

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/VPSDBAep Tue Feb 14:53:14 2022

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                                     :*****:.*
Mus_musculus                       MVFESVVVEVLNRFGLDYVVDLDSQLSLGIWKGAVALKNLVIKENALHQLDVPFVKVKG 60
Rattus_norvegicus                  MVFESVVVDVLRNRFGLDYVVDLDSQLSLGIWKGAVALKNLVIKENALHQLDVPFVKVKG 60
Homo_sapiens                       MVFESVVVDVLRNRFGLDYVVDLDSQLSLGIWKGAVALKNLVIKENALSQLDVPFVKVKG 60
Pan_troglodytes                   MVFESVVVDVLRNRFGLDYVVDLDSQLSLGIWKGAVALKNLVIKENALSQLDVPFVKVKG 60
Macaca_mulatta                    MVFESVVVDVLRNRFGLDYVVDLDSQLSLGIWKGAVALKNLVIKENALSQLDVPFVKVKG 60
Callithrix_jacchus                MVFESVVVDVLRNRFGLDYVVDLDSQLSLGIWKGAVALKNLVIKENALSQLDVPFVKVKG 60
Canis_lupus_familiaris            MVFESVVVDVLRNRFGLDYVVDLDSQLSLGIWKGAVALKNLVIKENALSQLDVPFVKVKG 60
Equus_caballus                    MVFESVVVDVLRNRFGLDYVVDLDSQLSLGIWKGAVALKNLVIKENALSQLDVPFVKVKG 60
Bos_taurus                        MVFESVVVDVLRNRFGLDYVVDLDSQLSLGIWKGAVALKNLVIKENALSQLDVPFVKVKG 60
Pavo_muticus                      -----SQLDVPFVKVKG 12
Pavo_cristatus                    -----SQLDVPFVKVKG 12
Gallus_gallus                     MVFESLVVDVLRNRFGLDYVVDLDSQLSLGIWKGAVALKNLVIKENALSQLDVPFVKVKG 60
Anas_platyrhynchos                MVFESLVVDVLRNRFGLDYVVDLDSQLSLGIWKGAVALKNLVIKENALSQLDVPFVKVKG 60
Chelonia_mydas                    MVFESLVVDVLRNRFGLDYVVDLDSQLSLGIWKGAVALKNLVIKENALSQLDVPFVKVKG 60
Xenopus_tropicalis                MVFESLVVDVLRNRFGLDYVVDLDSQLSLGIWKGAVALKNLVIKENALSQLDVPFVKVKG 60
Rhinatrema_bivittatum             MVFESLVVDVLRNRFGLDYVVDLDSQLSLGIWKGAVALKNLVIKENALSQLDVPFVKVKG 60
Latimeria_chalumnae              MVFESLVVDVLRNRFGLDYVVDLDSQLSLGIWKGAVALKNLVIKENALSQLDVPFVKVKG 60
1.....10.....20.....30.....40.....50.....60

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:*. *. * ***:..*: ***** :*:*** : :*:*. ** : :*.:*:*:****.
Mus_musculus                       HIGSLKLIKIPWKNLTYQPEAVLEEIFLLIVPSSRIQYDPIKEEKQQLMETKQQLKRIEK 120
Rattus_norvegicus                  RIGSLQLKIPWKNLTYQPEAVLEEIFLLIVPSSRIQYDPIKEEKQQLMEAKQQLKRIEK 120
Homo_sapiens                       HIGNLKLIIIPWKNLTYQPEAVLEEIFLLIVPSSRIKYDPLKEEKQQLMEAKQQLKRIEK 120
Pan_troglodytes                   HIGNLKLIIIPWKNLTYQPEAVLEEIFLLIVPSSRIKYDPLKEEKQQLMEAKQQLKRIEK 120
Macaca_mulatta                    HIGNLKLIIIPWKNLTYQPEAVLEEIFLLIVPSSRIKYDPIKEEKQQLMEAKQQLKRIEK 120
Callithrix_jacchus                HIGNLKLIIIPWKNLTYQPEAVLEEIFLLIVPSSRIKYDPLKEEKQQLMEAKQQLKRIEK 120
Canis_lupus_familiaris            HIGNLKLIIIPWKNLTYQPEAVLEEIFLLIVPSSRIKYDPLKEEKQQLMEAKQQLKRIEK 120
Equus_caballus                    HIGILNLVIPWKNLTYQPEAVLEEIFLLIVPSSRIKYDPLKEEKQQLMEAKQQLKRIEK 120
Bos_taurus                        HIGTLNLIIPWKNLTYQPEAVLEEIFLLIVPSSRIKYDPIKEEKQQLMEAKQQLKRIEK 120
Pavo_muticus                      HIGQLNLQIPWQNLTYQPEAVLDGVYLLIVPTASIKYDAEKEAKQQLMEAKQQLKRIEK 72
Pavo_cristatus                    HIGQLNLQIPWQNLTYQPEAVLDGVYLLIVPTASIKYDAEKEAKQQLMEAKQQLKRIEK 72
Gallus_gallus                     HIGQLNLQIPWQNLTYQPEAVLDGVYLLIVPTASIKYDAEKEAKQQLMEAKQQLKRIEK 120
Anas_platyrhynchos                HIGQLNLQIPWQNLTYQPEAVLDGVYLLIVPTASIKYDAEKEAKQQLMEAKQQLKRIEK 120
Chelonia_mydas                    HIGQLNLQIPWQNLTYQPEAVLDGVYLLIVPTASIKYDAEKEAKQQLMEAKQQLKRIEK 120
Xenopus_tropicalis                HIGKLDLIKIPWKNLTYQPEAVLDGVYLLIVPTASIKYDAEKEAKQQLMEAKQQLKRIEK 120
Rhinatrema_bivittatum             HIGKLDLIKIPWKNLTYQPEAVLDGVYLLIVPTASIKYDAEKEAKQQLMEAKQQLKRIEK 120
Latimeria_chalumnae              HISKLDLIKIPWKNIYSQPEATLDGVYLLIVPVASMRYSSEKEEKQQLMEAKQQLKRIEK 120
.....70.....80.....90.....100.....110.....120

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**::: : : : *****.* ***:***:*****.* ***:*****.* ** . ***
Mus_musculus                       AKQKVFDDK-----EKPREEKQDTFTEKLVTQIIKNLQVKISSIHIRYEDDITNGDKPLS 174
Rattus_norvegicus                  AKQKVVDQ-----ENPREEKQDTFAEKLVTQIIKNLQVKISSIHVRYEDDITNREKPLS 174
Homo_sapiens                       AKQKVVDQ-----EQHLPEKQDTFAEKLVTQIIKNLQVKISSIHIRYEDDITNRDKPLS 174
Pan_troglodytes                   AKQKVVDQGIFAIVEQHLPEKQDTFAEKLVTQIIKNLQVKISSIHIRYEDDITNRDKPLS 180
Macaca_mulatta                    AKQKVVDQ-----EQHLPEKQDTFAEKLVTQIIKNLQVKISSIHIRYEDDITNRDKPLS 174
Callithrix_jacchus                AKQKVVDQ-----EQHLPEKQDTFAEKLVTQIIKNLQVKISSIHIRYEDDITNRDRPLS 174
Canis_lupus_familiaris            AKQKVADQ-----EKHQVEKQDTFTEKLVTQIIKNLQVKISSIHIRYEDDITNRDNPLS 174
Equus_caballus                    AKQKVADQ-----EKERVEKQDTFTEKLVTQIIKNLQVKISSIHVRYEDDITNRDKPLS 174
Bos_taurus                        AKRKVADQ-----EKQLVEKQDTFTEKLVTQIIKNLQVKISSIHIRYEDDITNRDNPLS 174
Pavo_muticus                      AKQKIADQ-----DKVKEEKQDTFVEKLVTQVIKNLQVKISSIHIRYEDDITNRNNPLS 126
Pavo_cristatus                    AKQKIADQ-----DKVKEEKQDTFVEKLVTQVIKNLQVKISSIHIRYEDDITNRNNPLS 126
Gallus_gallus                     AKQKIADQ-----DKVKEEKQDTFVEKLVTQVIKNLQVKISSIHVRYEDDITNRSNPLS 174
Anas_platyrhynchos                AKQKIADQ-----DKVKEEKQDTFVEKLVTQVIKNLQVKISSIHVRYEDDITNRNNPLS 174
Chelonia_mydas                    AKQKIADQ-----DKGQEEKQDSFVEKLVTQVIKNLQVKISSIHVRYEDDITNRNNPLS 174
Xenopus_tropicalis                AKQKVADQ-----EKPKEEKQDTFVEKLVTQVIKNLQVKISSIHIRYEDDITNPKCPLS 174
Rhinatrema_bivittatum             AKKKVADQ-----EKQKEEKQDTFVEKLVTQVIKNLQVKISSIHVRYEDDITNPDPLS 174
Latimeria_chalumnae              AKQKMAEK-----EKPKEEKQDTFAEKLVTQVIKNLQVKISSIHVRYEDDITNHCPLS 174
.....130.....140.....150.....160.....170.....180

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*****:::*****: * * *****: ** .**::**::*****::: : * . : ::
Mus_musculus      FGISLQNLISLQTTDQYWIPLCHDNTKLVRLRLDNLFAFWNVNSEMFYLNDDYDESLKA 234
Rattus_norvegicus FGISLQNLISLQTTDQYWIPLCHDDTEKLVRLRLDNLFAFWNVNSEMFYLNDDYDDALEA 234
Homo_sapiens      FGISLQNLISLQTTDQYWVPLCHDETEKLVRLRLDNLFAFWNVKSQMFYLSYDNDNSLDD 234
Pan_troglodytes   FGISLQNLISLQTTDQYWVPLCHDETEKLVRLRLDNLFAFWNVKSQMFYLSYDNDNSLDD 240
Macaca_mulatta    FGISLQNLISLQTTDQYWVPLCHDETEKLVRLRLDNLFAFWNVKSQMFYLNDDYDDSLDD 234
Callithrix_jacchus FGISLQNLISLQTTDQYWVPLCHDETEKLVRLRLDNLFAFWNVKSQIFYLNDDYDDSLDN 234
Canis_lupus_familiaris FGISLQNLISLQTTDQYWVPLCHDETEKLVRLRLDNLFAFWNVKSRLFYLNDDYDESLDS 234
Equus_caballus    FGISLQNLISLQTTDQYWVPLCHDETEKLVRLRLDNLFAFWNVKSQMFYLNDDYDESLGS 234
Bos_taurus        FGISLQNLISLQTTDQYWIPLCHDETEKLVRLRLDNLFAFWNVKTLFYLSNYDESVS 234
Pavo_muticus      FGISLQNLISLQTTSDKNWNPCLHDESAKLFYKLVRLDNLFAFWNVKSEMFYHYGYDESLLS 186
Pavo_cristatus    FGISLQNLISLQTTSDKNWNPCLHDESAKLFYKLVRLDNLFAFWNVKSEMFYHYGYDESLLS 186
Gallus_gallus     FGISLQNLISLQTTSDKNWNPCLHDESAKLFYKLVRLDNLFAFWNVKSEMFYHYGYNESLVS 234
Anas_platyrhynchos FGISLQNLISLQTTSDKNWNPCLHDESAKLFYKLVRLDNLFAFWNVKSEMFYHYGGYDESLVN 234
Chelonia_mydas    FGVSLQNLISLQTTSDKNWNPCLHDESAKLFYKLVRLDNLFAFWNVKSVMFYHYGGYDESLNN 234
Xenopus_tropicalis FGVSLQNLISLQTTSDKNWNPCLHDESAKLFYKLVRLDNLFAFWNVKSDMFYHRSYDTALEI 234
Rhinatrema_bivittatum FGVSLQNLISLQTTSDKNWNPCLHDESAKLFYKLVRLDNLFAFWNVKSDIFYHRSYDEALSI 234
Latimeria_chalumnae FGVSLQNLISLQTTADQWNPCLHDESAKLFYKLVRLDNLFAFWNVNSELYYYYSSSDALRF 234
.....190.....200.....210.....220.....230.....240

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* : * : . * : * : . * : : ***** . *** ** * : : *** * : : * : : : : * : :
Mus_musculus      LKNGIVNENIVPEGYDFVFRPISASAKLQMNRRSDFDFSAPKINLAVDLHTIAIEFNKPO 294
Rattus_norvegicus LKNGIVNENIIEGYDFVFRPISANAKLQMNRRSDFDFSAPKINLDIELHTIVIEFNKPO 294
Homo_sapiens      LKNGIVNENIVPEGYDFVFRPISANAKLVMNRRSDFDFSAPKINLEIELHNTIAIEFNKPO 294
Pan_troglodytes   LKNGIVNENIVPEGYDFVFRPISANAKLVMNRRSDFDFSAPKINLEIELHNTIAIEFNKPO 300
Macaca_mulatta    LRNGIVNENIVPEGYDFVFRPISANAKLVMNRRSDFDFSAPKINLDVELHNTIAIEFNKPO 294
Callithrix_jacchus LRNGIVNENIVPEGYDFVFRPISANAKLVMNRRSDFDFSAPKINLDVELHNTIAIEFNKPO 294
Canis_lupus_familiaris LKNGIVTDNTVPEGYDFVFRPISANAKLQMNRRSDFDFSAPKINLDVELHNTIAIEFNKPO 294
Equus_caballus    LKSGIVHENIVPEGYDFVFRPISAVAKLQMNRRSDFDFSAPKINLDVELHNTIAIEFNKPO 294
Bos_taurus        LRNGIVDENIVPEGYDFVFRPISANAKLQMNRRSDFDFSAPKIDLDVELHNTIQLNKPQ 294
Pavo_muticus      LKQGVACHNMIPVGYDFVFRPISAEAKLLMNPRSDIDFSTPKMDLDINIKDVAVEFNKPO 246
Pavo_cristatus    LKQGVACHNMIPVGYDFVFRPISAEAKLLMNPRSDIDFSTPKMDLDINIKDVAVEFNKPO 246
Gallus_gallus     LKQGVACHNMIPVGYDFVFRPISAEAKLLMNPRSDIDFSTPKMDLDINIKDVAVEFNKPO 294
Anas_platyrhynchos LKQGVASHNVIPEGYDFVFRPISAKAKLLMNPRSDVDFSAPKMDLVNKLEDIAIEFNKPO 294
Chelonia_mydas    LKHGVACHNMIPVGYDFVFRPISAKAKLRMNPRSDVDFSAPKMDLVNKLQDIAIEFNKPO 294
Xenopus_tropicalis LKYGIAARNTIPEGYDFVFRPISGRAKLRMNPRSDVDFSAPKIDLDVNLQDIAIDFNKPO 294
Rhinatrema_bivittatum LKYGVAANNMIPEDYDFVFRPISAKAKLRMNPRAEFDFSAPKMDLVNKLQDIAIEFNKPO 294
Latimeria_chalumnae LRHGVAATNMIPEDYECIFRPIISAKAKLRMNPRADFDFSAPKMDLVNKLQDIAIEFNKPO 294
.....250.....260.....270.....280.....290.....300

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* .*****:*****: * : : * : : * * * * .*****: * **** :
Mus_musculus      YFSLMELLESIDMMTQNPYRKFKPSVPLHLHAKWWAYAIHSTILEVNVCPSLRMWSWEH 354
Rattus_norvegicus YFSLMELLESIDMMTQNPYRKFKPSVPLHLHAEWWAYAIHGILEVNVCPSLRMWSWEH 354
Homo_sapiens      YFSIMELLESVDMMAQNPYRKFKPDVPLHHHAREWWAYAIHGILEVNVCPRLWMWSWKH 354
Pan_troglodytes   YFSIMELLESVDMMAQNPYRKFKPDVPLHHHAREWWAYAIHGILEVNVCPRLWMWSWKH 360
Macaca_mulatta    YFSIMELLESVDMMTQNPYRKFKPDVPLHHHAREWWAYAIHGILEVNVCPRLRMWSWKH 354
Callithrix_jacchus YFSIMELLESVDMMTQNPYRKFKPDVPLHHHAREWWAYAIHGILEVNVCPRLRMWSWNH 354
Canis_lupus_familiaris YFSVMELLESVDMMTQNPYRKFKPDVPLHYHAREWWSYAIHGILEVNVCPRLRMWSWKH 354
Equus_caballus    YFSVMELLESVDMMTQNPYRKFKPDVPLQHHAREWWAYAIHGILEVNVSPRLRMWSWKH 354
Bos_taurus        YFSVMELLESVDMMTQNPYRKFKPDVPLRYHAREWWAYAIHGILEVNVIRPHLRMWSWKH 354
Pavo_muticus      YFSVMELLESIDMMTRNLPYRKYPDPVPLHNNAKIWWKYVIYGILEVNVQKRLQMWSWEH 306
Pavo_cristatus    YFSVMELLESIDMMTRNLPYRKYPDPVPLHNNAKIWWKYVIYGILEVNVQKRLQMWSWEH 306
Gallus_gallus     YFSVMELLESIDMMTRNLPYRKYPDPVPLHNNAKIWWKYVIYGILEVNVQKRLQMWSWEH 354
Anas_platyrhynchos YFSVMELLESVDMMTNLPYRKYPDPVPLHNNAKMWWKYVIYGILEVNVQPKLQMWSWEH 354
Chelonia_mydas    YFSVMELLESIDMMTRNLPYRKYPDPVPLHNNAKMWWKYIINGILEVNVQPKLQMWSWEH 354
Xenopus_tropicalis YHSMELLESIDLMSTRNLPYRKFRPDVCVATNAPIWWKYAITSTILEVNIKPRLHMWSWKH 354
Rhinatrema_bivittatum YLSVMELLESIDMMTRNLPYRKYPDPVPHDHAGKWWKYAITSTILEVNVKPSLHMWSWKH 354
Latimeria_chalumnae YLSIMELLESIDMMSRNLPRYKYPDPVPLHNNAKIWWKYAITSTILEVNIKPKLHMWSWAH 354
.....310.....320.....330.....340.....350.....360

