

# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep\_msa/VCPD1lep1 Tue Feb 14:52:11 2022

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***                                     ::***:*.**:. * **
Pavo_muticus      MSQPRQ----QPPPPSPQQQPQP-----PPAAAKKRERRIFS--GTCPDPKCOAR 46
Pavo_cristatus    MSQPRQ----QPPPPSPQQQPQP-----PPAAAKKRERRIFS--GTCPDPKCOAR 46
Gallus_gallus     MSQPRQ----QPPPP-SPQQQPQP-----PPAAAKKRERRIFS--GTCPDPKCOAR 45
Chelonia_mydas    MSQPPP----PPLPPPPSPQQQP-----VSKKRDRRIFS--GTCPDPKCOAR 42
Anolis_carolinensis MSQPPQ----PDPPAAASSSK-----RDRRIFS--GTCPDPKCOAR 34
Homo_sapiens      MSQPPP-PPPPPLPPPPPPPEAPQTPSSLASA--AASGGLLKRRDRRILSGSCPDPKCOAR 57
Pan_troglodytes   MSQPPP-PPPPPLPPPPPPPEVPTPSSLASASAAASGGLLKRRDRRILSGSCPDPKCOAR 59
Macaca_mulatta    MSQPPP-PPP-LPPPPPPPEAPQTPSSLASA--AASGGLLKRRDRRILSGSCPDPKCOAR 56
Callithrix_jacchus MSQPPPPPPPPPLPPPPPPPEAPQTPSSLVASAAASGGLLKRRDRRILSGSCPDPKCOAR 60
Mus_musculus      MSQPPP--PPPLPPPPPPPEAPQTS--SSLA--AAS--PGGLSKRRDRRILSGSCPDPKCOAR 56
Rattus_norvegicus MSQPPP--PPPLPPPPPPPEAPQTS--SSLA--AAS--PGGLSKRRDRRILSGSCPDPKCOAR 56
Canis_lupus_familiaris MSQPPP--PPPLPPPPPPPEAPQTPPSLA--AAS--PGGLSKRRDRRILSGSCPDPKCOAR 56
Equus_caballus    MSQPPP--PPPLPPPPPPPEAPQTPPSVAAAAA--PGGLSKRRDRRILSGSCPDPKCOAR 58
Bos_taurus        MSQPPP--PPPLPPPPPPPEAPQTPPSLA--AAS--PGGLSKRRDRRILSGSCPDPKCOAR 58
Rhinatrema_bivittatum MSQPPA-----SKRKDRRILSGNCPDPKCOAR 27
Xenopus_tropicalis MSQPPP-----SPSQMQPQ-----RRRDRRILSGTCDPAKCRAR 34
1.....10.....20.....30.....40.....50.....60

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***** . *:***:*.**:. * ** *****:*.**:. * *:
Pavo_muticus      LFFPA-HGPQGAGSIECTDCGRHEQROLLAVEEVTDPDVLHNLNLLRNALLGVSGAGPPR 105
Pavo_cristatus    LFFPA-HGPQGAGSIECTDCGRHEQROLLAVEEVTDPDVLHNLNLLRNALLGVSGAGPPR 105
Gallus_gallus     LFFPA-HGPQGAGSIECTDCGRHEQROLLAVEEVTDPDVLHNLNLLRNALLGVSGAGPPR 104
Chelonia_mydas    LFFPA-HGPLSGSIECTDCGRHEQROLLAVEEVTDPDVLHNLNLLRNALLGVSGAGPPR 101
Anolis_carolinensis LFFPALQGPLSAGSVECTDCGRHEGROLLSVEEVTDPDVLHNLNLLRSALLGVSGAGPPR 94
Homo_sapiens      LFFPA----SGSVSIECTECGRHEQQLLGVEEVTDPDVVLHNLNLLRNALLGVTGA--PK 111
Pan_troglodytes   LFFPA----SGSVSIECTECGRHEQQLLGVEEVTDPDVVLHNLNLLRNALLGVTGA--PK 113
Macaca_mulatta    LFFPA----SGSVSIECTECGRHEQQLLGVEEVTDPDVVLHNLNLLRNALLGVTGA--PK 110
Callithrix_jacchus LFFPA----SGSVSIECTECGRHEQQLLGVEEVTDPDVVLHNLNLLRNALLGVTGA--PK 114
Mus_musculus      LFFPA----SGSVSIECTECGRHEQQLLGVEEVTDPDVVLHNLNLLRNALLGVTGA--PK 110
Rattus_norvegicus LFFPA----SGSVSIECTECGRHEQQLLGVEEVTDPDVVLHNLNLLRNALLGVTGA--PK 110
Canis_lupus_familiaris LFFPA----SGSVSIECTECGRHEQQLLGVEEVTDPDVVLHNLNLLRNALLGVTGA--PK 110
Equus_caballus    LFFPA----SGSVSIECTECGRHEQQLLGVEEVTDPDVVLHNLNLLRNALLGVTGA--PK 112
Bos_taurus        LFFPA----SGSVSIECTECGRHEQQLLGVEEVTDPDVVLHNLNLLRNALLGVTGA--PK 112
Rhinatrema_bivittatum LFFPA----HGVASIECTDCGRHEQRLLEVEEVTEPDVVLHNLNLLRSALLGVTGA--PK 81
Xenopus_tropicalis LFFPA----QGSASIECTDCGRHEQRLLEVEEVTEPDVVLHNLNLLRNALLGVAAP--PR 88
.....70.....80.....90.....100.....110.....120

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Pavo_muticus      RNTELVKVLGLSNYHCKLLAPILARYGMDKQTGKAKLLTEMNQDIFDCSLLDRAFLIE 165
Pavo_cristatus    RNTELVKVLGLSNYHCKLLAPILARYGMDKQTGKAKLLTEMNQDIFDCSLLDRAFLIE 165
Gallus_gallus     RNTELVKVLGLSNYHCKLLAPILARYGMDKQTGKAKLLTEMNQDIFDCSLLDRAFLIE 164
Chelonia_mydas    KNTELVKVMGLSNYHCKLLSPILARYGMDKQTGKAKLLTEMNQDVFDCALLGDRAFLIE 161
Anolis_carolinensis KSTEPVKVMGLSNYHCKLLSPILARYGMDKQTGKAKLLTEMKQDVFDCALLGDRAFLIE 154
Homo_sapiens      KNTELVKVMGLSNYHCKLLSPILARYGMDKQTGKAKLLRDMNQGEFDCALLGDRAFLIE 171
Pan_troglodytes   KNTELVKVMGLSNYHCKLLSPILARYGMDKQTGKAKLLRDMNQGEFDCALLGDRAFLIE 173
Macaca_mulatta    KNTELVKVMGLSNYHCKLLSPILARYGMDKQTGKAKLLRDMNQGEFDCALLGDRAFLIE 170
Callithrix_jacchus KNTELVKVMGLSNYHCKLLSPILARYGMDKQTGKAKLLRDMNQGEFDCALLGDRAFLIE 174
Mus_musculus      KNTELVKVMGLSNYHCKLLSPILARYGMDKQTGKAKLLRDMNQGEFDCALLGDRAFLIE 170
Rattus_norvegicus KNTELVKVMGLSNYHCKLLSPILARYGMDKQTGKAKLLRDMNQGEFDCALLGDRAFLIE 170
Canis_lupus_familiaris KNTELVKVMGLSNYHCKLLSPILARYGMDKQTGKAKLLRDMNQGEFDCALLGDRAFLIE 170
Equus_caballus    KNTELVKVMGLSNYHCKLLSPILARYGMDKQTGKAKLLRDMNQGEFDCALLGDRAFLIE 172
Bos_taurus        KNTELVKVMGLSNYHCKLLSPILARYGMDKQTGKAKLLRDMNQGEFDCALLGDRAFLIE 172
Rhinatrema_bivittatum RSGELVKVMGLSNYHCKLLAPILARYGMDKQTGKAKLLKEMNQDIFDCALLGDRAFLIE 141
Xenopus_tropicalis RSTDMAKVMGLSNYHCKLLSPILARYGMDKQTGKAKLLRDMNQDVFDCALLGDRAFLIE 148
.....130.....140.....150.....160.....170.....180

