

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/KIFD Date: Tue Feb 1 12:38:14 2022

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Pavo_muticus	-----SPSLSQ-----SPVAWDSPRALVSVPPAGQPGQAEPTCG	34
Pavo_cristatus	-----SPSLSQ-----SPVAWDSPRALVSVPPAGQPGQAEPTCG	34
Gallus_gallus	MGPDPGPIQPTPSHDSPSTSEGTERRAPPAHLNPAHAHRPAALTALTAAPGRAEPPDA	60
Anas_platyrhynchos	-----	
Chelonia_mydas	-----MGLKAEAQF-----	9
Mus_musculus	-----MGLEAQRIP-----	9
Rattus_norvegicus	-----MGLEAQKLS-----	9
Canis_lupus_familiaris	-----MTASDRAARRLGARLHRGGTALPPEQGOEPPSCNMGLETQRLP-----	43
Equus_caballus	-----MGLEAQRIP-----	9
Bos_taurus	-----MIERPSERL-----QGWEQQSLNMGLEAQRIP-----	27
Homo_sapiens	-----MGLEAQRIP-----	9
Pan_troglodytes	-----MGLEAQRIP-----	9
Macaca_mulatta	-----MGLEAQRIP-----	9
Callithrix_jacchus	-----MTASERAALGLEPACAAREDLARPOAGPEPSSLNMGLEAQRIP-----	43
Latimeria_chalumnae	-----MGPKLQGHP-----	9
Rhinatrema_bivittatum	-----MGPKSQGRP-----	9
Xenopus_tropicalis	-----MGPKVLQS-----	8
	1.....10.....20.....30.....40.....50.....60	

	. * .***.:*:*** **:* * . *: : .:*** *: * *	
Pavo_muticus	AAEPXXXXRPAMGPEGAAVRVAVRVRLPLPKVELRGHRSCLRGDAATGEVALGHRRRRFRF	94
Pavo_cristatus	AAEPXXXXRPAMGPEGAAVRVAVRVRLPLPKVELRGHRSCLRGDAATGEVALGHRRRRFRF	94
Gallus_gallus	IAPRRAALRPAMGPEGAAVRVAVRVRLPLPKVELRGHRSCLRGDAATGEVALGHRRRRFRF	120
Anas_platyrhynchos	-----MAPEGAAVRVAVRVRLPLPKVELRGHRSCLRGDAATGEVALGHRRRRFRF	49
Chelonia_mydas	-----RAEETPVVRVAVRIRPLPKELLHGHEACLHGDPETNEVTLGRNRHFHF	57
Mus_musculus	-----GAEAPVRVALRVRLPLPKELLHGHSCLRVPERGRITLGRDRHFHF	57
Rattus_norvegicus	-----GAEAPVRVALRVRLPLPKELLHGHSCLQVEPERGRITLGRDRHFHF	57
Canis_lupus_familiaris	-----GAEAPVRVALRVRLPLPKELLHGHSCLRVPEHSRITLGRDRHFHF	91
Equus_caballus	-----GAEAPVRVALRVRLPLPKELLHGHSCLRVPGHGRVTLGRDRHFHF	57
Bos_taurus	-----GAEAPVRVALRVRLPLPKELLHGHSCLTVEPGRSRVTLGRDRHFHF	75
Homo_sapiens	-----GAEAPVRVALRVRLPLPKELLHGHSCLQVEPGLGRVTLGRDRHFHF	57
Pan_troglodytes	-----GAEAPVRVALRVRLPLPKELLHGHSCLQVEPGLGRVTLGRDRHFHF	57
Macaca_mulatta	-----GPEAPVRVALRVRLPLPKELLHGHSCLQVEPGLGRITLGRDRHFHF	57
Callithrix_jacchus	-----AAEEVPVRVALRVRLPLPKELLYGHSCSLQVEPRLGRITLGRDRHFHF	91
Latimeria_chalumnae	-----RAEETPVVRVAVRIRPLPKVELHGLQPCIRVNQAEACQVTLGNDRHFKF	57
Rhinatrema_bivittatum	-----IAEESPVRVVVRIRPLPKELLHGHSCLHANAESRQVTLGHNRHFQF	57
Xenopus_tropicalis	-----KTEETAVRVVVRIRPLPKVELHGLQPCIRVNQAEACQVTLGNDRHFKF	56
70.....80.....90.....100.....110.....120	

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Pavo_muticus	AAVLPEAAGQEAIVGACVRPLLRAFFQGFNATVFAYGQTGSGKTYTIGEASVASINEDEQ	154
Pavo_cristatus	AAVLPEAAGQEAIVGACVRPLLRAFFQGFNATVFAYGQTGSGKTYTIGEASVASINEDEQ	154
Gallus_gallus	AAVLPEAAGQEAIVSACVRPLLRAFFQGFNATVFAYGQTGSGKTYTIGEASVASINEDEQ	180
Anas_platyrhynchos	AAVLPEAAGQEAIVSACVRPLLRAFFQGFNATVFAYGQTGSGKTYTIGEASVAINEDEQ	109
Chelonia_mydas	DAVFTESSNQESVYGACVQPLVEAFFEGFNATVFAYGQTGSGKTYTIGEASVSSINEDEQ	117
Mus_musculus	HVVLGEDTGQEAIVGACVQPLLEAFFEGFNATVFAYGQTGSGKTYTIGEASVASLHEDEQ	117
Rattus_norvegicus	HVVLGEDAGQEAIVGACVQPLLEAFFEGFNATVFAYGQTGSGKTYTIGEASVASLHEDEQ	117
Canis_lupus_familiaris	HVVLDEDTGQEAIVGACVQPLLEAFFEGFNATVFAYGQTGSGKTYTIGEASVASLHEDEQ	151
Equus_caballus	HVVLDEDAGQEAIVGACVQPLLEAFFEGFNATVFAYGQTGSGKTYTIGEASVASLHEDEQ	117
Bos_taurus	HVVLDEDAGQEAIVGACVQPLLEAFFEGFNATVFAYGQTGSGKTYTIGEASVASLHEDEQ	135
Homo_sapiens	HVVLAEADAGQEAIVGACVQPLLEAFFEGFNATVFAYGQTGSGKTYTIGEASVASLLEDEQ	117
Pan_troglodytes	HVVLAEADAGQEAIVGACVQPLLEAFFEGFNATVFAYGQTGSGKTYTIGEASVASLLEDEQ	117
Macaca_mulatta	HVVLAEADAGQEAIVGACVQPLLEAFFEGFNATVFAYGQTGSGKTYTIGEASVASLLEDEQ	117
Callithrix_jacchus	HVVLAEADAGQEAIVGACVQPLLEAFFEGFNATVFAYGQTGSGKTYTIGEASVASLLEDEQ	151
Latimeria_chalumnae	DFVFDASEQEEVYSGCVQPLIEAFFEGFNATVFAYGQTSSGKTYTIGEANISSISEEEQ	117
Rhinatrema_bivittatum	HDVFDDESSQESVYSVCVQPLVEAFFEGFNATVFAYGQTGSGKTYTIGEASLASISEDEQ	117
Xenopus_tropicalis	QDILDETCSQDATYNACVQPLLAFFQGFNATVFAYGQTGSGKTYTIGEASISSISEDEQ	116
130.....140.....150.....160.....170.....180	

