

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/ZBTB21p Tue Feb 1 14:55:38 2022

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		***::**:* ** *:	
Pavo_muticus	MTSNSRWMESSRRWQQRARVNRERRRRGGPTGGGAAGGRAGNIRIMEGLLHYINPAHAISL	60	
Pavo_cristatus	MTSNSRWMESSRRWQQRARVNRERRRRGGPTGGGAAGGRAGNIRIMEGLLHYINPAHAISL	60	
Gallus_gallus	MTSNSRWMESSRRWQQRARANRERRRRGGPAGGGRGRRSGNIRIMEGLLHYINPAHAISL	60	
Mus_musculus	-----MMHSVQRAHKHSGEEERRKMCACQIKRMEGLLHYINPAHAISL	44	
Rattus_norvegicus	-----MMHSVQRAHKHSGEEERRKMCACQINCRMEGLLHYINPAHAISL	44	
Heterocephalus_glaber	-----MEGLLHYINPAHAISL	16	
Homo_sapiens	-----MEGLLHYINPAHAISL	16	
Pan_troglodytes	-----MEGLLHYINPAHAISL	16	
Macaca_mulatta	-----MEGLLHYINPAHAISL	16	
Equus_caballus	-----MEGLLHYINPAHAISL	16	
Canis_lupus_familiaris	-----MEGLLHYINPAHAISL	16	
Bos_taurus	-----MEGLLHYINPAHAISL	16	
Rhinatrema_bivittatum	-----MEGLIHYINPAHAISL	16	
Xenopus_tropicalis	-----MEGLIHYINPEHASSM	16	
	1.....10.....20.....30.....40.....50.....60		
	***** :;*.:*****:***:***:***:***:***:*****:		
Pavo_muticus	LSALNEERLKGQLCDVVLIVGDKFRAHKNVLAASSEYFQTLFTNKENESQSVFOLDFCE	120	
Pavo_cristatus	LSALNEERLKGQLCDVVLIVGDKFRAHKNVLAASSEYFQTLFTNKENESQSVFOLDFCE	120	
Gallus_gallus	LSALNEERLKGQLCDVVLIVGDKFRAHKNVLAASSEYFQTLFTNKENESQSVFOLDFCE	120	
Mus_musculus	LSALNEERLKGQLCDVLLIVGDKFRAHKNVLAASSEYFQSLFTNKENEAQTVFOLDFCE	104	
Rattus_norvegicus	LSALNEERLKGQLCDVLLIVGDKFRAHKNVLAASSEYFQSLFTNKENEAQTVFOLDFCE	104	
Heterocephalus_glaber	LSALNEERLKGQLCDVLLIVGDKFRAHKNVLAASSEYFQSLFTNKENESQTVFOLDFCE	76	
Homo_sapiens	LSALNEERLKGQLCDVLLIVGDKFRAHKNVLAASSEYFQSLFTNKENESQTVFOLDFCE	76	
Pan_troglodytes	LSALNEERLKGQLCDVLLIVGDKFRAHKNVLAASSEYFQSLFTNKENESQTVFOLDFCE	76	
Macaca_mulatta	LSALNEERLKGQLCDVLLIVGDKFRAHKNVLAASSEYFQSLFTNKENESQAVFOLDFCE	76	
Equus_caballus	LSALNEERLKGQLCDVLLIVGDKFRAHKNVLAASSEYFQSLFTNKENESQTVFOLDFCE	76	
Canis_lupus_familiaris	LSALNEERLKGQLCDVLLIVGDKFRAHKNVLAASSEYFQSLFTNKENESQTVFOLDFCE	76	
Bos_taurus	LSALNEERLKGQLCDALLIVGDKFRAHKNVLAASSEYFQSLFTNKENEAQTVFOLDFCE	76	
Rhinatrema_bivittatum	LSALNEERLKGQLCDVLLIVGDKFRAHKNVLAASSEYFHSFTNKONESQSVFOLDFCE	76	
Xenopus_tropicalis	LSALNEERLKEEFCVLLIVGDKFRAHKNILAATSEYFQSLFTEKDNESQTVFOLDFCD	76	
70.....80.....90.....100.....110.....120		
	.*.:*****:;*.:*****: : *** :*:***:		
Pavo_muticus	PDAFDNVLNIIYSSSLFIEKGSAAVQELGYSLGISFLTNIISKSPQAPFPSCPIKKILY	180	
Pavo_cristatus	PDAFDNVLNIIYSSSLFIEKGSAAVQELGYSLGISFLTNIISKSPQAPFPSCPIKKILY	180	
Gallus_gallus	PDAFDNVLNIIYSSSLFIEKGSAAVQELGYSLGISFLTNIISKSPQAPFPSCPIKKILY	180	
Mus_musculus	PDAFDNVLNIIYSSSLFVEKGSAAVQELGYSLGISFLTNIIVAKAPQAPFPACPNRKRVP	164	
Rattus_norvegicus	PDAFDNVLNIIYSSSLFVEKGSAAVQELGYSLGISFLTNIIVAKAPQAPFPACPNRKRVP	164	
Heterocephalus_glaber	PDTFDNVLNIIYSSSLFVEKGGLAAVQELGYSLGISFLTNIIVSKAPQAPFPVCPSPKRKVS	136	
Homo_sapiens	PDAFDNVLNIIYSSSLFVEKSSAAVQELGYSLGISFLTNIIVSKTPQAPFPTCPNRRKKVF	136	
Pan_troglodytes	PDAFDNVLNIIYSSSLFVEKSSAAVQELGYSLGISFLTNIIVSKTPQAPFPTCPNRRKKVF	136	
Macaca_mulatta	PDAFDNVLNIIYSSSLFVEKSSAAVQELGYSLGISFLTNIIVSKTPQAPFPACPNRKRVP	136	
Equus_caballus	PDAFDNVLNIIYSSSLFVEKGSAAVQELGYSLGISFLTNIIVSKTPQAPFPACPNRKRVP	136	
Canis_lupus_familiaris	PDAFDNVLNIIYSSSLFVEKSSAAVQELGYSLGISFLTNIIVSKTPQAPFPTCPNRRKKVF	136	
Bos_taurus	PDAFDNVLNIIYSSSLFVEKSSAAVQELGYSLGISFLTNIIVSKTPQAPFPACPNRKRVP	136	
Rhinatrema_bivittatum	ADAFDNVLNIIYSSSLFVEKSSAAVQELGYSLXFLPTNIIISKTPQAPFPGSCPSKRASF	136	
Xenopus_tropicalis	ADVFNVLNIIYSSSIFVEKSSAAVQELGYSLGINFLTNIIVSKTPQTPFPSPKIN--AEF	134	
130.....140.....150.....160.....170.....180		
	:::* :*:*****.* * . : . : . : . *		
Pavo_muticus	QDEDESSSQKRSVIVCQNRSEAGKSVNQTQHDLSHTSKPLPSVAIKTSIR-PQVAKPTE	239	
Pavo_cristatus	QDEDESSSQKRSVIVCQNRSEAGKSVNQTQHDLSHTSKPLPSVAIKTSIR-PQVAKPTE	239	
Gallus_gallus	QDEDESSSQKRSVIVCQNRSEAGKSVNQTQHDLSHTSKPLPSAAIKASIR-PQVAKPIE	239	
Mus_musculus	VEDDETSSQKRSVIVCQGRSEVPGKASGPAMQDLSHATASPSASVKTITSKPHVAKPPE	224	
Rattus_norvegicus	VEDDETSSQKRSVIVCQGRSEVPGKASGPAMQDLSHAARASPSGSVKTITSKPHVAKPPE	224	
Heterocephalus_glaber	VDEDEAGSQKRSVIVCQSRSEVPGKAAGSPADLSPASRLSPSVTSKNGTINKPHVLKPAE	196	
Homo_sapiens	VEDDENSSQKRSVIVCQSRNEAQGKTIVSQNPVDSHTSRPSPSIIVKANINKPHVPKPIE	196	
Pan_troglodytes	VEDDENSSQKRSVIVCQSRNEAQGKTIVSQNPVDSHTSRPSPSIIVKANINKPHVPKPIE	196	
Macaca_mulatta	VEDDENSSQKRSVIVCQSRNEAQGKTIVSQNPVDSHTSRPSPSIIVKANINKPHVPKPIE	196	
Equus_caballus	IEDDENSSQKRSVIVCQSRNEAQGKTIVSQHPADGHTSRPAPNLAVRTSTSKPHVPKPAE	196	
Canis_lupus_familiaris	IEDDENSSQKRSVIVCQSRNEAQGKTIVSQNPDLSTSRPSPSAAAKTSTSKPHVPKAAE	196	
Bos_taurus	TEDEENSSQKRSVIVCQSRNEAPGKAGSQNPDLSTSRPSPSAAAKTSTSKPHVPKAAE	196	
Rhinatrema_bivittatum	QDEDESNQKRSVIVCQSRNEAQKGNANHAQSDLRLLSKPHXPVKTITSTQSRITKSTE	196	
Xenopus_tropicalis	KEEDESQSQRVIVCQNRIEAQERDISHLHDKSRPLKPSLLPQKTHGNRPLMRLS-E	193	
190.....200.....210.....220.....230.....240		

