

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/SH3D62.p Tue Feb 1 14:30:25 2022

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Pavo_muticus	-----VQEWKMGAGGAAGGASSTAAACRLGAGGDAGHMGCCLGAPWHQDLALG	48
Pavo_cristatus	-----VQEWKMGAGGAAGGASSTAAACRLGAGGDAGHMGCCLGAPWHQDLALG	48
Gallus_gallus	-----MQERMEGAGGAAGGASSTAAACRLGAGGDAGHMGCCLGAPWHQDLALG	48
Chelonia_mydas	-----	2
Mus_musculus	-----	
Rattus_norvegicus	-----MGG	4
Homo_sapiens	-----	
Pan_troglodytes	-----	
Macaca_mulatta	-----	
Callithrix_jacchus	-----	
Canis_lupus_familiaris	-----	
Bos_taurus	-----MGPEGWVAPPILPGPAAAARIKKAALCFERDLVPRVPGRRREEGHRWEAVSS	52
Equus_caballus	-----	
Xenopus_tropicalis	MEGQGSLLIRGPRLSRNGNYARSISWSAMCHSPLEKIMKRTEEAKSFFRKGLKRHASMLV	60
Rhinatrema_bivittatum	-----MAS	3
	1.....10.....20.....30.....40.....50.....60	

Pavo_muticus	CTAEECESCCPRSPLLLPHWDCLQHSTAERRGRWWWEKTMASGKAGASEP-SSPAEAAEG	107
Pavo_cristatus	CTAEECESCCPRSPLLLPHWDCLQHSTAERRGRWWWEKTMASGKAGASEP-SSPAEAAEG	107
Gallus_gallus	CTAEECESCCPHSPLLLPRWDSLQHSTAERRGRWWWEKTMASGKAGASEP-SSPAEAAEG	107
Chelonia_mydas	SSGEEPDSCSPTPALLLPWSSSLQNYTAEPQEKCFPEETMASGNPRQLDPGQPAQVAES	62
Mus_musculus	-----MGGCFCIPGER-----SLPWGPGKEGSSKDPPGLAEDTSS	35
Rattus_norvegicus	QGSPPDRSQGPWPREDGAHMGCCFCIPGER-----SLPWGPGKEGSSKDPPGLTEDISS	58
Homo_sapiens	-----MGGCFCIPRER-----SLTRGPGKETPSKDPTVSSECIAS	35
Pan_troglodytes	-----MGGCFCIPRER-----SLTRGPGKETPSKDPTVSSECIAS	35
Macaca_mulatta	-----MGGCFCIPRER-----SLTRGPGKETPSRDPTISSECIAS	35
Callithrix_jacchus	-----MGGCFCIPGER-----SLTWGPGKETPPFKDPTVSSECIAS	35
Canis_lupus_familiaris	-----MGGCFCIPGER-----SLSWGPGKETPSKNPTVSTECIAL	35
Bos_taurus	QCSSGWCSSQGPDPGEDGAHMGCCFCIPGER-----SLSWGPGKDTSSKDPTISSEFISS	106
Equus_caballus	-----MGGCFCIPGER-----SLSWGPGKETPPKDPTISSEFISS	35
Xenopus_tropicalis	SSSGKEERRDSGFLAGWPHWHEYSRNQER-----CSSLEAMASDDAEDSELVCVAEES	114
Rhinatrema_bivittatum	GSLLG-----HLADP-----GSTESIQS-----TED	24
70.....80.....90.....100.....110.....120	

Pavo_muticus	TPDSSSVLLAAGEGFLPEISLFFSIESRSRCPNAQLQEAARRKLWALESDDRDVCALEFK	167
Pavo_cristatus	TPDSSSVLLAAGEGFLPEISLFFSIESRSRCPNAQLQEAARRKLWALESDDRDVCALEFK	167
Gallus_gallus	SPDPSSVLLAAGEGFLPEISLFFSIESRSRCPNAQLQEAARRKLWALESDDRDVCALEFK	167
Chelonia_mydas	PLETESVSLAVGEGFTEIALVFSVESRTSQCVNSQLQKAARKKLWALENDKDKICDLFK	122
Mus_musculus	LENKRKCFLP--QNMTQDLVLSFCVKSRSRRCVNAALQEAARRRLWALENEAEVHALFK	93
Rattus_norvegicus	LENKRKCFLP--QNMTQDLVLSFWVRSRRCVNAALQEAARRRLWALENEAEVHALFK	116
Homo_sapiens	SEYKEKCFLP--QNINPDLTSLFCVKSRSRRCVNGPLQEAARRRLWALENEDEQEVRLFK	93
Pan_troglodytes	SEYKEKCFLP--QNINPDLTSLFCVKSRSRRCVNGPLQEAARRRLWALENEDEQEVRLFK	93
Macaca_mulatta	SEYKEKCFLP--QNMNPDLTSLFCVKSRSRRCVNGPLQEAARRRLWALENEDEQEVRLFK	93
Callithrix_jacchus	PEYKEKCFLP--QNMNPDLTSLFCVKSRSRRCVNGPLQEAARRRLWALENEDEQEVRLFK	93
Canis_lupus_familiaris	SEEKEKCFVP--QNMTPDLTSLFSVKSRSRRCVNGPLQEAARRRLWALENEHQEVCALEFK	93
Bos_taurus	SENKEKCFLP--QNMIPDLTSLFSVKSRSRRCVNGPLQEAARRRLWALENEDEQEVRLFK	164
Equus_caballus	SEEKEKCFLL--QNMTPDLTSLFSVKSRSRRCVNGPLQEAARRRLWALENEDEQEVRLFK	93
Xenopus_tropicalis	PVGKESVSLAVGEGFITEILLSFSILQSTQGNVHLQEVARKTLWALENDNKDTSMLFK	174
Rhinatrema_bivittatum	HLGTESVSLAVGEGYTEILLSFSILSRSSORPNADLQEVARKRLRAWESDQKEVLTLEFK	84
130.....140.....150.....160.....170.....180	

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*****: :*:.. *:*** **::*** **:* . **:*:.. ****. **:
Pavo_muticus      ELSARLLCIQAQEDQFLLTFFKTLEEVWKFSTYLTGTVGRCLFQQLLFEQYWLNCALVED 227
Pavo_cristatus    ELSARLLCIQAQEDQFLLTFFKTLEEVWKFSTYLTGTVGRCLFQQLLFEQYWLNCALVED 227
Gallus_gallus     ELSARLLCIQAQEDRFLLTFFKTLEEVWKFSTYLTGTVGRCLFQQLLFEQYWLNCALVED 227
Chelonia_mydas    ELSARLVCIQAQKDRFLLAFKTTTEEIWKFSTYLALGYVACCLEHLLFDHGYWLNCILVED 182
Mus_musculus      DLSARLVSVQSQKQDQFLITFFKTLEEIWKFFSTYLNLYGVVICLEHLFFDHTYWLNSRLVDD 153
Rattus_norvegicus DLSARLVSVQSQKQDQFLITFFKTLEEIWKFFSTYLNLYGVVSTCLEHLFFDHTYWLNSRLVDD 176
Homo_sapiens      DLSARLVSIQSQRQAFLLITFFKTMEEIWKFFSTYLNLYGVSMCLEHLFFDHYWLNLCILVED 153
Pan_troglodytes   DLSARLVSIQSQRQAFLLITFFKTMEEIWKFFSTYLNLYGVSMCLEHLFFDHYWLNLCILVED 153
Macaca_mulatta    DLSARLVSIQSQRSQFLITFFKTMEEIWKFFSTYLNLYGVSVCLHLLFFDHYWLNLCILVED 153
Callithrix_jacchus DLSARLVSIQSQRQAFLLITFFKTMEEIWKFFSTYLNLYGVSMCLEHLFFDHYWLNLCILVED 153
Canis_lupus_familiaris DLSARLVGIQSQAQFLITFFKTMEEIWKFFSTYLNLYGVVSACLEHLFFDHYWLNLCRLVED 153
Bos_taurus        DLSARLVGIQSQAQFLITFFKTMEEIWKFFSTYLNLYGVVSTCLEHLFFDHYWLNLCRLVED 224
Equus_caballus    DLSARLVGIQSQRQAFLLITFFKTMEEIWKFFSTYLNLYGVVSACLEHLFFDHYWLNLCRLVED 153
Xenopus_tropicalis ELSARLVSIQANKDLFLITFFKTVEEIIWKFTTYLSLGFVACSLEHLFFDES YWLNSALVED 234
Rhinatrema_bivittatum ELSARLLSLQAEKDRFVITFFKTVEEIIWKFFSTYLTGTVACCLEELFNEVYWLNSTLVQD 144
.....190.....200.....210.....220.....230.....240