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## CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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\*\*\*\*:\*:\*\*\*\*\*:\*\*:\*\*\*\*\*:::\* . :\*:\*\*\*\*\*:\*\*\*\*\*  
 PEHVEITVGYGKDRSGSLIYLHDTLEDIKKANNS-QECLIPVHVDGDGHCLVHAVSRALVG  
 PEHVEITVGYGKDRSGSLIYLHDTLEDIKKANNS-QECLIPVHVDGDGHCLVHAVSRALVG  
 PEHVEITVGYGKDRSGSLIYLHDTLEDIKKANNS-QECLIPVHVDGDGHCLVHAVSRALVG  
 PEHVDITMGYGKDRSGSLIYLHDTLEDIKKANNS-QDCLIPVHVDGDGHCLVHAVSRALVG  
 PEHVDITVGYGKDRSGSLLYLQDTLEDIRANRNSREECLIPVHVDGDGHCLVHAVSRALVG  
 PEHVNTVGYGKDRSGSLLYLHDTLEDIKRANKS-QECLIPVHVDGDGHCLVHAVSRALVG  
 PEHVNTVGYGKDRSGSLLYLHDTLEDIKRANKS-QECLIPVHVDGDGHCLVHAVSRALVG  
 PEHVNTVGYGKDRSGSLLYLHDTLEDIKRANKS-QECLIPVHVDGDGHCLVHAVSRALVG  
 PEHVNTVGYGKDRSGSLLYLHDTLEDIKRANKS-QECLIPVHVDGDGHCLVHAVSRALVG  
 PEHVNTVGYGKDRSGSLLYLHDTLEDIKRANKS-QECLIPVHVDGDGHCLVHAVSRALVG  
 PEHVNTVGYGKDRSGSLLYLHDTLEDIKRANKS-QECLIPVHVDGDGHCLVHAVSRALVG  
 PEHVNTVGYGKDRSGSLLYLHDTLEDIKRANKS-QECLIPVHVDGDGHCLVHAVSRALVG  
 PEHVNTVGYGKDRSGSLLYLHDTLEDIKRANKS-QECLIPVHVDGDGHCLVHAVSRALVG  
 PEHVNTVGYGKDRSGSLLYLHDTLEDIKRANKS-QECLIPVHVDGDGHCLVHAVSRALVG  
 PEHVNTVGYGKDRSGSLLYLHDTLEDIKRANKS-QECLIPVHVDGDGHCLVHAVSRALVG  
 PEHVNTVGYGKDRSGSLVYLHDTLEDIKKANGN-QECFIPVHVDGDGHCLVHAVSRALVG  
 PEHVDITVGYGKDRSGSLIYLHDTLEDIKKSNLN-QECIIPVHVDGDGHCLVHAVSRALVG  
 .....190.....200.....210.....220.....230.....240

\*\*\*\*\* \*: :\* :\*.\*\*\*\*\*. \*\*:\*:\*\*\*\*\*:\*\*\*\*\*:\*\*\*\*\*

RELFWHALREN LKKHFEENLSHYKALFHDFIDVAEWEDIINECDPLFVPPEGVPMGLRNI  
RELFWHALREN LKKHFEENLSHYKALFHDFIDVAEWEDIINECDPLFVPPEGVPMGLRNI  
RELFWHALREN LKKHFEENLSHYKALFHDFIDVAEWEDIINECDPLFVPPEGVPMGLRNI  
RELFWHALREN LKKHFEENLSRYKALFHDFIDAEWEDIINECDPLFVPPEGVPLGLRNI  
RELFWHALREN LKHAFAENLARYKVLFHDFIDAAEWDDIVNECDPLFVPPEGVPMGLRNI  
RELFWHALREN LKQHFQOHLARYQALFHDFIDAAEWEDIINECDPLFVPPEGVPLGLRNI  
RELFWHALREN LKQHFQOHLARYQALFHDFIDAAEWEDIINECDPLFVPPEGVPLGLRNI  
RELFWHALREN LKQHFQOHLARYQALFHDFIDAAEWEDIINECDPLFVPPEGVPLGLRNI  
RELFWHALREN LKQHFQOHLARYQALFHDFIDAAEWEDIINECDPLFVPPEGVPLGLRNI  
RELFWHALREN LKQHFQOHLARYQALFHDFIDAEWEDIINECDPLFVPPEGVPLGLRNI  
RELFWHALREN LKQHFQOHLARYQALFHDFIDAAEWEDIINECDPLFVPPEGVPLGLRNI  
RELFWHALREN LKQHFQOHLAQYQALFHDFIDAAEWEDIINECDPLFVPPEGVPLGLRNI  
RELFWHALREN LKQHFQOHLARYQALFHDFIDAAEWEDIINECDPLFVPPEGVPLGLRNI  
RELFWHALREN LKQHFQOHLARYQALFHDFIDAAEWEDIINECDPLFVPPEGVPLGLRNI  
RELFWHALREN LKQHFQOHLARYQALFHDFIDAAEWEDIINECDPLFVPPEGVPLGLRNI  
RELFWHALREN LKRHFKENLGRYKALFHDFIDAEWEDIINECDPLFIPPEGVPLGLRNI  
RELFWHALREN LKKHLKENLDRYKALFHDFIDAAEWEDIINECDPLFVPPEGVPLGLRNI

