

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/PIGData Date: Tue Feb 1 14:18:38 2022

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Pavo_muticus	MRLRLRSGALAAGCLLAEALGVALFLRGFFPLPVRS-LPRGEARAEPPAEPAPPGPVVS	59
Pavo_cristatus	MRLRLRSGALAAGCLLAEALGVALFLRGFFPLPVRS-LPRGEARAEPPAEPAPPGPVVS	59
Gallus_gallus	MRLRLRSGALAAGCLLAEALGVALFLRGFFPLPVRS-LPRGEARAEPPAEPAPPGPVVS	59
Anas_platyrhynchos	--MRLRAGVLAAGCLLLQAMGVAIFLRGFFPTAVRA-RPRGGPPGDGPAEPAPPGSGAAS	57
Chelonia_mydas	--MRLRSGVFAAGCLLVQALGVGLFLRGFFPVVRS-LPRREARGAPPAPPPQPGAGVTS	57
Rhinatrema_bivittatum	--MKVRVSVAVACWALLQAVAVLFLRGFFPAPVRS-SNR---EAQTPVEP---YTGAGS	51
Latimeria_chalumnae	-----	
Xenopus_tropicalis	--MKVSSSVLASCCLLIQVFGAMLFIIRGFFPLPVRS-QSRKSTSAETPPEP--ATAGLLS	55
Esox_lucius	--MKVRSISIFASLCLILEVLGIALFLRGFFPVPIKSSFSKSKSLDLPAP---FTGSSP	55
Homo_sapiens	--MRLSGTIFATCCVAIEVLGIAVFLRGFFPAPVRSSARAEHGAEPAPPEP---SAGASS	55
Pan_troglodytes	--MRLSGTIFATCCVAIEVLGIAVFLRGFFPAPVRSSARAEHGAEPAPPEP---SAGVSS	55
Macaca_mulatta	--MRLSGTIFATCCVAIEVLGIAVFLRGFFPAPVRSSARAVHGAEPAPPEP---SAGASS	55
Callithrix_jacchus	--MRLGAGTFAACCVVIEVLGIAVFLRGFFPAPVRSSAGTEHGAEPAPPEP---SAGASS	55
Canis_lupus_familiaris	--MRLSGGAFAACCVVIEVLGVALFLRGFFPAPVRSSSRAEQRAEPAAPPEP---SAGASS	55
Equus_caballus	--MRLSGTFAACCVVIEVLGVVFLRGFFPAPVRSSSSSKHQAEPAPPEP---SAGASS	55
Bos_taurus	--MRLSGTFAAGCVVIEVLGVALFLRGFFPAPVFSG--AERQAESPAPPEP---SAGASS	53
Mus_musculus	--MRLSGGAFAASCVAIEVIGVAIFIRGFFPAPVRSSARPEHDAETPAPPEP---VAGVRS	55
Rattus_norvegicus	--MRLSGGAFAASCVAIEVIGVAIFIRGFFPAPVRSSARPEHGAETPAPPEP---VAGVSS	55
Heterocephalus_glaber	--MRLSGGAFATICVAIEVLGVAIFLRGFFPASVKSSSRTGLQAETPAPPEP---LAGASS	55

1.....10.....20.....30.....40.....50.....60

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Pavo_muticus	NWTKIPPLFRKVVIVLIDALRDDFVFGSKGKQFMPYTTQVIEKGTSSYSFIAEAKPPTVT	119	
Pavo_cristatus	NWTKIPPLFRKVVIVLIDALRDDFVFGSKGKQFMPYTTQVIEKGTSSYSFIAEAKPPTVT	119	
Gallus_gallus	NWTKIPPLFRKVVIVLIDALRDDFVFGSKGKQFMPYTTQVIEKGTSSYSFIAEAKPPTVT	119	
Anas_platyrhynchos	NWSAVPPPLFRRVVLVLDALRQDFVFGPKGKQFMPYATQVIEKGTSSYSFVAEAKPPTVT	117	
Chelonia_mydas	NWTKIPSPFLFKVVIVLIDALRDDFVFGSKGKQFMPYTTELVEKGTCHSFIAEAKPPTVT	117	
Rhinatrema_bivittatum	NWTRIPPLFRRVVLVLDALRDDFVFGPKGKQFMPYMTLHVEKGTSSSFVAKATAPTVT	111	
Latimeria_chalumnae	-----MMIDALREDFVFGPKGKAFMPYTRNLIEHGRSHSFIAKARPPTVT	45	
Xenopus_tropicalis	NWTKLPSPLFKVVVLLIDALRQDFVFGPKGKQFMPYTLQVEKGTTHSFIAKAAAPTVT	115	
Esox_lucius	NSSKLPDPLFKRVVIMLIDALREDFVFGNGRNDMPYTRHLVERGSTHSSFVAKARAPTVT	115	
Homo_sapiens	NWTTLPPLPFSKVVIVLIDALRDDFVFGSKGVKFMPTTYLVEKGASHSFVAEAKPPTVT	115	
Pan_troglodytes	NWTTLPPLPFSKVVIVLIDALRDDFVFGSKGVKFMPTTYLVEKGASHSFVAEAKPPTVT	115	
Macaca_mulatta	NWTTLPPLPFSKVVIVLIDALRDDFVFGSKGVKFMPTTYLVEKGASHSFVAEAKPPTVT	115	
Callithrix_jacchus	NWTTLPPLPFGKVVIVLIDALRDDFVFGSKGVKFMPTTYLVEKGASHSFVAEAKPPTVT	115	
Canis_lupus_familiaris	NWTKLPPLPFSKVVIVLIDGLRDDFVFGSKGVKFMPTTYLVEKGASHSFVAEAKPPTVT	115	
Equus_caballus	NWTKLPPLPFSKVVIVLIDALRDDFVFGSKGVKFMPTTYLVEKGASHSFVAEAKPPTVT	115	
Bos_taurus	NWTELPPPLPFSKVVILLIDALRDDFVFGSKGVKFMPTTYLVEKGSSLSFVAEAKPPTVT	113	
Mus_musculus	NWTKLPPLPFSKVVIVLIDALRDDFVFGSKGVKFMPTTYLVEKGASHSFVAEAKPPTVT	115	
Rattus_norvegicus	NWTKLPPLPFSKVVIMLIDALRDDFVFGSKGVKFMPTTYLVEKGASHSFVAEAKPPTVT	115	
Heterocephalus_glaber	NWTKLPPLPFSKAVIVLIDALRDDFVFGSKGARYMPFTTYLVGKGPSHSFVAEAKPPTVT	115	

