

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/BDP Date: Tue Feb 1 11:25:19 2022

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*****:.....
Pavo_muticus      MFRRARLAVRPNVRPAGRGAGGAADA-EPQG-----SPVASKDEAAAAESLP---AGRQA 51
Pavo_cristatus    MFRRARLAVRPNVRPAGRGAGGAADA-EPQG-----SPVASKDEAAAAESLP---AGRQA 51
Gallus_gallus     MFRRARLAVRPNVRPVGRGAGGAADA-EPQG-----SPAASRDEAGAAESLP---AGRRA 51
Chelonia_mydas    MFRRARLSVKPNVRPGGRGGGCAAPAEPOGGQDSASPPARKEPQPSATASPGAAAGPRP 60
Rattus_norvegicus MFRRARLSVKPNVRPGVGTRGSAAPNPORGP----- 31
Mus_musculus      MFRRARLSVKPNVRPGVGTRGSAAPNPORGP----- 31
Homo_sapiens      MFRRARLSVKPNVRPGVGARGSTASNPORGR----- 31
Pan_troglodytes   MFRRARLSVKPNVRPGVGTRGSTASNPORGR----- 31
Macaca_mulatta    MFRRARLSVKPNVRPSVGARGSTAPSPORGO----- 31
Callithrix_jacchus MFRRARLSVKPNVRPSVGARGSAAPNPORGO----- 31
Bos_taurus        MFRRARLSVKPNVRPGAGARASTAPNSOREQ----- 31
Equus_caballus    MFRRARLSVKPNVRPGAAPRAPAAPAPORGR----- 31
Canis_lupus_familiaris MFRRARLSVKPNVRPAAGARASTAPTARRRP----- 31
Heterocephalus_glaber MFRRARLSVKPNVRHGGGARGSAAK-PORGL----- 30
Rhinatrema_bivittatum MIRRRLSVRPNVKPGGRVAAAPASQHDGSGSAGSGSGTQPELVPSAGEPPTQNRGAGS 60
Xenopus_tropicalis MIRRRLSFKPNVKPGGRGPGSPGTTTSGGGIATDPNRSQEPFCPNHETVEKDNGVAV 60
1.....10.....20.....30.....40.....50.....60

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:
Pavo_muticus      DS-----DEKTNSSSDAGEASKPKDMPTQRRKRIS 81
Pavo_cristatus    DS-----DEKTNSSSDAGEASKPKDMPTQRRKRIS 81
Gallus_gallus     DS-----DEKTNSSSDAGEASKPTDMPTQRRKRIS 81
Chelonia_mydas    DPPPQPE-----GEQPGR--RDERTGAANDDGEARKPADTFLQRRKRIS 102
Rattus_norvegicus -----EAPRPPEPATGSAPKPA 48
Mus_musculus      -----EAPRPPEPATESAPKPA 48
Homo_sapiens      -----ESPRPPEPATDSASKPA 48
Pan_troglodytes   -----ESPRPPEPATDSASKPA 48
Macaca_mulatta    -----ESPRPPEPATDSASKPA 48
Callithrix_jacchus -----ESPRPPEPATDSASKPA 48
Bos_taurus        -----EVPRPQEPAAASAPKAA 48
Equus_caballus    -----EAARPPEPAAASGPKPA 48
Canis_lupus_familiaris -----EAPGPQAPAAASGPKPA 48
Heterocephalus_glaber -----EAARPPEPATDSAPKPV 47
Rhinatrema_bivittatum QDSPEQE-----AATAAAGGGSRRDEKTVNDAGGSTKPLVTAVQRRKRIS 105
Xenopus_tropicalis SDVAETEGATTVSAAADRGSFVQEEEEKGTGLCKHAVPTGAEVQACATSTPLQRRKRFA 120
.....70.....80.....90.....100.....110.....120