.....250.....260.....270.....280.....290.....300

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HIFGLANVLHRPIILLDSLSGMRSSGDYSATFLPGLVPLEKCMGKDGMLNKPICIAWSSS  
HIFGLANVLHRPIILLDSLSGMRSSGDYSATFLPGLVPLEKCMGKDGMLNKPICIAWSSS  
HIFGLANVLHRPIILLDSLSGMRSSGDYSATFLPGLVPLEKCMGKDGMLNKPICIAWSSS  
HIFGLANVLHRPIILLDSLSGMRSSGDYSATFLPGLVPEKCMGKDGMLNKPICIAWSSS  
HIFGLANVLRRPIILLDSLSGMRSSGDYSATFLPGLVPEEKCMGKDGTLNKPICIAWSSS  
HIFGLANVLHRPIILLDSLSGMRSSGDYSATFLPGLIPAECTGKDGHLNKPICIAWSSS  
HIFGLANVLHRPIILLDSLSGMRSSGDYSATFLPGLIPAECTGKDGHLNKPICIAWSSS  
HIFGLANVLHRPIILLDSLSGMRSSGDYSATFLPGLIPAECTGKDGHLNKPICIAWSSS  
HIFGLANVLHRPIILLDSLSGMRSSGDYSATFLPGLIPAECTGRDGHNLKPICIAWSSS  
HIFGLANVLHRPIILLDSLSGMRSSGDYSATFLPGLIPAECTGRDGHNLKPICIAWSSS  
HIFGLANVLHRPIILLDSLSGMRSSGDYSATFLPGLIPAECTGRDGHNLKPICIAWSSS  
HIFGLANVLHRPIILLDSLSGMRSSGDYSATFLPGLIPAECTGRDGHNLKPICIAWSSS  
HIFGLANVLHRPIILLDSLSGMRSSGDYSATFLPGLIPAECTGRDGHNLKPICIAWSSS  
HIFGLANVLHRPIILLDSLSGMRSSGDYSATFLPGLIPVEKCRGKDGQLNKPICIAWSSS  
HIFGLANVLHRPVIILLDSLSGMRSSGDYSATFLPGLIPVEICKGKDGQLNKPICIAWSSS

.....310.....320.....330.....340.....350.....360

# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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***** :***: * ***** :* :***** * :***** :*****
Pavo_muticus      GRNHYIPLVGIKGAALPKLPRKLLPKAWGVPDLIKKYIKLEEDGGCVIGGDRSLQDKYL 404
Pavo_cristatus    GRNHYIPLVGIKGAALPKLPRKLLPKAWGVPDLIKKYIKLEEDGGCVIGGDRSLQDKYL 404
Gallus_gallus     GRNHYIPLVGIKGAALPKLPRKLLPKAWGVPDLIKKYIKLEEDGGCVIGGDRSLQDKYL 403
Chelonia_mydas    GRNHYIPLVGIKGAALPKLPMKLLPKAWGVPDLIKKYIKLEEDG-CVIGGDRSLQDKYL 399
Anolis_carolinensis GRNHYIPLVGIKGAALPKLPLKLLPKAWGVPDLIKKYIKLEEDGSCIIGGDRSLQDKYL 394
Homo_sapiens      GRNHYIPLVGIKGAALPKLPMNLLPKAWGVPDLIKKYIKLEEDGGCVIGGDRSLQDKYL 410
Pan_troglodytes   GRNHYIPLVGIKGAALPKLPMNLLPKAWGVPDLIKKYIKLEEDGGCVIGGDRSLQDKYL 412
Macaca_mulatta    GRNHYIPLVGIKGAALPKLPMNLLPKAWGVPDLIKKYIKLEEDGGCVIGGDRSLQDKYL 409
Callithrix_jacchus GRNHYIPLVGIKGAALPKLPMNLLPKAWGVPDLIKKYIKLEEDGGCVIGGDRSLQDKYL 413
Mus_musculus      GRNHYIPLVGIKGAALPKLPMNLLPKAWGVPDLIKKYIKLEEDGGCVIGGDRSLQDKYL 409
Rattus_norvegicus GRNHYIPLVGIKGAALPKLPMNLLPKAWGVPDLIKKYIKLEEDGGCVIGGDRSLQDKYL 409
Canis_lupus_familiaris GRNHYIPLVGIKGAALPKLPMNLLPKAWGVPDLIKKYIKLEEDGGCVIGGDRSLQDKYL 409
Equus_caballus    GRNHYIPLVGIKGAALPKLPMNLLPKAWGVPDLIKKYIKLEEDGGCVIGGDRSLQDKYL 411
Bos_taurus        GRNHYIPLVGIKGAALPKLPMNLLPKAWGVPDLIKKYIKLEEDGGCVIGGDRSLQDKYL 411
Rhinatrema_bivittatum GRNHYIPLVGIKGISLPKIPMKLLPKAWGVPDLIKTYVKLEEDGSCVIGGDRSLQDKYL 380
Xenopus_tropicalis GRNHYIPLVGIKGGSLPKLPSRLLPKAWGVPDLIRKYIKLEEDGSCVIGGDRSLQDKYL 387
.....370.....380.....390.....400.....410.....420

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:***** :* :***** :* :***** :* :***** :* :***** :* :*****
Pavo_muticus      MRLVAAMEEEVFMKKGHIHPSLVADVHQYFYRRRTGVIGVQPEEVTAAAKKAVMDNRLHRCCL 464
Pavo_cristatus    MRLVAAMEEEVFMKKGHIHPSLVADVHQYFYRRRTGVIGVQPEEVTAAAKKAVMDNRLHRCCL 464
Gallus_gallus     MRLVAAMEEEVFMKKGHIHPSLVADVHQYFYRRRTGVIGVQPEEVTAAAKKAVMDNRLHRCCL 463
Chelonia_mydas    LRLVAAMEEEVFMNKHGHIHPSLVADVHQYFYRRRTGVIGVQPEEDVTAAAKKAVMDNRLHKCL 459
Anolis_carolinensis MRLVAAMEEEVFMKKGHIHPSLVADVHQYFYRRRTGVIGVQPEEDVTAAAKKAVMDNRLHKCL 454
Homo_sapiens      LRLVAAMEEEVFMKKGHIHPSLVADVHQYFYRRRTGVIGVQPEEVTAAAKKAVMDNRLHKCL 470
Pan_troglodytes   LRLVAAMEEEVFMKKGHIHPSLVADVHQYFYRRRTGVIGVQPEEVTAAAKKAVMDNRLHKCL 472
Macaca_mulatta    LRLVAAMEEEVFMKKGHIHPSLVADVHQYFYRRRTGVIGVQPEEVTAAAKKAVMDNRLHKCL 469
Callithrix_jacchus LRLVAAMEEEVFMKKGHIHPSLVADVHQYFYRRRTGVIGVQPEEVTAAAKKAVMDNRLHKCL 473
Mus_musculus      LRLVAAMEEEVFMKKGHIHPSLVADVHQYFYRRRTGVIGVQPEEVTAAAKKAVMDNRLHKCL 469
Rattus_norvegicus LRLVAAMEEEVFMKKGHIHPSLVADVHQYFYRRRTGVIGVQPEEVTAAAKKAVMDNRLHKCL 469
Canis_lupus_familiaris LRLVAAMEEEVFMKKGHIHPSLVADVHQYFYRRRTGVIGVQPEEVTAAAKKAVMDNRLHKCL 469
Equus_caballus    LRLVAAMEEEVFMKKGHIHPSLVADVHQYFYRRRTGVIGVQPEEVTAAAKKAVMDNRLHKCL 471
Bos_taurus        LRLVAAMEEEVFMKKGHIHPSLVADVHQYFYRRRTGVIGVQPEEVTAAAKKAVMDNRLHKCL 471
Rhinatrema_bivittatum MRLVAAMEEEVFMNKGFIHPSLVADMHQYCYRRRTGVIGVQPEEVTAAAKKAVTENRLHKCL 440
Xenopus_tropicalis LRLVAAMEEEVFMNKHGHIHPSLVSDVHHYFYRRRTGVIGVQPEEVTAAAKKAVLENRLHKCL 447
.....430.....440.....450.....460.....470.....480