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****: :*:.. *:*** **::*** **:* . **:*:.. ****. **:
Pavo_muticus      TEIRVSMDENRLATIYLGLLLOEGHFFSRAEPGACQPEGEQ---EGLQLCMNELVHVKN 284
Pavo_cristatus    TEIRVSMDENRLATIYLGLLLOEGHFFSRAVPGACQPEGEQ---EGLQLCMNELVHVKN 284
Gallus_gallus     TEIRVSMDENRLATIYLGLLLOEGHFFSRAVPGVCQPGGEQ---EGLQLCRNELVHVKN 284
Chelonia_mydas    TEIRITVDEDHLATMYLGLLLOEGHFFSRAVFNVPQSLEGGE---ESLKLHKNELVHVKN 239
Mus_musculus      TEIQVSVDDNHLNIYLGLLLOEGHFFCRAVCVSAQPADKEG---EYLTLCCKNELISVLS 210
Rattus_norvegicus TEIQVSVDDTHLENIYLGLLLOEGHFFCRAMCSVTQPADKEG---EYLTLCCKNELISVLS 233
Homo_sapiens      TEIQVSVDDKHLETIYLGLLLOEGHFFCRALCSVTTPAEKEG---ECLTLCCKNELISVKM 210
Pan_troglodytes   TEIQVSVDDKHLETIYLGLLLOEGHFFCRALCSVTTPAEKEG---ECLTLCCKNELISVKM 210
Macaca_mulatta    TEIQVSVDDKHLETIYLGLLLOEGHFFCRALCSVTTPAEKEG---ECLTLCCKNELISVKM 210
Callithrix_jacchus TEIQVAVDDKHLETIYLGLLLOEGHFFCRALRSVTTPAEKEG---EWLTLCCKNELISVKM 210
Canis_lupus_familiaris TEIQVSVDEKHLETIYLLALLLOEGHFFCRAMCSVAQPAEKEG---EYLTLCCKNELISVKI 210
Bos_taurus        TEIHVSIDDKHLETIYLGLLLOEGHFFCRAMCSVAQPAEKEG---EYLTLCCKNELISVKM 281
Equus_caballus    TEIQVSVDDKHLESIIYLGLLLOEGHFFCRAMCSVAQPAEKEG---EYLTLYKNELISVKI 210
Xenopus_tropicalis TEIHVSVNQDQLATLYLGLLLOEGNFYAKSVISSGGGTELDGNSEFLEVHLNDVVIHKN 294
Rhinatrema_bivittatum TEIRIGIDEDHLMYLGLLLOEGTFFSR-VVHCVPHLQREE---EDLVKSKNELLRVKN 200
.....250.....260.....270.....280.....290.....300

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. * . *:***: :*:.. *:*** **::*** **:* . **:*:.. ****. **:
Pavo_muticus      IGEEKWEGTSLLTGQRLVPVTALEPVAHPFYQWFLKNYTMNFGISQEISGTT-FQPIV 343
Pavo_cristatus    IGEEKWEGTSLLTGQRLVPVTALEPVAHPFYQWFLKNYTMNFGISQEISGTT-FQPIV 343
Gallus_gallus     IGEEKWEGMSLLTGQRLVPVTALEPVSHPFYQWFLKNYAMSFGISQEISGTT-SQPIA 343
Chelonia_mydas    IGEEKWEGMSLSTGQRLVAVAAIEPLPHPFYQWFLKNYPMSCGTSKEISGTT-SQPIG 298
Mus_musculus      G-GESECEAMSLVTGQRLVPMSALEPLVPFHWFLKNHPGICGLPRKRDWTG-SGQIG 268
Rattus_norvegicus G-GESDWEGMSLVTGQRLVPVSALEPLVPFHWFLKNHPGICGLPRKRDWTG-SCQIG 291
Homo_sapiens      AEAGSELEGVSLVTGQRLVLSALEPLPLPFHWFLKNYPGSCGLSRKRDWTG-SYQIG 269
Pan_troglodytes   AEAGSELEGVSLVTGQRLVLSALEPLPLPFHWFLKNYPGSCGLSRKRDWTG-SYQIG 269
Macaca_mulatta    AEAGSELEGVSLVTGQRLVLSALEPLPLPFHWFLKNYPGSCGLSRKRDWTG-SYQIG 269
Callithrix_jacchus AEAGSEWEGVSLVTGQRLVLSALEPLPLPFHWFLKNYPGSCGLSRKRDWTG-SYQIG 269
Canis_lupus_familiaris VEGESEWEGVSLVTGQRLVPLSALEALPLPFHWFLKNYPGSCGLSRKRDWTG-SYQIG 269
Bos_taurus        AEGESEWEAVSLVTGQRLVPSALEPLPLPFHWFLKNYPGNCGLSRKRDWTG-SYQIG 340
Equus_caballus    AEGGSEWEGMSLATGQRLVPSALEPLPLPFHWFLKNYPGSCGLSRKRDWTG-SYQIG 269
Xenopus_tropicalis IGDESAWEGSLTSGERGLLPPIEAVEPLSHPFYQWFLKTYPVSCNIMEPDCLLGTSQPIG 354
Rhinatrema_bivittatum VGHEQKWEGLSSFTGQRLVPISAIIEPLPNPFSQWFLKNYPVHCSLPKHSSRPGSCQLMG 260
.....310.....320.....330.....340.....350.....360

