAVFFLQQRKEPLLPVYLGSWIEEFSLNKLGNFSLKDVVEKDSVVWEYTDNSTGDTSSPK	523
Homo_sapiens	LMAIFFLQQRKEPLLPVYLGSWIEGFSLSKLGNFNLQDIEKDVVIWEHTDSAAGDTGITK	523
Pan_troglodytes	LMAIFFLQQRKEPLLPVYLGSWIEGFSLSKLGNFNLQDIEKDVVIWEHTDSAAGDTGITK	523
Macaca_mulatta	LMAIFFLQQRKEPLLPVYLGSWIEGFSLSKLGNFNLQDIEKDVVIWEYTDSTAAGDTDTAK	523
Callithrix_jacchus	LMTIFFLQQRKEPVLVPVYLGSWIEGFSLSKLGNFNLQDIEKDVVIWEYSDNAAGDTDSSK	523
Canis_lupus_familiaris	LMAIFFLQQRKEPLLPVYLGSWIEGFSLNKLGNFNLQDVKDVTVVWEYTDNATGDADTAK	523
Equus_caballus	LMAVFFLQQRKEPLLPVYLGSWIEGFSLNKLGNFNLQDVKDVTVVWEYSDNAAEDTDTAK	537
Bos_taurus	LMAIFFLQQRKEPLLPVYLGSWIEGFSLNKLGNFNLQDIEKDSVVWEYTDNVAGDV DSTK	523
Pavo_muticus	LMVIFFLQQRKEPFLPVYLGSWIEGFSLNKLTNPHLKEVENDVVVWEHNP-----VDN	507
Pavo_cristatus	LMVIFFLQQRKEPFLPVYLGSWIEGFSLNKLTNPHLKEVENDVVVWEHNP-----VDN	507
Gallus_gallus	LMVIFFLQQRKEPFLPVYLGSWIEGFSLNKLTNPHLKEVENDVVVWEHNP-----VDN	507
Anas_platyrhynchos	LMVIFFLQQRKEPFLPVYLGSWIEGFSLNKLTNPHIKEVENDAVVWQHNP-----PDD	506
Rhinatrema_bivittatum	LMVIFFLQQRKQPLLPVYFGSWIEGFAVRKSVNFKMVENNMVLWEYSP-----AADD	341
Xenopus_tropicalis	LMAIFFLQQRKQPLVPVYLGAWIEDFSVSLAKYTLTLDTEKDYVVWECNT-----AAD	499
490.....500.....510.....520.....530.....540	

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Mus_musculus      EEAPKETAAAKGQVPLTFNKHQPSVPVGLWVELLRFYALEFNLADLVISIRVKELISR      583
Rattus_norvegicus EEALRETAAKGQVPLTFNKHQPSVPVGLWVELLRFYALEFNLADLVISIRVKELISR      583
Homo_sapiens      EEAPRETPIKRGQVSLILDVHKHPSVPVGLWVELLRFYALEFNLADLVISIRVKELVSR      583
Pan_troglodytes   EEAPRETPIKRGQVSLILDVHKHPSVPVGLWVELLRFYALEFNLADLVISIRVKELVSR      583
Macaca_mulatta    EEAPREKPIKRGQVSLILDMKHQPSVPVGLWVELLRFYALEFNADLVISIRVKELVSR      583
Callithrix_jacchus EEAPREIPIKRGQVSLILDMKHQPSVPVGLWVELLRFYALEFNLADLVISIRVKELVSR      583
Canis_lupus_familiaris EEAPKEVPVKRGQVSLIFDLRHVPSVPVGLWVELLRFYALEFNLADLVISIRVKESVSR      583
Equus_caballus    EEAPKEVPVKRGQVSLITFDLKHQPSVPVGLWVELLRFYALEFNLADLVISIRVKESISR      597
Bos_taurus        EEAPKEMAIKRGQVPLIFDSKQPSVPVGLWVELLRFYALEFNLADLVISIRVKESISR      583
Pavo_muticus      ADLPQETS PKRDKVPLVFDSDVQKCSAPLGLWVELLRFYALEFNADLVISIRLKEIVSR      567
Pavo_cristatus    ADLPQETS PKRDKVPLVFDSDVQKCSAPLGLWVELLRFYALEFNADLVISIRLKEIVSR      567
Gallus_gallus     ADLPQETS PKRDKVPLVFDSDVQKCSAPVGLWVELLRFYALEFNADLVISIRLKEIVSR      567
Anas_platyrhynchos AEVPQETS PKRGKVPLVFDSDGQRC SAPAGLWVELLRFYALEFNADLVISIRLKEIVSR      566
Rhinatrema_bivittatum KDHRDDETLRRGKSPLVFAVKHPCSTPIGLWVELLRFYALEFSLSEKVISIRLG-TVSR      400
Xenopus_tropicalis REIHPNEESVRGKSPLVFSAPHOCIAS TGH LWIDMLRFYSLEFNADLVISIRVKEKISR      559
.....550.....560.....570.....580.....590.....600