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Pavo_muticus      TMPNLVKPRAGPSSDLHT---ASKPQRR--ASQAPDGSASLQKDSPPSEKSHVESSSKSP 136
Pavo_cristatus    TMPNLVKPRAGPSSDLHT---ASKPQRR--ASQAPDGSASLQKDSPPSEKSHVESSSKSP 136
Gallus_gallus     TMPNLVKPRAGPSSGLHT---ASKPQRR--ASQAPDGSASLQKDSPPSEKSHAESSSKSP 136
Chelonia_mydas    TMPNLAKPRVTLPSAQRS---VSKSSQKQVPQSVTNGNSSLOKESYPSEKSNTESSPKSP 159
Rattus_norvegicus EPTDVPVAVDSGGAEPQEQ---APGSSNN-----EKTGDGSNVEESSTLPS 90
Mus_musculus      EPTDVPVAVDSGGAEPQEQ---APGSSNN-----EKTGDGKNAAESSSTLSS 89
Homo_sapiens      EPTDVPTVDFGGAEPQEK---APRSSST-----EKTGGDNDVEESSRSSS 89
Pan_troglodytes   EPTDVPTVDFGGAEPQEK---TPRSSST-----EKTGGDNDVEESSRSSS 89
Macaca_mulatta    EPTGVPAVDFGGAEPQEK---APRSSST-----EKTGSDNDVEESSRSSP 89
Callithrix_jacchus EPTDVS AVHFNGAEPQEK---APRIST-----EKTASDNDVKESSKSSS 89
Bos_taurus        ESTDVPPVDFGGAEPQEK---TPKSSV-----EKTDDGKDVEESSKPSS 89
Equus_caballus    ESTAAPPAGLGGAQPPEK---APRSSD-----EKPDGENVVEESSGKSSS 89
Canis_lupus_familiaris ESTDVPAAACGGSEPRAE---APRSSD-----EKIDSENVEESSKSSS 89
Heterocephalus_glaber EPTDMPVAVFRGAEPQEK---APTSSD-----EKIDGENVVEESSYTSSS 88
Rhinatrema_bivittatum AAPNLAKPRDSRPSVQRS---DVAAPSSSQEPAPDPLPSSSPPIQNVLPPEKASPEASPKSP 165
Xenopus_tropicalis TLPNIGKPRVSIPSAVTTLLPLKASQGDIPVPSIGVAAEATPEKAKLESSFKIPTPPNI 180
.....130.....140.....150.....160.....170.....180

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      .  ::  ::  .  :
Pavo_muticus      -----MLPEKKTVPVQVPQFSPLKKSVNKEQ--TVAAQKSEDTLKN-IPSPPLKE 182
Pavo_cristatus    -----MLPEKKTVPVQVPQFSPLKKSVNKEQ--TVAAQKSEDTLKN-IPSPPLKE 182
Gallus_gallus     -----MLPEKKTVPVQVPQFSPLKKSMNKEQ--TVAAQKNDLTLKS-VPSPLKE 182
Chelonia_mydas    -----ILPEKKTVPVQVPQFSPLKKSVSKEPNVGVLTALKNDEILQKNIPCPPLKE 208
Rattus_norvegicus -----AASQRRKRVSSTSSSLGQPPVSAAPSQS----- 116
Mus_musculus      -----ASSQRRKRVSSTSSSLVQPSGSAPSQS----- 115
Homo_sapiens      -----TVSQRKRKISSSTSSLVKSSVSPSES----- 115
Pan_troglodytes   -----TVSQRKRKISSSTSSLVKSSVSPSES----- 115
Macaca_mulatta    -----TVSQRKRKISSSTSSLVKASVSPSES----- 115
Callithrix_jacchus -----TVSQRKRKISSSTSSLVKSSVSPSES----- 115
Bos_taurus        -----TVSQRKRKIPPTSSSLVKPSVSPSEP----- 115
Equus_caballus    -----TVSQRKRKVSRTPTLVKPSVSPSEP----- 115
Canis_lupus_familiaris -----TVSQRKRKISSPTLVKPGVSPSES----- 115
Heterocephalus_glaber -----AVSLRR-RLSSTSSSLVEPSVSPSQS----- 113