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File: /media/morpheus/disk1/fst/pep_msa/KIF7Dptc: Tue Feb 1 12:38:14 2022

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[illegible][illegible]

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. . . . . : : : ***** : : : : ***** : : : : *****
ALSNQP-----TIPASGQVLVSKFHFDLAGSERIVKTGNLTGERLKESIQINSGLLAL
ALSNQP-----TIPASGQVLVSKFHFDLAGSERIVKTGNLTGERLKESIQINSGLLAL
ALSNQP-----TIPASGQVLVSKFHFDLAGSERIVKTGNLTGERLKESIQINCGLLAL
ALHNHP-----SVPASGQVLVSKFHFDLAGSERIVKTGNLTGERLKESIQINCGLLAL
TLHDRA-----SVPASGOVLAKFHFDLAGSERVVKTNLTGERLKESIQINSGLLAL
PR-----PAAGHLLVSKFHFDLAGSERVLKTGSTGERLKESIQINSTLLAL
PR-----PGAGHLLVSKFHFDLAGSERVLKTGSTGERLKESIQINSTLLAL
PR-----PAAGQLLVSKFHFDLAGSERVLKTGSTGERLKESIQINSSLLAL
PR-----PAAGQLLVSKFHFDLAGSERVLKTGSTGERLKESIQINSSLLAL
PR-----PAAGQLLVSKFHFDLAGSERVLKTGSTGERLKESIQINSSLLAL
PR-----PAPGQLLVSKFHFDLAGSERVLKTGSTGERLKESIQINSSLLAL
PR-----PAPGQLLVSKFHFDLAGSERVLKTGSTGERLKESIQINSSLLAL
PR-----PAQGQLLVSKFHFDLAGSERVLKTGSTGERLKESIQINSSLLAL
PR-----PAAGQLLVSKFHFDLAGSERVLKTGSTGERLKESIQINSSLLAL
AGGEPAAIIVSAASGPGLAQIIASKFHFDLAGSERIVKTGNLTGERLKESIQINSGLLAL
ALKDQDSILG-----LGQVLISKFHFDLAGSERILKTGNLTGERLKESIQINSGLLAL
ATDEEETLPD-----IGQVLSSKFHFDLAGSERVLKTGNLTGERLKESIQINSGLLAL
310.....320.....330.....340.....350.....360

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File: /media/morpheus/disk1/fst/pep_msa/KIF7Dptc: Tue Feb 1 12:38:14 2022

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[illegible]

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* *****: *: ** : :: : * *****: *:
ASRAQNIQNKAVVNCRKETEQVEELHLOIKNLQKALEQRHRSETRIINRSDTAKRCPQEP 447
ASRAQNIQNKAVVNCRKETEQVEELHLOIKNLQKALEQRHRSETRIINRSDTAKRCPQEP 447
ASRAQNIQNKAVVNCRKETEQVEELHMQIKNLQKALEQRHRSETRIINRSDTAKRCPQEP 473
ASRAQNIQNKAVVNCRKETEHVLEELHROIKNLQKALEQRHRSETRIINRSDTKRSAPDP 402
ASRAQNIKNKAMVNCRRTEHVLEELQLOIKNLQKALEQRHRSETRIINRSDAAKRCPPQDH 410
ASRAQNI RN RATV NWRPEAERVPEE---QAAGARGPPRHRSETRIIHRGRRVP C PAVGS 398
ASRAQNI RN RATV NWRPEAERVPEE---QAAGARGPPRHRSETRIIHRGRRVLC P GVG S 398
ASRAQNI RN RATV NWRPEATERAPEE---VAAGARGPPRHRSETRIIHRGRRAPGP A QAP 432
ASRAQNI RN RATV NWRPEATERAPEE---AAAGARGPPRHRSETRIIHRGRRGP G P A A S 398
ASRAQNI RN RATV NWRPEAERGPEE---AVASARGPPRHRSETRIIHRGRRAPGP A A S 416
ASRAQNI RN RATV NWRPEAERPPEE---TASGARGPPRHRSETRIIHRGRRAPGP A T A - 397
ASRAQNI RN RATV NWRPEAERPPEE---AASGARGPPRHRSETRIIHRGRRAPGP A T A - 397
ASRAQNI RN RATV NWRPEAERPPEE---VASGVRGPPRHRSETRIIHRGRRAPGP A T A - 397
ASRAQNI RN RATV NWRPEAERPSED---AASGARGPPRHRSETRIIHRGRHAQGP A A G 432
ANRAQNIKNKATV NCRGETDRTEELQLOIKNLRRALEQRHRSETRIINRSDP AKNPRGAC 417
ASRAQNIKNKITVNYRGEVENVKDLELOIRNLQRALEQRHRSETRIIYRSDP S K N A R R P L 410
ASRAQNIKNKATV NCKRDTDCVEDLHLOIKSLQRALEQRRLRSETRIILNRSDP A K A V N Q R S 409
.....430.....440.....450.....460.....470.....480

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: .*: : * * .*** *: : * : : :*: * ** **
-----TARLLAEC1AH2YRTCT3DAAYRLLMELQEDSNLTVEQVLRVKEWLC4AVESERS 498
-----TARLLAEC1AH2YRTCT3DAAYRLLMELQEDSNLTVEQVLRVKEWLC4AVESERS 498
-----TARLLAEC1AH2YRTCT3DAAYRLLMELQEDSNLTVEQILRVKEWLC4AVESERS 524
-----TARLLAEC1THYRTCT3DAAYRLLTELQEDSNLTVEQILRVKEWLC4AVESERS 453
-----TARLLAEC1AH2YRTCT3DAAYQLLMELQEGNLTVEQILRVKEWLC4AVESERS 461
-----AAVAAGLGAECARCRARTSAAYSLLRELQAE5PGLPGAAARKVRD6WLC4AVEGERS 452
-----AAVAPGLGTECARCRARTSAAYSLLRELQAE5PGLPGAAARKVRD6WLC4AVEGERS 452
PA1AVAAAAAARLGAECARYRARTDAAYSLLRELQAE5PGLPGAAVRKVRD6WLC4AVEGERS 492
-----AAAAARLGAECARYRARTDAAYSLLRELQAE5PGLPGAAARKVRD6WLC4AVEGERS 452
-----AAATARLGAECARYRARTDAAYSLLRELQAE5PGLPGAAARKVRD6WLC4AVEGERS 470
-----S1AAAMRLGAECARYRACTDAAYSLLRELQAE5PGLPGAAARKVRD6WLC4AVEGERS 452
-----S1AAAMRLGAECARYRACTDAAYSLLRELQAE5PGLPGAAARKVRD6WLC4AVEGERS 452
-----S1GAAMRLDAECARYRACTDAAYSLLRELQAE5PGLPGATARKVRD6WLC4VEGERS 452
-1AA2SS3AAAAAKRLGAECARYRACTDAAYSLLRELHAQ5PGLPGAAARKVRD6WLC4AVEGERS 491
1G-----G2HTSRLLAEC3AHYRMCT4DAAYRLLMELQEGNLTTEQVLRVKD6WLC4AVEEERS 471
SE-----DGKNOLLAEC3AHYRKCT4DAAYLFT5TELLAEGTLTVDQSLKAKDWLC6AVEDERY 465
MD-----NPVSOVIVECAHYRTCTDAAYLLMDLLSDNNLGPQVLR6AKEWMC4SVEEERS 464
.....490.....500.....510.....520.....530.....540