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* * * : *** *: * ::*:*** ***: . * :*** : .
Pavo_muticus      KGKCTATADHRGAEWDELFSKGDSEIVIGFLLPGLPWFVGKSLSSGNVGFVPVRSVNAE 403
Pavo_cristatus    KGKCTATADHRGAEWDELFSKGDSEIVIGFLLPGLPWFVGKSLSSGNVGFVPVRSVNAE 403
Gallus_gallus     KGKCTATADHRGAEWDELFSKGDSEIVVGFFLLPGLPWFVGRSLSSGNIGFVPVRFVNAE 403
Chelonia_mydas    TGRCTATEDHRGRGWDELFSKGDSEIVVGFLIPGLLWLVFGKSTSSGTIGFVQSKHIAAE 358
Mus_musculus      RGRCKALMDYEQEERDELCFLOGESIDVIGFVIPGLQWFIGKSVSSGEVGFVPTRSIDLD 328
Rattus_norvegicus RGRCKALMDYQEQEERDELGFLOGESIDVIGFVIPGLRWFIGKSMSSGKVGFPTRSIDLD 351
Homo_sapiens      RGRCKALTGYEPGEKDELNFYQGESIEIIIGFVIPGLQWFIGKSTSSGQVGFVPTRNIDPD 329
Pan_troglodytes   RGRCKALKGYPEGKDELNFYQGESIEIIIGFVIPGLQWFIGKSTSSGQVGFVPTRNIDPD 329
Macaca_mulatta    RGRCKAMKSYEPEEKDELFSYQGESIEIIIGFVIPGLQWFIGKSTSSGQVGFVPTRNIDPD 329
Callithrix_jacchus RGRCKALKDYEPPEEKDELFSYQGESIEIIIGFVIPGLQWFIGKSTSSGQVGFVPTRNIDPD 329
Canis_lupus_familiaris RGKCKAWKDYEREKDELTFHQGESIEIIIGFVIPGLQWFIGKSTRSGEVGFVPTRNIDPE 329
Bos_taurus        RGKCKAWKEYEREKDELNFHQGESIEIIIGFVIPGLQWFIGKSALSGEVGFVPTRIIDPD 400
Equus_caballus    RGKCKAWKEYEREKDELNFHQGESIEIIIGFVIPGLQWFIGKSTRSGEVGFVPTRNIDPD 329
Xenopus_tropicalis EGVCIATEDHVASGWDELSYCTGDTIEVVGFLIPGLKWFVGRCPNNGVMGFVRTKHVDTS 414
Rhinatrema_bivittatum RGMCKATEDYKGRWDELSCFRGDRIAIVGLLIPGLQWVFGKSSDSTVGFVQTEHVALD 320
.....370.....380.....390.....400.....410.....420

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Pavo_muticus      ACEPLQKGLVFLSEENLPLLRIPCNGGGEQHFATLLGELARTDITSVYRLDGFEPITAMFL 463
Pavo_cristatus    ACEPLQKGLVFLSEENLPLLRIPCNGGGEQHFATLLGELARTDITSVYRLDGFEPITAMFL 463
Gallus_gallus     ACEPLEKGLVFLSEENLPLLRIPCNGGGEQHFATLLGELARTDITSVYRLDGFEPITAMFP 463
Chelonia_mydas    TCEPLGKGSVFLSEEEKSSLLLLP--GSEQHYTSLLEDLARTDITSVYRLAGFEPTATFP 416
Mus_musculus      SCSPMSKNSAFFSDEERSSSLWSPG--SERKAECSSGFLCSLAHTDITSYVRLSEFEATONLQ 387
Rattus_norvegicus SCSPVSKNSVFFSDEERCSLWSPG--GDRKAECSSGFLSALAHTDITSVYRLSEFESIONLQ 410
Homo_sapiens      SYSPMSRNSAFLSDEERCSLLALG--SDKQTECSSFLHTLARTDITSVYRLSGFESIONPP 388
Pan_troglodytes   SYSPMSRNSAFLSDEERCSLLALG--SDKQTECSSFLHTLARTDITSVYRLSGFESIONPP 388
Macaca_mulatta    SYSPMSRNFSAFFSDEERCSLLALG--SDKQTECCSFLHTLARTDITSVYRLSGFESIONPP 388
Callithrix_jacchus SYSPMSRNSAFLSDEERCSLLALG--SDKQAECSFFIHTLARTDITSVYRLSGFESIONPP 388
Canis_lupus_familiaris SYSPMNKSSAFFSDEERCSLWVLG--SDRKAECASFLHTLAHTDIASVYRLSGFESIONLP 388
Bos_taurus        SYSPVSKNSAFFSDEEKCSLGLG--SDRKAECVSLRTLAOTDITSVYQLSGFESIQSLP 459
Equus_caballus    SFSPVSKNSAFFSDEERWSLWVLG--SDRKAECANFLHTLAHTDITSVYRLSGFESIONLP 388
Xenopus_tropicalis CLKALDKDLLFLSEERSLLNVFD--DDTKGCMDDLNSLCQTDISSVYRLDGMPEPMGIYM 473
Rhinatrema_bivittatum DCAPELKHVLVFSSEERPSLVIPR--EERDQ--AGLLRDLARTDISSVYRLDGCPEADVLA 377
.....430.....440.....450.....460.....470.....480

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* .. : . : : : : : : :
Pavo_muticus      KAPSEAVLHGCKDTQLLQSWEE--INSLVTASTSEQSS-PGSESAPATWEDVLLDKLNDF 520
Pavo_cristatus    KAPSEAVLHGCKDTQLLQSWEE--INSLVTASTSEQSS-PGSESAPATWEDVLLDKLNDF 520
Gallus_gallus     KAPSEAVARGCKDTQLLQSWEE--INSLVTASTSEQSS-PGSESAPATWEDVLLDKLNDF 520
Chelonia_mydas    GGPSEAAALQYKDVQLLKTGESAANSLSTPSTDEQSS-LEGEASPTALEEFLLEPDDL 475
Mus_musculus      NDLSASQPEGFREARSGGTWMEROTIGSRRSSSGSDSSPEDEELISASSDSYHLPEPDDL 447
Rattus_norvegicus NDLSASQPEGFREARSGGTWMERKTMGSRSSSSSLDSS-LEDEELISASSDSYHLPEPDDL 469
Homo_sapiens      NDLSASQPEGFKEVRPGRWEEHQAVGSRQSSSSEDSS-LEEELLSATSDSYRLPEPDDL 447
Pan_troglodytes   NDLSASQPEGFKEVRPGRWEEHQAVGSRQSSSSEDSS-LEEELLSATSDSYRLPEPDDL 447
Macaca_mulatta    NDLSASQPEGFKEVRPGRWEEHQAVGSRQSSSSEDSS-LEEELLSATSDSYHLPEPDDL 447
Callithrix_jacchus NDLSASQLEGFKGARPGRAWEDRQAVGFQSSSSEDSS-LEGELLSAASDSYRLPEPDDL 447
Canis_lupus_familiaris NDLSASQPEGVKEARPGRGWEEQAVGSRQSSSSEDSS-LEEELLSAASDSYHLPEPDDL 447
Bos_taurus        NDLSVSQSEGFKETRPGGAWEEHQAMGSRQSSSSEDSS-LEEELLSAASDNYHLPEPDDL 518
Equus_caballus    NDLSASQPEGFKEARPGGAWEEHQAVGSRQSSSSEDSS-LEEELLSAASDNYHLLETDDL 447
Xenopus_tropicalis KTSSVIN-EDLGEIQITDNWEECEAVSDSSKSGSTSEKSSPDSWDKG--GVEGFHQIQAQEDI 531
Rhinatrema_bivittatum RVSSIEIAYEGFKGEGVCERWKEEDITNDLAEPSGPDQASAGCESPEAEEDLLLPQAEEM 437
.....490.....500.....510.....520.....530.....540

