

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/GFM2aps Tue Feb 1 12:13:15 2022

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Pavo_muticus      ---MWKIMRKFSVNALKLSSLCQHASFRKPKVIVLS-VTQONSSERNYSSPP-----GDV 52
Pavo_cristatus    ---MWKIMRKFSVNALKLSSLCQHASFRKPKVIVLS-VTQONSSERNYSSPP-----GDV 52
Gallus_gallus     ---MWRVMRKFSVNALKLSSLCQHVCFRKPEVMVLS-VTQONSSERNYSSPP-----GDV 52
Anas_platyrhynchos ---MLRPLRKLPMASALKLSTLCSEHACFRKTKIKILS-LTWONTGORSYSCSP-----EDV 52
Chelonia_mydas    ---MLRVPRKFSNLVNLKASSLCNECMYCKWARTMVVKRLKSQECHQRYNSFFPP-----GDV 53
Rattus_norvegicus ---MFTINWRIFAVNRQKTFVSFH-IHTTCYCKIKANLKRSKTOVPLTRSYSSPPGIVGNEV 56
Mus_musculus      ---MFTKWRIFAVNHQRTFSVH-LNTMCYCKIKANLKRKTQLPLTRNYSSAPGIAGSDV 56
Homo_sapiens      ---MLTNLRIFAMSHQTIPTSVY-INNICCYKIRASLKRKPVPPLGRNCSSLPGLIGNDI 56
Pan_troglodytes   ---MWTNLRIFAMSHQTIPTSVY-INNICCYKIRASLKRKPVPPLGRNCSSLPGLIGNDI 56
Macaca_mulatta    ---MLSNLRICAVSHQTISSVH-INNICCYKIRASLKRKPVPPLGRNYSSLPGLIGNDI 56
Callithrix_jacchus ---MLTNLRIFAMNHQTIPTSAH-INNLCCYKIRASFKRLKPYVLLGRNYSSLPGLIGNDI 56
Canis_lupus_familiaris ---MLSNLRKFGVNNKKIPILN-INNMPCSKIRAILKRLKPYVPPGRNYSSLPGLVGNDI 56
Equus_caballus    ---MLSGSRIFAVNHKKISSLN-INNVCCSKIRASLKRKPVPPLGRNYSSLPGLIGNDI 56
Bos_taurus        ---MSNLRIFAVNQKKISSLHYFNMCSSKIRASLKRKLHVLGRNYSSLPGLIGNDI 56
Heterocephalus_glaber ---MLTNLRIFAVNHQKMYSLY-INNMCCCKIRTSLKSSK---PDGRNYSSLPGLIGNDI 53
Rhinatrema_bivittatum MTVMMLAVLKKFAANAHKASCLYNQYKRCWRIRSVFWGRRKTDLDNGRYSSPP-----GNI 56
Xenopus_tropicalis ---MLKVLNLLPGKLTISCLHTECLOCCRRRAFQNRKIKYIHHHRQFNLSAG-----DV 53
1.....10.....20.....30.....40.....50.....60

