

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/KIFlaps Tue Feb 1 12:41:18 2022

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| | | |
|------------------------|--|----|
| Pavo_muticus | -----QYVYITCIQLLQSSRNSDTSGAARSRGSVSGRGLWVGAARPRLCHVVPRR | 50 |
| Pavo_cristatus | -----QYVYITCIQLLQSSRNSDTSGAARSRGSVSGRGLWVGAARPRLCHVVPRR | 50 |
| Gallus_gallus | MREYKAKVKCQYIYMTCIQLLQSSRNSDTTAALWPRPSRVGFEEGLRGPRASLCHVTPHR | 60 |
| Anas_platyrhynchos | ----- | |
| Chelonia_mydas | ----- | |
| Mus_musculus | ----- | |
| Rattus_norvegicus | ----- | |
| Homo_sapiens | ----- | |
| Pan_troglodytes | ----- | |
| Macaca_mulatta | ----- | |
| Callithrix_jacchus | ----- | |
| Canis_lupus_familiaris | ----- | |
| Equus_caballus | ----- | |
| Bos_taurus | ----- | |
| Heterocephalus_glaber | ----- | |
| Xenopus_tropicalis | ----- | |
| Rhinatrema_bivittatum | ----- | |
| Latimeria_chalumnae | ----- | |
| | 1.....10.....20.....30.....40.....50.....60 | |

| | | |
|------------------------|---|-----|
| Pavo_muticus | HYSSRHAQCSRDRLPPCFGVITRNLKVS PMLPRGRPLIGRAAAARGSK--VTAARARR | 108 |
| Pavo_cristatus | HYSSRHAQCSRDRLPPCFGVITRNLKVS PMLPRGRPLIGRAAAARGSK--VTAARARR | 108 |
| Gallus_gallus | HYSSRHAQCSRDRLPPCFRVVTRNLKVS PMVPRERPLIGRAAAARGSKVVVAAARARG | 120 |
| Anas_platyrhynchos | ----- | |
| Chelonia_mydas | ----- | |
| Mus_musculus | ----- | |
| Rattus_norvegicus | ----- | |
| Homo_sapiens | ----- | |
| Pan_troglodytes | ----- | |
| Macaca_mulatta | ----- | |
| Callithrix_jacchus | ----- | |
| Canis_lupus_familiaris | ----- | |
| Equus_caballus | ----- | |
| Bos_taurus | ----- | |
| Heterocephalus_glaber | ----- | |
| Xenopus_tropicalis | ----- | |
| Rhinatrema_bivittatum | ----- | |
| Latimeria_chalumnae | ----- | |
| |70.....80.....90.....100.....110.....120 | |

| | | |
|------------------------|--|-----|
| Pavo_muticus | RWAGSESQLQPEPRPGSAAGASSVVLGPLASRCAMASLSFQSGGGSKKEKEEKG---KNI | 165 |
| Pavo_cristatus | RWAGSESQLQPEPRPGSAAGASSVVLGPLASRCAMASLSFQSGGGSKKEKEEKG---KNI | 165 |
| Gallus_gallus | RWVGSESQLQPEPRPGSAAGASPVVLGPLASRCTMASLSLQSGGASKKE--EKG---KNI | 175 |
| Anas_platyrhynchos | -----MASLSLQGGG--KKE--EKG---KNI | 19 |
| Chelonia_mydas | -----MATAAVSSQGGAKKE--EKG---KNI | 21 |
| Mus_musculus | -----MASQ--PSS-LKKKE--EKG---KNI | 18 |
| Rattus_norvegicus | -----MASQ--PSSSKKKE--EKG---KNI | 19 |
| Homo_sapiens | -----MASQ--PNSSAKKKE--EKG---KNI | 19 |
| Pan_troglodytes | -----MASQ--PNSSAKKKE--EKG---KNI | 19 |
| Macaca_mulatta | -----MASQ--PNSSAKKKE--EKG---KNI | 19 |
| Callithrix_jacchus | -----MQSLALL--PRPGVGTIL--AHCNLFSLF | 25 |
| Canis_lupus_familiaris | -----MASQ--PNSSAKKKE--EKG---KNI | 19 |
| Equus_caballus | -----MASQ--PNSSAKKKE--EKG---KNI | 19 |
| Bos_taurus | -----MASQ--PNSSAKKKD--EKG---KNI | 19 |
| Heterocephalus_glaber | -----MASQ--PNSSAKKKE--DKG---KNI | 19 |
| Xenopus_tropicalis | -----MSSQ--NSFMSSKKD--DKG---KNI | 19 |
| Rhinatrema_bivittatum | -----MATQ--N-LMSAKKE--EKG---KNI | 18 |
| Latimeria_chalumnae | -----MSSQ--NTSLSKKKE--EKG---KNI | 19 |
| |130.....140.....150.....160.....170.....180 | |

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      .  .****.  ***.:.:.:.:*:  ***:  **  *  :*  :*:*****. :***
Pavo_muticus      QVVVRCRPFNASERKANSYAVVDCDQARKEVSVRTGGFTDKTLKKTYTFDMVFGAQAQOI 225
Pavo_cristatus    QVVVRCRPFNASERKANSYAVVDCDQARKEVSVRTGGFTDKTLKKTYTFDMVFGAQAQOI 225
Gallus_gallus     QVVVRCRPFNASERKANSYAVVDCDQARKEVSVRTGGVTDKMLKKTYTFDMVFGAQAQOI 235
Anas_platyrhynchos QVVVRCRPFNASERKASSYAVVDCDQVRKEVSVRTGGVTDKTSRKTYTFDMVFGAQAQOI 79
Chelonia_mydas    QVVMRCRPFNVLERKANAHAVVDCDHARKEVSVRTGGVTDKTSRKTYTFDMVFGAQAQOI 81
Mus_musculus      QVVVRCRPFNLAERKANAHSVVECDHARKEVSVRTAGLTDKTSKKTYTFDMVFGASTKQOI 78
Rattus_norvegicus QVVVRCRPFNLAERKANAHSVVECDHARKEVSVRTAGLTDKTSRKTYTFDMVFGASTKQOI 79
Homo_sapiens      QVVVRCRPFNLAERKASAHSIVECDPVRKEVSVRTGGLADKSSRKTYTFDMVFGASTKQOI 79
Pan_troglodytes   QVVVRCRPFNLAERKASAHSIVECDPVRKEVSVRTGGLADKSSRKTYTFDMVFGASTKQOI 79
Macaca_mulatta    QVVVRCRPFNLAERKASAHSIVECDPIRKEVSVRTGGLADKSSRKTYTFDMVFGASTKQOI 79
Callithrix_jacchus SSSSECRPFNLSEKASAHSVVECDPVRKEVSVRTGGLADKSSRKTYTFDMVFGTSTKQOI 85
Canis_lupus_familiaris QVVVRCRPFNLAERKANAHSVVECDHVRKEVSVRTGGLADKSSRKTYTFDMVFGASTKQOI 79
Equus_caballus    QVVVRCRPFNLAERKASAHSVVECDHVRKEVSVRTGGLADKSSRKTYTFDMVFGASTKQOI 79
Bos_taurus        QVVVRCRPFNLAERKANAHSVVECDHVRKEVSVRTGGLADKSSRKTYTFDMVFGANTKQOI 79
Heterocephalus_glaber QVVLRCRPFNLAERKANAHSVVECDQTRKEVSVRTGGLTDKSSRKTYTFDMVFGASTKQOI 79