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Pavo_muticus      TLHNLSLTERRWLKENPVSYTKFHETSGTAEDQSRGGLVKRNTVLPQRPPLAEKEIACDEP 299
Pavo_cristatus    TLHNLSLTERRWLKENPVSYTKFHETSGTAEDQSRGGLVKRNTVLPQKPLAEKEIACDEP 299
Gallus_gallus     TLHNLSLTERRWLKENPVSYTKFHETSGTAEDQSRGGLVKRNTVLPQKPLGEKEIASDEP 299
Mus_musculus      QLHSLPLTEKSWTKDSAAVYAKSLEQAGALDDPNRGLVKRNTVLPKPSQDREATDDKP 284
Rattus_norvegicus QLHSLSLTEKSWTKESAAYAKSLEQPGALDDPNRGLVKRNTVLPKPSQDREATDDKP 284
Heterocephalus_glaber PLPSLSLPEKSWAKDAPMGFAKSLHHPGLDDPSRSNLVKRNAALPSKPPHDREAADDRP 256
Homo_sapiens      PLHNLSLTEKSWPKDSSVYAKSLEHSGSLDDPNRISLVKRNAVLPSKPLQDREAMDDKP 256
Pan_troglodytes   PLHNLSLTEKSWPKDSSVYAKSLEHSGSLDDPNRISLVKRNAVLPSKPLQDREAMDDKP 256
Macaca_mulatta    PPHSLSLTEKSWPKDSSVGYAKSLEHSGSLDDPNRISLVKRNAVLPSKPLQDREAMDDKP 256
Equus_caballus    PLHNLSLTEKTWPKDSSVGYAKSLEHSGSLDDPNRSLGKRNAVLPSKPLQDREAGDDKP 256
Canis_lupus_familiaris PLHSLPLADKSWPKDGSVGYAKPLEHSGPLDDPSRSNLVKRSAPPPSKPPQDREPMDKA 256
Bos_taurus        PPHHVAPAEKSWPKDGPVAVLAPPELAGPLEEPSRGGLAKRAVAPPKPPPDRAAVDERP 256
Rhinatrema_bivittatum PLQGLLLNEKRWLKDHPSYTKLLEPSRLSNDQSRSGWVKYYPVLLPKPLAVKETADDDKL 256
Xenopus_tropicalis PPNSL-LSEKWRN-----SYVSDQGISRSVKRKS TLQKSFPSLES-NDKP 239
      .....250.....260.....270.....280.....290.....300