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Mus_musculus      IRNHRYKMKRYREFYKKKLTSSKKPSPEILMSLEELEKTLDFVNITIA
Rattus_norvegicus IKNHRYKMKQYREFYKKKLTNKKPSPEILMSLEELEKTLDFVNITIA
Homo_sapiens      IRKHRQKVKQYKELYKKKLTSSKKPPGELLVSLLEELEKTLDFVNITIA
Pan_troglodytes   IRKHRQKVKQYKELYKKKLTSSKKPPGELLVSLLEELEKTLDFVNITIA
Macaca_mulatta    IRKHRGKMKQYKELYKKKLTSSKKPPGELLVSLLEELEKTLDFVNITIA
Callithrix_jacchus IRKHRQKMKQYKELYKKKLTSSKKPPGELLVSLLEELEKTLDFVNITIA
Canis_lupus_familiaris IREHRQKMKKYKDLTKKITTTPAGEILIALEELEKTLDFVNITIS
Equus_caballus    IREHRQKMKQYKELYKKKLTNKKPSGELLVTLLEELEKTLDFVNITIS
Bos_taurus        IREHRQKMKQYKELYKKKLTSSKKPSGELLNSLEDLEKTLDFVNITV
Pavo_muticus      IRHHRNQVKNYKELYIAKITSSKKPNEEILKSLEEFKVLDFNITLAR
Pavo_cristatus    IRHHRNQVKNYKELYIAKITSSKKPNEEILKSLEEFKVLDFNITLAR
Gallus_gallus     IRHHRNQVKNYKELYRTKIISKKPNEEILKSLEEFKVLDFNITLAR
Anas_platyrhynchos IRHHRQVKNYKEMYKTKITSSKKPNEEILKFLEEFKTLDFNITLAR
Chelonia_mydas    IRHHRQVKNYKEMYKMKITSKNPSEEIVKLLEEFKSLDFNITLAR
Xenopus_tropicalis IRKHRLQVKKYKELYRMKITSSKKPSEEVLSTEEYEKALDFNITLAR
Rhinatrema_bivittatum IRKHKQVKKYKEIYKMKITIKKPAEDVVKSQEELEKQLDFNITLAR
Latimeria_chalumnae IRKHRQVKKYKEMYKSKITTKKPNQDLNLSLEMLESTLDFNITLAR
.....370.....380.....390.....400.....410.....420

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Mus_musculus      KIYKEGVKDPEDN-AGWFGWLWTWSESNANQQ-QDVKPGILEEMLTPEEK
Rattus_norvegicus KIYKEGLKDPEDN-AGWFSWMWSWSESNANQQ-QDVKPGILAEMLTPEEK
Homo_sapiens      KIYKEGVKDPEDN-KGWFSWLWSWSEQNTNEQQPDVQPETLEEMLTPEEK
Pan_troglodytes   KIYKEGVKDPEDN-KGWFSWLWSWSEQNTNEQQPDVQPETLEEMLTPEEK
Macaca_mulatta    KIYKEGVKDPEDN-KGWFSWLWSWSEQNTNEQQPDVQPETLEEMLTPEEK
Callithrix_jacchus KIYKEGVKDPEDN-KGWFGWLWSWSEQNTNEQQPDVQPETLEEMLTPEEK
Canis_lupus_familiaris RIFKEGAKDSEEN-KGWFSWLWTWSEPRSKQ-QDVKPGILEEMLTPEEK
Equus_caballus    RIYREGAKDSEEN-KGWFSWLWTWSESNTKQ-QDVKPGILEEMLTPEEK
Bos_taurus        RIFREGAESEGN-KGWFSWMWSWSESHSKQ-QLDIKPGSLEEILTPKEK
Pavo_muticus      KIYKPGTKQDDENS SGWFSWIWGW SREDKDEQKQEVKASSLGGLMTSEEK
Pavo_cristatus    KIYKPGTKQDDENS SGWFSWIWGW SREDKDEQKQEVKASSLGGLMTSEEK
Gallus_gallus     KIYKPGTKQDDENS SGWFSWIWGW SREDKDEQKQEVKASSLGGLMTSEEK
Anas_platyrhynchos KIYRPGVKQDDENS GGWFSWIWGW SGEKKEEQKQEVKGSLEEMLTLEEK
Chelonia_mydas    KIYRPGVKQDDENS GGWFSWIWGW SGERNDEKKQEIKGASLEEMLTLEEK
Xenopus_tropicalis KIYRPGSKDEDCNSKGWFGWMMWGSGETA-EKKEDFKSGSLEGLMSPPEEK
Rhinatrema_bivittatum KIYRPGVKDEDESNKGWFGWMMWGSGERN-ONKEAASASFEDLMTPEEK
Latimeria_chalumnae KIYLPGMKDEEES SGWFGWVWGWSEKK-EKKQETKSGGLGEWMTPEEK
.....430.....440.....450.....460.....470.....480

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*.:***** : : *.: : * * * :*.. ..*.: : : * * . *.:*.:*
Mus_musculus      ETAVDPTLPKTFEALKFFVHLKSMSIVLRENHOKPELLNVVVEGLSTSIV
Rattus_norvegicus ETAVDPTLPKTFEALKFFVHLKSMSIVLRENHOKPELLNVVVEGLSTSIV
Homo_sapiens      ETAVDPTLLKTFEALKFFVHLKSMSIVLRENHOKPELVDIVIEEFSTLIV
Pan_troglodytes   ETAVDPTLLKTFEALKFFVHLKSMSIVLRENHOKPELVDIVIEEFSTLIV
Macaca_mulatta    ETAVDPTLPKTFEALKFFVHLKSMSVVLRENHOKPELIDIVIEEFSTLIV
Callithrix_jacchus ETAVDPTLPKTFEALKFFVHLKSMSVVLRENHOKAELLDIVIEEFSTLIV
Canis_lupus_familiaris ETAVDPTLPKTFEAMKLFVHLKSMSIVLREKQETPELLDIVVEEFSTLIV
Equus_caballus    ETAVDPTLPKTFEAMKFFVHLKSMSIVLREKQEKPELLDIVVEEFSTLIV
Bos_taurus        ETAVDPTLPKSYEAMKLSVNLSMSASIRENNQTPELVKFSLNELSTVLT
Pavo_muticus      ETAVDPTLPKSYEAMKLSVNLSMSASIRENNQTPELVKFSLNELSTVLT
Pavo_cristatus    ETAVDPTLPKSYEAMKLSVNLSMSASIRENNQTPELVKFSLNELSTVLT
Gallus_gallus     ETAVDPTLPKSYEAMKLSVNLSMSASIRENNQTPELVKFSLNELSTVLT
Anas_platyrhynchos ETAVDPTLPKSYEAMKLSNLSSMSISIRENNQTPELVKFTLDGLSTVLT
Chelonia_mydas    ETAVDPTLPKTYEAMKLSVKLLSMSISIRENKEKPELIKFAIDLSTMLT
Xenopus_tropicalis ETAVDPTLPKTYEAMRLCVKLLSMSIQLEDKKGKTELINFAITDLSTVLK
Rhinatrema_bivittatum EATVDPTLPKSFAMKLSVQLISMSISLREDKSKPELMNFAVIDLSTMLT
Latimeria_chalumnae ETAVDPTLPITYVAMKLSVCLSSMYVSIKEEKGPKEIKLSVMDLSTSLA
.....490.....500.....510.....520.....530.....540

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Mus_musculus      ETKIDSFHITGLPDDFKKPHLLSS----LDDTS-LIQITFEINPLNETVAQRCTIEAEPL 587
Rattus_norvegicus ETKIDSFHITGLPDDFKKPHLLSS----LDDMS-LFRITFEINPLDETVSQRCTIEAEPL 587
Homo_sapiens      ETKIDSFHITGLPDNSEKPRLLSS----LDDAMSLFQITFEINPLDETVSQRCTIEAEPL 589
Pan_troglodytes   ETKIDSFHITGLPDNSEKPRLLSS----LDDAMSLFQITFEINPLDETVSQRCTIEAEPL 595
Macaca_mulatta    ETKIDSFHITGLPDNSEKPRLLSS----LDDAMSLFQITFEINPLDETVTORCTIEAEPL 589
Callithrix_jacchus ETKIDSFHITGLPDNSKKPRLLSS----LDDAMSLFQITFEINPIDETVTORCTIEAEPL 589
Canis_lupus_familiaris ETKIDSFHVTGLPDNSTKPRLLSS----LDDATSLFQIIFEINPLDETVAQRCTIEAEPL 588
Equus_caballus    ETKIDSFHVTGLPDNSKKPRLLSS----LDDATSLFQITFEINPLDETVAQRCTIEAEPL 588
Bos_taurus        ETKIDSFHVTGLPDNSTKPRLLSS----LDDAASLLKIMFEINPLDETVAQRCTIEAEPL 588
Pavo_muticus      ETKITSLEVTGVSQENCTPCLLSSRTVYSDSSTSLLSIMFETNPLDEGADORLRIESOPL 546
Pavo_cristatus    ETKITSLEVTGVSQENCTPCLLSSRTVYSDSSTSLLSIMFETNPLDEGADORLRIESOPL 546
Gallus_gallus     ETKITSLEVTGMSQENCTPCLLSSRTVYSDNSTSLLSIMFETNPLDEGADORLRIESOPL 594
Anas_platyrhynchos ETKVASLEVMTGRENCPTCLLSSRTVYSDNSTSLLSIAFETNPLDEKADORLRIESOPL 594
Chelonia_mydas    ETKISTFEVTGMSEEFKIPCLLSSRTIHSNNSTSLLTIMFETNPLDEKADOKLRLESOPL 594
Xenopus_tropicalis EAQIGTFEVTGTPEKSVPCVLSSRN-LIENNISLLSLMFETNPLDERADOKLRVESOPL 592
Rhinatrema_bivittatum EVKISTFEIKGMQOEKSPCLLSSRNVMLEENESLLSIMFETNPLDESADOKLRVESOPL 593
Latimeria_chalumnae QAKVNTFEVTGLTQNKIKSCLLSSRNIVLESKDPCLLSIMFETNPLDESADOKLRVESLPL 593
.....550.....560.....570.....580.....590.....600

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*:*****:*. :*****:*. * *:*. : ***** :*.*****:*. ** *:*.**
Mus_musculus      EIIYDARTVNSIVEFFRPPKDVHLAQLTSVTLTKLEEFRAKTATGLLYVIETQKVLDLRI 647
Rattus_norvegicus EMIYDARTVNSIVEFFRPPKDVRLAQLTTATLTKLEEFREKTATGLLYIIETQKVLDLRI 647
Homo_sapiens      EIIYDARTVNSIVEFFRPPKEVHLAQLTAATLTKLEEFREKTATGLLYIIETQKVLDLKI 649
Pan_troglodytes   EIIYDARTVNSIVEFFRPPKEVHLAQLTAATLTKLEEFREKTATGLLYIIETQKVLDLKI 655
Macaca_mulatta    EIIYDARTVNSIVEFFRPPKEVHLAQLTSATLTKLEEFREKTATGLLYIIETQKVLDLRI 649
Callithrix_jacchus EIIYDARTVNSIVEFFRPPKEVHLAQLTSATLTKLEEFREKTATGLLYIIETQKVLDLKI 649
Canis_lupus_familiaris EMIYDARTVNSIVEFFRPPKEVNLAQLTSVTLTKLEEFREKTATGLLYIIETQKVLDLRI 648
Equus_caballus    EMIYDARTVNSIVEFFRPPKDVHLAQLTSATLTKLEEFREKTATGLMYIIETQKVLDLKI 648
Bos_taurus        EMLYDARTVNSIVEFFRPPKEVNLAQLTSVTLTKLEEFREKTATGLVYIIETQKVLDLKI 648
Pavo_muticus      EIIYDARTINSLVDFRPPKDVHLEQLTSATLMKLEEFREKTSTGLLYVIETQKVLDLKI 606
Pavo_cristatus    EIIYDARTINSLVDFRPPKDVHLEQLTSATLMKLEEFREKTSTGLLYVIETQKVLDLKI 606
Gallus_gallus     EIIYDARTINSLVDFRPPKDVHLEQLTSATLMKLEEFREKTSTGLLYVIETQKVLDLKI 654
Anas_platyrhynchos EIVYDARTINSLVDFRPPKDVHLEQLTSATLMKLEEFREKTSTGLLYVIETQKVLDLKI 654
Chelonia_mydas    EIIYDARTVNSLVDFRPPKDVHLEQLTSATLMKLEEFREKTSTGLLYVIETQKVLDLKI 654
Xenopus_tropicalis EIIYDAKTINNVLVDFRPPQDVHLEQLASATMTKLEEFREKTSTGLLYVIETQKVLDLKI 652
Rhinatrema_bivittatum EIIYDAKTINSLADFRPPQDVHLEQLTSATLMKLEEFREKTSTGLLYVIEROKKLDLKI 653
Latimeria_chalumnae EIIYDARTVNSLSDFRPPEDVHLEQLTSATLMKLEEFREKTSTGLMYIIETQKVLDLKI 653
.....610.....620.....630.....640.....650.....660

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*:*****:*. * : :*:*****:*. * *: * : :*. : :*: *****
Mus_musculus      NVKASYVIVPQYGNFSPTSNNLLLLDLGHLKVSSKRRSLLPDVVRPSEASLEDIMHRAYDSF 707
Rattus_norvegicus NVKASYVIVPQYGNFSPTSNNLLLLDLGHLKVTSKRRSGLPDVKPQGASLEDIMHRAYDSF 707
Homo_sapiens      NLKASYIIVPDGIFSPSNTNLLLLDLGHLKVTSKRSSELDPVKQGEANLKEIMDRAYDSF 709
Pan_troglodytes   NLKASYIIVPDGIFSPSNTNLLLLDLGHLKVTSKRSSELDPVKQGEANLKEIMDRAYDSF 715
Macaca_mulatta    NLKASYIIVPDGIFSPSNTNLLLLDLGHLKVTSKRSSELDPVKQGEANLKEIMDIAYDSF 709
Callithrix_jacchus NLKASYIIVPDGIFSPSNTNLLLLDLGHLKVTSKRSSELDPVKQGEANLEEIMDIAYDSF 709
Canis_lupus_familiaris NLKASYVIIPQDGIFSPSNTNLLLLDLGHLKVTSKRSLELPDMKQGGARLEEIMHRAYDSF 708
Equus_caballus    NLKASYVIIPQDGIFSPSNTNLLLLDLGHLKVTSKTRSELDMKQGGAKLEEIMHRAYDSF 708
Bos_taurus        NLNASYIIVPDGIFSPSNTNLLLLDLGHLKVTSKIRSELDPDKQGGANREEIMHRAYDSF 708
Pavo_muticus      NLMASYIIVPQKGFYDCTSNLLLLDLGSLKMKSKRSRSDVSGLVKGQSTIEDIMSRAYDSF 666
Pavo_cristatus    NLMASYIIVPQKGFYDCTSNLLLLDLGSLKMKSKRSRSDVSGLVKGQSTIEDIMSRAYDSF 666
Gallus_gallus     NLMASYIIVPQKGFYDCTSNLLLLDLGSLKMKSKRSRSDISGLVKGQSTIEDIMSRAYESF 714
Anas_platyrhynchos NLMASYVIVPQKGFYDSTNLLLLDLGSLKMKSKRSRDLSELKVGQSTIEDIMSRAYDSF 714
Chelonia_mydas    NLMASYVIVPQNGFYESTSNLLLLDLGNLQMMSKRSRSDVSLKVGQSTIEDIMSRAYDSF 714
Xenopus_tropicalis NLMASYIIVPENGFYEQSSNLLLLDLGSLKMKSKRSRSHLPQLKIGQSSIEDIMSRAYDSF 712
Rhinatrema_bivittatum NLMASYIIVPHTGFYVSASSLLILNLGNLKMISKRSRSHLPQLRVGYSSIEEIMSRAYDSF 713
Latimeria_chalumnae NLMASYVIVPHNGFYDSATSFLLLLDLGHLKVTSKRSRSHLPKLGIGETSIEDIMSRAYDSF 713
.....670.....680.....690.....700.....710.....720