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:***** * :***** :***** :***** :***** :***** :***** :*****
Pavo_muticus      MCGALSEHHVPPEWLAPGGKLYNLAKNTHGQLRPDKNYSFPLNVLVCSYSPAKDVLVDPDY 524
Pavo_cristatus    MCGALSEHHVPPEWLAPGGKLYNLAKNTHGQLRPDKNYSFPLNVLVCSYSPAKDVLVDPDY 524
Gallus_gallus     MCGALSEHHVPPEWLAPGGKLYNLAKNTHGQLRPDKNYSFPLNVLVCSYSPAKDVLVDPDY 523
Chelonia_mydas    ICGALSELHVPPPEWLAPGGKLYNLAKSTHGQLRPDKNYSFPLNVLVCSYNSVKDVLVDPDY 519
Anolis_carolinensis ICGALSELHVPPPEWLAPGGKLYNLAKTTHGQLRPDKNYSFPLNVLVCSYNPAKDVLVDPDY 514
Homo_sapiens      LCGALSELHVPPPEWLAPGGKLYNLAKSTHGQLRTPDKNYSFPLNVLVCSYDSVKDVLVDPDY 530
Pan_troglodytes   LCGALSELHVPPPEWLAPGGKLYNLAKSTHGQLRTPDKNYSFPLNVLVCSYDSVKDVLVDPDY 532
Macaca_mulatta    LCGALSELHVPPPEWLAPGGKLYNLAKSTHGQLRTPDKNYSFPLNVLVCSYDSVKDVLVDPDY 529
Callithrix_jacchus LCGALSELHVPPPEWLAPGGKLYNLAKSTHGQLRTPDKNYSFPLNVLVCSYDSVKDVLVDPDY 533
Mus_musculus      LCGALSELHVPPPEWLAPGGKLYNLAKSTHGQLRPDKNYSFPLNVLVCSYDVPKDVLLPDY 529
Rattus_norvegicus LCGALSELHVPPPEWLAPGGKLYNLAKSTHGQLRPDKNYSFPLNVLVCSYDVPKDVLLPDY 529
Canis_lupus_familiaris LCGALSELHVPPPEWLAPGGKLYNLAKSTHGQLRPDKNYSFPLNVLVCSYDSVKDVLVDPDY 529
Equus_caballus    LCGALSELHVPPPEWLAPGGKLYNLAKSTHGQLRPDKNYSFPLNVLVCSYDSVKDVLVDPDY 531
Bos_taurus        LCGALSELHVPPPEWLAPGGKLYNLAKSTHGQLRPDKNYSFPLNVLVCSYDSVRDVLVDPDY 531
Rhinatrema_bivittatum ICGALSEIHVSLEWLAPGGKLYNLAKTTHGQLRPDKNYSFPLNVLVCSYDAVKDVLVDPDY 500
Xenopus_tropicalis ICGALSELLVPPPEWLAPGGKLYNLAKTTHGQLKPDKNYSFPLNVLVCSYDAANDILVDPDY 507
.....490.....500.....510.....520.....530.....540

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# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus      SLSSLTTCNWCHSNLVRVRREDGSLVLYLDGDRNTNRSTGGKCGCGFKHYWEGKEYDNLPE 584
Pavo_cristatus    SLSSLTTCNWCHSNLVRVRREDGSLVLYLDGDRNTNRSTGGKCGCGFKHYWEGKEYDNLPE 584
Gallus_gallus     SLSSLTTCNWCHSNLVRVRREDGSLVLYLDGDRNTNRSTGGKCGCGFKHYWEGKEYDNLPE 583
Chelonia_mydas    SLSSLTACNWCHGTLVRRVRGDGSLVLYLDGDRNTNRSTGGKCGCGFKHYWDGKEYDNLPE 579
Anolis_carolinensis GLSSLTACNLCHGTLVRRVRSDGSLVLYLDGDRNTNTKSTGGKCGCGFKHFWDGKEYDNLPE 574
Homo_sapiens      GMSNLTACNWCHGTSVRKVRGDGSLVLYLDGDRNTNSRSTGGKCGCGFKHFWDGKEYDNLPE 590
Pan_troglodytes   GMSNLTACNWCHGTSVRKVRGDGSLVLYLDGDRNTNSRSTGGKCGCGFKHFWDGKEYDNLPE 592
Macaca_mulatta    GLSNLTACNWCHGTSVRKVRGDGSLVLYLDGDRNTNSRSTGGKCGCGFKHFWDGKEYDNLPE 589
Callithrix_jacchus GLSNLTACNWCHGTSVRKVRGDGSLVLYLDGDRNTNSRSTGGKCGCGFKHFWDGKEYDNLPE 593
Mus_musculus      GLSNLTACNWCHGSSVRRVRGDGSLVLYLDGDRNTNSRSTGGKCGCGFKHFWDGKEYDNLPE 589
Rattus_norvegicus GLSNLTACNWCHGTSVRKVRGDGSLVLYLDGDRNTNSRSTGGKCGCGFKHFWDGKEYDNLPE 589
Canis_lupus_familiaris GLSNLTACNWCHGTSVRKVRGDGSLVLYLDGDRNTNSRSTGGKCGCGFKHFWDGKEYDNLPE 589
Equus_caballus    GLSNLTACNWCHGTSVRKVRGDGSLVLYLDGDRNTNSRSTGGKCGCGFKHFWDGKEYDNLPE 591
Bos_taurus        GLSNLTACNWCHGTSVRKVRGDGSLVLYLDGDRNTNSRSTGGKCGCGFKHFWDGKEYDNLPE 591
Rhinatrema_bivittatum SLSTLTACNWCHGTSVRKVRKNDASIVLYLDGDRNTNSRSTGGKCGCGFKHYWEGKEYDNLPE 560
Xenopus_tropicalis NLSNLTSCNWCRTGTSVRVRNRDSSIVLYLDGDRNTNTKSTGGKCGCGFKHYWDGKEYDNLPE 567
.....550.....560.....570.....580.....590.....600