.....70.....80.....90.....100.....110.....120

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Pavo_muticus	MPRIKALMTGSIPGFIDVVVNLNSPALMSDNLIWQAKAAGKRIIFYGDDTWVKLFPKHFV	179
Pavo_cristatus	MPRIKALMTGSIPGFIDVVVNLNSPALMSDNLIWQAKAAGKRIIFYGDDTWVKLFPKHFV	179
Gallus_gallus	MPRIKALMTGSIPGFIDVVVNLNSPALMSDNLIWQAKAAGKRIIFYGDDTWVKLFPKHFV	179
Anas_platyrhynchos	MPRIKALMTGSIPGFIDVVVNLNSPALDDNLIWQAKTAGKRIIFYGDDTWVKLFPKHFV	177
Chelonia_mydas	MPRIKALMTGSIPGFIDVIMNLNSPALLEDNLIWQAKTAGKRIIFYGDDTWVKLFPKHFV	177
Rhinatrema_bivittatum	MPRIKALMTGSIPGFIDVIMNLNSPALLEDNLIWQAKTAGKRIIFYGDDTWVRLFPKHV	171
Latimeria_chalumnae	MPRIKALMTGSIPGFIDVIMNLNSPALLEDNLSQAKTAGKRIIFYGDDTWLKLFPKHV	105
Xenopus_tropicalis	MPRIKALMTGSIPGFIDVIMNLNSHELDDNVIWQKQAGKRIIFYGDDTWIKLFPKHFA	175
Esox_lucius	MPRIKALTGSIPGFIDVIMNLNSPALLEDNLIWQAKAAGKRMVIFYGDDTWIKLFPKHFV	175
Homo_sapiens	MPRIKALMTGSLPGFVDVIRNLNSPALLEDNLIWQAKAAGKRIIFYGDDTWVKLFPKHFV	175
Pan_troglodytes	MPRIKALMTGSLPGFVDVIRNLNSPALLEDNLIWQAKAAGKRIIFYGDDTWVKLFPKHFV	175
Macaca_mulatta	MPRIKALMTGSLPGFVDVIRNLNSPALLEDNLIWQAKTAGKRIIFYGDDTWVKLFPKHFV	175
Callithrix_jacchus	MPRIKALMTGSLPGFVDVIRNLNSPALLEDNLIWQAKAAGKRIIFYGDDTWVKLFPKHFV	175
Canis_lupus_familiaris	MPRIKALMTGSLPGFIDVIRNLNSPALLEDNLIWQAKAAGKRIIFYGDDTWVKLFPKHFV	175
Equus_caballus	MPRIKALMTGSLPGFIDVIMNLNSPALLEDNLIWQAKAAGKRIISYGDDTWVKLFPKHFV	175
Bos_taurus	MPRIKALTGSLPGFIDVIRNLNSPALLEDNLIWQAKAAGKRIIFYGDDTWVKLFPKHFV	173
Mus_musculus	MPRIKALMTGSLPGFVDVIRNLNSPALLEDNLIWQAKAAGKRIIFYGDDTWVKLFPKHFV	175
Rattus_norvegicus	MPRIKALMTGSLPGFVDVIRNLNSPALLEDNLIWQAKAAGKRIIFYGDDTWVKLFPKHFV	175
Heterocephalus_glaber	MPRIKALMTGSLPGFVDVIRNLNSPALLEDNLIWQAKAAGKRMIFYGDDTWVKLFPKHFV	175

.....130.....140.....150.....160.....170.....180

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Pavo_muticus      EYDGTTSFFVSDFTTEVDDNVTRHLDRLVKREDWDLILHLYLGLDHIHMTGPPSSPLVGP 239
Pavo_cristatus    EYDGTTSFFVSDFTTEVDDNVTRHLDRLVKREDWDLILHLYLGLDHIHMTGPPSSPLVGP 239
Gallus_gallus     EYDGTTSFFVSDFTTEVDDNVTRHLDRLVKREDWDLILHLYLGLDHIHMTGPPSSPLVGP 239
Anas_platyrhynchos EYDGTTSFFVSDFTTEVDDNVTRHLDRLVKREDWDLILHLYLGLDHIHMTGPPSSPLVGP 237
Chelonia_mydas    EYDGTTSFFVSDYTEVDDNVTRHLDGVLKREDWDILILHLYLGLDHIHMTGPPSSPLVGP 237
Rhinatrema_bivittatum EYDGTTSFFVSDFTTEVDNNITRHLDDVLKQENWDILIVHYLGLDHIHMTGPPSSPLIGLK 231
Latimeria_chalumnae EYDGTTSFFVSDYTEVDDNVTRHLDHVLKREDWDILILHLYLGLDHVHLAGPNSPLVGP 165
Xenopus_tropicalis EYDGTTSFFVSDYTEVDNNVTRHLDLILKRDWDMILHLYLGLDHIHMTGPHSHLVGP 235
Esox_lucius       EYDGTTSFFVSDYTEVDNNVTRHLDSTLRDDWDILILHFLGLDHIHMTGPHSHLVGP 235
Homo_sapiens      EYDGTTSFFVSDYTEVDNNVTRHLDKVLKRGDWDILILHLYLGLDHIHMTGPPSSPLIGQ 235
Pan_troglodytes   EYDGTTSFFVSDYTEVDNNVTRHLDKVLKRGDWDILILHLYLGLDHIHMTGPPSSPLIGQ 235
Macaca_mulatta    EYDGTTSFFVSDYTEVDNNVTRHLDKVLKRGDWDMLILHLYLGLDHIHMTGPPSSPLIGHK 235
Callithrix_jacchus EYDGTTSFFVSDYTEVDNNVTRHLDKVLKRGDWDMLILHLYLGLDHIHMTGPPSSPLIGRK 235
Canis_lupus_familiaris EYDGTTSFFVSDYTEVDNNVTRHLDKVLKRGDWDMLILHLYLGLDHIHMTGPPSSPLIGHK 235
Equus_caballus    EYDGTTSFFVSDYTEVDNNVTRHLDKVLKRGDWDVILHLYLGLDHIHMTGPPSSPLIGRK 235
Bos_taurus        EYDGTTSFFVSDYTEVDNNVTRHLDKVLKRGDWDMLILHLYLGLDHIHMTGPPSSPLVGHK 233
Mus_musculus      EYDGTTSFFVSDYTEVDNNVTRHLDKVLKRGDWDVILHLYLGLDHIHMTGPPSSPLIGHK 235
Rattus_norvegicus EYDGTTSFFVSDYTEVDNNVTRHLDKVLKRGDWDVILHLYLGLDHIHMTGPPSSPLIGHK 235
Heterocephalus_glaber EYDGTTSFFVSDYTEVDNNVTRHLEVLKRGDWDILILHLYLGLDHIHMTGPPSSPLIGRK 235
.....190.....200.....210.....220.....230.....240