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Pavo_muticus      GSSSQLLRGKAAELSLKRPR-PPVLSLRGSSSETFLLREAGKGN---GQGEDRNLLYYSK 355
Pavo_cristatus    GSSSQLLRGKAAELSLKRPR-PPVLSLRGSSSETFLLREAGKGN---GQGEDRNLLYYSK 355
Gallus_gallus     GSSSQLLRGKAAELSLKRPR-PPVLSLRGSSSETFLLREAGKGN---GQGEDRNLLYYSK 355
Mus_musculus      GVSSQLPKGKAIELALKRPR-PPVLSLHSSSETPYLLKETSKGG---GQGEDRNLLYYSK 340
Rattus_norvegicus GVSSQLPKGKAIELALKRPR-PPVLSLHSSSETPYLLKETSKGG---GQGEDRNLLYYSK 340
Heterocephalus_glaber GVSGQLPKGKAIEMALKRPR-PPVLSLRSSSETPYLLKEAGKGG---GQGEERNLLYYSK 312
Homo_sapiens      GVSGQLPKGKALELALKRPR-PPVLSVCSSSETPYLLKETNKG---GQGEDRNLLYYSK 312
Pan_troglodytes   GVSGQLPKGKALELALKRPR-PPVLSVCSSSETPYLLKETNKG---GQGEDRNLLYYSK 312
Macaca_mulatta    GVSGQLPKGKALELALKRPR-PPVLSLCSSETPYLLKETNKG---GQGEDRNLLYYSK 312
Equus_caballus    GVSGQLPKGKAIELALKRPR-PPVLSLRSSSETPYLLKETNKG---GQGEDRNLLYYSK 312
Canis_lupus_familiaris GLSSQLPKGKAIELALKRPR-PPVLSLGGSTETPYLLKETHRGG---GQGEDRNLLYYSK 312
Bos_taurus        GASALLPKGVAVELALRSR-PPVLSLRGSPETPYLLKEAGRGS---GQGEDRNLLYYSK 312
Rhinatrema_bivittatum CVSVELLTEKG--MSSKRPOQHSVPSLRGSTESPYLLRQIEKGS--TSQSEDRNLLYYSK 313
Xenopus_tropicalis GISGCLLRNTSETFEKQMLA--SVPPSYSSSEYPYSLIRGKESVPIKEEEENVVYYSK 297
      .....310.....320.....330.....340.....350.....360

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Pavo_muticus      LGLVIPSSGS----GPNQSIDRSGPLVKSLLRRSLSMDSQVPIYSPSVDLKPSSQVSSSS 411
Pavo_cristatus    LGLVIPSSGS----GPNQSIDRSGPLVKSLLRRSLSMDSQVPIYSPSVDLKPSSQVSSSS 411
Gallus_gallus     LGLVIPSSGS----GPNQSIDRSGPLVKSLLRRSLSMDSQVPIYSPSVDLKPSSQVSSSS 411
Mus_musculus      LGLVVPSSGGP----ASANQSIDRSGPLVKSLLRRSLSMDSQVPVYSPSIDLKSSQGSSTA 396
Rattus_norvegicus LGLVVPSSGGP----ASANQSIDRSGPLVKSLLRRSLSMDSQVPVYSPSIDLKSSQGSSTA 396
Heterocephalus_glaber LGLVVPSSGS--GSGSGSGNQSIDRSGPLVKSLLRRSLSMDSQVPPYSPSIDLKSSQGSSTA 372
Homo_sapiens      LGLVIPSSGS----GSGNQSIDRSGPLVKSLLRRSLSMDSQVPVYSPSIDLKSSQGSSTA 368
Pan_troglodytes   LGLVIPSSGS----GSGNQSIDRSGPLVKSLLRRSLSMDSQVPVYSPSIDLKSSQGSSTA 368
Macaca_mulatta    LGLVIPSSGS----GSGNQSIDRSGPLVKSLLRRSLSMDSQVPVYSPSIDLKSSQGSSTA 368
Equus_caballus    LGLVIPSSGS----GSGNQSIDRSGPLVKSLLRRSLSMDSQVPVYSPSIDLKSSQGSSTA 368
Canis_lupus_familiaris LGLVVPSSGS----GSGKPGIDRSGPLVKSLLRRSLSMDSQVPVYSPSIDLKSSQGSSTA 368
Bos_taurus        LGLVIPAGAP----APGTQGVDRSGPLVKSLLRRSLSMDSQVPVYTPAELQAPP--AG 366
Rhinatrema_bivittatum LGLVIPSSRP----GAENQSIDRSGPLVKSLLRRSLSMDSQVPVYSP--VDLKPSSSTTSN 368
Xenopus_tropicalis VGLTSSAGST-----HQNTRD SGPLVKSLLRRSLSMDSQVPAYSHSPDFSLEGTSA 350
      .....370.....380.....390.....400.....410.....420