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Mus_musculus      ESKDWPKKRIAIEDPYSVKRNVARTLNNQPVFEYILHCLRTTYKYFALPHK----VTKPN      639
Rattus_norvegicus ESKDWPKKRIAIEDPYSVKRNVARTLNNQPVFEYILHCLRTTYKYFALPHK----VTKPN      639
Homo_sapiens      ELKDWPKKRIAIEDPYSVKRNVARTLNSQPVFEYILHCLRTTYKYFALPHK----ITKSS      639
Pan_troglodytes   ELKDWPKKRIAIEDPYSVKRNVARTLNSQPVFEYILHCLRTTYKYFALPHK----ITKSS      639
Macaca_mulatta    ELKDWPKKRIAIEDPYSVKRNVARTLNSQPVFEYILHCLRTTYKYFALPHK----ITKSS      639
Callithrix_jacchus ELKDWPKKRIAIEDPYSVKRNVARTLNSQPVFEYILHCLRTTYKYFALPHK----IAKSS      639
Canis_lupus_familiaris ELKDWPKKRIAIEDPYSVKRNVARTLNNQPVFEYILHCLRTTYKYFALPHK----ITKSS      639
Equus_caballus    ESKDWPKKRIAIEDPYSVKRNVARTLNNQPVFEYILHCLRTTYKYFALPHK----ITKSS      653
Bos_taurus        ESKDWPKKRIAIEDPYSIKRNVARTLNNQPVFEYILHCLRTTYKYFALPHK----VMKSS      639
Pavo_muticus      ELKDWPKKRIAIEDPYSVKRNVARTLNSQLMYEYILHCLRTTYKYFALPHKKTVMKRKKS      627
Pavo_cristatus    ELKDWPKKRIAIEDPYSVKRNVARTLNSQLMYEYILHCLRTTYKYFALPHKKTVMKRKKS      627
Gallus_gallus     ELKDWPKKRIAIEDPYSVKRNVARTLNSQLMYEYILHCLRTTYKYFALPHKKTVMKRKKS      627
Anas_platyrhynchos ELKDWPKKRIAIEDPYSVKRNVARTLNSQLMYEYILHCLRTTYKYFALPHKKTVMKRKKS      626
Rhinatrema_bivittatum ESKDWPKKRIAIEDPYSVKRNVARTLNSQLVY EYILHCLRTTYKYFALPHKKTVMKRKKS      460
Xenopus_tropicalis ESKDWPKKRIAIEDPYSVKRNVARTLNSQLMYDIFHCLRTTYKYFALPHKKTVMKRKKS      619
.....610.....620.....630.....640.....650.....660

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Mus_musculus      LTKPPSPVTCVSDPYREAKNGGPE----PQATNIDKLGNAAVAQDPGVQTS GD--CRAQL      693
Rattus_norvegicus LTKPPSPVTCVSDPYREAKNGGPE----LQVTNIDKLENALVAPDPGVQTS GS--CRAQP      693
Homo_sapiens      LLKPLNAITCISEHSKEVINHHPD----VQTK-DDKLKNSVLAQGP GATSSAANTCKVQP      694
Pan_troglodytes   LLKPLNAITCISEHSKEVINHHPD----VQTK-DDKLKNSVLAQGP GATSSAANTCKVQP      694
Macaca_mulatta    LPKPLNAVTCVSDPYREAKNGGPE----VQTK-DDKLKNSVLAQGP GATSSAANTCKVQP      690
Callithrix_jacchus LPKPLNAVTCVSDPYREAKNGGPE----VQTK-DDKLKNSVLAQGP GATSSAANTCKVQP      694
Canis_lupus_familiaris LPKPLNAVTCVSDPYREAKNGGPE----VQTK-DDKLKNSVLAQGP GATSSAANTCKVQP      694
Equus_caballus    LPKPLNAVTCVSDPYREAKNGGPE----VQTK-DDKLKNSVLAQGP GATSSAANTCKVQP      708
Bos_taurus        LPKPLNAVTCVSDPYREAKNGGPE----VQTK-DDKLKNSVLAQGP GATSSAANTCKVQP      694
Pavo_muticus      LPNANEETSLQLD SGNDIVKPDNS----ELQNVSGRINTAVVEDCVSETTDIP---QVQG      680
Pavo_cristatus    LPNANEETSLQLD SGNDIVKPDNS----ELQNVSGRINTAVVEDCVSETTDIP---QVQG      680
Gallus_gallus     LPNANEETSLQLD SGNDIVKPDNS----ELQNVSGRINTAVVEDCVSETTDIP---QVHG      680
Anas_platyrhynchos SPNANEETSLQLD SGNDIVKPDNS----ELQNVSGRINTAVVEDCVSETTDIP---QVHG      679
Rhinatrema_bivittatum LSGTVASQKSEA EKDCSKNDITDKPLLI ELHDINNKLGLVIDESIGAVDS SQNIHERLP      520
Xenopus_tropicalis TTQSGAIADNPSESSLNALNEAKG--VDRMAGLNKOLEELVIGTDS PRASVQNNQKFHQ      677
.....670.....680.....690.....700.....710.....720

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/ZC0006.fst Tue Feb 14 14:56:09 2022

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      .      .      :      *...*:      :
Mus_musculus      VTLKNTTEEVGSPAKEKTGG--VHIPAHQESSGCVQAEVSCEGLEDATAELPETGSDN-- 749
Rattus_norvegicus  LTFKKTTEELGSPSKETIRG--VHIPVHQESSGCVQAEASYEGFKDATAEQEAGSDS-- 749
Homo_sapiens      LTLKETAEFSFGSPPKKEEMGN--EHISVHPENSDCIQADVNSDDYKGDKVYHPETGRKNEK 752
Pan_troglodytes   LTLKETAEFSFGSPPKKEEMGN--EHISVHPENSDCIQADVNSDDYKDDKVYHPETGRKNEK 752
Macaca_mulatta    LTLKETAGSFGSPPTTEEMGN--EHIRVPPENSDCIRADVNDYKDDKVHHQETGRKNEK 748
Callithrix_jacchus VTLKKNAESFGSPSTEEMGN--EHISVHPENSDCIQADVNYDDYVDKVHHQETGRKNEK 752
Canis_lupus_familiaris CTLOETAESFGSPPTTEEMGN--VHVSVHLENSDCVKTGASCDEYEDVKVYHQETG----- 747
Equus_caballus    LTPKGTAAASFESPPTEEMGN--AHVSVHLENSDCIKAEVGCDDYEDIKVHHQETGGKTGK 766
Bos_taurus        LTLKETDENFESPSAEKMGN--SHISVHLENSDCIKAKVSSGDSKDIEVHHQETGSKNKK 752
Pavo_muticus      TFPSKVCDSGESVTEELADDTSHLGIAQEDSDCIVEEVISGDNFGFKPSCEEMESGNEE 740
Pavo_cristatus    TFPSKVCDSGESVTEELADDTSHLGIAQEDSDCIVEEVISGDNFGFKPSCEEMESGNEE 740
Gallus_gallus     TFPSKVCDSGESVTEELADDTSHLGIAQEDSDCIVEEVISGDNFGFKPSCEEMESGNEE 740
Anas_platyrhynchos TDSSKVCDSGESLTEELADDISHLGIAHEDSDCIVEEVISGDNFGFKPSCEETESGNEE 739
Rhinatrema_bivittatum KDTDKVLNNYESPSGEDLVDDIGNVEIALEDSDCVTDEVLFADHEDLESNEDYDEEDN 580
Xenopus_tropicalis PSCKEVDKAYGQTKRKLVDYTMSTNSVP--EDPDCIIEEIIICDPEDSVESCEEVESCNDE 736
      .....730.....740.....750.....760.....770.....780