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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****:***:  ::::**.* *: *:* *:::***:***. * *** *: *:
Mus_musculus      DIQLTSIQLLYSRVGDNWKEARKLNVSQIHILIPMHVNVLSKAMVFMDIKMPKFKISGK 767
Rattus_norvegicus DIQLSSIQLLYSRVGDNWKEARKLNVSQIHILIPMHVNIELSKAMVFMDIKMPKFKIFGK 767
Homo_sapiens       DIQLTSVQLLYSRVGDNWREARKLSVSTQHILVPMHFNLELSKAMVFMDVRMPKFKIYGK 769
Pan_troglodytes    DIQLTSVQLLYSRVGDNWREARKLSVSTQHILVPMHFNLELSKAMVFMDVRMPKFKIYGK 775
Macaca_mulatta     DIQLTSIQLLYSRVGDNWREARKLNVSQIHILVPMHFNLELSKAMVFMDVRMPKFKIFGK 769
Callithrix_jacchus DVQLTSIQLLYSRVGDNWREARKLNVSQIHILVPMHFNLELSKAMVFMDVRMPKFKIFGK 769
Canis_lupus_familiaris DVQLTSIQLLYSTVGDNWREARKLNVSQIHILVPMHFNLELSKAMVFMDIRMPKFKIFGK 768
Equus_caballus     DVQLTSIQLLYSRAGDNWKEARKLNVSQIHILIPMHFNLELSKAMVFMDIRMPKFKIFGK 768
Bos_taurus         DIQLTSIQLLFSSRVGDNWKEARKLNVSQIHILVPMHFNLELSKAMVFMDISMPKFKIYGN 768
Pavo_muticus       DIQLTSIQLLYSKHDENWQEARLKYSSQHILQPLDVKVEFGGRAMVVTDIRMPKFKLSGQ 726
Pavo_cristatus     DIQLTSIQLLYSKHDENWQEARLKYSSQHILQPLDVKVEFGGRAMVVTDIRMPKFKLSGQ 726
Gallus_gallus      DIQLTSIQLLYSKHDENWQEARLKYSSQHILQPLDVKVEFGGRAMVVTDIRMPKFKLSGQ 774
Anas_platyrhynchos DIQLSSIQLLYSKHGENWQEARLKYSSQHILQPLDVNVEFSRAMVVTDIRMPKFKLYGQ 774
Chelonia_mydas     DIQLSSIQLLYCKHHENWKEARKLKYSSQHILRPMQVKEFSRAMVVTDIRMPKFKIFGQ 774
Xenopus_tropicalis DVQLSKMQLLYRKNNEDWKKARNLKRSSLHILEPMDLKVEFSRAMVVTDIRMPKCKLSGE 772
Rhinatrema_bivittatum DVQLSSIQLLYSRQENENWKEARKLKRSSQHILEPMDLKVDGFRALVVTDIRMPKFKIFGE 773
Latimeria_chalumnae DVQLNSIQLLYSKQENENWKEARLKYSSQHILEPMDLKVEFSRAMVVTDIRMPKFKLCGE 773
.....730.....740.....750.....760.....770.....780

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** *: ***:** ::*: ****. . * : : ..... ..
Mus_musculus      LPLVSLRISDKKLQIGIMELLSIPKPEP-VTDVSAPARSFQIQASA-LPVSHISQKLIPL 825
Rattus_norvegicus LPLVSLRISDKKLQIGIMELLEIPKPEP-VTDVSAPARSFQIQAST-MPVSHISQKLIPL 825
Homo_sapiens       LPLISLRISDKKLQIGIMELIESIPKPEP-VTEVSAPVKSFIQTSTSLGTSQISQKIIP 828
Pan_troglodytes    LPLISLRISDKKLQIGIMELIESIPKPEP-VTEVSAPVKSFIQTSTSLGTSQISQKIIP 834
Macaca_mulatta     LPLISLRISDKKLQIGIMELVESIPKPEP-VTEVSAPVKSFIQTSTSLGTSQISQKIIP 828
Callithrix_jacchus LPLISLRISDKKLQIGIMELIDSIPKPEP-VTEVSAPVKSFIQTSTSLGTSQISQKIIP 828
Canis_lupus_familiaris LPLISLRISDKKLQIGILELIESIPKPTP-APEAYAPAKPFQIQRSTSLGTSQISQKMLPF 827
Equus_caballus     LPLISLRISDKKLQIGILELVESIPKPKP-ATEVHGPAKSFQMQRVSLGTSQISQKMFPL 827
Bos_taurus         LPLISLRISDKKLQIGILELIESIPKPS-ATEVNVVKSQVQRSTSLGTSQMSQKFPPL 827
Pavo_muticus       LPLLSVQISDQKLRSILELVDSIPKAESTAATSPP-KITEAAISPVLSAPHLSP--LPV 783
Pavo_cristatus     LPLLSVQISDQKLRSILELVDSIPKAESTAATSPP-KITEAAISPVLSAPHLSP--LPV 783
Gallus_gallus      LPLLSVQISDQKLKSILELVDSIPKAESTPATSP-KITEAAMPVLSAPHLSP--LPV 831
Anas_platyrhynchos LPLLSVQISDQKLKSILELIDSIPKPS-ASTTSP-KVTEAAISPVLSVPHLSQGVLPV 832
Chelonia_mydas     LPLLSVQISDQKLKGILELIDSIPKPESGPATMSAP-KPTQIAVTPLLPTPHVSNVLPF 833
Xenopus_tropicalis LPILSIQISDQKLKGVLLELIDSIPKPESPPPEYPSPQKIAIQKSTSVVNTPOLAPRRPAI 832
Rhinatrema_bivittatum LPRLSIIISDEKLKGIMELIDSIPKPSIPASSPSPQKVQMSKAPLA--TPOMSHARIPL 832
Latimeria_chalumnae LPLLSVRISDEKLQGVMALESIPKPSERPAPAPAPQKILQTKSPPMSTPOMGLRSSAL 833
.....790.....800.....810.....820.....830.....840

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Mus_musculus      LEQPV--TE-DDSEEEFFDAPCSPLEECPQVSC-----RDKCTRQKKLQKKDCVMNLIQ 876
Rattus_norvegicus LEQSA--TE-DDSEEEFFDAPCSPLEEYPQVSC-----RVESTRKKLQKKDGSNMFIQ 876
Homo_sapiens       LELPS--VSEDDSEEEFFDAPCSPLEEPLQFPT-----GVKSIRTRKLQKQDCSVNMTT 880
Pan_troglodytes    LELPS--VSEDDSEEEFFDAPCSPLEEPLQFPT-----GVKSIRTRKLQKQDCSVNMTT 886
Macaca_mulatta     LELPS--VSEDDSEEEFFDAPCSPLDEPLQFPT-----GVKSIRTRKLQKQDCSVNMTT 880
Callithrix_jacchus LELPS--VSEDDSEEEFFDAPCSPLEEPPQFPT-----GVKSIRTRKLQKQDCSVNMTT 880
Canis_lupus_familiaris LELPC--VE-DDSEEEFYDAPCSPLEEPLQSP-----GVQSYQKKIKQKPDCKSNMIQ 878
Equus_caballus     LEIPC--VE-DDSEEEFFDAPCSPLEEPLQFPT-----TVKSYQKKLQKPTACSKNMTQ 878
Bos_taurus         LEIPC--VE-DDSEEEFFDAPCSPLEEPLQSP-----RIKSPQOKNLQKPDCKFNMTIE 878
Pavo_muticus       LDLHS--FAESESEEEFYDALSPVEDVPFFEAPSGSLKRASSIRRKKLNKQESLKNMTE 841
Pavo_cristatus     LDLHS--FAESESEEEFYDALSPVEDVPFFEAPSGSLKRASSIRRKKLNKQESLKNMTE 841
Gallus_gallus      LDLPS--FAESESEEEFYDALSPVDDVPFFEAPSGSLKRASSIRRKKLNKQESLKNMTE 889
Anas_platyrhynchos LDLHS--FAESESEEEFYDALSPVEDMPFFEAPSGSLTRASSIRRKKLNRKQESLKNMTE 890
Chelonia_mydas     LELHS--LTESESEEEFYDAPSPVEEMPFFEASSGSLTRVNSARRKRLQKQESLKNMTE 891
Xenopus_tropicalis VDLPS--LIESESEEEFYDAPSPVDEKPFPEVSSGAVARTDSLRRKKLKRQETQKNMTE 890
Rhinatrema_bivittatum LELQS--FLESESEEEFYDAPSPVEDKPFPEISGSLTRSNVRRKRQKQESLKNMTE 890
Latimeria_chalumnae IQLQSSILFESESEEEFYDAPSPVEDMPFFEALGSLKRSTDSEKKRLQKQESVKNMTE 893
.....850.....860.....870.....880.....890.....900

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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	:***:. * : * * *.: :***: :.:*: .***.* ** *	
Mus_musculus	LRMRFEVAEVSIOFYHLVGDCELPVLEMGAIGLGTAEFRITFDLKGS AFLKELWLKCP EY	936
Rattus_norvegicus	LSMRFEVAEVLIOFYHLVGDCELPVLEMGV LGLGTEVEIRKFD LKGN AFLKELWLKCPGY	936
Homo_sapiens	FKIRFEV PKVLIEFYHLVGDCELSVVEILVLGLGAEIEIRTYDLKAN AFLKEFCLKCP EY	940
Pan_troglodytes	FKIRFEV PKVLIEFYHLVGDCELSVVEILVLGLGAEIEIRTYDLKAN AFLKEFCLKCP EY	946
Macaca_mulatta	FKIRFEV PKVLIEFYHLVGDCELSVVEIHYLGLGTEIEIRTYDLKAN AFLKEFCLKCP EY	940
Callithrix_jacchus	IKIRFEV PKVLIDFYHLVGDCELPVIEIYVLGLGTEIEIRTYDLKAN AFLKEFCLKCP EY	940
Canis_lupus_familiaris	YKIRFEVPEVLIOFYHLVGDCELPVVEIDVLGLGTDVELRTFD LKAN AFLKEFCLKCP EY	938
Equus_caballus	YKIRFEVPEVLIOFCHLVGDCELPVVEIDVLGLGTEIELRTFD LKAN AFLKEFCLKCPKY	938
Bos_taurus	YKIRFEVPEVLIOFCHLVGDCELPVVEINV LGLGTDIELRTFD LKAN AFLKEVCLKCPDY	938
Pavo_muticus	LQLRFEVAEVLIKLCRLSDNTETPV LQLEVVGLGTELKLRTFDMTAS AFLHEICLLCP EY	901
Pavo_cristatus	LQLRFEVAEVLIKLCRLSDNTETPV LQLEVVGLGTELKLRTFDMTAS AFLHEICLLCP EY	901
Gallus_gallus	LQLRFEVAEVLIKLCRLTDNTETPV LQLDVVGLGTELKLRTFDMTAS AFLHEICLLCP EY	949
Anas_platyrhynchos	FQLRFEVAEVLIKLCRLTGNMETPV LQLEVVGLGTELKLRTFDMTAN AFLHEVCLLCP EY	950
Chelonia_mydas	FQLRFEIPEVLMRLCRLADGTEKPV LQLEVVGLGTELKLRTFDMAVN AFLREVCLLCP EY	951
Xenopus_tropicalis	FQMRFEIPTVTIQLCSLSKDVEKTVLHLEIMGLGTELVNRTFDMSAN AFLREISLKCPQY	950
Rhinatrema_bivittatum	FQMRFEIPEVLLQCHLSADTEQSV LQLEVLGLGTELVNRTFDMTAN AFLKEMCLKCP EY	950
Latimeria_chalumnae	FQMRFEVTEVSLQLCRLSDQTEKPV LHLVGLGTELVNLTFDMSN AFLREISLKCP EY	953
910.....920.....930.....940.....950.....960	

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Mus_musculus	LDEKPKPVYLITLTDNTMEDLLTLEFMKVEKNAPN--LNSTYNNVLQLIKVNFSSLDIHL	994
Rattus_norvegicus	LDEHKPKPVYLITLTDNTMEDLLTLEFMKVEKNAPN--LNSTYNNVLQLIKVNFSSLDIHL	994
Homo_sapiens	LDEKPKPVYLVTITLTDNTMEDLLTLEYVKAENKVPD--LKSTYNNVLQLIKVNFSSLDIHL	998
Pan_troglodytes	LDEKPKPVYLVTITLTDNTMEDLLTLEYVKAENKVPD--LKSTYNNVLQLIKVNFSSLDIHL	1004
Macaca_mulatta	LDEKPKPVYLVTITLTDNTMEDLLTLEYVKAENKVPN--LKSTYNNVLQLIKVNFSSLDIHL	998
Callithrix_jacchus	LDEKPKPVYLITLTDNTMEDLLTLEYVKAENKVPN--LKSTYNNVLQLIKVNFSSLDIHL	998
Canis_lupus_familiaris	FDKPKPIYLVITLTDNTMEDLLTLEYVKAENKLPN--LKSTYNNVLQLIKVNFSSLDIHL	996
Equus_caballus	FDANKPKPVYLITLTDNTMEDLLTLEYVRAENKVPN--LKSTYNNVLQLIKVNFSSLDIHL	996
Bos_taurus	FDEKPKPVYLITLTDNTMEDLLTLEYVKAENKLPATILKNAYNSVVQLIKVNFSSLDIHL	998
Pavo_muticus	MDDNDKPVYLVTITLTDNVEDDLLTLEYIKADINGPE--LKTAYQNVQLIKVNFSSLDVHL	959
Pavo_cristatus	MDDNDKPVYLVTITLTDNVEDDLLTLEYIKADINGPE--LKTAYQNVQLIKVNFSSLDVHL	959
Gallus_gallus	MDDNDKPVYLVTITLTDNVEDDLLTLEYIKADINGPE--LKTAYQNVQLIKVNFSSLDVHL	1007
Anas_platyrhynchos	MDDNGKPVYIITLTDNVEDDLLTLEYIKADINGPE--LKTAYQNVQLIKVNFSSLDVHL	1008
Chelonia_mydas	MDDKDKPVYIITLTDNTEDDLLTLEYVKADINGPE--LKTAYQNVQLIKVNFSSLDVHL	1009
Xenopus_tropicalis	TDDEKRPVYIITLTDNTD DLLTLEYIKADINGPE--FKTTYKNVEQLIKVNFSSLDIHL	1008
Rhinatrema_bivittatum	MDDENKPVYIVTITLTDNSTDDLLTLDYTKANVNGPE--FKTTYKNVEQLIKVNFSSLDVNL	1008
Latimeria_chalumnae	MDAESKPVYIITLTDNAEDDLLTLEYVKADKNAPE--FRTTYKNTEQLIKVNFSSLDVHL	1011
970.....980.....990.....1000.....1010.....1020	

	.:**.....:.*	::*	..*:*:.*::	
Mus_musculus	HTEALLNTMNYLNNILPELREKSASVSAA--EPEDKGD--I I K K L A L K L P T N E D I I T L Q L			1050
Rattus_norvegicus	HTEALLNTMNYLNNILPELGETSASVSAA--EPEDKGD--I I K K L A L K L P T N E D I I T L Q L			1050
Homo_sapiens	HTEALLNTINYLHNILPQSEKSAPVSTT--ETEDKGD--V I K K L A L K L S T N E D I I T L Q I			1054
Pan_troglodytes	HTEALLNTINYLHNILPQSEKSAPVSTT--ETEDKGD--V I K K L A L K L S T N E D I I T L Q I			1060
Macaca_mulatta	HTEALLNTINYLHNILPQSEKSAPVSTT--ETEDKGD--V I K K L A L K L S T N E D I I T L Q I			1054
Callithrix_jacchus	HTEALLNTINYLNNILPQSEKSAPVSVTFEPEDKGD--V I K K L A L K L S T N E D I I T L Q I			1056
Canis_lupus_familiaris	HTEALLNTINIFYNNILPQLEKSAPVSV--ETEDKGE--V I K K M P L K L S K N E D I I N L Q I			1052
Equus_caballus	HTEALLNTINIFYNNILPQLEKSASLYVA--ETEDKGE--V I R K I P L K L P K N E D I I T L Q I			1052
Bos_taurus	HTEALLNTINIFYNNILPYLEKPPAVHV--ETEDKEE--V V K K I P L K S S K N E D I I T L Q I			1054
Pavo_muticus	HTETILLNAVNYLNSLLPKQETKVAEEPVHEKTEDKKD---V L K K L T S K K S K Y E D V I D L N I			1016
Pavo_cristatus	HTETILLNAVNYLNSLLPKQETKVAEEPVHEKTEDKKD---V L K K L T S K K S K Y E D V I D L N I			1016
Gallus_gallus	HTETILLNAVNYLNSLLPKQETKVAEEPVHEKTEDKKD---V L K K L T S K K S K Y D D V I D L N I			1064
Anas_platyrhynchos	HTETILLNAMNYVNNLLPKQETKVADEPVQEKIEEKD---V L K K L T S K K S K Y E D V I D L N I			1065
Chelonia_mydas	HNEALLNAMNYLNNLLPKQETKIIEELVQEK-E E K K D---V L K K L T S K K S K Y E D V I D L H V			1065
Xenopus_tropicalis	HTEALLS T M S F L T S L V P Q S E - R K E M D Q P V D S E E E K R E E Q K K T T I K --K S K Y D D V V N L H V			1065
Rhinatrema_bivittatum	HTEALLS A M N F L N N L V P K S E N T V A T V E Q V Q E I E E E K K E E A Y K K I I T P K S K F E D I I N L H V			1068
Latimeria_chalumnae	HTEALLS T M N F L N G L L P T S E S K V T S E D Q T P A I E K K E E A Q S P K K A A S K S K F E D V I N L H I			1071
1030.....1040.....1050.....1060.....1070.....1080			