Xenopus_tropicalis QVVVRCRPFNQLERKASSHSVLECDAPRKEVCVRTGGINDKLGKKTYTFDMVFGPAAQOI 79
Rhinatrema_bivittatum QVVVRCRPFNMAERKVNHSVLECEPARKEVAVRIAGINEKLGKKTYTFDMVFGPQAKOI 78
Latimeria_chalumnae QVVVRCRPFSLAERKANSHGVIECEPTRKEITVRTGGPTDKGARKITTFDMVFGPSAKOI 79
.....190.....200.....210.....220.....230.....240

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      :***.***.*****:*****:*****:*****:*****:*****:*****:*****:
Pavo_muticus      DVYRSVVCPIILDEVIMGYNCTVFAYGQTGTGKFTMEGERSPNEEYTWEEDPLAGIIPRT 285
Pavo_cristatus    DVYRSVVCPIILDEVIMGYNCTVFAYGQTGTGKFTMEGERSPNEEYTWEEDPLAGIIPRT 285
Gallus_gallus     DVYRSVVCPIILDEVIMGYNCTVFAYGQTGTGKFTMEGERSPNEEYTWEEDPLAGIIPRT 295
Anas_platyrhynchos DVYRSVVCPIILDEVIMGYNCTVFAYGQTGTGKFTMEGERSPNEEYTWEEDPLAGIIPRT 139
Chelonia_mydas    EVYRNVVCPILDEVIMGYNCTVFAYGQTGTGKFTMEGERSPNEEYTWEEDPLAGIIPRT 141
Mus_musculus      DVYRSVVCPIILDEVIMGYNCTIFAYGQTGTGKFTMEGERSPNEVYTWEEDPLAGIIPRT 138
Rattus_norvegicus DVYRSVVCPIILDEVIMGYNCTIFAYGQTGTGKFTMEGERSPNEVYTWEEDPLAGIIPRT 139
Homo_sapiens      DVYRSVVCPIILDEVIMGYNCTIFAYGQTGTGKFTMEGERSPNEEYTWEEDPLAGIIPRT 139
Pan_troglodytes   DVYRSVVCPIILDEVIMGYNCTIFAYGQTGTGKFTMEGERSPNEEYTWEEDPLAGIIPRT 139
Macaca_mulatta    DVYRSVVCPIILDEVIMGYNCTIFAYGQTGTGKFTMEGERSPNEEYTWEEDPLAGIIPRT 139
Callithrix_jacchus DVYRSVVCPIILDEVIMGYNCTIFAYGQTGTGKFTMEGERSPNEEYTWEEDPLAGIIPRT 145
Canis_lupus_familiaris DVYRSVVCPIILDEVIMGYNCTIFAYGQTGTGKFTMEGERSPNEEYTWEEDPLAGIIPRT 139
Equus_caballus    DVYRSVVCPIILDEVIMGYNCTIFAYGQTGTGKFTMEGERSPNEEYTWEEDPLAGIIPRT 139
Bos_taurus        DVYRSVVCPIILDEVIMGYNCTIFAYGQTGTGKFTMEGERSPNEEYTWEEDPLAGIIPRT 139
Heterocephalus_glaber DVYRSVVCPIILDEVIMGYNCTIFAYGQTGTGKFTMEGERSPNEAYTWEEDPLAGIIPRT 139
Xenopus_tropicalis DVYRSVVCPIILDEVIMGYNCTVFAYGQTGTGKFTMEGERSADEEFTWEEDPLAGIIPRT 139
Rhinatrema_bivittatum DVYRSVVCPIILDEVIMGYNCTVFAYGQTGTGKFTMEGERSPDAEFTWEEDPLAGIIPRT 138
Latimeria_chalumnae DVYRSVVCPIILDEVILGYNCTVFAYGQTGTGKFTMEGERTPNEEFTWEEDPLAGIIPRT 139
.....250.....260.....270.....280.....290.....300

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*****:.:*****:*****:*****:*****:*****:*****:*****:*****:
Pavo_muticus      LHQIFEKLTENGTEFSVKVSLLEIYNEELFDLLNPAPDVGERLQMFDDPRNKRGVIIKGL 345
Pavo_cristatus    LHQIFEKLTENGTEFSVKVSLLEIYNEELFDLLNPAPDVGERLQMFDDPRNKRGVIIKGL 345
Gallus_gallus     LHQIFEKLTENGTEFSVKVSLLEIYNEELFDLLNPAPDVGERLQMFDDPRNKRGVIIKGL 355
Anas_platyrhynchos LHQIFEKLTENGTEFSVKVSLLEIYNEELFDLLNPDPVGERLQMFDDPRNKRGVIIKGL 199
Chelonia_mydas    LHQIFEKLSDNGTEFSVKVSLLEIYNEELFDLLNPSSDVGERLQMFDDPRNKRGVIIKGL 201
Mus_musculus      LHQIFEKLTNDNGTEFSVKVSLLEIYNEELFDLLSPSSDVSERLQMFDDPRNKRGVIIKGL 198
Rattus_norvegicus LHQIFEKLTNDNGTEFSVKVSLLEIYNEELFDLLSPSSDVSERLQMFDDPRNKRGVIIKGL 199
Homo_sapiens      LHQIFEKLTNDNGTEFSVKVSLLEIYNEELFDLLNPSSDVSERLQMFDDPRNKRGVIIKGL 199
Pan_troglodytes   LHQIFEKLTNDNGTEFSVKVSLLEIYNEELFDLLNPSSDVSERLQMFDDPRNKRGVIIKGL 199
Macaca_mulatta    LHQIFEKLTNDNGTEFSVKVSLLEIYNEELFDLLNPSSDVSERLQMFDDPRNKRGVIIKGL 199
Callithrix_jacchus LHQIFEKLTNDNGTEFSVKVSLLEIYNEELFDLLNPSSDVSERLQMFDDPRNKRGVIIKGL 205
Canis_lupus_familiaris LHQIFEKLTNDNGTEFSVKVSLLEIYNEELFDLLNPSSDVSERLQMFDDPRNKRGVIIKGL 199
Equus_caballus    LHQIFEKLTNDNGTEFSVKVSLLEIYNEELFDLLNPSSDVSERLQMFDDPRNKRGVIIKGL 199
Bos_taurus        LHQIFEKLTNDNGTEFSVKVSLLEIYNEELFDLLNPSSDVSERLQMFDDPRNKRGVIIKGL 199
Heterocephalus_glaber LHQIFEKLTNDNGTEFSVKVSLLEIYNEELFDLLNPSSDVSERLQMFDDPRNKRGVIIKGL 199
Xenopus_tropicalis LHQIFEKLSENGTEFSVKVSLLEIYNEELFDLLSPSPDVGERLQMFDDPRNKRGVIIKGL 199
Rhinatrema_bivittatum LHQIFEKLSENGTEFSVKVSLLEIYNEELFDLLSPSPDVNERLQMFDDPRNKRGVIIKGL 198
Latimeria_chalumnae LHQIFEKLSGTEFSVKVSLLEIYNEELFDLLNPSTEVCERLQMFDDPRNKRGVIIKGL 199
.....310.....320.....330.....340.....350.....360

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**::****:***:***:***:*.**:* *****:*****:*****
Pavo_muticus      EEVTVHNKNEVYQILERGAAKRTTAATYMNAYSSRSHSVFSITIHMKETTVDGEELVKIG 405
Pavo_cristatus    EEVTVHNKNEVYQILERGAAKRTTAATYMNAYSSRSHSVFSITIHMKETTVDGEELVKIG 405
Gallus_gallus     EEVTVHNKNEVYQILERGAAKRTTAATYMNAYSSRSHSVFSITIHMKETTVDGEELVKIG 415
Anas_platyrhynchos EEVTVHNKNEVYQILERGAAKRTTAATYMNAYSSRSHSVFSITIHMKETTVDGEELVKIG 259
Chelonia_mydas    EEITVHNKDEVYQILERGAAKRTTAATYMNAYSSRSHSVFSVTIHMKETTIDGEELVKIG 261
Mus_musculus      EEITVHNKDEVYQILEKGAAKRTTAATLMNAYSSRSHSVFSVTIHMKETTIDGEELVKIG 258
Rattus_norvegicus EEITVHNKDEVYQILEKGAAKRTTAATLMNAYSSRSHSVFSVTIHMKETTIDGEELVKIG 259