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Pavo_muticus      SPGTTDSQKIFNVA--QKTKLKESSE-KLVLDKQPVMHPRHLR-SFSASQTTDREVSSP 468
Pavo_cristatus    SPGTTDSQKIFNVA--QKSKLKESSE-KLVLDKQPVMHPRHLR-SFSASQTTDREVSSP 468
Gallus_gallus     SSGTTDSQKIFNVA--QKSKLKESSE-KLVLDKQPVMHPRHLR-SFSASQTTDREVSSP 468
Mus_musculus      ANEAPGS--VFCMS--QKSSLKDCSE-KKALDDRPQVLPQPHRLR-SFSASQSTDREASP 451
Rattus_norvegicus ANEAPGS--VFCMS--QKSSLKDCSE-KKALDDRPQVLPQPHRLR-SFSASQSTDREASP 451
Heterocephalus_glaber LKDAPGS--IFCALS--QKASLKDCSEKKAALDDRPQVLPQPHRLR-SFSASQSTEREGTP 428
Homo_sapiens      SSDAPGN--VLCALS--QKSSLKDCSE-KTALDDRPQVLPQPHRLR-SFSASQSTDREGASP 423
Pan_troglodytes   SSDAPGN--VLCALS--QKSSLKDCSE-KTALDDRPQVLPQPHRLR-SFSASQSTDREGASP 423
Macaca_mulatta    SSDAPGN--VLCALS--QKSSLKDCSE-KTALDDRPQVLPQPHRLR-SFSASQSTDREGASP 423
Equus_caballus    SVDAPGN--VFCALS--QRSSLKDGGE-KSALDDRTVPVQPHRLR-SFSASQSTEREGVPP 423
Canis_lupus_familiaris ASDVPGA--VFCAVA--QKAPVKDCGE-KAAPEERSAPQPHRLR-SFSASQSTEREGEPA 423
Bos_taurus        SGDVGAS--VLSAFSSQRFPKDGGE-TVAPDTRTPAPQPHRLR-SFSASQPAERPGAPQ 422
Rhinatrema_bivittatum SLEDKIS-----SLT-QKQSSADSM-D-RVITGDKLQVIHPRHLR-SFSASQSTDREADSP 420
Xenopus_tropicalis EN-----CNKAVAIAGFHQSKTDLDLARDNAQKCNLKSIFVSSKPHSRE-SIP 400
      .....430.....440.....450.....460.....470.....480

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Pavo_muticus	LTDVRIKTEPSSPLSDPSEIIRVTVGDASVS	-----	TNKDFPFKTEDDHKEPNRL	518	
Pavo_cristatus	LTDVRIKTEPSSPLSDPSEIIRVTVGDASVS	-----	TNKDFPFKTEDDHKEPNRL	518	
Gallus_gallus	LTEVRIKTEPSSPLSDPSEIIRVTVGDASVS	-----	TNKDFPFKTEDDHKESSRL	518	
Mus_musculus	VTEVRIKTEPSSPLSDPSDIIRVTVGGDAAAAA	AAAAAATRDLP	PLKTEEDQDMSRL	511	
Rattus_norvegicus	VTEVRIKTEPSSPLSDPSDIIRVTVGGD	-----	AAAAAATRELPLKTEEDQDMSRL	503	
Heterocephalus_glaber	VTKVRIKTEPSSPLSDPSDIIRVTVGDAA	-----	AAAAATATRDLP	PLKTEEDPKDMSRL	482
Homo_sapiens	VTEVRIKTEPSSPLSDPSDIIRVTVGDAATTA	---	AASSSSVTRDLSLKTEDDQKMSRL	480	
Pan_troglodytes	VTEVRIKTEPSSPLSDPSDIIRVTVGDAAATA	---	AASSSSVTRDLSLKTEDDQKMSRL	480	
Macaca_mulatta	VTEVRIKTEPSSPLSDPSDIIRVTVGDAAATA	---	AASSSSVTRDLSLKTEDDQKMSRL	480	
Equus_caballus	VTEVRIKTEPRSPPLSDPSDIIRVTVGDAAAAS	---	SS-----TRDLSLKTEDDQKMSRL	475	
Canis_lupus_familiaris	VTEVRIKTEPRSPPLADPSDIIRVTVGDPAA	---	ATRDLP	PLKTEEDQKASRL	472
Bos_taurus	GPEVRVKAEPSP-EP	CDIIRVTVGDAAA	---	ATRDALQTEDDRKQPSRL	470
Rhinatrema_bivittatum	LSEVQIKTEPSSPLSDPSEIISFTVGDASPS	-----	TSRDFPCKPEENORNRL	470	
Xenopus_tropicalis	EKDVIHKTEPGSPSETSEIFRVTVGDI	SQP	-----	SNRDVPKAEETP-NIIKM	449
490.....500.....510.....520.....530.....540				

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Pavo_muticus	PAKRRFQADRR	LPFKKLKVN	EEGSP	EEFEEGSS	PTHLDA	DFADSDVSKDEYSEME	577
Pavo_cristatus	PAKRRFQADRR	LPFKKLKVN	EEGSP	EEFEEGSS	PTHLDA	DFADSDVSKDEYSEME	577
Gallus_gallus	PAKRRFQADRR	LPFKKLKVN	EEGSP	EEFEEGSS	PTHLDA	DFADSDVSKDEYSEME	577
Mus_musculus	PAKRRFQDTRR	SPLKKAKANE	HGPAV	SEENCEEGR	SPSLDS	SNFPDSDLNREEFGELEG	570
Rattus_norvegicus	PAKRRFQDTRR	SPLKKPKANE	HGPAV	SEENCEEGR	SPSLDS	SNFPDSDLNREEFGELEG	562
Heterocephalus_glaber	PAKRRFQADRR	SPFKKAKI	SEHRPPA	ADGNCE	DGPSPP	PLDGEFPDSDLNKDELGELEG	541
Homo_sapiens	PAKRRFQADRR	LPFKKLKVN	EEHGPS	VSEDNFEEGSS	PTLLDA	DFPDSDLNKDEFGELEG	539
Pan_troglodytes	PAKRRFQADRR	LPFKKLKVN	EEHGPS	VSEDNFEEGSS	PTLLDA	DFPDSDLNKDEFGELEG	539
Macaca_mulatta	PAKRRFQADRR	LPFKKLKVN	EEHGPS	VSEDNFEEGSS	PTLLDA	DFPDSDLNKDEFGELEG	539
Equus_caballus	PAKRRFQADRR	LPVKLLKED	GPGSPGS	ADNLEEGSS	PALLEA	DFPDSDLNKDEFGELEG	534
Canis_lupus_familiaris	PAKRRRLDTRR	PPLKKVRE	DEPGSPV	SAESFQGGP	SPPLPD	GEFPDSDLNKDEFGELEG	531
Bos_taurus	PAKRRFQDTRR	LPAKQPKA	ESPGSPGS	GDPREEGSS	PSALRA	DFPGSDLNKDEFGELEG	529
Rhinatrema_bivittatum	PAKRRYQADRR	LPSKOLKME	SNSPGP	DDNLGEI	SSPNL	DAFAGSDDGKDEYSELE	528
Xenopus_tropicalis	PIKRKLQADRR	MLPSRRVK	MKSAISP	--DATLEE	--AL	ILDADSSDESRELYGEASE	505
550560570580590600	