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*****.*****:*****:*****:*****:*****
Pavo_muticus      AFPITILEWSGRVRVRETVYWFQYESDTSLSNSNVYDVAMKLVTKHFPGEFGSEILVQKVVNT 644
Pavo_cristatus    AFPITILEWSGRVRVRETVYWFQYESDTSLSNSNVYDVAMKLVTKHFPGEFGSEILVQKVVNT 644
Gallus_gallus     AFPITILEWSGRVRVRETVYWFQYESDTSLSNSNVYDVAMKLVTKHFPGEFGSEILVQKVVNT 643
Chelonia_mydas    AFPITILEWGGRRVRETVYWFQYESDTSLSNSNVYDVAMKLVTKHFPGEFGSEILVQKVVNT 639
Anolis_carolinensis AFPITILEWGGRRVRETVYWFQYESDPSLSNSNVYDVAMKLVTKHFPGEFGSEILVQKVVNT 634
Homo_sapiens      AFPITILEWGGRRVRETVYWFQYESDSSLSNSNVYDVAMKLVTKHFPGEFGSEILVQKVVHT 650
Pan_troglodytes   AFPITILEWGGRRVRETVYWFQYESDSSLSNSNVYDVAMKLVTKHFPGEFGSEILVQKVVHT 652
Macaca_mulatta    AFPITILEWGGRRVRETVYWFQYESDSSLSNSNVYDVAMKLVTKHFPGEFGSEILVQKVVHT 649
Callithrix_jacchus AFPITILEWGGRRVRETVYWFQYESDSSLSNSNVYDVAMKLVTKHFPGEFGSEILVQKVVHT 653
Mus_musculus      AFPITILEWGGRRVRETVYWFQYESDPSLSNSNVYDVAMKLVTKHFPGEFGSEILVQKVVHT 649
Rattus_norvegicus AFPITILEWGGRRVRETVYWFQYESDPSLSNSNVYDVAMKLVTKHFPGEFGSEILVQKVVHT 649
Canis_lupus_familiaris AFPITILEWGGRRVRETVYWFQYESDPSLSNSNVYDVAMKLVTKHFPGEFGSEILVQKVVHT 649
Equus_caballus    AFPITILEWGGRRVRETVYWFQYESDSSLSNSNVYDVAMKLVTKHFPGEFGSEILVQKVVHT 651
Bos_taurus        AFPITILEWGGRRVRETVYWFQYESDASLSNSNVYDVAMKLVTKHFPGEFGSEILVQKVVHT 651
Rhinatrema_bivittatum AFPITILEWGGRRVRETVYWFQYESDVSLSNSNVYDVAMKLVTKHFPGEFGSEILVQKVVNT 620
Xenopus_tropicalis AFPITILEWGGRRVRETVYWFQYESDVTLSNSNVYDVAMKLVTKHFPGEFGSEILVQKVVNT 627
.....610.....620.....630.....640.....650.....660

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*****:***** *.*.*:.* :.: *.*: ***** *****.*
Pavo_muticus      ILHQTAKKNPDDYTPVNIDGAHAQRAGEVQGGQELSQLPTKIILTGQKTTLHKEELNM 704
Pavo_cristatus    ILHQTAKKNPDDYTPVNIDGAHAQRAGEVQGGQELSQLPTKIILTGQKTTLHKEELNM 704
Gallus_gallus     ILHQTAKKNPDDYTPVNIDGAHAQRAGEVQGGQELSQLPTKIILTGQKTTLHKEELNM 703
Chelonia_mydas    ILHQTAKKNPDDYTPVNIDSAHAQRADDIQ-GODLDSQLPTKIILTGQKMKTLHKEELNM 698
Anolis_carolinensis ILHQTAKKNPDDYTPVNIDGAHARRADDVQGGQDLESQPTKIILTGQKTTLHKEELTM 694
Homo_sapiens      ILHQTAKKNPDDYTPVNIDGAHAQRVGDVQ-GQESQSQLPTKIILTGQKTTLHKEELNM 709
Pan_troglodytes   ILHQTAKKNPDDYTPVNIDGAHAQRVGDVQ-GQESQSQLPTKIILTGQKTTLHKEELNM 711
Macaca_mulatta    ILHQTAKKNPDDYTPVNIDGAHAQRVGDVQ-GQESQSQLPTKIILTGQKTTLHKEELNM 708
Callithrix_jacchus ILHQTAKKNPDDYTPVNIDGAHAQRVGDVQ-GQESQSQLPTKIILTGQKTTLHKEELNM 712
Mus_musculus      ILHQTAKKNPDDYTPVNIDGAHAQRVGDVQ-GQELSQLPTKIILTGQKTTLHKEELNM 708
Rattus_norvegicus ILHQTAKKNPDDYTPVNIDGAHAQRVGDVQ-GQELSQLPTKIILTGQKTTLHKEELNM 708
Canis_lupus_familiaris ILHQTAKKNPDDYTPVNIDGAHAQRVGDVQ-GQESQSQLPTKIILTGQKTTLHKEELNM 708
Equus_caballus    ILHQTAKKNPDDYTPVNIDGAHAQRVGDVQ-GQESQSQLPTKIILTGQKTTLHKEELNM 710
Bos_taurus        ILHQTAKKNPDDYTPVNIDGAHAQRVGDVQ-GQESQSQLPTKIILTGQKTTLHKEELNM 710
Rhinatrema_bivittatum ILHQTAKKNPDDYTPVNIDGAHAQRVGDVQ-GQESQSQLPTKIILTGQKTTLHKEELNM 680
Xenopus_tropicalis ILHQTAKKNPDDYTPVAIDGAHVORMEDVKHEPEPESHLPTKIILTGQKAKTLHKEELNM 687
.....670.....680.....690.....700.....710.....720

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## CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep\_msa/VCPD11ep Tue Feb 1 14:52:11 2022

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*****:**. *:**::****::**:: *: **: :...*.***** ** *
SKTERTIQQNIADAQASVMQKRKSEKIKQEHKGQPRAVSPGAVREGPSSAPATPTKTPYSP
SKTERTIQQNIADAQASVMQKRKSEKIKQEHKGQPRAVSPGAVREGPSSAPATPTKAPYSP
SKTERTIQQNIADAQASVMQKRKSEKMKQEHKGQPRTVSPGAVREGPSSAPATPTKTPYSP
SKTERTIQQNIADAQASVMQKRKTEKLKQEQKGQPRRTVSPGAVRDGPSSAPATPTKSPYSP
SKTERSIQQNIAEQAPIMQKRKTDKLKQVQKGPTRTTSPGAVPDGPSSAPATPTKTPYSP
SKTERTIQQNITEQASVMQKRKTEKLKQEQKGQPRTVSPSTIRDGPSSAPATPTKAPYSP
SKTERTIQQNITEQASVMQKRKTEKLKQEQKGQPRTVSPSTIRDGPSSAPATPTKAPYSP
SKTERTIQQNITEQASVMQKRKTEKLKQEQKGQPRTVSPSTIRDGPSSAPATPTKAPYSP
SKTERTIQQNITEQASVMQKRKTEKLKQEQKGQSRTVSPSTIRDGPSSAPATPTKAPYSP
SKTERTIQQNITEQASVMQKRKTEKLKQEQKGQPRTVSPSTIRDGPSSAPATPTKAPYSP
SKTERTIQQNITEQASVMQKRKTEKLKQEQKGQPRTVSPSTIRDGPSSAPATPTKAPYSP
SKTERTIQQNITEQAQVMQKRKTEKLKQEPKGQPRTVSPSTIRDGPSSAPATPTKAPYSP
SKTERTIQQNIMEQASVMQKRKTEKLKQEQKGQPRTVSPSTIRDGPSSAPATPTKSPYSP
SKTERTIQQNITEQASVMQKRKTEKLKQEQKGQPRTVSPSTVRDGPSSAPATPTKAPYSP
SKTERTIQQNISEQASLLQKRKTEKLKHEQKEHPRSASPNTIRDGPSSAPPTPTKVYFP
SKTERKLQSSITEQAQVMQKRKTEKIKQEQIGPTRSSSPGAARESPSPGPSTPTKTPYSP
.....730.....740.....750.....760.....770.....780

```