Homo_sapiens      EEITVHNKDEVYQILEKGAAKRTTAATLMNAYSSRSHSVFSVTIHMKETTIDGEELVKIG 259
Pan_troglodytes   EEITVHNKDEVYQILEKGAAKRTTAATLMNAYSSRSHSVFSVTIHMKETTIDGEELVKIG 259
Macaca_mulatta    EEITVHNKDEVYQILEKGAAKRTTAATLMNAYSSRSHSVFSVTIHMKETTIDGEELVKIG 259
Callithrix_jacchus EEITVHNKDEVYQILEKGAAKRTTAATLMNAYSSRSHSVFSVTIHMKETTIDGEELVKIG 265
Canis_lupus_familiaris EEITVHNKDEVYQILEKGAAKRTTAATLMNAYSSRSHSVFSVTIHMKETTIDGEELVKIG 259
Equus_caballus    EEITVHNKDEVYQILEKGAAKRTTAATLMNAYSSRSHSVFSVTIHMKETTIDGEELVKIG 259
Bos_taurus        EEITVHNKDEVYQILEKGAAKRTTAATLMNAYSSRSHSVFSVTIHMKETTVDGEELVKIG 259
Heterocephalus_glaber EEITVHNKDEVYQILEKGAAKRTTAATLMNAYSSRSHSVFSVTIHMKETTIDGEELVKIG 259
Xenopus_tropicalis EEVSVHNKDEVYHILERGAARRKTASTLMNAYSSRSHSVFSVTIHMKETTVDGEELVKIG 259
Rhinatrema_bivittatum EEITVHNKDEVYHILERGAARRKTASTLMNAYSSRSHSVFSVTIHMKETTLDGEELVKIG 258
Latimeria_chalumnae EEVTVHNKDEVYQILERGAAKRTTASTLMNAYSSRSHSVFSITIHMKETTLTLDGEELVKIG 259
.....370.....380.....390.....400.....410.....420

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*****:*****:****:*.**:* *****:*****:*****
Pavo_muticus      KLNLDVLAGSENIGRSGAVDKRAREAGNINQSLTLGRVISALVERAPHIPYRESKLTRI 465
Pavo_cristatus    KLNLDVLAGSENIGRSGAVDKRAREAGNINQSLTLGRVISALVERAPHIPYRESKLTRI 465
Gallus_gallus     KLNLDVLAGSENIGRSGAVDKRAREAGNINQSLTLGRVISALVERAPHIPYRESKLTRI 475
Anas_platyrhynchos KLNLDVLAGSENIGRSGAVDKRAREAGNINQSLTLGRVITLALVERAPHIPYRESKLTRI 319
Chelonia_mydas    KLNLDVLAGSENIGRSGAVDKRAREAGNINQSLTLGRVITLALVERAPHIPYRESKLTRI 321
Mus_musculus      KLNLDVLAGSENIGRSGAVDKRAREAGNINQSLTLGRVITLALVERTPHIPYRESKLTRI 318
Rattus_norvegicus KLNLDVLAGSENIGRSGAVDKRAREAGNINQSLTLGRVITLALVERTPHIPYRESKLTRI 319
Homo_sapiens      KLNLDVLAGSENIGRSGAVDKRAREAGNINQSLTLGRVITLALVERTPHVPHYRESKLTRI 319
Pan_troglodytes   KLNLDVLAGSENIGRSGAVDKRAREAGNINQSLTLGRVITLALVERTPHVPHYRESKLTRI 319
Macaca_mulatta    KLNLDVLAGSENIGRSGAVDKRAREAGNINQSLTLGRVITLALVERTPHVPHYRESKLTRI 319
Callithrix_jacchus KLNLDVLAGSENIGRSGAVDKRAREAGNINQSLTLGRVITLALVERTPHIPYRESKLTRI 325
Canis_lupus_familiaris KLNLDVLAGSENIGRSGAVDKRAREAGNINQSLTLGRVITLALVERTPHVPHYRESKLTRI 319
Equus_caballus    KLNLDVLAGSENIGRSGAVDKRAREAGNINQSLTLGRVITLALVERTPHVPHYRESKLTRI 319
Bos_taurus        KLNLDVLAGSENIGRSGAVDKRAREAGNINQSLTLGRVITLALVERTPHVPHYRESKLTRI 319
Heterocephalus_glaber KLNLDVLAGSENIGRSGAVDKRAREAGNINQSLTLGRVITLALVEKTPHVPHYRESKLTRI 319
Xenopus_tropicalis KLNLDVLAGSENIGRSGAVDKRAREAGNINQSLTLGRVITLALVERAPHIPYRESKLTRI 319
Rhinatrema_bivittatum KLNLDVLAGSENIGRSGAVDKRAREAGNINQSLTLGRVITLALVERAPHIPYRESKLTRI 318
Latimeria_chalumnae KLNLDVLAGSENIGRSGAVDKRAREAGNINQSLTLGRVITLALVERTPHIPYRESKLTRI 319
.....430.....440.....450.....460.....470.....480

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*****:*****:****:*.**:* *****:*****:*****
Pavo_muticus      LQDSLGGRTKTSIIATVSPASINFEETLSTLEYAHRKNIMNKPEVNQKLTKKALIKEYT 525
Pavo_cristatus    LQDSLGGRTKTSIIATVSPASINFEETLSTLEYAHRKNIMNKPEVNQKLTKKALIKEYT 525
Gallus_gallus     LQDSLGGRTKTSIIATVSPASINLEETLSTLEYAHRKNIMNKPEVNQKLTKKALIKEYT 535
Anas_platyrhynchos LQDSLGGRTKTSIIATVSPASINLEETLSTLEYAHRKNIMNKPEVNQKLTKKALIKEYT 379
Chelonia_mydas    LQDSLGGRTKTSIIATVSPASVNEETLSTLEYAHRKNIMNKPEVNQKLTKRALIKEYT 381
Mus_musculus      LQDSLGGRTKTSIIATVSPASVNEETLSTLEYAHRKNIMNKPEVNQKLTKKALIKEYT 378
Rattus_norvegicus LQDSLGGRTKTSIIATVSPASVNEETLSTLEYAHRKNIMNKPEVNQKLTKKALIKEYT 379
Homo_sapiens      LQDSLGGRTKTSIIATVSPASVNEETLSTLEYAHRKNILNKPEVNQKLTKKALIKEYT 379
Pan_troglodytes   LQDSLGGRTKTSIIATVSPASVNEETLSTLEYAHRKNILNKPEVNQKLTKKALIKEYT 379
Macaca_mulatta    LQDSLGGRTKTSIIATVSPASVNEETLSTLEYAHRKNILNKPEVNQKLTKKALIKEYT 379
Callithrix_jacchus LQDSLGGRTKTSIIATVSPASVNEETLSTLEYAHRKNILNKPEVNQKLTKKALIKEYT 385
Canis_lupus_familiaris LQDSLGGRTKTSIIATVSPASVNEETLSTLEYAHRKNILNKPEVNQKLTKRALIKEYT 379
Equus_caballus    LQDSLGGRTKTSIIATVSPASVNEETLSTLEYAHRKNIMNKPEVNQKLTKKALIKEYT 379
Bos_taurus        LQDSLGGRTKTSIIATVSPASVNEETLSTLEYAHRKNILNKPEVNQKLTKKALIKEYT 379
Heterocephalus_glaber LQDSLGGRTKTSIIATVSPASVNEETLSTLEYAHRKNILNKPEVNQKLTKKALIKEYT 379
Xenopus_tropicalis LQDSLGGRTKTSIIATVSPASVNEETLSTLEYAHRKNIMNKPEVNQKLTKRALIKEYT 379
Rhinatrema_bivittatum LQDSLGGRTKTSIIATVSPASVNEETLSTLEYAHRKNIMNKPEVNQKLTKRALIKEYT 378
Latimeria_chalumnae LQDSLGGRTKTSIIATVSPASVNEETLSTLEYAHRKNIMNKPEVNQKLTKRALIKEYT 379
.....490.....500.....510.....520.....530.....540

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*****.:*****:* *.: :.*: *** *.: :.* :*:***: **