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Pavo_muticus	ARPNNKFKCKHCLKIFRSTAGLHRHVMYHNPEKPYACDICHKRFHTNFKVWTHCQTQHG	637
Pavo_cristatus	ARPNNKFKCKHCLKIFRSTAGLHRHVMYHNPEKPYACDICHKRFHTNFKVWTHCQTQHG	637
Gallus_gallus	ARPNNKFKCKHCLKIFRSTAGLHRHVMYHNPEKPYACDICHKRFHTNFKVWTHCQTQHG	637
Mus_musculus	TRPNKKFKCKHCLKIFRSTAGLHRHVMYHNPEKPYACDICHKRFHTNFKVWTHCQTQHG	630
Rattus_norvegicus	TRPNKKFKCKHCLKIFRSTAGLHRHVMYHNPEKPYACDICHKRFHTNFKVWTHCQTQHG	622
Heterocephalus_glaber	ARPNNKFKCKHCLKIFRSTAGLHRHVMYHNPEKPYACDICHKRFHTNFKVWTHCQTQHG	601
Homo_sapiens	TRPNKKFKCKHCLKIFRSTAGLHRHVMYHNPEKPYACDICHKRFHTNFKVWTHCQTQHG	599
Pan_troglodytes	TRPNKKFKCKHCLKIFRSTAGLHRHVMYHNPEKPYACDICHKRFHTNFKVWTHCQTQHG	599
Macaca_mulatta	TRPNKKFKCKHCLKIFRSTAGLHRHVMYHNPEKPYACDICHKRFHTNFKVWTHCQTQHG	599
Equus_caballus	TRPNKKFKCKHCLKIFRSTAGLHRHVMYHNPEKPYACDICHKRFHTNFKVWTHCQTQHG	594
Canis_lupus_familiaris	TRPNKKFKCKHCLKIFRSTAGLHRHVMYHNPEKPYACDICHKRFHTNFKVWTHCQTQHG	591
Bos_taurus	TRPNKKFKCKHCLKIFRSTAGLHRHVMYHNPEKPYACDICHKRFHTNFKVWTHCQTQHG	589
Rhinatrema_bivittatum	MRPNKKFKCKHCLKIFRSTAGLHRHVMYHNPEKPYACDICHKRFHTNFKVWTHCQTQHG	588
Xenopus_tropicalis	SRQNNKFKCKHCLKIFRSTAGLNRHVMYHNPEKPYACDICHKRFHTNFKVWTHCQTQHG	565
610.....620.....630.....640.....650.....660	

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Pavo_muticus	IVKNPSPASSSHAVLDEKFORKLIDIVREREIKKALIVKLRRGKQGFQGOSTSQAQQVIK	697
Pavo_cristatus	IVKNPSPASSSHAVLDEKFORKLIDIVREREIKKALIVKLRRGKQGFQGOSTSQAQQVIK	697
Gallus_gallus	IVKNPSPASSSHAVLDEKFORKLIDIVREREIKKALIVKLRRGKQGFQGOSTSQAQQVIK	697
Mus_musculus	IVKNPSPASSSHAVLDEKFORKLIDIVREREIKKALIILRRSKPGFQGSSSPAQQVIK	690
Rattus_norvegicus	IVKNPSPASSSHAVLDEKFORKLIDIVREREIKKALIILRRSKPGFQGSSSPAQQVIK	682
Heterocephalus_glaber	IVKNPSPAVSSHAVLDEKFORKLIDIVREREIKKALIILRRGKPGFGPSGSPAQQVIK	661
Homo_sapiens	IVKNPSPASSSHAVLDEKFORKLIDIVREREIKKALIILRRGKPGFGQSSSPAQQVIK	659
Pan_troglodytes	IVKNPSPASSSHAVLDEKFORKLIDIVREREIKKALIILRRGKPGFGQSSSPAQQVIK	659
Macaca_mulatta	IVKNPSPASSSHAVLDEKFORKLIDIVREREIKKALIILRRGKPGFGQSSSPAQQVIK	659
Equus caballus	IVKNPSPASSSHAVLDEKFORKLIDIVREREIKKALIILRRGKPGFGQGGSPAQ-VIK	653
Canis_lupus_familiaris	IVKNPSPASSSHAVLDEKFORKLIDIVREREIKKALIILRRSKPGFGQSSSPAQ-AIK	650
Bos_taurus	VVKNPPAAPASSHAVLDEKFORKLIDIVREREIKKALIILRRGRPGFGPGGSPAQ-VLK	648
Rhinatrema_bivittatum	IVKNPSPASSSQAVLDEKFORKLIDIVREREIKKALIVKLRRGKQGFQTOSTSQSQ-AIK	647
Xenopus_tropicalis	IVRNPSPASSGSTVLDDKFORKLVDIREREIKKALLFRLLRGKQGFQGSSPAQ-ALR	624
670.....680.....690.....700.....710.....720	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus      RNLRSRTKGAYICVYCGKAYRFLSQFKQHIKMHPGEKPIGGNKVPKQKQDHIHIESPVENK 757
Pavo_cristatus    RNLRSRTKGAYICVYCGKAYRFLSQFKQHIKMHPGEKPIGGNKVPKQKQDHIHIESPVENK 757
Gallus_gallus     RNLRSRTKGAYICVYCGKAYRFLSQFKQHIKMHPGEKPIGGNKVPKQKQDHIHIESPVENK 757
Mus_musculus      RNLRSRAKGAYICAYCGKAYRFLSQFKQHIKMHPGERPLGVSRAAKPKERA-LARAVENK 749
Rattus_norvegicus RNLRSRAKGAYICAYCGKAYRFLSQFKQHIKMHPGERPLGVSRAAKPK-----ARAVESK 737
Heterocephalus_glaber RNLRPRAKGAYICAYCGKAYRFLSQFKQHIKMHPGERALGVHRAAKPKHEAPLASAVESK 721
Homo_sapiens      RNLRSRAKGAYICTYCGKAYRFLSQFKQHIKMHPGEKPLGVNKVAKPKHEAPLASPVENK 719
Pan_troglodytes   RNLRSRAKGAYICTYCGKAYRFLSQFKQHIKMHPGEKPLGVNKVAKPKHEAPLASPVENK 719
Macaca_mulatta    RNLRSRAKGAYICTYCGKAYRFLSQFKQHIKMHPGEKPLGVNKVAKPKHEAPLASPVENK 719
Equus_caballus    RNLRSRAKGAYICTYCGKAYRFLSQFKQHIKMHPGERPVGVHKIAKPKHEHVPLESPVANK 713
Canis_lupus_familiaris RNLRSRAKGAYICTYCGKAYRFLSQFKQHIKMHPGEKPIGVHRAAKPKHEHVALESPVENK 710
Bos_taurus        RGLRSRAKGAYVCTACGKAYRFLSQLKQHVKMHPGEKALGAARAARPRERAAPGGAAGGP 708
Rhinatrema_bivittatum RNLRSRTKGAYICTYCGKAYRFLSQFKQHIKMHPGEKPIG-NKAIPKT-LVIKSPVESK 705
Xenopus_tropicalis RSLRSRSKSSYICNHCCKSYRFLSQFKQHCKMHPGEKNPFGSKENKPKAPSPPKSPVDNK 684
.....730.....740.....750.....760.....770.....780