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      ..      :      :
Mus_musculus      EEVRR-----KTK--HPLSTDDQGLSSSKHPELQNCGLCGLQADNTLELV-----AE 795
Rattus_norvegicus ENSRR-----KTK--HLLSTDDQGLSSSKHPELQNCGLCGLQADNTLELVGLRNPGAE 801
Homo_sapiens      EKVGR-----KGK--HLLTVD-----QKRGEHVVCGSTRNNESESTLDLEGFONPTAK 798
Pan_troglodytes   EKVGR-----KGK--HLLTVD-----QKRGERVVCGSTRNNESESTLDLEGFONPTAK 798
Macaca_mulatta    EKVGR-----KGK--HLLAID-----QKRGEHVVCGSTRNNESEISLDLEGFONPTAK 794
Callithrix_jacchus EEIGR-----KGK--HLLTVD-----QKHGERVICGSTCNNESEDSTLDLEGFONPTTK 798
Canis_lupus_familiaris SKIVR-----EGK--HPLTASDLGLRSSKHGELAICGSTQKNETDSTLDLEGFONPTAK 799
Equus_caballus    EKIKR-----ESKKHLLTATIQAALSSSKHGELVMCGSTQNDTDTSTLDLEGFONPTAK 819
Bos_taurus        EKNGK-----ESK--HPLTADDQALSSSKCGALVTCGSSGTKETDTTLDLEGFONPIAT 804
Pavo_muticus      EEEEE---QEQETRWNILSTDQIDEDSDGGDLPTMTDHDIEICSTSDLESFONTALT 798
Pavo_cristatus    EEEEE---QEQETRWNILSTDQIDEDSDGGDLPTMTDHDIEICSTSDLESFONTALT 798
Gallus_gallus     EEEEE---QEQETRWNVLCSTDQIDEDSDGADLPVTMTDRDIEICSTSDLEGFONTALI 797
Anas_platyrhynchos EEEEE---EQERRWN--ILTTEQIDEDSDSGDLPTVTVIEHDIEICSTSDLESFONTALT 794
Rhinatrema_bivittatum DHDVK-----WQKHFIIDQVLDEDSENGELDTISKINDAETDNISDLESFPNTVMT 632
Xenopus_tropicalis SEEDDFPMHVPTKDSKVDYIIDPGLDESETGEVLRAAN---EETDLSLDVEEFTNAALP 793
      .....790.....800.....810.....820.....830.....840

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      :      :      :      :      :      :      :
Mus_musculus      ECNSC-----ASLDNKAENVNEERIEG-AEELEEAALSCFSPSVQSRISAAMHFDDEEEE 849
Rattus_norvegicus KCSSF-----ASLDDKADVNERSTEG-ADERGE--ALNCFSPSVQSCSTSAIMHFDDEEEEE 853
Homo_sapiens      ECEGL-----ATLDNKADLDGESTEG-TEELED--SLNHFTHSVQGTSEMIPSDDEEED 850
Pan_troglodytes   ECEGL-----ATLDNKADLDGESTEG-TEELED--SLNHFTHSVQGTSEMIPSDDEEED 850
Macaca_mulatta    ECEGL-----ATLDNKADLDGEIIEG-TEELEG--SLNHFTHSVQDQISEMIPSDDEEEEE 846
Callithrix_jacchus ECDGL-----ATLNEKVDLDGESIEG-TEELED--SLNHFTYSIQGQASEIIPSDDEEDE 849
Canis_lupus_familiaris ECDGF-----TTSEDKADVDEEGIEGGTDDLED--ALSHFTPSREGRTSGILHSDEEEEEE 852
Equus_caballus    ECDGY-----ASLDGKADVDEESMEG-TDDLED--TLSHFAPSRQGRSGIHSDEEEEEE 871
Bos_taurus        EYDEF-----PPSYAKADVDEESIEG-TNELGD--AVSHFTPLRQSQISGILHSDEEEED 856
Pavo_muticus      ESDEFGLECTGIMDNKIDVDEESTEG-TDELDE--SPQKFIHSRKQNLPEVINSEEEEE 854
Pavo_cristatus    ESDEFGLECTGIMDNKIDVDEESTEG-TDELDE--SPQKFIHSRKQNLPEVINSEEEEE 854
Gallus_gallus     ESDEFGLECMGIMDNKIDVDEESTEG-TDELDE--SPQKFMHSTKNQLPVVINSEEEEE 853
Anas_platyrhynchos ESDEFGLECSGIIDDKIDVDEESTEG-TDELDE--SPQKFMCSSTQSLSEIINSEEEEE 850
Rhinatrema_bivittatum ESDDYSIECCNALDCKVDLDEESTEG-TDELEE--SLNKFLPSEHGQISEMNSDEEED 689
Xenopus_tropicalis EPEDFVFD---SGGTQNVVDEESTEG-TDELEE--IPSEFIITQTMKQATSNKFDDEEED 847
      .....850.....860.....870.....880.....890.....900