```

:::***** ***:*:** :*** ***:***: ***:**:*:*****:***
TSTKEKKIRITNDGROSMLTLKCTTTFLELQESIAREFNIPPYLCIRYGFPPKELLPP
TSTKEKKIRITNDGROSMLTLKCTTTFLELQESIAREFNIPPYLCIRYGFPPKELLPP
TSTKEKKIRITNDGROSMLTLKCTTTFLELQESIAREFNIPPYLCIRYGFPPKELLPP
TSTKEKKIRITNDGROSMLTLKSTTTFVELQESIAREFNIPPYLCIRYGFPPKELLPP
TSTKEKKIRITNDGROAMLNLKSTTTFVELQESIAREFSIPSHLCIRFGFPPKELLPP
TTSKEKKIRITNDGROSMVTLKSSTTTFFELQESIAREFNIPPYLCIRYGFPPKELMPP
TTSKEKKIRITNDGROSMVTLKSSTTTFFELQESIAREFNIPPYLCIRYGFPPKELMPP
TTSKEKKIRITNDGROSMVTLKSSTTTFFELQESIAREFNIPPYLCIRYGFPPKELMPP
TTSKEKKIRITNDGROSMVTLKSSTTTFFELQESIAREFNIPPYLCIRYGFPPKELMPP
TTSKEKKIRITNDGROSMVTLKPSTTTFFELQESIAREFNIPPYLCIRYGFPPKELMPP
TTSKEKKIRITNDGROSMVTLKSSTTTFFELQESIAREFNIPPYLCIRYGFPPKELMPP
TTSKEKKIRITNDGROSMVTLKSSTTTFFELQESIAREFNIPPYLCIRYGFPPKELMPP
TTSKEKKIRITNDGROSMVTLKPSTTTFFELQESIAREFNIPPYLCIRYGFPPKELMPP
TTSKEKKIRITNDGROSMVTLKSSTTTFFELQESIAREFNIPPYLCIRYGFPPKELMPP
TTSKEKKIRITNDGROSMVTLKPSTTTFFELQESIAREFNIPPYLCIRYGFPPKELMPP
TTSKEKKIRITNDGROAMLTLKSSTTTFVELQENIAREFSIPPYLCIRFGFPPKELLPP
TASKEKKIRITNDGROAMLTLKSSTTTFSELQEGIAKELAIPPHLCIRYGFPPKELVPP
.....790.....800.....810.....820.....830.....840

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: \* \*:\*\*\*\*\* \*\*:::\*\*\*: . . . \* \* : : : . . \*\*\*\*\*  
 KEGMENEPVPLQHGDRITAEILKGKEESSQPAAAHSAHAVKHDDVAVTSKISSKELOEQV  
 KEGMENEPVPLQHGDRITAEILKGKEESSQPAAAHSAHAVKHDDVAVTSKISSKELOEQV  
 KEGMENEPVPLQHGDRITAEILKGKEESSQPAAAHSAHAVKHDDVTVTSKISSKELOEQV  
 KEGMENEPVPLQHGDKITAEILKGKEESSQTSAPSTHAVKHEDVAVTSKISSKELOEQV  
 KEGQENEPVPLLHGDRITVEILKGKEDISQTPSVHSAHAVKHDDVAVTSKISSKELOEQI  
 QAGMEKEPVPLQHGDRITIEILKSKAEGGQSAAAHSAHTVKQEDIAVTGKLSKELOEQA  
 QAGMEKEPVPLQHGDRITIEILKSKAEGGQSAAAHSAHTVKQEDIAVTGKLSKELOEQA  
 QAGMEKEPVPLQHGDRITIEILKSKAEGGQSAAAHSAHTVKQEDIAVTGKLSKELOEQA  
 QAGMEKEPVPLQHGDRITIEILKSKAEGGSTVAHSAHTVKQEDIAVTGKLSKELOEQA  
 QAGMEKEPVPLQHGDRITIEILKGRAEGGPSTAHAHSAHTVKQEEIAVTGKLSKELOEQA  
 QAGMEKEPVPLQHGDRITIEILKGKAEGGPSTAHAHSAHTVKQEEIAVTGKLSKELOEQA  
 QAGMEKEPVPLQHGDRITIEILKSKAEGGQSAAAHSAHTVKQEEIAVTGKLS-KELOEQA  
 QPGMEKEPVPLQHGDRITIEILKSKAEGGPSAAAHSAHTVKQEEIAVTGKLSKELOEQA  
 QAGMEKEPVPLQHGDRITIEILKSKAEGGQSAAAHSAHTMKPEDSAVTGRLSSKELOEQA  
 REGMENEPVPLQHGDRITIEIMKGKEEPSQPTLAHSAHEVKPEDVTIISKNSSKELOEQI  
 KEGLENEPVPLQHGDRITVEILKGKEKPQPNMHSVHEVTEDDAAMSNSVSKELQEQI  
 .....850.....860.....870.....880.....890.....900

# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep\_msa/VCPD1lep5 Tue Feb 14:52:11 2022

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:*****:*****:***:*****:***.*:***:***:****.
Pavo_muticus      DKEMYSCLLATLMGEDVWSYAKGLPQLFQGGVFYSIMKKTGLVDGKHCTFPHLPGKN 944
Pavo_cristatus    DKEMYSCLLATLMGEDVWSYAKGLPQLFQGGVFYSIMKKTGLVDGKHCTFPHLPGKN 944
Gallus_gallus     DKEMYSCLLATLMGEDVWSYAKGLPQLFQGGVFYSIMKKTGLVDGKHCTFPHLPGKN 943
Chelonia_mydas    DKEMYSCLLATLMGEDVWSYAKGLPHLFQGGVFYSIMKKTGLADGKHCTFPHLPGKN 938
Anolis_carolinensis DKEMYSCLLATFMGEDVWSYAKGLPHLFQGGVFYNIMKKTMLADGNHCTFPHLPGKT 934
Homo_sapiens      EKEMYSCLLATLMGEDVWSYAKGLPHMFQGGVFYSIMKKTGMADGKHCTFPHLPGKT 949
Pan_troglodytes   EKEMYSCLLATLMGEDVWSYAKGLPHMFQGGVFYSIMKKTGMADGKHCTFPHLPGKT 951
Macaca_mulatta    EKEMYSCLLATLMGEDVWSYAKGLPHMFQGGVFYSIMKKTGMADGKHCTFPHLPGKT 948
Callithrix_jacchus DKEMYSCLLATLMGEDVWSYAKGLPHMFQGGVFYSIMKKTGMADGKHCTFPHLPGKT 952
Mus_musculus      DKEMYSCLLATLMGEDVWSYAKGLPHMFQGGVFYNIMKKTGMADGKHCTFPHLPGKT 948
Rattus_norvegicus DKEMYSCLLATLMGEDVWSYAKGLPHMFQGGVFYNIMKKTGMADGKHCTFPHLPGKT 948
Canis_lupus_familiaris DKEMYSCLLATLMGEDVWSYAKGLPHMFQGGVFYNIMKKTGMADGKHCTFPHLPGKT 947
Equus_caballus    DKEMYSCLLATLMGEDVWSYAKGLPHMFQGGVFYNIMKKTGMADGKHCTFPHLPGKT 950
Bos_taurus        DKEMYSCLLATLMGEDVWSYAKGLPHMFQGGVFYNIMKKTGMADGKHCTFPHLPGKT 950
Rhinatrema_bivittatum DKEMYSCLLATLMGEDVWSYARGLPHLFQGGVFYNMKNMGLVDGKHCFNFPYLPGKT 920
Xenopus_tropicalis DKEMYSCLLATLMGEDVWSYAKGLPHLFQGGVFYNIMKNMGMADGKHCTFPHLPGKT 926
.....910.....920.....930.....940.....950.....960