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      ::::  *  ***:..:
Pavo_muticus      ELTSAG-LDRGIESTSAEEQSLAQGCKLPKAGQASTKGCCEVIKDKHVNLRQOVERL  557
Pavo_cristatus    ELTSAG-LDRGIESTSAEEQSLAQGCKLPKAGQASTKGCCEVIKDKHVNLRQOVERL  557
Gallus_gallus     ELTSAG-LDSGIESTSAEDQSLAQGCKLPKAGQASTENGCEAIKDKHVNLRQOVERL  583
Anas_platyrhynchos ELTSAG-LDSGIESTSAEEQGLDTRGSKL--AKGOVNTKGCESIKDEHVAKLRQOVERL  510
Chelonia_mydas    ELTSASGLDSGIESTSAEDRRPQAQGSKPP--CTQVSTKACEAARDEHLAQLOVERL  519
Mus_musculus      TLSSASGPDSGIESAPAEDQAAQGTSGRK-----GDEGTQQLLTLSQSVARL  499
Rattus_norvegicus ALSSASGPDSGIESAPADDQAAQGTSGRK-----GDEGAQQLLTLSQSVARL  499
Canis_lupus_familiaris ALSSASGPDSGIESASAEEPATQGGPGPKV-----AKGQDEEGALQLLALQSVARL  544
Equus_caballus    ALSSASGPDSGIESASAEEERAAQAPGARKG-----AKGQDEEGALQLLALQSVARL  504
Bos_taurus        ALSSASGPDSGIESASAEEQATQGGGGRK-----EDEGPQLLALQSVARL  517
Homo_sapiens      ALSSASGPDSGIESASVEDQAAQAGGGRK-----EDEGAQQLLTLSQSVARL  499
Pan_troglodytes   ALSSASGPDSGIESASVEDQAAQAGGGRK-----EDEGAQQLLTLSQSVARL  499
Macaca_mulatta    ALSSASGPDSGIESASVEGQAAQAGGGRK-----EDEGAQQLRTLSQSVARL  499
Callithrix_jacchus NMSSASGPDSGIDSASVEDQVAQEAGGRK-----EDEGVPQLLTLSQSVARL  538
Latimeria_chalumnae ELTTASQDSDGIESTSVEEASEREKGRGLSKYETGISCEKECESRDDYIAKLQSOVQCL  531
Rhinatrema_bivittatum EMTSTPGIDSGIESTTAEQKPKKE----LSKCGPSGLEKASEMNKNKYITDLEROVQHL  521
Xenopus_tropicalis DVSSASGLDSGIESTTAEK-LKELGKRQIKDKGVLTFEKECEIEKDKLIEKLQLQIQRL  523
.....550.....560.....570.....580.....590.....600

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      *** :*:***** * . :*:~: : : : *~ . . :* ~:
Pavo_muticus      EEENRDFLAALEDAMEQYKLSQDKLQEQQDKISELHVRLEMAMPNLCVPELLENLHLVTA  617
Pavo_cristatus    EEENRDFLAALEDAMEQYKLSQDKLQEQQDKISELHVRLEMAMPNLCVPELLENLHLVTA  617
Gallus_gallus     EEENRDFLAALEDAMEQYKLSQDKLQEQQDKISELHVRLEMAMPNLCVPELLENLHLVTA  643
Anas_platyrhynchos EEENRDFLAALEDAMEQYKLSQDKLQEQQDTISELHVRLEMAMPNLCVPELLEDLHLVTA  570
Chelonia_mydas    EEENRDFLAALEDAMEQYKLSQDKLQEQQDAISELHVCLMAMPDLQVPELLQNIHLVEL  579
Mus_musculus      EEENRDFLAALEDAMEQYKLSQDKLQEQQEEEMVELRLRLLELAQPGWGAPGLLQGLPPGSF  559
Rattus_norvegicus EEENRDFLAALEDAMEQYKLSQDKLQEQQEEEMVELRLRLLELAQPGWGAPGLLQGLPPGSF  559
Canis_lupus_familiaris EEENRDFLAALEDAMEQYKLSQDKLQEQQEEEMVELRLRLLELAQPGWGAPGLLQGLPPGSF  604
Equus_caballus    EEENRDFLAALEDAMEQYKLSQDKLQEQQEEEMVELRLRLLELAQPGWGAPGLLQGLPPGSF  564
Bos_taurus        EEENRDFLAALEDAMEQYKLSQDKLQEQQEEEMVELRLRLLELAQPGWGAPGLLQGLPPGSF  577
Homo_sapiens      EEENRDFLAALEDAMEQYKLSQDKLQEQQEEEMVELRLRLLELAQPGWGAPGLLQGLPPGSF  559
Pan_troglodytes   EEENRDFLAALEDAMEQYKLSQDKLQEQQEEEMVELRLRLLELAQPGWGAPGLLQGLPPGSF  559
Macaca_mulatta    EEENRDFLAALEDAMEQYKLSQDKLQEQQEEEMVELRLRLLELAQPGWGAPGLLQGLPPGSF  559
Callithrix_jacchus EEENRDFLAALEDAMEQYKLSQDKLQEQQEEEMVELRLRLLELAQPGWGAPGLLQGLPPGSF  598
Latimeria_chalumnae EEENKDFLAALEDAMEQYKQSSSKLQNRDITIVELQSSKALRSGRSTSELLENVHLVEL  591
Rhinatrema_bivittatum EDENMDFLAALEDAMEQYKLSQDKLQEQQDKITELQYHLECGNSSLSVSALLENVHLVEM  581
Xenopus_tropicalis EDENREFLSALEDAMEQYKLSQDKLQEQQDEIHKQNILERLRPLGSASTLLEDVHVLQL  583
.....610.....620.....630.....640.....650.....660