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Pavo_muticus      KSLRSIINPHISRIRNIGIMAHIDAGKTTTTTERMLYSGYIRTLGDVDDGDTVTDFMVOE 112
Pavo_cristatus    KSLRSIINPHISRIRNIGIMAHIDAGKTTTTTERMLYSGYIRTLGDVDDGDTVTDFMVOE 112
Gallus_gallus     KSLRSVINPHISRIRNIGIMAHIDAGKTTTTTERMLYSGYIRTLGDVDDGDTVTDFMVOE 112
Anas_platyrhynchos KSLRSVINPHISRIRNIGIMAHIDAGKTTTTTERMLYSGYIRTLGDVDDGDTVTDFMVOE 112
Chelonia_mydas    KSLRSIITPPIISKIRNIGIMAHIDAGKTTTTTERMLYSGYTRALGDVDDGDTVTDFMVOE 113
Rattus_norvegicus KSLHSIINPPVAKIRNIGIMAHIDAGKTTTTTERILYSGYTRSLGDVDDGDTVTDFMAQE 116
Mus_musculus      KSLHSVINPPVAKIRNIGIMAHIDAGKTTTTTERILYSGYTRSLGDVDDGDTVTDFMAQE 116
Homo_sapiens      KSLHSIINPPIAKIRNIGIMAHIDAGKTTTTTERILYSGYTRSLGDVDDGDTVTDFMAQE 116
Pan_troglodytes   KSLHSIINPPIAKIRNIGIMAHIDAGKTTTTTERILYSGYTRSLGDVDDGDTVTDFMAQE 116
Macaca_mulatta    KSLHSIINPPIAKIRNIGIMAHIDAGKTTTTTERILYSGYTRSLGDVDDGDTVTDFMAQE 116
Callithrix_jacchus KSLHSVINPPIAKIRNIGIMAHIDAGKTTTTTERILYSGYTRSLGDVDDGDTVTDFMAQE 116
Canis_lupus_familiaris KSLHSIISPPPIAKIRNIGIMAHIDAGKTTTTTERILYSGYTRSLGDVDDGDTVTDFMAQE 116
Equus_caballus    KSLRSVLSPPAAKIRNIGIMAHIDAGKTTTTTERILYSGYTRSLGDVDDGDTVTDFMAQE 116
Bos_taurus        KSLHSIINPPIAKIRNIGIMAHIDAGKTTTTTERILYSGYTRSLGDVDDGDTVTDFMAQE 116
Heterocephalus_glaber KSLHSIINPPIAKTRNIGIMAHIDAGKTTTTTERILYSGYTRSLGDVDDGDTVTDFMAQE 113
Rhinatrema_bivittatum KSLRSVISPPPIISKIRNIGIMAHIDAGKTTTTTERMLYSGYTRVLGDVDDGDTVTDFMAQE 116
Xenopus_tropicalis KSLRTIINPPVSKIRNIGIMAHIDAGKTTTTTERMLYSGYTRALGDVDDGDTVTDFMAQE 113
.....70.....80.....90.....100.....110.....120

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Pavo_muticus      RERGITIQSAAVTFDWKDYRINLIDTPGHVDFTFEVERCLRVLGDGAVTFVDASAG----- 167
Pavo_cristatus    RERGITIQSAAVTFDWKDYRINLIDTPGHVDFTFEVERCLRVLGDGAVAVFDASAG----- 167
Gallus_gallus     RERGITIQSAAVTFDWKDYRINLIDTPGHVDFTFEVERCLRVLGDGAVAVFDASAG----- 167
Anas_platyrhynchos RERGITIQSAAVTFDWKDYRINLIDTPGHVDFTFEVERCLRVLGDGAVAVFDASAG----- 167
Chelonia_mydas    RERGITIQSAAVTFDWKGYRNLIDTPGHVDFTFEVERSLRVLGDGAVAVFDASAG----- 168
Rattus_norvegicus RERGITIQSAAVTLDWKGYRVNLIDTPGHVDFTFEVERCLRVLGDGAVAVFDASAG----- 171
Mus_musculus      RERGITIQSAAVTLDWKGYRVNLIDTPGHVDFTFEVERCLRVLGDGAVAVFDASAG----- 171
Homo_sapiens      RERGITIQSAAVTLDWKGYRVNLIDTPGHVDFTFEVERCLRVLGDGAVAVFDASAG----- 171
Pan_troglodytes   RERGITIQSAAVTFDWKGYRVNLIDTPGHVDFTFEVERCLRVLGDGAVAVFDASAG----- 171
Macaca_mulatta    RERGITIQSAAVTFDWKGYRVNLIDTPGHVDFTFEVERCLRVLGDGAVAVFDASAG----- 171
Callithrix_jacchus RERGITIQSAAVTFDWKGYRVNLIDTPGHVDFTFEVERCLRVLGDGAVAVFDASAG----- 171
Canis_lupus_familiaris RERGITIQSAAVTFDWKGYRVNLIDTPGHVDFTFEVERCLRVLGDGAVAVFDASAG----- 171
Equus_caballus    RERGITIQSAAVTFDWKGYRLNLIDTPGHVDFTFEVERCLRVLGDGAVAVFDASAG----- 171
Bos_taurus        RERGITIQSAAVTFDWKGYRINLIDTPGHVDFTFEVERCLRVLGDGAVAVFDASAGVEVKN 176
Heterocephalus_glaber RERGITIQSAAVTFDWKGYRVNLIDTPGHVDFTFEVERCLRVLGDGAVAVFDASAG----- 168
Rhinatrema_bivittatum RERGITIQSAAVTFDWNHHRINLIDTPGHVDFTFEVERSLRVLGDGAVAVFDASAG----- 171
Xenopus_tropicalis RERGITIQSAAVTFDWNHHRINLIDTPGHVDFTFEVERSLRVLGDGAVAVFDASAG----- 168
.....130.....140.....150.....160.....170.....180