Rhinatrema_bivittatum TKAVPSLGGQGHGLPEKRTVPVQVPVHFSFNFNKSARKELNVGTNAEKGNVGPQKDMLSPLKE 225
Xenopus_tropicalis S-----QASLPEKRTVPVQVPQFTPFKKPVLPKOP--EVSFVKAVEFLPKDDLFLPLKE 230
      .....190.....200.....210.....220.....230.....240

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Pavo_muticus      RPTQETSVAQEEKLPLKP--VKEKRICSDRERILKARKLREMLKEELKKERMKQLKHRPP 240
Pavo_cristatus    RPTQETSVAQEEKLPLKP--VKEKRICSDRERILKARKLREMLKEELKKERMKQLKHRPP 240
Gallus_gallus     RPTQETSVAQEEKLPPKPSFVKEKRICSDRERILKARKLREMLKEELKKERMKQLKHRPP 242
Chelonia_mydas    RPTQGR-PTQEEPMHTKPLPLTKDKQKCSDRERILKAQKLREMLKEELKKERMKRWKNRPM 267
Rattus_norvegicus ---RPLSTVNHDAPQPNPTPAKEKQPCSDRYRIYKARKLREMLKEELRKE-KKQWKNKFA 172
Mus_musculus      ---RPLSTVDHDAPQPNPTPAKEKQPCSDRYRIYKARKLREMLKEELRKE-KKQWKNKFS 171
Homo_sapiens      ---HPLSTINQEAQPTATSTKEKQPCSDRYRIYKAQKLREMLKEELRKE-KKQWKNKYA 171
Pan_troglodytes   ---HPLPTINQEAQPTATSTKEKQPCSDRYRIYKAQKLREMLKEELRKE-KKQWKNKYA 171
Macaca_mulatta    ---HPLSTVNQEAQPTATPTKEKQPCSDRYRIYKAQKLREMLKEELRKE-KKQWKNKYA 171
Callithrix_jacchus ---HPLSTVNQEAQPIATPTKEKQPCSDRYRIYKARKLREMLKEELRKE-KKQWKNKYA 171
Bos_taurus        ---HPLSTVNQEAQPNPVPTKEKQPCSDRYRIYKAQKLREMLKEELRKE-KKQWKNKYA 171
Equus_caballus    ---HPLSPVNKEAPQDPVPAKEKQPCSDRYRIYKAQKLREMLKEELRKE-KKQWKNKCA 171
Canis_lupus_familiaris ---HPLSTVNQEVPPNPVLTKEKQPCSDRYRIYKAQKLREMLKEELRKE-KKQWKNKYA 171
Heterocephalus_glaber ---PPLPTVNQGVPPNPVPTKEKQPCSDRYRIYKAQKLREMLKEELRKE-KKQWKNKYA 169
Rhinatrema_bivittatum RPTQEGSAPGKIPVCPLPAPAKKIQRGSDRERILKAQKLREMLKEELRKE-RKMWREKHP 284
Xenopus_tropicalis RPSQGCISIGEFLKKTKS SPLKKVAGNLEKERLKRARKLRDILLRDELKE-RRASKEKFT 289
      .....250.....260.....270.....280.....290.....300

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Pavo_muticus      IIEGCSPPDRTKMTMRDLIYYLPENNPMSLAEKKRTEKSSALSQMK- QEEKNTPDHE 299
Pavo_cristatus    IIEGCSPPDRTKMTMRDLIYYLPENNPMSLAEKKRTEKSSALSQMK- QEEKNTPDHE 299
Gallus_gallus     IIEGCSPPDRSKMTMRDLIYYLPENNPMSLAEKKRTEKSSALGOTKE- QEEKSTPDHE 301
Chelonia_mydas    VIEGKTTPPDHSMKMTMRDLIYYLPENNPMSLAEKKTEKTSTQVQMK- SEEIHVDPHE 326
Rattus_norvegicus ---TNSQRPPDRSKMTMRDFIYYLPDNNPMTSSVEQKKKEKSLAPTPTRE- QENQSTQDAN 231
Mus_musculus      INESQRPPDRSKMTMRDFIYYLPDNNPMTSSLEQKKTEKPSPTPVQTRE- QEGKSTPNAE 230
Homo_sapiens      INESQRPPDRSKMTMRDFIYYLPDNNPMTSSLEQKKTEKPSPTPVQTRE- QEGKSTPNAE 230
