

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/BRC42121.fst Tue Feb 1 11:32:55 2022

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[illegible]

		::	***	!:		
Pavo_muticus	WFDQTFKTPK-AKSC	IDSQ	LASTPLIFKEQN	IMPPFS--	SPGRELDQKKMETS	SRENLLSP		112	
Pavo_cristatus	WFDQTFKTPK-AKSC	IDSQ	LASTPLIFKEQN	IMPPFS--	SPGRELDQKKMETS	SRENLLSP		112	
Gallus_gallus	WFDQTFKTPK-AKSS	IDSQ	LASTPLIFKEQN	IMPPFS--	SPGKELDQKKMETS	SRENLLSP		112	
Mus_musculus	GYPEQLFKTP-QRNPPYH	QFASTP	IMFKERSQTLPLD	QSPFRELG-----	KVVASSK		106		
Rattus_norvegicus	GHEPQLFKTP-QRNPSYH	QFASTP	IMFKESQTLPLD	QSPFKELG-----	NVVANSK		106		
Homo_sapiens	NYEPNLFKTP-QRKPSYN	QLASTPIIFKEO	GLTLPLY	QSPVKELDKFKLDLGRNVPNSR		113			
Pan_troglodytes	NYEPNLFKTP-QRKPSYN	QLASTPIIFKEO	GLTLPLY	QSPVKELDKFKLDLGRNVPNSR		113			
Macaca_mulatta	NYEPNLFKTP-QRKPSYN	QLASTPIIFKDO	GLTLPLY	QSPVKELDTFRRLDLGRNVPSSK		113			
Callithrix_jacchus	VYEPNIFKTP-QRKPSYN	QLASTPIIFKEO	GLTLPPY	QSPVKELDKFRLLDLGRKVPNGR		118			
Bos_taurus	SNETNPFKTP-QRKP-YH	QLASTPVIFKEQ	SLTLPLY	QSPKLKHKFRLLDLGKDIANSK		112			
Equus_caballus	SYEPNLFKTP-QRKP-YHH	LASTPIIFKEQ	SLTLPLY	QSPLKESDKYRLDLGKEGTSSK		112			
Canis_lupus_familiaris	-YEPNLFKTP-QRKP-YN	QLASTPIVFR----	EPIYQ	QSPLKELDKYRLDSGKDITDSK		107			
Felis_catus	-YEPNLFKTP-QRKP-CH	QLASTPIIFKEO	GLIPPIYQ	QSPKLKLGKYRIDSGKDITNSK		112			
Xenopus_tropicalis	DLHEYNIKTPKLKSS	SIYSOLDSTP	VIFKERLLS	PLFASSLT	TELDKRONATDNGNVRLEK	115			
Danio_rerio	AGENESIKAP-ET	SALASQ	LFSTPRIFK	QRHFQSPD-----	SIPNEK	81			
70.....	80.....	90.....	100.....	110.....	120			

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Pavo_muticus	PRFLEI-RTPKRISESLGAEVDPMSWSSLATPPTLGATVIIARENDNISGAQQRDGRA	225									
Pavo_cristatus	PRFLEI-RTPKRISESLGAEVDPMSWSSLATPPTLGATVIIARENDNISGAQQRDGRA	225									
Gallus_gallus	PKFLEI-PTPKRISESLGAEVDPEMSWTSSLATPPTLGVTVIIARENDNISGAQQODERA	225									
Mus_musculus	PKLKEG-QTPKPISSELGVEVDPMDSWTSSLATPPTLSSTVLIVARDEEAHRSVIPAD--S	217									
Rattus_norvegicus	PKLEE---TPKHISESLGVEVDPMDSWTSSLATPPTLSSTVLIVARDEEAAHNAFPAD--S	215									
Homo_sapiens	PKFVKGRQTpkhiSESLGAEVDPMDSWSSSLATPPTLSSTVLIVRNEEEASETVFFPHD--T	225									
Pan_troglodytes	PKFVKGRQTpkhiSESLGAEVDPMDSWSSSLATPPTLSSTVLIVRNEEEASETVFFPHD--T	225									
Macaca_mulatta	PKFVKGRQTpkhiSESLGAEVDPMDSWSSSLATPPTLSSTVLIVRNEEEASETFPHD--T	225									
Callithrix_jacchus	PKFVGKGHTPKHISESLGAEVDPMDSWSSSLATPPSLSTVLIVRNEEEASETVFFPHD--T	229									
Bos_taurus	PKLLIKG-QTPKRISSELGAEVDPMDSWSSSLATPPTLSSTVLIVODEEASAAVFPRD--T	223									
Equus caballus	PKLMKG-QTPKRISSELGAEVDPMDSWSSSLATPPTLSSTVLIVARDEEASATVFVPND--T	223									
Canis_lupus_familiaris	PKLMKG-QTPKRISSELGAEVSDSMWSWSSSLATPPTLSSTVLIVRDEEVSAAVFPND--T	217									
Felis_catus	PKLTkg-QTPKRISSELGAEVDPMDSWSSSLATPPTLSSTVLIVRDEEASA AVFPND--T	222									
Xenopus_tropicalis	PKLMKN---QTGCikeslgaevdpeMswssslatppspitviiAHANDQ-----PSGNKH	226									
Danio_rerio	PKRSLA-RSAkQiSESLGAQINPDLSWTSFNTPSPITPVILPTTDVRVASILKDKE	188									
	.....190.....200.....210.....220.....230.....240									

Pavo_muticus	EIVLHN ^{..} FVSKDDEYIAKNDTSLLSIPETVKLNAKDDIKDLELEMLDGLFGETNSFEDSFN	285
Pavo_cristatus	EIVLHN ^{..} FVSKDDEYIAKNDTSLLSIPETVKLNAKDDIKDLELEMLDGLFGETNSFEDSFN	285
Gallus_gallus	EIVLHNFLSEDDGYIAKNDTSLLSIPETVKLNARDDIKDLESEVLMDGLFGETNSFEDSFN	285
Mus_musculus	PATLKSCFSNHNESPQKNDRSVPSVIDSENKNOQEAFSQGLGKMGLDSSGKRNSFKDCLR	277
Rattus_norvegicus	PASILKSYSFNHNESSLKKNDRFIPSVSDSENKSOQEAFSQGLEKMLGDSSSKINRFRDCLR	275
Homo_sapiens	TANVKSYSFNHDESILKKNDRFIASVTDSENTNQREAAASHGFGKTSGNNSF-KVNSCKDHIG	284
Pan_troglodytes	TANVKSYSFNHDESILKKNDRFIASVTDSENTNQREATSHGFGKTSGNNSF-KVNSCKDHTG	284
Macaca_mulatta	TANVKSSF [.] NHDKSLKKNDRCIPSVTDSENTNQREATCHHRFGRTLGNNSF-KVNSCKDHIG	284
Callithrix_jacchus	TAIVKCCFSNHDESILKKNSRFIPSVTDSENTNQREATCHFGRTLGNSFGKVNSCKDYIG	289
Bos_taurus	TAILKTYFSNHDESLK-NNKFI [.] SPGPDSDNKQTKAESHGLEKMLEDSFGKVNSCKDRFE	282
Equus_caballus	TSILKSYSFNHDGSLNKNDRVNPSPGDKENKNOREAKSHELREMLRNSFGKVNSCKDHF [.] G	283
Canis_lupus_familiaris	TAIFKSCFSNHDESILKKNDRFIPC [.] PGPKENKNOREAKSQLG----NSFGKVNSTKDHFV	273
Felis_catus	TAIFKSYFCNHDESILKKNDRFIPSGPDSENKSOREAKSQLGKVMGNSCDKVNSCKDPFG	282
Xenopus_tropicalis	AAIVQS [.] LFPN--CENMEANNLPPPETGTONE [.] DROI [.] CGMGSVIQKIPERS [.] SSIDSIITGLE	284
Danio_rerio	SIFVRKLFP [.] SLSKDSENATTLKQDVVTKSESIRADDLGEKIVCSPNESLDISSLWKQRVP	248
	.....250.....260.....270.....280.....290.....300	

Pavo_muticus	LPAESSG	TLLLLPRALDAVEKCEIKVDEA	QKG	DVPSEQHVRRKTAISQEVKAANWTEKS	345
Pavo_cristatus	LPAESSG	TLLLLPRALDAVEKCEIKVDEA	QKG	DVPSEQHVRRKTAISQEVKAANWTEKS	345
Gallus_gallus	LPAESSG	-ILLSPRALDAIEKCEIKIDEA	QEKSDVLS	EQHRRRKSTISQEVKAANWTEKS	344
Mus_musculus	KPIPNI	LEDG--ETAVDTSEE	-----	DSFSLCFPKRRTRNLQKMRMG-KTRKK	322
Rattus_norvegicus	KPIPNI	LEDG--ETAVDTSGE	-----	DSFSLCFPKRRTRNLQKTRMG-KMKKK	320
Homo_sapiens	KSMPNV	LEDEVYETVVDTSEE	-----	DSFSLCFSKCRTKNLQKVRTS-KTRKK	331
Pan_troglodytes	KSMPNV	LEDEVYETVVDTSEE	-----	DSFSLCFSKCRTKNLQKVRTS-KTRKK	331
Macaca_mulatta	KSMPNV	LEDEVYETVVDTSEE	-----	DSFSLCFSKCRTGNLQKVRTS-KTRKK	331
Callithrix_jacchus	KSMPNV	LEDEVYETIVDTSEE	-----	DSFSLCFSKCRKRNLQKVRIE-KTRKK	336
Bos_taurus	KSMPNV	LEHEVHETVAGISEE	-----	DSLPCVCSKYKTKKLQKRKTG-KSRKN	329
Equus_caballus	ESTPNV	LQDKVHETVADISEE	-----	DSFSLCVSKYKTRNLQKRKIG-KSRKN	330
Canis_lupus_familiaris	KSTPNV	LEDEVHEKVLVDVSEE	-----	DSFSLCVPKYKTRNLQKIKTS-KTRKN	321
Felis_catus	NSTLNV	LEDGVRERADVSEE	-----	DSFPLCVPKCKTRNLQKIKTS-KTRKN	329
Xenopus_tropicalis	KPG	-----	-----	SCSASKTVPEASAISSRAAWKKTIVAN	313
Danio_rerio	NAIEDG	DVRNTVQNVLDGAED	-----	VLSIFFSNNTSALRKIKSK-----	288
	310.....320.....330.....340.....350.....360			

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Pavo_muticus      CCVEVKDSVFQNTDEDIVDSSESLCLIGHEKELEYLRIAGNLQDNRTQKSVNEKLVKDVL      405
Pavo_cristatus    CCVEVKDSVFQNTDEDIVDSSESLCLIGHEKELEYLRIAGNLQDNRTQKSVNEKLVKDVL      405
Gallus_gallus     CCVEVKDSIIQNTNEDIMDSKDNCLLGREKELEYLRIAGNLQDNRTQKSVNEKLVKDVL      404
Mus_musculus      IFSETRTDELSEEARQTDDKNSFVFEME-LRESPLDPGVTSQKPFYSQNEETCNEAVQ      381
Rattus_norvegicus IFSETRTDGLSEEARQADDKNSFALEIE-PRDSEPLDPSVTNOKPLYSQSGDISSEAGQ      379
Homo_sapiens      IFHEANADECEKSKNOVKE-KYSFVSEVE-PNDTDPLDSNVANOKPFESGSDKISKEVVP      389
Pan_troglodytes   IFHEANADECEKSKNOVKE-KYSFVSEVE-PNDTDPLDSNVANOKPFESGSDKISKEVVP      389
Macaca_mulatta    IFHEANADECEKSKNOVKE-KYSFVSEME-SSDTPDPLDSNVANOKPFESGSDKISKEVVP      389
Callithrix_jacchus IY-EANTDECEKSKSOVKE-KYSFVSELE-PNDTDPLDSNVANOKLFESASDKISKEVVP      393
Bos_taurus        IFHETKTDECEEAKKEMTESKHSFVSETE-PNDSPLDSNVIKOKPVGNGTDIISREVLV      388
Equus_caballus    IFNETETDEFEEVEKQMKENKHSFVFEME-PNDSPLDASVTNOKPFGNVSHKISKEVVP      389
Canis_lupus_familiaris IFNETKTSECEEAKKQMKENKHSFVSEME-PNDSDPLDWNVTHEKPFNGTIDKISKEIVL      380
Felis_catus       IFNET-TDECEEAKKQMKENKHSFVSEME-ANASDPLDSNVTNOKPFNGSGDKISKEVVL      387
Xenopus_tropicalis TVKDEEVSRITVENALEGMEDVLSIFFASEKTPGLRKLKNSIQARRKVESIKSQKCQVSLF      373
Danio_rerio       -----ERIRKRITNSSSEVKSFLTSE---PEQKLKADITETKSPSKN-----      327
      .....370.....380.....390.....400.....410.....420

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Pavo_muticus      SSSSQWSQLNLSLDLVTHLETSCVSCPOSDLCGEKGLEEKSVLMTKDDAVETSLLNNSCL      465
Pavo_cristatus    SSSSQWSQLNLSLDLVTHLETSCVSCPOSDLCGEKGLEEKSVLMTKDDAVETSLLNNSCL      465
Gallus_gallus     SSSSQWSQLNLSGLDVTHLEMSICSSPOSDSCREKGLEEKSVLMTKDDAVETSLLNTSGL      464
Mus_musculus      CSDSRWSQSNLSGLNETQTGKITLPHISS---HSONIS-EDFIDMKKEGTG-SITSEKSL      436
Rattus_norvegicus CSDSIWSQPDPSGLNGTQTRKIPLLHISS---HKOSIL-EDFIDMKKEGTG-SIT----F      430
Homo_sapiens      SLACEWSQLTTLGSLNGAQMEKIPLLHISS---CDQNISEKDILLDTENKRKKDFLTSENSL      446
Pan_troglodytes   SLACEWSQLTTLGSLNGAQMEKIPLLHISS---CDQNISEKDILLDTENKRKKDFLTSENSL      446
Macaca_mulatta    SLACEWSQLTTLGSLNGTQMEKIPLLHISS---CDQNNSEKDILLDTENKRKKDFLTSENSL      446
Callithrix_jacchus SLAYERSQLTTLGSLHGTQMEIIPLLHISS---CDQSNSEKNLLDAENERKKDFLTSENSL      450
Bos_taurus        SSVSEWSQLTTLGSLNGTQVQKTSLLHISS---CDQTNSEEDLIGTEKECTN-FITLENSL      444
Equus_caballus    SSASGWSQLTTLGSLNGTQMEKIPLLHISS---CDQNNSEKDIIGTEKECTN-LITLENSV      445
Canis_lupus_familiaris SSASGCSDLTTLSSLNGAQMEKTPLLHTS---YDQNNSEKDIIITDKECTN-FITLENSW      435
Felis_catus       SSASESCHLTTLGSLNGTHMEKLPLLCISS---CDQNNSEKDLITTEKECTN-FIILEDL      443
Xenopus_tropicalis KAAE--GESILVPLDEHHKCDHEMLMKPEQDYKMAVNAVKIAKETPYEWSQLNICELDI      431
Danio_rerio       DDSIEWTPLSLSETILTGCSSSTSLVDNNTVAPSETNDGAIFKFTSESSQ-----TC      380
      .....430.....440.....450.....460.....470.....480

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      ..      :      *
Pavo_muticus      KNAQELSSADLSENCSDMEISKTNPTSEITPVKPVCVSPKLVKGCAREEVSTMSFLNCSS      525
Pavo_cristatus    KNAQELSSADLSENCSDMEISKTNPTSEITPVKPVCVSPKLVKGCAREEVSTMSFLNCSS      525
Gallus_gallus     RNAQELSSASLSENGSDTKISKNNPMSEITPVKPVCAKSPKLVKGYAHEEVSGMSFLNCSS      524
Mus_musculus      PHISSLPPE-PEKMFSEETVVDKEHEGOHFESLEDSIAG-KQMVSRITSQAACLSPSIRKSI      494
Rattus_norvegicus PHISSLPPE-PEKMFSEETLVVDKEHEGOHFESLEDSISG-KQMVSGTSQTACLSPSIRKSI      488
Homo_sapiens      PRISSLPK-SEKPLNEETVVNKRDEEQLHESHTDCILAVKQAISETSPVASSFOGIKCSI      505
Pan_troglodytes   PRISSLPK-SEKPLNEETVVNKRDEEQLHESHTDCILAVKQAISETSPVASSFOGIKCSI      505
Macaca_mulatta    PHISSLPK-SEKPLNEETVVNKRDEEQLHESHRDYILAVKQAVSETSPMASSFOGIKCSI      505
Callithrix_jacchus SDISSLPK-SEKPLNEERMVNKKDEEQLHESDGDHILAVKQATSGNPLVASSFOGIKCSI      509
Bos_taurus        PHISSISK-TVKILNKETVVNKTDEGQCLESHEDEPTTVGKQILTDS----SPLQDTKKSI      499
Equus_caballus    PRISCVPK-TEKKLNEETVINKRDEGQCLESHEDESVLVKQAISETSLIASLQDIKCSI      504
Canis_lupus_familiaris PQISNVPKYSEKTLNEEIVVNKINEGQCLESHEDESVSVKQAIYETTLIASPLOGIRKSI      495
Felis_catus       PQISGVPKCTEKILNEEIVVNKIDEGQCLESHEDESVILAVKQAVFETSLIASPLOGIRKSI      503
Xenopus_tropicalis TQSQDSTLHAANLCCEDITVNKSDTCNITEAEKQEEVNEPSTDNVLSNKGKESTLNVNC      491
Danio_rerio       PQSVRLSSPEGTQCQKILLDKSSAFMLNKKPRKFVYQVSSSEMSITLTGSKADLPKCLD      440
      .....490.....500.....510.....520.....530.....540