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Pavo_muticus      LREMDNVLKKIHIISLLSKEGEASLPSSLVVCGDHGMSETGSHGGSSEGEVHTPLLFISSA 299
Pavo_cristatus    LREMDNVLKKIHIISLLSKEGEASLPSSLVVCGDHGMSETGSHGGSSEGEVHTPLLFISSA 299
Gallus_gallus     LREMDNVLKKIHIISLLSKEGEASLPSSLVVCGDHGMSETGSHGGSSEGEVHTPLLFISSA 299
Anas_platyrhynchos LREMDNILKKIHIISLLSKEGEASLPSSLVVCGDHGMSETGSHGGSSEGEVHTPLLFISSA 297
Chelonia_mydas    LYEMDNILKKIHTSLLSKERESSLPNLLIVCGDHGMSETGSHGGSSEEEVHTPLLFISSA 297
Rhinatrema_bivittatum LSEMDHILKKIHTLLLSKESDTSPLSLVLVCGDHGMSEAGGHGGSSEYEEHTPLVVFSSV 291
Latimeria_chalumnae LAEMDAILKKIHTTLLSKEGETSLPGLLVLCGDHGMSEIGSHGGSSEDPENLTPVLVLISS 225
Xenopus_tropicalis LLEMDTVLKKISVALMSQEDISVPSLVLVLCGDHGMSETGSHGGSSEEEVQTPVLVLISSA 295
Esox_lucius       LLEMDDILKKIHGSLILKEAEGTLPYLLVLCGDHGMSETGSHGGSSEHEVNTPLVLISPA 295
Homo_sapiens      LSEMDSVLMKIHTSLQSKERETPLPNLLVLCGDHGMSETGSHGASSTEEVNTPLILISSA 295
Pan_troglodytes   LSEMDSVLMKIHTSLQSKERETPLPNLLVLCGDHGMSETGSHGASSTEEVNTPLILISSA 295
Macaca_mulatta    LSEMDSVLMKIHTSLQSKERETPLPNLLVLCGDHGMSETGSHGASSTEEVNTPLILISSA 295
Callithrix_jacchus LSEMDSVLMKIHTSLLSKEREVALPSLLVLCGDHGMSETGSHGASSTEEVNTPLILISSA 295
Canis_lupus_familiaris LREMDSVLMKIHTSLLSEERETPLPNLLVLCGDHGMSETGSHGASSTEEVNTPLILISSA 295
Equus_caballus    LSEMDGVLMIHTALLSEERETLLPSLLVLCGDHGMSETGSHGASSTEEVSTPLLLVSSA 295
Bos_taurus        LSEMDSVLMKIHTALLAERDPLPSLLVLCGDHGMSEAGGHGASSTEEVNTALVLVSSA 293
Mus_musculus      LSEMDSVLMKIHTSLLSKDRETLLPSLLVLCGDHGMSETGSHGASSTEEVSTPLLLISSA 295
Rattus_norvegicus LSEMDSVLMKIHTSLLSKDRETLLPSLLVLCGDHGMSETGSHGASSTEEVSTPLLLISSA 295
Heterocephalus_glaber LREMDGILMKIYTALLTKERETLPSLLVLCGDHGMSETGSHGASSTEEVSTPLVLVSSA 295
.....250.....260.....270.....280.....290.....300

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Pavo_muticus      FEKRSGLPTELELVQQTDLASTLAVGLGLPISRNVGNIIIPVVGSKTMREQLRFLHMG 359
Pavo_cristatus    FEKRSGLPTELELVQQTDLASTLAVGLGLPISRNVGNIIIPVVGSKTMREQLRFLHMG 359
Gallus_gallus     FEKRSGLPTELELVQQTDLASTLAVGLGLPISRNVGNIIIPVVGSKTMREQLRFLHMG 359
Anas_platyrhynchos FEKRSGLPTELELVQQTDLASTLAVGLGLPISRNVGNIIIPVVGSKTMREQLRFLHMG 357
Chelonia_mydas    FEKRNGLPKQPELVQQTDLAATLAIGLGLPISRNVGNIIIPVVGSKTMREQLRFLHMG 357
Rhinatrema_bivittatum FDRKEGFDRPLEFVQQTDLAPTLAVSLGLPISRNSLGNLILPVVEGTTMREQLRFLHMG 351
Latimeria_chalumnae FKQKDS-FSAPDFVDQTDIAPTLAIGLGLPISRNSLGHFLFPIVEQNSMREQLRFLHMG 284
Xenopus_tropicalis FEEKGGISKLPEIQQTDIAPTLAISLGLPIPQNSLGIIVPQIVVEHKSMTREQLRFLHMG 355
Esox_lucius       FKRKAG-MEKPSVEQVQDLAPTLALGLGLPISRNSVGRILQPVAAEASLRDQLRFLHMG 354
Homo_sapiens      FERKPGDIRHPKHVQQTDLAATLAIALGLPIPKDSVGSLLFPVVEGRPMREQLRFLHMG 355
Pan_troglodytes   FERKPGDIRHPKHVQQTDLAATLAIALGLPIPKDSVGSLLFPVVEGRPMREQLRFLHMG 355
Macaca_mulatta    FERKPGDIRHPKHVQQTDLAATLAIALGLPIPKDSVGSLLFPVVEGRPMREQLRFLHMG 355
Callithrix_jacchus FERKPGDVRHPTRVQQTDLAATLAIALGLPIPKDSVGSLLFPVVEGRPMREQLRFLHMG 355
Canis_lupus_familiaris FERKPGDIRHPKHVQQTDLAATLAIALGLPIPKDSVGSLLFPVVEGRPMREQLRFLHMG 355
Equus_caballus    FERKPGDIRHPKHVQQTDLAATLAIALGLPIPKDSVGSLLFPVVEGRPMREQLRFLHMG 355
Bos_taurus        FERKPGDVRHPTRVQQTDLAATLAIALGLPIPKDSVGSLLFPVVEGRPMREQLRFLHMG 353
Mus_musculus      FERKPGDIRHPKHVQQTDLAATLAIALGLPIPKDSVGSLLFPVVEGRPMREQLRFLHMG 355
Rattus_norvegicus FERKPGDVRHPKHVQQTDLAATLAIALGLPIPKDSVGSLLFPVVEGRPMREQLRFLHMG 355
Heterocephalus_glaber FERKPGDIRHPKHVQQTDLAATLAIALGLPIPKDSVGSLLFPVVEGRPMREQLRFLHMG 355
.....310.....320.....330.....340.....350.....360