Pavo_muticus      EEIERLKRDLAATREKNGVYISLENFEALNGKLTVOEEQIAEYIDKISVMEEEMKRVTEL 585
Pavo_cristatus    EEIERLKRDLAATREKNGVYISLENFEALNGKLTVOEEQIAEYIDKISVMEEEMKRVTEL 585
Gallus_gallus     EEIERLKRDLAATREKNGVYISLENFEALNGKLTVOEEQIAEYIDKISVMEEEMKRVTEL 595
Anas_platyrhynchos EEIERLKRDLAATREKNGVYISLENFEALNGKLTVOEEQIAEYIDKISVMEEELKRSMEL 439
Chelonia_mydas    EEIERLKRDLAAREKNGVIYISAENYEALNGKVTVOEEQIAEYIDKISAMEEEVVRVTEL 441
Mus_musculus      EEIERLKRDLAAAREKNGVYISEESFRAMNGKVTVOEEQIVELVEKIAVLEEEELSKATEL 438
Rattus_norvegicus EEIERLKRDLAAAREKNGVYISEESFRAMNGKVTVOEEQIAELAELKIGVLEEEELSKAAEL 439
Homo_sapiens      EEIERLKRDLAAAREKNGVYISEENFRVMSGKLTVOEEQIVELIEKIGAVEEEELNRVTEL 439
Pan_troglodytes   EEIERLKRDLAAAREKNGVYISEENFRVMSGKLTVOEEQIVELIEKIGAVEEEELNRVTEL 439
Macaca_mulatta    EEIERLKRDLAAAREKNGVYISEENFRVMSGKLTVOEEQIVELIEKIGAVEEEELNRVTEL 439
Callithrix_jacchus EEIERLKRDLAATREKNGVYISEENFRVMSGKLTVOEEQIVELIEKIGAVEEEELSRVTEL 445
Canis_lupus_familiaris EEIERLKRDLAAAREKNGVYISEENFRAMSGKLTVOEEQIVELIEKIGAVEEEELSRVTEL 439
Equus_caballus    EEIERLKRDLAAAREKNGVYISEENFRAMSGKLTVOEEQIVELIEKIGAVEEEELSRVTEL 439
Bos_taurus        EEIERLKRDLAAAREKNGVYISEENFRAMSGKLTVOEEQIVELVEKIAAVEEEELNRVTEL 439
Heterocephalus_glaber EEIERLKRDLAAAREKNGVYISEENFRIMSGKLTAAEEQIVEFIEKIGALEEEELSRVTEL 439
Xenopus_tropicalis EEIERLKRDLATAREKNGVYLSNENYEQLQGVLSQEEIITEYTEKITAMEEEIKRINEL 439
Rhinatrema_bivittatum EEIERLKRDLAASREKNGVYLSNENYDLMYKGLASQEEQIADYTERISAMEDELKRVTEL 438
Latimeria_chalumnae EEIERLKRDLAAAREKNGVYLSSENVDVMQSKLVAAEQEITFEFDKIAALEEDLKRVTTEL 439
.....550.....560.....570.....580.....590.....600
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* :*:*:*:* *:*: .....*:*:*: *:*: :*:*: *:*: *:*:*
Pavo_muticus      FTVNKNLELEQCKTDLEIKEKELEETQKDLEETKVHLAEEYVVSLENAEQKLHGTASKL 645
Pavo_cristatus    FTVNKNLELEQCKTDLEIKEKELEETQKDLEETKVHLAEEYVVSLENAEQKLHGTASKL 645
Gallus_gallus     FTVNKNLELEQCKTDLEIKEKELEETQKDLEETKVHLAEEYVVSLENAEQKLHGTASKL 655
Anas_platyrhynchos FTVNKNLELEQCKTDLEIKEKELEETQKDLEETKVHLAEEYVVSLENAEQKLHGTASKL 499
Chelonia_mydas    FMANKNELEQCKTDLEIRARELEDQKNLQETKIHLAEEYVVSLENAEQKLHGTASKL 501
Mus_musculus      FMDSKNELDQCKSDLOTKTQLETTQKHLQETKLQLVKEEYVSSALERTTEKLHDTASKL 498
Rattus_norvegicus FTDSEKELNQCKSDLOTKTQLETTQKHLQETKLQLVKEEYVSSALERTTEKLHDTASKL 499
Homo_sapiens      FMDNKNELDQCKSDLOTKTQLETTQKHLQETKLQLVKEEYVSSALERTTEKLHDAASKL 499
Pan_troglodytes   FMDNKNELDQCKSDLOTKTQLETTQKHLQETKLQLVKEEYVSSALERTTEKLHDAASKL 499
Macaca_mulatta    FMDNKNELDQCKSDLOTKTQLETTQKHLQETKLQLVKEEYVSSALERTTEKLHDAASKL 499
Callithrix_jacchus FMDNKNELDQCKSDLOTKTQLETTQKHLQETKLQLVKEEYVSSALERTTEKLHDAASKL 505
Canis_lupus_familiaris FMDSKNELDQCKSDLOTKTQLETTQKHLQETKLQLVKEEYVSSALERTTEKLHDAASRL 499
Equus_caballus    FMDNKNELDQCKSDLOTKTQLETTQKHLQETKLQLVKEEYVSSALERTTEKLHDAASRL 499
Bos_taurus        FMDSKNELNQCKSDLOSKTQLETTQKHLQETKLQLVKEEYVSSALERTTEERLHNAANRL 499
Heterocephalus_glaber FMDNKNELNQCKSDLOTKTQLETTQKHLQETKLQLVKEEYVSSALERTTEERLHNAANRL 499
Xenopus_tropicalis FAENKKELEECTTILQCKEKELEETQKNLHESKEQLAQEAFVVTALERTTEKLHGTANKL 499
Rhinatrema_bivittatum FTESKKELDDCSSVLONTERELRTHNDLQSRLOLAQEEYVVALETTERKRLHTTANKL 498
Latimeria_chalumnae FTDSKKELEQCS-----SELKEKDEKLQETKLQLDQEEFVVSFAFQTEKALFGTASKL 492
.....610.....620.....630.....640.....650.....660
```

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* ** :*:* *:* *:*:*: :*:*: *:*: *:*: *:*: *:*: *
Pavo_muticus      LNTVEETTKDVSGLHAKLDRKKAVDQHNNAVQNTFAQQMTDLFNKIQDSVNENSVKQQQM 705
Pavo_cristatus    LNTVEETTKDVSGLHAKLDRKKAVDQHNNAVQNTFAQQMTDLFNKIQDSVNENSVKQQQM 705
Gallus_gallus     LNTVEETTKDVSGLHAKLDRKKAVDQHNNAVQNTFAQQMTDLFNKIQDSVNENSVKQQQM 715
Anas_platyrhynchos LSTVEETTKDVSGLHAKLDRKKAVDQHNNAVQNTFAQQMTDLFNKIQDSVNENSVKQQQM 559
Chelonia_mydas    LSTVEETTKDVSGLHAKLDRKKAVDQHNNAVQNTFAQQMTDLFNKIQDSVNENSVKQQQM 561
Mus_musculus      LNTVKETTRAVSGLHAKLDRKKAVDQHNNAVQNTFAQQMTDLFNKIQDSVNENSVKQQQM 558
Rattus_norvegicus LNTVKETTRDVSGLHAKLDRKKAVDQHNNAVQNTFAQQMTDLFNKIQDSVNENSVKQQQM 559
Homo_sapiens      LNTVEETTKDVSGLHAKLDRKKAVDQHNNAVQNTFAQQMTDLFNKIQDSVNENSVKQQQM 559
Pan_troglodytes   LNTVEETTKDVSGLHAKLDRKKAVDQHNNAVQNTFAQQMTDLFNKIQDSVNENSVKQQQM 559
Macaca_mulatta    LNTVEETTKDVSGLHAKLDRKKAVDQHNNAVQNTFAQQMTDLFNKIQDSVNENSVKQQQM 559
Callithrix_jacchus LNTVEETTKDVSGLHAKLDRKKAVDQHNNAVQNTFAQQMTDLFNKIQDSVNENSVKQQQM 565
Canis_lupus_familiaris LTTVEETTKDVSGLHAKLDRKKAVDQHNNAVQNTFAQQMTDLFNKIQDSVNENSVKQQQM 559
Equus_caballus    LNTVEETTKDVSGLHAKLDRKKAVDQHNNAVQNTFAQQMTDLFNKIQDSVNENSVKQQQM 559