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Pavo_muticus	FLIESINVMEYSVVYNSTFSTHLKATSKSVVTDVLSHPLIRSAASPDNCSDLHLTTSENA	585
Pavo_cristatus	FLIESINVMEYSVVYNSTFSTHLKATSKSVVTDVLSHPLIRSAASPDNCSDLHLTTSENA	585
Gallus_gallus	FLIESINVMEYSVVYNSTFSTHLKATSQSVVTDVLSHPLIRSAASPDNCSDLHLRNSEKT	584
Mus_musculus	FKMREPLDETGLTGVFSDSMNTSTFEEHEASACGLGITACSQREDSICPSSVDTGSWPT	554
Rattus_norvegicus	VKMREPLEETILDIVFSDSMNTSAAFTHEELDASAGGLEIHTACSQREDSLCPSVDTGWSPT	548
Homo_sapiens	FRIRESPKETFNASFSGHMTDPNFKKETEASESGLEIHTVCSQKEDSLCPNLIDNGSWPA	565
Pan_troglodytes	FRIRESPKETFNASFSGHMTDPNFKKETEASESGLEIHTVCSQKEDSLCPNLIDNGSWPA	565
Macaca_mulatta	FRIRESPKETFNASFSGHVTDPNFKKETEASESGLEIHTVCSRKDDSLCPNSIDNGSWPA	565
Callithrix_jacchus	FRIRESPKETLSASFSGMSDPNVKKETEASESRLEIHTVCSWKEDTLCPSIDNGSWPA	569
Bos_taurus	FRIRESPKIFREDFNNVSDSNLKEEPEDSKSESEIQTIIYSQKEDSVCSGGDNESWPA	559
Equus_caballus	FRVREIPEETFSAVFSNNMTDPNFKEKPEASESGLEINILYSQKEDSLCTSSVDHGSWPA	564
Canis_lupus_familiaris	FRIRESPEGMSNAMFSNNMTNPNFKEP-EASESGLEKHTICSQKEDSLCTSSIDDGSWPA	554
Felis_catus	FRIRESPETFSAVFSNNITDPNFKEEHEASESVLEKHSICSQKEDSLTSSLDNGSWPA	563
Xenopus_tropicalis	INADLNNMMASSSNNSVHSLNLSQCEKMDSSEISNSEVGCITKLTTHPAKITTGELSSVDD	551
Danio_rerio	QTLKEGPSVEELSVCILNKSSFTINENPIGDQTPQAVEQLSSEHLDHGLDMITQLS----	496
	.....550.....560.....570.....580.....590.....600	

Pavo_muticus	LRKSS---FKSLNMLSRLRKSKRFIYTINNTLVYQEEINVQKEVTS	ESPANPVLTHLESD	642
Pavo_cristatus	LRKSS---FKSLNMLSRLRKSKRFIYTINNTLVYQEEINVQKEVTS	ESPANPVLTHLESD	642
Gallus_gallus	LRKSN---FKSLNMLSRLRKSKRFIYTINNTLVYQEEINVQKEVTS	ESPDNPVLTHLESD	641
Mus_musculus	TLTDTSAIVKNAGLISTLKNKKRKFIYSVSDDASLGKKLQTHRQLELTNLSAQLEASAF		614
Rattus_norvegicus	TLTDTSAIVKNAGLITLKNKKRKFIYSVSDDASHQKKLQTRQSELTNLSAPFEASAF		608
Homo_sapiens	TTTQNSVALKNAGLISTLKKKTNKFIYAIHDETSYQKKKIPKDQKSELINCSAQFEANAF		625
Pan_troglodytes	TTTQTSVALKNAGLISTLKKKTNKFIYAIHDETSYQKKKIPKDQKSELINCSAQFEANAF		625
Macaca_mulatta	ATTQTSVASKNAGLISTLKKKTNKFIYAIRDETSYQKKKIPKDQKSELMNCSAQFEANAF		625
Callithrix_jacchus	SITQTSVVLNAGLISTLKKKTNKFIYAIHDETSYQKKKIQKDQKSEVINSSSQFEANAF		629
Bos_taurus	TTKYTSEALKNTGLISTLKKKTKKFIYVINDKTAYQGLKIQKDQSELTNLSAQFEAKPL		619
Equus_caballus	TIKHTSVALKNAGLISTLKKKPKKFIYAISDEISYQGLKIQKDQESGPTNCSTQLEANTF		624
Canis_lupus_familiaris	TIKHTSVALKNLGLISSLKKKTKKFIYVINDETSNOGLKTQKDQESRLINLSTQFEANAF		614
Felis_catus	TIKHTSVALKNSGLISTLKKKTKKFIYVINDETSQGLKTQKDQSGLMNYSAQFEANVL		623
Xenopus_tropicalis	CAKKPQERVITISTFSTLKKQS-KFMSVNTVLTGHIASNTSIATRRSLNSHLSSDE---		607
Danio_rerio	FAEEFTQEIMAGGLDMPVQSNQKVQVQPAEPESKNKDNHTDISNLADISVNSPN---		553
	.....610.....620.....630.....640.....650.....660		

Pavo_muticus	LHEFKGCQVAID-----GNQDCLLSAERQSNIEENNFSNRIT	EADIMDNSSDNSVNNRL	696
Pavo_cristatus	LHEFKGCQVAID-----GNQDCLLSAERQSNIEENNFSNRIT	EADIMDNSSDNSVNSRL	696
Gallus_gallus	LHEFKDCQVAID-----GNQDCLLSAERQSNIKENNLT	TIKVDIMDNSSDNSVNNRL	695
Mus_musculus	EVPLTFTNVNSGIPDSS--DKKRCLPNDPEEP---SLTNSFGT	ATASKEISY----IHALIS	666
Rattus_norvegicus	EVFPFTFNVDSGIPDSS--IKRSNLNDPEEPSLSTNSFVT	AASKEISY----IHALIS	662
Homo_sapiens	EAPLTFANADSGLLHSS--VKRSCSONDSEPTLSLTSSFGT	ILRKCSRNETCS--NNTVIS	683
Pan_troglodytes	EAPLTFANADSGLLHSS--VKRSCSONDSEPTLSLTSSFGT	ILRKCSRNETCS--NNTVIS	683
Macaca_mulatta	EAPLKFANADSGLFHSS--VKRSCSONYSGEPTLSLTSSFGT	ILRKCSRNETCS--SNNTIIS	684
Callithrix_jacchus	EAPLTFANTDGLLHPS--VORNCSDIDSGEPTLSLTSSSGT	ILRKCTRNETCC--NNIIS	687
Bos_taurus	EAPHTFTNVDSGSLPSS--IQKKCSONDSEPTLSLTSSFGT	VLRLKCFNNESS--SNKTIIS	678
Equus_caballus	ETPVTFINSDGLLHSS--VKKNCLONDSEPTLSLTSSFGT	VLRRCSNNESS--SNKIIIS	683
Canis_lupus_familiaris	EGPLTFTNADSGLLHSS--IKKNCLONDSEKPALSLTSSFGT	ILRKVSSNGASS--PNNKIIS	674
Felis_catus	EGPLTFANADSGLLHSS--VKKTCLONDSEKPIILSLTNSFGT	LLRKVSNNGSS--PNNKIIS	682
Xenopus_tropicalis	-----PKPHIKENQNEPESNAKYYSNGLQKPVF	FLEKENDNKGISLC	648
Danio_rerio	-----KSTSIITFEISHDSGCPPTTFSDLDRTTASFADIGEYFP	TFK	594
670.....680.....690.....700.....710.....720		

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Pavo_muticus      KQQLSDLGKHAREYQPATSFKCLEASHTQSEGTDCCLNSGRISNIKHKVLTSAYLMA-R 755
Pavo_cristatus    KQQLSDLGKHAREYQPATSFKCLEASHTQSEGTDCCLNSGRISNIKHKVLTSAYLMA-R 755
Gallus_gallus     K-QELSESGKNAREYQPATSFKCLKASHTQSEGTDCCLNSGRISNIKHKVLTSAYLMA-R 753
Mus_musculus      QDLNDKEAIVIEKPPQPYTAREADFLCLPERTCENDQKSPKVSNGKEKVLVSACLPS-- 724
Rattus_norvegicus QDLNDKEAILSEEKPPQPYTAREADFLCLPERTCENDQKSPKVSNGKEKVLVSACLPS-- 722
Homo_sapiens      QDLDYKEAKCNKEKLQLFITPEADSLSCLOEGQCENDPKSKKVSVDIKEEVLAACHP--V 741
Pan_troglodytes   QDLDYKEAKCNKEKLQLFITPEADSLSCLOEGQCENDPKSKKVSVDIKEEVLAACHP--V 741
Macaca_mulatta    QDLDYKEAKCNKEKLQLFITPEADSLSCLOEGQCENDPKSKKVSVDIKEEVLAACHP--V 742
Callithrix_jacchus QDLDYKEAKCNKEKLQLFITPEADSLSCLOEGQCENDPKSKKVSVDIKEEVLAACHP--V 745
Bos_taurus        QDLDYKEAKCNKEKLQLFITPEADSLSCLOEGQCENDPKSKKVSVDIKEEVLAACHP--V 742
Equus_caballus    QDLDYKEAKCNKEKLQLFITPEADSLSCLOEGQCENDPKSKKVSVDIKEEVLAACHP--V 742
Canis_lupus_familiaris QDLDYKEAKCNKEKLQLFITPEADSLSCLOEGQCENDPKSKKVSVDIKEEVLAACHP--V 741
Felis_catus       QDLDYKEAKCNKEKLQLFITPEADSLSCLOEGQCENDPKSKKVSVDIKEEVLAACHP--V 741
Xenopus_tropicalis KTISDGQN-----TSEGARAPDYFEERVPETKDRCKATLSIREKVVATANCFAK 698
Danio_rerio       TANNKFCIPTEAIVKAKASLDEAAGDLAKTSNTPKPKHFVITMCKSVSRIPAP-- 652
.....730.....740.....750.....760.....770.....780

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Pavo_muticus      RHRSLFPEDCCLRKGNKNTYISPNVNSQAAVPR----- 789
Pavo_cristatus    RHRSLFPEDCCLRKGNKNTYISPNVNSQAAVPR----- 789
Gallus_gallus     RHRSLFPEDCCLRKGNKNTYISPNVNSQAAVPR----- 787
Mus_musculus      ---AVQLSSISFESQENPLGDHNGTSTLKLTPSSKLPLSKADMVSREKMC-KMPEKLOCE 780
Rattus_norvegicus LAAAVQLSSISFESQENPLGDHNGTSTLKLTPSSKLPLSKADMVSREKMC-KMPEKLOCE 781
Homo_sapiens      QHSEVEYSDTDQFQSQSLLYDHENASTLILTPSKDVLNLVMSIRGKESYKMSDKLKGN 801
Pan_troglodytes   QHSEVEYSDTDQFQSQSLLYDHENASTLILTPSKDVLNLVMSIRGKESYKMSDKLKGN 801
Macaca_mulatta    QHSEVEYSDTDQFQSQSLLYDHENASTLILTPSKDVLNLVMSIRGKESYKMSDKLKGN 802
Callithrix_jacchus QHSEVEYSDTDQFQSQSLLYDHENASTLILTPSKDVLNLVMSIRGKESYKMSDKLKGN 798
Bos_taurus        PHSE-ECSDTVFQFQESFLHDHNTT--ILTPSSKDLLSNPVVIRPGKQSYKMSKIKSK 794
Equus_caballus    PHSEVECSDTCFQFQESFLHDHNTT--ILTPSSKDLLSNPVVIRPGKQSYKMSKIKSK 800
Canis_lupus_familiaris PHSEVECSDTCFQFQESFLHDHNTT--ILTPSSKDLLSNPVVIRPGKQSYKMSKIKSK 791
Felis_catus       PYSEVEDSGIHFQTLKSFSSDPKSS--QLTPHPRDPPSNPVGLSRGKESYEVSETLKCK 799
Xenopus_tropicalis QLETDYPEDASAQHEALQFHAKQYVCSMLNSNVSN----- 734
Danio_rerio       ----- 652
.....790.....800.....810.....820.....830.....840

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Pavo_muticus      -----PEGQPPQSSPSCSDGLIDMHRSTVFVTNSEFNNTSSQIKFGMNGVGSNSCNK 841
Pavo_cristatus    -----PEGQPPQSSPSCSDGLIDMHRSTVFVTNSEFNNTSSQIKFGMNGVGSNSCNK 841
Gallus_gallus     -----PKGQPPQSSPSCSDGLIDMHRSTVFVTNSEFNNTSSQIKFGMNGVGSNSCNK 839
Mus_musculus      SCKVNIELSKNI-LEVN-EICILSENKTPGLLPGENIIEVASSMKSQFNQNAKIVIQ- 837
Rattus_norvegicus SCKDNIELSKNIPLGVN-EMCVLSENKTPGLLPGENIIEVASSMKSQFNQNAKIVIQ- 840
Homo_sapiens      NYESDVELTKNIPMEKNQDVCALNENYKNVELLPPEKYMRVASPSRKVQFNQNTNLRVIQ 861
Pan_troglodytes   NYESDVELTKNIPMEKNQDVCALNENYKNVELLPPEKYMRVASPSRKVQFNQNTNLRVIQ 861
Macaca_mulatta    NYESDVELTKNIPMEKNQDVCALNENYKNVELLPPEKYMRVASPSRKVQFNQNTNLRVIQ 862
Callithrix_jacchus NCEADFELIKNISMENQDVHALNENSKNIELLPPEKYIIVASPSRYVQFNQNTNLRVIQ 858
Bos_taurus        NCEAGFELTKYISMEDNQETCVLNENSKKAEMLSPEKYITGALPSVKVQCHONMNLTVIH 854
Equus_caballus    NCETDFEFTKSIPMEKNQDVCALNENSKKAEMLSPEKYITGALPSVKVQCHONMNLTVIH 860
Canis_lupus_familiaris NHETGFELTKNIPMEKNQDVCALNENSKKAEMLSPEKYITGALPSVKVQCHONMNLTVIH 851
Felis_catus       NHEAGFELTKNIPMEKNQDVCALNENSKKAEMLSPEKYITGALPSVKVQCHONMNLTVIH 857
Xenopus_tropicalis -----DMQIKPQVLTQACDFRSSAENLVEKTKNQLRNEDQSFSSSTGIGKKPASGEKLVG 789
Danio_rerio       -----RPPVQGSIPSNHASGVSVSDASKTDSKPKGKMFNS--NCSLPQ 693
.....850.....860.....870.....880.....890.....900

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/BRCO21.ms Tue Feb 1 11:32:55 2022

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      .      :      :      :
Pavo_muticus      ISADKRCATDQLSVAECREIVAPLGINCLENNSTGLKQ-----WGKEDV      885
Pavo_cristatus    ISADKRCATDQLSVAECREIVAPLGINCLENNSTGLKQ-----WGKEDV      885
Gallus_gallus     ISADKRRASDQLSVAECREIVAPLGINCLENNSTSLKQ-----RGKEDV      883
Mus_musculus      KDQKGSPPFISEVAVNMNSEELFPDSGNNFAFOVTNKCCKPDLGSSVELQEDLSHTQGPS      897
Rattus_norvegicus KDQKDSSTFISEVTVMNNSSEELFPEKENNFVFAOVINENKPNIGSTVFEQEDLSHTKGHS      900
Homo_sapiens      KNQEETTSISKITVNPDSSEELFSDNENNFFVFOVANERNNLALGNTKELHETDLTCVNEPI      921
Pan_troglodytes   NNQEETTSISKITVNPDSSEELFSDNENNFFVFOVANERNNLALGNTKELHETDLTCVNEPI      921
Macaca_mulatta    KDQEETTLIPKITVNPDSSEELFSDNENNFFVFOVANERNNFALGNTKELHETDLTCVNEPI      922
Callithrix_jacchus KDQEETTLISKMTVSPDSSEELSDNENNFFVFOVASERNNFALESTEELHEADLTCVNKPN      918
Bos_taurus        KDQEETTLISKRTVNPNSSEELSPDSENNYIFQTTSERNIPILGNIKEVHEADLSCLREPV      914
Equus_caballus    KKQEETTLISKITVNPNSSEELFPDNENNFFVFIANERNIPALENTKELHEADLSCVEEPI      920
Canis_lupus_familiaris KDQKETTLLISKITVNPNSSEELFPDDENNFFVLKITNESNTPVLGNTKELHDSNLCCVRDSV      911
Felis_catus       KDQKETTLLISKITMNPNSSEELFPDGDN-FVFKITKERNVPLVLSIKELQSDLCCKVKEPV      916
Xenopus_tropicalis DCNEGSFHLVKQEISAAQALVNGYETRDTPDVTSDHTRSVISNHGKSLWEEETALTETLP      849
Danio_rerio       SDES DCKTSSKTIITVSDAGLQTESLLKEKLGRESSESSKPIHQKVDFERSAERHAFVDIS      753
.....910.....920.....930.....940.....950.....960