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*.: **.*.*.*.*:.*.*.*.* **.*.*.*.*:*** **.*.*.*.*:      :      :      :
Pavo_muticus      EVYQCRLCNAKLSSLIEQGNHERLCRNATVCPYCSLRFSSPELKHEHESKCEYKKLTCLE 817
Pavo_cristatus    EVYQCRLCNAKLSSLIEQGNHERLCRNATVCPYCSLRFSSPELKHEHESKCEYKKLTCLE 817
Gallus_gallus     EVYQCRLCNAKLSSLIEQGNHERLCRNATVCPYCSLRFSSPELKHEHESKCEYKKLTCLE 817
Mus_musculus      EVYPCRLCNAKLSSLIEQGNHERLCRNATVCPYCSLRFSSPELKHEHESKCEYKKLTCLE 809
Rattus_norvegicus EVYPCRLCNAKLSSLIEQGNHERLCRNATVCPYCSLRFSSPELKHEHESKCEYKKLTCLE 797
Heterocephalus_glaber ELYPCRLCNAKLSSLIEQGNHERLCRNATVCPYCSLRFSSPELKHEHESKCEYKKLTCLE 781
Homo_sapiens      EVYQCRLCNAKLSSLIEQGNHERLCRNAAVCPYCSLRFSSPELKHEHESKCEYKKLTCLE 779
Pan_troglodytes   EVYQCRLCNAKLSSLIEQGNHERLCRNAAVCPYCSLRFSSPELKHEHESKCEYKKLTCLE 779
Macaca_mulatta    EVYQCRLCNAKLSSLIEQGNHERLCRNAAVCPYCSLRFSSPELKHEHESKCEYKKLTCLE 779
Equus_caballus    EVYQCRLCNAELSSLIEQGNHERLCRNATVCPYCSLRFSSPELKHEHESKCEYKKLTCLE 773
Canis_lupus_familiaris EVYQCRLCNAKLSSLIEQGNHERLCRNATVCPYCSLRFSSPELKHEHESKCEYKKLTCLE 770
Bos_taurus        ELYLCRLCNAKLSSLIEQGNHERLCRTATVCPYCSLRFSSPELKREHEGKCEFRKLTCLE 768
Rhinatrema_bivittatum EVYQCRLCNTKLSSVMEQGNHERLCRNATVCPYCSLRFSSPEMKHEHENKCQYKKLTCLE 765
Xenopus_tropicalis EFFNCRLCNAKFPSFVEQGNHERMCRNATLCPYCSLRFASDLKNEHESKCEYKKLTCLE 744
.....790.....800.....810.....820.....830.....840