Bos_taurus        LNTVEETTKDVSGLHAKLDRKKAVDQHNNAVQNTFAQQMTDLFNKIQDSVNENSVKQQQM 559
Heterocephalus_glaber LDTVKESTEDVSGLHAKLDRKKAVDQHNNAVQNTFAQQMTDLFNKIQDSVNENSVKQQQM 559
Xenopus_tropicalis LTTVRETSKDVSGHLHAKLDRKKAVDQHNNAVQNTFAQQMTDLFNKIQDSVNENSVKQQQM 559
Rhinatrema_bivittatum LGTVVETTRDVSGLHAKLDRKKAVDQHNNAVQNTFAQQMTDLFNKIQDSVNENSVKQQQM 558
Latimeria_chalumnae LHTVEDSTKDVSGHLHAKLDRKKAVDQHNNAVQNTFAQQMTDLFNKIQDSVNENSVKQQQM 552
.....670.....680.....690.....700.....710.....720
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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/KIF1aps Tue Feb 1 12:41:18 2022

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|------------------------|---|----|----------|----|---|---|---|---|---|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|-----|-----|-----|
| | : | :: |::: | :: | : | : | : | : | * | :* | : | : | * | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pavo_muticus | F | T | S | Y | T | N | F | I | G | D | I | L | S | T | S | S | A | S | N | I | L | T | S | V | V | S | A | S | F | A | S | L | K | E | L | V | S | T | E | V | S | C | M | S | E | K | V | L | O | H | E | N | L | S | L | D | H | K | A | 765 | |
| Pavo_cristatus | F | T | S | Y | T | N | F | I | G | D | I | L | S | T | S | S | A | S | N | I | L | T | S | V | V | S | A | S | F | A | S | L | K | E | L | V | S | T | E | V | S | C | M | S | E | K | V | L | O | H | E | N | L | S | L | D | H | K | A | 765 | |
| Gallus_gallus | L | T | S | Y | T | N | F | I | G | D | I | L | S | T | S | S | A | S | N | I | L | T | S | V | V | S | A | S | F | A | S | L | K | E | L | V | S | T | E | V | S | C | M | S | E | K | V | L | O | H | E | N | L | S | L | D | H | K | A | 775 | |
| Anas_platyrhynchos | L | T | S | Y | T | N | F | I | G | D | I | L | S | T | S | S | A | A | N | I | L | A | S | V | S | A | S | L | A | S | V | K | E | L | V | S | T | E | V | S | C | M | S | G | K | I | L | O | H | E | N | L | S | L | N | C | K | A | 619 | | |
| Chelonia_mydas | I | E | S | Y | T | N | L | V | G | D | L | S | A | S | S | T | I | N | V | I | A | S | A | V | S | S | S | F | A | S | V | V | E | M | L | S | A | E | T | S | W | S | E | K | I | L | E | Q | E | T | R | S | V | K | N | K | A | 621 | | | |
| Mus_musculus | L | D | V | H | K | T | L | F | G | N | L | M | S | S | S | V | S | A | L | D | T | I | T | T | A | L | E | S | L | V | S | I | P | E | N | V | S | A | R | V | S | Q | I | S | D | M | I | L | E | E | Q | S | L | A | A | O | S | K | S | 618 | |
| Rattus_norvegicus | L | D | V | H | K | A | L | F | G | N | L | M | S | S | S | V | S | A | L | D | T | I | S | T | T | A | L | E | S | L | M | S | I | P | E | N | V | L | A | R | V | S | Q | I | S | D | M | I | L | E | E | Q | S | L | A | A | O | S | K | T | 619 |
| Homo_sapiens | L | E | V | H | K | T | L | F | G | N | L | M | S | S | S | V | S | A | L | D | T | I | T | T | V | A | L | G | S | L | T | S | I | P | E | N | V | S | T | H | V | S | Q | I | F | N | M | I | L | K | E | Q | S | L | A | A | E | S | K | T | 619 |
| Pan_troglodytes | L | E | V | H | K | T | L | F | G | N | L | M | S | S | S | V | S | A | L | D | T | I | T | T | V | A | L | G | S | L | T | S | I | P | E | N | V | S | T | H | V | S | Q | I | F | N | M | I | L | K | E | Q | S | L | A | A | E | S | K | T | 619 |
| Macaca_mulatta | L | E | V | H | K | T | L | F | G | N | L | M | S | S | S | V | S | A | L | D | T | I | T | T | V | A | L | G | S | L | T | S | I | P | E | N | V | S | T | R | V | S | Q | I | F | N | M | I | L | K | E | Q | S | L | A | A | E | S | K | T | 619 |
| Callithrix_jacchus | L | E | V | H | K | T | L | F | G | N | L | M | S | S | S | V | S | A | L | D | S | I | T | T | V | A | L | G | S | L | T | S | I | P | E | N | V | S | T | H | I | S | Q | I | F | N | M | I | L | K | E | Q | S | L | A | A | E | S | K | T | 625 |
| Canis_lupus_familiaris | L | E | V | H | K | T | L | F | G | N | L | M | S | S | S | V | S | A | L | D | T | I | T | T | T | A | L | G | S | L | T | S | V | P | E | N | V | S | I | R | V | S | Q | I | S | D | M | I | L | K | E | Q | S | F | A | A | E | C | K | I | 619 |
| Equus caballus | L | E | V | H | K | T | L | F | G | N | L | M | S | S | S | V | S | A | L | D | A | I | T | T | A | A | L | G | S | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | * : : : * : * : . . . : * : : * : . * | |
|------------------------|--|-----|