Pan_troglodytes   INESQRPPDRSKMTMRDFIYYLPDNNPMTSSLEQKKTEKPSPTPVQTRE- QEGKSTANAE 230
Macaca_mulatta    INESQRPPDRSKMTMRDFIYYLPDNNPMTSSLEQKKTEKPSPTPVQTRE- QEGKSTPNAE 230
Callithrix_jacchus INESQRPPDRSKMTMRDFIYYLPDNNPMTSSLEQKKTEKPSPTPVQTRE- QEGKSTPDGE 230
Bos_taurus        VNETQRPLDRSKMTMRDFIYYLPESNPMTSSLEQKKTEKSSPTPVQTRE- QESKSTPEAE 230
Equus_caballus    INESQRPPDRSKMTMRDFIYYLPDNNPMTSSLEQKKTEKSLTPVQTRE- QESKSTPEAE 230
Canis_lupus_familiaris INESQKPPDRSKMTMRDFIYYLPDNNPMTSSLEQKKTEKSLTPVQTRE- QEGKSTPDIA 230
Heterocephalus_glaber INESQMPDRSKMTMRDFIYYLPDNNPMTSSLEQKKTEKPLTPVQAKDROESKSAALDAE 229
Rhinatrema_bivittatum MYEGNMPLDRSKMVMRDFIYYLPDNNPMTSSLEQKKTEKSLTPVQAKDROESKSAALDAE 344
Xenopus_tropicalis SVDYSDEIDRSKMTMRDFVHYIPENNPMTSSISDKNTSDKPAIVESPSAGSEMKSAPRED 349
      .....310.....320.....330.....340.....350.....360

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Pavo_muticus      EEDEEEAENGEEESQDG--PLLVPVKVAEDGSIILDEESLTVEVLRTKGPCVVEENDPIF 357
Pavo_cristatus    EEDEEEAENGEEESQDG--PLLVPVKVAEDGSIILDEESLTVEVLRTKGPCVVEENDPIF 357
Gallus_gallus     EEDEEEAENGEEESQDG--PLLVPVKVAEDGSIILDEESLTVEVLRTKGPCVVEENDPIF 359
Chelonia_mydas    DEEAETEPEEGEENDG--PLLVPVKVAEDGTIILDEESLTVEVLRTKGS CVVEENDPIF 384
Rattus_norvegicus DNED----VEEEVDDG--PLLVPVKVAEDGSIILDEESLTVEVLRTKGPCVVEENDPIF 285
Mus_musculus      DNED----VEEEVDDG--PLLVPVKVAEDGSIILDEESLTVEVLRTKGPCVVEENDPIF 285
Homo_sapiens      DNE-----MEEETDDG--PLLVPVKVAEDGSIILDEESLTVEVLRTKGPCVVEENDPIF 283
Pan_troglodytes   DNE-----MEEETDDG--PLLVPVKVAEDGSIILDEESLTVEVLRTKGPCVVEENDPIF 283
Macaca_mulatta    DNE-----MEEETDDG--PLLVPVKVAEDGSIILDEESLTVEVLRTKGPCVVEENDPIF 283
Callithrix_jacchus DNE-----MEEETDDG--ALLVPVKVAEDGSIILDEESLTVEVLRTKGPCVVEENDPIF 283
Bos_taurus        DNEE-----IEEELDDG--PLLVPVKVAEDGSIILDEESLTVEVLRTKGPCVVEENDPIF 284
Equus_caballus    DEDE-----VEEEMDEG--PLLVPVKVAEDGSIILDEESLTVEVLRTKGPCVVEENDPIF 284
Canis_lupus_familiaris DNEV----PEDDVDDG--PLLVPVKVAEDGSIILDEESLTVEVLRTKGPCVVEENDPIF 284
Heterocephalus_glaber DYEA----AAEETDDG--PLLVPVKVAEDGSIILDEESLTVEVLRTKGPCVVEENDPIF 283
Rhinatrema_bivittatum ELEEDEAVEEEEEEDGEGSLLVPVKVAEDGSIILDEESLTVEVLRTKGPVVEENDPIF 404
Xenopus_tropicalis EDD-----LDEEEDG--PLLVPVKVAEDGSIILDEESLTVEVSRTKGP-IVENGDPPIF 401
.....370.....380.....390.....400.....410.....420

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* *****:**** *:****: .