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      ** ***:  :
Pavo_muticus      TQRPHTAPLAATQP---HGLSKIPT-----EQSRRGLCQKQLDSS-PSLKEDLASCHPN-  667
Pavo_cristatus    TQRPHTAPLAATQP---HGLSKIPT-----EQSRRGLCQKQLDSS-PSLKEDLASCHPN-  667
Gallus_gallus     TQRPHTAPLTATQP---HSLNRVPT-----EQSGRGLCQKQLDSS-LSLKENSTSCHPN-  693
Anas_platyrhynchos TQRPHTAPLAAQPS---HGLCGVPSGLLPAAEQSGRVLCRK-----DEDLAGCHPNH  618
Chelonia_mydas    AQRPHATPLDTRTS---HGLSLVQSRPSHTSQSRRVHCGKLSQSP-SHLGEDLVVHCQS-  634
Mus_musculus      VPRPHTAPLGGAAHT---HMLGMPPSTCLPGEEVSSEQ---QVVSQ-KEVKAQVLAQADK-  611
Rattus_norvegicus VPRPHTAPLGGAAHT---HMTGTMPRTCLPGEEVSSEQ---QVANG-KEAKAELLAQVVK-  611
Canis_lupus_familiaris VPRPHTAPLGGAAHT---HALGVLPACLPGDVGPENWGEQVING-KEAGAKLLAEVDR-  659
Equus_caballus    VPRPHTAPLGGAAHT---HVLGMVPPACLPEDQVDPENWGEQVING-REAGAKVLAQVDR-  619
Bos_taurus        VPRPHTAPLGGAAHT---HVLGMVPPACIPGDEVGPESRGEQMKNG-REAGAKFLTEGDR-  632
Homo_sapiens      VPRPHTAPLGGAAHT---HVLGMVPPACLPGDEVGSEQRGEQVING-REAGAKLLTEVNR-  614
Pan_troglodytes   VPRPHTAPLGGAAHT---HVLGMVPPACLPGDEVGSEQRGEQVING-REAGAKLLTEVNR-  614
Macaca_mulatta    VPRPHTAPLGGAAHT---HVLGMVPPACLPGDEVGSEQRGEQVING-REAGAKLLTEVNR-  614
Callithrix_jacchus LPRPHTAPLGGAAHT---HMLGMVPPACLPGDEVGSEQRGEQVING-REAGAKLLADVNR-  653
Latimeria_chalumnae HPRPHTAPLDTTHP---FTFSLMLHPNCTLNGDAGRIHSRKVH---LCCVENMVPGFQSR  644
Rhinatrema_bivittatum SQRPRTAPLNTHTTYSKPLDMLQSGSISHCRIGRIHGRKVSQGYGMSDVAEHMVEGCQSH  641
Xenopus_tropicalis GGRPSTAPIIIQIRP---HDSLEQKKSSWFEFSKSKKISSSCIS-----SLSKFTKSFQTG  636
.....670.....680.....690.....700.....710.....720

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Pavo_muticus      ---LPSSAELRDTALRKEHSQGSEKAAEL--SLEEDDEWEQRRSLYQRRNGIP---SWS 718
Pavo_cristatus    ---LPSSAELRDTALRKEHSQGSEKAAEL--SSEEDDEWEQRRSLYQRRNGIP---SWS 718
Gallus_gallus     ---LRSSAELKEMALRRERSQGLEKAAEL--SSEEDDEWEQRRSQYQRRNGIP---SWS 744
Anas_platyrhynchos TQRLPSSAEVKDITVLRRELSQDSEKLAEL--SSEEEEEWEQKQSLCQRRNGIQ---SWS 672
Chelonia_mydas    ---RACSLLEAKDVMLMRECSSESE-----PSLDGEGEQKRSILHQRRNGIR---SWS 679
Mus_musculus      -----LRSASSTTSEEEGEEEEEEEEEEEEPPRRTLVLRRNGIS---NWS 653
Rattus_norvegicus -----LGSASSTTSEEE-----EEEEEPPTTLHLRRNGIS---NWS 646
Canis_lupus_familiaris -----PGSGSSAAASEEEEEEQ-----EEEQEEQLPQRLHLRRNGIN---KWS 698
Equus_caballus    -----LGSGSSAAASEEEEEK-----EEED---LARRTLHLRRNGIS---RWS 655
Bos_taurus        -----PGSGSSDASEAAAAEE-----EEEEKEGLPRQSLYPRRNGVS---KWN 671
Homo_sapiens      -----LGSGSSAAASEEEEE-----EEE---PPRRTLHLRRNRIS---NCS 648
Pan_troglodytes   -----LGSGSSAAASEEEEE-----EEE---LPRRTLHLRRNGIS---NCS 648
Macaca_mulatta    -----LGSGSSAAASEEEEE-----EEEE---LPRRTLHLRRNGIS---NCS 649
Callithrix_jacchus -----LGSGSSAAASEEDE---KEE---PPRRTLHLRRNGIS---NCI 687
Latimeria_chalumnae NOCLTRSLLEVGAALQVGFTESETSPER--SDEEAENEPRKGKQRRKLANR---TWT 698
Rhinatrema_bivittatum DEGLMCNLEDGGITVLQKAFSENSEMAESN--LEDESDVDVKEPNQTRIKCRKEGLPWN 699
Xenopus_tropicalis TQNLVSSLEADITVLQRRFSEDSNESAEE--DDKDQCKGQQGKPPRRERITKP---GSN 690
.....730.....740.....750.....760.....770.....780

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Pavo_muticus      RREVSSKLNEELSGGHPLLIQEEQLPKEA-----CRRQERP----- 756
Pavo_cristatus    RREVSSKLNEELSGGHPLLIQEEQLPKEA-----CRRQERP----- 756
Gallus_gallus     KREVSSKLSEEPNRGHP-LIQEEQLPKEA-----CRRQERP----- 781
Anas_platyrhynchos KREACSKLGEELGGGSPRLMQEEQLLELKEA-----CRRRERI----- 710
Chelonia_mydas    KKDVS SKVCEEQSRGNSLHREQEPELAKA-----CGRREQAGPREGL----- 723
Mus_musculus      QRAGLSPGSPDRKGPEVCPEEPAAAIAPQ-----AVGSGKVPVQTRQAP----- 699
Rattus_norvegicus QRAGVRPGSPDRKGPEVCPEEPAAAIAPQ-----AVGGSKAPGOTRQAP----- 692
Canis_lupus_familiaris QREGACPGSPDRKGPELHLEELGAAIPGPR-----VVGGSKAPARPROTP----- 744
Equus_caballus    QRGGRPGSPDRKGSELHLEELGTAIPGSR-----AVAGSKAHARLRQGP----- 701
Bos_taurus        QRMGACPESPLNRKGPELRLLEELGAAIPGPR-----VVGGSKALAOQPROAP----- 717
Homo_sapiens      QRAGARPGSLPERKGPELCEELDAAIPGSR-----AVGGSKARVOARQVP----- 694
Pan_troglodytes   QRAGARPGSLPERKGPELCEELDAAIPGSR-----AVGGSKARVOARQVP----- 694
Macaca_mulatta    QRAGALPGSLPERKGPELCEELDAAIPGSR-----AVGGSKARVOARQVP----- 695
Callithrix_jacchus QRAGAQPSPSPDRRGPELCEELEAAIPGSRVGAHRLPVAAVGGSKARVOARQVP----- 742
Latimeria_chalumnae KREVVAASSPLREAG--DLGWEQHELNTSCSR-----RDGGLLGIVGEVGLP----- 744
Rhinatrema_bivittatum NKEVNSVSVINEEQSRISQAQEQDSMDDGIVKR-----TQRLNHGFLHTRKKPAILDR 752
Xenopus_tropicalis RSHYKPPQSRISESEG-----EKSTSTLLN-----INSSLSQSAQNVPRE----- 729
.....790.....800.....810.....820.....830.....840