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	:	:	.	..	::***	*	**::**	*	
Mus_musculus	DTGECGEN	VGGTLLIDLNRITLKEESFFEE	DLPGD---	QSEFFYEFRKLI	FTTKGKSPT				958
Rattus_norvegicus	DLEESGEH	MCGALLIDLNRITLKEESFFEE	NSPGD---	QSEFFYEFRKLI	FTTKGKSPT				966
Homo_sapiens	DVKECGKH	VERALLVELNKLISLKEENVCEEK	NSPVD---	QSDFFYEFSKLIFT	TKGKSPT				962
Pan_troglodytes	DVKECGKH	VERALLVELNKLISLKEENVCEE	NSPVD---	QSDFFYEFSKLIFT	TKGKSPT				961
Macaca_mulatta	DVKECGKH	VEGALLVELNKLISLKEENVCEE	NSPVD---	QSDFFYEFSKLIFT	TKGKSPT				957
Callithrix_jacchus	DVKDCGKH	VDGALLVGLNKLISLKEENVCEE	NSPVD---	QSDFFYEFSKLIFT	TKGKSPT				957
Canis_lupus_familiaris	DLKEGGKP	ADGALLMEFSKINLKEESAFED	SSTSD---	QSDFFYEFSKLIFT	TKGKSPT				962
Equus_caballus	DLKQSGKH	VDGALLMELNKLISLKEENVHEE	NSAVH---	QSDFFYEFSKLIFT	TKGKSPT				982
Bos_taurus	DLKECGKHHVD	GNLLTELNKLISLKEESVCEE	NSTVN---	QSDFFYEFSKLIFT	TRGKSPT				965
Pavo_muticus	EN--CFKDNMHGSLRINF	SOEDLTEKGDLCENAAIEKCLE	SELFYEFSKQAF	TKGKSPT					961
Pavo_cristatus	EN--CFKDNMHGSLRINF	SOEDLTEKGDLCENAAIEKCLE	SELFYEFSKQAF	TKGKSPT					961
Gallus_gallus	EN--HFKDNMHGSLKLN	FSOEDLTEKGNLYEENTVIEKCLE	SELFYEFSKQAF	TKGKSPT					960
Anas_platyrhynchos	DK--HLKENVDGSQRIN	LSOEDLTEKGSLEENVGIGQCLE	SELFYEFSKTAFT	TKGKSPT					958
Rhinatrema_bivittatum	YQELKKQEE	TVVGEQFNRGDFTEQKDSLNEKGS	SIHTENCIDSL	LFYEFSKFAFT	TKGKSPT				799
Xenopus_tropicalis	YVVPVKP	-----LPVTFENFDKQEPVQTEIVDAE	-----DNVLLYEFNKLAFT	RGKLPT					945
	.....970.....	980.....	990.....	1000.....	1010.....	1020			

	:.**.*.***:****:*****:..*:*..**.*. : *** **:***:***:..*:*:***	
Mus_musculus	VVCSLCKREGHLKKDCPEDFKRVOLEPLPPLTPKFSNILDQVCVQCYKDFSPTIVEDQAR	1018
Rattus_norvegicus	VVCSLCKREGHLKKDCPEDFKRIOLEPLPPLTPKFSNILDQVCIQCYKDFSPTIVEDQAR	1026
Homo_sapiens	VVCSLCKREGHLKKDCPEDFKRIOLEPLPPLTPKFLNILDQVCIQCYKDFSPTIIEDQAR	1022
Pan_troglodytes	VVCSLCKREGHLKKDCPEDFKRIOLEPLPPLTPKFLNILDQVCIQCYKDFSPTIIEDQAR	1021
Macaca_mulatta	VVCSLCKREGHLKKDCPEDFKRIOLEPLPPLTPKFLNILDQVCIQCYKDFSPTIIEEQAR	1017
Callithrix_jacchus	VVCSLCKREGHLKKDCPEDFKRIHLEPLPPLTPKFLNILDQVCIQCYKDFSPTIIEDQAR	1017
Canis_lupus_familiaris	VVCSLCKREGHLKKDCPEDFKRIOLEPLPPLTPKFLNILDQVCVQCYKDFSPTIISEDQAR	1022
Equus_caballus	VVCSLCKREGHLKKDCPEDFKRIOLEPLPPLTPKFSNILDQVCIQCYKDFSPTIILEDQAR	1042
Bos_taurus	VVCSLCKREGHLKKDCPEDFKRIOLEPLPPLTPKFSNILDQVCIQCYKDFSPTIILEDQAR	1025
Pavo_muticus	VVCSLCKREGHLKRDCEPEDFKKIELDPLPPLTPKFSNILDQVCVQCYQDFAPNIVEDQAR	1021
Pavo_cristatus	VVCSLCKREGHLKRDCEPEDFKKIELDPLPPLTPKFSVILDQVCVQCYQDFAPNIVEDQAR	1021
Gallus_gallus	VVCSLCKREGHLKRDCEPEDFKKIELDPLPPLTPKFSVILDQVCVQCYQDFAPNNVEDQAR	1020
Anas_platyrhynchos	VVCSLCKREGHLKRDCEPEDFKKIELDPLPPLTPKFSVILDQVCVQCYQDFAPNTIMEDQAR	1018
Rhinatrema_bivittatum	VVCSLCKRDGHLKKDCPEDFKKIELDPLPALTSAYLKILDQVCIQCYKDFSPTIIVEDQAR	859
Xenopus_tropicalis	IVCNLCKREGHLKRECPEDFKKIELDPLPPLTSKFRKILDVAVCIQCYEDFSPTIALEDKAR	1005
	.....1030.....1040.....1050.....1060.....1070.....1080	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/ZC0006.fasta Date: Feb 1 14:56:09 2022