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      *::*****:: :***::*****  .**.*::*:***: .*:****:*
Pavo_muticus      ---VEAQTTLTVWRQADKHQIPRICFLNKMDKSRASFTYAVESIKQKLKTKPLLLQLPIGE 224
Pavo_cristatus    ---VEAQTTLTVWRQADKHQIPRICFLNKMDKSRASFTYAVESIKQKLKTKPLLLQLPIGE 224
Gallus_gallus     ---VEAQTTLTVWRQADKHQIPRICFLNKMDKNRASFTYAVESIKQKLKTKPLLLQLPIGE 224
Anas_platyrhynchos ---VEAQTTLTVWRQADKHQVPRICFLNKMDKNRASFTYAVESIKQKLKTKPLLLQLPIGE 224
Chelonia_mydas    ---VEAQTTLTVWRQADKHHIPRICFLNKMDKNGASFTYAVDSIKQKLKTKPLLLQLPIGE 225
Rattus_norvegicus ---VEAQTTLTVWRQADKHKIPRICFLNKMDKTGASFNYAVESIREKLKAKPLILQLPIGE 228
Mus_musculus      ---VEAQTTLTVWRQADKHKIPRICFLNKMDKTGASFNYAVESIREKLKAKPLILQLPIGE 228
Homo_sapiens      ---VEAQTTLTVWRQADKHKIPRICFLNKMDKTGASFKYAVESIREKLKAKPLLLQLPIGE 228
Pan_troglodytes   ---VEAQTTLTVWRQADKHNIPRICFLNKMDKTGASFKYAVESIREKLKAKPLLLQLPIGE 228
Macaca_mulatta    ---VEAQTTLTVWRQADKHNIPRICFLNKMDKTGASFKYAVESIREKLKAKPLLLQLPIGE 228
Callithrix_jacchus ---VEAQTTLTVWRQADKHKIPRICFLNKMDKTGASFKYAVESIREKLKAKPLLLQLPIGE 228
Canis_lupus_familiaris ---VEAQTTLTVWRQADKHKVPRICFLNKMDKTGASFKYAVESIREKLKAKPLLLQLPIGE 228
Equus_caballus    ---VEAQTTLTVWRQADKHKIPRICFLNKMDKTGASFNYAVESIREKLNAKPLVLQLPIGE 228
Bos_taurus        IAKVKAQTTLTVWRQADKHKVPRICFLNKMDKIGASFNYAVESIREKLKAKPLLLQLPIGE 236
Heterocephalus_glaber ---VEAQTTLTVWRQADKYKIPRICFLNKMDKTGVSFKYAVESIREKLKAKPLLLQLPIGE 225
Rhinatrema_bivittatum ---VEAQTTLTVWRQADKHQIPRICFLNKMDKTGASFYSIESIRQKLKITPLILQLPIGE 228
Xenopus_tropicalis ---VEAQTTLTVWRQADRHTIPRLCFINKMDKTGASFNYAVESIKEKLKVKPLVLQLPVGE 225
.....190.....200.....210.....220.....230.....240