| Pavo_muticus | ELLRLIKEHASGLGSALN-SLTPMIEFVLGLNCOFQSNMCKYSAVADKMEGHKKEMDTFF | 824 |
| Pavo_cristatus | ELLRLIKEHASGLGSALN-SLTPMIEFVLGLNCOFQSNMCKYSAVADKMEGHKKEMDTFF | 824 |
| Gallus_gallus | ELLRLIEEHASGLGSALN-SLTPMVEFVLGLNCOFQTNVKKYSAVADKMNHGKKEMDTFF | 834 |
| Anas_platyrhynchos | ELLRLIEEHTSGLGKALN-SLTPMVEFVLGLSCOFQTNVKKYSAVADKMECHKKEVDITFF | 678 |
| Chelonia_mydas | ELKRLMEHKSGMERALS-SLTPVVEFVLGVNSOFQNNIKTYSVAEKMKGHKEETNITFF | 680 |
| Mus_musculus | VLQGLIDELVTDLFTSLKTIIVAPSVVVSILNINKQLQHIFRASSTVAEKVEDOKREIDSFL | 678 |
| Rattus_norvegicus | VLQGSIDELVTNLFSLKTIIVAPGVVSILNINRQLQHIFRASVTMAEKVEDOKREIDSFL | 679 |
| Homo_sapiens | VLQELINVLKTDLLSSLEMILSPTVVSILKINSQKHFKTSLTVADKIEDOKKELDGFL | 679 |
| Pan_troglodytes | VLQELINVLKTDLLSSLEMILSPTVVSILKINSQKHFKTSLTVADKIEDOKKELDGFL | 679 |
| Macaca_mulatta | VLQERINVLKTDLLTSLEITLSPTVVSILKINSQKHFKTSLTVADKIEDOKKELDGFL | 679 |
| Callithrix_jacchus | VLQELINVLKTDLLSSLEMILSPAVVSILKINSQKHFKTSLTVADKIEDOKKELDGFL | 685 |
| Canis_lupus_familiaris | ILQTLIDVLKTDLLTSLEITLSPTVVSILKINSQKHFKTSLTVASKIEDOKKEMDDGFL | 679 |
| Equus_caballus | VLQTLINILKTDLLSSLEITLSPTVVSILKINSQKHFKTSLTVANKIEDOKKEMDDFL | 679 |
| Bos_taurus | VLQGLINVLKTELLSSLGTVLSPTVASILEINSQLENIFKILSIVANKIEDOKKEMDDGFL | 679 |
| Heterocephalus_glaber | VLQKLINELTDDLHSLRIVLSPTVVSILKINSQKHFKTSLTEAGQIEDOKKEMDDFL | 679 |
| Xenopus_tropicalis | DLQKLMAAHRITGLEQALRIDLLPVVTAVLNLSHLSHCLQNFQAVADKIDSHKEEMNSFF | 679 |
| Rhinatrema_bivittatum | NLQKLMEHHRFGLEAFRNQFLPIVVSVLDLNSHLKQNMOSFSALADKMEHKEEMNVFF | 678 |
| Latimeria_chalumnae | NLQKVIKHKSGVDKALQMSLFPGVKSILKLSADLKQNVQNYNCLAEKMEAMKEDMSFF | 672 |
| |790.....800.....810.....820.....830.....840 | |

| | * * . * | .. : | : | .. : | : | : | : |
|------------------------|------------------|-------------|--------------|----------------|-------------|------------|-----|
| Pavo_muticus | EDLSLTLLKKLQEE | TVNVLAQLQND | CENLREE | VEMLRLAHTKSA | AEELMSS | LQRLDLFA | 884 |
| Pavo_cristatus | EDLSLTLLKKLQEE | TVNVLAQLRND | CENLREE | VEMLRLAHTKSA | AEELMSS | LQRLDLFA | 884 |
| Gallus_gallus | EDLSLTLLKKLQEE | TASVLAQLQND | CENLREE | VEMLRQAHTKNA | AEELMSS | LQRLDLFA | 894 |
| Anas_platyrhynchos | EDLSLTLLKKLRDEMT | SVLAQLQND | CENLKEE | VEMLRLAHMKSTAE | LVSSLSQ | SLDLFA | 738 |
| Chelonia_mydas | TKHCLALNKLQEDIT | SVLAQLQND | CESLKEEAELAK | ALTEGTTQLMAS | LSQNLNV | QEE | 740 |
| Mus_musculus | SILC>NNLHELRENT | VSSSVESQKLC | CGDLTEDL | TKIKETHSQEL | COLSSSWA | ERFCALE | 738 |
| Rattus_norvegicus | SILC>NNLHELRENT | VSSSVESQKLC | CGNLTEDL | TKIKETHSQEL | COLSSSWA | ERFCALE | 739 |
| Homo_sapiens | SILC>NNLHELQ | ENTICS | SVESQKQCG | NLTEDLTKIKQ | THSQELCK | LMNLWTER | 739 |
| Pan_troglodytes | SILC>NNLHELQ | ENTICS | SVESQKQCG | NLTEDLTKIKQ | THSQELCK | LMNLWTER | 739 |
| Macaca_mulatta | SILR>NNLHELQ | ENTISS | SVESQKQCG | NLTEDLTKIKQ | THSQELCOL | INLWTER | 739 |
| Callithrix_jacchus | GILS>NNLHELQ | ENTISS | SVESQKLC | GNLSEDLN | TIKQTHSQEL | COLMNLWTER | 745 |
| Canis_lupus_familiaris | STLC>NNLHELQ | EKTIVSS | SLAESQKLC | CENLTEDLKR | FKKIHSQEL | COLIDLWA | 739 |
| Equus_caballus | STLCS>NNLHELQ | ENTVSS | LDSESRKLC | CENLTEALK | TLKEIHSQEL | GOLISLWA | 739 |
| Bos_taurus | STLC>NNLHELK | ENTVSS | SLAESQKLC | CENLTEDM | KKTKKIQSQEL | YQOLINLW | 739 |
| Heterocephalus_glaber | SIMC>NRLRELQ | ESITVSS | SVESQKLC | ETLSEEVK | TIKQTHSQEL | COLINLWA | 739 |
| Xenopus_tropicalis | TEHSRSLHRLRLDS | GSALSSIQ | SEYESL | KVEIETAS | SMHSEGVN | NLIGSLQ | 739 |
| Rhinatrema_bivittatum | TNHSVHLNLSLWKD | SVSQAALQ | SEYENV | REELKEA | ERIHSE | DMAKISS | 738 |
| Latimeria_chalumnae | VEHLDMLGKLRED | VTSLGAL | ETEDSLQ | DLKSASE | HSQGLARV | ITCLQ | 732 |

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/KIFMaps Tue Feb 1 12:41:18 2022

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      :           : .   : : : . : :           : : : : : *
Pavo_muticus      TQKNLADVLAAGNGLKTTITAVKENVHLKTTDLVSSSTASNHSRFLASMDNFSKELRIING 944
Pavo_cristatus    TQKNLADVLAAGNGLKTTITAVKENVHLKTTDLVSSSTASNHSRFLASMDNFSKELRIING 944
Gallus_gallus     TQKNLADVLAAGNGLKTTITAVQENVHLKTTDLVSSSTASNHSRFLASVDNFSKELRTINS 954
Anas_platyrhynchos TQKNLSGVLAKNQSMKTTITAVQEDVHLKTTDLVSSATSNSHKSFIASMDNFSSEELRIINA 798
Chelonia_mydas    TQQNLSGVSKKGGNGLKTTIAVAQENVHLQTTDLVSCCTTSHHNKYIASLDNFSREIRKLNLR 800
Mus_musculus      YEN-----IQKPLNSIQENTELRSTDIINKTTVHSKKILAESDGLLOELRHFNQ 787
Rattus_norvegicus YAN-----IQKPLNSIQENTERKSTDIINKTTVHSKKILADSGLLOELRHFNE 788