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*****:::***: :*.*: *.***** *****:::***: *.*: *.*:
Mus_musculus      EHIRQNLESFIKQDFPGTKLSLFGSSKNGFGFKQSDLDVCMTINGHETAEGLD CVRTIEE 1078
Rattus_norvegicus EHIRQNLESFIKQDFPGTKLSLFGSSKNGFGFKQSDLDVCMTINGHETAEGLD CVRTIEE 1086
Homo_sapiens      EHIRQNLESFIKQDFPGTKLSLFGSSKNGFGFKQSDLDVCMTINGHETAEGLD CVRTIEE 1082
Pan_troglodytes   EHIRQNLESFIKQDFPGTKLSLFGSSKNGFGFKQSDLDVCMTINGHETAEGLD CVRTIEE 1081
Macaca_mulatta    EHIRQNLESFIKQDFPGTKLSLFGSSKNGFGFKQSDLDVCMTINGHETAEGLD CVRTIEE 1077
Callithrix_jacchus EHIRQNLESFIKQDFPGTKLSLFGSSKNGFGFKQSDLDVCMTINGHETAEGLD CVRTIEE 1077
Canis_lupus_familiaris EHIRQNLESFIKQDFPGTKLSLFGSSKNGFGFKQSDLDVCMTINGHETAEGLD CVRTIEE 1082
Equus_caballus    EHIRQNLESFIKQDFPGTKLSLFGSSKNGFGFKQSDLDVCMTINGHETAEGLD CVRTIEE 1102
Bos_taurus        EHIRQNLENFIRQEFPGTKLSLFGSSKNGFGFKQSDLDVCMTINGHETAEGLD CVRTIEE 1085
Pavo_muticus      EHIRQNLENFIRLEFPPTKLNLFSSKNGFGFKQSDLDICMTMDGLETAEGLD CIRIIEE 1081
Pavo_cristatus    EHIRQNLENFIRLEFPPTKLNLFSSKNGFGFKQSDLDICMTMDGLETAEGLD CIRIIEE 1081
Gallus_gallus     EHIRQNLENFIRLEFPPTKLNLFSSKNGFGFKQSDLDICMTMDGLETAEGLD CIRIIEE 1080
Anas_platyrhynchos EHIRQNLENFIRLEFPPTKLNLFSSKNGFGFKQSDLDICMTMDGLETAEGLD CIRIIEE 1078
Rhinatrema_bivittatum EHIRQNLENFIRHEFPPTKLNLFSSKNGFGFKQSDLDICMTMDGLETAEGLD CIRIIEE 919
Xenopus_tropicalis EHIRODLEDFIKRDFSGASLTFLFGSSKNGFGFKQSDLDICMTMDGLETAEGLD CIRIIEE 1065
.....1090.....1100.....1110.....1120.....1130.....1140

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*.: *.*: ***** *.*: ***** *.*: ***** *.*: *****
Mus_musculus      LARVLRKHSGLRNILPITTAQVPIVFFHLRSGLVDSLYNTLALHNTRLLSAYS AIDP 1138
Rattus_norvegicus LARVLRKHSGLRNILPITTAQVPIVFFHLRSGLVDSLYNTLALHNTRLLSAYS AIDP 1146
Homo_sapiens      LARVLRKHSGLRNILPITTAQVPIVFFHLRSGLVDSLYNTLALHNTRLLSAYS AIDP 1142
Pan_troglodytes   LARVLRKHSGLRNILPITTAQVPIVFFHLRSGLVDSLYNTLALHNTRLLSAYS AIDP 1141
Macaca_mulatta    LARVLRKHSGLRNILPITTAQVPIVFFHLRSGLVDSLYNTLALHNTRLLSAYS AIDP 1137
Callithrix_jacchus LARVLRKHSGLRNILPITTAQVPIVFFHLRSGLVDSLYNTLALHNTRLLSAYS AIDP 1137
Canis_lupus_familiaris LARVLRKHSGLRNILPITTAQVPIVFFHLRSGLVDSLYNTLALHNTRLLSAYS AIDP 1142
Equus_caballus    LARVLRKHSGLRNILPITTAQVPIVFFHLRSGLVDSLYNTLALHNTRLLSAYS AIDP 1162
Bos_taurus        LARVLRKHSGLRNILPITTAQVPIVFFHLRSGLVDSLYNTLALHNTRLLSAYS AIDP 1145
Pavo_muticus      LAKVLKKQSGLRNVLPITTAQVPIVFFHVRSGLEVDSLYNTLALHNTRLLSAYS AIDP 1141
Pavo_cristatus    LAKVLKKQSGLRNVLPITTAQVPIVFFHVRSGLEVDSLYNTLALHNTRLLSAYS AIDP 1141
Gallus_gallus     LAKVLKKQSGLRNVLPITTAQVPIVFFHVRSGLEVDSLYNTLALHNTRLLSAYS AIDP 1140
Anas_platyrhynchos LAKVLKKQSGLRNVLPITTAQVPIVFFHVRSGLEVDSLYNTLALHNTRLLSAYS AIDP 1138
Rhinatrema_bivittatum LGRDLKKHMLRNILPITTAQVPIVFFHVRSGLEVDSFYNTLGLHNTRLLAFYGAIDP 979
Xenopus_tropicalis LARLLRKHQGLRNILPITTAQVPIVFFHVRSGLEVDSLYNTLALHNTRLLSAYS AIDP 1125
.....1150.....1160.....1170.....1180.....1190.....1200