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      .*:***:* * :*: : :*: ** : * : :. . :*. *****:
Pavo_muticus      AKTFRGLVDVVTKEQMIWKPTSDLDDGKFFFEQKPLLESDDPSLFQEVQDARNTLIEQVAD 284
Pavo_cristatus    AKTFRGLVDVVTKEQMIWKPTSDLDDGKFFFEQKPLLESDDPSLFQEVQDARNTLIEQVAD 284
Gallus_gallus     AKTFRGLVDVVTKEQMIWKPTSDLDDGKFFFEQKPLLESDDPSLFQEVQDARNTLIEQVAD 284
Anas_platyrhynchos AKTFRGLVDVVTKEQIIWKPTSDLDDGKHFEQKPLLETDDPNLFQEVQDARNTLIEQVAD 284
Chelonia_mydas    AKTFKGLVDVVTKEQIIWNPASLDDGKVFEQKPLTETEDPELLKDVDRDARNALIEQVAD 285
Rattus_norvegicus ARTFQGVVDVNVNREKLIWNSDS--DDGKDFERKPLSEASDPTLLKETVEARNSLIEQVAD 286
Mus_musculus      ARTFQGVVDVNVNKEKLLWNSNS--DDGKDFERMPLEASDRELLKETTEARNSLIEQVAD 286
Homo_sapiens      AKTFKGVVDVVMKEKLLWNCNS--NDGKDFERKPLLEMNDPELLKETTEARNALIEQVAD 286
Pan_troglodytes   AKTFKGVVDVVTKEKLLWNCNS--NDGKDFERKPLLEMNDPELLKETTEARNALIEQVAD 286
Macaca_mulatta    AKTFKGVVDVVTKEKLLWNSNS--NDGKDFERKPLLEMSDPELLKETTEARNALIEQVAD 286
Callithrix_jacchus AKTFKGLVDVVTKEKLLWNSNS--NDGKDFERKPLLEVSDEPELLKETTEARNALIEQVAD 286
Canis_lupus_familiaris GKAFEGVVDVVSKEKLVNWRKS--EDGKDFERKPLLEMSDAKLLKETTEARNALIEQVAD 286
Equus_caballus    AKTFKGVVDVVSKEKLLWNANS--DDGKDFERKPLLEMSDPELLKKETTEARNALIEQVAD 286
Bos_taurus        GKAFKGVVDVVRTEKLLWNPNPS--DDGKDFERKPLLEMSDPKLLKETTEARNALIEQVAD 294
Heterocephalus_glaber AKTFKGVVDVNVNKEKLLWNSNS--DNGKDFERKPLLEISDPELLKETVEARSALIEQVAD 283
Rhinatrema_bivittatum ENSFKGLVDLVITNEKLIWRSTSYLDDGKLFQIPLTMDNLELFEADAKDARNLLIEQVAE 288
Xenopus_tropicalis GKSFKGLVDLVSMETILWNPRAQEDDGRHFEEKAVKEISDVEILDIAITDGRNALIEQVAD 285
.....250.....260.....270.....280.....290.....300

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      ***** *: * :*:.* * : * :*** *::*:***: *****:*****:*
Pavo_muticus      LDDEFAELILGEYSENFIDLIPSNKLOSAIRRVTLAQKAVPVLGCSALKKNKGVPPLLDAVT 344
Pavo_cristatus    LDDEFAELILGEYSENFIDLIPSNKLOSAIRRVTLAQKAVPVLGCSALKKNKGVPPLLDAVT 344
Gallus_gallus     LDDEFAELILGEYSENFIDLIPSDKLOSAIRRVTLAQKAVPVLGCSALKKNKGVPPLLDAIT 344
Anas_platyrhynchos LDDEFAELVLGEYSENFVDVIPADKLOSAIRRVTLAQKAVPVLGCSALKKNKGVPPLLDAIT 344
Chelonia_mydas    LDDEFAELVLGDFSENFDDLPAKLOSAVRRVTTLAQKAVPVFCGSALKKNKGVPPLLDAIT 345
Rattus_norvegicus LDDEFADLVLGEFSENFIDLVPAEKLOAAIHRVTTLAQAAVPVLGCSALKKNKGVPPLLDAVT 346
Mus_musculus      LDDEFADLVLGEFSENFIDLVPAEKLOAAVHRVTTLAQAAVPVLGCSALKKNKGVPPLLDAVT 346
Homo_sapiens      LDDEFADLVLEEFSENFDDLPAEKLOTAIHRVTTLAQTAVPVLGCSALKKNKGIOPLLDAVT 346
Pan_troglodytes   LDDEFADLVLEEFSENFDDLPAEKLOTAIHRVTTLAQTAVPVLGCSALKKNKGIOPLLDAVT 346
Macaca_mulatta    LDDEFADLVLEEFSENFDDLPAEKLOTAIHRVTTLAQTAVPVLGCSALKKNKGIOPLLDAVT 346
Callithrix_jacchus LDDEFADLVLGEFSENFDDLPAEKLONAIRRVTLAQTAVPVLGCSALKKNKGVPPLLDAVT 346
Canis_lupus_familiaris LDDEFADLVLGEFSENFDDLPAEKLOTAIHRVTTLAQTAVPVLGCSALKKNKGVPPLLDAIT 346
Equus_caballus    LDDEFADLVLGEFSENFDDLPAEKLOTAIHRVTTLAQTAVPVLGCSALRNKGVPPLLDAIT 346
Bos_taurus        LDDEFADLVLGEFSENFDDLPAEKLOTAIHRVTTLAQTAVPVLGCSALKKNKGVPPLLDAIT 354
Heterocephalus_glaber LDDEFADLVLGEFSENFDDLPAEKLOIAIRRVTLAQAAVPVLGCSALKKNKGVPPLLDAIT 343
Rhinatrema_bivittatum LDDEFAELVLGDFSENFDSLPAEKLOAAIRRLTLRSAPVVLGCSALKKNKGVPPLLDAIT 348
Xenopus_tropicalis LDDEFAELILGEYSDHFDLVPLEKLQMAIRRVTLAQAVPILGCSALKKNKGVPPLLDAIT 345
.....310.....320.....330.....340.....350.....360