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      :
Pavo_muticus      AENQETLSIKNSENPQAAAWNN-----VSVEVAEEFLDCIDNSLNEVVSEEDRQVAP      937
Pavo_cristatus    AENQETLSIKNSENPQAAAWNN-----VSVEVAEEFLDCIDNSLNEVVSEEDRQVAP      937
Gallus_gallus     DENQETLSIKSSENPOAAAWNN-----ESIEVAEEFLDCIDNSLNEVVSEEDRQVAP      935
Mus_musculus      LKNSPMAVDEDVDAAHAQVLITKDSDSLAVVHDYTEKSRNIEHQKGTEDKDFKSNSS      957
Rattus_norvegicus LKNSPMTVDRDLDEQAGQVLITEDSDSLAVVHDCTKKSRNTIEHQKGTADKDFKSNSS      960
Homo_sapiens      FKNSTMVLYGDTGDKQATQVSIKKDL-----VYVLAEEKNSVKQHIKMTLGQDLKSDIS      976
Pan_troglodytes   FKNSTMVLYGDTGDKQATQVSIKKDL-----VYVLAEEKNSVKQHIKMTLGQDLKSDIS      976
Macaca_mulatta    FKNSTMVLYADIGDKQATQVSIKKDLSSNIVYDLAEENKNSVKQHLKMTLGQDLQPDIF      981
Callithrix_jacchus FENSTMVLHADIVDKQATQVSIKKDLSSNKVYVLAEEKNSVKQHLEMTLGQDIKSDIS      978
Bos_taurus        LKNSVRVTSTDMDGGQAAKVSITKDSVSSNTVHGLIEKNRNSVKQQSKMTLGQDSKPDVS      974
Equus_caballus    IKNSTMVVCTNIDDKQAAEVSITKDLSDLTVRDLTETNRNSVKQQLEMTVGQDSKSDIS      980
Canis_lupus_familiaris PKNSTMVCTDLDDKQTAQVSIKDCYSS-SIDDLTERNRSTIKQQLKMTLDQDSKSDIT      970
Felis_catus       LENSTMVVYTDMDDKQAAKVSITKGFDS-NIDDLTEKDRNSIKQQLRMTLDQDSKSDIT      975
Xenopus_tropicalis VPEILSKTFKGFKTASNKKIHIS-----DKNIVKGCDFLFEIE      887
Danio_rerio       STQKPTAVDSSCDDLEE-----NGILTASQKADVT      783
.....970.....980.....990.....1000.....1010.....1020

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      .      :      :      :      :
Pavo_muticus      VYFNTKPIENVEHKGKSSGD-LNTCSSSLFSGGFQTASNKQIKFSESSIAGKMLFKDIE      996
Pavo_cristatus    VYFNTKPIENVEHKGKSSGD-LNTCSSSLFSGGFQTASNKQIKFSESSIAGKMLFKDIE      996
Gallus_gallus     VYFNTKPIESLEHKGKSSGD-LNACSSSLFSGGFQTASNKQIKFSESSIAGKMLFKDIE      994
Mus_musculus      LNMK--SDGNSDCSDKWSEF-LDPVLNHNFGGSFRTASNKEIKLSEHNKKSMMFFKDIE      1014
Rattus_norvegicus LYLK--SDGNNDYLDKWSEF-LDPLMNHKFGGSFRTASNKEIKLSEDNVKKSKMFFKDIE      1017
Homo_sapiens      LNIDKIPKNNNDYMNKWAGL-LGPISNHSFGGSFRTASNKEIKLSEHNKKSMMFFKDIE      1035
Pan_troglodytes   LNIDKIPDKNNNDYMDKWAGL-LGPISNHSFGGSFRTASNKEIKLSEHNKKSMMFFKDIE      1035
Macaca_mulatta    LNIDKIPDKNNNDYMDKWAGL-LGPISNHSFGGTFRRTASNKEIKVSEHNKKSMMFFKDIE      1040
Callithrix_jacchus LNIDKIPKNNNDYKDKWAGL-LHPISNHSFGGSFRTASNKEIKLSEHNKKSMMFLRDIE      1037
Bos_taurus        LDIDTKSNRNNFCKDKWAGL-SDLTSSHSFGNGFRTASNKEIKLSEHNKKSMMFLFKDIE      1033
Equus_caballus    LDIDMKSNNRNDYMDKWAGL-LDPISNHSFGHGFRTASNKEIKLSEHNKKSMMFLFKDIE      1039
Canis_lupus_familiaris SDIVRKSNGNSDYMDNWARL-SDPISNHSFENGFKTASNKEIKLSENNIRKSKMLFKDIE      1029
Felis_catus       LDDMKSNNGNNDYMDNWARL-SDPILNHNFGNGFRTASNKEIKLSEHNKKSMMFLFKDIE      1034
Xenopus_tropicalis FGIGDAKPCNEENKEPLKTPFDVPGYETNLKGFKTASNKEINVSENFKAKGRLLFKDIE      947
Danio_rerio       ELCSLLEEANSQYEFTQYKSTNIGSHNRTEKEWDPDILNDIDFDS-----FSCDVVK      837
.....1030.....1040.....1050.....1060.....1070.....1080

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus      NECFEASSMERVRNFSNQVQKENIFSP-DLESKTGSTSSGLQTRCMQDVPRKVDLCKNSP 1055
Pavo_cristatus    NECFEASSMERVRNFSNQVQKENIFSP-DLESKTGSTSSGLQTRCMQDVPRKVDLCKNSP 1055
Gallus_gallus     NEFFEASSMERVRNFSNRVQKENIFSS-DLESKTGSTSSGLQTRCMQVPRKVDLCKNSP 1053
Mus_musculus      EOYPTRLACIDIVNTLPLANKKLLSEPHFDLKSVTTVSTQSHNQSSVS-HEDTDTAPQM 1073
Rattus_norvegicus EOYPTSLDCIDITVSTLQLANKKRLSEPHFDLKSVTTVSTQCHSQSSVS-HEDTHTAPQM 1076
Homo_sapiens      EOYPTSLACVEIVNTLALDNQKKLSKP-----QSINTVSAHLQSSVVVSDCKNSHITPQM 1090
Pan_troglodytes   EOYPTSLACVEIVNTLALDNQKKLSKP-----QSINTVSAHLQSSVVVSDCKNSHITPQM 1090
Macaca_mulatta    EOYPTSLACDEIVNTLALDNQKKLSKP-----QSINTVSAHLQSSVVVSDCKNSHITPQM 1095
Callithrix_jacchus EOYPTSSACVEIVNTLALDNQKKLSKP-----QSIKTVSAHVQSSVVGFDCCKNSLTTPQM 1092
Bos_taurus        EHYPASLPWVEIVK--SLENQRKGGQPRDRDSQSDTVCGYVQSGAVVSDGENSHITPPV 1091
Equus_caballus    EHYPTSLACVEIVNTLSLENQEKLSKPHVLGSQSINIVPRYKHSAFVSDSENSHTTPTPI 1099
Canis_lupus_familiaris EHYPTNLACLEIVNTSSLESQKKPSKSHALDPOSINIISGFVQNSTYVSDSESCHTAPPT 1089
Felis_catus       ERYPTNLACIEIVNTP-LESQEKLSKPHILDPOSINTVSGCVQSSAYVSDSENHHTTTPPT 1093
Xenopus_tropicalis EESGQTAIMAKDNELFIKPASSNKPDP---IFKSTCKKGMNPSENLDSMPKKGDVQQSA 1004
Danio_rerio       GKHPSTKNASSVNTSDLISFRSDLKEK-----QNGTVVLVTEESALVDGMRSILS 888
.....1090.....1100.....1110.....1120.....1130.....1140

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Pavo_muticus      RNQLSMQEPNQSLTASQEAIEAELSSILEETGSQFEFTQFRKQSNVIQSHVROFGATNVE 1115
Pavo_cristatus    RNQLSMQEPNQSLTASQEAIEAELSNILEETGSQFEFTQFRKQSNVIQSHVROFGATNVE 1115
Gallus_gallus     RNQLSVQEPNQSLTASQEAIEAELSNILEETGSQFEFTQFRKQSNMIQSHIQOFGATNVE 1113
Mus_musculus      LSSKQDFHSSNNLTTPSQAEITELSTILEESGSQFEFTQFRKPSHIAQN-TSEVPGNQMV 1131
Rattus_norvegicus LSSKQDFHSSNNLTTPSQAEITELSTILEESGSQFEFTQFRKPSHIAQNNTSAVLGNQMA 1136
Homo_sapiens      LFSKQDFNSNHNLTTPSQAEITELSTILEESGSQFEFTQFRKPSYILQKSTFEVPEMQMT 1150
Pan_troglodytes   LFSKQDFNSNHNLTTPSQAEITELSTILEESGSQFEFTQFRKPSYILQKSTFEVPEMQMT 1150
Macaca_mulatta    SFSKQDFNSNHNLTTPSQAEITELSTILEESGSQFEFTQFRKPSYILQKNTFEVPEMQVT 1155
Callithrix_jacchus LFSKEDFNSNHNLTTPSQAEITELSTILEESGSQFEFTQYRKPSYILQNMFEVPEMQMT 1152
Bos_taurus        LSLKQDFNSNHNLTTPSQAEITELSTILEESGSQFEFTQFRKPSHILQSNPFEMPETOMT 1151
Equus_caballus    LSLKQDFNSNHNLTTPSQAEITELSTILEESGSQFEFTQFRKPRHIIQNNPFEMPENQVT 1159
Canis_lupus_familiaris LSLKQDFNSNHNLTTPSQAEITELSTILEESGSQFEFTQFRKPSHIIQKNPFEMPENQVT 1149
Felis_catus       LSLKQDFNSNHNLTTPSQAEITELSTILEESGSQFEFTQFRKPSHILQKNPCEMPEKHLT 1153
Xenopus_tropicalis GLKHSQDQIDVFGFDDPPAKGNVOTLGIFYNMSASETDFKGFKTASNKDIIISESTLAKGKL 1064
Danio_rerio       KSSDNSHFHTFGFKTAKGKAISVSEKSLNKAHFFFEEDYKEATFIVINQEHFKTSSSVK 948
.....1150.....1160.....1170.....1180.....1190.....1200

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Pavo_muticus      NASEAGEGTFNFSNLTLSKSENHVINDEHCSKLNENDECKMVEYEKENAVVFHKNKKKVTT-- 1173
Pavo_cristatus    NASEAGEGTFNFSNLTLSKSENHVINDEHCSKLNENDECKMVEYEKENAVVFHKNKKKVTT-- 1173
Gallus_gallus     NASEAGEDTFNFYSTLTKSENHVINDEYCSKLNENECKMVEYEKEDTVVFHKNKRKVTFITN 1173
Mus_musculus      VLSTASKEW---KDTDLHLPLVDP-SVGQTDHSHKQFEFSAGVKQSFPHLLEDT----- 1179
Rattus_norvegicus VVRTASEEW---KDVLDHLPLNPSSVGQIDHNKKFECLVGVKQSSSHLLEDT----- 1185
Homo_sapiens      ILKTTSEEC---RDADLHVIMNAPSIGQVDSSKQFEGTVEIKRKFAGLLKND----- 1199
Pan_troglodytes   ILKTTSEEC---RDADLHVIMNAPSIGQVDSSKQFEGTVEIKRKFAGLLKND----- 1199
Macaca_mulatta    ILNNTTSEEN---IEAGL-VIMNAPSIGQVDSSKQFEGTVGIKQKFAGLLKND----- 1203
Callithrix_jacchus ILNNTTSEY---RDADLHLVMNAPSIGQVDSRKQFEGTVGIKQKFAVLLKND----- 1201
Bos_taurus        VLNNTTSEEQ---KDVLDHLTLASAPSLSHIDSSKKCEGLAGRECKMICLSTTN----- 1200
Equus_caballus    VLNNTTSEEW---KDVD-HPTVNTTPSVSVDSSKKYESIVRGKQKFACLLKTN----- 1207
Canis_lupus_familiaris ILNNTSKEW---KDDDLHLTLTNAPSISQVDS-KKSEGIIGGKQKFACLSRTS----- 1197
Felis_catus       ISNTTPEEQ---KDGHLRLTINALSISQGDSSKKFEGIIIGGKQKLACLSKTS----- 1202
Xenopus_tropicalis IFEDIEDTR---YSETGRITIDCKAKGGALSTSNLVMHNTMCKNEPSTSENTN----- 1113
Danio_rerio       TCISTENNN---AQTKQDVRLSCGEVNAAHNMNINWQEAGNAGTEPNCLRDKT----- 997
.....1210.....1220.....1230.....1240.....1250.....1260

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	
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Pavo_muticus	KSS--NTRCCNSDGHVSNNWNFIRCQTKEEGGILCVPNVKGIGPIS-HRSEKKYVENIS	1290
Pavo_cristatus	KSS--NTRCCNSDGHVSNNWNFIRCQTKEEGGILCVPNVKGIGPIS-HRSEKKYVENIS	1290
Gallus_gallus	KSSGTNTRCCNSDGHVSNNWNFLRCQTKEDEGGILCVPNIKSVGPIS-HHSEKKYAENIS	1292
Mus_musculus	SAKVGPGRGFSSSAHSDSVASVFKIKKQNTKESFDEKSSSKQVTLQNNIEMTTCIFVGRNP	1290
Rattus_norvegicus	STKVGPRGFSSCAHSDSVASVFKIKKQNTDKSFDEKSSSKQVTVQNNKEMTTCILVDNP	1296
Homo_sapiens	SAEVHPISLSSSKCHDSVVSFMFKIENH-NDKTVSEKNKCOLILQNNIEMTTGTFVVEEIT	1310
Pan_troglodytes	SAEVHPISLSSSKCHDSVVSFMFKIENH-NDKTVSEKNKCOLILQNNIEMTTGTSVEEIT	1310
Macaca_mulatta	SAEVDPIISLSSSKFHDVVSFMFKIENH-NDKTVSGKN-KCOLILQNNIEMTTGTFVVEEIT	1311
Callithrix_jacchus	SAAVDPIISLSSSKCHDSVVSVFKIENH-DEK-----NNECOLILQNNIEMTTGTFVVEEIT	1307
Bos_taurus	PAEVDPGSFSSNQCNNSDVSMFKVENYSNDKNLSENNKCOLILQNNFEMTTISIFVKENT	1312
Equus_caballus	SAEVDPRISLSSKCHDSVVSFMFKIENY-NDKDLNEKNKCOLILQNNIEMTTGIFVEN-T	1317
Canis_lupus_familiaris	SVEVDR-SFSSSKYNDV-VSMIQIEDCN-DKNLNEKNKCRILQNNIEMTTDIFVEEYT	1306
Felis_catus	SVEVGIRSFSSSKCNGS-VSMFKKENCNNEKKLNEKNKYLILQNNIEMTTGIFVAEDT	1313
Xenopus_tropicalis	RYKKKPISTTKISFQLNEHLTESQAEISELSSILENADSFDFTFQFRKVPVTEKQNST	1226
Danio_rerio	TPKLVPRSSGKHVDVSMQSTRLOK-----TKDLCRGETSIIKISQP	1081
	.....1330.....1340.....1350.....1360.....1370.....1380	

Pavo_muticus	TPCKEN--TENWTGILSDNESVDFSC	TTGRCSASGMRNSPSSFFKKPHQNCKNSDOFLNQGG	1349
Pavo_cristatus	TPCKEN--TENWTGILSDNESVDFSC	TTGRCSASGMRNSPSSFFKKPHQNCKNSDOFLNQGG	1349
Gallus_gallus	SPCKEN--TENWTEILSDN--VDFSC	TNGGYSASGMRNSPSSFFKKPHQNCKNSDOFLNQGN	1349
Mus_musculus	EKYIKN--IKHED--SYTSSQRN--	NLENSDGSMSSTSGPVYIHKGSDSLP--ADQSKCPE	1344
Rattus_norvegicus	ENYVKN--IKQDN--NYTGSQRNAYKLENSDVSKSSTS	SGTVYINKGSDSLPFAAEKGNKYPE	1354
Homo_sapiens	ENYKRN--TENEDNKYTAASRNSHNL--EFDGSDSSKND	TVCIHKDETDLL--FTDQHNICLK	1367
Pan_troglodytes	ENYKRN--TENEDNKYTAASRNSHNL--EFDGSDSSKND	TVCIHKDETDLL--FTDQHNICLK	1367
Macaca_mulatta	ENYKIN--TENEDNKYTAASRNSRL--EFVGS	DSSKNDTVCIHKDEKDLP--FTDQYNICLK	1368
Callithrix_jacchus	ENYKKN--IENED--KHTATSRNTHNL--EFDGSDSSKND	TVHIHKDENDLP--LTNQHNIYLK	1363
Bos_taurus	EDFKRN--TENKDNKCVG---FVCNLGESDGCASSKND	TVYVHKDESGLP--YTDQYNIHLK	1367
Equus_caballus	EDYKRN--AENEDNKCTETSRNICNLGEF	DGDESSKNDTVYIHEDESGLP--CIDQHNIIYLK	1375
Canis_lupus_familiaris	ESYRRN--TENEGNQCTDAGRNTCNS--ESDGS	DSSKNDTVYIHEEENGLP--CIDQHNIDLK	1363
Felis_catus	EGYKRN--IENKANKYTASRNVYNFREADGSDSSKND	TVYIHKKEENGLP--YIDQHDIDLK	1371
Xenopus_tropicalis	EGGSSESQNLNSDVVKDVFDFNDSFAAGRDHSE	GMEAIPSPGIKELPSAGECCSKETHDS	1286
Danio_rerio	DSGVANQISNGADITFNSENVFQEQKSGNAAKEVCKE	KISPSETSMPOQQGYFQTASG	1141
1390.....1400.....1410.....1420.....1430.....1440		