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Pavo_muticus      -----AGKDS EWRLVQAQQKIRDLAINIRMKEELITELIKTGRDAQALNKQYCKISE 809
Pavo_cristatus    -----AGKDS EWRLVQAQQKIRDLAINIRMKEELITELIKTGRDAQALNKQYCKISE 809
Gallus_gallus     -----ARKDS EWRLGQAQQKIRELAINIRMKEELITELIKTGRDAQALNKQYCKIGE 834
Anas_platyrhynchos -----PGKDS EWRLVQAQQKIRELAINIRMKEELITELIKTGKDAQALNKQYCKISE 763
Chelonia_mydas    -----SGKDS ERLVQAQQKIRELAINIRMKEELIAELIKTGKDAQAMNROYCKIFE 776
Mus_musculus      -----AAMASEWRLAQAQQKIRELAINIRMKEELIGELVRTGKAAQALNROHSQRIRE 752
Rattus_norvegicus -----AAMASEWRLAQAQQKIRELAINIRMKEELIGELVRTGKAAQALNROHSQRIRE 745
Canis_lupus_familiaris -----AAMASEWRLAQAQQKIRELSINIRMKEELIGELVRTGKAAQALNROHSQHIRE 797
Equus_caballus    -----AAMASEWRLAQAQQKIRELAINIRMKEELIGELVRTGKAAQALNROHSQRIRE 754
Bos_taurus        -----AAMASEWRLAQAQQKIRELAINIRMKEELIGELVRTGKAAQALNROHSQRIQE 770
Homo_sapiens      -----PATASEWRLAQAQQKIRELAINIRMKEELIGELVRTGKAAQALNROHSQRIRE 747
Pan_troglodytes   -----PATASEWRLAQAQQKIRELAINIRMKEELIGELVRTGKAAQALNROHSQRIRE 747
Macaca_mulatta    -----SATASEWRLAQAQQKIRELAINIRMKEELIGELVRTGKAAQALNROHSQRIRE 748
Callithrix_jacchus -----SATASEWRLAQAQQKIRELAINIRMKEELIGELVCTGKAAQALNROHSQRIRE 795
Latimeria_chalumnae ----DARLVKDS EWRLVQAQQKIRELAINIRMKEELIKELVKTGKDAQAMNROYCKISD 800
Rhinatrema_bivittatum SHPFGAHSEKNSEWRLLOAQQKIRELAINIRMKEELIKELIKTGKDAQAMNKOYCLKISE 812
Xenopus_tropicalis ----SQILGND SKWRLRQAQQKIRELAINIRMKEELIKELVKTGKEAQAMNKOYCLKISE 785
.....850.....860.....870.....880.....890.....900

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File: /media/morpheus/disk1/fst/pep_msa/KIF7 **Date: Tue Feb 1 12:38:14 2022**
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:*:~*:~*:~*****~*****~***~*****~*****~*:~*:~*:~
 LKHEQHOKILRIKTEEIAAFORKRRSGSNGSVISLEQQQKIEEQKKWLDMEMDKVLEQRR
 LKHEQHOKILRIKTEEIAAFORKRRSGSNGSVISLEQQQKIEEQKKWLDMEMDKVLEQRR
 LKHEQHOKILRIKTEEIAAFORKRRSGSNGSVISLEQQQKIEEQKKWLDMEMDKVLEQRR
 LKHEQHOKILRIKTEEIAAFORKRRSGSNGSVISLEQQQKIEEQKKWLDMEMDKVLEQRR
 LKHEQHOKILRIKTEEIAAFORKRRSGSNGSVISLEQQQKIEEQKKWLDMEMDKVLEQRR
 LKHEQQQKILKIKTEEIAAFORKRRSGSNGSVVLSLEQQQKIEEQKKWLQEMEKVLOQRR
 LKHEQQQKILKIKTEEIAAFORNRRSGSNGSVVLSLEQQQKIEEQKKWLQEMEKVLOQRR
 RRHEQQQKILKIKTEEIAAFORKRRSGSNGSVVLSLEQQQKIEEQKKWLQEMEKVLOQRR
 LKHEQQQKILKIKTEEIAAFORKRRSGSNGSVVLSLEQQQKIEEQKKWLQEMEKVLOQRR
 LKHEQQQKILKIKTEEIAAFORKRRSGSNGSVVLSLEQQQKIEEQKKWLQEMEKVLOQRR
 LKHEQQQKILKIKTEEIAAFORKRRSGSNGSVVLSLEQQQKIEEQKKWLQEMEKVLOQRR
 LKHEQQQKILKIKTEEIAAFORKRRSGSNGSVVLSLEQQQKIEEQKKWLQEMEKVLOQRR
 LKHEQQQKILKIKTEEIAAFORKRRSGSNGSVVLSLEQQQKIEEQKKWLQEMEKVLOQRR
 LKHEQQQKILKIKTEEIAAFORKRRSGSNGSVVLSLEQQQKIEEQKKWLQEMEKVLOQRR
 LKHEQQQKILKIKTEEIAAFORKRRSGSNGSVVLSLEQQQKIEEQKKWLQEMEKVLOQRR
 IRNEQQQKILKIKTEEIAAFORKRRSGSNGSVISLEEQQKIEEQRKWLQSEMEKVLEQRH
 LKHEQHOKILRIKTEEIAAFORKRRSGSNGSVISLEQQQKIEEQKKWLDMEMDKVLEQRR
 LKHEQQQKILRIKTEEIAAFORKRRSGSNGSVISLEQQQKIEEQKKWLQSEIDKVLEQRR
1030.....1040.....1050.....1060.....1070.....1080