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	::::**: :* .*:** :****.:***.* ***:** :~* * * .:~*	
Mus_musculus	LAE L S C L Q I F I Q D Q K N I S E I K I E G L D S E M I M K P L V T E I N A K L R N I I V L D S D K M A I Y K K A	1110
Rattus_norvegicus	LAE L S C L R I F I Q D Q K N I S E I K I E G L D S E M I M K P L V T E I N A K L R N I I V L D S D K M A V Y K K A	1110
Homo_sapiens	LAE L S C L Q I F I Q D Q K N I S E I K I E G L D S E M I M R P S E T E I N A K L R N I I V L D S D I T A I Y K K A	1114
Pan_troglodytes	LAE L S C L Q I F I Q D Q K R N I S E I K I E G L D S E M I M R P S E T E I N A K L R N I I V L D S D I T A I Y K K A	1120
Macaca_mulatta	LAE L S C L Q I F I Q D Q K R N I S E I K I E G L D S E M I M R P S E T E I N A K L R N I I V L D S D I T A I Y K K A	1114
Callithrix_jacchus	LAE L S C L Q I F I Q D Q K R N I S E I K I E G L D S E M I M R P S E T E I N A K L R N I I V L D S D I T A V Y K K A	1116
Canis_lupus_familiaris	LAE L S C L Q I F I Q D Q K R N I S E I K I E G L D S E I M R P A A T E I N A K L R N I I V L D S D K T A V Y K K A	1112
Equus_caballus	LAE L S S I Q I F I Q N Q K R N I S E I K I E G L D S E L I M R P S V T E I N A K L R N I I V L D S D I T A V Y K K A	1112
Bos_taurus	LAE L S C L Q I F I Q D Q K R N I S E I K I E G L D C E I I M R P S V T E T N A K L R N I I V L D S D I T A V Y K K A	1114
Pavo_muticus	WAD L S C L R V F I R E K K H R I A E I H I E G L D S Q V I M K K T A T E I T A K L K N I V I V D S D E M A L Y N K A	1076
Pavo_cristatus	WAD L S C L R V F I R E K K H R I A E I H I E G L D S Q V I M K K T A T E I T A K L K N I V I V D S D E M A L Y N K A	1076
Gallus_gallus	WAD L S C L R I F I R E K K H R I A E I H I E G L D S Q V I M K K T A T E I T A K L K N I V I V D S D E M A L Y N K P	1124
Anas_platyrhynchos	CAD L S C L R V F I R E K K H R I A E I H I E G L D S E V I M K K A E T E V T A K L K N I I I M D S D E M A L Y K K A	1125
Chelonia_mydas	CAD L S C L R V F I R E Q K R R I S E I H V E G L D C Q V I M R K A A T E V F A K L K N I V V M D S D D M A L H K K A	1125
Xenopus_tropicalis	CAE L S C L R V F I R G Q K R I S E I S I E G L D S Q V I T K K A T E V L A K L K N I A I L D C D P E A N F K K A	1125
Rhinatrema_bivittatum	CAD L S C L R I F I R E Q K R R I S E I S I E G L D S Q V I M R K R A T E V F A K L K N I V M V D S D E A A L Y K K A	1128
Latimeria_chalumnae	CAE L T C L R L F I R D Q K R I S E I S I E G L D S E V V L R K T A N E V L A K L R N I I V L D L D E K A L Y K K A	1131
1090.....1100.....1110.....1120.....1130.....1140	

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Mus_musculus	LYITGKEVFSFKMISYMDATAGYAYTDM SVVDIRVHLTVG CIEVVFITKFLYSILAFIDN	1170
Rattus_norvegicus	VYITGKEVFSFKMISYMDATAGYAYTDM SVVDARVYLT VGCIEVVFVTKFLYSILAFINN	1170
Homo_sapiens	VYITGKEVFSFKMVS YMDATAGSAYTDM NVVDIQVNLIVGCIEVVFVTKFLYSILAFIDN	1174
Pan_troglodytes	VYITGKEVFSFKMVS YMDATAGSAYTDM NVVDIQVNLIVGCIEVVFVTKFLYSILAFIDN	1180
Macaca_mulatta	VYITGKEVFSFKMVS YMDATAGSAYTDM NVVDIQVNLVVG CIEVVFVTKFLCSILAFIDN	1174
Callithrix_jacchus	VYITGKEVFSFKMVS YMDATAGSAYTDM NVVDIQVDLIVGCIEVIFVTKFLYSILAFIDN	1176
Canis_lupus_familiaris	VYITGKEVFSFKMISFV DATAGSAYTDM NVVDVQVNLTVGCIEVVFVTKFLYSILAFIDN	1172
Equus_caballus	VYITGKEVFSFKMISYMDATAGSAYTDM NVVDVQVNLTVGCIEVVFVTKFLYSILAFIDN	1172
Bos_taurus	VYITGKEVFSFKMVS YMGATAGSAYTDM NVVDMQVNLTVGCIEVVLVKKFLYSILAFIDN	1174
Pavo_muticus	LYITGKEVFNFKMIS YVNAIDGIAYTNMDVVDNRVYLT VGCIOVVFVNKFFSSILAFINN	1136
Pavo_cristatus	LYITGKEVFNFKMIS YVNAIDGIAYTNMDVVDNRVYLT VGCIOVVFVNKFFSSILAFINN	1136
Gallus_gallus	LYITGNEVFNFKMIS YVNAIDGIAYTNMDVVDNRVYLT VGCIOVVFVNKFFSSILAFINN	1184
Anas_platyrhynchos	LYITGKEVFNFKMIS YVNAIDGIAYANMDVVDSSMSLT VGCIOVVFVNKFVSSILAFINN	1185
Chelonia_mydas	LYITGKEVFSFKMVS YVDAIDGAAYTNMNI VDSQVYLT VGCIOVVFVNKFVSAILAFINN	1185
Xenopus_tropicalis	VCIKGKEFFSFKMVS YVGATEGDAYRDM SVVD SHITLNVGCIOVIFVNKFVSAILAFINN	1185
Rhinatrema_bivittatum	VYITGKEVFSFKLIS YVDATEGAS YTDMAVVD SHINLT VGCIOVIFVNKFVSSILAFVNN	1188
Latimeria_chalumnae	VSITEKEVFSFKMVS YVGATEDAAYTDM NVVDSCITLT VGCIOVIFVKFVSSILTFVNN	1191
1150.....1160.....1170.....1180.....1190.....1200	

	**	*	:	*	:	*****	**	**	***	.	*	*****	:	*****	:	*****	.	:	*****	:	*	:	*****	:							
Mus_musculus	FQ	AV	KD	AL	AE	AT	VQ	AA	EM	AA	DG	VK	EL	AR	KS	SR	FAL	DN	IK	AP	VV	LI	PO	SP	VQ	NV	FV	AD	F	1230	
Rattus_norvegicus	FQ	AV	KN	AL	AE	AT	VQ	AA	GM	AA	DG	VK	EL	AR	KS	SR	FAL	DN	IK	AP	VV	LI	PO	SP	VS	RN	VF	AD	F	1230	
Homo_sapiens	FQ	AA	KQ	AL	AE	AT	VQ	AA	GM	AA	TG	VK	EL	AQ	RS	SR	MA	LD	IN	IK	AP	VV	VI	PO	SP	VS	EN	VF	AD	F	1234
Pan_troglodytes	FQ	AA	KQ	AL	AE	AT	VQ	AA	GM	AA	TG	VK	EL	ARR	SS	RM	AL	DN	IN	IK	AP	VV	VI	PO	SP	VS	EN	VF	AD	F	1240
Macaca_mulatta	FQ	AA	KQ	AL	AE	AT	VQ	AA	GM	AA	TG	VK	EL	ARR	SS	RM	AL	DN	IN	IK	AP	VV	VI	PO	SP	VS	EN	VF	AD	F	1234
Callithrix_jacchus	FQ	AA	KQ	AL	AE	AT	VQ	AA	GM	AA	TG	VK	EL	AQ	RS	SR	MA	LD	IH	VK	AP	VV	VI	PO	SP	VS	KN	VF	AD	F	1236
Canis_lupus_familiaris	FQ	AA	KQ	AL	AE	AT	VQ	AA	GM	AA	TG	VK	EL	AQ	RS	SR	MA	LD	DN	IK	AP	VV	VI	PO	SP	VS	EN	VF	AD	F	1232
Equus_caballus	FQ	EAK	QAL	TE	AT	VQ	AA	GM	AA	TG	VK	EL	AQ	RS	SR	MA	LD	DN	IK	AP	VV	VI	PO	SP	VS	EN	VF	AD	F	1232	
Bos_taurus	FQ	AG	KQ	AL	AE	AT	VQ	AA	GM	AA	TG	VK	EL	AQ	RS	SR	MA	LD	VH	IK	AP	VV	VI	PO	SP	VS	EN	IF	AD	F	1234
Pavo_muticus	FQ	AA	KE	AL	TE	AT	VQ	AA	EKA	AT	GK	EL	AE	RS	SR	LA	LD	DN	IK	AP	VV	VI	PO	SA	VS	AN	VL	VA	DL		1196
Pavo_cristatus	FQ	AA	KE	AL	TE	AT	VQ	AA	EKA	AT	GK	EL	AE	RS	SR	LA	LD	DN	IK	AP	VV	VI	PO	SA	VS	AN	VL	VA	DL		1196
Gallus_gallus	FQ	AA	KE	AL	TE	AT	VQ	AA	EKA	AT	GK	EL	AE	RS	SR	LA	LD	DN	IK	AP	VV	VI	PO	SA	VS	AN	VL	VA	DL		1244
Anas_platyrhynchos	FQ	AA	KE	AL	TE	AT	VQ	AA	EKA	AT	GK	EL	AE	RS	SR	LA	LD	DN	IK	AP	VV	VI	PO	SA	VS	AN	VL	VA	DL		1245
Chelonia_mydas	FQ	AA	KE	AI	TE	AT	VQ	AA	GKA	AT	GK	EL	AQ	RS	SR	LA	LD	DN	IK	AP	VI	IV	PO	SA	DS	TV	VL	VA	DL		1245
Xenopus_tropicalis	FQ	AT	KQ	AL	AE	AT	VH	AA	EKA	AS	GK	EL	AQ	HS	FR	LA	LD	IH	VK	AP	VV	VI	PO	SK	SS	QV	VL	VA	DL		1245
Rhinatrema_bivittatum	FQ	AA	KE	AL	TE	AT	VL	AA	EKA	AT	GV	EL	AQ	RS	FR	MA	LD	DN	IK	AP	VV	IM	PO	SA	KS	SK	VL	VA	DL		1248
Latimeria_chalumnae	FQ	AA	KE	AV	TE	AT	VQ	AA	EKA	AT	GK	EL	AE	RS	SR	MA	LD	VH	NP	AP	VV</										

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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****: * * .: . ****: : :.***:***: : .. * :*** *:***:
Mus_musculus          GLITMKNIFVTV--TETQSNIPPVIDLITIKLSKMRLYRSQFRNDTYQEVLDLLLPLNLEV 1289
Rattus_norvegicus     GLITIKNIFVTV--TETQSNIPPVIDLITIKLSKMRLYRSQFMNNTYQEVLDLLLPLNLEV 1289
Homo_sapiens          GLITMTNTTFHMI--TESQSSPPPVIDLITIKLSEMRLYRSRFINDAYQEVLDLLLPLNLEV 1293
Pan_troglodytes       GLITMTNTTFHMI--TESQSSPPPVIDLITIKLSEMRLYRSRFINDAYQEVLDLLLPLNLEV 1299
Macaca_mulatta        GLITMTNTTFHMI--TESQSSPPPVIDLITIKLSEMRLYRSQFINDAYQEVLDLLLPLNLEV 1293
Callithrix_jacchus    GLITMTNTTFHMI--TESESSPPPVIDLITIKLSKMRLYRSEYINDAYQEVLDLLLPLNLEV 1295
Canis_lupus_familiaris GLITMTNTTFHVI--TESQSNPPPVIDLITIRLSEMRLYRTQFINDYQKVLDDLPLNLEV 1291
Equus_caballus        GLITMTNTTFHMI--TESQSNPPPIIDLITIKLSEMRLYRTQFINDAYQEVLDLLLPLNLEV 1291
Bos_taurus            GLITMKNTTFHVI--TKSPTNPPPIIDLITIKLSEMRLYRTQVINDAYQEVLDLLLPLNLEV 1293
Pavo_muticus          GLITVRNQFFIAKTKTRYNLPVVDVSMTVKLSELKLYRSCYEQNSLQTEVQLLQPLNLEV 1256
Pavo_cristatus        GLITVRNQFFIAKTKTRYNLPVVDVSMTVKLSELKLYRSCYEQNSLQTEVQLLQPLNLEV 1256
Gallus_gallus         GLITVKNRFFIAKTKTRYNLPVVDVSMTVKLSELKLYRSCYEQNAFQTEVQLLQPLNLEV 1304
Anas_platyrhynchos   GLITVKNQFFIAKSKSWYNLPVVDVSMTVNLSKLKLYRSYYEQDTLQSEVQLLQPLNLEV 1305
Chelonia_mydas        GLITINNQFSVK--TKARCSLPPVIDSMTVKLSKLKLYRTHFERGSLQSEIQLLQPLNLEV 1304
Xenopus_tropicalis    GLITVNNKFSIVIPKSHSNLPPVIDSMMINLSKLKMYRTVYENGSLQSELQLLQPVNLDI 1305
Rhinatrema_bivittatum GLITVKNQFFIIETKVRCSLPPVIDSMTVNLSELKLYRTTFEKGILLQTEIQLLQPLNLEV 1308
Latimeria_chalumnae   GLITVKNEFSMCLSKAKASLPPVIDAMKIKLSQMKIYRTTFENNSFQSELQLLRPLNLEV 1311
.....1270.....1280.....1290.....1300.....1310.....1320

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:****. *: **: :. :. ****: :*.***:***: :. :. * *:
Mus_musculus          IVERNLSWEWYKEVPCFNIAQLKPMEFILSQEDLTTFVQTLHGNWYQDLSAPSSANK 1349
Rattus_norvegicus     IVERNLSWEWYKEVPCFNIAQLKPMEFILSQEDLTTFVQTLYGNWYGRDVPAPSSVKN 1349
Homo_sapiens          VVERNLCWEWYQEVPCFNVAQLKPMEFILSQEDITITIFKTLHGNWYEKDGSASPAVTK 1353
Pan_troglodytes       VVERNLCWEWYQEVPCFNVAQLKPMEFILSQEDITITIFKTLHGNWYEKDGSASPAVTK 1359
Macaca_mulatta        VVERNLCWEWYQEVPCFNVAQLKPMEFILSQEDITITIFKTLHGNWYEKDGSASPAVTK 1353
Callithrix_jacchus    VVERNLSWEWYQEVPCFNVAQLKPMEFILSQEDITITIFKTLHGNWYHGGGSASPAVTN 1355
Canis_lupus_familiaris IVERNLSWEWYQEVPCFNVAQLKPMEFILSQEDLTITIFKTLHGNWYEEGDGASPGGVK 1351
Equus_caballus        IVERNLSWEWYQEVPCFNVAQLKPMEFILSQEDLTITIFKTLYGNWYEEGDGASPVGVK 1351
Bos_taurus            MVERNLSWEWFQEVPCFNVAQLKPMEFILSQEDITITIFKTLYGNWYEGDSASHEVTK 1352
Pavo_muticus          AVERNLAAAWYNEVPDIEISGRKPMNLILSQEDVTITLRTLNLNIGESSGASPPSQELK 1316
Pavo_cristatus        AVERNLAAAWYNEVPDIEISGRKPMNLILSQEDVTITLRTLNLNIGESSGASPPSQELK 1316
Gallus_gallus         AVERNLAAAWYNEVPDIEISGRKPMNLILSQEDITITLRTLNLNIGESSGASPPSQELK 1364
Anas_platyrhynchos   VVERNLAAAWYTEVPDIKISGRKPMNLILSQEDITITLRTLNLNIGCSSDASPPPLPEPK 1365
Chelonia_mydas        TVERNLAAAWYSEVPDIKILGRKPINLILSQEDLTITLRTLNLNIGDSSGAPPPPLPEPK 1364
Xenopus_tropicalis    TIERNLAADWYHDVPDIKIIGHLKPMNLILGOEDLTILQTLNLNLGETSELFPAESDDE 1365
Rhinatrema_bivittatum TVERNLAAAWYSDVPDIKIIGHLKPMNVILGOEDLTITLRTLNLNIGDSSAPPPPPPEPND 1368
Latimeria_chalumnae   VVERNLAAAWYHEIPNIKIIGTLKPMKLVLSQEDLTIVLKMNLNLGDDSGTTLNPNVPTD 1371
.....1330.....1340.....1350.....1360.....1370.....1380

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. *:***:**** :. :. :* *:***: * * : **.
Mus_musculus          DPETMTSGVTS--PPDHS PATVVTAAVVEVHPQASQAHTMLNVSFQTDYLTMALYSP--- 1404
Rattus_norvegicus     GPEIMTTEVTS--TSYHSGATMVTSAVVEVHPQASANTTLNVSFQTDHLMITLYSP--- 1404
Homo_sapiens          DQYSATSGVTTNASHHSGGATVVTAAVVEVHSRALLVKTTLNISFKTDDLTMLVLYSP--- 1410
Pan_troglodytes       DQYSATSGVTTNASHHSGGATVVTAAVVEVHSRASLVKTTLNISFKTDDLTMLVLYSP--- 1416
Macaca_mulatta        DQYSATSGVTTNASHHSGGATVVTAAVVEVHSRASLVKTTLNVSFKTDYLTMLVLYSP--- 1410
Callithrix_jacchus    DQYSVTSGVTTNASHHSGGSTVVTAAVVEVHSCASPVKTTLNVSFKTDYLTMLVLYSP--- 1412
Canis_lupus_familiaris DQSSVNSGVTN--ASHHLEGTTVVTAAVVEVHSQASQVKTTLNMSFRTDYLTMLVLYSP--- 1407
Equus_caballus        DQHTVASGVS---SSHSGGTTVVTAAVVEVHSRASQIKTTLNMSFKTDYLTMLVLYSP--- 1405
Bos_taurus            DQSSVTSGATT--ASHHAAGTTVVTAAVVEVHSASQVKTTLNMSFRTDYLTMLVLYSP--- 1408
Pavo_muticus          DTTSHCS--DIRSTSEHSAGVTVVTSAVVELHS--PVKIKTTLKLDLFRFDSLTLVLYNS--- 1371
Pavo_cristatus        DTTSHCS--DIRSTSEHSAGVTVVTSAVVELHS--PVKIKTTLKLDLFRFDSLTLVLYNS--- 1371
Gallus_gallus         DTTSHCS--DIRSTSEHSAGVTVVTSAVVELHS--PVKIKTTLKLDLFRFDSLTLVLYNS--- 1419
Anas_platyrhynchos   DTTSHCS--DIQSTSQQSAGVTVVTSAVVELHS--PVKIKTTLKLDLFRFDSLTLVLYSP--- 1420
Chelonia_mydas        DTSSSCS--DALSTSQHSAGTTVVTSAVVELHS--PVKIKTTLKLDLFRFDSLTLVLYSP--- 1419
Xenopus_tropicalis    TLVSGDN-----SSHSAGTTVVTAAVVEVETYS--PVKIKTTLKLDLFRFDSLTLNLYSG--- 1416
Rhinatrema_bivittatum ASSSNND-----ATSYSGGTTVVTAAVVEVETYS--PVKIKTTLKLDLFRFDSLTLNLYSPYKS 1422
Latimeria_chalumnae   KAANGSEDDTHSASQHSAGGTTVVTAAVVEAHT--PAKVKTTTLKLDLFRFDSLTLNLYSP--- 1427
.....1390.....1400.....1410.....1420.....1430.....1440