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**.:*** ***** *.*:***** *.*:*****
Mus_musculus      RVKYLCTYTMKVFTKMDIGDASRGLSSYAYTLMVLYFLQQRNPPVIPVLQEIYKGEKKP 1198
Rattus_norvegicus RVKYLCTYTMKVFTKMDIGDASRGLSSYAYTLMVLYFLQQRNPPVIPVLQEIYKGEKKP 1206
Homo_sapiens      RVKYLCTYTMKVFTKMDIGDASRGLSSYAYTLMVLYFLQQRNPPVIPVLQEIYKGEKKP 1202
Pan_troglodytes   RVKYLCTYTMKVFTKMDIGDASRGLSSYAYTLMVLYFLQQRNPPVIPVLQEIYKGEKKP 1201
Macaca_mulatta    RVKYLCTYTMKVFTKMDIGDASRGLSSYAYTLMVLYFLQQRNPPVIPVLQEIYKGEKKP 1197
Callithrix_jacchus RVKYLCTYTMKVFTKMDIGDASRGLSSYAYTLMVLYFLQQRNPPVIPVLQEIYKGEKKP 1197
Canis_lupus_familiaris RVKYLCTYTMKVFTKMDIGDASRGLSSYAYTLMVLYFLQQRNPPVIPVLQEIYKGEKKP 1202
Equus_caballus    RVKYLCTYTMKVFTKMDIGDASRGLSSYAYTLMVLYFLQQRNPPVIPVLQEIYKGEKKP 1222
Bos_taurus        RVKYLCTYTMKVFTKMDIGDASRGLSSYAYTLMVLYFLQQRNPPVIPVLQEIYKGEKKP 1205
Pavo_muticus      RVKYLCTYTMKVFTKMDIGDASRGLSSYAYTLMVLYFLQQRNPPVIPVLQEIYKGEKKP 1201
Pavo_cristatus    RVKYLCTYTMKVFTKMDIGDASRGLSSYAYTLMVLYFLQQRNPPVIPVLQEIYKGEKKP 1201
Gallus_gallus     RVKYLCTYTMKVFTKMDIGDASRGLSSYAYTLMVLYFLQQRNPPVIPVLQEIYKGEKKP 1200
Anas_platyrhynchos RVKFLCTYTMKVFTKMDIGDASRGLSSYAYTLMVLYFLQQRNPPVIPVLQEIYKGEKKP 1198
Rhinatrema_bivittatum RVKYLCTYTMKVFTKMDIGDASRGLSSYAYTLMVLYFLQQRNPPVIPVLQEIYKGEKKP 1039
Xenopus_tropicalis RVTYLCYIMKVFTKMDIGDASRGLSSYAYTLMVLYFLQQRNPPVIPVLQEIYKGEKKP 1185
.....1210.....1220.....1230.....1240.....1250.....1260

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/ZC0006.fst Date: Feb 1 14:56:09 2022

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**::*****:*****:: **  *.: *:*.~.:*:*****:*****:****.
Mus_musculus      EILVDGWNIIYFFDQINELPTCWPEYGKNTESVGQLWLGLLRFYTEEFDFKEHVISIRRK 1258
Rattus_norvegicus EILVDGWNIIYFFDQINELPTCWPEYGKNTESVGQLWLGLLRFYTEEFDFKEHVISIRRK 1266
Homo_sapiens      EIFVDGWNIIYFFDQIDELPTYWSECGKNTESVGQLWLGLLRFYTEEFDFKEHVISIRRK 1262
Pan_troglodytes   EIFVDGWNIIYFFDQIDELPTYWPECGKNTESVGQLWLGLLRFYTEEFDFKEHVISIRRK 1261
Macaca_mulatta    EIFVDGWNIIYFFDQIDELPAYWPECGKNTESVGQLWLGLLRFYTEEFDFKEHVISIRRK 1257
Callithrix_jacchus EIFVDGWNIIYFFDQIDELPTYWPEYGKNTESVGQLWLGLLRFYTEEFDFKEHVISIRRK 1257
Canis_lupus_familiaris EIFVDGWNIIYFFDQIDELPTYWPEYGKNTESVGQLWLGLLRFYTEEFDFKEHVISIRRK 1262
Equus_caballus    EIFVDGWNIIYFFDQIDELPSYWPEYGKNTESVGQLWLGLLRFYTEEFDFKEHVISIRRK 1282
Bos_taurus        EIFVDGWNIIYFFDQIDELPNYWPEYGKNTESVGQLWLGLLRFYTEEFDFKEHVISIRRK 1265
Pavo_muticus      EILVDGWNVIYFFDKIEELPVFWPDCGKNTESVGQLWLGLLRFYTEEFDFKEHVICIRRK 1261
Pavo_cristatus    EILVDGWNVIYFFDKIEELPVFWPDCGKNTESVGQLWLGLLRFYTEEFDFKEHVICIRRK 1261
Gallus_gallus     EILVDGWNVIYFFDKIEELPAVWPDSGKNTESVGQLWLGLLRFYTEEFDFKEHVICIRRK 1260
Anas_platyrhynchos EILVDGWNVIYFFDKIEELPDVWPDFGKNTESVGQLWLGLLRFYTEEFDFKEHVICIRRK 1258
Rhinatrema_bivittatum EILVDGWNVIYFFDKMAELPISWPDYGENKESIGELWLGLLRFYTEEFDFKEHVICIRRK 1099
Xenopus_tropicalis EIIVDGWNVIYFFDKLDELASHWPEFGONKESVGELWLGLLRFYTEEFDFKEHVISIRRK 1245
.....1270.....1280.....1290.....1300.....1310.....1320

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*****:*****:*****:*** ***:
Mus_musculus      LLTTFKKQWTSKYIIVIEDPFDLNHNLGAGLSRKMTNFIMKAFINGRRVFGIPVKGFPKDN 1318
Rattus_norvegicus LLTTFKKQWTSKYIIVIEDPFDLNHNLGAGLSRKMTNFIMKAFINGRRVFGIPVKGFPKD- 1325
Homo_sapiens      LLTTFKKQWTSKYIIVIEDPFDLNHNLGAGLSRKMTNFIMKAFINGRRVFGIPVKGFPKDY 1322
Pan_troglodytes   LLTTFKKQWTSKYIIVIEDPFDLNHNLGAGLSRKMTNFIMKAFINGRRVFGIPVKGFPKDY 1321
Macaca_mulatta    LLTTFKKQWTSKYIIVIEDPFDLNHNLGAGLSRKMTNFIMKAFINGRRVFGIPVKGFPKDY 1317
Callithrix_jacchus LLTTFKKQWTSKYIIVIEDPFDLNHNLGAGLSRKMTNFIMKAFINGRRVFGIPVKGFPKDY 1317
Canis_lupus_familiaris LLTTFKKQWTSKYIIVIEDPFDLNHNLGAGLSRKMTNFIMKAFINGRRVFGIPVKGFPKDC 1322
Equus_caballus    LLTTFKKQWTSKYIIVIEDPFDLNHNLGAGLSRKMTNFIMKAFINGRRVFGIPVKGFPKDY 1342
Bos_taurus        LLTTFKKQWTSKYIIVIEDPFDLNHNLGAGLSRKMTNFIMKAFINGRRVFGIPVKGFPKDY 1325
Pavo_muticus      LLTTFKKQWTSKYIIVIEDPFDLNHNLGAGLSRKMTNFIMKAFINGRRVFGIPVKIFPKEY 1321
Pavo_cristatus    LLTTFKKQWTSKYIIVIEDPFDLNHNLGAGLSRKMTNFIMKAFINGRRVFGIPVKIFPKEY 1321
Gallus_gallus     LLTTFKKQWTSKYIIVIEDPFDLNHNLGAGLSRKMTNFIMKAFINGRRVFGIPVKIFPKEY 1320
Anas_platyrhynchos LLTTFKKQWTSKYIIVIEDPFDLNHNLGAGLSRKMTNFIMKAFINGRRVFGIPVKIFPKEY 1318
Rhinatrema_bivittatum LLTTFKKQWTSKYIIVIEDPFDLNHNLGAGLSRRMTNFIMKAFINGRRVFGIPVKGFPKEY 1159
Xenopus_tropicalis LLTTFKKQWTSKYIIVIEDPFDLNHNLGAGLSRKMTNFIMKAFINGRRVFGIPVKNFPKEY 1305
.....1330.....1340.....1350.....1360.....1370.....1380