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**.*.*.*.*:*** **.*.*.*.*:*** **.*.*.*.*:      :      :      :
Pavo_muticus      CMRTFKSSFSIWRHQVEVHNQNTMAPSENFSLPILDHNGDITSSSRLLPPOSSESSKINNFA 877
Pavo_cristatus    CMRTFKSSFSIWRHQVEVHNQNTMAPSENFSLPILDHNGDITSSSRLLPPOSSESSKINNFA 877
Gallus_gallus     CMRTFKSSFSIWRHQVEVHNQNTMAPSENFSLPILDHNGDITSSSRLLPPOSSESNKINNFA 877
Mus_musculus      CMRTFKSSFSIWRHQVEVHNQNMALAEFALATLDHNGEVAAAASRP--QTEPSKVNHVA 867
Rattus_norvegicus CMRTFKSSFSIWRHQVEVHNQNMALAEFASMPITLDHNGEVAAAASRP--QTEPSKVNHVA 855
Heterocephalus_glaber CMRTFKSSFSIWRHQVEVHNQNSMAPAESLSPALDHNGEGPATARPLAQPEPGKANHIS 841
Homo_sapiens      CMRTFKSSFSIWRHQVEVHNQNMAPTENFSLPVLHDHNGDVTGSSSRPQSQPEPNKVNHIV 839
Pan_troglodytes   CMRTFKSSFSIWRHQVEVHNQNMAPTENFSLPVLHDHNGDVTGSSSRPQSQAEPNKVNHIV 839
Macaca_mulatta    CMRTFKSSFSIWRHQVEVHNQNMAPTENFSLPVLHDHNGDVTGSSSRPQSHPEPNKVNHIV 839
Equus_caballus    CMRTFKSSFSIWRHQVEVHNQNTMAPAENFSLPVLHDHNGEVSAAPSRPQAPPEPRNTNHLV 833
Canis_lupus_familiaris CMRTFKSSFSIWRHQVEVHNQNTMAPAENFSLPVLHDHNGDVAAAASRPQAPPEPGKANHAV 830
Bos_taurus        CMRTFKSAFISIWRHQVEVHNQNSMAPAAGTSPPRPDLDNGEATGPAPLPVPEPGRADPAA 828
Rhinatrema_bivittatum CMRTFKSSFSIWRHQVEVHNQNTMAPSENFSLPILDHNGEMTNTPRQQPAPPESSKINNIV 825
Xenopus_tropicalis CMRTFKSSFSIWRHQVEVHNQNTMAPTENFSLPLIDHNGEVRAASRMRSLSAESSKVNISFL 804
.....850.....860.....870.....880.....890.....900

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.      :.*      :      :      :      :      :      :
Pavo_muticus      AK--EDGVFSD--SSEQINFDSSEDSSCLPEDLSVSKQFKIQIKEEPADDVEDEVTESTRP 934
Pavo_cristatus    AK--EDGVFSD--SSEQINFDSSEDSSCLPEDLSVSKQFKIQIKEEPADDVEDEVTESTRP 934
Gallus_gallus     VK--EDGVFSD--SSEQINFDSSEDSSCLPEDLSVSKQFKIQIKEEPADDVEDEVTEASREP 934
Mus_musculus      TP-KEDTAFSD--SSEQVNFDSSEDSSCLPEDLSLSKQLKVQVKEEPVEEAEEEEAPEASAAP 925
Rattus_norvegicus TP-KEDTAFSD--SSEQVNFDSSEDSSCLPEDLSLSKQLKVQVKEEPVEEAEEEEAPEVASAP 913
Heterocephalus_glaber APPKDDNAFSD--SSEQVNFDSSEDSSCLPEDLSVSKQLKIQVKEEPAAEEEEAPEASVAA 900
Homo_sapiens      TT-KDDNVFSD--SSEQVNFDSSEDSSCLPEDLSLSKQLKIQVKEEPVEEAEEEEAPEASTAP 897
Pan_troglodytes   TT-KDDNVFSD--SSEQVNFDSSEDSSCLPEDLSLSKQLKIQVKEEPVEEAEEEEAPEASTAP 897
Macaca_mulatta    TT-KDDNVFSD--SSEQVNFDSSEDSSCLPEDLSLSKQLKIQVKEEPVEEAEEEEAPEASTAP 897
Equus_caballus    AA-KDDNVFSD--CSEQVNFDSSEDSSCLPEDLSLSKQLKIQVKEEPAAEEEEAPEASAAP 891
Canis_lupus_familiaris TA-KDDTAFSD--CSEHVNFDSSEDSSCLPEDLSLSKQLKIHVKEEPAAEEEEAPEARAAP 888
Bos_taurus        TAAKDDPAGGGRGPEPVNFDSSEDSTCLPEDLSLSKPLKIQVKEEPVEEAEEEEAPEAGAAP 888
Rhinatrema_bivittatum AS-KEDSVFSD--SSEQMNFDSSEDSSCLPEDLTVTKQFNQIKEEPAD-DDDDVSDANLKS 882
Xenopus_tropicalis AL-KEDGIYSD--SSDHMNFDSSEDSSCLPEDLSLSKQFHVQVKEEPADDMEDGS--ESNFGH 861
.....910.....920.....930.....940.....950.....960

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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	..	.*.*****	:	:****	****:*****	*****
Pavo_muticus	KEVVS	NKDAGLWPCEKCGKIF	TVRKQ	LERHQELLCSVKPFI	CHVCNKA	FRTNFRLWSHFQ 994
Pavo_cristatus	KEVVS	NKDAGLWPCEKCGKIF	TVRKQ	LERHQELLCSVKPFI	CHVCNKA	FRTNFRLWSHFQ 994
Gallus_gallus	KEVVS	NKDAGLWPCEKCGKIF	TVRKQ	LERHQELLCSVKPFI	CHVCNKA	FRTNFRLWSHFQ 994
Mus_musculus	REAGP	SKEITGLWPCEKCGKMT	TAHKQ	LERHQELLCSVKPFI	CHVCYKA	FRTNFRLWSHFQ 985
Rattus_norvegicus	REAGP	SKEAGLWPCEKCGKMT	TAHKQ	LERHQELLCSVKPFI	CHVCHKA	FRTNFRLWSHFQ 973
Heterocephalus_glaber	RDAGP	SKEAGLWPCEKCGKVFT	AHQ	LERHQELLCSVKPFI	CHVCHKA	FRTNFRLWSHFQ 960
Homo_sapiens	KEAGP	SKEASLWPCEKCGKMT	TVHKQ	LERHQELLCSVKPFI	CHVCNKA	FRTNFRLWSHFQ 957
Pan_troglodytes	KEAGP	SKEASLWPCEKCGKMT	TVHKQ	LERHQELLCSVKPFI	CHVCNKA	FRTNFRLWSHFQ 957
Macaca_mulatta	KEAGP	SKEASLWPCEKCGKMT	TVHKQ	LERHQELLCSVKPFI	CHVCNKA	FRTNFRLWSHFQ 957
Equus_caballus	KDAGS	SADPGLWPCEKCGKTF	PAHQ	LERHQELLCSVKPFI	CHVCNKA	FRTNFRLWSHFQ 951
Canis_lupus_familiaris	KEAGS	SKDSSLWPCEKCGKTF	TAHQ	LERHQELLCSVKPFI	CHVCNKA	FRTNFRLWSHFQ 948
Bos_taurus	KD-----	LWPCEKCGKIF	PAPKQ	LERHQELLCSVKPFI	CHVCNKA	FRTNFRLWSHFQ 940
Rhinatrema_bivittatum	KDVV	SHKETGLWPCEKCGKILL	CTIKQ	LERSSPELLCSVKPFI	CHVCKKA	FRTNFRLWSHFQ 942
Xenopus_tropicalis	KEDLS	DSERGVWACEKCGKIF	TVHKQ	LERHQELLCTVKPFI	CHVCNKA	FRTNFRLWSHFQ 921
970.....	980.....	990.....	1000.....	1010.....	1020