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Pavo_muticus	SQVEGCFQEDTSYLMRLGDN----ISSAAEEHGLSVSDEMENLSPDQKEDGKQDEHLLLN	1405
Pavo_cristatus	SQVEGCFQEDTSYLMRLGDN----ISSAAEEHGLSVSDEMENLSPDQKEDGKQDEHLLLN	1405
Gallus_gallus	SEVEGCLEQEDTSYLICLDGN----ITSAEEHDNLVNSDEMENLSPNQKEDRKQDEHLLLN	1405
Mus_musculus	SCTQYAREENTQIKENISDLTCLCEIMKAEETC-MKSSDDKKQLPSDKMEQNMIKEFN---IS	1400
Rattus_norvegicus	SCTQYVREENAQIKESVSDDLTCLEVMAKAETCHMKSSDKEQLPSDKMEQNMIKEFN---IS	1411
Homo_sapiens	LSGFQFMKEGNTQIKEEDLSDLTFLEVVAKAQEACHGNTSNKEQLTATKTQONIKDFETSDIF	1427
Pan_troglodytes	LSGFQFMKEGNTQIKEEDLSDLTFLEVVAKAQEACHGNTSNKEQLTATKTQONIKDFETSDIF	1427
Macaca_mulatta	LSGFQFMKEGNTQIKEGLSDLTFLEVVKAQETCHGNTSNKEQLTATKTQONIKDFETFDLS	1428
Callithrix_jacchus	LSGFQFMKEGNTQIKEEDLSDLTFLEVVKAQETCHGNTSNKEQLTATKMEOINIKDVGTFDLS	1423
Bos_taurus	LSHHFMKEENIPIKESLSDLTCLEVMAKAETFNK--SNKKEPIANKMRONIKDFGVFDLS	1425
Equus_caballus	LPGQFMKEERTQIKEGLSDLTCLEVVKAEETFHVNTSNKEQLTANKMGONIKDFDIFDLS	1435
Canis_lupus_familiaris	LFSQFMKEGNTQIKEGLSDLTCLEVMAKAETSHVTMSNKQQLIAN-TGONIKDFDTFYLS	1422
Felis_catus	LSSQFIKEGNTQIKEGLSDLTCLEVVKAEETILHVNTSNKEHLTANTMGRITKDFDIFDVS	1431
Xenopus_tropicalis	MPDFVTLAPKQGFLVVKQNERLFAGFNLASGKVNVINDNDVLKKAELFNDIDNDKELLSHA	1346
Danio_rerio	KGVSVLPALKKAKAIFKDCDSNIDNLQSTNMEEKIKLDVEIVKQTNALISNSKSVTFS	1201
	.....1450.....1460.....1470.....1480.....1490.....1500	

Pavo_muticus	CGAADTDAVSISDSSLCSSLRDLNVCCGERDIDVSEDSSKQKINSVNVEGEDSTHKNLFV	1465
Pavo_cristatus	CGAADTDAVSISDSSLCSSLRDLNVCCGERDIDVSEDSSKQKINSVNVEGEDSTHKNLFV	1465
Gallus_gallus	RGAADTDAVSISDSSFRSSLRDLNVCCGERDIDVSEKSSKQKINSVSVGEDSTYKNLFV	1465
Mus_musculus	FQTASGKNIRVSKESLNKSVNIFNRET--DELTVISDSLNSKILHGINDKMKHISCHKKA	1458
Rattus_norvegicus	FQTASGKNIRVSKESLNKSVNILDQET--EDLTVISDSLNSKILCGINKDKMHISCHKKS	1469
Homo_sapiens	FQTASGKNISVAKESFNKIVNFFDQK--PEELHNFS--LNSLHSDIRKNKMDILSYEET	1483
Pan_troglodytes	FQTASGKNISVAKESFNKIVNFFDQK--PEELHNFS--LNSLHSDIRKNKMDILSYEET	1483
Macaca_mulatta	FQTASGKNISVTKESFNKIVNFFDPK--PEELHNFS--LNSKLHSDIRKNKMDILSHEET	1484
Callithrix_jacchus	FQTASGKNISISKESFNKVVNFFDQK--PEELHNFS--LNSKLHSDIRKNKMDILSYEET	1479
Bos_taurus	FWIANGKNIRVSKESLNKVVNFFDEKCTEKLNNFSDSLSNELLSGININKIDISSHEET	1485
Equus_caballus	FQTASGKNIRVSKESLNKVVNFFDQKYTEKELYNFSDSLSNELLSGININKIDVSSCEET	1495
Canis_lupus_familiaris	FQTASRKNIRVSKESLNKARSLNOKWTEELNMFSDSLNSELLPGIDIKKTDISNHEVI	1482
Felis_catus	FQTASGKNIRVSRASLNKVINLLDQKCTEELNMFADSLNSELLSGIDINKADISHHEKM	1491
Xenopus_tropicalis	KEESRKSNIKHSKILINNENCGKTEHTSEHLVCQSNVSLPFIKILGKNATILVSGNEKSQ	1406
Danio_rerio	DVEEFKTDLINLNDQEAPOKEVCELKGLQSEFSNLISNGNCGFSTAGKKVSVSAELAQ	1261
	.....1510.....1520.....1530.....1540.....1550.....1560	

	:	*	**	*:	:	:	
Pavo_muticus	SE-----SGIEIGSYQHHQVPSEQETDVDKNKVKGAYQTGFHTASGKKITTIADGFLA	1517									
Pavo_cristatus	SE-----SGIEIGSYQHHQVPSEQETDVDKNKVKGAYQTGFHTASGKKITTIADGFLA	1517									
Gallus_gallus	SE-----SEIKIGSNQRHQVPSQEEMDVDDKNKVKGYTLTGFTASGKKITTIADGFLA	1517									
Mus_musculus	IS---IKKVFEHFPPIVTVSOLPA-QQHPEYBIESIKEPTLLSFHTASGKKVKIMQESLD	1514									
Rattus_norvegicus	IN---IKKVFEHFPPIGTVSOLPALQQYPEYEIESIKEPTLLSFHTASGKKVKIMQESLD	1526									
Homo_sapiens	D--IVKHKILKESVPVGITGNQLVTFOGQPE-RDEKIKEPTLLGFHTASGKKVKIAKESLD	1540									
Pan_troglodytes	D--IVKHKILKESVPVGITGNQLVTFOGQPE-RDEKIKEPTLLGFHTASGKKVKIAKESLD	1540									
Macaca_mulatta	D--TVKNKILKESVPVGITGNQLVTFOERPO-GDEKIKEPTLLGFHTASGKKVKITKESLD	1541									
Callithrix_jacchus	D--IVKNKILKESIPVGITGNQLVTIOEQPKSNIKKIKEPTLLGFHTASGKKVKIAKESLD	1537									
Bos_taurus	S--MFKNKMLOESSPAGIENTLQOREKCEFKKIKEPTILGFHTASGKKAKIAKESLD	1543									
Equus caballus	D--MVKDKILKERNPVDTENOLLTLOOGSECEIEKIKELAMLGFHTASGKKVKIAKESLD	1553									
Canis_lupus_familiaris	ENTERDKKITKESDLIGTENILLILOORPESKIKKIKESA-VLGFHTASGKKIETTKESLD	1542									
Felis catus	ENTERDKMK-ESDLTGTEINKSLTLOORPEYBIKKIKEPTILGFHTASGKRITAKESLD	1550									
Xenopus_tropicalis	NQELQLDCLKCESTDVKHTPOKETINDNSKCNESSLSSELGMKGFOQTASGRNIMMSSESIQ	1466									
Danio_rerio	R---AKVDLFESVDGFSCANVYKKINVVDDIQLDS-SSGKHGFCITAGKKVAFSATGLQ	1318									
1570.....1580.....1590.....1600.....1610.....1620										

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Pavo_muticus	KAEQFFSENNVDLGKDDNDYFEDRLR--KCNKSYVKDHDLCMD\$VAQHDADVLN-----	1569
Pavo_cristatus	KAEQFFSENNVDLGKDDNDYFEDRLR--KCNKSYVKDHDLCMD\$VAQHDADVLN-----	1569
Gallus_gallus	KAEEFFSENNVDLGKDDNDCFEDCLR--KCNKSYVKDRDLCMD\$TAHCDADVLN-----	1569
Mus_musculus	KVKNLFDETOYV--RKTASF--G\$SKPLKDS--K\$ELTLAYEKIEVT-ASKCEEMON--	1565
Rattus_norvegicus	KVKNLFDETOYV--RKTINFGH\$ESKPLKOREDYKERLTLAYEKIEVT-ASKCEEMON--	1581
Homo_sapiens	KVKNLFDEKEQG-TSEIT\$FSH\$QWAKTLKYREACKD-L\$ELACETIETI\$AAPKCKEMONSL	1598
Pan_troglodytes	KVKNLFDEKEQG-TSEIT\$FSH\$QWAKTLKYREACKD-L\$ELACETIETI\$TAPKCKEMONSL	1598
Macaca_mulatta	KVKNLFDEKEQG-TSEIT\$FSH\$QWAKTLKYREACKD-L\$ELACETVEIT\$TAPKCKEMONSL	1599
Callithrix_jacchus	KVKNLFDEKQGD-TGEIT\$FSH\$QAKTLKYREAYKD-L\$ELVRETIVEIAT\$TRKHEEMONSL	1595
Bos_taurus	KVKNLFDETKQD-N\$EVIDFIHQ\$AKMLMDREVCKEGLDLACEIVKGT-APKHEEMONSL	1601
Equus_caballus	KVRNLFD\$QN\$NSN\$EITN\$F\$HRGAKPLKDREECKG-L\$ELGCETVEIT-APKYEEMONSL	1611
Canis_lupus_familiaris	KVKNLFEEKEQD-N\$EITN\$F\$HRGAKMSKDREECKD\$GRELACGTTEITTTIPEYEETHSSL	1601
Felis_catus	KVKNLFD\$EQ\$D-K\$EMIN\$F\$HRGT\$K\$SK\$GREECEGLRLACKLIEIT\$PASKEEEM\$KPL	1609
Xenopus_tropicalis	KARNIFAE\$H\$ED\$F\$ILRCNIQNTITQIPQPVNEPTQFPYVNLGPKPTTTS\$GW\$QEKNILRR-	1525
Danio_rerio	KAKNLFRGCEE-----	1330
1630.....1640.....1650.....1660.....1670.....1680	

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-----FKGKLIPEEPGDRLKQTIEGSPVKQAIN--DSIEVGTFINVDEACERNLAAPCAN
-----FKGKLIPEEPGDRLKQTIEGSPVKQAIN--DSIEVGTFINVDEACERNLAAPCAN
-----FKDKLIPQEPGDRLKQTIEESPIIQAVNHDSIKVGAFINVDCECERNLAAPCAN
-----FVSKETEML--PQQNYHMYROTENLKTSNGTSS--KVQENIENNVEKNPRICCIC
-----FVSKQTEM--PQQNDHMYROTENLTS-NGSSP--KVHGNIEKNIEKNPRICCIC
NNDKNLVSIIETVVP-PKLLSDNLCROTENLKTSKSIFLKVKVHENVEKETAKSPATCYTN
NNDKNLVSIIETVVP-PKLLSDNLCROTENLKTSKSIFLKVKVHENVEKETAKSPATCYTN
NNDKNLVSIIETVVP-PKLLSDHLCROTENLKTSKSIFLKVKVHENAETAKSPATCYTN
SDKNLVSIIETVVP-PKPLSDNLYRHTESLKTSEGNFLKVKHEHVENVEKETAESPATCYRN
EEKK-LVSEETAMP-PRFLSDHLQGTENLHTSHSVSLKVKVHENMEEETAKSPITCYTN
EEEE-LVSEIALS-PRLLSDDLKYQOTENLKTSSNNISLKVVKHENLGKETAKSPITCYTN
EKKK-LVSNIEAALRPRLLSDNLYKQOTENLKISDHASQKVDVHENTEKETAKKP-TMYTN
EKN--LVSNIEIVVV-PRLLSDNLYKQOTENLKIPNRASLKVVKVHENTGKETAKKP-TTCTN
-----STEKGFMPPGCTAGGKKVSVSDDSLAKAHKLFOEECTFSKEGKLDDEVKQNKLMNS
-----SLTTEQNCKGLSNVLMACNGVSLIPEPG
.....1690.....1700.....1710.....1720.....1730.....1740

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Species	Sequence	Position
Pavo_muticus	KEAFVSPGKSEVESLPGHGSS-SLSRILLFEDRKLFAGRDVEYSAKKMG-----	1670
Pavo_cristatus	KEAFVSPGKSEVESLPGHGSS-SLSRILLFEDRKLFAGRDVEYSAKKMG-----	1670
Gallus_gallus	KEAYVRPGKSEVESLPVHGNN-SLSRILLLEDRKQFAERDVEYSATKRD-----	1671
Mus_musculus	QSSYPVTEDSALAFYTEDSRKTCVRESSLSKGRKWLREQ--GDKLGTRNTIKIECVKEHT	1674
Rattus_norvegicus	QSSYFVTEDSALACYTGDSTRKTCVGESSLSKGGKWLREQ--SDKLGTRNTIEIQCVKEHT	1689
Homo_sapiens	QSPYSVIENSALAFYTSCSRKTSVSQTSLLLEAKKWLREGIFDGOPERIN-----T	1707
Pan_troglodytes	QSPYSVIENSALAFYTSCSRKTSVSQTSLLLEAKKWLREGIFDGOPERIN-----T	1707
Macaca_mulatta	QSPYSVIENSALAFYTSCSRKRSVSQTSLLLEAKOWLREGIFDDOPERIN-----T	1708
Callithrix_jacchus	QSPYSVIENSALAFYTYCSRKTSVSQASSLEAKOWLREGIFDDOPERIN-----T	1704
Bos_taurus	HSTCSAIIENSALAFYTGHRKISVSQASLLLEAKKWLREGELNDPEKINSKIIICLKEYT	1719
Equus_caballus	QSTCLDVENSALTFTYTGCGRKISVSQTSLFLEAKKWLREGELDDESEKIS----AAEEGYL	1725
Canis_lupus_familiaris	QSTYSAIENSPLTFYTGHRKISVSSEASLFLEAKKWLREGWDDQSERINAAKVNCLKEYP	1719
Felis_catus	QSTYSATENSALSFTYTGHRKISVSQSSILEVKKWLREGELDDOPEKT-----	1713
Xenopus_tropicalis	EPLSLLTCESVLKQSDGFIEDISTSRNALEIRPELYPEGMCSNRRASNGS-----	1629
Danio_rerio	-----NSSGNNVGFSTAGGRKMDISVIALQANNLFKDCFEESLASRSL-----	1403

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Species	Sequence	Position
Pavo_muticus	----NSESKPDPFLKCATSLHLTKVSNGFADNSVPGGIIQTVSAEDS-----CKSNQSL	1720
Pavo_cristatus	----NSESKPDPFLKCATSLHLTKVSNGFADNSVPGGIIQTVSAEDS-----CKSNQSL	1720
Gallus_gallus	----NSESKPDSILKCATSLHLTKVSSHLADNSVPGGIIQTVSAEDS-----CKSNQSF	1721
Mus_musculus	EDFAGNASEYHSLVIRTEIDTNHVSENVSTLLSDPNVCHSYLSQSFCHCDMHNDSG	1734
Rattus_norvegicus	EDFAGNALYEHSLVIRTEIDTSHVSENCATLFDPNVCHSYLSHSFCHHDDMHNDSG	1749
Homo_sapiens	ADYVGNLYLYENNSNSTIAENDKNHLSEKOD-TYLSNSSMSNSYSYHS-----DEVYNDSG	1761
Pan_troglodytes	ADYVGNLYLYENNSNSTIAENDKNLSEKOD-TYLSNSSMSNSYSYHS-----DEVYNDSG	1761
Macaca_mulatta	ADYVGNLSLYENNSKNTIAESDKNHPSEKOD-TTLNNSMSNSYSYLS-----DEVYSDSG	1762
Callithrix_jacchus	VDYVGNLSLYENNSNNTITEGNKNHLSEKOD-TYLSNSSMSNSYSYHS-----DEVYNDSG	1758
Bos_taurus	RDYVGNPSCGNSNSITEN--DKSLSEKODSTSLNN-SMPNSYSYHSDFCHSSEGFNKSE	1776
Equus_caballus	QDYVGNPSCRNHSNGIITGNYKNHLSEKEDSTYLSNSSMSNSCLYHSDFCHSNEVYNKSE	1785
Canis_lupus_familiaris	DDYVENPSCGNSNSAITENDKNHLSEKOGSTYLSNSTMSNSYSYHPGFCHSEVYNKSE	1779
Felis_catus	-----GNNSEFTAGEGISININQSS-----VYNISE	1719
Xenopus_tropicalis	-----GNNSEFTAGEGISININQSS-----LLTTG	1654
Danio_rerio	-----GNNSEFTAGEGISININQSS-----	1403