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: *****:*****:*****:~::~: *****
Mus_musculus      PSKLAYFFDPDVLTEGELAPNDRCCRICGKIGHFMKDCPMRRKVRRRRDQEDTPNQRYSE 1378
Rattus_norvegicus --ILAYFFDPDVLTEGELAPNDRCCRICGKIGHFMKDCPMRRKVRRRRDQEDTPNQRYTE 1383
Homo_sapiens      PSKMAYFFDPDVLTEGELAPNDRCCRICGKIGHFMKDCPMRRKVRRRRDQEDALNQRYPE 1382
Pan_troglodytes   PSKMAYFFDPDVLTEGELAPNDRCCRICGKIGHFMKDCPMRRKVRRRRDQEDALNQRYPE 1381
Macaca_mulatta    PSKMAYFFDPDVLTEGELAPNDRCCRICGKIGHFMKDCPMRRKVRRRRDQEDALNQRYPE 1377
Callithrix_jacchus PSKMAYFFDPDVLTEGELAPNDRCCRICGKIGHFMKDCPMRRKVRRRRDQEDALNQRYPE 1377
Canis_lupus_familiaris PSKMAYFFDPEVLTEGELAPNDRCCRICGKIGHFMKDCPMRRKVRRRRDQEDTPNQRYPE 1382
Equus_caballus    PSKMAYFFDPDVLTEGELAPNDRCCRICGKIGHFMKDCPMRRKVRRRRDQDDTLNQRYPE 1402
Bos_taurus        PSKMAYFFDPDVLTEGELAPNDRCCRICGKIGHFMKDCPMRRKVRRRRDQEDTLNQRYPE 1385
Pavo_muticus      PSKMAYFFDPEVLTEGELAPNDRCCRICGKIGHFMKDCPMRRKLRRRRDYEDSKNQRYTE 1381
Pavo_cristatus    PSKMAYFFDPEVLTEGELAPNDRCCRICGKIGHFMKDCPMRRKLRRRRDYEDSKNQRYTE 1381
Gallus_gallus     PSKMAYFFDPEVLTEGELAPNDRCCRICGKIGHFMKDCPMRRKLRRRRDYEDSKNQRYTE 1380
Anas_platyrhynchos QSKMAYFFDPEVLTEGELAPNDRCCRICGKIGHFMKDCPLRRKVRRRRDYEDSKNQRYPE 1378
Rhinatrema_bivittatum PTKMAYFFDPDVLTEGELAPNDRCCRICGKIGHFMKECPMRR--KRRRDNDAMNQRYQE 1217
Xenopus_tropicalis PTKMAYFFDPEVLTEGELAPNDRCCRICGKIGHFMKDCPMRRKVRRRKN--ENAGNQRYPE 1364
.....1390.....1400.....1410.....1420.....1430.....1440

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Mus_musculus      SKEKRSKEDKEIQNKYTEKEVSTKEDKLTCAAAPCTAAKAKPVR-AAVDLGREKLLRTPTEKWK 1437
Rattus_norvegicus SKEKRSKEDKEIQNKYTEKEVSAKEDKAAPCTAAKAKPVR-AAVDLGREKLVRTPAEKWK 1442
Homo_sapiens       NKEKRSKEDKEIHNKYTEREVSTKEDKPIQCTPQAKAPMR-AAADLGREKILRPPVEKWK 1441
Pan_troglodytes    NKEKRSKEDKEIHNKYTEREVSTKEDKPIQCTPQAKAPMR-AAADLGREKILRPPVEKWK 1440
Macaca_mulatta     NKEKRSKEDKEIHNKYTEREVSTKEDKPIQCTPQAKAPVR-AAADLGREKILRPPVEKWK 1436
Callithrix_jacchus NKEKRSKEDKEIHNKYTEREVSTKEDKPIQCTPQAKAPVR-AAADLGREKILRPPVEKWK 1436
Canis_lupus_familiaris NKEKRSKEDKEIQNKYTEREVSTKEDKPMHCTPQAKAPVR-AAVDLGREKILRPPMEKWK 1441
Equus_caballus     NKEKRSKEDKEIQNKYTEREVSTKEDKPAQCTPQAKAPVR-AAGDLGREKILRPPAEKWK 1461
Bos_taurus         NKDKRSKEDKEIQNKYTEREVSTKEDKPMQCTPQAKAPLR-AAAEPGREKILRPPVEKWK 1444
Pavo_muticus       NKEK-SKEDKEIQNRRTTEKESVKEGKLHLFTPOKSKVAR-GIVETGKEKSPRQSTTEKWK 1439
Pavo_cristatus     NKEK-SKEDKEIQNRRTTEKESVKEGKLHLFTPOKSKVAR-GIVETGKEKSPRQSTTEKWK 1439
Gallus_gallus      NKEK-SKEDKEIQNRRTTEKESVKEGKLHVFPTPOKSKVAR-GVETGKEKSPRQSTTEKWK 1438
Anas_platyrhynchos NKEKRSREDKETQNKTTTEKESVKEGKLHPFTSPKSKPTR-GIVETGREKSPRQSAEKWK 1437
Rhinatrema_bivittatum KRMQRSNEDKDSLNRNMEKEIPAKDGK--PSTPQKPRQKGKTLQETGRDQTPRTSAEKWR 1275
Xenopus_tropicalis TRNORMTEEAASKG--AENETSRLDGKQTSNTPKKPKQGARGANEANREKPPQRLPTEKWR 1422
.....1450.....1460.....1470.....1480.....1490.....1500