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Pavo_muticus	FYLMCLMLCAVHVIVCTSAESLCYFCMSWLTAVGVMMILISALMCGILSAVGKILEN-SR	538																	
Pavo_cristatus	FYLMCLMLCAVHVIVCTSAESLCYFCMSWLTAVGVMMILISALMCGILSAVGKILEN-SR	538																	
Gallus_gallus	FYLMCLMLCAVHVIVCTSAESLCYFCMSWLTAVGVMMILISALMCGILSAVGKILEN-SR	538																	
Anas_platyrhynchos	FYLMCLVLCVHVIVCTSAESLCYFCMSWLTALGVMMILISALMCGILSAIGKILEN-SR	536																	
Chelonia_mydas	FYLMCLMLCAVHVIVCTSAESLCYFCISWLTAVGVMMILISALMCGILSAFGKMIEN-PK	536																	
Rhinatrema_bivittatum	FYLMILLLSAVHVIVCTSTESTCYFCSLSWLMAGVMILISALFCVILSLLGKMCGN-SK	530																	
Latimeria_chalumnae	FYLLFLMLSAVHVIVCTSSSESSCYFCSVSWFMAFGVIMLVSGLLCMILSILGOKFAY-EK	463																	
Xenopus_tropicalis	FYMMCLVLSAIHVIVCTSSSEKVCFFCSISWVLALGIMMFISALS CIVLSTLSKMLAK-SQ	534																	
Esox_lucius	FYLLCLLLSSVHVIVCTSAESSCYFCSLSWGLVFGVVALSSALLCIVLVAMGARRLSLGS	534																	
Homo_sapiens	FYLVILVLSAVHVIVCTSAESSCYFCGLSWLAAGGMVLASALLCVIVSVLTNVLVGNT	535																	
Pan_troglodytes	FYLVILVLSAVHVIVCTSAESSCYFCGLSWLAAGGMVLASALLCVIVSVLTNVLVGNT	535																	
Macaca_mulatta	FYLVILVLSAVHVIVCTSAESSCYFCGLSWLAAGGMVLASALLCVIVSVLTNVLVGNA	535																	
Callithrix_jacchus	FYLVILVLSAIHVIVCTSAESSCYFCGLSWLAAGGMVLASALLCVIVSVLTNVLVGKP	535																	
Canis_lupus_familiaris	FYLTLLVLSALHVIVCTSAESSCYFCGLSWLTAGGMVLVSALLCAVVSALAKTFGDGKF	535																	
Equus_caballus	FYLTFLVLSAVHVIVCTSTESSCYLCSLSWLTAGGMVLVSALLCAVVSALTQVLVRGKL	535																	
Bos_taurus	FYLLLLLALAALHVIVCTAADSICYLCSLPWLAAGGMVLTALCAGMSALTRVFAGGKC	533																	
Mus_musculus	FYLVFLVLSAIHVIVCTSSSESSCYLCSLSWLAAGVMVLVSALFCAILSALIRMVIDSTL	535																	
Rattus_norvegicus	FYLIFLVLSAIHVIVCTSSSESSCYLNLPLWLAAGVMVLVSALFCAILSALIRMVTDGTL	535																	
Heterocephalus_glaber	FYLMFLVLSAIHVIVCTSAESSCYLCSLPWLAAGGMVLVSALLCVIASAFARVMDSIF	535																	
490.....500.....510.....520.....530.....540																		