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*:::*****: : * :*:***: * :*:*** :*** :*:***:
Pavo_muticus      DDPKFFIDLNAGHMED-ADVFEPIILTFNLQDSYMPCFQTLYDLNFSFLNSTFYGFSDDEDE 579
Pavo_cristatus    DDPKFFIDLNAGHMED-ADVFEPIILTFNLQDSYMPCFQTLYDLNFSFLNSTFYGFSDDEDE 579
Gallus_gallus     DDPKFFIDLNAGHMED-ADVFEPIILTFNLQDSYMPCFQSLYDLNFSFLNSTFYGFSDDEDE 579
Chelonia_mydas    DDPKFFIDLNAGHMED-AEVFDPILTFNLQGCYVAPFQSLYDLNFSFLNSTFYGFSDDEDE 534
Mus_musculus      DDPPELFMDLSTSLSEEDDVEHFAPILAFLDHEGYTDHFKSLYDFSFSFLTSSFFYSFSEEDE 507
Rattus_norvegicus DDPPELFMDLSTSLSEEDMEHFAPILAFLDHEGYTDHFKSLYDFSFSFLTSSFFYSFSEEDE 529
Homo_sapiens      DDPPELLMDLSTGQEEE-AENFAPILAFLDHEGYADHFKSLYDFSFSFLTSSFFYSFSEEDE 506
Pan_troglodytes   DDPPELLMDLSTGQEEE-AENFAPILAFLDHEGYADHFKSLYDFSFSFLTSSFFYSFSEEDE 506
Macaca_mulatta    DDPPELLMDLSTGQEEE-AENFTPIAFLDHEGYADHFKSLYDFSFSFLTSSFFYSFSEEDE 506
Callithrix_jacchus DDPPELLMDLSTGQEEE-AENFAPILAFLDHEGYADHFKSLYDFSFSFLTSSFFYSFSEEDE 506
Canis_lupus_familiaris DDPPELLMDLNTGQEEEAENFASILAFLDHKGADHFKSLYDFSFSFLTSSFFYSFSEEDE 507
Bos_taurus        DDPPELLMNMNTGQEEEAENFAPILAFLDHEGYADHFKSLYDFSFSFLTSSFFYSFSEEDE 578
Equus_caballus    DDPPELLMDLNTGQEEEAENFAPILAFLDHKGADHFKSLYDFSFSFLTSSFFYSFSEEDE 507
Xenopus_tropicalis DDPKFFVDLNTGEVDD-SEVFEPVLTFLNKEGYQVYFQPLYDLPMSTFTFYGFSEED 590
Rhinatrema_bivittatum DEPKFFIDLNADLED-SEVFDPIILTFNLQDHYEAQLRPLDYASFSFLTSTFYGFSDDEE 496
.....550.....560.....570.....580.....590.....600

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. ***:***: . *:* * *****: : *:*****: . .: **
Pavo_muticus      LVLYLETSRNWAKRTHSVWAHVRLCFLLGKLCMKVKFSQARVYFEEAMSTLDRGLGLDLP 639
Pavo_cristatus    LVLYLETSRNWAKRTHSVWAHVRLCFLLGKLCMKVKFSQARVYFEEAMSTLDRGLGLDLP 639
Gallus_gallus     LVLYLETSRNWAKRTHSVWAHVRLCFLLGKLCMKVKFSQARVYFEEAMSTLDRGLGLDLP 639
Chelonia_mydas    LVLYLETSRNWAKRTHLWHAHTRLCFLLGRLCIKRVKFSQARVYFEEAMNMDKGFDDL 594
Mus_musculus      LVAYLETSRKWAKMSHMTWAHARLCFLLGRLSIRKTKLSQARVYFEEAIRVLDGAFEDLS 567
Rattus_norvegicus LVAYLETSRKWAKMTHRTWAHARLCFLLGRLSIRKTKLSQARVYFEEAIRVLDGAFEDLS 589
Homo_sapiens      FVAYLEASRKWAKKSHMTWAHARLCFLLGRLSIRKVKLSQARVYFEEAIHILNGAFEDLS 566
Pan_troglodytes   FVAYLEASRKWAKKSHMTWAHARLCFLLGRLSIRKVKLSQARVYFEEAIHILNGAFEDLS 566
Macaca_mulatta    FVAYLEASRKWAKKSHMTWAHARLCFLLGRLSVRKVKLSQARVYFEEAIHILNGAFEDLC 566
Callithrix_jacchus FVAYLEASRKWAKKSHRTWAHARLCFLLGRVSIKVKLSQARVYFEEAIHILNGAFEDLS 566
Canis_lupus_familiaris LVAYLEASRKWAKRSHRTWAHARLCFLLGRLSVRKVKLSQARVYFEEAVYILDGAFEDLS 567
Bos_taurus        LMAYLEASRKWAKRSHMTWAHARLCFLLGRLSVRKVKLSQARVYFEEAIHILNGAFKDL 638
Equus_caballus    LVAYLEASRKWAKRNHMTWAHARLCFLLGRLSVRKVKLSQARVYFEEAIHILNGAFEDLS 567
Xenopus_tropicalis LVFYLETSRNWAKKSQMTWHSIRCCFLLGRICAKRMKLSQARVYFEEALSATKQGFLLD 650
Rhinatrema_bivittatum VASYLETTRNWAKKSGMAWAHIRCCFLLGRLCARRMKLSQARVYFEEALNALSQGFADLP 556
.....610.....620.....630.....640.....650.....660

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*:::***: ***:***: : * :*:***: : :*:***: :*:***:
Pavo_muticus      LMAALHVNLAISIYLNKQNMKNKFSLLGKMVALLVCLPGRSFSSEHELKVMYVLRREIAIV 699
Pavo_cristatus    LMAALHVNLAISIYLNKQNMKNKFSLLGKMVALLVCLPGRSFSSEHELKVMYVLRREIAIV 699
Gallus_gallus     LLAALHVNLAISIYLNKQNMKNKFSLLGKMVALLVCLPGRSFSSEHELKVMYVLRREIAIV 699
Chelonia_mydas    LLAALHVNLAISIYLNKQNMKNKFSLLGKMVALLVCLPGRSFSSEHELKVMYVLRREIAIV 654
Mus_musculus      LVAALYINLAISIYLRQRLRHKGSTLLEKAGALLACLPDRESSTKNELDVVTVVLRGIVV 627
Rattus_norvegicus LVAALYINLAISIYLRQRLRHKGSTLLEKAGALLACLPDRESSTKNELDVVTVVLRGIVV 649
Homo_sapiens      LVATLYINLAISIYLRQRLRHKGSTLLEKAGALLACLPDRESSTKNELDVVTVVLRGIVV 626
Pan_troglodytes   LVATLYINLAISIYLRQRLRHKGSTLLEKAGALLACLPDRESSTKNELDVVTVVLRGIVV 626
Macaca_mulatta    LVAALYINLAISIYLRQRLRHKGSTLLEKAGALLACLPDRESSTKNELDVVTVVLRGIVV 626
Callithrix_jacchus LVAALYINLAISIYLRQRLRHKGSTLLEKAGALLACLPDRESSTKNELDVVTVVLRGIVV 626
Canis_lupus_familiaris LVAALYINLAISIYLRQRLRHKGSTLLEKAGALLACLPDRESSTKNELDVVTVVLRGIVV 627
Bos_taurus        LVASLYINLAISIYLRQRLRHKGSTLLEKAGALLACLPDRESSTKNELDVVTVVLRGIVV 698
Equus_caballus    LVAALYINLAISIYLRQRLRHKGSTLLEKAGALLACLPDRESSTKNELDVVTVVLRGIVV 627
Xenopus_tropicalis LLTALYANLSAISYLNKQNMKNKQDQLLVEKAASLLVCLPHHNFSEIEFEVLKYILRKSIIV 710
Rhinatrema_bivittatum LLAALYGNLTAVYLNKQNMKNKRAKLERVMEKAATLLACLPDRESSTKNELDVVTVVLRGIVV 616
.....670.....680.....690.....700.....710.....720