Pavo_muticus	LLTHGSPVKSTSPYLNCGSMEIDLKRLNEPCSNTECFNTVNDNAHQEQSEVGLPEDGTNL	1780
Pavo_cristatus	LLTHGSPVKSTSPYLNCGSMEIDLKRLNEPCSNTECFNTVNDNAHQEQSEVGLPEDGTNL	1780
Gallus_gallus	LLPRGSPVPRSTSPYLNCGSNKEIDLKRLNEPCSNTEDSFTNTVNDNAHQEQSEFDLPEDETNL	1781
Mus_musculus	YFLKNKID-SDVPPDMKNAEG---NTISPRVSATKERNLHPQTIN-EYCVOKLETNTSPH	1789
Rattus_norvegicus	YFLKDKID-SDVQPMKNTAEQ---NAIFPKISATKEIKLHPQTVN-BECVOKLETINASPY	1804
Homo_sapiens	YLSKNKLD-SGIEPVLKNVEDQKNTSFSKVISNVKDANAYPQTVNEDICVEELVTSSSPC	1820
Pan_troglodytes	YLSKNKLD-SGIEPVLKNVEDQKNTSFSKVISNVKDANAYPQTVNEDICVEELVTSSSPC	1820
Macaca_mulatta	YLSKSKLD-SGIEPVLKKVEDQKNTSFSKVISNVKDANTYPQTVNEGICVEELVTSSSPC	1821
Callithrix_jacchus	YRSKNLND-SGIEPVKNVEDQKNTRSSKVTFNVKDANAYPQTVNEDTCVEELVTSSSSC	1817
Bos_taurus	NLSKNKIDNSGIEPVKNVKGKNTSFSKVPIPTIREANINPQAVDKDCVLKLVTKFSPC	1836
Equus_caballus	SLSKSKIDNSGIEPVKNVKDRKNTSFSFSEVISTIREANSYPQTVNEDICVOKLVPNSSPC	1845
Canis_lupus_familiaris	YLSRSKIDNSGIEPVIKNIRERKNIGFSEIMSPGREADTDPOSVNEDICVEKLATNSS-C	1838
Felis_catus	YLPKSKVDNSGIEPVVRNVGERENTSVSEIMFTVREADTDPOSVNEDICVQRLVTNFS-C	1778
Xenopus_tropicalis	NVLKNLNPSESSGHVYSVTEHLSTVVKVKRYNDSGHFVFNQNLAECNDNHVLSTQKNTANI	1714
Danio_rerio	-----AHQGFTHASGKNVFNVEKALSIVRAVFGCDETSFS	1439
	.....1870.....1880.....1890.....1900.....1910.....1920	

Pavo_muticus	TCLQEASLNAESQKSDLKQV-----FSTAKGKAIVSVSESALASIROMFQ	1824
Pavo_cristatus	TCLQEASLNAESQKSDLKQV-----FSTAKGKAIVSVSESALASIROMFQ	1824
Gallus_gallus	TCLQETSLNAESQKSDLKQV-----FSTAKGKAIVSVSESALASIROMFQ	1825
Mus_musculus	ANKDVAIDPSLL---DSRNCKVG-----SLVFITIAHSQETER-----TKEIVT	1829
Rattus_norvegicus	ANKNIADSAML---DLRNCKVG-----SPVFIITHSQETVR-----MKEIFT	1844
Homo_sapiens	KNKNAAIKLSIS---NSNNFEVG-----PPAFRIASGKIVCVSHETIKKVKDIFT	1867
Pan_troglodytes	KNKNAAIKLSIS---NSNNFEVG-----PPAFRIASGKIVCVSHETIKKVKDIFT	1867
Macaca_mulatta	KNKNAAIKLSIS---NCNNFEVG-----PPAFSTASGKIICVSHETIKKVKEIFT	1868
Callithrix_jacchus	KNKNAAIRLSTS---NCNNEVG-----PHAFSTASGKIVCVSHETIKKVKEFT	1864
Bos_taurus	KNKKTAAEVALS---NSNNFET-----EPPAYASTADQIAFVSRET---TVRERFT	1881
Equus_caballus	KNKNTAIVKVTTS---DSNNFET-----GVPAFSTASGKIVFASHET---KVRGRFT	1890
Canis_lupus_familiaris	KNKNTAIVKVAIS---DSNNFNFTIQKLNSDSNNSVPAYSTVNNSKRVFVAHOT--KVTEGFT	1893
Felis_catus	KKENTAIKVTVS---DSNNFDSTQKLNSDSNDAPVYTTASSERVIVAHT--KVTEGFT	1833
Xenopus_tropicalis	SNRNEDCTSLAP-----LSFSTASGKSVTVSHDSLQARLMLS	1752
Danio_rerio	LELKKLSVNNVG-----FSTAGGKKVTIISDTSLQRTIMNLFQ	1475
.....1930.....1940.....1950.....1960.....1970.....1980		

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      .      :
Pavo_muticus      TDC-DEYVKSEIETKSGTNQTEIARNSSFNHTGGPGFATFLDATKIEMNLAASHFINGN 1883
Pavo_cristatus    TDC-DEYVKSEIETKSGTNQTEIARNSSFNHTGGPGFATFLDATKSEMNLAAASHFINGN 1883
Gallus_gallus     TDC-DASVKSEIETKSGTNQTAIAGSSSFSIHAGGPGFATFLDTRKSEMNVAAAPHFINGN 1884
Mus_musculus      DNC-YKIVEQNRSKPDTC----QTSCHKVLDDSKDFICPSSSG--DVCINSRKDSFCPH 1882
Rattus_norvegicus DNC-SKIVEQNRESKPDTC----QTSCHKALDENSEDFICPSSSG--DVCINSMAIFYPO 1897
Homo_sapiens      DSF-SKVIKENNENKSKICQTKIMAGCYEALDDSE-DILHNSLDNDECSHSHKVFADIQ 1925
Pan_troglodytes   DSF-SKVIKENNENKSKICQTKIMAGCYEALDDSE-DILHNSLDNDECSHSHKVFADIQ 1925
Macaca_mulatta    DSF-GKVIKENNENKSNICQTKIVAGCYEALDDSE-DIFHNSLDSECSMHSHKVFADIQ 1926
Callithrix_jacchus DSC-SKVIKENTENKSNNCQTKILAGCYKALNESE-DIFHNSSGNDECSMHSHKVFADIQ 1922
Bos_taurus        DNCRNIYTKQNTPEKSGTDQTKITVTDHSHKALGNSDVFIPNSPDNEEHNMHSHDVSPDIQ 1941
Equus_caballus    DNG-SKIIKQNTESKSGTCQTKIVASSHKALDDSEVVIFSNSPDTEEHSMCSNKFVFAEQ 1949
Canis_lupus_familiaris DNC-SMVTKQNTKSKSDTCHAEIVADYKALDDSE-AIFPNSLGAECS-PSHKVFADIQ 1950
Felis_catus       ENC-SMAIKQTTKSKP---GKIVAGYRKAPDDSEDTICPNSLDGAECSSPSHKDFAETQ 1888
Xenopus_tropicalis EAANDVTVDTSKQEAAYITPAIRKTEAEKEQNTVDDSDRVNANTFSFSTASGKKVNISGN 1812
Danio_rerio       DCEESLGSRLKHQCKGFTTASGKNVTVSEKALSEVRAVFACDEASFSEPKNISGN 1535
.....1990.....2000.....2010.....2020.....2030.....2040

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Pavo_muticus      GNLIENDHQGANTFADADSVPSQMQCFEQSKSLGLHLPVPDKQIEQSRSSGNLGFFFSTA 1943
Pavo_cristatus    GNLIENDHQGANTFADADSVPSQMQCFEQSKSLGLHLPVPDKQIEQSRSSGNLGFFFSTA 1943
Gallus_gallus     GNLIENNHQGANMFADADSVPGFQMQCFEQSKSLGLHFPVPDKQMEQSGPSGNLGFFFSTA 1944
Mus_musculus      NEQILQHNQSMGSLKKAATPP---VLETWDTCKS-IREPP---QAAHPSRTYGIFSTA 1934
Rattus_norvegicus SEQILQHNQSVSGLKKAATPP---VSLETWDTCKS-IRGSP---QEVHPSRTYGIFSTA 1949
Homo_sapiens      SEEILQHNQNMGSLEKVKISPCDVSLETSDICKCSIGKLH---KSVSSANTCGIFSTA 1981
Pan_troglodytes   SEEILQHNQNMGSLEKVKISPCDVSLETSDICKCSIGKLH---KSVSTNTCGIFSTA 1981
Macaca_mulatta    SEEILQHNQNMGSLEQVSKMSPFDVSLETSDICKCSIGKLP---KVPSTNTCGIFSTA 1982
Callithrix_jacchus SEEILQHNQKMFGEKVSEIPPQDVSLETSGIYKFSMGKLP---KVLSTNTCGIFSTA 1978
Bos_taurus        SEPILHD-QSISGLEKVSEIPLRHVDLKTSDRCKFNMGKHP---RSVSSMNAACGIFNTA 1996
Equus_caballus    SEQILQHNQNISGLEKVSEISPCQINLKTSNICKFDMGKLP---KSIASVNAACGIFSTA 2005
Canis_lupus_familiaris SEQTSQNLQSMGSLKVKSETPPCQINSKTSRCELPRGKLP---KSVSYTNAACGIFSTA 2006
Felis_catus       SEQTQLNLQNSISGFKKRSEIPPHQINLKTSDICKLSTGKCL---QSISYTNACGIFSTA 1944
Xenopus_tropicalis SLKQVRVAVCLSSDPKETSAAFNVEKSVFNEDVKDVSLLQP-----NVTMPKAVSFSTA 1866
Danio_rerio       KIGFSTTVEKMTTALMPNNNNNFKDCCEESLASRNLMHQA-----CKGFTTA 1583
.....2050.....2060.....2070.....2080.....2090.....2100

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Pavo_muticus      SGKPVQLSEESLKKARQLFSEMEGSHSSGLHGALLLED---VEKSRNHDEIFPREROLAL 2000
Pavo_cristatus    SGKPVQLSEESLKKARQLFSEMEGSHSSGLQGALLLED---VEKSRNHDEIFPREROLAL 2000
Gallus_gallus     SGKPVQLSEESLKKARQLFSEMEGSHSSGLQDAHLLLED---VEKSTNHGEVFPREMOLLL 2001
Mus_musculus      SGKAIQVSDASLEKARQVFSEMDGDAKQLSMVSLEGN-EKPHHSVKRENSVVHSTQGV 1993
Rattus_norvegicus SGKAVQVSDASLEKARQVFSEIDGDAKQLAMVSLEGN-EKSHHSVKRENSVVHNTHGVL 2008
Homo_sapiens      SGKSVQVSDASLQARQVFSEIEDSTKQVFSKVLFKSN-EHSDQLTRENTAIRTPHEHLI 2040
Pan_troglodytes   SGKSVQVSDASLQARQVFSEIEDSTKQVFSKVLFKSN-EHSDQLTRENTAIRTPHEHLI 2040
Macaca_mulatta    SGKSVQVSDASLQARQVFSEIEDSTKQVFSKVLFKSN-EHSDQLTRENTTIHTPKHLI 2041
Callithrix_jacchus SGKSVQVSNASLQARQVFSEIDDSTKQLSSEVLFTNN-EHSDQLTRENTATQIAEHLI 2037
Bos_taurus        SGKSVQVSDASLQARQVFSKSEDSAKOFFSRVSFKSNEEHSDFTRKENTMTHNPPNLL 2056
Equus_caballus    SGKSVQVSDAALQARQVFSKIEDGDNQLFSKVS LKNKEHSDKFTRENTMIHSPONLL 2065
Canis_lupus_familiaris SGKSVQVSDAAIQKAREVFSKLEDSAKOLFPEVSLKDNEEHSEKFTNEENTVIYTSNLL 2066
Felis_catus       SGKCVQVSDAALQARQVFSKVEDSAKQPFKVSFKHNEDHSDKFTRENTMIHTPONLL 2004
Xenopus_tropicalis SGKTVQLSDES LKKARVIFSEIDTCPLMQQQTNESTVEEIVIGGGMTSKQMPLITEKVE 1926
Danio_rerio       SGKNVTVSETALNEVKAVFAGCDEATFDLEPKKSLGSN----- 1621
.....2110.....2120.....2130.....2140.....2150.....2160

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/BRC42121.fst Tue Feb 1 11:32:55 2022

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	** **.*.* *	: :	:	:	:	:	:	:	:	:
Pavo_muticus	PRGKENYSTDKISSPALGFSTASGKQVTISESAYRKAKAILKEADDFLSSELG----	VTD	2056							
Pavo_cristatus	PRGKENYSTDKISSPALGFSTASGKQVTISESAYRKAKAILKEADDFLSSELG----	VTD	2056							
Gallus_gallus	PRGKENASTDKISSPALGFSTASGKQVTISESAYQKAKAILKEADGFLSELG----	VTN	2057							
Mus_musculus	SLPKPLPGN-VNSSVFGSGFSTAGGKLVTIVSESAHLHKVKGMLEEFDLIRTEHTLOHSPIP-		2051							
Rattus_norvegicus	SLRKTLPGN-VSSSVFGSGFSTAGGKLVTIVSESAHLHKVKGMLEEFDLIRTEHTLOHSPTP-		2066							
Homo_sapiens	S-QKGFSYNVVNSSAFSGFSTASGKQVSILESSLHKVKGVLEEFDLIRTEHS LHYSPTSR		2099							
Pan_troglodytes	S-QKGFSYNVVNSSAFSGFSTASGKQVSILESSLHKVKGVLEEFDLIRTEHS LHYSPTSR		2099							
Macaca_mulatta	SSQKDFSHNVVNSSAFSGFSTASGKQVSISESSLHKVKGMLEEFDIIRTEHS LHYSPTSR		2101							
Callithrix_jacchus	PSQKGFSYN-VNSSAFSGFN TASGKQVSISESALHKVKGMLEEFDLIRTEHSLHHSPTSR		2096							
Bos_taurus	S-----SAFSGFSTASKGHVPVSESALCKVKGMFEEDLTIGTEYSLQHSPTSR		2104							
Equus caballus	S-----SAFSGFSTASGKQVPVSESALCKVKGMLEEFDIIRTECSHQHSPICE		2113							
Canis_lupus_familiaris	S-----SAFSGFR TASGKQVPVSESALCKVKGMLEEFNLIRTESCLQHSPSTR		2114							
Felis catus	S-----SAFSGFSTASGKQVPVSESALCKVGIL EEFDMRTCEGPQRSPSTR		2052							
Xenopus_tropicalis	TTRK-----NNGTFGFNTASGKQVSVSESALQKVKDIFQEFD DDPNYEQNKSLVRP L		1978							
Danio_rerio	-----IGFTAGGKKVTISIALQRAQTLFKDCREEKFVESEKA PLT		1665							
	.....2170.....2180.....2190.....2200.....2210.....2220								

Pavo_muticus	ELREIKESGQHAEYLTGKVISESKTEKSCSEELDLKSIIRPEEMKSFPSSTHHVKITESVPH	2116
Pavo_cristatus	ELREIKESGQHAEYLTGKVISESKTEKSCSEELDLKSIIRPEEMKSFPSSTHHVKITESVPH	2116
Gallus_gallus	ELCEIKESGQHAEYLTGKVISESKTEKSCSEELDLKSIIRPEEMKSLPSTHVVKITIEYVPH	2117
Mus_musculus	EDVSKILPQPCAEIRIPEYPVNSKLQKTYNDKSSSLPSNYK-ESGSSGNTQSIEVSLQLSQ	2110
Rattus_norvegicus	EDVSKIPPQPCLESRTPEYSVSSKLQKTYNDKSRSPSNYK-ESGSSGNTQSLEVSPQLSQ	2125
Homo_sapiens	QNVSKILP--RVDKRNPEHCVNSEMEKTCCKEFLKLNINLNVEGGSSENHHSIKVSPYLSQ	2157
Pan_troglodytes	QNVSKILP--RVDKRNPEHCVNSEMEKTCCKEFLKLNINLNVEGGSSENHHSIKVSPYLSQ	2157
Macaca_mulatta	QNVSKILP--CVDKRTPEHCVNSEMEKACSKFNLNINFNVEGGSSENHHSIKVSPSLSQ	2159
Callithrix_jacchus	QNVSKILP--CVDKRNPEHCVNSEMEKTCCKEFLKLNINFNVEGGSSEHNSIKVSPYLSQ	2154
Bos_taurus	QDVSKILPVSCIDKRTPEHSVSSKMEKAYNKEFLKLNINYNIESGSSSENHHSIKVSSYLSE	2164
Equus_caballus	QDKLKILPLSCIDKRTPEHSVNSKTEKAYSKEFLKLSKYYITESGSSSENSCSVKVSPYLPQ	2173
Canis_lupus_familiaris	QDVSKMPPSPSCIGKRTPESHRNSKLDKACNKEFRLSSNCNNQSGSSSENHHSIKVSPCPSPQ	2174
Felis_catus	QDVSKMPPSPSCVDNRTPESVNSKLEKAYNKEFLKSSNSKIENGSSSEN-HSVQVSPYPSPQ	2111
Xenopus_tropicalis	VSSKIKESTPGTKRLVQTAGSSYKNDNLQCKAGNLRIFQDKQAGKKSLEYEAAISPIT	2038
Danio_rerio	KSFHARSE-DIVDGNLKFQTNKKNPRLSTASGKVVSIVKVSLEETSTFFREFDNQNIAT	1724
	.....2230.....2240.....2250.....2260.....2270.....2280	