Pavo_muticus      ERGSTTTYSSFRKSFYTKPWSNKETDMFFLAISMVGTDGSLIGRLFPHRARAEIKNKFKR 417
Pavo_cristatus    ERGSTTTYSSFRKSFYTKPWSNKETDMFFLAISMVGTDGSLIGRLFPHRARAEIKNKFKR 417
Gallus_gallus     ERGSTTTYSSFRKSFYTKPWSNKETDMFFLAISMVGTDGSLIGRLFPHRARAEIKNKFKR 419
Chelonia_mydas    ERGSTTTYSSFRKSFYTKPWSNKETDMFFLAISMVGTDGSLIGRLFPHRARAEIKNKFKR 444
Rattus_norvegicus ERGSTTTYSSFRKNYYSKPWSNKG----- 310
Mus_musculus      ERGSTTTYSSFRKNYYSKPWSNKETDMFFLAISMVGTDGSMIGQLFPHRARIEIKNKFKR 345
Homo_sapiens      ERGSTTTYSSFRKNYYSKPWSNKETDMFFLAISMVGTDGSMIGQLFPHRARIEIKNKFKR 343
Pan_troglodytes   ERGSTTTYSSFRKNYYSKPWSNKETDMFFLAISMVGTDGSMIGQLFPHRARIEIKNKFKR 343
Macaca_mulatta    ERGSTTTYSSFRKNYYSKPWSNKETDMFFLAISMVGTDGSMIGQLFPHRARIEIKNKFKR 343
Callithrix_jacchus ERGSTTTYSSFRKNYYSKPWSNKETDMFFLAISMVGTDGSMIGQLFPHRARIEIKNKFKR 343
Bos_taurus        ERGSTTTYSSFRKSYSKPWSNKETDMFFLAISMVGTDGSMIGQLFPHRARIEIKNKFKR 344
Equus_caballus    ERGSTTTYSSFRKNYYSKPWSNKETDMFFLAISMVGTDGSMIGQLFPHRARIEIKNKFKR 344
Canis_lupus_familiaris ERGSTTTYSSFRKNYYSKPWSNKETDMFFLAISMVGTDGSMIGQLFPHRARIEIKNKFKR 344
Heterocephalus_glaber ECGSTTTYSSFRKNYYSKPWSNKETDMFFLAISMVGTDGSMIGQLFPHRARIEIKNKFKR 343
Rhinatrema_bivittatum ERGSTTTYSSFRKCCYTKPWSNRETDMMFLAISMVGTDGSMIGQLFPHRARIEIKNKFKR 464
Xenopus_tropicalis ERGSTTTYTSFRKSKYKPSSEKETDMFFLAISMVGTDGSMITHLFPHRQRIEIKNKFKR 461
.....430.....440.....450.....460.....470.....480

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Pavo_muticus      EEKANGWRIDKAFKEKRPFDFFELFAQLLEKVLADEEKRRQKSVKSQKPKEKKPVRPRKKP 477
Pavo_cristatus    EEKANGWRIDKAFKEKRPFDFFELFAQLLEKVLADEEKRRQKSVKSQKPKEKKPVRPRKKP 477
Gallus_gallus     EEKANGWRIDKAFKEKRPFDFFELFAQLLEKVLADEEKRRQKTVKSQKPKEKKPLRPRKKP 479
Chelonia_mydas    EEKANGWRIDKAFKEKRPFDFFELFAQLLEEVLADEKKRKQKATKRPSSKEKKPPKSRKKQ 504
Rattus_norvegicus ----- 310
Mus_musculus      EEKTNGWRIDKAFQEKRPFDFFFAHLLQKVLAEKKRKQKSTKQSLK-EKASKPRKNL 404
Homo_sapiens      EEKTNGWRIDKAFQEKRPFDFFFAHLLQKVLAEKKRKQKSVKNHSLKEKKSTKPRKNV 403