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Pavo_muticus	MYLPAPHERSYEFLRWYKDDDL CALAFKVLHDKCRGPLVFIRIYSGSLKPOS AVYNVNKS	404
Pavo_cristatus	MYLPAPHERSYEFLRWYKDDDL CALAFKVLHDKCRGPLVFIRIYSGSLKPOS AVYNVNKS	404
Gallus_gallus	MYLPAPHERSYEFLWYKDDDL CALAFKVLHDKSRGPLVFIRIYSGSLKPOS AVYNINKS	404
Anas platyrhynchos	MYLPAPNERSYEFLWYKDD -LCALAFKVLHDKCRGPLVFIRIYSGSLKPOS SVYNINKS	403
Chelonia_mydas	MYLPAPNERSYDFLPWKDD -LCALAFKVLHDKCRGPLVFIRIYSGTMMKPOS AVYNINKN	404
Rattus_norvegicus	TYLPSPEEREHGFLOWYKGD -LCALAFKVLHDKCRGPLVFLRIYSGTLTPQSAVHNVRN	405
Mus_musculus	TYLPSPEEREDRFLOWYEGD -LCALAFKVLHDKCRGPLVFLRIYSGTLTPQLAVHNINRN	405
Homo_sapiens	MYLPSPEERNYEFLWYKDD -LCALAFKVLHDKCRGPLVFMRIYSGTIKPOLAIHNINGN	405
Pan_troglodytes	MYLPSPEECNYEFLWYKDD -LCALAFKVLHDKCRGPLVFMRIYSGTIKPOLAIHNINGN	405
Macaca_mulatta	VYLPSPERNYEFLWYKDD -LCALAFKVLHDKCRGPLVFMRIYSGTIKPOLAIHNVNGN	405
Callithrix_jacchus	MYLPSPEERNYEFLWYKGD -LCALAFKVLHHKCRGPLVFMRIYSGTIKPOS AIHNINGN	405
Canis_lupus_familiaris	MYLPSPEERNYEFLWYKGD -LCALSFKVLHDKCRGPLVFMRIYSGTIKPOS AIYNINGN	405
Equus_caballus	MYLPSPEERNYEFLWYKGD -LCALAFKVLHDKCRGPLVFMRIYSGMLKPOLAVHNINGN	405
Bos_taurus	MYLPSPEERNYEFLWYKGD -LCALAFKVLHDKCRGPLVFMRIYSGMLKPOLAIHNINGN	413
Heterocephalus_glaber	MYLPSPEERNYDFLOWYKGD -LCALAFKVLHDKCRGPLVFIRIYSGMVKPOS AIYNINGN	402
Rhinatrema_bivittatum	MYLPSPEECCHDFLOWYRDD -LCALAFKVIHDKCRGPLVFIRIYSGTLKPOS AVHNINKN	407
Xenopus_tropicalis	LYLPSPEDFSDHFKWYQGD -LCALAFKVMHDKCRGPMVFRIYSGNMKPOS ALYNVNQN	404
370.....380.....390.....400.....410.....420	