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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..  :*** *:  :*: .*: :*:** *:** *          :*: :*
Pavo_muticus      GNAPLEARVCFILVQLFLQLGKNDVLPFVEHLQCLCTTSLSQDTSAVPLDATPILSYLY 759
Pavo_cristatus    GNAPLEARVCFILVQLFLQLGKNDVLPFVEHLQCLCTTSLSQDTSAVPLDATPILSYLY 759
Gallus_gallus     GNAPLEARVCFILVQLFLQLGKNDVLPFIEHLQCLCTTSLSQDTSAVLLDATPILSYLY 759
Chelonia_mydas    GNAPLEARACFLVVKLFMQLGKYDEVLPFAERLQFLSTCVSSQDSSATCLDTPILSYLY 714
Mus_musculus      GSGGLEARS CFLAIRLLL SLGRHEEVLPFAERLQLLSGHPPASEATAT-----MLSSLY 681
Rattus_norvegicus GSGPLEARS CFLAIRLLL NLGRHEEVLPFAERLQLLSGHSPASEVTAT-----MLSSLY 703
Homo_sapiens      GSSPLEARACFLAIRLLL SLGRHEEVLPFAERLQLLSGHPPASEAVAS-----VLSFLY 680
Pan_troglodytes   GSSPLEARACFLAIRLLL SLGRHEEVLPFAERLQLLSGHPPASEAVAS-----VLSFLY 680
Macaca_mulatta    GSSPLEARACFLAIRLLL SLGRHEEVLPFAERLQLLSGHPPASEAVAG-----VLSFLY 680
Callithrix_jacchus GSNPLEARACFLAIRLLL SLGRHEEVLPFAERLQLLSGHPPASEAVTS-----VLSFLY 680
Canis_lupus_familiaris GSCPLEARACFLAIRLLL SLGRHEEVLPFAERLQLLSGHPPDLATAT-----ILSFLY 681
Bos_taurus        GSCPLEARACFLAIRLLL SLGRHDEVLPFAERLQLLSGHPPPTS DAAAT-----ILSFLY 752
Equus_caballus    GSCSLEARACFLAIRLLL SLGRHEEVLPFAERLQLLSGHPPASDAVAT-----ILSFLY 681
Xenopus_tropicalis NNVSFEART CFLIFRLLQQLGRYDEALPFVERLQFLLIAPCPQTVNPT-LGVMPILSYFY 769
Rhinatrema_bivittatum SSAPMEARACLLARLLLQQLGRYEEVLPFTERLQCLSVAFPSLTGSAP-LDVMPILSCLY 675
.....730.....740.....750.....760.....770.....780

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*****::*** : . . . * . :*** * : : : : : *
Pavo_muticus      DKKYLPNIALASARSFVPSGIKEAPTPIWRAGFILQNVSKLLGSQLE-RSSIPALACSYL 818
Pavo_cristatus    DKKYLPNIALASARSFVPSGIKEAPTPIWRAGFILQNVSKLLGSQLE-RSSIPALACSYL 818
Gallus_gallus     DKKYLPNIALASARSFVPSGIKGAATPIWKAGFILQNMKLLGSQLE-RSSIPALACSYL 818
Chelonia_mydas    DKKYLPHTLASTRLFPVPSGIKGAPTPIWRAGLVLQNTSKLLGSQLE-RSSVPALACLYL 773
Mus_musculus      DKKYLPHLAVASVQKRGPQSARGMSLSIWQAYLVLQNTATKILGVPSNWCVEVSALACPTL 741
Rattus_norvegicus DKKYLPHLAVASVQKRGPQSARGMSVAIWQAYLVLQNTATKILGVPFSSWCEVSALACPTL 763
Homo_sapiens      DKKYLPHLAVASVQQHGIQSAQGMSLPIWQVHLVLQNTTKLLGFPSPGWGEVSALACPML 740
Pan_troglodytes   DKKYLPHLAVASVQQHGIQSAQGMSLPIWQVHLVLQNTTKLLGFPSPGWGEVSALACPML 740
Macaca_mulatta    DKKYLPHLAVASIQQHGIQSAQGMSLPIWQVHLVLQNTTKLLGVPSPGWGEVSALACPML 740
Callithrix_jacchus DKKYLPHLAVASVQQHGIQSAQGMSLPIWQVHLVLQNTTKLLGVPSPGWGEVSALACPML 740
Canis_lupus_familiaris DKKYLPHTLASVQQRGTQGDQGMSLPIWQVYLVLQNTTKLLGVPFSSNWGEVSALACPAL 741
Bos_taurus        DKKYLPHLAVASVRLRGTSPVQGMALPIWQVHLVLQNTTKLLGISSPSWGEVSSLSCPAL 812
Equus_caballus    DKKYLPHLAVASVRQCGAQNQAQGMSLPIWQVHLVLQNSTKLLRIPSSSWGEVSTLACPTL 741
Xenopus_tropicalis DKKYLPHVALASSKLCKTVGMKIMPSPMWRAGIVQNTSKITEGSLN-KNYIPAQAAPYL 828
Rhinatrema_bivittatum DKQYLPHLALASARLSGPESVSETPAPSWRVGLVIRNTSRIFGCSLG-GSHIPAQASLCL 734
.....790.....800.....810.....820.....830.....840

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::*: . : * : ** :***::*: . : : * * .. :***::*:
Pavo_muticus      KQALHFSCEsRAVTTQrSLCTILsQMYLQHGVLdGAVCYAAQAVAFsRLIGEEeAFESSL 878
Pavo_cristatus    KQALHFSCEsRAVTTQrSLCTILsQMYLQHGVLdGAVCYAAQAVAFsRLIGEEeAFESSL 878
Gallus_gallus     KQALHFSCEsRALTTQrSLCTVLSrMYLQHGVLdGAVCYAAQAVAFsRLIGEEeAFESSL 878
Chelonia_mydas    RHALAFSHESGAVSTQKTLCAVLSKMYLQHDMLDRALYsSARAVALGRLMSEEEAFESSL 833
Mus_musculus      RQALAACEELSDQDIQRTLCILSKMYLQHQSPDGSVHYLSQAHVLGKLLGEEeAFESSL 801
Rattus_norvegicus RQALAACEEQTDLNIQRTLCILLSKMYLQHRSPDGSVQYLSQAHVLGKLLGEEeAFESSL 823
Homo_sapiens      RQALAACEELADRSTQrALCLILSKVYLEHRSPDGAIHYLSQALVLGQLLGEQESFESSL 800
Pan_troglodytes   RQALAACEELADRSTQrALCLILSKVYLEHRSPDGAIHYLSQALVLGQLLGEQESFESSL 800
Macaca_mulatta    RQALAACEELADRSTQrALCLILSKVYLEHRSPDGAIHYLSQALVLGQLLGEQESFESSL 800
Callithrix_jacchus RQALAACEELADWSTQrALCLILSKVYLEHRSPDGAIHYLNQAVVLGQLLGEQESFESSL 800
Canis_lupus_familiaris RQALAVCEEQSNWSTQrALCLILSKVYLEHRSPDGAIHYLSQALVVGQLLGEQeAFESSL 801
Bos_taurus        RQAVTSCEEQADWSTQrVLCILSKVYLEHRSPDGAIHYLSQALMLGQLLSEQeAFESSL 872
Equus_caballus    RQALAACEEQADRSTQrALCLILSKVYLEHRSPDGAIHYLSQALVLGQLLSEQeAFESAL 801
Xenopus_tropicalis KHALSCSYESGDVKAQRTLCILSKLYLOYKLFSGAISYSKRAVELGRWTSDEeAFESSV 888
Rhinatrema_bivittatum RQALCCSYQSGTVNIQKALCTILSKLHLQHGILEGAIYYADMATeLSARISeEDSFQSSL 794
.....850.....860.....870.....880.....890.....900