Pan_troglodytes   EEKTNGWRIDKAFQEKRPFDFFFAHLLQKVLAEKKRKQKSVKNQSLKEKKSTKPRKNV 403
Macaca_mulatta    EEKTNGWRIDKAFQEKRPFDFFFAHLLQKVLAEKKRKQKSVKNHSLKEKKSTKPRKNV 403
Callithrix_jacchus EEKTNGWRIDKAFQEKRPFDFFFAHLLQKVLAEKKRKQKSVKNHSLKEKKSTKPRKNV 403
Bos_taurus        EEKTNGWRIDKAFQEKRPFDFFFAHLLQKVLAEKKRKQKSVKNQSSKEKKSSKSRKNA 404
Equus_caballus    EEKTNGWRIDKAFQEKRPFDFFFAHLLQKVLAEKKRKQKSVKNQSLKEKKSSKPRKNV 404
Canis_lupus_familiaris EEKTNGWRIDKAFQEKRPFDFFFAHLLQKVLAEKKRKQKSVKNQSVKEKKSSKPRKNV 404
Heterocephalus_glaber EEKTNGWRIDKAFQEKRPFDFFFAHLLQKVLAEKKRKQKSTKNQGVK-KKSSKPQKNV 402
Rhinatrema_bivittatum EERSNGWRIDKAFKDKQPFDFEFAQLLEKVLAEKKRKQKSAKIKNPRVKKPTKFRRKQ 524
Xenopus_tropicalis EERLNGWRIDKAFREKKAFFDQQLFAELLERALIQEVK-KPKAPKTPKAKGEKGNKPRKPR 520
.....490.....500.....510.....520.....530.....540

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Pavo_muticus	KA-KVANTETTDNQDDLQEARISDAETEADTVTAEKENKELLGASEEAEQVSLAALVN	536
Pavo_cristatus	KA-KVANTETTDNQDDLQEARISDAETEADTVTAEKENKELLGASEEAEQVSLAALVN	536
Gallus_gallus	KG-KVANTETTDNQDGLQEARISDAETEADTVTAEKENKESLGVEEAEQVSLAALVN	538
Chelonia_mydas	KA-KVVSEADNDQDDPQGVRISSDAET-VDAGTAEKENEASLVSEQTEEQIILEPVITK	562
Rattus_norvegicus	-----	310
Mus_musculus	KAKTVTISEEVNDDPDES VN SNISDPERSONDAETVNEE-ESPSSSGQHLEQAMLEQDQNG	463
Homo_sapiens	KVKKVACEGVNNDPDESMSSRISDTERSQKDAQTVEEE--SLTLSDAEQVALEVDLNG	461
Pan_troglodytes	KVKKVACEGVNNDPDESMSSRISDTERSQKDAQTVEEE--SLTLSDAEQVALEVDLNG	461
Macaca_mulatta	KVKKIACERVNDPDESMSSRISDTERSQKDAQTVDEE--SLTLSGKDAEQVALEVDLNG	461
Callithrix_jacchus	KVKKVACEGVNNDPDESMSSRISDTERSQ-DAQTVEEE--SLTLSDAEQVALEVDLNG	460
Bos_taurus	KVKKVA----NDDRDES VSTKISNPGRSQKDAQTVEEELQSLTLSEQDSEQNALGLDVNG	460
Equus_caballus	KVKKVASEGVNDDAAESVSTKIPDEPSQKDAQTAGEEESLTLSGQDSEQIVLEPNLNG	464
Canis_lupus_familiaris	KAKKVASEGRNDDPDVSLSTKISDPEPSQKDAQIVEGQESQTLTGQDSEQIALEPDLNG	464
Heterocephalus_glaber	KVKKVTISEVVDVDDPDECVSAKISDIEGSDAQTVTEE-DSLTSSGQD-AEVVLEQDQNG	460