	* ** :***** :* * : ***** :***** :* * : * ** : * :	
Pavo_muticus	CMERMSRLLLLPFADQQIEIPSLMPGNIALAVGLKQSATGDTLVSSKASAVAAAQOAGRSA	464
Pavo_cristatus	CMERMSRLLLLPFADQQIEIPSLMPGNIALAVGLKQSATGDTLVSSKASAVAAAQOAGRSA	464
Gallus_gallus	CTERMSRLLLLPFADQQIEIPSLMPGNIALAVGLKQSATGDTLVSSKASAVAAAQOAGRSA	464
Anas_platyrhynchos	CTERISRLLLLPFADQQIEIPSLMPGNIALTVGLKQSATGDTIVSSKASAVAAAQAGRDT	463
Chelonia_mydas	CTERMSRLLLLPFADQQIEIPSLMGNIALTVGLKQSATGDTIVSSKASAVAAAARRAGREV	464
Rattus_norvegicus	CTERMSRLLLLPFADQHVEIPSLTAGNIALTVGLKQTATGDTIVSSKSSALAAARRAGK-G	464
Mus_musculus	CTERMSRLLLLPFADQHVEIPSLTAGNIALTVGLKQTATGDTIVSSKSSALAAARRAGR-G	464
Homo_sapiens	CTERISRLLLLPFADQHVEIPSLTAGNIALTVGLKHTATGDTIVSSKSSALAAARRAEREG	465
Pan_troglodytes	CTERISRLLLLPFADQHVEIPSLTAGNIALTVGLKHTATGDTIVSSKSSALAAARRAKREG	465
Macaca_mulatta	CTERISRLLLLPFADQHVEIPSLTAGNIALTVGLKHTATGDTIVSSKSSALAAARRAEREG	465
Callithrix_jacchus	CTERISRLLLLPFADQHIEIPSLTAGNIALTVGLKHTATGDTIVSSKSSALAAARRAEREE	465
Canis_lupus_familiaris	CTERISRLLLLPFADQHIEIPSLTAGNIALTVGLKHTATGDTIASSKSSALAAARRAEREG	465
Equus_caballus	CTERISRLLLLPFADQHIEIPSLTAGNIALTVGLKHTATGDTIVSSKSSALAAARRAEREG	465
Bos_taurus	CTERVSRLLLLPFADQHIEIPLLTAGNIALTVGLKHTATGDTIVSSRSSALAAASRRAKREG	473
Heterocephalus_glaber	CTERVSRLLLLPFADQHIEIPSLTAGNIALTVGLKQTATGDTIVSSKSNALAAARRAEREG	462
Rhinatrema_bivittatum	CTERMSRLLLLPFADQNIIEIPLLTEGNIALSVGLKQTATGDTIVSSKASAVAAAARRAERDD	467
Xenopus_tropicalis	CTERMSRLLLLPFADQHVEIPSLSSGNIALTVGLKQAATGDTIVSSKAAAAAARRAGREG	464
430.....440.....450.....460.....470.....480	

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Pavo_muticus	GGEQRNSGDRERLLLAGVEVPEPVFFCTIEPPSMAKQDLDNALSCLOREDPSLKVKMDP	524							
Pavo_cristatus	GGEQRNSGDRERLLLAGVEVPEPVFFCTIEPPSMAKQDLDNALSCLOREDPSLKVKMDP	524							
Gallus_gallus	GGEQRNTGDIESLLLAGVEVPEPVFFCTIEPPSMAKQDLDNALSCLOREDPSLKVKIDP	524							
Anas_platyrhynchos	GRRRSGSDVESLLLAGVEIPEPVFFCTIEPPSMAKQDLDNALSCLOREDPSLKVKLDP	523							
Chelonia_mydas	GRKPGGNSEVESLLLAGVEIPEPVFFCTIEPPSMKQPELDNALNCLOREDPSLKVKIDP	524							
Rattus_norvegicus	ERKPGRISEAESVLLAGVEIPEPVFFCTIEPPSAAKOPDLDALEHLOREDPSLKVKLDP	524							
Mus_musculus	EREHGKKREAESLLLAGVEVPEPVFFCTIEPPSVAKOPDLDALEHLOREDPSLKVKLDP	524							
Homo_sapiens	EKKHRQNNEAERLLLAGVEIPEPVFFCTIEPPSLSKOPDLEHALKCLOREDPSLKVRLLDP	525							
Pan_troglodytes	EKKHRQNNEAERLLLAGVEIPEPVFFCTIEPPSLSKOPDLEHALKCLOREDPSLKVRLLDP	525							
Macaca_mulatta	EKKHRQNNEAERVLLAGVEIPEPVFFCTIEPPSVSKOPDLEHALKCLOREDPSLKVRLLDP	525							
Callithrix_jacchus	EKHHRKNNEAERLLLAGVEIPEPVFFCTIEPPSVAKOPDLEHALKCLOREDPSLKVRLLDP	525							
Canis_lupus_familiaris	EKKHRQNSEAERLLLAGVEIPEPVFFCTIEPPSVAKOPDLDYALKCLOREDPSLKVKLDP	525							
Equus_caballus	EKKHRNSEAERLLLAGVEIPEPVFFCTIEPPSMAKOPDLDHALKCLHREDPSLKVRLLDP	525							
Bos_taurus	EKKQKENNEAERLLLAGVEIPEPVFFCTIEPPSMAKOPDLDHALKCLOREDPSLKVKLDP	533							
Heterocephalus_glaber	EKQORRSSEAERLLLAGVEIPEPVFFCTIEPPSGSKOPDLDHALKCLOREDPSLKVKLDP	522							
Rhinatrema_bivittatum	RRKHSDDGKGSESLILAGIDVPEPVFFCTIEPPSLARQQDLEYALNLCLOREDPSLKVKITDP	527							
Xenopus_tropicalis	DKKHRDGTGESLVLAGVEIPEPVFFCTIEPPSAAROPDLENALRCLOREDPSLKVKVDA	524							
	:490.....500.....510.....520.....530.....540								