Pavo_muticus	SK-----RNSQSAPFKNSFEQEETRLFRKGELNLGMKTESESDLCSATSKAEINIF	2167
Pavo_cristatus	SK-----RNSQSAPFKNSFEQEETRLFRKGELNLGMKTESESDLCSATSKAEINIF	2167
Gallus_gallus	SK-----RNSQSAPFKNSFEQEETRFRRKGELNLGIKAESSESDLCSATSKAEINIF	2168
Mus_musculus	MERNQDTQLVLGTVKSHSK-ANLLGKEQTLTPQNIKVKTDEMKTFSDVPVKTN--VGEYYS	2167
Rattus_norvegicus	MERKQETQSVLGTVKVQRK--INILEKKONLPQNIKIBSNKMEITFSDVMKTN--VGEYYS	2182
Homo_sapiens	FC-QDKQQLVLGTVKSVLVENIHVLGKEQASPKNVKMEIGKTETTFSDVPVKTNIEVCSTYS	2216
Pan_troglodytes	FC-QDKQQLVLGTVKSVLVENIHVLGKEQASPKNVKMEIGKTETTFSDVPVKTNIEVCSTYS	2216
Macaca_mulatta	FK-QDKQQLVLGTVKSVLVENIHVLGKEQASPKNVKMEIGKTETTFSDVLVKTNIEVCSTYS	2218
Callithrix_jacchus	LK-QDKQQLVLGTVKSVLVENIDVLGKEQASLENIKMEIGKTETTFSDVSVKTNIEVCSTYS	2213
Bos_taurus	FK-QDQQQSVLGTIRVSHDNIHLGKEQTLTPKYIKKEIGKTETFPDL-VKNTIEICSTDs	2222
Equus_caballus	FK-QDKQQLGLGAKVSVLVENIHLGKEQALPKNVKMEIGKTNLPL--VKNTIEVCSTYS	2228
Canis_lupus_familiaris	LK-RDKPOLLVGSKGSLVENIHPLGKEQALPKNIKTEIGKAETFPNLPVKTNIEFCSTYS	2233
Felis_catus	FK-QDK-QLTQGNKASLVENIHLLEKEQALPKNIKMEIGKTETFAFPNLPKTDITAIHSTDs	2169
Xenopus_tropicalis	TV-----PGNQLTPQLVKVSTNTSALANKTKPDLY-----VATAQ	2074
Danio_rerio	DN-----QLLLRDSSKHYPOHKDRQTKATLHPKAARNEPAHLDLHSLDFNSCIDLQQIYF	1779
2290.....2300.....2310.....2320.....2330.....2340	

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Pavo_muticus	Q	T	P	K	G	Y	L	K	T	E	A	V	S	A	K	A	F	M	E	D	D	L	S	Y	S	G	V	Q	V	K	S	A	Q	S	F	I	G	K	M	S	D	N	F	Q	----	N	K	P	F	G	K	R	H	L	E	E	2223			
Pavo_cristatus	Q	T	P	K	G	Y	L	K	T	E	A	V	S	A	K	A	F	M	E	D	D	L	S	Y	S	G	V	Q	V	K	S	A	Q	S	F	I	G	K	M	S	D	N	F	Q	----	N	K	P	F	G	K	R	H	L	E	E	2223			
Gallus_gallus	Q	T	P	K	D	Y	L	K	T	E	A	V	S	A	K	A	F	M	E	D	D	L	S	D	S	G	V	Q	V	K	S	A	Q	S	F	G	----	K	M	S	D	N	F	Q	----	N	K	P	F	G	K	R	H	L	D	E	2223			
Mus_musculus	K	E	S	E	N	Y	F	E	T	E	A	V	E	S	A	K	A	F	M	E	D	D	L	T	D	S	E	Q	----	T	H	A	K	C	S	L	F	T	C	P	Q	N	E	--	T	L	F	N	S	R	T	R	K	R	G	V	I	2224		
Rattus_norvegicus	K	E	P	E	N	Y	F	E	T	E	A	V	E	I	A	K	A	F	M	E	D	E	L	T	D	S	E	Q	----	T	H	A	K	C	S	L	F	A	C	P	Q	N	E	--	A	L	L	N	S	R	T	R	K	R	G	M	A	2239		
Homo_sapiens	K	D	S	E	N	Y	F	E	T	E	A	V	E	I	A	K	A	F	M	E	D	E	L	T	D	S	K	L	P	S	H	A	T	H	S	L	F	T	C	P	E	N	E	M	V	L	S	N	S	R	I	G	K	R	R	G	E	P	2276	
Pan_troglodytes	K	D	S	E	N	Y	F	E	T	E	A	V	E	I	A	K	A	F	M	E	D	E	L	T	D	S	E	L	P	S	H	A	T	H	S	L	F	T	C	P	E	N	E	M	V	L	S	N	S	R	I	G	K	R	R	G	E	P	2276	
Macaca_mulatta	K	D	S	E	N	Y	F	E	T	E	A	V	E	I	A	K	A	F	M	E	D	E	L	T	D	S	E	L	P	S	H	A	T	H	S	L	F	T	C	P	Q	N	E	M	V	L	S	N	S	R	I	G	K	R	R	G	E	A	2278	
Callithrix_jacchus	K	D	S	E	N	C	F	E	T	E	A	V	E	I	A	K	A	F	M	E	D	E	L	I	D	S	E	L	P	S	H	A	S	T	L	I	T	C	P	K	N	E	M	V	L	S	N	S	R	I	G	K	R	R	G	E	A	2273		
Bos_taurus	K	D	P	E	N	Y	F	E	T	E	A	V	E	I	A	K	A	F	M	E	D	E	L	T	D	S	E	F	P	S	H	A	K	H	S	P	F	T	C	Q	K	N	E	E	T	V	L	S	N	S	R	I	E	K	R	R	G	D	A	2282
Equus_caballus	K	D	P	E	N	C	F	E	T	E	A	V	E	I	A	K	A	F	M	E	D	E	L	T	D	S	E	L	L	S	N	T	K	H	S	L	F	T	C	Q	N	N	E	M	I	S	L	N	S	R	T	G	K	R	R	G	D	A	2288	
Canis_lupus_familiaris	K	D	P	E	N	Y	F	E	T	E	T	V	E	I	A	K	A	F	M	E	D	E	L	T	D	S	E	L	L	S	H	A	K	H	F	V	F	T	C	Q	N	T	K	E	M	V	L	L	N	S	R	I	G	K	R	R	G	D	A	2293
Felis_catus	K	D	P	E	N	Y	F	E	T	E	T	V	E	I	A	K	A	F	M	E	D	E	L	T	D	A	D	L	L	S	H	A	R	H	F	L	P	T	C	Q	H	S	E	E	T	I	V	S	N	S	R									

	:.:** ** *:	. . .:** * : : *:*	*
Pavo_muticus	KDSLGEPPIKRQLLLEFEKMKIPP-KSLKPL-KSTPDGIFKDRRKFMHYHVLKPVTCQPF	2281	
Pavo_cristatus	KDSLGEPPIKRQLLLEFEKMKIPP-KSLKPL-KSTPDGIFKDRRKFMHYHVLKPVTCQPF	2281	
Gallus_gallus	KDSHGEPPIKRQLLLEFEKMKIPP-KSVKPL-KSTPDGIFKDRRKFMHYHVLKPVTCRPL	2281	
Mus_musculus	VDAVGQPPIKRSLNLEFDRIIESKGSILTPS-KSTPDGTVKDRSLFTHHMSLEPVTGCPF	2283	
Rattus_norvegicus	GVAVGQPPIKRSLNLEFDRIIESKGSILTPS-KSTPDGTIKDRRLFTHHMSLEPVTGCPF	2298	
Homo_sapiens	LILVGEPsIKRNLLNEFDRIENQEKSLKAS-KSTPDGTIKDRRLFMMHVSLEPITCVPF	2335	
Pan_troglodytes	LILVGEPsIKRNLLNEFDRIENQEKSLKAS-KSTPDGTIKDRRLFMMHVSLEPITCVPF	2335	
Macaca_mulatta	LISAGEPPIKRNLLNEFDRIENQEKSLKPS-KSTPDGTIKDRRLFMMHVSLEPITCVPF	2337	
Callithrix_jacchus	IISVGEPPIKRNLLNEFDRIENQEKSLKAS-KSTPDGTIKDRRLFTHHVSLEPITCVPF	2332	
Bos_taurus	LVTVGEPPIKRNLLNEFDRIENQEKSLKAS-KSTPDGAMKDRRLFMMHVSLEPVTGCPG	2341	
Equus_caballus	LVSVGEPPIKRDLLNEFDRIENQEKSLTAS-KSTPDGTIKDRRLFMMHVSLEPVTGCPF	2347	
Canis_lupus_familiaris	LVSVGEPPIKRNLLNEFDRIENQEKSLKAS-KSTPDGILKDRSLFMMHVSLEPISGCPF	2352	
Felis_catus	LVSVGEPPIKRNLLNEFDRIENQEKSLKAS-KSTPDGIIKDRSLFMMHVSLEPVTGCPF	2287	
Xenopus_tropicalis	GPITPGEPPIKRRLLEFDCITDTRQOTGILKPLISTPDMMRDRRRFLYTLPLKPSICNPE	2187	
Danio_rerio	VADSGQPLKRQLLSEFDRIHLAKTSGLTPL-KSPNGILKDRRVFKINVHLKPVTSVP	1898	
2410.....2420.....2430.....2440.....2450.....2460		

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	..*..:	
Pavo_muticus	TRSLCKSGKAVKTFVPPFKTKVTLSTAEQGGSSKRCHSPIRNS---- <td>2396</td>	2396
Pavo_cristatus	TRSLCKSGKAVKTFVPPFKTKVTLSTAEQGGSSKRCHSPIRNS---- <td>2396</td>	2396
Gallus_gallus	TRSLCKSGKAVKTFVPPFKTKLTLSTGEQGGSKRCHSPIRNS-----VMEERELNQIPVEQ	2396
Mus_musculus	TRHSG---KSTKVFVPPFKMKSQFHGDEHFNKNVNLEGKNO-----KSIDGDREDGN	2390
Rattus_norvegicus	TRHSVS-DKSTKVFVPPFKVKSRFHRDEHFDKKNVNLEGKNO-----KSADGVSEDGN	2399
Homo_sapiens	MRHLITTGPRTKVFVPPFKTKSHFHRVEQCVR-NINLEENRO-KONIDGHGSGDDSKNKNIN	2450
Pan_troglodytes	MRHLVITIGPRTKVFVPPFKTKSHFHRVEQCVR-NINLEENRO-KONIDGHGSGDDSKNKNIN	2450
Macaca_mulatta	MRHLITTGKPTKVFIPPFKTKSHFHRDEQCVR-NINLEENKO-KONIDGHGSGDDSKNKNIN	2452
Callithrix_jacchus	MRRLIATGKPTKVFVPPFKTKSHLHRDEQCVR-NINLEENKP-KONIDGHGSGGGKKNKNIN	2447
Bos_taurus	RRHSITIGKPMKVFVPPFKTKSHIHRDEQFVGKNINLEENKO-QKNIDEHGSDDSENNVN	2457
Equus_caballus	RRHSLTIGKPRKIFVPPFKTKSHFHRDECCVSRNTQLEENKLNQKNIDEHGSDDRENNIN	2464
Canis_lupus_familiaris	RRHLIAPGKPVKVFVPPFKTKSHFHRDEQCISKNTKLEKNKONSKDIDELGSGDSEKNIN	2469
Felis_catus	RGHSTIPSKPVKVFVPPFKTKSHFLQDEQHISKNTHVEENKQKPNNIDERSSGDSKNNNIN	2404
Xenopus_tropicalis	INCSASAKIPAKKFVPPFKKTVAITLADNQSNS-----VQNGSSDGL	2278
Danio_rerio	NPPTSNSQDASKVSSGIVLSFNVVNQEEENPSKEMDQIMAIS-----KSHCDRGKQMCNEK	1995
	.....2530.....2540.....2550.....2560.....2570.....2580	

[illegible]

	* * *	* .: **	* : .:: .*: : : .:.* ** *:.* .:.*	
Pavo_muticus	YVIKTSARNRISLKTAVEEEETPGFHST	EKLYTHGVSKHCIHVNSTNAESFOFLVEEFFFSK	2516	
Pavo_cristatus	YVIKTSARNRISLKTAVEEEETPGFHST	EKLYTHGVSKHCIHVNSTNAESFOFLVEEFFFSK	2516	
Gallus_gallus	YVTKTSARNRISLKTAVEEEETPSFHST	EKLYTYGVSKHCIQVNSTNAESFOFLIEEFFFSK	2516	
Mus_musculus	YLTKSSTLPRISLQAAGVGDRAVPSACSPKQLYIYGVSKECINVNSKNAEYFQFDIDHFGK		2491	
Rattus_norvegicus	YLTKSSTLPRISLQAAGVDSVP	SACSPKQLYMGVSKACISVNSKNAEYFQFAIEDHFGK	2500	
Homo_sapiens	YLAKTSTLPRISLKAAGVGQVPSACSHKQLYTYGVSKHC	IKINSKNAESFOFHTE	DYFGK 2570	
Pan_troglodytes	YLAKTSTLPRISLKAAGVGQVPSACSHKQLYMYGVSKHC	IKINSKNAESFOFHTE	DYFGK 2570	
Macaca_mulatta	YLAKTSSLPRISLKAAGVGQVPSACSHKQVYTYGVSKHC	IKINSKNAESFOFYTDYFGK	2572	
Callithrix_jacchus	YLTKTSTLPRISLKAAGVGSQFPSACSHKQLYMYGVSKHYVKINSKNAESFOFHTDYFGK		2567	
Bos_taurus	YLAKTSTMPRISLREAVEGRVPSACSHKQLYMYGVSKHCVKINSKNAEAFQFHTDYFGK		2568	
Equus_caballus	YLAKTSSVPRISLKAAGVGHVPSAYSHKQLYMFGVSKHCVKINSKNAESFOFLTDYFGK		2584	
Canis_lupus_familiaris	YLAKTSTLPRISLREAVEGRVPSACSHKQLYMYGVSKHCVKINSKNAESFOFHADYFGK		2589	
Felis_catus	YLAKTSTVPRISLRVAEGRVPSACSHKQLYMYGVSKHCVKINSKNAESFOFHTDYFGK		2524	
Xenopus_tropicalis	YRLKMSHVKRISLQSAVAERCPTLYSREQLYRYGIVKNHIGVSS	ENALSFQFHCSNYFTK	2398	
Danio_rerio	YLAKTSGVSRKSLRDVAGCTCP	SQYTDQLSQHGVHHKVLEITS	ENAESFRFDCSDYFTC 2115	
2650.....2660.....2670.....2680.....2690.....2700			

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* ..:*****:* ..*. **:::: *:*****: *: ** *****:**
EYLLAGNGIQLADGGWLIPTEGKAGKKEFYRALCDTPGVDPKLITEAWVYNHYRWIVWK
EYLLAGNGIQLADGGWLIPTEGKAGKKEFYRALCDTPGVDPKLITEAWVYNHYRWIVWK
EYLLAGNGIQLADGGWLIPTEGKAGKKEFYRALCDTPGVDPKLITEAWVYNHYRWIVWK
EDLCAGKGFQLADGGWLIPSDGKAGKKEFYRALCDTPGVDPKLISSIWVANHYRWIVWK
EALCAGKGFRLADGGWLIPSDDGKAGKEEFYRALCDTPGVDPKLISSVVWSNHYRWIVWK
ESLWTGKGIQLADGGWLIPSDGKAGKEEFYRALCDTPGVDPKLISRIWVYNHYRWIWK
ESLWTGKGIQLADGGWLIPSDGKAGKEEFYRALCDTPGVDPKLISRIWVYNHYRWIWK
ESLWAGKGIQLADGGWLIPSDGKAGKKNFFRALCDTPGVDPKLISRIWVYNHYRWIWK
ESLWAGKGIQLADGGWLIPSDGKAGKEEFYRALCDTPGVDPKLISRIWVYNHYRWIWK
ESLWTGKGIQLADGGWLIPSDGKAGKEEFYRALCDTPGVDPKLISRVVYNHYRWIWK
EALLAGKGIQLADGGWLIPSDGKAGKEEFYRALCDTPGVDPKLISRVVYNHYRWIVWK
EGLWSGEGIQLADGGWLIPSDGKIGKEEFYRALCDTPGVDPNCISRVVYNHYRWIWK
EVQWAKEGIQLADGGWLIPSDGKAGKKEFYRALCDTPGVDPNLISRIWVYNHYRWIWK
ELLSSNGVQLADGGWLIPTEQGNAGKEEYRAFCDTPGVDPKLISAEWVHNHYRWIVWK
EHLMESGALQADGGWLVPDSKGTVGKEEFSALCDTPGVDPKLISDVWFNHYRWIWK
.....2710.....2720.....2730.....2740.....2750.....2760