Rhinatrema_bivittatum	KAKAVCEETDISSSDPGIAG-TSDTEAEVDARTAEKENFVSPHVREGQAAAEFSPARRK	583
Xenopus_tropicalis	KK-----QKDKASAEQDSNLGDPEVEAVDSGTAEKE----NEESQTVIGDEPTPLPGK	569
	.....550.....560.....570.....580.....590.....600	

Pavo_muticus	KKRKRKRKDDLEQEEVENHPEELAAPSKIAEEGKSSKKTGKKMVNDINAAGPAV-----CR	591
Pavo_cristatus	KKRKRKRKDDLEQEEVENHPEELAAPSKIAEEGKSSKKTGKKMVNDINAAGPAV-----CR	591
Gallus_gallus	KKRKRKRKDDLEQEEVENRPEELAVTSKIPEEGKSSKKTGKKMANDINAAGHTL-----CR	593
Chelonia_mydas	KKRKRKRKDDLEQEEVENHPEELAVTSKIPEEGKSSKKTGKKMANDINAAGHTL-----CR	616
Rattus_norvegicus	-----	310
Mus_musculus	EKKRRRNQGEANKQEATNLLERVLVHSSPPAAEIHKNTPS---EENESECNKEQIPSLT	520
Homo_sapiens	KKRRRKQDGNELGVNLLNENATVQAGPSKGEKHKNKCQAIRPELKEGECSSKEQMLSCT	521
Pan_troglodytes	KKRRRKQDGNELGVNLLNENATVQAGPSRGEKHKNKCQAIRPELKEGECSSKEQMLSCT	521
Macaca_mulatta	KKRRRKQDGVNELEVNLLNENATVQAGPSKGEKHKNKCQAIRPEVKEGECSSKEQMLSCT	521
Callithrix_jacchus	KKRRRNQDKANELEVNLLNENATVQAGPSKGGKQKNKCQSVRPEVKEGECSSKEQMP---	517
Bos_taurus	KKRRRNQGEQSEQEVH-LSGSATVQPGSSKGEKHKNKGLSLSPEDNEDESKEQELPCV	519
Equus_caballus	NKRRRKQDEVGKQEVQNLGNATVQSGPSKGEKHKNKCQSVRPEVKEGECSSKEQMLSCT	524
Canis_lupus_familiaris	KKRRRNQDEVG-KQVKNLPESPTVQSGHSTGECKKNKGQSLRPEVKEGECSSKEQMLSCT	523
Heterocephalus_glaber	KRRRKQDGNELGVNLLNENATVQAGPSKGEKHKNKCQSVRPEVKEGECSSKEQMLSCT	520
Rhinatrema_bivittatum	RKKKKKNVVPSEPESETPSEGTGVSPKPTNKEKLRSKTEEAQVQETGDADSP-----	636
Xenopus_tropicalis	KKRARKKKNQAEQSVPEPDLSECONKPTSLP-AKEGKSRKKILIPILIGKEALDISADPET	628
	.....610.....620.....630.....640.....650.....660	

Pavo_muticus	EELGSVTEEEQDDLPAEEEEERSLSFTPMDDITERETDAN-----LCGFQ	635
Pavo_cristatus	EELGSVTEEEQDDLPAEEEEERSLSFTPMDDITERETDAN-----LCGFQ	635
Gallus_gallus	EELGSVTEEEQDDLHAKEQERSLSFISMDITERESDVN-----LCSFQ	637
Chelonia_mydas	EELDVLNQENADETPVLMEQESHSCLOLNDKTE-ERDLN-----LASFQ	659
Rattus_norvegicus	-----	310
Mus_musculus	QNIDDIAGLAPSEETEMRMDPISTCNQODIMPLARESESSESCAVALFVWEPGNTASADMA	580
Homo_sapiens	QNIDGIVGFASSTKVEKRTDPILSLSNQODATSVATESSESSTSDLPSEFVGIRALCEVN	581