Homo_sapiens      CEN-----IQKPLSSVQENIQKSKDIVNKMTHFSQKFCADSDGFSQELRNFNQ 788
Pan_troglodytes   CEN-----IQKPLSSVQENIQKSKDIVNKMTHFSQKFCADSDGFSQELRNFNQ 788
Macaca_mulatta    CEN-----IQKPLSSVQEDIQKSKDIVNKMTHFSQKFCADSDGFSQELRNFNQ 788
Callithrix_jacchus CEN-----IQKPLSSVQENIQKSEDIVNKMTHFSQKFCADSDGFSQELRNFNQ 794
Canis_lupus_familiaris CDN-----IQKPLSSIQENAQKSKDIISKTTSTYGTQFCADCDGLSQELRHFNQ 788
Equus_caballus    CEN-----IQKPLNNVQENTEQKSKGMISKAAFHKTFCADSDGLSQELRHFNQ 788
Bos_taurus        CKN-----IQKPLSSVQENTEQKSKDIISKTTISHSEKFCADFDLSEELRHFNQ 788
Heterocephalus_glaber CEN-----VWKPLSSVQENTKQKSKDIISTATFHNKKFCTDFDGLSQELRHFNQ 788
Xenopus_tropicalis TQQNFSGFLAKGGKLOKSVGCLQDLDLSISSDAIEHTSSHHDKFAGQSQDIAVEIRQLAA 799
Rhinatrema_bivittatum TRENFSILMKGEKLOESYNVLOEDICIQISTAAVASIVSQEKFITASDNLTOEMRQLTS 798
Latimeria_chalumnae TQKNFNSVTAKSENLOSTRITLOKNVLOSMKALEHVTSEQVKFRNVAEDVIREVRQTT 792
.....910.....920.....930.....940.....950.....960

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      .   . : * . * . : : :           : : : : :
Pavo_muticus      ENKRMLESTDHCQQLLINLRNVSDADKCAELTIAQIAGFTDQQLSSFRDEKQOFMCFQ 1004
Pavo_cristatus    ENKRMLESTDHCQQLLINLRNVSDADKCAELTIAQIAGFTDQQLSSFRDEKQOFMCFQ 1004
Gallus_gallus     ENKRMLESTDHCQQLLINLRNVSDADKCAELTIAQIASFTDQQLSSFRDEKQOLMCFQ 1014
Anas_platyrhynchos ENKMMLEESTDHCQQLLSSSLKDVSDTDKWGEHAAARIISFTDQQLSFSDEKQOLLCQ 858
Chelonia_mydas    EDKLLKKESTECCEQLRRTLTTCVQETDEWVESANTKIDCLTDQQLSSFSSELEQLQCLQ 860
Mus_musculus      EGTQLVEESVGHCSLSSNLETVSQETITQKCGTLNTSTVHFSQWASCLSKRKEELNLM 847
Rattus_norvegicus EGTQLVEDSVGHCSLSSNLETVSQETITQKCGTLNTSTVHFSQWASCLSKRKEELNLM 848
Homo_sapiens      EGTQLVEESVGHCSLSSNLETVSQETITQKCGTLNTSTVHFSQWASCLSKRKEELNLM 848
Pan_troglodytes   EGTQLVEESVGHCSLSSNLETVSQETITQKCGTLNTSTVHFSQWASCLSKRKEELNLM 848
Macaca_mulatta    EGTQLVEESVGHCSLSSNLETVSQETITQKCGTLNTSTVHFSQWASCLSKRKEELNLM 848
Callithrix_jacchus EGTQLVEESVGHCSLSSNLETVSQETITQKCGTLNTSTVHFSQWASCLSKRKEELNLM 848
Canis_lupus_familiaris EGTQLVEESVGHCSLSSNLETVSQETITQKCGTLNTSTVHFSQWASCLSKRKEELNLM 848
Equus_caballus    EGTQLVEESVGHCSLSSNLETVSQETITQKCGTLNTSTVHFSQWASCLSKRKEELNLM 848
Bos_taurus        EGTQLVEESVGHCSLSSNLETVSQETITQKCGTLNTSTVHFSQWASCLSKRKEELNLM 848
Heterocephalus_glaber EGTQLVEESVGHCSLSSNLETVSQETITQKCGTLNTSTVHFSQWASCLSKRKEELNLM 848
Xenopus_tropicalis SNMGTLSESSKQCEKLTGSINAIRESQHWCEASQQIDSLLSEQVQCYLRTSKKHLQSLQ 859
Rhinatrema_bivittatum LNLHILESSKQCEDELNSITAAHQEAEQWVEVANTKVICLTEQKSYLNTAKLQLQSL 858
Latimeria_chalumnae ENEAIVHQSVMVCEELNTNMTSLGQETDWCESISTRTESEFIKQQLSSINVTREVRQLT 852
.....970.....980.....990.....1000.....1010.....1020

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      .   : : : : : : : : * * : * :
Pavo_muticus      KKNRENCDKAVAEIADHIDTQRSAEEKVLNGLLDQMKVDQGVILLEQKLALNNEAQHGLAQ 1064
Pavo_cristatus    KKNRENCDKAVAEIADHIDTQRSAEEKVLNGLLDQMKVDQGVILLEQKLALNNEAQHGLAQ 1064
Gallus_gallus     KKNRENCEKAVAEIADHIDTQKSAEEKVLNGLLDQMKVDQGVILLEQKLALNNEAQHGLAQ 1074
Anas_platyrhynchos QKNKENCRAVAEIVDRIDGRKSADEKVLNGLLDQIKVDQVILLEQKLALNNEAQHGLAQ 918
Chelonia_mydas    RNANESCNASVAEIVTDQINRQKTAERSLSNLLDQIQNDKEIFLEQKLILHNEAQYGLTQ 920
Mus_musculus      EFVNGCCASSSEITEKIRGHRAAIESQHSFVQITSDDEKFKAGSLELDKTIKIGLTK 907
Rattus_norvegicus EFVNGCCASSSEITEKIRGHRAAIESQHSFVQITSDDEKFKAGSLELDKTIKIGLTK 908
Homo_sapiens      EVVSQCCEASSSDITEKSDGRKAAHEKQHNIFLDQMTIDEDKLIQAQNELNETIKIGLTK 908
Pan_troglodytes   EVVSQCCEASSSDITEKSDGRKAAHEKQHNIFLDQMTIDEDKLIQAQNELNETIKIGLTK 908
Macaca_mulatta    EVVNQCCEASSSDITEKSNHGKAAHERQHNIFLDQMTIDEKLIQAQNELNETIKIGLTK 908
Callithrix_jacchus EVVNQCCEASSSDITEKSHGYKAAHEKQHNIFLDQMTIDEKLIQAQNELNETIKIGLTK 914
Canis_lupus_familiaris EVVNQDCEASSSEITEKLSGHKAANENQHNIFLDQMTIDEKLIQAQNELNETIKIGLTK 908
Equus_caballus    EVVNQDCEASSSEITEKLSGHKAANENQHNIFLDQMTIDEKLIQAQNELNETIKIGLTK 908
Bos_taurus        KVVNQCCEASSSEITEKLSGHKAANENQHNIFLDQMTIDEKLIQAQNELNETIKIGLTK 908
Heterocephalus_glaber EGINECWEASKSEITEKLSGHKAANENQHNIFLDQMTIDEKLIQAQNELNETIKIGLTK 908
Xenopus_tropicalis KDVEVGCGASVVEITEHVNAQRQAEKALTSLEQVRDDKEMLGEORLELHEQVQSGQNK 919
Rhinatrema_bivittatum QDVDEKCSQVAELTEHINKQDAGHTVLTTLKQDMMDDERVIEQKLELHAQAQLGLNK 918
Latimeria_chalumnae QDVNTNCSVAEAVTEHIKQDQDVEAKALLTMDQLKDDVEMLTENHLELHAQAQLGLNK 912
.....1030.....1040.....1050.....1060.....1070.....1080

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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:  :*:::*: *... **:: * ** *:*:*: *:*: : :