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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	.*::*: : : :: * : *. : *.:**:. * . :. . . .	
Pavo_muticus	SLGWMYLLSSQPGPAADIMQQLHSLHGTDSVTQGGAVHNLLAIALKGAGOVQKAAENYL	938
Pavo_cristatus	SLGWMYLLSSQPGPAADIMQQLHSLHGTDSVTQGGAVHNLLAIALKGAGOVQKAAENYL	938
Gallus_gallus	SLGWMYLLSSQSGPAADIMQQLHSLHGTDSVTQGGAVHNLLAIALKGAGOVQKAAENYL	938
Chelonia_mydas	FLGWMYVLASQPAKAKAIMRLHLSLRETDSTQDGAVERNLLAIALKEEGKVKKAENYL	893
Mus_musculus	CLAWAYLLGRQTEKALEILEPLLCSLRETECVTORGVVHNLLGLAFEDEGRTSRAAKSYL	861
Rattus_norvegicus	CLAWAYLLARQTKKALEILEPLLCSLRETECVTORGVVHNLLGLAFODEGRTSRAAKSYL	883
Homo_sapiens	CLAWAYLLASQAKKALDVLEPLLCSLKETESLTORGVIYNLLGLALOGEGRVNRAAKSYL	860
Pan_troglodytes	CLAWAYLLASQAKKALDVLEPLLCSLKETESLTORGVVYNLLGLALOGEGRVNRAAKSYL	860
Macaca_mulatta	CLAWAYLLASQAKKALDVLEPLLCSLKETESLTORGVVYNLLGLALOGEGRVNRAAKSYL	860
Callithrix_jacchus	CLAWAYLLASQAKKALDVLEPLLCFLKETESVTQKGVVHNLLGLALOGEGRVNRAAKSYL	860
Canis_lupus_familiaris	CLAWAYLLASQAKKALDILEPLLYSQKETS---QKGVVQNLGLALOGEGWVNRAAKNYL	858
Bos_taurus	CLAWAYLLSSQPKKALDILEPFLYSLKETESVIHKGVVYNLMGLALOGEGRVNRAAKSYL	932
Equus_caballus	SLAWAYLLASQAKKALDILEPLLYSMQETESVTQKGVVHNLLGLALOGEGRVNRAAKSYF	861
Xenopus_tropicalis	FLGWMYVLDGRHYEQACKILMLLLDSMQETDSTTCGVVHNLLANAKKMDNNVIESSRGYT	948
Rhinatrema_bivittatum	FSGWMHLLGRPERTAEMRSLHSMHETDGVTCGVVHNLLAMALRRERKLQKAAESLL	854
910.....920.....930.....940.....950.....960	

	.* * * *: : ***: : ** * *: . : . *: : : : : * : : : * *	
Pavo_muticus	RALHKAKETGNKRNOAIALANLGLSQRGASQLSELYLLOAAQLYAELOGSEEELESV	998
Pavo_cristatus	RALHKAKETGNKRNOAIALANLGLSQRGASQLSELYLLOAAQLYAELOGSEEELESV	998
Gallus_gallus	RALHKAKETGNKRNOAIALANLGLSQRGASQLSELYLLOAAQLYAELOGSEEELESV	998
Chelonia_mydas	WALNKAKETGNRNOAIALANFGLTLSCGASOLAESYFLOSVRLYIELOGGEDSEIELV	953
Mus_musculus	RALIRAREMGNIRNOAVSMANLGHLLTKSCMOOSARGYLLQAVRLYSELQASKETDMELV	921
Rattus_norvegicus	RALIRAREMGNIRNOAVSMANLGHLLTKSCMOOSARGYLLQAVRLYSELQASKETDMELV	943
Homo_sapiens	RALNRAQEVGDVHNQAVAMANLGHLSLKSWAHPARNYLLQAVRLYCELQASKETDMELV	920
Pan_troglodytes	RALNRAQEVGDVHNQAVAMANLGHLSLKSWAHPARNYLLQAVRLYCELQASKETDMELV	920
Macaca_mulatta	RALNRAQEVGDVRNOAVAMANLGHLSLKSWAHPARNYLLQAVRLYCELQASKETDMELV	920
Callithrix_jacchus	RALNRAQEVGDVRNOAVAMANLGHLSLKSWAHPARNYLLQAVRLYCELQASKETDMELV	920
Canis_lupus_familiaris	RALNRAKETGNVRNOAVTLANLGHLLTKSWAOPAKDYLLQAVRLYSELQSMETDMELV	918
Bos_taurus	RALNRAQEVGDVRNOAVALANLGHLLTKSWPOOPARNYLLQSVQLYSTLQASMETDMELV	992
Equus_caballus	RALNRAKETGNVRNOAVTLANLGHLLTKSRAQWPARDYLLQAVRLYSELQASMETDMELV	921
Xenopus_tropicalis	QALKMATETGNRRNOAIVMANFGRLLALSCQAVVMAERYFLQSVHLYMEVQSGDEAEQELV	1008
Rhinatrema_bivittatum	CSLLKATETGNRHNQAIALANFGSLALSCRASRLAESYFLKSARIYFELGG-AEQEVELV	913
970.....980.....990.....1000.....1010.....1020	