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Pavo_muticus	DTGQ-----	TILCGMGEIHIEIHDRIKREYGIETYLGPL 559
Pavo_cristatus	DTGQ-----	TILCGMGEIHIEIHDRIKREYGIETYLGPL 559
Gallus_gallus	DTGQ-----	TILCGMGEIHIEIHDRIKREYGIETYLGPL 559
Anas_platyrhynchos	DTGQ-----	TILCGMGEIHIEIHDRIKREYGIETYLGPL 558
Chelonia_mydas	DTGQ-----	TVLCGMGEIHIEIHDRIKREYGVETYLGPL 559
Rattus_norvegicus	DSGQ-----	TVLCGMGEIHIEIHDRIKREYGLETYLGPL 559
Mus_musculus	DSGQ-----	TVLCGMGEIHIEIHDRIKREYGLETYLGPL 559
Homo_sapiens	DSGQ-----	TVLCGMGEIHIEIHDRIKREYGLETYLGPL 560
Pan_troglodytes	DSGQ-----	TVLCGMGEIHIEIHDRIKREYGLETYLGPL 560
Macaca_mulatta	DSGQ-----	TVLCGMGEIHIEIHDRIKREYGLETYLGPL 560
Callithrix_jacchus	DSGQ-----	TILCGMGEIHIEIHDRIKREYGLETYLGPL 560
Canis_lupus_familiaris	DSGQ-----	TILCGMGEIHIEIHDRIKREYGLETYLGPL 560
Equus_caballus	DTGQFSVKGYLEPAKGGDTKGVWEIINT	TVLCGMGEIHIEIHDRIKREYGLETYLGPL 585
Bos_taurus	DSGQ-----	TVLCGMGEIHIEIHDRIKREYGLETYLGPL 568
Heterocephalus_glaber	DTGQ-----	TVLCGMGEIHIEIHDRIKREYGLETFLGPL 557
Rhinatrema_bivittatum	DSGQ-----	TILCGMGEIHIEIVHDRIKREHKLLETYLGPL 562
Xenopus_tropicalis	DSGQ-----	MILCGMGEIHIEIHERIRQEYGLLETYLGPL 559
550.....560.....570.....580.....590.....600	

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Pavo_muticus	QIAYRETIILNAAQATDVL	DKVVGDKRHFVTTELEVRPVS	GERTIVTKPIIE--YAESVTEV	617			
Pavo_cristatus	QIAYRETIILNAAQATDVL	DKVVGDKRHFVTTELEVRPVS	GERTIVTKPIIE--YAESVTEV	617			
Gallus_gallus	QIAYRETIILNAAQATDVL	DKVVGDKRHFVTTELEVRPVS	GERTIVTKPIIE--YAQSVIEV	617			
Anas_platyrhynchos	QIAYRETIILNAAQATDVL	DKTVDGDKRHFVTTELEVRPRLADRAMTKPAIE	--YAPSMVEV	616			
Chelonia_mydas	QIAYRETILNSAQATDILDRT	IGDKRHVLVTQLGVRPWVGERSVTPVIE	--YADNFMEF	617			
Rattus_norvegicus	QVAYRETIILNSVRATDILD	RVLGDKRHFAAELEVRPA--EPCGVA	TIE--YADSVGED	615			
Mus_musculus	QVAYRETIILNSVRATDILD	RVLGDKRHLVSAELEVRPA--EEPCAVAKIE	--YADCVGED	615			
Homo_sapiens	QVAYRETIILNSVRATDILD	RTLGDKRHLVITVEEARPI--ETSSVMPVIE	FHEYAESINEG	618			
Pan_troglodytes	QVAYRETIILNSVRATDILD	RTLGDKRHLVITVEEARPI--ETSSVMPVIE	--YAESINEG	616			
Macaca_mulatta	QVAYRETIILNSVRATDILD	RTLGDKRHLVITVEEARPT--ETSSLTPVIE	--YAESISEG	616			
Callithrix_jacchus	QVAYRETIILNSACATDILD	RTLGLDQRHLVITVEEARPI--ETSSLMPVIE	--YAESIHED	616			
Canis_lupus_familiaris	QVAYRETIILNVVHATDILD	RTLGLDQRHLVITVELEVKN--ETCCVTPVLK	--YAGCVSED	616			
Equus_caballus	QVAYRETIILNSVRATDILD	RTLGLDQRHLVITVELEAKPI--ETASVRPVIE	--YADSVSED	641			
Bos_taurus	QVAYREAILNSIRATDILD	RTLGLDQRHLVITVELEAKPV--ETSSLPVIE	--YAASVAGD	624			
Heterocephalus_glaber	QVAYRETIILNSAHATDILD	KTLGDROHLVSEVELEARPG--ETPSVTPVIE	--YADSVSRD	613			
Rhinatrema_bivittatum	QIAYRETIVSSARATDILD	RTIGETRHMVTELAVRPLLVEASLTMPVIE	--YAESITEQ	620			
Xenopus_tropicalis	QIAYRETIILSASSATDILD	RTVGMRLHVITVELEVKKPATDGHGNPVIE	--YAKEISEF	617			
610.....620.....630.....640.....650.....660						