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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      . * . .*****: * : : * . : . : * * * * :
Mus_musculus      -----GPDEASFTDVRDPSLELAEFKLENIISLKIIYTDSTVFSFVKNCILDDKRSH 1458
Rattus_norvegicus -----GPDQASFTDVRDPSLELAEFKLENIISDLKVYTDSTMVFSFSLKNCILDDKRPH 1458
Homo_sapiens       -----GPKQASFTDVRDPSLKLAEFKLENIISTLKMYTDGSTFSSFSFLKNCILDDKRPH 1464
Pan_troglodytes    -----GPKQASFTDVRDPSLKLAEFKLENIISTLKMYTDGSTFSSFSFLKNCILDDKRPH 1470
Macaca_mulatta     -----GPKQASFTDVRDPSLKLAEFKLENIISTLKMYTDDSTFSSFSFLKNCILDDKRPH 1464
Callithrix_jacchus -----GPKQASFTDVRDPSLKLAEFKLENIISTLKMYSDSTFSSFSFLKNCILDDKRPH 1466
Canis_lupus_familiaris -----GLEKTSFTDVRDPSLKLAEFKLENIISTAKMYTDDSTFSSFSFLKNCILDDKRPH 1461
Equus_caballus     -----GPEQTSFRDVRDPSLKLAEFKLENIISTLKMYSDSTSSFSFLKNCILDDKRPH 1459
Bos_taurus         -----GPKQTSFTDIRDPSLKLAEFKLENIISTLKMYTDDSTFSSFSFLKNCILDDKRPH 1462
Pavo_muticus       -----NSKQGTINLDQRDDLKLAEFKLVLMSSAAVKMLSDGSVNASVKLANCTLDKKRQA 1425
Pavo_cristatus     -----NSKQGTINLDQRDDLKLAEFKLVLMSSAAVKMLSDGSVNASVKLANCTLDKKRQA 1425
Gallus_gallus      -----NSKQGTINLDQRDDLKLAEFKLVLMSSAAVKMLSDGSVNASVKLANCTLDKKRQA 1473
Anas_platyrhynchos -----NSKQVTINLDQRDDLKLAEFKLVLMSSAAVKMLSDGSVNASVKLANCTLDKKRQS 1474
Chelonia_mydas     -----KSKQVSALDQRDDLKLAEFKLVLSAAVKMLSDGSVNASVKLANCTLDKKRLT 1473
Xenopus_tropicalis -----KTFVLQGSVHERDSSLKLAEFKLGILSLAVKMSSDGTVNAAVKLTNCLDDKKRQS 1471
Rhinatrema_bivittatum QQAQISEQKIDEKIDQRSSLQRLAEFKLGLISTAVVISSDGSQNASVKLTNCTLDKKRQT 1482
Latimeria_chalumnae -----NSNQIQVLDQRDVLKLAEFRDLMISTAVTMLSDGSMKASVKLANCRLDDERRA 1481
.....1450.....1460.....1470.....1480.....1490.....1500

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      : * : * * : : : * : : * : : * : : * : * : * : * : * : * :
Mus_musculus      VMKATPRMIGLTVGFDKKDMVDIKYRKIKTFVVTDAVVOEMYVCASVEFLMTVAHIFFFDA 1518
Rattus_norvegicus VMKATPRMIGLTVGFDKKDMVDVKYRQIRDVFVTDVVVOEMYVCASVEFLMTVARVFFDA 1518
Homo_sapiens       VKKATPRMIGLTVGFDKKDMMDIKYRKVRDGCVTDAVFQEMYICASVEFLQTVANVFLEA 1524
Pan_troglodytes    VKKATPRMIGLTVGFDKKDMMDIKYRKVRDGCVTDAVFQEMYICASVEFLQTVANVFLEA 1530
Macaca_mulatta     VKKATPRMIGLTVGFDKKDMMDIKYRKVRDGCVTDAVFQEMYICASVEFLQTVANVFLEA 1524
Callithrix_jacchus VKKATPRMIGLTVGFDKKDMMDIKYRKVRDGCVTDAVFQEMYICASVEFLQTVANVFLEA 1526
Canis_lupus_familiaris VKKATPRMIGLTVGFDKKDMMDVKYRRVRDGVVADLVLOETIYICASVEFLLTVANVFLEA 1521
Equus_caballus     VKKATPRMIGLTVGFDKKDMMDVRYRRVRDGVVTDLVLOETIYICASVEFLLTVANVFLEA 1519
Bos_taurus         IKKATPRMIGLTVGFDKKDMMDVRYRTIRDGVVADIVLOEMYICASVEFLLTVANVFLEA 1522
Pavo_muticus       IHKATPRMVEMKHGFEEKVMMDISYKQGRDGTVLDMIVQEIYLCASMEFLLTVADIFLKA 1485
Pavo_cristatus     IHKATPRMVEMKHGFEEKVMMDISYKQGRDGTVLDMIVQEIYLCASMEFLLTVADIFLKA 1485
Gallus_gallus      IDKATPRMVEMKHGFEEKVMMDISYKQGRDGTVLDMIVQEIYLCASMEFLLTVADIFLKA 1533
Anas_platyrhynchos IQKATPRMVEMKHGFEEKVMMDISYKQGRDGTVFDIMVQEIYLCASMEFLLTVADIFLKA 1534
Chelonia_mydas     VQKTTPRMVEMKHGSEKKDMVDISYKQGRDGTVLDTIVQDLIYLCASMEFLLTVADIFLKA 1533
Xenopus_tropicalis VQKATPRMLEMKVGTEKNVMVDVSYKQGREGTILDVTVRDVYLCASMEFLLTVADIFLKA 1531
Rhinatrema_bivittatum IQKATPRMLEMKQEFEEKNFVNVNYKQGRDGTVLDTTVQDIYLCASMEFLLTVADIFLKA 1542
Latimeria_chalumnae VEKATPRMLEMKPGFEKNVMVDVSYRQKGDGTVLDTVLRLDYLCASVEFLLTVADVFIKA 1541
.....1510.....1520.....1530.....1540.....1550.....1560

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      . : : : : . * : : : * : : : * : : : * : : : * : : : * :
Mus_musculus      YMTSTALETST---VQTRTTR-EAPAQELGKWEINILIKNPEIVFVADMTRNDAPALVITT 1574
Rattus_norvegicus YMTSTALETST---VQTWTTTR-EAPVQELRKWEINILIKNPEIVFVADMTRNDAPALVITT 1574
Homo_sapiens       YTTGTAVETST---VQTTWTAKEEVPTQESVKWEINVIKKNPEIVFVADMTRNDAPALVITT 1581
Pan_troglodytes    YTTGTAVETST---VQTTWTAKEEVPTQESVKWEINVIKKNPEIVFVADMTRNDAPALVITT 1587
Macaca_mulatta     YTTGTAVETST---VQTTWTAKEEVPTQELEKWEINVIKKNPEIVFVADMTRNDAPALVITT 1581
Callithrix_jacchus YTTGTAVETST---VQTTWTAKEEVPTQESEKWEINVIKKNPEIVFVADMTRNDAPALVITT 1583
Canis_lupus_familiaris YTTGTAVETST---VQTTWTAKEEVPQESVKWEINIIKKNPEIVFVADMTRSDAPALVITT 1578
Equus_caballus     YTTGTAVETST---VQTTWTAKEEVPQESVKWEINIIKKNPEIVFVADMTRNDAPALVITT 1576
Bos_taurus         YTTGTAVETIN---VQTSWAKEEVPKQSEKWEINIIKKNPEIVFVADMTRNDAPALVITT 1579
Pavo_muticus       NAESAAAQRN---LRQSLPLKEQAPLOPVSTMEMNIIKKNPEIVFVADLTRSDAPALVVTA 1543
Pavo_cristatus     NAESAAAQRN---LRQSLPLKEQAPLOPVSTMEMNIIKKNPEIVFVADLTRSDAPALVVTA 1543
Gallus_gallus      NAESAAAQRN---LRQSLPLKEQAPLOPVSTMEMNIIKKNPEIVFVADLTRSDAPALVVTS 1591
Anas_platyrhynchos NAESAAAQRN---LKQSLPLKEQAPVQPVSTMEMNIIKKNPEIVFVADLTRSDAPALVVTT 1592
Chelonia_mydas     SAESAAAQRS---IKQTSAVKQASVOLVSSMEMNIIKKNPEIVFVADLTRSDAPALVVTT 1591
Xenopus_tropicalis SQQSSSAEKS---IKQTSAPVKESAPTQQVSKMEMNVVKNPEIVFVADLSRADAPALVVTT 1590
Rhinatrema_bivittatum NQQSSAALR---NRQTAATTKEQAAAPPVSKMEMHVMKNPEIVFVADLTRGDAPALVVTT 1600
Latimeria_chalumnae NEQSSATQRNKQQVTTT---TKGQAAAPPASKMEMNIQVKNPEIVFVADLTRADAPALVVTT 1601
.....1570.....1580.....1590.....1600.....1610.....1620

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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***:      .      ::::: : ***** : * *.:**.****:*. :      .**
Mus_musculus      QCEICCKGEPSTNTVTAAIKDLQVRACPFPLVKRKGKVTITVLPQCDLFYQATQIGRDPQM 1634
Rattus_norvegicus QCEICCKGEPESNTVTAAIKDLQVRACPFPLVKRKGKVTITVLPQCDLFYQATQFGTDPQT 1634
Homo_sapiens      QCEICYKGNLENSTMTAAIKDLQVRACPFPLVKRKGKITTITVLPQCDLFYQTTQKGTDPQV 1641
Pan_troglodytes   QCEICYKGNLENSTMTAAIKDLQVRACPFPLVKRKGKITTITVLPQCDLFYQTTQKGTDPQV 1647
Macaca_mulatta    QCEICYKGNLENSTMTAAIKDLQVRACPFPLVKRKGKVTITVLPQCDLFYQTTQAGTDPQV 1641
Callithrix_jacchus QCEICYKGDLENSTMTAAIKDLQVRACPFPLVKRKGKITTITVLPQCDLFYQTTQIGADPQV 1643
Canis_lupus_familiaris QCEICWKGDLENNTMTAAIKDLQVRACPFPLVKRKGKITTITVLPQCDLFYQATQVRTDPQV 1638
Equus_caballus    QCEICWLGDLENNTMTAAIKDLQVRACPFPLVKRKGKITTITVLPQCDLFYQSTQTGTDPQV 1636
Bos_taurus        QCEIYWLGDENDTMTAAIKDLQVRACPFPLVKRKGKITTITVLPQCDLFYQATQISTDPQV 1639
Pavo_muticus      QCEVFIKNSPERYSMTAAVKEIQVKACPFLPEKRRKGNVITVLPQCDFFFEMKQSGNNPQS 1603
Pavo_cristatus    QCEVFIKNSPERYSMTAAVKEIQVKACPFLPEKRRKGNVITVLPQCDFFFEMKQSGNNPQS 1603
Gallus_gallus     QCEVFIKNSPERYSMTAAVKEIQVKACPFLPEKRRKGNVITVLPQCDFFFEMKQSGNNPQS 1651
Anas_platyrhynchos QCEVFIKNSPERYSMTAAVKEIQVKACPFLPEKRRKGNVITVLPQCDFFFEMKQSGTNPQS 1652
Chelonia_mydas    QCEIFIKNSPQMYKMTAAVKDIQMKACPFLAEERKGNITTITVLPQCDFFFKMVQSGTNPQM 1651
Xenopus_tropicalis QCELCIKTSPQMONTAAVLDHMKACPFLSDQAGKITTITVLPQCDLFFQSIQSNSGPQM 1650
Rhinatrema_bivittatum QCEVCIKNSPEAQKMTASVNNLHVKACPFLPEKRRKGNITTITVLPQCDLFFQSIKMGVGPQM 1660
Latimeria_chalumnae QCELCISNSSEGOQMATAVEDLTVIACPFLOEKROGNITTITVLPQCDLFFRSISTSNPQT 1661
.....1630.....1640.....1650.....1660.....1670.....1680

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:: :*** :****.****:***: : :      :      :      :      :      :
Mus_musculus      IDISVKSLLTKVSPVIINTIITITSALYTTKETVPEENTSNIAHLWDKDKTKNLKMWFLF 1694
Rattus_norvegicus IDISVKSLLTKVSPVIINTIITITSALYTTKETVPEESTSNVAHLWDKDKTKNLKMWFLF 1694
Homo_sapiens      IDMSVKSLLTKVSPVIINTIITITSALYTTKETIPEETASSTAHLEWKDKTKTLKMWFLF 1701
Pan_troglodytes   IDMSVKSLLTKVSPVIINTIITITSALYTTKETIPEETASSTAHLEWKDKTKTLKMWFLF 1707
Macaca_mulatta    IDMSVKSLLTKVSPVIINTIITITSALYTTKETIPEETASSTAHLEWKDKTKTLKMWFLF 1701
Callithrix_jacchus IDMSVKSLLTKVSPVIINTIITITSALYTTKETIPEETASSTAHLEWKDKTKTLKMWFLF 1703
Canis_lupus_familiaris MDISVKSLLTKVSPVIINTIITITSALYTSKDTIPQETTS-TAYLWEKKDKTKNLKMWFLF 1697
Equus_caballus    IDVSVKSLLTKVSPVIINTIITITSALYTTKETIPEETASSTAHLEWKDKTKSLKMWFLF 1696
Bos_taurus        LELSIVKSLLTKVSPVIINTIITITSALYTAKETIPEETASSTAHLEWKDKTKDLNMWFLF 1699
Pavo_muticus      ADLMIQSLTVKVSPIIINTVITITSALYRTAETTEEEISQIPPLWNMMDLKDLDLWFLF 1663
Pavo_cristatus    ADLMIQSLTVKVSPIIINTVITITSALYRTAETTEEEISQIPPLWNMMDLKDLDLWFLF 1663
Gallus_gallus     ADLMIKSLTVKVSPIIINTVITITSALYRTAETTEEEISQIPPLWNTKDLNDLKLWFLF 1711
Anas_platyrhynchos ADLMIKSLTVKVSPIIINTVITITSALYRTAETTEEEISQIPPLWNMMDVKSLLKMWFLF 1712
Chelonia_mydas    ADLSIKSLTIKNSPIIINTVITITSALSPITETSEEEISPIPPDLWDKDKIKNLKMWFLF 1711
Xenopus_tropicalis IELSISLMLKVSPIIINTVITITSALSNKEAVSEVTSPVSPDLWKKKLNKDLKMWFFE 1710
Rhinatrema_bivittatum IELSISLTLKVSPIIINTVITITSALSPAPETTEEASSPVPLDLWKNKIKDLKMWFLF 1720
Latimeria_chalumnae MELSIKSLTLKVSPIIINTVITITSALFPAAETPQVQMSTIPPLDWTKKNVKDLKMWFLF 1721
.....1690.....1700.....1710.....1720.....1730.....1740

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..      .      .      ::: : * : : : * : : : : : : : : : : : : : : :
Mus_musculus      ESN---ESEKVVPTNEVMPGGETLNLRIDSIIFIVLEAGIGHRTVPMLLAKACFSGESKNW 1751
Rattus_norvegicus ESN---ETEKVVPTDEVMPGGETLNLNIDSIIFIVLEAGIGHRTVPMLLAKSFFLGESKNW 1751
Homo_sapiens      ESN---ETEKIAPTTELVPKGEMIKMNIDSIIFIVLEAGIGHRTVPMLLAKSRFSGEGKNW 1758
Pan_troglodytes   ESN---ETEKIAPTTELVPKGEMIKMNIDSIIFIVLEAGIGHRTVPMLLAKSRFSGEGKNW 1764
Macaca_mulatta    ESN---ETEKIAPTTELVPKGEMIKMNIDSIIFIVLEAGIGHRTVPMLLAKSRFSGEGKNW 1758
Callithrix_jacchus ESN---ETEKIAPTTELVPKGEMIKMNIDSIIFIVLEAGIGHRTVPMLLAKSRFSGEGKNW 1760
Canis_lupus_familiaris EPN---EVENKAPTTELILKGEIIRMNIDSIIFIVLEAGIGHRTVPMLLAKSRFSGEGKNW 1754
Equus_caballus    EPN---EVENIAPTTELVPKGEMIRMNIDSIIFIVLEAGIGHRTVPMLLAKSRFSGEGKNW 1753
Bos_taurus        EPN---EAVKRAMPPELVPKGEMIKMNIDSIIFIVLEAGIGHRTVPMLLAKSRFSGEGKNW 1756
Pavo_muticus      ESN---ESEDNT-PITELVPTGOLLKMSIESVVLTLVLEAGVGHRTVPMLLAKSFFLGEVKNW 1720
Pavo_cristatus    ESN---ESEDNT-PITELVPTGOLLKMSIESVVLTLVLEAGVGHRTVPMLLAKSFFLGEVKNW 1720
Gallus_gallus     ESN---ESEDNT-PVTELVPTGOLLKMSIESVVLTLVLEAGVGHRTVPMLLAKSFFLGEVKNW 1768
Anas_platyrhynchos ESN---ENEDSN-PTSELVPTGESLKMMSIESLILTLVLEAGVGHRTVPMLLAKSFFLGEVKNW 1769
Chelonia_mydas    KSN---GNENKN-TATELVLTGETLNMRIESVIVTLVLEAGVGHRTVPMLLAKSFFSGEVKNW 1768
Xenopus_tropicalis ESK---ESENKPEESSNMVLTGETLKMMSIESIIVTLVLEAGVGHRTVPMLLAKSFFSGNVTNW 1768
Rhinatrema_bivittatum ESD---KSESNSDVTVKLVPTGETMKMSIDSIIVTLVLEAGVGHRTVPMLLAKSFFFGDVKNW 1778
Latimeria_chalumnae GSNNGDSEDKNSVVLVNPGETLKMMAIESIRVTVLEAGVGHRTVPMQAKSAFSGNVKNW 1781
.....1750.....1760.....1770.....1780.....1790.....1800