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus      LPL-----KNPGASSSSW--SEVDVLILAGTIGHVLSLGASSFIEEEHQWYFLINTLCL 591
Pavo_cristatus    LPL-----KNPGASSSSW--SEVDVLILAGTIGHVLSLGASSFIEEEHQWYFLINTLCL 591
Gallus_gallus     LPL-----KNPGASSSSW--SEVDVLILAGTIGHVLSLGASSFIEEEHQWYFLINTLCL 591
Anas_platyrhynchos LPV-----KNPVASSSSW--SEVDVLMLAGTIGHVLSLGASSFIEEEHQWYFLINTLCL 589
Chelonia_mydas    LPA-----KNPAVSSSSW--SELDVLILAGTVGYAVSLGASSFIEEEHQWYFLINTLCL 589
Rhinatrema_bivittatum SPN-----KSPPRSRSW--LELDILLLLGTIGHVLTGSSSFIEEEHQWYFLINTLCL 583
Latimeria_chalumnae PQS-----KGPSVLNSGW--SELDVLLAGTFGHVLSLGASSFIEEEHQWYFLINTLCL 516
Xenopus_tropicalis YPN-----KKQDSIFSGW--SELDLLLLIGTLGHVISMGASSFIEEEHQWYFLINTLCL 587
Esox_lucius       SSG-----KSPARGGGWSLSELDILLVGTAGHTLSLAASSFVEEEHQWYFLINTLCL 589
Homo_sapiens      PR-----KNPMHPSSRW--SELDLLILLGTAGHVLSLGASSFVEEEHQWYFLVNTLCL 587
Pan_troglodytes   PR-----KNPVHPSSRW--SELDLLILLGTAGHVLSLGASSFVEEEHQWYFLVNTLCL 587
Macaca_mulatta    SR-----KNPVHPSSRW--SELDLLILLGTAGHVLSLGASSFVEEEHQWYFLVNTLCL 587
Callithrix_jacchus RR-----KNPVHPSSRW--SELDLLILLGTAGHVLSLGASSFVEEEHQWYFLVNTLCL 587
Canis_lupus_familiaris LS-----KNPAHPKPRW--SELDVLLILGTMGHVLSLGASSFIEEEHQWYFLINTLCL 587
Equus_caballus    LS-----KNAAHNSRW--SELDLLILLGTAGHVLSLGASSFIEEEHQWYFLVNTLCL 587
Bos_taurus        LSQVELAFQNPQSTSRW--SELDLLSFLGTGVGHVLSLGASSFIEEEHQWYFLVNTLCL 591
Mus_musculus      LKKN-----AADASSGW--SEVNLLLLLTGTVGHVLSLGASSFVEEEHQWYFLINTLCL 587
Rattus_norvegicus LRKN-----ATVASSGW--SEVNLLLLLTGTVGHVLSLGASSFVEEEHQWYFLINTLCL 587
Heterocephalus_glaber LRKVQ---QSAAHPCSGW--SEVNLLLLLTGTVGHVLSLGASSFVEEEHQWYFLVNTLCL 590
.....550.....560.....570.....580.....590.....600

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Pavo_muticus      ALCQELCRNHFLKCECDLQGTTVKONLDSIGEASECKNIDVQAA--SNSKLGKAASSAE 649
Pavo_cristatus    ALCQELCRNHFLKCECDLQGTTVKONLDRIGEASECKNIDVQAA--SNSKLGKAASSAE 649
Gallus_gallus     ALCQELCRNHFLKCECDLQGTVMKONFDSIGEASECKNIDVQAA--SNSKLGKAASSAE 649
Anas_platyrhynchos ALCQELCRNHFLTECDLQHGISLKNFDFIGEASDCKSIDVPAS--GNSKLDKVASSAE 647
Chelonia_mydas    ALCQEICRHYFLVKECDLQLS TAVKONFEDIEETQYRKVDIPS--CDSKLVKVTSSGE 646
Rhinatrema_bivittatum ALCEMCRKYFLVMNSDFQLSPFGEKRYEKDNEPFLSKNIDMHDMPEESYSKVKGKINSTG- 642
Latimeria_chalumnae VLLQEVCRKYFLAGDQDIGLGAVEKKTHTETIGSLHHSDEEELSIP-EYSSKSGSKRAVG- 574
Xenopus_tropicalis ALAQEMCRKYFLVKSNFLDSAEGE---DSKNESLYMDKIYDTHK--KELKEQTLPLLSQ 642
Esox_lucius       AVFQDVCRKYFRERRAN-----AGQVGSLEDEDQDEMAS-----PLADLGV 630
Homo_sapiens      ALSQETRYNYFLGDDGEPGCLCEVGHGDATAAWQD-GPGCDVLERDKGHGSPST--SE 644
Pan_troglodytes   ALSQETRYNYFLGDDGEPGCLCEVGHGDATAAWQD-GPGCDVLERDKGHGSPST--SE 644
Macaca_mulatta    ALSQETRYNCFGLDDSEPPGCLRVEQGLDGATAAWQD-GPACDALERDKGHGSPSA--SQ 644
Callithrix_jacchus ALSQETRYNYFLGDDSEPPGCLHVEQGLDGATAAWQD-GPGCDVLERDKGHGSPST--SE 644
Canis_lupus_familiaris ALCHEIYRNCLLRDDSEPPQCPHVEEEFIRTAALQDRSTGCDTLEPHGVSRSLTS--LD 645
Equus_caballus    ALCHDIYRNYLPGDDCEPQCLHVEGGFDGATPALQDKNTSSAVLELNRCCKSPSS--LG 645
Bos_taurus        ALCHQIYRKCLLGDGDCAPQHCHPHTGEEFDGVAVALQKRAPEGWELSRAPDSS--LE 649
Mus_musculus      ALSQETCRSYFLGDECEPQRHSHVEQCCVNLLACPLQDSTSYNTPES--GTAGKRVSLLE 645
Rattus_norvegicus ALSQETCRSYFLGDDCEPQHFFQVEQKCVNLACTLQDSTSCSTPESSEDTAGKRASLLE 647
Heterocephalus_glaber ALSQETCRSYFLGDDSKLQCYFHTPEPTVG-ATCMRQDCTACEAPKAGQASKGLPS--G 646
.....610.....620.....630.....640.....650.....660