Pavo_muticus      VNGFLKEDLKVDIPTGTTTPORRDYSYPVTLVKTEPRELLLEQLRQKOLKLDAMLSVVIKE 1124
Pavo_cristatus    VNGFLKEDLKVDIPTGTTTPORRDYSYPVTLVKTEPRELLLEQLRQKOLKLDAMLSVVIKE 1124
Gallus_gallus     VNGFLKEDLKVDIPTGTTTPORRDYSYPVTLVKTEPRELLLEQLRQKOLKLDAMLSVVIKE 1134
Anas_platyrhynchos VNGFLOEELKVDIPTGTTTPORRDYLYPVLVLRTEPRELLLEQLREKQAKLDAMLSVVIKE 978
Chelonia_mydas    VNAFLQEEELKVDIPTGTTTPORRDYLYPVLVLRTEPRDLLLEQLRRQOPELMATLNSAAKV 980
Mus_musculus      LNCFLKQDLKLDIPTGMTPERKKYLYPTTLVLRTEPREQLLDQLQKKOPP--MMLNCS-EA 964
Rattus_norvegicus LNCFLQDLKLDIPTGMTPERKNYLYPSTLVLRTEPREQLLDQLQKKOPKPLMMLNCS-ES 967
Homo_sapiens      LNCFLEQDLKLDIPTGTTTPQRKSYLYPSTLVLRTEPREHLLDQLKRKQPELLMMLNCS-EN 967
Pan_troglodytes   LNCFLEQDLKLDIPTGTTTPQRKSYLYPSTLVLRTEPREHLLDQLKRKQPELLMMLNCS-EN 967
Macaca_mulatta    LNCFLEQDLKLDIPTGTTTPQRKSYLYPSTLVLRTEPREHLLDQLKRKQPELLMMLNCS-EN 967
Callithrix_jacchus LNCFLQDLKLDIPTGTTTPQRKSYLYPSTLVLRTEPREYLLDQLKRKQPDLLIMLNCS-EN 973
Canis_lupus_familiaris LNCFLQDLKLDIPTGMTPERKNYLYPSTLVLRTEPREQLLDQLKRKQPELLMMLKCS-EN 967
Equus_caballus    LNCFLQDLKLDIPTGTTTPQRKSYLYPSTLVLRTEPREQLLDQLKRKQPELLMMLNCS-EN 967
Bos_taurus        LNCFLQDLKLDIPTGTTTPQRKNYVYPSTLVLRTEPREQLLDQLKMKQPELLTMLNCS-EN 967
Heterocephalus_glaber LNCFLQDLKLDIATGTTTPQRKRYLYPSTLVLRTEPREQLLDQLKKERPELLMMLTHS-EN 967
Xenopus_tropicalis VNSYLNHEELRNDVPTGTTTPORRDYVYPSLLVLRTPKPRDVLLEQFQQQQEYLESISSVISE 979
Rhinatrema_bivittatum VLSFLQDELKKDFPTGMTPERKQYLYPTVLVLRTPKPRDQLLEEFKROQLDLQIPLSDATVP 978
Latimeria_chalumnae VNHFLQDELKKDVPTGTTTPORRVYSYPTDLVLRTPKPRDLLLEQFGMQQQEFGHNLN--TTP 970
.....1090.....1100.....1110.....1120.....1130.....1140

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Pavo_muticus      VEGNADEDLLGVEEGMQESSDSLGGDKYLVDISISCHANGGIPFFQHKRSHKKDKENKAA 1184
Pavo_cristatus    VEGNADEDLLGVEEGMQESSDSLGGDKYLVDISISCHANGGIPFFQHKRSHKKDKENKAA 1184
Gallus_gallus     AEENADEDLLGVEEGMQESSESLLGGDKYLVDINISCHANGGIPFFQHKRSHKKDKENKAA 1194
Anas_platyrhynchos IRENADQDLLEEEEGMQESSESIIAGYKSLVDINISCHANGGIPFFQHKRSHKKDKENKSA 1038
Chelonia_mydas    VDH-VDQDSLEEEEVVQEFNESIFSDKSLDTSVCCQKNSGIPFFQHKKSVKKDKENKST 1039
Mus_musculus      SKE-TSQDMDEEREALQCTEELVSPETTEHPADCSSSRGLPFFQHKKPHGKDKENRGL 1023
Rattus_norvegicus SKE-TSQDMEEDREVLEQSTEELVSPETVHTSADCSSSGGVPPFFQHKKPHGKDKENRGL 1026
Homo_sapiens      NKEETIPDVDVVEEAVLQGYTEEPLSQEPSVDAGVDCSSIGGVPPFFQHKKSHGKDKENRGI 1027
Pan_troglodytes   NKEETIPDVDVVEEAVLQGYTEEPLSQEPSVDAGVDCSSIGGVPPFFQHKKSHGKDKENRGI 1027
Macaca_mulatta    NKEETIPDVDVVEEAVLQGYTEEPLSQEPSVDAGVDCSSIGGVPPFFQHKKSHGKDKENRGI 1027
Callithrix_jacchus NKEEKIQDQDVDEKAAALQGYTEEPLSQEPSVHAGVDCSSIGGVPPFFQHKKSHGKDKENRGI 1033
Canis_lupus_familiaris NKEEISQDLDEEKSVLGHSTEEPSQESSKDASVDCSSSGGIPFFQHKKSHGKDKENRGI 1027
Equus_caballus    NKEETSQDLDEEKAVLGHTIEEPLSQELSVDAVVCSSSGGVPPFFQHKKSHGKDKENRGI 1027
Bos_taurus        NKE-TSQDLDEENAVLVLTVEEPLTQEPSVDTSIDCSSSGGVPPFFQHKKSHGKDKENRGT 1026
Heterocephalus_glaber NEEEEKSQVMNEEKEVLEQYIEP-LSENPPADVNVCESS-GGVPPFFQVLLKIIISDTPY TSA 1025
Xenopus_tropicalis AVEPPVEQDSLEDEPPVAVNDSVMSEKSCIDLSMVCQENGGVPPFFQKKALRKEKENRAN 1039
Rhinatrema_bivittatum TEEA--DQDSTKDEP-LMYDDNLFDEKSFVDLNVTCQESGGVPPFFQHKKSQKREKENKAT 1035
Latimeria_chalumnae LPEETVDRDSLEEEIVVEIRDSIANEKISIEENITCQEKTGVPPFFQHKKGSKKEKENKAT 1030
.....1150.....1160.....1170.....1180.....1190.....1200

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Pavo_muticus      --AMLEKNKTEDMTQQLPKS-KLPLRSVN--- 1211
Pavo_cristatus    --AMLDKNKTEDMTQQLPKS-KLPLRSVN--- 1211
Gallus_gallus     --AMLEKNKTEDMTQQLPKS-KLPLRLVN--- 1221
Anas_platyrhynchos --ATLEKTKTEDLTQQLPKS-KIPLRSMN--- 1065
Chelonia_mydas    --SILERSKMEETTEQSLPKS-KLPLKALN--- 1066
Mus_musculus      --NPVEKYKVEEASDLSISK-SRLPLHTSINL- 1052
Rattus_norvegicus --NPVEKGKVEEASEHSISK-SRLPLRASINLC- 1056
Homo_sapiens      --NTLERSKVEETTEHLVTKS-SRLPLRAQINL- 1056
Pan_troglodytes   --NTLERSKVEETTEHLVTKS-SRLPLRAQINL- 1056
Macaca_mulatta    --NTLERSKVEETTEHLVTKS-SRLPLRAQINL- 1056
Callithrix_jacchus --NTLERSKVEETTEHLVTKS-SRLPLRAQINL- 1062
Canis_lupus_familiaris --NSVERPKVEETTEHSVTRS-SRLPLRA---- 1052
Equus_caballus    --NPVERSKVDETTEQSVTKS-SRLPLRAQINL- 1056
Bos_taurus        --NPLEKSKVEEIIIEQSVTKSSRLPLRAQNNF- 1056
Heterocephalus_glaber --LSQSSSVL----- 1033
Xenopus_tropicalis --TTLLERSKIMDEAEQSLPKS-KLPLRMON--- 1067
Rhinatrema_bivittatum --TTLLEKSKIEDGTET-IPRS-KLPLRLQN--- 1062
Latimeria_chalumnae NTAHFHDFRKILEGVDQANQS-KLPLRIQN--- 1059
.....1210.....1220.....1230...

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