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	***** :.:::***** :*:::* *****:***** :.::: *:* * :*****. :.	
Mus_musculus	LSLINLHCHLELEVHYYNEMFGVWEPLLEPLEIDQTD	1811
Rattus_norvegicus	RTLINLHCOLELEVHYFNEMFGVWEPLLEPLEIDQSD	1811
Homo_sapiens	SSLINLHCOLELEVHYYNEMFGVWEPLLEPLEIDQTE	1818
Pan_troglodytes	SSLINLHCOLELEVHYYNEMFGVWEPLLEPLEIDQTE	1824
Macaca_mulatta	SSLINLHCOLELEVHYYNEMFGVWEPLLEPLEIDQTE	1818
Callithrix_jacchus	SSLINLHCOLELEVHYYNEMFGVWEPLLEPLEIDQTE	1820
Canis_lupus_familiaris	SSLINLYCOLELEVHYYNEMFGVWEPLLEPLEIDQTE	1814
Equus_caballus	STLINLHCOLELEVHYYNEMFGVWEPLLEPLEIDQTE	1813
Bos_taurus	SSLINLHCOLELEVHYYNEMFGVWEPLLEPLEIDQTE	1816
Pavo_muticus	STLINLHSRLELEVHYFNEMFGVWEPLLEPLEIEKTD	1780
Pavo_cristatus	STLINLHSRLELEVHYFNEMFGVWEPLLEPLEIEKTD	1780
Gallus_gallus	STLINLHSOLELEVHYFNEMFGVWEPLLEPLEIEKTD	1828
Anas_platyrhynchos	STLINLHSOLELEVHYFNEMFGVWEPLLEPLEIEKTD	1829
Chelonia_mydas	STLINLRSOLELEVHYYNEMFGVWEPLLEPLEIEKSD	1827
Xenopus_tropicalis	STLINLYCOLELEVHCFNEMFGVWEPLVEPLEVDKTD	1828
Rhinatrema_bivittatum	STLINLYSOLELEVHYYNEMLGWEPLLEPLEIEKSD	1837
Latimeria_chalumnae	STLINLQCOMNLELVHYYNELGEWEPLLEPLEDEKND	1841
1810.....1820.....1830.....1840.....1850.....1860	

	: : ::*: . * . . : ::*****: *: * . ** ** . : : . * ***	
Mus_musculus	SEAENYKVPEYKTAISFYSRDQLNITLSKCGLVMLNNLVEAFTEAATGSSSVFLRDLAPF	1871
Rattus_norvegicus	SEEEENYKVPEYKTAISFFSRDQLNITLSKCGLVMLSNIIVEAFTEAATGSSSAVFLRDLAPF	1871
Homo_sapiens	PEEEENYKVPEYKTVISFHSKDQLNITLSKCGLVMLNNLVKAFTEAATGSSSADFVKDLAPF	1878
Pan_troglodytes	PEEEENYKVPEYKTVISFHSKDQLNITLSKCGLVMLNNLVKAFTEAATGSSSADFVKDLAPF	1884
Macaca_mulatta	PEEEENYKVPEYKTVISFHSKDQLNITLSKCGLVMLNNLAKAFTEAATGSSSADFVKDLAPF	1878
Callithrix_jacchus	REEENYKVPEYKTVISFHSKDQLNITLSKCGLIMLNNLVKAFTEAATGFSADFVRDLAPF	1880
Canis_lupus_familiaris	TEEEENYKVPEYKTVISFHSKDQLNITLSKCGLVMLNNLVKAFTEAATGTSTAFIRDLAPF	1874
Equus_caballus	TEEEENYKVPEYKTVISFHSKDQLNITLSKCGLIMLNNLVKAFTEAATRPSAVFVRDLAPF	1873
Bos_taurus	TEEEENYRVPEYKTVITFYSKDQLNITLSKCGLIMLNNLAEAFTEAATGSSATFIRDLAPF	1876
Pavo_muticus	AEENYKVPEYKTVISVSSKDQLNITLSKCGLQMLSNLGTAFAEAASQTSDFIKKQDAPF	1840
Pavo_cristatus	AEENYKVPEYKTVISVSSKDQLNITLSKCGLQMLSNLGTAFAEAASQTSDFIKKQDAPF	1840
Gallus_gallus	AEENYKVPEYKTVISVSSKDQLNITLSKCGLQMLSNLGTAFAEAASQTSDFIKKQDAPF	1888
Anas_platyrhynchos	AEEN-YKVPEHKTVINVSSKDQLNITLSKCGLQMLSNLGTAFAEAASQTSDFIKKDRAPF	1888
Chelonia_mydas	AEENYKVPEYKTVINISSKDQLNITLSKCGLQMLSNLGMFAFAEAASKTSDIFKKQDAPF	1887
Xenopus_tropicalis	GEEENYKIPEYITTAISIFSKEHLNITLSKCGMATLGNLANAFTDAASKKCDACKIDQAPF	1888
Rhinatrema_bivittatum	ADVENYKVPEYKTVINIFAKEQLNITLSNCGLQMLNNLGKAFVEATTKTSDDIKKQDAPF	1897
Latimeria_chalumnae	KEENLKVPEYKTVINVSCKDQLNITLSKRGVVMNLNGAFTEAASKTADVFQKQDAPF	1901
1870.....1880.....1890.....1900.....1910.....1920	

	:: * ** :	* **.* :	:	:	:	: *.*: : :	:	: ::* *	::*
Mus_musculus	MIFNSLGLTVSVSPSDSFSVLNVP-	LAKSYELKNDESLSMDYVRTK-DNDHFNAMTSLSS	1929						
Rattus_norvegicus	MILNSLGLTVSVSPSDSFHVLNVP-	LAKSYELKNEESLSMDYVRTK-DNDHFNAMTSLSS	1929						
Homo_sapiens	MILNSLGLTISVSPSDSFSVLNIP-	MAKSIVLKNGESLSMDYIRTK-DNDHFNAMTSLSS	1936						
Pan_troglodytes	MILNSLGLTISVSPSDSFSVLNIP-	VAKSYVLKNGESLSMDYIRTK-DNDHFNAMTSLSS	1942						
Macaca_mulatta	IILNSLGLTISVSPSDSFSVLNIP-	MAKSIVLKNEESLSMDYVRTK-DNDHFNAMTSLSS	1936						
Callithrix_jacchus	IILNSLGLTVSVSPSDSFSVLNIP-	MAKSIVLKNEESLSMDYVRTK-DNDHFAMTSLSS	1938						
Canis_lupus_familiaris	MILNSLGLTVSVSPSDSFSVLNFP-	LAKSYVLKNEESLSMDYVGTK-DNDHFNAMTSLSS	1932						
Equus_caballus	LILNSLGLTITVSPSDSFSVLNVP-	MAKSIVLKNEESLSMDYFGTK-DNDHFNAMTSLSS	1931						
Bos_taurus	MILNSLGLSISVSPSESFVLNVP-	MAKSIVLKNEESLSMDYMRTK-DNDHFNAMTSLSS	1934						
Pavo_muticus	VLINSLGLAITVLPDSFSLVNVEFGAKIFNLKGDITLSMEYVRTKSESEQFTAMTTLSS	1900							
Pavo_cristatus	VLINSLGLAITVLPDSFSLVNVEFGAKIFNLKGDITLSMEYVRTKSESEQFTAMTTLSS	1900							
Gallus_gallus	VLINSLGLAITVLPDSFSLVNVEFGAKIFNLKGDITLNMEYVRTKSESEQFTAMTTLSS	1948							
Anas_platyrhynchos	VLINSLGLPITVSPSDSFSVLNVEFGAKIFHLVDGENLNMEYVRTKNESDQFTAMTTLSS	1948							
Chelonia_mydas	VIMNSLGLPITVSPSDSFQVLNVESGAKTFHLKDGESLNMEFLRTKSESDFQAAMTTLSS	1947							
Xenopus_tropicalis	VVKNYLGLLVSVPSPDSFKPLNSAAGSKKIDLDHGECIDMDYVQSQSQDTQFSAMTSLSS	1948							
Rhinatrema_bivittatum	VIKNSLGLNISVMPSDFSPIHVDSGAKRFELNDGECLNMDDYIRAKSESDFQFSAMTSLSS	1957							
Latimeria_chalumnae	IVKNALGLPVVSPSDSFTVLGVDNKEEKYEVDNGDSLNNMDYLQAVNQDQFSAS-IFSS	1960							
1930.....1940.....1950.....1960.....1970.....1980								

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: *** : * ** :***.***: : * * * **::* *.**: :*: * :*:***:
Mus_musculus      KLFFILLTPANHSAADKIPLTKVGRRLYTVRHRESGVERSIIICQIDTVEGSKKVTIRSPV 1989
Rattus_norvegicus KLFFILLTPANHSAADKIPLTKVGRRLYTVRHRESGVERSIIICQIDTVEGSKKVTIRSPV 1989
Homo_sapiens      KLFFILLTPVNHSTADKIPLTKVGRRLYTVRHRESGVERSIVCQIDTVEGSKKVTIRSPV 1996
Pan_troglodytes   KLFFILLTPVNHSTADKIPLTKVGRRLYTVRHRESGVERSIVCQIDTVEGSKKVTIRSPV 2002
Macaca_mulatta    KLFFILLTPVNHSTADKIPLTKVGRRLYTVRHRESGVERSIVCQIDTVEGSKKVTIRSPV 1996
Callithrix_jacchus KLFFILLTPVNHSTADKIPLTKVGRRLYTVRHRS GVERSIVCQIETVEGSKKVTIRSPV 1998
Canis_lupus_familiaris KLFFILLTPANHSTADKIPLTKVGRRLYTVRHRESGVERSIVCQVDGVEGSKKVTIRSPV 1992
Equus_caballus    KLFFILLTPANHSAADKIPLTKVGRRLYTVRHRESGVERSIVCQIDGEEGSKKITIRSPV 1991
Bos_taurus        KHFFILLTPANHSTADKIPLTKVGRRLYTVRHRESGVERSIVCQIDAVEGSKKVTIRSPV 1994
Pavo_muticus      KRIFYIQICPHNHSTVEKIPLTKVGRCIYRVRHESGVERSIVCQIDTVEGSKMITIRSPI 1960
Pavo_cristatus    KRIFYIQICPHNHSTVEKIPLTKVGRCIYRVRHESGVERSIVCQIDTVEGSKMITIRSPI 1960
Gallus_gallus     KRIFYIQICPHNHSTVEKIPLTKVGRCIYRVRHESGVERSIVCQIDTVEGSKMITIRSPV 2008
Anas_platyrhynchos KRIFYIQICPHNHSTVEKIPLTKVGRCIYRVRHESGVERSIVCQIDTIEGSKIIITIRSPI 2008
Chelonia_mydas    KMIFYIQLSPHKHSTADKIPLTKVGRCLYRVRHESGVERSIVCQIDTAEGSKMITIRSPV 2007
Xenopus_tropicalis KHIFYIQLTPLDHSHTDKIPLTKVGRSLYCVRHLSGIERIYVCQVDSVEGTCITIRSPV 2008
Rhinatrema_bivittatum KQFYIQLTPFNHSTADKIPLTKVGRCLYRVRHESGVDRSIIICQIDTVEGSKMITIRSPV 2017
Latimeria_chalumnae RQFYIQLTPQGHSTSEKISLTKLGCHLYSVTHKESGVORSIIICQIDTVKGSKVITIHSPV 2020
.....1990.....2000.....2010.....2020.....2030.....2040

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*:*****::: : ** . * .*:*** ** : : * : : . * .
Mus_musculus      QIKNHFSIPISVFEGDTLLGIASPENEFNIPLASYRSSLVPEDE-----DYQLCEGI 2043
Rattus_norvegicus QIKNHFSIPISVFEGDTLLGIASPENEFNIPLASYRSSLKPEDE-----DYQLCEGI 2043
Homo_sapiens      QIRNHFSVPLSVYEGDTLLGTASPENEFNIPLGSYRSFIFLKPDE-----NYQMCEGI 2050
Pan_troglodytes   QIRNHFSVPLSVYERDTLLGTASPENEFNIPLGSYRSFIFLKPDE-----NYQMCEGI 2056
Macaca_mulatta    QIRNHFSVPLSVYEGDTLLGTASPENEFNIPLGSYRSFIFLKPDE-----DYQRCCEGI 2050
Callithrix_jacchus QIRNHFSVPLSVYEGDTLLGTASPENEFNIPLGSYRSFIFLKPDE-----DYQMCEGI 2052
Canis_lupus_familiaris QIKNHFSVPLSVYEGDILLGTASPGNEFNIPLTSYRSPLSLRPEDE-----DYQACERI 2046
Equus_caballus    QIRNHFSIPISVYGRDTLLGTASPGNEFNIPLAFYRSLLFLKPDE-----DYQMCEGI 2045
Bos_taurus        QIRNHFSIPLSVYGGDTLLGTASPGSEFNIPLASYRSSLKPEDA-----DYQMCEGI 2048
Pavo_muticus      QIRNHFSIPFSIFDEGRCLGTASPENEFNIPLSSYRSKLSLLPIASENGVDGEYDMCEGI 2020
Pavo_cristatus    QIRNHFSIPFSIFDEGRCLGTASPENEFNIPLSSYRSKLSLLPIASENGVDGEYDMCEGI 2020
Gallus_gallus     QIRNHFSIPFSVFDEGRCLGTASPENEFNIPLSSYRSILSLLPIANENGVDGEYDMCEGI 2068
Anas_platyrhynchos QIRNHFSIPFNIFEGRCLGTASPENEFNIPLSAYRSVLSLQPIANESGVDGEYDMCEGI 2068
Chelonia_mydas    QIRNHFSIPLSLFEDGTFLLGTASPIEFNIPLTSYRSLLCLQPVTDGEGEYEMCEGI 2067
Xenopus_tropicalis QIRNHFSIPIGIYEEGVCLGTASPEDEFNIPLASYRSVLCFKPVQE-----KKYEMSEGV 2063
Rhinatrema_bivittatum QVRNHFSVAFNIYEEGTFLLGTVSPEDDFNIPLTSYRSVLYLRPAN-----EYEMCEGF 2071
Latimeria_chalumnae QIRNHFSIAFHVYEDAKLLGSALPGEFVSPLSSYRFSICFQPVSENN---ELFEKCEKI 2077
.....2050.....2060.....2070.....2080.....2090.....2100

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*:***** . :*: ** : ..: :*: * :* : : : . **::****.
Mus_musculus      DFEEIIKYDQGQLLKKKCRSTNPSKKS FVINIVPEKDNLASLSVYSEDGWDLPYVHLWPP 2103
Rattus_norvegicus DFEEIIKHDGQLLKKKCRSISPSKKS FVINIVPEKDNLASLSAYSSEDGWDLPYVHLWPP 2103
Homo_sapiens      DFEEIIKNDGALLKKKCRSKNPSKESFLINIVPEKDNLTSLSVYSEDGWDLPYIMHLWPP 2110
Pan_troglodytes   DFEEIIKNDGALLKKKCRSKNLSKESFLINIVPEKDNLTSLSVYSEDGWDLPYIMHLWPP 2116
Macaca_mulatta    DFEEIVKNDGALLKKKCRSQNPSSKKSFLINIVPEKDNLTSLSVYSEDGWDLPYIMHLWPP 2110
Callithrix_jacchus DFEEIIKNDGALLKKKCRSKNPSKKSFLINIVPEKDNLTSLSVYSEDGWDLPYIMHLWPP 2112
Canis_lupus_familiaris DFEEIIKNDGTFLKKKCRSINAACKPFIINVPKDNLASLSVYSEDGWDLPYIMHLWPP 2106
Equus_caballus    DFEEIIKNDGTCLKKKCRPKTSKKPFIINIVPEKDNLTSLSVYSEDGWDLPYIMHLWPP 2105
Bos_taurus        DFEEIIKQDGTSFKKKCRPINPSRKPFIIINIVPEKDNLTYSVYSEDGWDLPYIHLWPP 2108
Pavo_muticus      TFDEIMKNVDSLLQKRCQSVRSTSHSLIINIVPVKDTLTSS-LCSDDEWDFPYVHLWPS 2079
Pavo_cristatus    TFDEIMKNVDSLLQKRCQSVRSTGHSLLIINIVPVKDTLTSS-LCSDDEWDFPYVHLWPS 2079
Gallus_gallus     TFDEIMKNVDSLLQKRCQSVRSTNHSLLIINIVIVKDTLTSS-LCSEDQWDFPYVHLWPS 2127
Anas_platyrhynchos TFDEIMKNVDSLLQKRCQSVRSTNHSFIINIVIVKDTLTST-LCADDQWDFPYVHLWPS 2127
Chelonia_mydas    SFDEIMKNFVGNLIQKRCQSIKSTNHSLLIINVPVVDLTSS-VCADDRWDLPYIHLWPS 2126
Xenopus_tropicalis SFEDVIKNDGLLLNMMKQSATSKKDSLKLINIVPVKDIVMSS-DHTNEGWHLPYVHLWPT 2122
Rhinatrema_bivittatum SFENIMQNDGILLQKRCQHSQSTNNSLVLNIVPIKDVLISS-ACADDRWDLPYVHLWPA 2130
Latimeria_chalumnae SFEEIIMENAGKLLQKRCQYSGLEQSLVINIVSMQDTLTSS--SFIEDRLDTPYVHLWPT 2135
.....2110.....2120.....2130.....2140.....2150.....2160