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* * * * *****:~::~: * ~::~:~::~: * ~::~:~::~:
Pavo_muticus      FVKGSQDKWISLASPWIIILICRLLRSLNQTGVQWAHRPDPFGHWLTSSEHKSELSVLAAS 709
Pavo_cristatus    FVKGSQDKWISLASPWIIILICRLLRSLNQTGVQWAHRPDPFGHWLTSSEHKSELSVLAAS 709
Gallus_gallus     FVKGSQDKWISLASPWIIILICRLLRSLNQTGVQWAHRPDPFGHWLTSSEHKSELSVLAAS 709
Anas_platyrhynchos FIKGSQDKWISLASPWIIILICRLLRSLNQTGVQWAHRPDPFGHWLTSSEHKSELSVLAAS 707
Chelonia_mydas    FLKGSEKWMGLASPLIILICRLLRSLNQTGVQWAHRPDPFGHWLTSSEHKSELSVLAAS 706
Rhinatrema_bivittatum LFKQYEWKIALASPWIIILICRLLRSLNQTGVQWAHRPDPFGHWLTSSEHKSELSVLAAS 702
Latimeria_chalumnae WITRHEKWLALATPWIIILICRLLRSLNQTGIKWAHRPDPFGHWLTSSEHKSELSVLAAS 634
Xenopus_tropicalis FAKQHEKWIALSSPWIIILICRLLRSLNQTGIQWIHRPDPFGHWLTSSEHKSELSVLAAS 702
Esox_lucius       TDMGSEKWLALVTPFLTVCCLLRSLNQTGVQWAHRPDLGHWLTSSEHKSELSVLAAS 690
Homo_sapiens      VLRGREKWMVLASPWIIILICRLLRSLNQTGVQWAHRPDLGHWLTSSEHKSELSVLAAS 704
Pan_troglodytes   VLRGREKWMVLASPWIIILICRLLRSLNQTGVQWAHRPDLGHWLTSSEHKSELSVLAAS 704
Macaca_mulatta    GLRGHEKWMVLASPWIIILICRLLRSLNQTGVQWAHRPDLGHWLTSSEHKSELSVLAAS 704
Callithrix_jacchus VLRGREKWMVLASPWIIILICRLLRSLNQTGVQWAHRPDLGHWLTSSEHKSELSVLAAS 704
Canis_lupus_familiaris TLRGYEKWMVLASPWIIILICRLLRSLNQTGVQWAHRPDLGHWLTSSEHKSELSVLAAS 705
Equus_caballus    TLRGYEKWMVLASPWIIILICRLLRSLNQTGVQWAHRPDLGHWLTSSEHKSELSVLAAS 705
Bos_taurus        ALRGSEKWMVLASPWIIILICRLLRSLNQTGVQWAHRPDLGHWLTSSEHKSELSVLAAS 709
Mus_musculus      AOGSKWWTVLASPWIIILICRLLRSLNQTGVQWAHRPDLGHWLTSSEHKSELSVLAAS 705
Rattus_norvegicus AHRSKWWTVLASPWIIILICRLLRSLNQTGVQWAHRPDLGHWLTSSEHKSELSVLAAS 707
Heterocephalus_glaber ARGGHTRWAVLAGPWIIILICRLLRSLNQTGVQWAHRPDLGHWLTSSEHKSELSVLAAS 706
.....670.....680.....690.....700.....710.....720

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus      LVMIFVLVQRRCSLVSKIAMALGLLGVSYRAAIGNVIFPWQHDSDISKGITEARFVYV 769
Pavo_cristatus    LVMIFVLVQRRCSLVSKIAMALGLLGVSYRAAIGNVIFPWQHDSDISKGITEARFVYV 769
Gallus_gallus     LVMIFVLVQRRCSLVSKIAMALGLLGVSYRAAIGNVIFPWQHDSDISKGITEARFVYV 769
Anas_platyrhynchos LVMIFVLVQRRCSLVSKIAMALGLLGVSYRAAIGNVIFPWQHDSDISKGITEARFVYV 767
Chelonia_mydas    LVMLFILVQRRCSLVSKIAMALGLLGVSYRAAIGNVAFPWQDSDISKGITEARFVYV 766
Rhinatrema_bivittatum LGMIFMIVQRRCSLISKLAMAFGLLGVSYRAAIGNVIFPWQDQENQAIKSGITEARFVYI 762
Latimeria_chalumnae LVIIIFILVQRRCSVVSKIALAFGLLGVSYRAAIGSVFEPWQDGRDISK----- 684
Xenopus_tropicalis LVMIFILIQGRCSFVSKVALAFGLLGIYCYRAAIGHVLYPWQNNNGLSKGITEARFVYI 762
Esox_lucius       LILIIYFLVQRRCSWVSKIALALGLLGVFSYRAAVGNVMPFWQHGSRNLSKGTVEARFVYV 750
Homo_sapiens      LLVVFVLVQRGCSFVSKAALALGLLGVYCYRAAIGSVRFPPWRPDSKDISKGITEARFVYV 764
Pan_troglodytes   LLIVFVLVQRGCSFVSKAALALGLLGVYCYRAAIGSVRFPPWRPDSKDISKGITEARFVYV 764
Macaca_mulatta    LLVVFVLVQRGCSFVSKAALALGLLGVYCYRAAIGSVRFPPWRPDSKDISKGITEARFVYV 764
Callithrix_jacchus LLVVFVLVQRGCSFVSKAALALGLLGVYCYRAAIGSVRFPPWRPDSKDISKGITEARFVYV 764
Canis_lupus_familiaris LIVIFALVQRKCSLTSKVALALGLLGVYCYRAAIGNVLPFWQDSDISKGVIEARFVHV 765
Equus_caballus    LAVIFALIQRRCSPASKVAMALGLLGVYCYRAAIGNVLPFWQDNDISKGILEARFVYV 765
Bos_taurus        LTMIFVLVQKRCSLTSKVAMAFGLLGIYCYRAAIGNVLPFWQDNDISKGITEARFVYV 769
Mus_musculus      LVVIFMLVQRRCSLVSKVALALGLLGVFCYRAAIGIVQFPWQSDNKGISKGITEARFVYV 765
Rattus_norvegicus LVVIFILVQKGC SLVSKVALALGLLGVFCYRAAIGIVLPFWQDNDKGISKGITEARFVYV 767
Heterocephalus_glaber LLAVFLLAQRGCSFVVKVALALGLLGVFCYRAATGNLLFPWQPANRGISKGILEARFVYV 766
.....730.....740.....750.....760.....770.....780