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*****:*****.*****:*.***:***:***:***:***:***:****.
Pavo_muticus      FVYNAAEDRLELCVDAAGHFPIGPDVEDLVKEALSQVRAEATSRSEASPSHGMLKLGSG 1004
Pavo_cristatus    FVYNAAEDRLELCVDAAGHFPIGPDVEDLVKEALSQVRAEATSRSEASPSHGMLKLGSG 1004
Gallus_gallus     FVYNAAEDRLELCVDAAGHFPIGPDVEDLVKEALSQVRAEATSRSEASPSHGMLKLGSG 1003
Chelonia_mydas    FVYNAAEDRLELCVDAAGHFPIGPDVEDLVKEALSQVRAEATSRSEASPSHGMLKLGSG 998
Anolis_carolinensis FVYNAAEDRLELCVDAAGHFPVGS DVEDLVKEALSQVRAEASSRSREGSPSHGVLKLGSG 994
Homo_sapiens      FVYNASEDRLELCVDAAGHFPIGPDVEDLVKEAVSQVRAEATRSRESSPSHGLLKLGSG 1009
Pan_troglodytes   FVYNASEDRLELCVDAAGHFPIGPDVEDLVKEAVSQVRAEATRSRESSPSHGLLKLGSG 1011
Macaca_mulatta    FVYNASEDRLELCVDAAGHFPIGPDVEDLVKEAVSQVRAEATRSRESSPSHGLLKLGSG 1008
Callithrix_jacchus FVYNASEDRLELCVDAAGHFPVGP DVEDLVKEAVSQVRAEATRSRESSPSHGVLKLGSG 1012
Mus_musculus      FVYNASEDRLELCVDAAGHFPIGPDVEDLVKEAVSQVRAEATRSRESSPSHGLLKLGSG 1008
Rattus_norvegicus FVYNASEDRLELCVDAAGHFPIGPDVEDLVKEAVSQVRAEATRSRESSPSHGLLKLGSG 1008
Canis_lupus_familiaris FVYNASEDRLELCVDAAGHFPIGPDVEDLVKEAVSQVRAEATRSRESSPSHGLLKLGSG 1007
Equus_caballus    FVYNASEDRLELCVDAAGHFPIGPDVEDLVKEAVSQVRAEATRSRESSPSHGLLKLGSG 1010
Bos_taurus        FVYNASEDRLELCVDAAGHFPIGPDVEDLVKEAVSQVRAEATRSRESSPSHGLLKLGSG 1010
Rhinatrema_bivittatum FVYNASEDRLELCADAAGHFPIGPDVEDMIKEALSQVRAEASSRSKEASPSHGVLKLGSG 980
Xenopus_tropicalis FVYNAAEDRLELCVDAAGHFPIGPEVEDLVKEALNQLRSEAAKSRESSPSHGLIKLGSS 986
.....970.....980.....990.....1000.....1010.....1020