	*: *: : : : : ** **:*.* : : *** *: **:*** *.. : H V L L W L A Q A M V S R R R M E D G K L C Y E L A L V F A L K W H N V K S Q L H V T E A L C H F Y S Q V C P S L Q A C H V L L W L A Q A M V S R R R M E D G K L C Y E L A L V F A L K W H N V K S Q L H V T E A L C H F Y S Q V C P S L Q A C H V M L W L A Q A M V S R Q R M E D G K L C Y E L A L V F A L K W H N V R S Q L H V T E A L C H F Y S Q V C P S L Q A C Q V L L W L A Q A M L S R H R I E D S K L C Y E L A L V F A L K S H N V K S Q L H I T E S L C H F Y S K V S P N P G A C Q V L L W L G Q A S V S G H Q L V H S R L C Y E M A L L F G L R H Q H L S S Q L Q V T K S L C H F Y S S V S P N P D A C Q V L L W L G Q A L V S G H Q L V H S R L C Y E M A L L F G L R R H R L N S Q L Q V T K S L C H F Y S S V S P N P D A C Q V F L W L A Q V L V S G H Q L T H G L L C Y E M A L L F G L R R H R L K S Q L Q A T K S L C H F Y S S V S P N P E A C Q V F L W L A Q V L V S G H Q L T H G L L C Y E M A L L F G L R R H R L K S Q L Q A T K S L C H F Y S S V S P N P E A C Q V F L W L A Q V L V S G H Q L T H G L L C Y E T A L L F G L R R H R L K S Q L Q A T K S L C H F Y S S V S P N P E A C Q V F L W L A E V L V S G R O L T H G L L C Y E V A L L F G L R R H R L K S Q L Q V T K S L C H F Y S S V S P E A C Q V L L W L A Q V L V H G R O L A S G R L C Y E M A L L F G L R H G H L K S Q L Q I T K S L C H F Y S S V S P N P K A C Q V L L W L A Q V Q V Y G R O L A S G R V C Y E M A L L F G L R H Q H L K S Q L Q V T K S L C H F Y S S V S P N P E A C Q V L L W L A Q V L V Y G R O L T S G R L C Y E T A L L F G L S H R H L K S Q L Q V T K S L C H F Y S S V S P N P E A C Q V L H W L G O L F I Q Q R I L E N G I L C Y E L A L M F A L K S N N L K S Q L S I T E E L C N F Y S I V C P V T A T H H V L L R L A Q I V V G R G R L E D G K V W Y E L A L L F S L R S H N V K S Q L Q V T E E L C H F Y S K V S A N S G A C1030.....1040.....1050.....1060.....1070.....1080	
Pavo_muticus	1058	
Pavo_cristatus	1058	
Gallus_gallus	1058	
Chelonia_mydas	1013	
Mus_musculus	981	
Rattus_norvegicus	1003	
Homo_sapiens	980	
Pan_troglodytes	980	
Macaca_mulatta	980	
Callithrix_jacchus	980	
Canis_lupus_familiaris	978	
Bos_taurus	1052	
Equus_caballus	981	
Xenopus_tropicalis	1068	
Rhinatrema_bivittatum	973	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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* * : * : * : * : * : . * . * * * : * : : * : * : * * * : * * : :	
ITYHKHRVSLAQKLODRELEGNVQOTLSOLYQALGTPEALRQSLDCTKQSLRIFIDLEET	1118
ITYHKHRVSLAQKLODRELEGNVQOTLSOLYQALGTPEALRQSLDCTKQSLRIFIDLEET	1118
ITYHEHRVSLAQKLODRELEGNVQOTLSOLYQALGTPEALRQSLDCTKQSLRIFIDLEET	1118
ITYHEHWVSLAQKLODRDIEGKVLQOTLSOLYQTLLEIPKSLRRSLDCTKQSLRIFIDLGET	1073
ITYHEHWLALAAQQLRDREMEGQLLESGLQLYRNLNTRSLSLRRSLACIKESLRIFVDLGER	1041
ITYHEHWLALAAQQLRDREMEGRLLLESGLQLYRNLNTRSLSLRRSLACIKESLRIFVDLGER	1063
ITYHEHWLALAAQQLRDREMEGRLLLESGLQLYRNLNTARSLRRSLTCIKESLRIFIDLGET	1040
ITYHEHWLALAAQQLRDREMEGRLLLESGLQLYRNLNTARSLRRSLTCIKESLRIFIDLGET	1040
ITYHEHWLALAAQQLRDREMEGRLLLESGLQLYRNLNTARSLRRSLTCIKESLRIFIDLGET	1040
ITYHEHWLALAAQQLRDREMEGRLLLESGLQLYRNLNTVRSLSLRRSLTCIKESLRIFIDLGER	1040
ITYHEHWLALAHQQLRDREMEGRLLLESGLQLYRNLNTPRSLRKSLLICIKESLRIFIDLGEK	1038
ITYHEHWLTLAQQLRDREMEGRLLLESGLQLYRNLNTRSLSLRRSLTCIKESLRIFIDLGER	1112
ITYHEHWLTLAQQLRDREMEGRLLLESGLQLYRNLNTARSLRRSLTCIKESLRIFIDLEER	1041
IITYCEHWIYLVQLLKDKKKEGELLSTLSOLYQTLNTAKSFRKALDYTKQSLRISIDLGOR	1128
IITYEHWLSLVORLKDREKEEKLLOILSOLYQALNTAKSLRALTALDYTKQSLRINIDLKGK	1033
.....1090.....1100.....1110.....1120.....1130.....1140	

..*::** *****: *:*****: ::*:::: : : : : ** *** **.* :.		
GKAAEAWLQAGRLYYLMOEDELVEYMFQAAIETALKAENFSLAMDLYEKAGDNFFNGSRH	1178	
GKAAEAWLQAGRLYYLMOEDELVEYMFQAAIETALKAENFSLAMDLYEKAGDNFFNGSRH	1178	
GKAAEAWLQAGRLYYLMOEDELVEYMFQAAIETALKAENFSLAMDLYEKAGDNFFNGSRH	1178	
AKAAQAWLQAGRLYYLLOEDELVEYMFQAAIQTALKPGELSLAMDLYEEAGDIFFFNGNRN	1133	
DKAAEAWLQAGRLHYLMOEDELVELYLQEAIQTALRSEEPSLALKLYEEAGDVFFNGTRH	1101	
DKAAEAWLGAGRLHYLMOEDELVEVYLQEAIQTALRSEELSLALKLYEEAGDVFFNGTRH	1123	
DKAAEAWLGAGRLHYLMOEDELVELCLQAAIQTALKSEEP L LALKLYEEAGDVFFNGTRH	1100	
DKAAEAWLGAGRLHYLMOEDELVELCLQAAIQTALKSEEP L LALKLYEEAGDVFFNGTRH	1100	
DKAAEAWLGAGRLHYLMOEDELVELYLQAAIQTALKSEEP L LALKLYEEAGDVFFNGTRH	1100	
DKAAEAWLGAGRLHYLMOEDELVELYLQAAIQTALKSEEPSLALKLYEEAGDVFFNGTRQ	1100	
DKAAEAWLQAGRLYYLMOEDELVELYLQAAIQKALKSEEPSLALKLYEEAGDVFFNGTRH	1098	
DKAAEAWLGAGRLHYLMOEDELVELYLQAAIQKALKSEEPSLALKLYEEAGDVFFNGTRH	1172	
DKAAEAWLGAGRLHYLMOEDELVELYLQAAIQKALKSEEPSLALKLYEEAGDVFFNGTRH	1101	
DQAASWLQAGRLYYLLGEQELVEIYLHAAIQASQNAQDITTTORLYEEAGDVFFHFVQR	1188	
GRVAETWLQAGRLYYLLOEDELVEYMFQAAVQTALNLQDFALALHQYEEAGDVFFDGGRK	1093	
.....1150.....1160.....1170.....1180.....1190.....1200		

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*.:*.:*.:**:*:*: .:***:***:*.: *.:*:*:*:*.:*.***
RDQAVEFYRGGAVPLARKLQAIKTELRLFNKLTLEQIGLQGYEKALEFATLAARLSIRV- 1237
RDQAVEFYRGGAVPLARKLQAIKTELRLFNKLTLEQIGLQGYEKALEFATLAARLSIRV- 1237
RDQAVEFYRGGAVPLARKLQAIQTELRLFNKLTLEQMGLOGYEKALEFATLAARLSIRV- 1237
RHRAVEYYRGGAVPLARKLKARTLRLFNKLAELHIGLQGYEKALEFATLAVRLSSA- 1192
RHRAVEYYRAGAVPLARRMKALRTELRIFNKLTELQISLEGYEKALEFATLAARLSVLT- 1160
RHRAVEYYRAGAVPLARRMKALRTELRIFNKLTELQISLRGYEKALEFATLAARLSVLT- 1182
RHHAVEYYRAGAVPLARRLKAVRTELRIFNKLTELQISLEGYEKALEFATLAARLSVT- 1159
RHHAVEYYRAGAVPLARRLKVVRTELRIFNKLTELQISLEGYEKALEFATLAARLSVT- 1159
RHHAVEYYRAGAVPLARRLKAVRTELRIFNKLTELQISLDGYEKALEFATLAARLSVT- 1159
RHHAVEYYRAGAIPLARRLKAVRTELRIFNKLTELQISLEGYEKALEFATLAARLSVT- 1159
RHRAVEYYRAGAVPLARRMKAMRTELRVFNKLTELQISLEGYEKALEFATLAARLSVT- 1158
RHRAVEYYRTGAVPLARRMKAVRTELRIFNKLTELQISLEGYEKALEFATLAARLSVA- 1231
RHRAVEYYRAGAVPLARRMKAVRSELRIFNKLTELQISLEGYEKALEFATLAARLSVT- 1160
RERAMYFYKEGALPLAKKVQDLEAQLRLYHKLTLQLLVSGQYKKSVEYATLAVRLSASI- 1247
RERALAFYREGAIPLARRLGELOMLRLFOKLTELQLSLDYEQALEFASAAARLSLTV- 1152
.....1210.....1220.....1230.....1240.....1250.....1260