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Pavo_muticus      FVLGIVFTGTKDLLKSQVISADSSVKSTGLWEVYSGLVLLSALLFRPHNLPVLVFCLLIQ 829
Pavo_cristatus    FVLGIVFTGTKDLLKSQVISADSSVKSTGLWEVYSGLVLLSALLFRPHNLPVLVFCLLIQ 829
Gallus_gallus     FVLGIVFTGTKDLLKSQVISADSSVKSTGLWEVYSGLVLLSALLFRPHNLPVLVFCLLIQ 829
Anas_platyrhynchos FVLGIVFTGTKDLLKSQVISADSSVKSTGLWEVYSGLVLLAALLFRPHNLPVLVFCLLIQ 827
Chelonia_mydas    FVLGIIFTGTKDLLKSQVISADCKTKSIGLWEVYSGLVLLAALLFRPHNLPVLVFCLLIQ 826
Rhinatrema_bivittatum FVLGILFIGIKDLFKLQVFATDSKTKCSGLWEVYSGLVLLTALLFRPHNLPVLVFCLLIQ 822
Latimeria_chalumnae ----- 684
Xenopus_tropicalis FVLGILFTGTKDLLKSQVIYITDPQTKSLGLWEVYSGFILLAAALLYRPHNLPVLVFCLLMQ 822
Esox_lucius       FVLGILFTGSKDLLRSQVITTDARLKSRLWEIYSGVLLVSLFFRAHNLPVLCCCLLVQ 810
Homo_sapiens      FVLGILFTGTKDLLKSQVIAADFCLKTVGLWEIYSGLVLLAALLFRPHNLPVLAFLSLLIQ 824
Pan_troglodytes   FVLGILFTGTKDLLKSQVIAADFCLKTVGLWEIYSGLVLLAALLFRPHNLPVLAFLSLLIQ 824
Macaca_mulatta    FVLGILFTGTKDLLKSQVIAADFCLKTVGLWEIYSGLVLLAALLFRPHNLPVLAFLSLLIQ 824
Callithrix_jacchus FVLGILFTGTKDLLKAQVVADFRIKTVGLWEIYSGLVLLAALLFRPHNLPVLAFLSLLIQ 824
Canis_lupus_familiaris FVLGILFTGTKDLLKSQVIAADVTIKTVGLWEIYSGLVLLAALLFRPHNLPVLVFLSLLIQ 825
Equus_caballus    FVLGILFTGTKDLLKSQVVAAGFTVKTVGLWELYSGLVLLAALLLRPHNLPVLVFLSLLIQ 825
Bos_taurus        FVLGILFTGAKDLLKSQIIAADFTARTVGLWEIYSGLVLLATLLLRPHNLPVLVFLSLAIQ 829
Mus_musculus      FVLGILFTGTKDLLKAQVIAADFCLKTVGLWEIYSGLVLLAALLLRPHNLPVLAFLSLLIQ 825
Rattus_norvegicus FVLGILFTGTKDLLKAQVIAADFCLKTVGLWEIYSGLVLLAALLLRPHNLPVLAFLSLLIQ 827
Heterocephalus_glaber FVLGILFMGTKDLLRSQVIAADFVKTVGLWELYSGLVLLAALLLRPHNLPVLVFLSLLIQ 826
.....790.....800.....810.....820.....830.....840

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Pavo_muticus      TMMTKFIWRPLKFDAQAQITIMHYWFGQAFFYFQGNNSNGIATVDVSAGFVGLESYVEIPAI 889
Pavo_cristatus    TMMTKFIWRPLKFDAQAQITIMHYWFGQAFFYFQGNNSNGIATVDVSAGFVGLESYVEIPAI 889
Gallus_gallus     TMMTKYIWRPLKFDAQAQITIMHYWFGQAFFYFQGNNSNGIATVDVSAGFVGLESYVEIPAI 889
Anas_platyrhynchos TMMTKYIWRPLKCDAAQITIMHYWFGQAFFYFQGNNSNGIATVDVSAGFVGLESYVEIPAI 887
Chelonia_mydas    MIMTRCIWKPLKFDAQAQITIMHYWFGQAFFYFQGNNSNGIATVDISAGFVGLDNYVEIPAI 886
Rhinatrema_bivittatum TIMMITYIWNLLKYDAAQITIMHYWFGQAFFYFQGNNSNGIATVDISAGFVGLDYSVEIPAI 882
Latimeria_chalumnae ----- 684
Xenopus_tropicalis TTLMSFIWNLLKHDAQAQITIMHYWFGQAFFFFQGNNSNTISTVDISAGFVGMEYVELPAI 882
Esox_lucius       TLMAQFIWKKLHYDAAQTIMHYWFGQAFFYFQGNNSNGIATVDISVGFVGLDYVEIPAV 870
Homo_sapiens      TLMTKFIWKPLRHDAAEITVMHYWFGQAFFYFQGNNSNGIATVDISAGFVGLDYVEIPAV 884
Pan_troglodytes   TLMTKFIWKPLRHDAAEITVMHYWFGQAFFYFQGNNSNGIATVDISAGFVGLDYVEIPAV 884
Macaca_mulatta    TLMTKFIWKPLRHDAAEITVMHYWFGQAFFYFQGNNSNGIATVDISAGFVGLDYVEIPAV 884
Callithrix_jacchus TLMTKFIWRPLRHDAAEITVMHYWFGQAFFYFQGNNSNGIATVDISAGFVGLDYVEIPAV 884
Canis_lupus_familiaris TIMTKFIWKPLRHDAAEITIMHYWFGQAFFYFQGNNSNGIATVDISAGFVGLDYIEVPVAV 885
Equus_caballus    TLMAKFVWKPLRHDVAEITVMHYWFGQAFFYFQGNNSNGIATVDISAGFVGLDYVEIPAI 885
Bos_taurus        TIMAQFIWRPLRHDVAEITVMHYWFGQAFFYFQGNNSNGIATVDISAGFVGLDAYMEIPAM 889
Mus_musculus      TVMTKFIWKPLRHDAAEITVMHYWFGQAFFYFQGNNSNGIATIDISAGFVGLDYMEVPAT 885
Rattus_norvegicus TVMTKFIWKPLRHDAAEITVMHYWFGQAFFYFQGNNSNGIATIDISAGCVGLDYMEVPAT 887
Heterocephalus_glaber TIMTKFIWKPLRHDVAEITVMHYWFGQAFFYFQGNNSNGIATIDISSGFVGLDYMEIPAT 886
.....850.....860.....870.....880.....890.....900