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.....2170.....2180.....2190.....2200.....2210.....2220

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	*****.* :***:***** *...: *:: * :.*:.*. *	
Mus_musculus	MEYQVGVTINLSSFNITRIVTFIPFYMIKNKSKYHISVAEEGSDKWLSLDLEQ-----	2335
Rattus_norvegicus	MEYQVGVTIDLSSFNITRIVTFIPFYMIKNKSKRYHISVTEEGSDKWLSLDLEQ-----	2335
Homo_sapiens	MDYQVGVTIDLSSFNITRIVTFIPFYMIKNKSKYHISVAEEGNDKWLSLDLEQ-----	2342
Pan_troglodytes	MDYQVGVTIDLSSFNITRIVTFIPFYMIKNKSKYHISVAEEGDDKWLSLDLEQ-----	2348
Macaca_mulatta	MDYQVGVTIDLSSFNITRIVTFIPFYMIKNKSKYRISVAEEGTDKWLSLDLEQ-----	2342
Callithrix_jacchus	MEYQVGVTIDLSSFNITRIVTFIPFYMIKNKSKYRVSVAEEGSGKWLSLDLEQ-----	2344
Canis_lupus_familiaris	MDYQVGVTIDLSSFNITRIVTFIPFYMIENKSKYHISVTEQGNDKWLSLDLEQ-----	2338
Equus_caballus	MEYQVGVTIYLSSFNITRIVTFIPFYMIENKSKYRISVAEEGNDKWFLSDVLEQ-----	2337
Bos_taurus	MEYQVGVTIDLSSFNITRIVTFIPFFLIKNSKYHISVAEEGNDKWALDLEQ-----	2340
Pavo_muticus	KDYQVGVTINNSSFNITRIVTFIPFFMISNRSKYTLEVAEEGKEKWIPIVLQWCEKQWE	2318
Pavo_cristatus	KDYQVGVTINNSSFNITRIVTFIPFFMISNRSKYTLEVAEEGKEKWIPIVLQWCEKQWE	2318
Gallus_gallus	KDYQVGVTINNSSFNITRIVTFIPFFMISNRSKYTLEVAEEGKEKWIPIVLQWCEKQWE	2366
Anas_platyrhynchos	KEYQVGVTINNSSFNITRIVTFIPFFMISNRSTYTLEVAEEGKEKWIPIVLQWCEKQWE	2366
Chelonia_mydas	KEYQVGVTIDNSSFNITRIVTFIPFFMITNRSKYTLEVAEEGKEKWIPITFHQ-----	2358
Xenopus_tropicalis	LDYQVGVTIYASSFNLTRIVTFIPFFMVANRSNYTLSVAEEGSEKCIIVSTEQ-----	2354
Rhinatrema_bivittatum	LDYQVGVTINASSFNLTRIVTFIPVFMITNRSYRLVAEEDKEKWLRVDMQD-----	2362
Latimeria_chalumnae	KDYQVGKIDTTSFNLTRIVTFIPFYVMANRKYTIQVAEEGKEKWLTIELNQ-----	2368
2350.....2360.....2370.....2380.....2390.....2400	

		. : **** . * :: ** . * : * * : : . . * : * . : : ** : . . :	
Mus_musculus	-----SIPFWPENASNILLIOVERSEDPKKRIYFNKQDNCILLRLNNELGGIIEVNLA	2389	
Rattus_norvegicus	-----CIPFWPENASDILLIOVERSEGPPKRIYFNKQDSCILLRLDNELGGVIAEVNLA	2389	
Homo_sapiens	-----CIPFWPEYASKLLIOVERSEDPKKRIYFNKOENCILLRLDNELGGIIEVNLA	2396	
Pan_troglodytes	-----CIPFWPEYASSKLLIOVERSEDPKKRIYFNKOENCILLRLDNELGGIIEVNLA	2402	
Macaca_mulatta	-----CIPFWPVDVSKLLIOVEGEDPPKRIYFNKOENCILLHLDNELGGIIEVNLA	2396	
Callithrix_jacchus	-----CIPFWPEDAASKLLIOVEKSKDPPKRIYFNKOENCILLRLDNELGGIIEVNLA	2398	
Canis_lupus_familiaris	-----CIPFWPEDASNALLIOVERHOGPPKKIHFNKOENCILLRLDNELGGIIEVNLA	2392	
Equus_caballus	-----CIPFWPEDASNKLLIOVEKNEGPPKKIHFVKOENCILLRLDNKLGGIIEVNLA	2391	
Bos_taurus	-----CVFWPEDASNKLLIRVERSESPPHKIHFNKEESCILLRLDNELGGIIEVNLA	2394	
Pavo_muticus	RELSGMCIPFWPENDANKLLVRVENSNLPPKKINFDKOENCILLHLNRLGGITVDVNL	2378	
Pavo_cristatus	RELSGMCIPFWPENDANKLLVRVENSNLPPKKINFDKOENCILLHLNRLGGITVDVNL	2378	
Gallus_gallus	RELSGMCIPFWPENDANKLLVRVENSNLPPKKINFDKOENCILLHLNKLGGITVDVNL	2426	
Anas_platyrhynchos	RELSGMCIPFWPENDANKLLVRVENSNDLPPKKINFDKOENCILLHLNKLGGITVDVNL	2426	
Chelonia_mydas	-----CIPFWPEKDSNKLLIRVENSNIPPKMICFNKOENCILLYLDNKLGGIIVDVNL	2412	
Xenopus_tropicalis	-----CVFWPENSNNKLIVOEGSKAAPKKIYFNKQDNSILLYLGDFGGIIVDVTLR	2408	
Rhinatrema_bivittatum	-----CIPFWPEKNINTLLIOVENCOMAPKKIYFNKOENSILLQLDNKLGGIIVDVNLA	2416	
Latimeria_chalumnae	-----SIPFWPIKDSKLLLKVEDCMPKKMIFNRQENSILLIQDNKLGGIIVVDINQS	2422	
2410.....2420.....2430.....2440.....2450.....2460		

	EHSTVITFSDYHDGAATFLLINHTKSDPVOYNQSSLGEIEDSLPPGKAVYYTWADPVGSR	2449
Mus_musculus	EHSTVITFSDYHDGAATFLLINHTKSDPVOYNQSSLGEIEDSLPPGKAVYYTWADPVGSR	2449
Rattus_norvegicus	EHSTVITFSDYHDGAATFLLINHTKSDPVOYNQSSLGEIEDSLPPGKAVYYTWADPVGSR	2449
Homo_sapiens	EHSTVITFSDYHDGAATFLLINHTKSDPVOYNQSSLGEIEDSLPPGKAVYYTWADPVGSR	2449
Pan_troglodytes	EHSTVITFSDYHDGAATFLLINHTKSDPVOYNQSSLGEIEDSLPPGKAVYYTWADPVGSR	2449
Macaca_mulatta	EHSTVITFSDYHDGAATFLLINHTKSDPVOYNQSSLGEIEDSLPPGKAVYYTWADPVGSR	2449
Callithrix_jacchus	EHSTVITFSDYHDGAATFLLINHTKSDPVOYNQSSLGEIEDSLPPGKAVYYTWADPVGSR	2449
Canis_lupus_familiaris	EHSTVITFSDYHDGAATFLLINHTKSDPVOYNQSSLGEIEDSLPPGKAVYYTWADPVGSR	2449
Equus_caballus	EHSTVITFSDYHDGAATFLLINHTKSDPVOYNQSSLGEIEDSLPPGKAVYYTWADPVGSR	2449
Bos_taurus	EHSTVITFSDYHDGAATFLLINHTKSDPVOYNQSSLGEIEDSLPPGKAVYYTWADPVGSR	2449
Pavo_muticus	EHSTVITFSDYHDGAATFLLINHTKSDPVOYNQSSLGEIEDSLPPGKAVYYTWADPVGSR	2449
Pavo_cristatus	EHSTVITFSDYHDGAATFLLINHTKSDPVOYNQSSLGEIEDSLPPGKAVYYTWADPVGSR	2449
Gallus_gallus	EHSTVITFSDYHDGAATFLLINHTKSDPVOYNQSSLGEIEDSLPPGKAVYYTWADPVGSR	2449
Anas_platyrhynchos	EHSTVITFSDYHDGAATFLLINHTKSDPVOYNQSSLGEIEDSLPPGKAVYYTWADPVGSR	2449
Chelonia_mydas	EHSTVITFSDYHDGAATFLLINHTKSDPVOYNQSSLGEIEDSLPPGKAVYYTWADPVGSR	2449
Xenopus_tropicalis	EHSTVITFSDYHDGAATFLLINHTKSDPVOYNQSSLGEIEDSLPPGKAVYYTWADPVGSR	2449
Rhinatrema_bivittatum	EHSTVITFSDYHDGAATFLLINHTKSDPVOYNQSSLGEIEDSLPPGKAVYYTWADPVGSR	2449
Latimeria_chalumnae	EHSTVITFSDYHDGAATFLLINHTKSDPVOYNQSSLGEIEDSLPPGKAVYYTWADPVGSR	2449

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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	* * * : :: : *	:	**:**::**:	**:	:	:
Mus_musculus	KLKWSCGQSYGEVTHKDDMMTPISV-	GKKTIYLVSVFFEGLQRIILFTEDPRVFKVITYESE	2508			
Rattus_norvegicus	KLKWSCGQSYGEVTHKDDMMTPISV-	GKKTIYLVSVFFEGLQRIILFTEDPRVFKVITYESE	2508			
Homo_sapiens	RLKWRCRKSHGEVTQKDDMMMPIDL-	GEKTIYLVSVFFEGLQRIILFTEDPRVFKVITYESE	2515			
Pan_troglodytes	RLKWRCRKSHGEVTQKDDMMMPIDL-	GEKTIYLVSVFFEGLQRIILFTEDPRVFKVAYESE	2521			
Macaca_mulatta	RLKWRCRKSHGEVTQKDDMMMPIDL-	GKKTIYLVSVFFEGLQRIILFTEDPKVFKVITYESE	2515			
Callithrix_jacchus	TLKWRCRKSNGDVTQKDDMMAIDL-	GTKTVYLVSVFFEGLQRIILFTEDPKVFKVITYESE	2517			
Canis_lupus_familiaris	KLKWRCGKSHGEVTQKDDMMTPINS-	GKKTIYLVSVFFEGLQRIILFTEDPRVFKATYESE	2511			
Equus_caballus	KLKWICGKSHGEVTQKDDMMTPINL-	GKKTIYLVSVFFEGLQRIILFTEDPRVFKVITYESE	2510			
Bos_taurus	KLQWKCGKSHGEVTQKDDMMTPINL-	GKTTIYLVSVFFEGLQRIILFTEDPRVFKVITYESE	2513			
Pavo_muticus	KLTWKCGKRTEETIPKEDIKIEVLSDYRKVVYLVSFFEGLQRIVLITEDKNVFKLAYESV	2498				
Pavo_cristatus	KLTWKCGKRTEETIPKEDIKIEVLSDYRKVVYLVSFFEGLQRIVLITEDKNVFKLAYESV	2498				
Gallus_gallus	KLTWKCGKRTEETIPKEDIKIEVLSDCRKVLYLVSVFFEGLQRIVLITEDKNVFKLAYQSV	2546				
Anas_platyrhynchos	KLTWKCGKITEEITPKEDKMIEVLSDCRKVYLASFEEGLQRIVLITEDKNVFKLAYESI	2546				
Chelonia_mydas	KLKWKCCKNCEVTQKDDMMSLPLDKKKRLYLVSVFFEGLQRIILFTEDES VF KATY ESE	2532				
Xenopus_tropicalis	KL TW I C R K S Q G E V S Q T E D R V - E Y L R L E D T S V Y L V S F L E G L Q R I L L F T E N E S V F N V T F D N Q	2527				
Rhinatrema_bivittatum	NLNWKC GAAGEL THVQDKV-QIMYLEDTIVYLVSVFFEGLQRIVLFTEDHNVFATCES E	2534				
Latimeria_chalumnae	KL SW K C G K N K G E L S Q E Q D L R E P T S D E E K I Y L A S F F E G L Q R V V L F T E D T V F N V I K E F E	2542				
2530.....2540.....2550.....2560.....2570.....2580					

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Mus_musculus	KAE LAE LEVVLALQDVGISLVN NYTKQEVAYIGITSSD VVWEAKPKKKARWK PMSVKHTE	2568
Rattus_norvegicus	KAE LAE LEVVLALQDVGISLVN NYTKQEVAYIGITSSD VVWETKPKKSRWK PMSVKHTE	2568
Homo_sapiens	KAE LAE QEIAVALQDVGISLVN NYTKQEVAYIGITSSD VVWETKPKKKARWK PMSVKHTE	2575
Pan_troglodytes	KAE LAE QEIAVALQDVGISLVN NYTKQEVAYIGITSSD VVWETKPKKKARWK PMSVKHTE	2581
Macaca_mulatta	KAE LAE QEIAVALQDVGISLVN NYTKQEVAYIGITSSD VVWETKPKKKARWK PMSVKHTE	2575
Callithrix_jacchus	KAE LAE QEIAVALQDVGISLVN NYAKQEVAYIGITSSD VVWETKPKKSRWK PMSVKHTE	2577
Canis_lupus_familiaris	KAE LAE QEIVLALQDVGISLVN NYTKQEVAYIGITSSD VVWETKPKKKARWK PMSIKHTE	2571
Equus_caballus	KAE LAE QEIVLALQDVGISLVN NYTKQEVAYIGITSSD VVWETKPKKKARWK PMSVKHTE	2570
Bos_taurus	KAE LAE QEIVLALQDVGISLVN NYTKQEVAYIGITSSD VVWETKPRKKARWK PMSVKHTE	2573
Pavo_muticus	KAE LAE QEIIISLQDVGISLVN NYTRQEVSYIGITSSD VVWETKPKKSRWK PMSVKQTD	2558
Pavo_cristatus	KAE LAE QEIIISLQDVGISLVN NYTRQEVSYIGITSSD VVWETKPKKSRWK PMSVKQTD	2558
Gallus_gallus	QAE LAE QEIIISLQDVGISLVN NYTRQEVSYIGITSSD VVWETKPKKSRWK PMSVKQTD	2606
Anas_platyrhynchos	KAE LAE QEIIISLQDVGISLVN NYTKQEVSYIGITSSD VVWETKPEKSRWRPMSVKQTD	2606
Chelonia_mydas	KVE LAE QEIVLSLQDVGISLVN NYTKQEVSYIGITSSD VVWETKPKKSRWRPMSIKQTE	2592
Xenopus_tropicalis	KAE LAE QEIIISLSNIGISLVN NYTKQEVSYIGITNSD VVWETK--KKS RWKPLSIKQTE	2585
Rhinatrema_bivittatum	KAE LAE QEVTISLQDVGISLVN NHMKQEVSYIGITSSD LVWEMKPKNGRWK PMSIKQTE	2594
Latimeria_chalumnae	KAE LAE QEIIISLQNMGISLVN NDTKQEVSYIGITSSD TVWEMKPKKARWK PMSIRQTE	2602
2590.....2600.....2610.....2620.....2630.....2640	

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Mus_musculus	KLEKEFREYTEASPLEDKVVELDN-IPVRLTPSGNDMKILOPHVIPVRRNYLPALKVEYN	2627											
Rattus_norvegicus	KLEKEFREYTESSPLEDKVVELDNSIPVLLTPSGNDMKILEPHVIAVRRNYLPALKVEYN	2628											
Homo_sapiens	KLEREFKEYTESSPSEDKVIQLDTNVPVRLTPTGHNMKILOPHVIALRRNYLPALKVEYN	2635											
Pan_troglodytes	KLEREFKEYTESSPSEDKVIELDTNVPVRLTPTGHNMKILOPHVIALRRNYLPALKVEYN	2641											
Macaca_mulatta	KLEREFKEYTESSPSEDKVIELDTNIPVRLTPTGHNMKILOPRVIALRRNYLPALKVEYN	2635											
Callithrix_jacchus	KLEREFKEYTESSPSEDKVVELDTNIPVCLTPTGHNMKILOPHATAIARRNYLPALKMEYN	2637											
Canis_lupus_familiaris	KLEKEFKEYTESSPSEDKVIELDTNIPVRFTPSGTNMKILOPHVIAIRRRNYLPALKVEYS	2631											
Equus_caballus	KLEREFKEYAESSPSEDKVIELDTNIPVRFTPTGTNMKILOPHVIAIRRRNYLPALKVEYS	2630											
Bos_taurus	KLEKEFKEYVESPSEDKVIELDTNIIIVRFTPGASNMKILOPHVIAIRRRNYLPALKVEYS	2633											
Pavo_muticus	KLEQEFKEYSELTPSENKIVELEPNVLVCLTPSGNDMKIQOPNEIPIRRNYLPALKVEYS	2618											
Pavo_cristatus	KLEQEFKEYSELTPSENKIVELEPNVLVCLTPSGNDMKIQOPNEIPIRRNYLPALKVEYS	2618											
Gallus_gallus	KLEQEFKEYSELTPSENKIVELEPNVLVCLTPSGNDMKIQOPNEIPIRRNYLPALKVEYS	2666											
Anas_platyrhynchos	KLEQEFKDYSELTPSENKIIIELESNVLVCLTPNGCNMKIQOPNEIPIRRNYLPALKVEYS	2666											
Chelonia_mydas	KLEREFKEYSELSPSENKIVELETNVMVCLTPNGGNMKIQOPNEIPVRRNYLPALNVEYS	2652											
Xenopus_tropicalis	KLEQAFKEYTESSPTDTKIVALDTNCQVCLTPDFSGMKFIQPTTDPIRRSLPALKLEYS	2645											
Rhinatrema_bivittatum	KLEAALKEYKESSPLENKIIELESNFQVCLTPNGTNMKIIOPHEAPIRRNFLPALNLEYS	2654											
Latimeria_chalumnae	ELEKAYRDYMDASCQEDKDIEIDSNFOEMPS-----FFFIPLSH-	2641											