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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:*** :*:*** *: ***** ** .** ** :*****.:*****:* **:* *
Pavo_muticus      ALDELEDELKREAIIVAKKEALLQEKNGLESKRLRSSQALTDDIVRVSSRLEHLEKELTE 1049
Pavo_cristatus    ALDELEDELKREAIIVAKKEALLQEKNGLESKRLRSSQALTDDIVRVSSRLEHLEKELTE 1049
Gallus_gallus     ALDELEDELKREAIIVAKKEALLQEKNGLESKRLRSSQALTDDIVRVSSRLEHLEKELTE 1074
Anas_platyrhynchos ALDELEDELKREAIIVAKKEALLQEKNGLESKRLRSSQALTDDIVRVSSRLEHLEKELTE 1003
Chelonia_mydas    ALDELEDELKREAIIVAKKEALLQEKNGLEKKRRRSSQALTDDIVRVSSRLEHLEKELTE 1016
Mus_musculus      ALEELGEELRKREIVILAKKEALMQEKTGLESKRLRSSQALNEDIVRVSSRLEHLEKELSE 992
Rattus_norvegicus ALEELGEELRKREIVILAKKEALMQEKTGLESKMRSSQALNEDIVRVSSRLEHLEKELSE 985
Canis_lupus_familiaris ALEELGEELHKREAILAKKEALMQEKTGLESKRLRSSQALSIEDIVRVSSRLEHLEKELSE 1037
Equus_caballus    ALEELGEELHKREAILAKKEALMQEKTGLESKRLRSSQALNEDIVRVSSRLEHLEKELSE 994
Bos_taurus        ALEELGEELHKREAILAKKEALMQEKTGLESKRLRSSQALNEDIVRVSSRLEHLEKELSE 1010
Homo_sapiens      ALEELGEELHKREAILAKKEALMQEKTGLESKRLRSSQALNEDIVRVSSRLEHLEKELSE 987
Pan_troglodytes   ALEELGEELHKREAILAKKEALMQEKTGLESKRLRSSQALNEDIVRVSSRLEHLEKELSE 987
Macaca_mulatta    ALEELGEELHKREAILAKKEALMQEKTGLESKRLRSSQALNEDIVRVSSRLEHLEKELSE 988
Callithrix_jacchus ALEELGEELHKREAILAKKEALMQEKTGLESKRLRSSQALNEDIVRVSSRLEHLEKELSE 1035
Latimeria_chalumnae SLEEELEELKKREAILTKKEALQEKSGLETKRLRSSQALSNDIVRVSSRLEHLEKELCE 1040
Rhinatrema_bivittatum ALEEELEELKKREITIVNKKEALLQEKHDLSEKRLSSQALSNDIVRVSSRLEHLEKELLE 1052
Xenopus_tropicalis SLNELEELHKREGILLKKEALQEKNDLEIKRLRSSQALSNDIVRVSSRIEDLEKELSE 1025
.....1090.....1100.....1110.....1120.....1130.....1140

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*.*****:*** :*:*** :*. *****: *****:*** **:* * **.* **.* ***** :*****
Pavo_muticus      KNGQLRHGSAHDQQQIRQEISNLRQEKDQLLKQRLLELDNKLROGTLLSPEEERILFOLDE 1109
Pavo_cristatus    KNGQLRHGSAHDQQQIRQEISNLRQEKDQLLKQRLLELDNKLROGTLLSPEEERILFOLDE 1109
Gallus_gallus     KNGQLRHGSAHDQQQIRQEISNLRQEKDQLLKQRLLELDNKLROGTLLSPEEERILFOLDE 1134
Anas_platyrhynchos KSGQLRHGSAHDQQQIRQEISNLRQEKDQLLKQRLLELDNKLROGTLLSPEEERILFOLDE 1063
Chelonia_mydas    KSGQLRHGSAHDQQQIRQEISNLRQEKDQLLKQRLLELDNKLROGTLLSPEEERILFOLDE 1076
Mus_musculus      KSGQLRQGSANQQQIRGEIDTLRQEKDSLKKQRLLEIDSKLRQGSLLSPEEERTLFLFOLDE 1052
Rattus_norvegicus KSGQLRQGSALNQQQIRGEIDTLRQEKDSLKKQRLLEIDSKLRQGSLLSPEEERTLFLFOLDE 1045
Canis_lupus_familiaris KSGQLRQGSAQSQQRLRGEIDALRQEKDSLKKQRLDIDSKLRGGSLLSPEEERTLFLFOLDE 1097
Equus_caballus    KSGQLRQGSAQSQQQIRGEIDTLRQEKDSLKKQRLLEIDGKLQGSLLSPEEERTLFLFOLDE 1054
Bos_taurus        KSGQLRQGSAQSQQQIRGEIDALRQEKDSLKKQRLLEIDSKLRQGSLLSPEEERTLFLFOLDE 1070
Homo_sapiens      KSGQLRQGSAQSQQQIRGEIDSLRQEKDSLKKQRLLEIDGKLQGSLLSPEEERTLFLFOLDE 1047
Pan_troglodytes   KSGQLRQGSAQSQQQIRGEIDSLRQEKDSLKKQRLLEIDSKLRQGSLLSPEEERTLFLFOLDE 1047
Macaca_mulatta    KNGQLRQGSAQSQQQIRREIDSLRQEKDSLKKQRLLEIDSKLRQGSLLSPEEERTLFLFOLDE 1048
Callithrix_jacchus KSGQLRQGSQSQSQQIRGEIDSLRQEKDSLKKQRLLEIDSKLRQGSLLSPEEERTLFLFOLDE 1095
Latimeria_chalumnae KSGQLRNGSAQDQQQIRQEISNLRQEKELLKQRLLEDEKLROGNHLSAEEERIVFOLDE 1100
Rhinatrema_bivittatum KNGQLRQGSANQQQIRHQISNLRQEKELLKQRLLEIDSKLRQGDLLSPEEERILFOLDE 1112
Xenopus_tropicalis KNGQLRQGSABDQQRIRDEINNLRQEKDLLLLKQRVDDDKLRQGNLLSAAEEERILFOLDE 1085
.....1150.....1160.....1170.....1180.....1190.....1200

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***** **:* *****:***:*****:*****:*****:*****
Pavo_muticus      AIEALDAAIEYKNESITCRQVRLRASASLLSQCEMNLMAKLSYLSSESSETRALLCKYFDKV 1169
Pavo_cristatus    AIEALDAAIEYKNESITCRQVRLRASASLLSQCEMNLMAKLSYLSSESSETRALLCKYFDKV 1169
Gallus_gallus     AIEALDAAIEYKNESITCRQVRLRASASLLSQCEMNLMAKLSYLSSESSETRALLCKYFDKV 1194
Anas_platyrhynchos AIEALDAAIEYKNESITCRQVRLRASASLLSQCEMNLMAKLSYLSSESSETRALLCKYFDKV 1123
Chelonia_mydas    AIEALDAAIEYKNESITCRQVRLRASASLLSQCEMNLMAKLSYLSSESSETRALLCKYFDKV 1136
Mus_musculus      AIEALDAAIEYKNEAITCRQVRLRASASLLSQCEMNLMAKLSYLSSESSETRALLCKYFDKV 1112
Rattus_norvegicus AIEALDAAIEYKNEAITCRQVRLRASASLLSQCEMNLMAKLSYLSSESSETRALLCKYFDKV 1105
Canis_lupus_familiaris AIEALDAAIEYKNEAITCRQVRLRASASLLSQCEMNLMAKLSYLSSESSETRALLCKYFDKV 1157
Equus_caballus    AIEALDAAIEYKNEAITCRQVRLRASASLLSQCEMNLMAKLSYLSSESSETRALLCKYFDKV 1114
Bos_taurus        AIEALDAAIEYKNEAITCRQVRLRASASLLSQCEMNLMAKLSYLSSESSETRALLCKYFDKV 1130
Homo_sapiens      AIEALDAAIEYKNEAITCRQVRLRASASLLSQCEMNLMAKLSYLSSESSETRALLCKYFDKV 1107
Pan_troglodytes   AIEALDAAIEYKNEAITCRQVRLRASASLLSQCEMNLMAKLSYLSSESSETRALLCKYFDKV 1107
Macaca_mulatta    AIEALDAAIEYKNEAITCRQVRLRASASLLSQCEMNLMAKLSYLSSESSETRALLCKYFDKV 1108
Callithrix_jacchus AIEALDAAIEYKNEAITCRQVRLRASASLLSQCEMNLMAKLSYLSSESSETRALLCKYFDKV 1155
Latimeria_chalumnae AIEALDAAIEYKNEAITRRQVRLRASASMLSQCEMNLMAKLSYLSASETRALLCKYFDKV 1160
Rhinatrema_bivittatum AIEALDAAIEYKNEAITRRQVRLRASASMLSKCEMNLMTKLSYLSSESSETRALLCKYFDKV 1172
Xenopus_tropicalis AIEALDAAIEYKNESITRRQVRLRASASLLSQCEMNLMAKLSYLSSESSETRALLCKYFDKV 1145
.....1210.....1220.....1230.....1240.....1250.....1260