:. **:. **.* *****:.* :.*.* ***:.:.* *****:. * ****

LAAMEVSFPHRFANRCLTPETVLLQLKYRYD-LEIDKSKRSAIKKITERDDAAGKTLVLC
LAAMEVSFPHRFANRCLTPETVLLQLKYRYD-LEIDKSKRSAIKKITERDDAAGKTLVLC
LAAMEVCFPHKFANRCLTPETVLLQLKYRYD-LEIDKSKRSAIKKITERDDAAGKTLVLC
LAAMEFAFPKEFANRCLNPERVLLQLKYRYD-VEIDNSRRSALKKILERDDTAAKTLVLC
LAAMEFAFPKEFANRCLNPERVLLQLKYRYD-VEIDNSRRSALKKILERDDTAAKTLVLC
LAAMECAFPKEFANRCLSPERVLLQLKYRYD-TEIDRSRRSIAKKIMERDDTAAKTLVLC
LAAMECAFPKEFANRCLSPERVLLQLKYRYD-MEIDRSRRSIAKKIMERDDTAAKTLVLC
LAAMECAFPKEFANRCLSPERVLLQLKYRQIXYGIDRSRRSIAKKIMERDDTAXKTLVLC
LAAMEFAFPKEFANRCLSPERVLLQLKYRYD-MEIDKSRSAIAKKIMERDDTAAKTLVLC
LAAMEFAFPKKFANRCLNPERVLLQLKYRYD-VEIDRSKSAIAKKIMERDDTAAKTLVLC
LAAMEFAFPKEFANRCLTPERVLLQLKYRYD-IEIDRSRRSIAKKIMERDDTAAKRLVLC
LAAMEFAFPKEFANRCLSPERVLLQLKYRYD-VEIDKSRSAIAKKIMERDDTAAKTLVLC
LAAMEFAFPKEFANRCLSPERVLLQLKYRYD-MEIDRSKSAIAKKIMERDDTAAKTLVLC
LAAMEVRFPKTFACRCLTPERVLLQLKYRYD-VEIDKSRSAIAKKIMERDDSPAKTLVLC
RASMERITFPNLIGGLCLTPEQVLLQLKFRYD-VEVDHSQRSALRRIMERDDTPAKTLVLC

.....2770.....2780.....2790.....2800.....2810.....2820

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: . . . . . : : ** . ** . : : ** * . : : * : *
ISKIPSLNTAVS-PSNSNNNTESEKA-AAIIEVTDGWYGIRALLDPPLKAFLHRRRLTVG
ISKIPSLNTAVS-PSNSNNNTESEKA-AAIIEVTDGWYGIRALLDPPLKAFLHRRRLTVG
VSKVLSLNTAVS-PSNSNNNTEGEKA-AAIIEVTDGWYGIRALLDPPLKAFLHRRRLTVG
ISDIIISPTKVNSETSGGKTSGEDANK-VDTIELTDGWYAVRAQLDPLMALVKS GKLTVG
VSDIISLSTNVSETSGSKASSED SNK-VDTIELTDGWYAVKAQLDPLLALVKSGRLTVG
VSDIISLSANISSETSSNKTSSADTQK-VAIIELTDGWYAVKAQLDPLLAVLKNGR LTVG
VSDIISLSANISSETSSNKTSSADTQK-VAIIELTDGWYAVKAQLDPLLAVLKNGR LTVG
VSDIISLSANISSETSSNKTSSADTQK-VAIIELTDGWYAVKAQLDPPXLA I LKNGR LTVG
VSDIISLSANISSETSSNKTSSADTQN-VAIIELTDGWYAVKAQLDPLLAVLKNGR LTVG
VSEIISLSTDISPSSNKTSSVDTKK-VAVVQLTDGWYAIKAQVDPPLSALLKNGR LTVG
VSEIISSTDISETSSSKTRSVDTKK-ADIIELTDGWYAIKAHLDPPLLALLKNGR LTVG
ISEIISSSADISETSSSKTSSVGTKK-VGIIELTDGWYAIKAQLDPLLALVKNGRLTVG
ISETISSTDLSETSGSKTSGVGTKN-VGIVELTDGWYAIKAQLDPLLALVKKGR LTVG
IAKIISQGITRLPNACSNKTEPADSKESSAVIEVTDSWYGIKVLLDPCLTALLHKGR LTVG
VCGIVQTCQNP E KIMKDDKSP-SAKMESCVIWLTDGWYSIKSLLDPPLSAMLNKGRLKIG
. . . . . 2830 . . . . . 2840 . . . . . 2850 . . . . . 2860 . . . . . 2870 . . . . . 2880

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.:      ****  **  :.:.  *  :*:**  ***:*****  .  *  :::*:  ****:  *  ****
QKIIIVHGAELIGSPNGCTPLEAPDSLMLKIAANSTRCARWYTKLGFHRDPRPFPLPLSSL
QKIIIVHGAELIGSPNGCTPLEAPDSLMLKIAANSTRCARWYTKLGFHRDPRPFPLPLSSL
QKIIIVHGAELIGSPNGCTPLEAPDSLMLKIAANSTRCARWYTKLGFHRDPRPFPLPLSSL
QKIIITQGAELVSGPDACAPLEAPDSLRLKISANSTRPARWHSRLGFFRDPRPFPLPLSSL
QKIIITQGAELVSGPDACAPLEAPDSLRLKISANSTRPARWHSKLGFFHDPRPFPLPLSSL
QKIIILHGAELVSGPDACTPLEAPESLMLKISANSTRPARWYTKLGFFPDPRPFPLPLSSL
QKIIILHGAELVSGPDACTPLEAPESLMLKISANSTRPARWYTKLGFFPDPRPFPLPLSSL
QKIIILHGAELVSGPDACTLLXSPESLMLKISANSTRPARWYTKLGFFPDPRPFPLPLSSL
QKIIILHGAELVSGPDACTPLEAPESLMLKISANSTRPARWYTKLGFFPDPRPFPLPLSSL
QKIVIHGAELVSGPDACTPLEAPESLMLKISANSTRPACWYAKLGFFSPDRPFPLPLSSL
QKIIIHGAELVSGPDACTPLEAPESLMLKISANSTRPACWYAKLGFFPDPRPFPLPLSSL
QKIIIHGAELVSGPDACTPLEAPESLMLKISANSTRPACWYTKLGFFSPDRPFPLPLSSL
HKIIIHGAELAGSPDACTPLEAPESLILKISANSTRPACWYAKLGFFPDPRPFPLPLSSL
QKLIIVHGAELIGSDDACPLEAPESLMLKIAANSTRPVRWHTKLGYFKDPRPFCLHLSSL
DKIVTSGAELVSGQEACPPLEAPESLMLKISANSTRRARWDTKLGYRDPRIIRLLSSL
.....2890.....2900.....2910.....2920.....2930.....2940

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: . ** * . : : : : * ** * : : : . : * : . * * : : * : : : . : : * * : * : *
 YSEGGAVGCGIDVVIQRAYPIQWMEKTSAGSYVFRNSRAEEREAAKHAEDQOKKLEALFAK
 YSEGGAVGCGIDVVIQRAYPIQWMEKTSAGSYVFRNSRAEEREAAKHAEDQOKKLEALFAK
 YSEGGTVGCGIDVVVORTYPIQWMEKTSAGSYVFRNSRAEEREAAKHAEDQOKKLEALFAK
 FSDGGNVGCVDIIIVQVYPLQWVEKTVSGLYIFRNEREEEEKEALRFAEAQOKKLEALFTK
 FSDGGNVGCVDVIIVQVYPLQWVEKTVSGSYIFRNEREEEEKEALRFAEAQOKKLEALFTK
 FSDGGNVGCVDVIIQRAYPIQWMEKTSSGLYIFRNEREEEEKEAAKYVEAQOKRLEALFTK
 FSDGGNVGCVDVIIQRAYPIQWMEKTSSGLYIFRNEREEEEKEAAKYVEAQOKRLEALFTK
 FSDGGNVGCVDVIIQRAYPIQWMEKTSSGLYIFRNEREEEEKEAAKYVEAQOKRLEALFTK
 FSDGGNVGCVDVIIQRAYPIQWMEKTSSGLYIFRNEREEEEKEAAKHAEAQOKRLEALFTK
 FSDGGNVGCGDIIIIQRAYPIQWMEKTSTGLYIFRNEREEEEKEATKYAEAQOKKLEALFTK
 FSDGGSVGCVDVIIQRAYPIQWVEKTSAGSYIFRNEREEEEKEAIKYAEAQOKKLEALFTK
 FSDGGNVGCVDVVVQRAYPIQWMERTPSGLCIFRNEREEEEKEATKYAEIQOKKLEVLFNK
 FSDGGNVGCVDVVIQRTYPIQWMEKTPSGLCIFRNEREEEREATKYAEAQOKKLEVLFNK
 LSEGGVVGCGDVVIQRIYPMQWMEKMANGLYVFRNDRAEEREAEKHSANQOKKLEMLFSK
 YASGGLVSCVNLVLRSYPTQWMEKKPNVVFIFRNDRAEDREARKHSNKHSLDLLISK
2950.....2960.....2970.....2980.....2990.....3000

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:: : ::.. . . : :: **** *: * : .
IQAEFEKHEERNCR-APRSRVVTRQQIHNLQDGAELYEAIQNAPDPAD---MEG-----
IQAEFEKHEERNCR-APRSRIVTRQQIHNLQDGAELYEAIQNAPDPAD---MEG-----
IQAEFEKHEERNCR-APRSRIVTRQQIHNLQDGAELYEAIQNADPSY---MEG-----
VHTEFKDHEEDTQR-CVLSRTLTRQQVHALDGAELYAAVQYASDPDH---LEA-----
VHTELKEHEEDIAQR-VLRSRALTRQQVHALDGAELYAAVDQASDPEH---LEVYSALT
IQEEFEEHEENTTKP-YLPSRALTRQQVRLQDGAELYEAVKNAADPAY---LEG-----
IQEEFEEHEENTTKP-YLPSRALTRQQVRLQDGAELYEAVKNAADPAY---LEG-----
IQEEFEEHEENTTKP-YLPSRALTRQQVRLQDGAELYEAVKNAADPAY---LEG-----
IQEEFEEHEENTTKP-YLPSRALTRQQVHALDGAELYEAVKNAADPAY---LEG-----
IQAEFDEHEENVIEQ-CIPSRALTRQQVRLQDGAELYEAVKNAPDPSY---LEG-----
IQVEFEEHEESIAKQ-CTPSRALTRQQVRLQDGAELYEAVKSAPDPSY---LEG-----
IQAEFEKNDENITKQ-CIPSCALTRQQICALQDGAELYEAVTNAPDPSD---LEG-----
IQAEFEKHDENITKR-CVPLRALTRQQVQALQDGAELYEAVKNAPDPAS---LEA-----
IQAEFEQREVTNRRKGLRRRLSLNAQQMQLDQDGAEIYEAIQNESDPGY---LES-----
IQTFEKEMEGKKKK-RAQRRTFSRHEIETLQDGDELYEAMEQDAAVETRLS-----
.....3010.....3020.....3030.....3040.....3050.....3060

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	.:: : :	*::*: : :	:***:	
Pavo_muticus	-----YLS	EDLKALNAHKQLMNDKKQTRIQEEFFKKAVER	2899	
Pavo_cristatus	-----YLS	EDLKALNAHKQLMNDKKQTRIQEEFFKKAVER	2899	
Gallus_gallus	-----YLS	EDLKALNAHKQLMNDKKQTRIREEFFKKAVER	2899	
Mus_musculus	-----CFSE	EQLRALNNYROMLNDDKKQAIRIQSEFRKALES	2875	
Rattus_norvegicus	GGRPARVGR	TAAASAVSQCVKCPQT	CFSE EQLRALNNYROMLSDDKKQAIRIQSEFRKALEA	2914
Homo_sapiens	-----YFSE	EQLRALNNHROMLNDDKKQAIIQLEIRKAMES	2954	
Pan_troglodytes	-----YFSE	EQLRALNNHROMLNDDKKQAIIQLEIRKAMES	2954	
Macaca_mulatta	-----YFSE	EQLRALNNHROMLNDDKKQAIIQLEIRKAMES	2957	
Callithrix_jacchus	-----YFSE	EQLRALNNHROMLNDDKKQAIIQLEIRKAMES	2951	
Bos_taurus	-----YFSE	EQLRALNNHROMLNDDKKQAIOVELRKAMES	2952	
Equus caballus	-----YFSE	EQLRALNNHROMLNDDKKQAIIQLEFRKAVES	2968	
Canis_lupus_familiaris	-----YFSE	EQLRALNNHROMLNDDKKQAIIQLEFFKAMES	2973	
Felis catus	-----YFSE	EQLRALNNHROMLNDDKKQAIIQLEFRKAMES	2908	
Xenopus_tropicalis	-----YLSA	EFLKALNHRRLLNDDKKQAIIQAEFRKAIEC	2784	
Danio_rerio	-----HKOME	AVSKYRCCEEKRAELQERVOKAVME	2496	
	.....3070.....3080.....3090.....3100.....3110.....3120		

	..	. * : . . * * : * : * * * . : . * * * * : .	
Pavo_muticus	AEQEKHGCSKRDVSTVWKLFVVDYRKQEKHGRGVILSIWRPLLDVCSLLKEGSRYRIYQLS	2959		
Pavo_cristatus	AEQEKHGCSKRDVSTVWKLFVVDYRKQEKHGRGVILSIWRPLLDVCSLLKEGSRYRIYQLS	2959		
Gallus_gallus	AEQEKHGFSGKRDVSTVWKLFVIDYRKQEKHGRGVILSIWRPLLDVCSLLKEGSRYRICQLS	2959		
Mus_musculus	AEK-EEGLS-RDVTTVWKLRIVTSYKKKEK--SALLSIWRPSSDLLSSLLTEGKRYRIYHLA	2931		
Rattus_norvegicus	AEK-EEGLS-RDVTTVWKLRIVTSYKKKEK--SALLSIWRPSSDLLPSLLTEGQRYRIYHLS	2970		
Homo_sapiens	AEQKEQGLS-RDVTTVWKLRIVSYSKKEKD-SVILSIWRPSSDLYSLLTEGKRYRIYHLA	3012		
Pan_troglodytes	AEQKEQGLS-RDVTTVWKLRIVSYSKKEKD-SVILSIWRPSSDLYSLLTEGKRYRIYHLA	3012		
Macaca_mulatta	AEQKEQGLS-RDVTTVWKLRIVSYSKKEKD-SVILSIWRPSSDLYSLLTEGKRYRIYHLA	3015		
Callithrix_jacchus	AEQKEQGLS-RNVTTVWKLRIVSYSKKAKD-SVILSIWRPSSDLYSLLTEGMRYYRIYHLA	3009		
Bos_taurus	AEQGEQILP-RDVTIPWKLRIIMS YKRKEKD-SVILNIWRPSSSELYSLLTEGKRYRIYHLT	3010		
Equus_caballus	SGQGEQILS-RDVTTVWKLRIISYEKKQKD-SVLLSVWRPSSDLYSLLTEGKRYRIYHLT	3026		
Canis_lupus_familiaris	AEQGEQILP-RDVTTVWKLRIISYRKKEKD-SVTLSIWRPSPDLYSLLTEGKRYRIYHLA	3031		
Felis_catus	AEQGEQMLP-RDVTIPWKMRIISYKKEKD-SVTLSIWRPSSDLYSLLTEGKRYRIYHLA	2966		
Xenopus_tropicalis	SEQDANGCTRRDVTIPWKLRIADYRNYETDAAYILNIWRPLPDVLSLLKEGCRYKMYHLA	2844		
Danio_rerio	AQEAEGGCPNRDVTIPWKLVIDASDMQSNVCVTLNIWRPTRELQGLLTEGHRYAYHLA	2556		

	* * : . : * . * : : : * . * * : . * : : *	
Pavo_muticus	TSQPKGRSDSTNIQLSATKKTOYQLQLSVSKMLQIIFPRKALKFTSLLDPSYQPPCAEV	3019
Pavo_cristatus	TSQPKGRSDSTNIQLSATKKTOYQLQLSVSKMLQIIFPRKALKFTSLLDPSYQPPCAEV	3019
Gallus_gallus	TSQSKGRSDSTNVQLSATKKTRYQLQLSVSKMLQIIFPRKALKFTSLLDPSYQPPCAEV	3019
Mus_musculus	VSKSKSKFERPSIQLTATKRTQYQQLPVSSEITLLQVYQPRELHFSRLSDPAFQPPCSEV	2991
Rattus_norvegicus	VSKSKNKFEPWSIQLTATKRTQYQQLPVSEITLLQVYQPRELHFSKLSDDPAFQPPCSEV	3030
Homo_sapiens	TSKSKSKSERANIQLAATKKTOYQQLPVSEILFQIYQPREPLHFSKFLDPDFQPPCSEV	3072
Pan_troglodytes	TSKSKSKSERANIQLAATKKTOYQQLPVSEILFQVYQPREPLHFSKFLDPDFQPPCSEV	3072
Macaca_mulatta	TSKSKSKSERANIQLAVTKKTOYQQLPVSEILFQVYQPREPLHFSKFLDPDFQPPCSEV	3075
Callithrix_jacchus	TSKSKSKSERANIQLVATKKTOYQQLPASDEILFQVYQPRELHFSKFLDPDFQPPCSEV	3069
Bos_taurus	ASKSKSKYERANIQLTATKKTOYQQLPASDEILLQIYQPREPLHFNKLLSDSFQPPCSEV	3070
Equus_caballus	TSKSKSRSERANIHLTATKKTRYQQLPASDEILFQVYQPREPLHFNKLLNPDFQPPCSEV	3086
Canis_lupus_familiaris	ASQSKSKSGKANTQLTATKKTOYQQLPASDEILSQVYQPREPLYFNKLLDPDFQPPCSEV	3091
Felis_catus	TSQSKSKSERAHQLTATKKTOYQQLPASDELLFQVYQPREPLYFNKLLDPDFQPPCSEV	3026
Xenopus_tropicalis	ASTSKGKSLAADLQLTATKKTRFOQLQPSSEILEQIYSPREVTDFSRFQEPFLFSAPYAEV	2904
Danio_rerio	SSEGKKRSVGAHQLTATKKTLFQDIEVSEWLHQHFRARECVRFRELQNHFFSSPCGEV	2616
3190.....3200.....3210.....3220.....3230.....3240	