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus	FLTAFAATYAGPPLLWAIHLLCYLSSEVS-----	916
Pavo_cristatus	FLTAFAATYAGPPLLWAIHLLCYLSSEVS-----	916
Gallus_gallus	FLTAFAATYAGPPLLWAIHLLCYLSSEVS-----	916
Anas_platyrhynchos	FLTAFAATYAGPPLLWAIHLLCYLSSEVSRFCARALEGPOEMKLSGNCLMEALAIREKCIKT	947
Chelonia_mydas	FLTGFAATYAGPPLLWAIHLLCYLSSEVSSSDLENKHTIITDKVCSG-----	931
Rhinatrema_bivittatum	FLTTTFAATYAGPPLLWAIHLMYYLSSETS-----	909
Latimeria_chalumnae	-----	684
Xenopus_tropicalis	FLTMFITYSGPLLWAIHLLWYLSSETH-----	909
Esox_lucius	FLTALSTYAGPPLLWAAHLVCYLSSEN-----	897
Homo_sapiens	LLTAFGTYAGPVLWASHLVHFLSSETR-----	911
Pan_troglodytes	LLTAFGTYAGPVLWASHLVHFLSSETR-----	911
Macaca_mulatta	LLTAFGTYAGPVLWASHLVHFLSSETR-----	911
Callithrix_jacchus	FLTAFGTYAGPPLLWASHLVHFLSSETH-----	911
Canis_lupus_familiaris	FLTAFAATFAGPVLWASHLVSFSLSETS-----	912
Equus_caballus	FLTAFAATYAGPVLWASHLVSFSLSEAS-----	912
Bos_taurus	FLTAFAATYSGPVLWASHLVNFLTSEAS-----	916
Mus_musculus	FLTTFVGTYYVGPVLWASHLVYFLSSEGN-----	912
Rattus_norvegicus	FLTTFVGTYYVGPVLWASHLVYFLSSEGN-----	914
Heterocephalus_glaber	FLTTFVGTYYVGPVLWAGHLAHLFLSAEAS-----	913
910.....920.....930.....940.....950.....960	

Pavo_muticus	-----RNSAAVGHGCFCYALMRSIPVAIYIVLVLTGLRYHLFIWSVFSFKLLYEGVHVFI	970
Pavo_cristatus	-----RNSAAVGHGCFCYALMRSIPVAIYIVLVLTGLRYHLFIWSVFSFKLLYEGVHVFI	970
Gallus_gallus	-----RNSAAVGHGCFCYALMRSIPVAIYIVLVLTGLRYHLFIWSVFSFKLLYEGMHVFI	970
Anas_platyrhynchos	OKLLHLRNAAVGHGCFCYALMRSIPVAVYIILVLTGLRYHLFIWSVFSFKLLYEGVHVFI	1007
Chelonia_mydas	---HTTWNSAAMGHGCFCYALICSVPTVYIILVLTGLRYHLFIWSVFSFKLLYEGMRVFI	988
Rhinatrema_bivittatum	-----RSKTAKGHGCFCYALIRSIPIITVYIILVLTSLRYHLFIWSVFSFKLLYEGIQAFI	963
Latimeria_chalumnae	-----	684
Xenopus_tropicalis	-----RVSTTVAHGCYCYAAIRSIPIVTVYIILVLTAFRYHLFIWSVFSFKLLYEGAIHLLI	963
Esox_lucius	-----SSVAVGHGCFCYALLRSVPMAYVVLVTALRYHLFIWSVFSFKLLMYESMHTLL	950
Homo_sapiens	-----SGSALSHACFCYALICSIPIVFTYIVLVLTSLRYHLFIWSVFSFKLLYEGMHLLI	964
Pan_troglodytes	-----SGSALSHACFCYALICSIPIVSTYIVLVLTSLRYHLFIWSVFSFKLLYEGMHLLI	964
Macaca_mulatta	-----SSSALSHACFCYALICSIPIVSTYIVLVLTSLRYHLFIWSVFSFKLLYEGMHLLI	964
Callithrix_jacchus	-----SSSALSHACFCYAMICSIPIVSTYIVLVLTSLRYHLFIWSVFSFKLLYEGMHLLI	964
Canis_lupus_familiaris	-----SGSALSHACFCYALICSFPPVSAIYIILVLTSLRYHLFIWSVFSFKLLYEGMHILI	965
Equus_caballus	-----SSSALSHAGFCYALIGSFPPVSAIYIILVLTSLRYHLFIWSVFSFKLLYEGMHLLI	965
Bos_taurus	-----SGSALSHACFCYALICSIPIVSVYIILVLTSLRYHLFIWSVFSFKLLYEGMHLLI	969
Mus_musculus	-----N-SALSRSCFCYALICSVPVATYIIVLVLTSLRYHLFIWSVFSFKLLYEGMHLLI	964
Rattus_norvegicus	-----NGSALSRACFCYALICSVPVATYIIVLVLTSLRYHLFIWSVFSFKLLYEGMHLLI	967
Heterocephalus_glaber	-----GDSAMGRACFCYALICSVPVATYIILVLTSLRYHLFIWSVFSFKLLYEGMHLLI	966
970.....980.....990.....1000.....1010.....1020	

Pavo_muticus	TAAICLFFTTAMDQNHSSQKVQ-----	990
Pavo_cristatus	TAAICLFFTTAMDQNHSSQKVQ-----	990
Gallus_gallus	TAAICLFFTTAMDQNHSSQKVQ-----	991
Anas_platyrhynchos	TAAICLFFTTAMDQNHSSQKVQ-----	1028
Chelonia_mydas	TAAVCMFFTTAMDQNRSSQKIHD-----	1009
Rhinatrema_bivittatum	TAAICVFFTSAMDKNQSLKTSGL-----	986
Latimeria_chalumnae	-----	684
Xenopus_tropicalis	SAGVCVMFTAVDKNQISKSEN-----	984
Esox_lucius	TAAICLFFTTMEQSRSSSRL-----	970
Homo_sapiens	TAAVCVFFTTAMDQTRLTQS-----	983
Pan_troglodytes	TAAVCVFFTTAMDQTRLTQS-----	983
Macaca_mulatta	TAAVCVFFTTAMDQTRLTQS-----	983
Callithrix_jacchus	TAAVCVFFTTAMDQTRLTQS-----	983
Canis_lupus_familiaris	TAAICVFFTTAMDQTNITKS-----	983
Equus_caballus	TAAVCVFFTTAMDQTNITKS-----	983
Bos_taurus	TAAVCIFFTAMDQTNITKS-----	987
Mus_musculus	TAAICAVFTATNQTRHRA-----	983
Rattus_norvegicus	TAAICAVFTATNQTRHSRA-----	986
Heterocephalus_glaber	TAALCVLFTATNQTGHTSAWTKTDARN-----	993
1030.....1040.....	