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Pavo_muticus	LPKELOEAIENGITNSCVQGPLLGFPVQDIDVTVQSLTVHPDTSTNTMISACISRCLQKAL	677
Pavo_cristatus	LPKELOEAIENGITNSCVQGPLLGFPVQDIDVTVQSLTVHPDTSTNTMISACISRCLQKAL	677
Gallus_gallus	LPKELOEAIENGITNSCVQGPLLGFPVQDIDVTVQSLTVHPDTSDTMISACISRCLQKAL	677
Anas_platyrhynchos	LPKELOGAIENGITNSCIGPLLGFPVQDIDVTVQSLTTHMPDTSTHTMVSACVSRCLQKAL	676
Chelonia_mydas	LQKDIOEAIENGINSYLOGPLLGFPPVDVAVTYSMTMHSEFTLTMISACVSRCMOKAL	677
Rattus_norvegicus	LLQAPREDIENAVHSACLQGPLLGSPIQDVAVTLHSLMIHPGTSTTMITACISRCVOKAL	675
Mus_musculus	LLQASREATESAVHSACLQGPLLGSPVQDVAMTLHSLMIHPGTSTTMVTACISRCMOKAL	675
Homo_sapiens	LLKVSOEAIENGIIHSACLQGPLLGSPIQDVAITLHSLTIHPGTSTTMISACVSRVOKAL	678
Pan_troglodytes	LLKVSOEAIENGIIHSACLQGPLLGSPIQDVAITLHSLTIHPGTSTTMISACVSRVOKAL	676
Macaca_mulatta	LLKVSKEATESGIIHSACLQGPLLGSPVQDVAITVYLSLTIHPGTSTTMISACVSRVOKAL	676
Callithrix_jacchus	LLKVSOEAIENGIIHSACLQGPLLGSPVQDVAITLHSLTVHPGTSTTMISACVSRVOKAL	676
Canis_lupus_familiaris	LPKASQEAIENGIIHSACLQGPLLGSPIQDVAITLHSLTIHPGTSTTMISACVSRVOKAL	676
Equus caballus	LLKASQEAIENGIIHSVCLOGPLLGSPIQDVAITLHSLMIHPGTSTTMISACVSRCLQKAL	701
Bos_taurus	LSQASREAFENGVHSACLQGPLLGSPVQDVAVTLHSLVIHPGTSTTMISACVSRCLQKAL	684
Heterocephalus_glaber	LLKDSQEAEVENGIHSACLQGPLLGSPVQDVRI TLHSLVIHPGTSA TMISACVSRVOKAL	673
Rhinatrema_bivittatum	LPKDLOEAVDNGIHASVLOGPLIGFPLQNVGITVHLVNMQPGTSM TMVSACISRCIHKAL	680
Xenopus_tropicalis	LLKDFOEAVENGIS SYLOGPLLGSPLQDVGVTVN SVSVHPGTSTVMVSACVSRCMSKAL	677

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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 KKAGIQILEPLMSLEITVSEDHLSAALADLAQRRGSIQEIQSRQDNKVVMAAVPLAEMMG
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730.....740.....750.....760.....770.....780

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YSTVLRSLTSGSATFTTLELASYQALNSQEQSALLQRRMGVLV--- 778
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