	:**.: .:. ** * * **:*** * *	:	:
Pavo_muticus	SHMSQAAEES--ANKEPEVCP-PANSPSPPPPLPPPPPLPKIQPLEPDSPTGLSES-STTT	1050	
Pavo_cristatus	SHMSQAAEES--ANKEPEVCP-PANSPSPPPPLPPPPPLPKIQPLEPDSPTGLSES-STTT	1050	
Gallus_gallus	SHMSQAAEES--ANKEPEVCP-PANSPSPPPPLPPPPPLPKIQPLEPDSPTGLSES-STTT	1050	
Mus_musculus	THMSQATEEP--VQKESEVCVPVTNSPSPPPLPPPPPLPKIQPLEPDSPTGLPENPTPAT	1043	
Rattus_norvegicus	SHMSQATEEP--VQKEPEVCPVPTNSPSPPPLPPPPPLPKIQPLEPDSPTGLPENPAPAT	1031	
Heterocephalus_glaber	SHMSQAAEEPVVVQKEAEVGLGPTDPSPPPLPPPPPLPKIQPLEPDSPTGLPENLAPAT	1020	
Homo_sapiens	SHMSQASEES--AHKSEVCPVPTNSPSPPPLPPPPPLPKIQPLEPDSPTGLSENPTPAT	1015	
Pan_troglodytes	SHMSQASEES--AHKSEVCPVPTNSPSPPPLPPPPPLPKIQPLEPDSPTGLSENPTPAT	1015	
Macaca_mulatta	SHMSQASEES--AHKSEVCPVPTNSPSPPPLPPPPPLPKIQPLEPDSPTGLSENPTPAT	1015	
Equus caballus	SHMSQAADDP--AHKDSDACPVPTNSPSPPPLPPPPPLPKIQPLEPDSPTGLPENPAPST	1009	
Canis_lupus_familiaris	SHMSQATEEP--AHKDSEACPAPTNSPSPPPLPPPPPLPKIQPLEPDSPTGLAHPAPST	1006	
Bos_taurus	SHMAQASDDP--AHRDPEAGPGAGSPSPPPPLPP--PLPKIQPLEPDSPTGLPETPTPTA	996	
Rhinatrema_bivittatum	SHMTQAGEKP--PCKEAESCPIKSPSPPPPPPPPPPLPKIQPIEPDSPISFPEG-QNTT	999	
Xenopus_tropicalis	SHMPNVDDSLIKEEASAPLSSPSPPPPAPPPPPPPPPKKLPAPVQSCITYPEK--ITS	979	
1030.....1040.....1050.....1060.....1070.....1080		

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Pavo_muticus	EKLFVQPQESDITLFYHAPPLSAITFKRQYMCKLCHRTFKTAFSLWSHEQTHN	1101
Pavo_cristatus	EKLFVQPQESDITLFYHAPPLSAITFKRQYMCKLCHRTFKTAFSLWSHEQTHN	1101
Gallus_gallus	EKLFVQPQESDITLFYHAPPLSAITFKRQYMCKLCHRTFKTAFSLWSHEQTHN	1101
Mus_musculus	EKLFAPQESDITLFYHAPPLSAITFKRQFMCKLCHRTFKTAFSLWSHEQTHN	1094
Rattus_norvegicus	EKLFAPQESDITLFYHAPPLSAITFKRQFMCKLCHRTFKTAFSLWSHEQTHN	1082
Heterocephalus_glaber	EKLFAPQESDITLFYHAPPLSAITFKRQFMCKLCHRTFKTAFSLWSHEQTHN	1071
Homo_sapiens	EKLFVQPQESDITLFYHAPPLSAITFKRQFMCKLCHRTFKTAFSLWSHEQTHN	1066
Pan_troglodytes	EKLFVQPQESDITLFYHAPPLSAITFKRQFMCKLCHRTFKTAFSLWSHEQTHN	1066
Macaca_mulatta	EKLFVQPQESDITLFYHAPPLSAITFKRQFMCKLCHRTFKTAFSLWSHEQTHN	1066
Equus_caballus	EKLFAPQESDITLFYHAPPLSAITFKRQFMCKLCHRTFKTAFSLWSHEQTHN	1060
Canis_lupus_familiaris	EKLFVQPQESDITLFYHAPPLSAITFKRQFMCKLCHRTFKTAFSLWSHEQSHN	1057
Bos_taurus	DKLFAPRESDITLFYHAPPLSAITFKRQFMCKLCHRTFKTAFSLWSHEQTHN	1047
Rhinatrema_bivittatum	EKSLLLLRNRDITLFYHAPPLSAITFKRQYMCKLCHRTFKTAFSLWSHERTHL	1050
Xenopus_tropicalis	PKMFAPQESDITLFYHAPPLSAITFKRQFMCKLCHRTFKTAFSLWSHEQSHN	1030
1090.....1100.....1110.....1120.....1130.	