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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*:*:* *:* ***:**:*::** *: ***:* *:*:*
Mus_musculus      TSAHQSSFRIQIYRIQIQNQIHGAIFPFVFYPIKPPRSVTMDSAPKPFTDVSIVMRSAGH 2687
Rattus_norvegicus TSAHQSSFRIQIYRIQIQNQIHGAIFPFVFYPIKPPRSVTMDSAPKPFTDVSIVMRSAGH 2688
Homo_sapiens      TSAHQSSFRIQIYRIQIQNQIHGAIFPFVFYPIKPPRSVTMDSAPKPFTDVSIVMRSAGH 2695
Pan_troglodytes   TSAHQSSFRIQIYRIQIQNQIHGAIFPFVFYPIKPPRSVTMDSAPKPFTDVSIVMRSAGH 2701
Macaca_mulatta    TSAHQSSFRIQIYRIQIQNQIHGAIFPFVFYPIKPPRSVTMDSAPKPFTDVSIVMRSAGH 2695
Callithrix_jacchus TSAHQSLFRIQIYRIQIQNQIHGAIFPFVFYPIKPPRSVTMDSAPKPFTDVSIVMRSAGH 2697
Canis_lupus_familiaris TSAHQSSFRIQIYRIQIQNQIHGAIFPFVFYPIKPPRSVTMDSAPKPFTDVSIVMRSAGH 2691
Equus_caballus    TSAHQSSFRIQIYRIQIQNQIHGAIFPFVFYPIKPPRSVTMDSAPKPFTDVSIVMRSAGH 2690
Bos_taurus        TSAHQSSFRIQIYRIQIQNQIHGAIFPFVFYPIKPPRSVTMDSAPKPFTDVSIVMRSAGH 2693
Pavo_muticus      SSTHQKSFRIQIYRIQIQNQIPGAIFPFVFYPIKPPKSIITLDSAPKPFTDVSIVMRTAGH 2678
Pavo_cristatus    SSTHQKSFRIQIYRIQIQNQIPGAIFPFVFYPIKPPKSIITLDSAPKPFTDVSIVMRTAGH 2678
Gallus_gallus     SSAHQKSFRIQIYRIQIQNQIPGAIFPFVFYPIKPPKSIITLDSAPKPFTDVSIVMRTAGH 2726
Anas_platyrhynchos SSAHQKSFRIQIYRIQIQNQIPGAIFPFVFYPIKPPKSIITLDSAPKPFTDVSIVMRTAGH 2726
Chelonia_mydas    TSAHQKSVRVQVYWIQIQNQIPGAIFPSVFYPIKPPKSIITLDSAPKPFIDVSVVMRTAGH 2712
Xenopus_tropicalis ASAHQTSIRLQVYRIQIQNQNPAAIFPFVFYPIKPPKSVITLDEPKPLTDSIVMRTAGH 2705
Rhinatrema_bivittatum ASAHQKAIRVQIYRIQIQNQIAGAIFPFVFYPIKPPKSIAMD SAPKPFTDVSIVMRSAGH 2714
Latimeria_chalumnae -----QIQNQLPGAIFPFVFYPIKPPKSVALDSALKPLADVSIVQRSAGH 2686
.....2710.....2720.....2730.....2740.....2750.....2760

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*::*:***** ***** :****: *::: : : : : * *::*: : : *
Mus_musculus      SQISRIKYFKVLIQEMDLRLDLGFVYALADLVTKA---EVTEKTEVEHFHKDVEAFQEEY 2744
Rattus_norvegicus SQISRIKYFKVLIQEMDLRLDLGFVYALADLVPKT---EVTEKTEVEYFHRDVEAFQEEY 2745
Homo_sapiens      SQISRIKYFKVLIQEMDLRLDLGFYIALTDLMTA---EVTENTEVELFHKDIEAFKEEY 2752
Pan_troglodytes   SQISRIKYFKVLIQEMDLRLDLGFYIALTDLMTA---EVTENTEVELFHKDIEAFKEEY 2758
Macaca_mulatta    SQISRIKYFKVLIQEMDLRLDLGFYIALTDLMTA---EVTENTEVELFHKDIEAFKEEY 2752
Callithrix_jacchus SQISRIKYFKVLIQEMDLRLDLGFVYALTDLMTA---EVTENTEVELFHKDIEAFQEEY 2754
Canis_lupus_familiaris SQISRIKYFKVLIQEMDLRLDLGFVYALAEMLTEA---EVSEKNEVELFHKDIEAFQEEY 2748
Equus_caballus    SQISRIKYFKVLIQEMDLRLDLGFVYALAEMLTEA---EVTEKTEIELFHKDIEAFQEEY 2747
Bos_taurus        SQISRIKYFKVLIQEMDLRLDLGFVYAVSELMTA---EVTEKTEVELFHKDIEAFQEEY 2750
Pavo_muticus      SQISHIKYFKVLIQEMDLRLDLGFLYALAEFFTQT---DVPNVQQLLEFKKDVESLQEEEL 2735
Pavo_cristatus    SQISHIKYFKVLIQEMDLRLDLGFLYALAEFFTQT---DVPNVQQLLEFKKDVESLQEEEL 2735
Gallus_gallus     SQISHIKYFKVLIQEMDLRLDLGFLNALVEFFTQA---DIPNVQQLLEFKKDVESLQEEEL 2783
Anas_platyrhynchos SQISHIKYFKVLIQEMDLRLDLGFLYALVEFFTQT---DVPNGQQLLEFKKDVESLQEEEL 2783
Chelonia_mydas    SQISRIKYFKVLIQEMDLKLDLGFYALAEFLTQA---EMPDKQVELEFKKDIESVQKEL 2769
Xenopus_tropicalis SEISRIKYFKVLIQEMDLRIDLGFYALADLFSQS---GDVPKDQAIELFKKDVESFQTEL 2763
Rhinatrema_bivittatum SEISRIKYFKVLIQEMDLRLDLGFLYALAEFLTQS---GDVSKDQVELEFKKDIESLQVEL 2772
Latimeria_chalumnae SELSRIKYFMVLIQEMDLKLDLGFYALSELFMQANADAVSTEQVELEFKKDIDYIETEL 2746
.....2770.....2780.....2790.....2800.....2810.....2820

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Mus_musculus      EVVSSVDQSQVNLFEYFHI SPIKLHLSVSLSSGRDEAKDSEQHGGGLIPVHSLNLLLSIG 2804
Rattus_norvegicus EVVSSVDQSQVNLFEYFHI SPIKLHLSVSLSSGRDEAKDTEQHGGGLIPVHSLNLLLSIG 2805
Homo_sapiens      KTASLVDQSQVSLYEYFHI SPIKLHLSVSLSSGEEAKDSKQNGGLIPVHSLNLLLSIG 2812
Pan_troglodytes   KTASLVDQSQVSLYEYFHI SPIKLHLSVSLSSGEEAKDSKQNGGLIPVHSLNLLLSIG 2818
Macaca_mulatta    KTASLVDQSQVSLYEYFHI SPLKLHLSVSLSSGEEAKDSKQNGGLFPVHSLNLLLSIG 2812
Callithrix_jacchus KTVS-VDQSQVSLYEYFHI SPIKLHLSVSLSSGEEAKDSKQNGGLIPVHSLNLLLSIG 2813
Canis_lupus_familiaris KTASLVDSSQVSLYEYFHI SPIKLHLSVSLSSGEEAKDSEKHEGLVAIHSLNLLLSIG 2808
Equus_caballus    KTVSSVDSSQVSLYEYFHI SPIKLHLSVSLSSGKE-AKDSEQHGGGLAVHSLNLLLSIG 2806
Bos_taurus        KIVSLVDSSQVSLYEYFHI SPIKLHLSVSLSSGEEPKDSEQHEGLMAIRSLHLLLSIG 2810
Pavo_muticus      MSVSSMDTSQISLYEYFHI SPIKLHLSFSLSTGGEDSNKEERKKELIPLQSLNLLLSIG 2795
Pavo_cristatus    MSVSSMDTSQISLYEYFHI SPIKLHLSFSLSTGGEDSNKEERKKELIPLQSLNLLLSIG 2795
Gallus_gallus     MSVSSMDTSQISLYEYFHI SPIKLHLSFSLSTGGEDSNKEERKKELIPLQSLNLLLSIG 2843
Anas_platyrhynchos MSVSSMDTSQISLYEYFHI SPIKLHLSFSLSTGGEDSNKEERKNEIPLQSLNLLLSIG 2843
Chelonia_mydas    MSMSSTDTSQISLYEYFHI SPIKLHLSFSLSTGGEDSNKEERQHEIPLVQSVNLLLSIG 2829
Xenopus_tropicalis SAVSSTDTSQISLYEYFHI SPIKLHLSFSLSTGGDDGNKEQRDKELIPVQSLNLLLSIG 2823
Rhinatrema_bivittatum STVSSTDTSQISLYEYFHI SPIKLHLSFSLSSGGEDSNKQERQTELIPVQSVNLLLSIG 2832
Latimeria_chalumnae MTVSSTDTSQISLYEYFHI SPVKLHLSLSLSTGGEDGNKEERDREIVPQSLNLLLSIG 2806
.....2830.....2840.....2850.....2860.....2870.....2880

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	::*****:***:***:*****:*****:**** **	
Mus_musculus	AAMTMD E DY Q QKRREAMNKPAGLREGITRGGKGLVSGFVSGITGIVTKPIKGAQKEGAA	2984
Rattus_norvegicus	AAMTMD E DY Q QKRREAMNKPAGLREGITRGGKGLVSGFVSGITGIVTKPIKGAQKEGAA	2985
Homo_sapiens	AAMTMD E DY Q QKRREAMNKPAGFREGITRGGKGLVSGFVSGITGIVTKPIKGAQKGGAA	2992
Pan_troglodytes	AAMTMD E DY Q QKRREAMNKPAGFREGITRGGKGLVSGFVSGITGIVTKPIKGAQKGGAA	2998
Macaca_mulatta	AAMTMD E DY Q QKRREAMNKPAGFREGITRGGKGLVSGFVSGITGIVTKPIKGAQKEGAA	2992
Callithrix_jacchus	AAITMD E DY Q QKRREAMNKPAGFREGITRGGKGLVSGFVSGITGIVTKPIKGAQKEGAA	2993
Canis_lupus_familiaris	AAMTMD E DY Q QKRREAMNKPAGLREGITRGGKGLVSGFVSGITGIVTKPIKGAQKEGAA	2988
Equus_caballus	AAMTMD E DY Q QKRREAMNKPAGLREGITRGGKGLVSGFVSGITGIVTKPIKGAQKEGAA	2986
Bos_taurus	AAMTMD E DY Q QKRREAMNKPAGLREGITRGGKGLVSGFVSGITGIVTKPIKGAQKEGAT	2990
Pavo_muticus	AAITMD E DY Q QKRREAMNROPTGLKEGITRGGKGLVSGFVSGITGIVTKPIRGAQKGGAA	2975
Pavo_cristatus	AAITMD E DY Q QKRREAMNROPTGLKEGITRGGKGLVSGFVSGITGIVTKPIRGAQKGGAA	2975
Gallus_gallus	AAITMD E DY Q QKRREAMNROPTGLREGITRGGKGLVSGFVSGITGIVTKPIRGAQKEGAA	3023
Anas_platyrhynchos	AAITMD E DY Q QKRREAMNROPTGLREGITRGGKGLVSGFVSGITGIVTKPIRGAQKEGAA	3023
Chelonia_mydas	AAITMD E DY Q QKRREAMNROPTGLKEGITRGGKGLVSGFVSGITGIVTKPIRGAQKEGAA	3009
Xenopus_tropicalis	AAITMD E EY Q QKRREAMNKP SGIREGITRGGKGLVSGFVSGITGIVTKPIKGAQKEGAA	3003
Rhinatrema_bivittatum	AAMTMD E EY Q QKRREAMNKP SGFREGITRGGKGLVSGFVSGITGIVTKPIKGAQKEGAA	3012
Latimeria_chalumnae	AAITL D EDF Q QKRREAMNKP SLGELGLARGGKGLVSGFVSGITGIVTKPIKGAQKEGAI	2986
3010.....3020.....3030.....3040.....3050.....3060	

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	TFDEFTKEPFI	VHGRRLRIE	EAKERVKS	SVFHAK	EF	GKIVNFK	TPEDAR	----	WILTKLEE	
Mus_musculus	TFDEFTKEPFI	VHGRRLRIE	EAKERVKS	SVFHAK	EF	GKIVNFK	TPEDAR	----	WILTKLEE	3158
Rattus_norvegicus	TFDEFTKEPFI	VHGRRLRIE	EAKERVKS	SVFHAK	EF	GKIINF	NFKTPEDAR	----	WILTKLEE	3159
Homo_sapiens	SFDEFTKEPFI	VHGRRLRIE	EAKERVKS	SVFHARE	EF	GKIINF	NFKTPEDAR	----	WILTKLOE	3166
Pan_troglodytes	SFDEFTKEPFI	VHGRRLRIE	EAKERVKS	SVFHARE	EF	GKIINF	NFKTPEDAR	----	WILTKLOE	3172
Macaca_mulatta	SFDEFTKEPFI	VHGRRLRIE	EAKERVKS	SVFHARE	EF	GKIINF	NFKTPEDARVNIIN	LLFKKIGA		3171
Callithrix_jacchus	SFDEFTKEPFI	VHGRRLRIE	EAKERVKS	SVFHARE	EF	GKIINF	FRTPEDAR	----	WILTKLEE	3167
Canis_lupus_familiaris	SFDEFTKEPFI	VHGRRLRIE	EAKERVKS	SVFHAK	EF	GKIINF	NFKTPEDAR	----	WILTKLEE	3163
Equus_caballus	SFDEFTKEPFI	VHGRRLRIE	EAKERVKS	SVFHSKE	EF	GKIINF	NFKTPEDAR	----	WILTKLEE	3161
Bos_taurus	SFDEFTKEPFI	VHERRLRIE	EAKERVKS	SVFHAK	EF	GKIVNFR	TPEDAR	----	WILRKLEE	3165
Pavo_muticus	TYDEFTKEPFI	VDGRRLRIE	EAKERVKS	SVFHAK	EF	GKIINF	KSPEDAK	----	WILSKLEE	3150
Pavo_cristatus	TYDEFTKEPFI	VDGRRLRIE	EAKERVKS	SVFHAK	EF	GKIINF	KSPEDAK	----	WILSKLEE	3150
Gallus_gallus	TYDEFTKEPFI	VDGRRLRIE	EAKERVKS	SVFHAK	EF	GKIINF	KSPEDAK	----	WILSKLEE	3198
Anas_platyrhynchos	TYDEFTKDPFI	VDGRRLRIE	EAKERVKS	SVFHAK	EF	GKIINF	NFKTPEDAK	----	WILSKLEE	3198
Chelonia_mydas	TYDEFTKEPFI	VAGRRLRIE	EAKERVKS	SVFHAK	EF	GKIINF	FRTPEDAK	----	WILSKLEE	3184
Xenopus_tropicalis	SFDEFTKEPFI	VSGRRLRIE	EAKERVKS	SVFHAK	EF	GKIINF	FRTPEDAK	----	WILCKLEE	3178
Rhinatrema_bivittatum	TFDEFTKEPFI	VSGRRLRIE	EAKERVKS	SVFHAK	EF	GKIINF	NFKTPEDAK	----	WMLSKLDE	3187
Latimeria_chalumnae	CFEFTKDPFI	IDGRRLRIE	EAKERVKS	SVFHAK	DF	GKIINF	FRISDDAK	----	WAIKLEE	3161
319032003210322032303240				

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Mus_musculus	AREPSP-RL--	3166
Rattus_norvegicus	AREPSP-RL--	3167
Homo_sapiens	AREPSP-SL--	3174
Pan_troglodytes	AREPSP-SL--	3180
Macaca_mulatta	AHSKTIGSLQS	3182
Callithrix_jacchus	AREPSP-SL--	3175
Canis_lupus_familiaris	AREPSP-RF--	3171
Equus_caballus	AREPSP-RL--	3169
Bos_taurus	AREPSP-NL--	3173
Pavo_muticus	VRENGPKS---	3158
Pavo_cristatus	VRENGPKS---	3158
Gallus_gallus	VRENRPKS---	3206
Anas_platyrhynchos	VRENQPKS---	3206
Chelonia_mydas	VRESHPMS---	3192
Xenopus_tropicalis	VRDAQTKT---	3186
Rhinatrema_bivittatum	VRDIQPKL---	3195
Latimeria_chalumnae	ARDNHPKC---	3169
3250.	