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*:***** *:*****:*****:*.***:***:***:***:***:***:****.
Pavo_muticus      GVVKKKSEQLHNITAFQKGHSLGTASGSQQHDQARETPLL RKHSTETDFS--PAKIEP 1062
Pavo_cristatus    GVVKKKSEQLHNITAFQKGHSLGTASGSQQHDQARETPLL RKHSTETDFS--PAKIEP 1062
Gallus_gallus     GVVKKKSEQLHNITAFQKGHSLGTASGSQQHDQAREAPLL RKHSTETDFS--PAKIEP 1061
Chelonia_mydas    GVVKKKSEQLHNITAFQKGHSLGTASSQQLDQKSRETPLL RKHNTETDFNS--PTKTEP 1058
Anolis_carolinensis GVVKKKSEQLHNITAFQKGHSLGTAAQSQQHYQAREAPLARKQSSSLDFS--STKSEP 1054
Homo_sapiens      GVVKKKSEQLHNITAFQKGHSLGTASGNPHLDPRARETSVVRKHNTGTDFNS--STKTEP 1069
Pan_troglodytes   GVVKKKSEQLHNITAFQKGHSLGTASGNPHLDPRARETSVVRKHNTGTDFNS--STKTEP 1071
Macaca_mulatta    GVVKKKSEQLHNITAFQKGHSLGTASGNPHLDPRARETSVVRKHNTGTDFNS--STKTEP 1068
Callithrix_jacchus GVVKKKSEQLHNITAFQKGHSLGTASGNPHLDPRARETSVVRKHNTGTDFNS--SSSKTEP 1072
Mus_musculus      GVVKKKSEQLHNITAFQKGHSLGTASSHPHIDPRARETLAVRKHNTGTDFNS--SIKTEP 1068
Rattus_norvegicus GVVKKKSEQLHNITAFQKGHSLGTASSNPHMDPRARETLAVRKHNTGTDFNS--SIKTEP 1068
Canis_lupus_familiaris GVVKKKSEQLHNITAFQKGHSLGTASSNPHLDSRAREAPVVRKHNTGTDFNS--SIKIEP 1067
Equus_caballus    GVVKKKSEQLHNITAFQKGHSLGTASSPHLDPRGRETPVVRKHSTGTDFNS--SSSKTEP 1070
Bos_taurus        GVVKKKSEQLHNITAFQKGHSLGTASSPHLDPRARETPVVRKHSTGTDFNS--SIKTEP 1070
Rhinatrema_bivittatum GVVKKKSEQQHNITAFQKGHSLGTASSPYLDQRPDNPSPRKHSTGSDFSIGSKKSEP 1040
Xenopus_tropicalis GVIKKKSEQQHNITAFQKGHSLGTASSPELKQKPRD---VTKHGTTDFNSLTITSEP 1043
.....1030.....1040.....1050.....1060.....1070.....1080

```



# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep\_msa/VCPD11ep Tue Feb 14:52:11 2022

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      . * : ....* **:**** * **.*:.* : :*****:*****:*****
Pavo_muticus      SVFPAASGKSELIRIAPGVVTMRDSROLDPDLIEAQRKKLOEMVSSIQASMDRHLRDQNT 1122
Pavo_cristatus    SVFPAASGKSELIRIAPGVVTMRDSROLDPDLIEAQRKKLOEMVSSIQASMDRHLRDQNT 1122
Gallus_gallus     SVFPAASGKSELIRIAPGVVTMRDGRQLDPDLIEAQRKKLOEMISSIQASMDRHLRDQNA 1121
Chelonia_mydas    SIFTAASGNSELIRIAPGVVTMRDSROLDPDLIEAQRKKLOEMVSSIQASMDRHLRDQNA 1118
Anolis_carolinensis PVFGSDSGNSELIRIAPGVGTMRDSROLDPDLIEAQRKKLOEMVSSIQASMDRHLRDQNT 1114
Homo_sapiens      SVFTASSSNSELIRIAPGVVTMRDGRQLDPDLVEAQRKKLOEMVSSIQASMDRHLRDQST 1129
Pan_troglodytes   SVFTASSSNSELIRIAPGVVTMRDGRQLDPDLVEAQRKKLOEMVSSIQASMDRHLRDQST 1131
Macaca_mulatta    SVFTASSSNSELIRIAPGVVTMRDGRQLDPDLVEAQRKKLOEMVSSIQASMDRHLRDQST 1128
Callithrix_jacchus SVFSASSSNSELIRIAPGVVTMRDGRQLDPDLVEAQRKKLOEMVSSIQASMDRHLRDQNT 1132
Mus_musculus      PVFTAASSNSELIRIAPGVVTMRDGRQIDPDVVEAQRKKLOEMVSSIQASMDKHLRDQSA 1128
Rattus_norvegicus PVFTAASSNSELIRIAPGVVTMRDGRQIDPDVVEAQRKKLOEMVSSIQASMDKHLRDQST 1128
Canis_lupus_familiaris SVFTAAPSNSELIRIAPGVVTMRDSROLDPDLVEAQRKKLOEMVSSIQASMDKHLRDQST 1127
Equus_caballus    SVFPAAPSNSELIRIAPGVVTMRDSROLDPDLVEAQRKKLOEMVSSIQASMDKHLRDQST 1130
Bos_taurus        SVFTAAPSNSELIRIAPGVVTMRDSROLDPDMVEAQRKKLOEMVSSIQASMDKHLRDQST 1130
Rhinatrema_bivittatum SVFTATPGDSELIRVAPGVVTMRDSROLDPDLVEAQRKKLOEMVSSIQASMDKHLRDQHS 1100
Xenopus_tropicalis SPFQSTTSDNEPIRVAPGVITMRDSROLDPDLIEAQRKKLOEMVSSIQASMDKHLRDQND 1103
.....1090.....1100.....1110.....1120.....1130.....1140

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      ** : . :: : . . . * . : . : :
Pavo_muticus      EQSASVDVSQRKVEAVSSSTAKTGSF-QAGLPEPFSAAGGTERLNTEAGDNMVNSVGTTF 1181
Pavo_cristatus    EQSASVDVSQRKVEAVSSSTAKTGSF-QAGLPEPFSAAGGTERLNTEAGDNMVNSVGTTF 1181
Gallus_gallus     EQSASVDVSQRKVEAVSSSTAKTGSF-QAGLPEPFSAAGGTEHLNTEAGDNMVNSVGTTF 1180
Chelonia_mydas    EQSASIDLSQRKVEAVSSSPKTGSI-QANLPESFSVTGGTEHSNTETTAGNVVNSMGATF 1177
Anolis_carolinensis EQSATNDFSQRKLEAASSSIKTRGP-QTGLPESFTLSSSSGHLNTETTDSNMSNAVGTTF 1173
Homo_sapiens      EQSPS-DLPQRKTEVSSSAKSGSL-QTGLPESFPLTGGTENLNTETTDGCVADALGAFF 1187
Pan_troglodytes   EQSPS-DLPQRKTEVSSSAKSGSL-QTGLPESFPLTGGTENLNTETTDGCVADALGAFF 1189
Macaca_mulatta    EQSPS-DLPQRKIEVSSSAKSGSL-QTGLPESFPLTGGTENLNTETTDGCVADALGAFF 1186
Callithrix_jacchus EQSPS-DVPQRKIEVSSSAKSGS---TGLPESFPLTSGTENLNIEETDGCVADALGAFF 1187
Mus_musculus      EQAPS-DLSQRKVEVSS-VRPVNL-QTGLPEPFSLTGGTENLNTETTDGSHVADVLGAFF 1185
Rattus_norvegicus EQTPS-DLSQRKVEAVSSSVRPGNL-QTGLPESFSLTGGTENLNTETTDGSRVADVLGAFF 1186
Canis_lupus_familiaris EQSPS-DLPQRKVEVSSSVKSGSL-QTGLPESFSLTGGTENLNTETTDGSCVAEALGAFF 1185
Equus_caballus    EQSPS-DLPQRKVEGVSS-VKSGSL-QTGLPESFSLTGGTENLNTETTDGSCVAEALGAFF 1187
Bos_taurus        EQSPS-DPPQRKVEAVSSSVKSGSL-QTGSPEFSFPTGDTENLNIEADGCVAEALEAFA 1188
Rhinatrema_bivittatum EQSAAAESTVRRGDVAGPSAQCSGISQIVLPAPESLTSDSALLGAEPGAGSLANTV-ETF 1159
Xenopus_tropicalis EQLVVTDAASPKKGEWNSAKSGSSQE----QVMGSIVNTEATVASEARSISVQSSVEAKL 1159
.....1150.....1160.....1170.....1180.....1190.....1200

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      : * * : : *****: ..:*****
Pavo_muticus      PARSKAQKGNVVEELEEMDSQDAGITSVTEPMDHS 1216
Pavo_cristatus    PARSKAQKGNVVEELEEMDSQDAGITSVTEPMDHS 1216
Gallus_gallus     PARSKAQKGNVVEELEEMDSQDAGITNVTEPMDHS 1215
Chelonia_mydas    HTRPKAQKGNVVEEAEMDSQDAGIANTTEPMDHS 1212
Anolis_carolinensis PTRSKAQKGNVVEEPEEMDSQDAEITNTTEPMDHS 1208
Homo_sapiens      ATRSKAQKGNVVEELEEMDSQDAEMTNTTEPMDHS 1222
Pan_troglodytes   ATRSKAQKGNVVEELEEMDSQDAEMTNTTEPMDHS 1224
Macaca_mulatta    ATRSKAQKGNVVEELEEMDSQDAEMTNTTEPMDHS 1221
Callithrix_jacchus ATRSKAQKGNVVEELEEMDSQDAEMTNTTEPMDHS 1222
Mus_musculus      ATRSKAQKGNVVEELEEMDSQDAEMTNTTEPMDHS 1220
Rattus_norvegicus ATRSKAQKGNVVEELEEMDSQDAEMTNTTEPMDHS 1221
Canis_lupus_familiaris ATRSKAQKGNVVEELEEMDSQDAEMTNTTEPMDHS 1220
Equus_caballus    ATRSKAQKGNVVEELEEMDSQDAEMTNTTEPMDHS 1222
Bos_taurus        AERSEAQKGNVVEELEEMDSQDAEMTNTTEPMDHS 1223
Rhinatrema_bivittatum PSGSKVQQRVSVVEEPEEMDSQDAEITNTAEPMDHS 1194
Xenopus_tropicalis SGRLKIQPGVSTDDPEEMDSQDTEMINVAEPMDHS 1194
.....1210.....1220.....1230.....

```