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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	*****::: ::* *:***** *:***** *** ***: ***: *::	
Pavo_muticus	VTLREDQHROHIAFSELEMOLEEQQQLVHWLEAAVERORLEMDROLTLQOKEHEQSMQLL	1229
Pavo_cristatus	VTLREDQHROHIAFSELEMOLEEQQQLVHWLEAAVERORLEMDROLTLQOKEHEQSMQLL	1229
Gallus_gallus	VTLREDQHROHIAFSELEMOLEEQQQLVHWLEAAVERORLEMDROLTLQOKEHEQSMQLL	1254
Anas_platyrhynchos	VTLREEQHROHIAFSELEMOLEEQQQLVHWLEVALERORLEMDROLTLQOKEHEQSVQLL	1183
Chelonia_mydas	VTLREDQHROHIAFSELEMOLEEQQQVYWLEVAVERORLEMDROLTLQOKEHEQNIQFL	1196
Mus_musculus	VTLREEQHQQQIAFSELEMOLEEQQRLVYWLEVALERORLEMDROLTLQOKEHEQNVQLL	1172
Rattus_norvegicus	VTLREEQHQQQIAFSELEMOLEEQQRLVYWLEVALERORLEMDROLTLQOKEHEQNVQLL	1165
Canis_lupus_familiaris	VTLREEQHQQQIAFSELEMOLEEQQRLVYWLEVALERORLEMDROLTLQOKEHEQNIQFL	1217
Equus_caballus	VTLREEQHQQQVAFSELEMOVEEQQRLVYWLEVALERORLEMDROLTLQOKEHEQNIQFL	1174
Bos_taurus	VTLREEQHQQQVAFSELEMOLEEQQRLVYWLEAALERORLEMDROLTLQORGHEQHVQLL	1190
Homo_sapiens	VTLREEQHQQQIAFSELEMOLEEQQRLVYWLEVALERORLEMDROLTLQOKEHEQNMQLL	1167
Pan_troglodytes	VTLREEQHQQQIAFSELEMOLEEQQRLVYWLEVALERORLEMDROLTLQOKEHEQNMQLL	1167
Macaca_mulatta	VTLREEQHQQQIAFSELEMOLEEQQRLVYWLEVALERORLEMDROLTLQOKEHEQNMQLL	1168
Callithrix_jacchus	VTLREEQHQQQIAFSELEMOLEEQQRLVYWLEVALERORLEMDROLTLQOKEHEQNLQLL	1215
Latimeria_chalumnae	VTLREEERKLQLAYFEMEMRLEEQQRLVYWLEAAVERORLETDRLTLQOKEHERNVQLL	1220
Rhinatrema_bivittatum	VTLREEEHKQMAFSELEMOLEEMORLVYWLEAALERORLEVDROLTLQOKEHERNLQLL	1232
Xenopus_tropicalis	VTLREEEHKLQIAFSELEMKLEEQQQVYWLEVALERORLEMDROLTLQOKEHERNMQLL	1205
1270.....1280.....1290.....1300.....1310.....1320	

	:	:	:	***:	:	:	* *	:	**::*	:	:	* *	.*:*
Pavo_muticus	LQOSREHMEEGLASSK	LOYEGRIQVLEKEL	SRYMRANOELS	SORLNSINL	-----	HPGV	1282						
Pavo_cristatus	LQOSREHMEEGLASSK	LOYEGRIQVLEKEL	SRYMRANOELS	SORLNSINL	-----	HPGV	1282						
Gallus_gallus	LQOSREHMEEGLASSK	LOYEGRIQVLEKEL	SRYMRANOELS	SORLNSINL	-----	HPGA	1307						
Anas_platyrhynchos	LQOSREHMDDEGLASSK	LOYEGRIQLLEKEL	SRYLRANOELS	SORLSSLSL	-----	QPGG	1236						
Chelonia_mydas	LQOSQEHMGEGLASSK	LOFEGRIQVLEKEL	SRYPVWANOVLN	SORLSNLS	-----	HPGQ	1248						
Mus_musculus	LQOGRDHLGEGLADSK	ROYEARIHAEKEL	GRHMWINOELK	KOKLSAGST	-----	AGQS	1225						
Rattus_norvegicus	LQOGRDHLGEGLADSK	ROYEARIOAEKEL	GRHMWINOELK	KOKLSAGNT	-----	AGQS	1218						
Canis_lupus_familiaris	LQOSRDHLGEGLADSK	ROYETRIOAEKEL	GRHMWMNOELK	KOKLSSWNA	-----	AGLS	1270						
Equus_caballus	LQOSRDHFGEGLADSK	RLYETRIOALEREL	GRHMWINOELK	KOKLGSLSA	-----	ASQS	1227						
Bos_taurus	LQOSRDHLGEGLADSR	ROYETRIOAEKEL	GRHVRLNOELK	KOKLSSLSA	-----	ASQS	1243						
Homo_sapiens	LQOSRDHLGEGLADSR	ROYEARIOAEKEL	GRYMWINOELK	KOKLGGVNA	-----	VGHS	1220						
Pan_troglodytes	LQOSRDHLGEGLADSR	ROYEARIOAEKEL	GRYMWINOELK	KOKLGGVNA	-----	VGHS	1220						
Macaca_mulatta	LQOSRDHLSEGLADSR	ROYEARIOAEKDL	GRYMWINOELK	KOKLGGVNT	-----	VGHS	1221						
Callithrix_jacchus	LQOSRDHLGEGLADSK	ROYEARIOAEKEL	GRYMWINOELK	KOKLGGVNT	-----	AGHS	1268						
Latimeria_chalumnae	LQOCDRDQIDEGALAL	ROYEGRTOLLEREL	NRYKWTNOELN	NOKLREIAMQPS	NQGMADFC		1280						
Rhinatrema_bivittatum	LQOCQEHMSEGLSGRK	OOYEGRLQILEKEL	SWYMAHOELT	SORLSLLTG	-HSPHVMGSHS		1291						
Xenopus_tropicalis	LKOFQGMGEGLAGSK	ROYEARIOMLEKEL	CWYMAHOELT	SORLIKVSI	-PKQNPAGQOV		1264						
1330.....	1340.....	1350.....	1360.....	1370.....	1380							