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Pavo_muticus	DVVG	VVIS	ISR	TGFS	NMVYL	SDES	YNFVAIKI	IWADLRHFAIED	IVVRC	SFIAAS	NLQW	3078		
Pavo_cristatus	DVVG	VVIS	ISR	TGFS	NMVYL	SDES	YNFVAIKI	IWADLRHFAIED	IVVRC	SFIAAS	NLQW	3078		
Gallus_gallus	DVVG	VVIS	ISR	TGFS	NMVYL	SDES	YNLVAIKI	IWADLRHFAIED	IVVRC	SFIAAS	NLQW	3078		
Mus_musculus	DVVG	VVVS	VVKPI	GLAP	LVYL	SDE	CLNLLVVK	FGIDL----	NED	IKPRVL	IAASN	LQW	3046	
Rattus_norvegicus	DVVG	VVVS	VVKPI	GLAP	LVYL	SDE	CLHLLVVK	FGIDL----	NED	IKPRVL	IAASN	LQWR	3085	
Homo_sapiens	DLIG	FVVS	VVKKT	GLAP	FVYL	SDE	CYNLLA	IKFWIDL----	NEDI	IKPHML	IAASN	LQWR	3128	
Pan_troglodytes	DLIG	FVVS	VVKKT	GLAP	FVYL	SDE	CYNLLA	IKFWIDL----	NEDI	IKPHML	IAASN	LQWR	3128	
Macaca_mulatta	DLIG	FVVS	VVKKT	GLAP	FIYL	SDE	CYNLLA	IKFWIDL----	NEDI	IKPHML	IAASN	LQWR	3131	
Callithrix_jacchus	DLIG	FVVS	VVKKT	GLAP	LVYL	SDE	CHNLLA	IKFWIDL----	NEDI	IKPHML	IAASN	LQWR	3125	
Bos_taurus	DLIG	FVVS	VVKKIG	IVPL	VYL	SDE	CHNLLA	IKFWIDL----	NEDI	IKPHML	IAASN	LQWR	3126	
Equus_caballus	DVIG	FVVS	VVKKIG	LSPL	VYL	SDE	CHNFLA	IKFWIDL----	NEDF	IKPHML	IVASN	LQWR	3142	
Canis_lupus_familiaris	DLIG	FVVS	VVKKIG	LAPV	VYL	SDE	CHNLLA	IKFWTDF----	NEDI	IKPYTL	IAASN	LQWR	3147	
Felis_catus	DLIG	FVVS	VVKKIG	FAPV	VYL	SDE	CHNLLA	IKVWIDL----	NEDI	VKPHTL	IAASN	LQWR	3082	
Xenopus_tropicalis	DLVGL	II	SIYKK	TGAAP	VVYL	SDES	HINIVALK	FWTDLG	QLGLEET	TKPR	YI	SAS	NLRWR	2964
Danio_rerio	DIVGY	IVS	IEGK	QGHCP	VLHL	VENF	DLVTR	YSSLEQL	AVEELV	KPRAL	VAIC	NLQVR	2676	
	3250	3260	3270	3280	3290	3300		

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Pavo_muticus	SEFRSEIPVLLAGDLSAFSASPKEHSHLOEKFNELRRMTENVDSFCSDAERKLMNLLQRNC	3138
Pavo_cristatus	SEFRSEIPVLLAGDLSAFSASPKEHSHLOEKFNELRRMTENVDSFCSDAERKLMNLLQRNC	3138
Gallus_gallus	SEFRSEIPVLLAGDLSAFSASPKENHLOEKFNELRRMTENVDSFCSDAESKLMNLLQRNC	3138
Mus_musculus	PESTSGVPTLFAGHFSIFSASPKEAYFOEKVNLKHAIENIDTFYKEAEKKLIHVLEGDS	3106
Rattus_norvegicus	PESTSRVPTLTFAGNFSVFSASPKEAHFOERVTNMKHAIENIDTFYKEAEKKLIQVLKGD	3145
Homo_sapiens	PESKSGLLTLTFAGDFS VFSASPKEGHFOETFNMKNITVENIDILCNEAENKLMHILHAND	3188
Pan_troglodytes	PESKSGLLTLTFAGDFS VFSASPKEGHFOETFNMKNITVENIDILCNEAENKLMHILHAND	3188
Macaca_mulatta	PESKSGLPTLTFAGDFS VFSASPKEGHFOETFNMKNITVENIDILCNEAENKLMHILHAND	3191
Callithrix_jacchus	PESKSGLPTLTFAGDFS VFSASPKEGHFOETFNMKNITVENIDIFCNEAENKLMHILQAND	3185
Bos_taurus	PGCKLGIPTLTFAGDFS MFSASPKEGHFOETFHKMKNTVENIDTFCEDAKNKLIRLLNASN	3186
Equus_caballus	PESNSGIPTLTFAGDFS TFSASPKEGHFOETFHKMKNTMENIDIFCND AENKLMHVNLNAND	3202
Canis_lupus_familiaris	PEAKSGIPTLTFAGDFS RFSASPKEEHFOETFHKMKNTVENIGMFYNDAENKLVHILNAND	3207
Felis_catus	PESKSGIPTLTFAGDFS RFSASPKEGHFOETFHKMKNTIENVDTFCNDAENKLVHILNASN	3142
Xenopus_tropicalis	SDCIEGIPTLVGDLANIS SNPKESHLOQAIQKLKLSVONVQDFWNSSQ TALMKTLQINS	3024
Danio_rerio	VLSG-PVPSLYAGEQALFS INPKESYLOEAMHLKTFACNYEQFFNLAEKVSDDVPSGV	2735
	.....3310.....3320.....3330.....3340.....3350.....3360	

Pavo_muticus	SLTPILPKRCGLECFSPSCNSGLR----	AEDKSSISISKIEMKHPSPLSASTPN----	TK	3189
Pavo_cristatus	SLTPILPKRCGLECFSPSCNSGLR----	AEDKSSISISKIEMKHPSPLSASTPN----	TK	3189
Gallus_gallus	SLTPILPKRCGLECFSPSCNSGLY----	AEDRSSISSKIEIKHPSPLSASTPN----	TK	3189
Mus_musculus	PKWSTPNKDPTREPHAASTCCASDLLGSGGQFLRISPTGOQSYQSPLSHCTILKGKSMPLA			3166
Rattus_norvegicus	PKWSTPNKDPTREPYPASTCSASDLAS--GGQLPRSSPTDQQSYRSPLSCCTPTGKSTPLA			3204
Homo_sapiens	PKWSTPTKDCSTGPYTAAQIIIPGT-----GNKLLMSSPNCIEIYYQSPLSLCMAKRKSVSTP			3243
Pan_troglodytes	PKWSTPTKDCPSGPYAAQIIISDT-----GNKLLMSSPNCIEIYYQSPLSLCMAKRKSVSTP			3243
Macaca_mulatta	PKWSTPIKDWTSSESYTAAQIIIPST-----GNKLLISSPNCIELYYQSPLSLCMAKRKSVSTP			3246
Callithrix_jacchus	PKWSTPTKDYINSEPHTAQIILPA-----GNKLLMSSPNCIDINYQSPLSLRMPKSKSVSTP			3240
Bos_taurus	PKWSTPTKDCSTAPPTAQTVLGS-----GNKFPLSSPSEMNYQSPLSLCKLINEKSVCTP			3241
Equus caballus	AKWSTPTKDYTSEPHTAQTVLG-----GNKFLMSSPNSSEMNYQSPLSLCKPKGKSVSTP			3257
Canis_lupus_familiaris	PKLSTPTKDYASEPHTAQIVLGI-----GNKFLMSSPNNEMNYQSPLSLCKPKESVVP			3262
Felis_catus	PKVSTPTKDYASEPHTIQTIVLGL-----GNKLSMSSPNSSEMNYQSPLSLCKPKAKSVPTP			3197
Xenopus_tropicalis	TDTTECSKNPTTPTWKSVDVSARS-----YLTPLHHSGKR-----LLN			3062
Danio_rerio	LGSFQSRPTGVQPFPMNGTVITP-----OQKSSIIFSP			2768
3370.....3380.....3390.....3400.....3410.....3420			

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Pavo_muticus	LFAQGS	AVTPSS	AVSNENHPRNSKRRKAMDFLSCLPAPPPLTPICSIISPSLKKAFOPPR	3249																
Pavo_cristatus	LFAQGS	AVTPSS	AVSNENHPRNSKRRKAMDFLSCLPAPPPLTPICSIISPSLKKAFOPPR	3249																
Gallus_gallus	LFPOGS	AITPSS	AVSNENHPRNSKRRKAVDFLSCTIPAPPPLTPLCSIIISPSLKKAFOPPR	3249																
Mus_musculus	HSAAQA	MAKS-WSG	ENEIDDPKTCRKRRALDFLSRLPLPPVSPICTFVSAAAQAFOPPR	3225																
Rattus_norvegicus	HSAAQA	MAKS-CSG	ENEIEDPKTCRKRRALDLSRLPLPPVSPICTFVSAAAQAFOPPR	3263																
Homo_sapiens	VSAQT	SKS-CKGEKEIDDQKNCKRRRALDFLSRLPLPPPVPSPICTFVSAAAQAFOPPR	3302																	
Pan_troglodytes	VSAQT	SKS-CKGEKEIDDQKNCKRRRALDFLSRLPLPPPVPSPICTFVSAAAQAFOPPR	3302																	
Macaca_mulatta	VSAQT	SKS-CKGEKEIDDQKNCKRRRALDFLSRLPLPPPVPSPICTFASAAAQAFOPPR	3305																	
Callithrix_jacchus	VPAQT	SKS-CKGEKEIDDQKSCKKRRALDFLSRLPLPPPVPSPICTFVSAAAQAFOPPR	3299																	
Bos_taurus	VSAQVT	SKSCCKGEKEIDDPKSCKKRRALDFLSRLPPVPVPSPICTFVSQAAAQAFOPPR	3301																	
Equus_caballus	LSAPMT	LKS-CKEEMEIDDPKNCKRRRALDFLSRLPLPPPVPSPICTFVSAAAQAFOPPR	3316																	
Canis_lupus_familiaris	GSTQT	SKSYCKEEKEMDDPKTKKKRRALDFLSRVPLPPSVSPICTFVSAAAQAFOPPR	3322																	
Felis_catus	GSAQT	SKSCYKGERELDDPKTKKKRALDFLSRLPLPPPVPSPICTFVSAAAQAFOPPR	3257																	
Xenopus_tropicalis	SVHTSD	POTENPGCSKEIQLTKTKKKRALDFLNRIPSPPPVTPVRPFVSPSLQAFRPPR	3122																	
Danio_rerio	FTPLNRR	TASTSNSVEVKDKNLKRRRGDLYLSRIPSPPLLIPLKTRASPINKTFNPPR	2828																	
3430.....3440.....3450.....3460.....3470.....3480																			

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Pavo_muticus	SLGSOHSKVSKEANPNTGCVTPSRKLREAVQLPDNDLVADEELAMINTQALINTVLEKK	3309				
Pavo_cristatus	SLGSOHSKVSKEANPNTGCVTPSRKLREAVQLPDNDLVADEELAMINTQALINTVP EEKK	3309				
Gallus_gallus	RLGSOHSKLSKETNPNA GCVTPSRRLREAVQLPDNDLVADEELAMINTQALINTVPEEK	3309				
Mus_musculus	SCGTKYETPIKKE-PSSPRRRTPFOKISGVSLPDDCDSVADEELALLSTQALTIPDSVGGE	3284				
Rattus_norvegicus	SCGTKYPTPLKKEGPSPPWSRAPFQKASGVSLLD CDSVADEELALLSTQALVPHSVGGSE	3323				
Homo_sapiens	SCGTKYETPIKKKELNSP-QMTPFKKFNEISLLESNSIADEELALINTQALLSGSTGEKO	3361				
Pan_troglodytes	SCGTKYETPIKKKELNSP-QMTPFKKFNEISLLESNSIADEELALINTQALLSGSTGEKO	3361				
Macaca_mulatta	SCGTKNETPIKKKELNSP-QMTPFKKFNEISLLESNSIADEELALINTQALLSGSTGEKO	3364				
Callithrix_jacchus	SCGTKYETPIKKKELNSP-QVTPFKKFNEISLLESNSIADEELALINTQALLSGSIGEKO	3358				
Bos_taurus	SCGTKYETPMKKNELNSP-QMTPRKKFNDSLLES DSI ADEELALINTQALLSGSAGGNQ	3360				
Equus_caballus	SCGTKYETPIKKKG LNSP-EMT PLKKVNDISLLEGDSIADEELALINTQALLSGSAGENQ	3375				
Canis_lupus_familiaris	SCGTKYETLMKK-ELNSP-QMTP-RKFNDLSLLES DSI ADEELAMINTQALLLGSPGEHQ	3379				
Felis_catus	SCGTKYETPIKKRELNSP-QMTP-LKFNDTSLVES DSI ADEELALINTQALLSGLAGEDQ	3315				
Xenopus_tropicalis	SCSVQKLGPETKGNTE NVQTIP-ECTKD LAKLEGEFVADEELAMINTQALLGLEEEKK	3181				
Danio_rerio	KSVTPKPQQNECSPASRP-----PAGEEKWVHDEELAMIDTQALVDGLMND--	2874				
	.....3490.....3500.....3510.....3520.....3530.....3540				

Pavo_muticus	TDYVNEDSTRATNLSGDT-----RAPNLSGDLSSKNSYKPAKEANSSILKSSSEEGAD	3360
Pavo_cristatus	TDYVNEDSTRATNLSGDT-----RAPNLSGDLSSKNSYKPAKEANSSILKSSSEEGAD	3360
Gallus_gallus	MDYVNEDSTRATNLSGDTATNLSRDMRAPNLSGDLSSKNSRSAPAKEANSSILKSSSEEGAD	3369
Mus_musculus	QAFPGDSTRNPQPAQRPD-----QQVGPRSRKESLRDCRGDSSEKLAVES-----	3329
Rattus_norvegicus	QVFPSDSTRTEGPGASTE-----ARPANRCKRESLRDCRDDSDGKLAAETVPDYS-	3373
Homo_sapiens	FISVSESTRTAPTSSSEDY-----LRLKRRCTTSLIKEQESSQASTECEKNKODTI	3412
Pan_troglodytes	FISVSESTRTAPTSSSEDY-----LRLKRRCTTSLIKEQESSAQASTECEKNKODTI	3412
Macaca_mulatta	FISVSESTRTPTSSSKDY-----LRLKRRCTTSLIKEQESSHSDKEECENNKODTI	3415
Callithrix_jacchus	FISVSEFTRTAPTSSSKDC-----LRLKRCSTTSLIKEQESSRAGTEECENDMODTS	3409
Bos_taurus	LTSISKSTRIVPTSPKDY-----VGLKRPYTTSVIKERENSPARTIEQETINIPDTS	3411
Equus_caballus	LMSISESTRITPTCSQDC-----LGLKRHCSTSVVKEQEKSQVSTKERETINTODTR	3426
Canis_lupus_familiaris	LVSVDSTRTAPTSSSKDY-----LGLKRHSTAPGVRGPESPQACTRKREPRVNTS	3430
Felis_catus	LMSLNDSPRTAPTSSSKDY-----VRPKSYPTAPGIRDCENPQASTEGGEPDVODTD	3366
Xenopus_tropicalis	KTEQKTSRTAGKMTAHES-----PIENASPVPAQEQTTEALNIPVGNSEKSYL	3230
Danio_rerio	-----	2874
3550.....3560.....3570.....3580.....3590.....3600	

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Pavo_muticus	ALQKDTEEAE	-----	3370
Pavo_cristatus	ALQKDTEEAE	-----	3370
Gallus_gallus	ALQKDTEEPEGSLSI	RRVLQRRKSRKCY	3397
Mus_musculus	-----	-----	3329
Rattus_norvegicus	-----	-----	3373
Homo_sapiens	TTKKYI	-----	3418
Pan_troglodytes	TTKKYI	-----	3418
Macaca_mulatta	TTKKYEH LQR	-----	3425
Callithrix_jacchus	TTEK	-----	3413
Bos_taurus	AIKNRSKRLQRRQKPK	-----	3427
Equus_caballus	TVKIIISKRLQRRQKQK	-----	3442
Canis_lupus_familiaris	DLKRTSLRLQRRQQTQK	-----	3446
Felis_catus	TVKRS SMRLQRRQQT	-----	3382
Xenopus_tropicalis	CLRKRKRK	-----	3238
Danio_rerio	-----	-----	2874
	.....3610.....3620.....		