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      : :***** .*: .:*** ***:** * : * :*: :
Pavo_muticus      ----GDQLQELVAFHRLATVYYYFLQMYEMAEDCYLKTALHPPMLQCSGEALYYCKVYCH 1293
Pavo_cristatus    ----GDQLQELVAFHRLATVYYYFLQMYEMAEDCYLKTALHPPMLQCSGEALYYCKVYCH 1293
Gallus_gallus     ----GDQLQELVAFHRLATVYYYFLQMYEMAEDCYLKTALRPPMLQCSGEALYYCKVYCH 1293
Chelonia_mydas    ----GDQLQELVAFHRLATVYYYFLQIYEMAEDCYLKTALHSPALQCAEEAMYCKVYCR 1248
Mus_musculus      ----GDQKQELVAFHRLATVYFSLNMYEMAEDCYLKTLSLCPWLOSPKEALYYAKVYCR 1216
Rattus_norvegicus ----GDQKQELVAFHRLATVYFSLNMYEMAEDCYLKTLSLCPWLOSPKEALYYAKVYCR 1238
Homo_sapiens      ----GDQRQELVAFHRLATVYYSLHMYEMAEDCYLKTLSLCPWLOSPKEALYYAKVYYR 1215
Pan_troglodytes   ----GDRRQELVAFHRLATVYYSLHMYEMAEDCYLKTLSLCPWLOSPKEALYYAKVYYR 1215
Macaca_mulatta    ----GDRRQELVAFHRLATVYYSLHMYEMAEDCYLKTLSLCPWLOSPKEALYYAKVYYR 1215
Callithrix_jacchus ----GDRRQELVAFHRLATVYYSLHMYEMAEDCYLKTLSLCPWLOSPKEALYYAKVYYR 1215
Canis_lupus_familiaris FQFLGDQKQELVAFHRLATVYYSLRMYEMAEDCYLKTLSLCPWLOSPKEALYYAKVYYR 1218
Bos_taurus        ----GDQRQELVAFHRLATVYYSLHMYEMAEDCYLKTLSLCPCLQSPKEALYYAKVYYR 1287
Equus_caballus    ----GDQRQELVAFHRLATVYYSLHMYEMAEDCYLKTLSLCPWLOSPKEALYYAKVYYR 1216
Xenopus_tropicalis ----ENPLDELVAFHRLAGVYYSQRIYEIAEYCYLKALSLCSPMQHDTETGYYLKIYWR 1303
Rhinatrema_bivittatum ----GDRLELVAFHRLATAYYFLRMYEMAFCYCYLKALALCPPPPQCTEWTGYCLRVYYR 1208
      .....1270.....1280.....1290.....1300.....1310.....1320

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** :*: : : . :
Pavo_muticus      LGNLTLLHKLKDEQDAAYFLLALAAATELGDVVELOGLIGAKLAN--IPRAPRQL-----M 1346
Pavo_cristatus    LGNLTLLHKLKDEQDAAYFLLALAAATELGDVVELOGLIGAKLAN--IPRAPRQL-----M 1346
Gallus_gallus     LGNLTLLHKLKDEQDAAYFLLALAAATELGDAELSLIGAKLAN--IPRAPRRP-----V 1346
Chelonia_mydas    LGNLTLLHKLKDEQDAAYFLLALAAATELGDKLOGAIHAKLTL--IYNAPLW----- 1299
Mus_musculus      LGRLTFYQLKDAHDATEYFLLALAAAVLLGDEELQNTIKNRLDS--ICQSPLWHSN----- 1270
Rattus_norvegicus LGRLTFYQLKRGTTGGEVKAHLTTMPEQVAQGMHGLVASAKESRYRKGTWNNCK--QK 1296
Homo_sapiens      LGRLTFCQLKDAHDATEYFLLALAAAVLLGDEELODTIRSRLDN--ICQSPLWH-----S 1268
Pan_troglodytes   LGRLTFCQLKDAHDATEYFLLALAAAVLLGDEELODTIRSRLDN--ICQSPLWH-----S 1268
Macaca_mulatta    LGRLTFCQLKDAHDATEYFLLALAAAVLLGDEELODTIRSRLDN--ICQSPLWH-----S 1268
Callithrix_jacchus LGRLTFCQLKDAHDATEYFLLALAAAVLLGDEELODTIRSRLDN--ICQSPMWH-----S 1268
Canis_lupus_familiaris LGRLTFYQLKDAHDATEYFWLALAAAVLLDDKELODTIRSRLDN--ICRSSLWH-----S 1271
Bos_taurus        LGRLTFYQLKDAHDATEYFWLALAAAVLLGDEELODIIRTRLDN--ICQSPLWH-----S 1340
Equus_caballus    LGRLTFYQLKLLAGSNPHLKGMPMTPLITSGWPWQORS--CWVMR--SCRIPLEAGWTTTSAR 1274
Xenopus_tropicalis LGNIALLLKRKDAGDAATYFHLALAAAIGIENEFFQVLVLSNKLMD--IYGFLLD-----E 1356
Rhinatrema_bivittatum LGSLTLLKLQDAQDAASYFLLALAAATELGDKLQRLVLRRLAH--IYNEILHD-----S 1261
      .....1330.....1340.....1350.....1360.....1370.....1380

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Pavo_muticus      DMPGCAT---YRARWLSGGGHVV----- 1366
Pavo_cristatus    DMPGCAT---YRARWLSGGGHVV----- 1366
Gallus_gallus     DMPGCAT---YRARWLSGGGHVV----- 1366
Chelonia_mydas    ----- 1299
Mus_musculus      -PFGCSS---ERARWLSGGSLAL----- 1289
Rattus_norvegicus RRFTDSHNWKLRCRFSFGYFWILFLLQLHEYLLSPP 1332
Homo_sapiens      RPSGCSS---ERARWLSGGGLAL----- 1288
Pan_troglodytes   RPSGCSS---ERARWLSGGGLAL----- 1288
Macaca_mulatta    SPSGCSS---ERARWLSGGGLAL----- 1288
Callithrix_jacchus SPSGRSS---ERARWLSGGGLAL----- 1288
Canis_lupus_familiaris SPFGRSS---ERARWLSGGGLAL----- 1291
Bos_taurus        CPSGRSS---ERARWLSGGGLAL----- 1360
Equus_caballus    APCGTAA---PLGAPQSGHGG----- 1292
Xenopus_tropicalis EQADIFRKLIIVQLSHISHC----- 1375
Rhinatrema_bivittatum EQAVRFV----- 1268
      .....1390.....1400.....1410.....

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