Pavo_muticus	AKAGMERNVHTG-----TCEEFSH--GEL--PLPPAEENHRGRDESRDLVHAPLPA	1329
Pavo_cristatus	AKAGMERNVHAG-----TCEEFSH--GEL--PLPPAEENHRGRDESRDLVHAPLPA	1329
Gallus_gallus	AKAGVERNVTG-----TCEEFSH--GEF--PLPPAEENHRGRDESRDLVHAPLPA	1354
Anas_platyrhynchos	PK-GMERNTHG-----PCEEPS-PELPVQAATESHRLRDESRLDVHAPLPS	1283
Chelonia_mydas	SKAGADRSMLGAGRPPAVLTGCESGTGIVEQQVQVAATGESHKCRDENRELHVAPLPS	1308
Mus_musculus	R--GCERRSLCLENROCL--GNEDGLHPAAEPELWQSSSLEGVSVRWDESRDLVHAPLPL	1281
Rattus_norvegicus	R--GCERRSHCLENROGL--GNEDGPHVAAQEPLWPSSLLEGAPRVWDESRDLVHAPLPL	1274
Canis_lupus_familiaris	RVITGGEKRTLCLCNRPPT--GTEEBEPAG-PELLWQQPLPDSPVRARDEVDRDVPRAVLPL	1327
Equus caballus	R--GGEKRTPCLNROP--GSEDELHPA-PEL-WQCPLTEGAPRARREEMRDLDVHAPLPL	1281
Bos_taurus	RVMGGEKRTPCLENROAP--GSEDELHYA-PEPLWQPTGMEGAPPREEMRDLDVHAPLPL	1300
Homo_sapiens	R--GGEKRSLCSEGRQAP--GNEDELHLA-PELLWLSPLTEGAPRTREETRDLDVHAPLPL	1275
Pan_troglodytes	R--GGEKRSLCLEGRQAP--GNEDELHLA-PELLWLSPLTEGAPRTREETRDLDVHAPLPL	1275
Macaca_mulatta	R--GGEKRSLCSEGRQAP--GNEDELHPA-PELLWLWYPLTEGAPRTREETRDLDVHAPLPL	1276
Callithrix_jacchus	R--GGEKKSLGSEGRQAP--GNE-ELHPA-PELLRLSPLTEGAPRTREETRDLIHAPLPL	1322
Latimeria_chalumnae	KPAGMDGRAHSIVDRLSHGAGGTTEESGNTALPEQLPSNP-EHKRRILREESRDWIHTPLPP	1340
Rhinatrema_bivittatum	KVTEGDGRAFHIAEGOPLVG-SLEETINGVVLEQSPASMRHPRPWEESSRDLDVHAPLPP	1350
Xenopus_tropicalis	NVALGDGRSLTTAEKC----TTEHSATVNLNPNVFGTKDNIOFRE---DFLYAPLPP	1315
1390.....1400.....1410.....1420.....1430.....1440	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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      :*:****      .      .      *      .      :  : *  .
Pavo_muticus      TWRRSSLPT-DSTGDPR-----QEVHLPRSLGP-AK-PRREPRRASL 1368
Pavo_cristatus    TWRRSSLPT-DSTGDPR-----QEVHLPRSLGP-AK-PRREPRRASL 1368
Gallus_gallus     TWRRSSLPT-DSTGDSR-----HEVHLPRSLGP-AK-PRREPRRASL 1393
Anas_platyrhynchos TWRRSSLPS-DSFGDPRRD----AEHSILR--AGQPHEVQLPRGLPP-AK-PRWEPRRASL 1334
Chelonia_mydas    TWRRSSLPS-DSPLGPEGIQQREAEYLLR--LGQPQEVVLPWNLAPLPK-PWRELRRASL 1364
Mus_musculus      TWKRSSLCS--EQGSSEESRVRETTEPPVGRVLPMGEGVLSWNFGPLPK-PRWEPRRTS- 1337
Rattus_norvegicus TWKRSSLCS--EQGSSEEPREARETTEPPVGRVLPMGEGVLSWNFGPLPK-PRWEPRRTS- 1330
Canis_lupus_familiaris TWKRSSLCG-EEPGSLEELRPREATEPLVGRVLPGGELGLPWNFGPLAT-PRRDILRRGS- 1384
Equus_caballus    TWRRSSLCGGEEQGSSEELRPREA-EPLAGRVLPMGEGGLPWNLGLPLPK-PRRELRRAS- 1338
Bos_taurus        TWKRSSLCS-EEQGSPEELRQDAAELPVGRVLPVGEAGLPWNLGLPLAK-PRRELRRVS- 1357
Homo_sapiens      TWKRSSLCG-EEQGSPEELRQREAAEPLVGRVLPVGEAGLPWNFGPLSK-PRRELRRAS- 1332
Pan_troglodytes   TWKRSSLCG-EEQGSPEELRQREAAEPLVGRVLPVGEAGLPWNFGPLSK-PRRELRRAS- 1332
Macaca_mulatta    TWKRSSLCG-EEQGSPEELRQREAAEPLVGRVLPVGEAGLPWNFGPLSK-PRRELRRAS- 1333
Callithrix_jacchus TWKRSSLGG-EEQGSSEELRQREAAEPLGRVMPMGEGAGLPWNFGPLSK-PRRELRRAS- 1379
Latimeria_chalumnae SWRRSSLPT-EDQSGLEELRQREAAELPCNRTTQPGEGATLWSVGQVLPKSRREFRRSSL 1399
Rhinatrema_bivittatum TWRRSSLPS-DNPPGLDDLCQQ---GSTLGRGIQPNVANTKTILNYLTP-GRRELQRTNL 1405
Xenopus_tropicalis TWRRSSLPT-EEQHGLEELRNRE-TVLENSKLVQPAEALCQRNLSVLPK-SRRELRRCNV 1372
.....1450.....1460.....1470.....1480.....1490.....1500

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      :**** **:
Pavo_muticus      NVTPLPYHPAMIDVRKNPL 1387
Pavo_cristatus    NVTPLPYHPAMIDVRKNPL 1387
Gallus_gallus     NVTPLPYHPAMIDVRKNPL 1412
Anas_platyrhynchos NVSPMPHHPAMIDVRKNPL 1353
Chelonia_mydas    NVAPVPSHPGMIDVRRNPV 1383
Mus_musculus      -----PGMIDVRKNPL 1348
Rattus_norvegicus -----PGMIDVRKNPL 1341
Canis_lupus_familiaris -----PGMIDVRKNPL 1395
Equus_caballus    -----PGMIDVRRNPL 1349
Bos_taurus        -----PGMIDVRKNPL 1368
Homo_sapiens      -----PGMIDVRKNPL 1343
Pan_troglodytes   -----PGMIDVRKNPL 1343
Macaca_mulatta    -----PGMIDVRKNPL 1344
Callithrix_jacchus -----PGMIDVRKNPL 1390
Latimeria_chalumnae NSS-----SGIIDVRKNPL 1413
Rhinatrema_bivittatum NASPLISSSGMIDVRINPL 1424
Xenopus_tropicalis NTVPVISNLEMIDVRKNPL 1391
.....1510.....

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