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Mus_musculus      RQDDDRSREKRCFICGREGHIKKECPQFKGSPGSLSSK-----YMTQGR----- 1481
Rattus_norvegicus RQDDDRSREKRCFICGREGHIKKECPQFKGSPGLCKSD-----YVSSYSSTPLRP 1493
Homo_sapiens       RQDDKDLREKRCFICGREGHIKKECPQFKGSSGSLSSK-----YMTQGK-ASAKRT 1491
Pan_troglodytes    RQDDKDLREKRCFICGREGHIKKECPQFKGSSGKPSNNGEGGVSVICSLRSCS-LSALSS 1499
Macaca_mulatta     RQDDKDLREKRCFICGREGHIKKECPQFKGSSGMSKSD-----CMFGSPS-PVPLKP 1487
Callithrix_jacchus RQDDKDLREKRCFICGREGHIKKECPQFKGSSGMSKSD-----CTFGSPS-PVPLRP 1487
Canis_lupus_familiaris RQDDKDLREKRCFICGREGHIKKECPQFKGSPGMSKSD-----CVYGPSPPSPPLRP 1493
Equus_caballus     RQDDKDLREKRCFICGREGHIKKECPQFKGSAGLSKSD-----CVFGSPSSASPLRP 1513
Bos_taurus         RQEDRDLREKRCFICGREGHIKKECPQFKGSSGLSKSD-----CVFGSPSSPNPLRP 1496
Pavo_muticus       RLEDRELKEKRCFICGREGHIKKECPQYKVAAGGSKPE-----TLCGSP-LPPAAKH 1490
Pavo_cristatus     RLEDRELKEKRCFICGREGHIKKECPQYKVAAGGSKPE-----TLCGSP-LPPAAKH 1490
Gallus_gallus      RLEDRELKEKRCFICGREGHIKKECPQYKVAAGGSKPE-----TLCGSP-LPSAAKH 1489
Anas_platyrhynchos RLEDRELKEKRCFICGREGHIKKECPQYKAAAGGSKLE-----ALCGSPSLPTVAKH 1489
Rhinatrema_bivittatum RQEDRDLREKRCFICGREGHIKKECPQYKGVIGVSKSD-----SLCGSPSSSNTLKH 1327
Xenopus_tropicalis RSEDREPKEKRCFLGKEDHIKKECPQYKGAVGSPKAD-----VLCGSPSTPSPLKY 1474
.....1510.....1520.....1530.....1540.....1550.....1560

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Mus_musculus      -----ASVKRTO-----QES----- 1491
Rattus_norvegicus V-----AQVKASPNLRGELLHPLHSPQPSG----- 1518
Homo_sapiens       Q-----QES----- 1495
Pan_troglodytes    APCPCAVLAVRALLPLADLQHSCLSCAGVVRG--EAYWAPDGA----- 1541
Macaca_mulatta     TG-----PFVQAVLLHEDKKKQKTTIFLSPQSGS----- 1516
Callithrix_jacchus TG-----PFVQAVLLHEDKKKQKTTIFLSPQSGM----- 1516
Canis_lupus_familiaris TG-----TFAQAVLLHEDKKKQKTTIFLSPQSGS----- 1522
Equus_caballus     AG-----TFVQAVLLHEDKKKQKTTVFLSPQSGS----- 1542
Bos_taurus         AG-----TFVQAVLLHEDQKQKTSIFLSPQSAR----- 1525
Pavo_muticus       AG-----RLNQGMLTHEEKKKQKGVLLSPQSGS----- 1519
Pavo_cristatus     AG-----RLNQGMLTHEEKKKQKGVLLSPQSGS----- 1519
Gallus_gallus      AG-----RLNQGMLTHEEKKKQKGVLLSPQSGS----- 1518
Anas_platyrhynchos GG-----RLNQGMLTHEEKKKQKGVLLSPQSGLYVLISIRNFCACACIF 1534
Rhinatrema_bivittatum AG-----RVNQVMPLEHEKKKQKGVLLSPQSGS----- 1356
Xenopus_tropicalis PVR-----VIAAQVQDEQKKQK--MFLSPQSGS----- 1501
.....1570.....1580.....1590.....1600.....1610.....1620

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Mus_musculus	-----	1491
Rattus_norvegicus	--VLAAVCWALLAGLWCLLLLCPTYVVRLLIGPW--	1550
Homo_sapiens	-----	1495
Pan_troglodytes	--LFQNSCPWSCFSVNLQNSATHMPYFSSPWIWFRF	1575
Macaca_mulatta	--LSSKYMTQGKASAKRTQQES-----	1536
Callithrix_jacchus	--WVFKRKINVYFYIYCILYHMPSETL-----	1541
Canis_lupus_familiaris	--LSSKYMTQGKASAKRTQQES-----	1542
Equus_caballus	--LSSKYMTQGKASAKRTQQES-----	1562
Bos_taurus	--RVKFEFPVLRNHEEEQIMGRNRVQL-----	1550
Pavo_muticus	--LSNRYMTQGKVSQKRTQQES-----	1539
Pavo_cristatus	--LSNRYMTQGKVSQKRTQQES-----	1539
Gallus_gallus	--LSNKYMTQGKVSQKRTQQES-----	1538
Anas_platyrhynchos	NLLSPSVLTGTLPNLLNTAVIWTGC-----	1559
Rhinatrema_bivittatum	--LSNKYMTQGKASQKRTQQDS-----	1376
Xenopus_tropicalis	--LSSKYMTQGKANQK-----	1515
	.....1630.....1640.....1650.....	