Pan_troglodytes	QNIDGIVGFASSTKVEKRTDPILSLSNQODATSVATESSESSTSDLPSEFVGIRALCEVN	581
Macaca_mulatta	QNVGIVGFASSTKVEKRTDPILSLSNQODATSVATESSESSTSDLPSEFVGIRALCEVN	581
Callithrix_jacchus	-SINGIVSSASSEKVEKRTDPILSLSNQODATSVATESSESSTSDLPSEFVGIRALCEVN	576
Bos_taurus	QDITDLVLDLSSSEDAEQRTDPVLSPSQ-DVVSVAETAGNTSDLLSSEGGAGALCEVN	578
Equus_caballus	QNIDDVLDLSSSEKVEKRTDCIVLSLSSQPDVSVAAETPGSSTSDLPSEFVGIRALCEVN	584
Canis_lupus_familiaris	QNIDDIVLDLSSIEKAENRTDPMLLSSGQDAVSSATEASESSPSDLPSEAVISALCEVD	583
Heterocephalus_glaber	QNLDDTVDLVSSSETVEQKQDPILSPSHHHSNIPAAATESSESSPSFVSPSEVAITALCEVN	580
Rhinatrema_bivittatum	-----TGSWKESEHLSEEEALLVAFLGPESQHDLPDGE-----	670
Xenopus_tropicalis	VDPTMETAEGEESVDAEIKQEKKKRRQKKKPIIVESD-----SECQ	671
670.....680.....690.....700.....710.....720	

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Pavo_muticus	DSNDDKLVTEPTKLGSLDSTGDTSQEIQL-----SECPVSRTRSKEGQLEEA	682
Pavo_cristatus	DSNDDKLVTEPTKLGSLDSTGDTSQEIQL-----SECPVSRTRSKEGQLEEA	682
Gallus_gallus	DSSD-KLVTEPTKLGSLDVTGDTSQESQF-----SECPVSRTRSKEGQLEEA	683
Chelonia_mydas	DTISAGLIETESSEPETSDIISG-SQDWQP-----SESQASGTRNKKGNGET	705
Rattus_norvegicus	-----	310
Mus_musculus	HAESSCSEGRGADLKTAAPETEQTENVKPKSRSLRQPKPNLARAVGKKSAAVSQDRQDER	640
Homo_sapiens	NAEGSCIEERNVDLKNNSLEIDQTEENVKPMRLGRFORPKPNLSRAG-KKSVLSQGKTESE	640
Pan_troglodytes	NAEGSCIEERNVDLKNNSLEIDQTEENVKPMRLGRFORPKPNLSRAG-KKSVLSQGKTESE	640
Macaca_mulatta	DAEGSCTEERNVDLKNNSQEIQTENVKPMRLGCFORPKPNLSRAG-KKSVLSQDKTEAE	640
Callithrix_jacchus	NAVGSYREERNIDLKESLEIDQTEENVKPMRLGRFORPKPNLSRAG-KKSVLSQGKTEAE	635
Bos_taurus	SAESSRTEERDVLKDKSLETDQTETVKPMTIRGRLQRPKNLSRAVGKKSAAVSQDRQDER	638
Equus_caballus	DAENSCTEGRHADLKNKSPETDQRENVKPVARGRLQRPKNLSRAVGKKSAAVSQDRQDER	644
Canis_lupus_familiaris	NAESNCTEESVDLKNNSLETDQSRNVKLVGRRQLQRPKNLSRAVGKKSAAVSQDRQDER	643
Heterocephalus_glaber	PAKQSCIKERNVDQKSQLEASQAENVKPMRLGRFORPKPNLSRAVGKKSAAVSQDRQDER	640
Rhinatrema_bivittatum	ETENGSKVHSSASKQSLSEPDELLVPEIWESSGLQTLPPSKSLEKSTKKNRGRVADT	730
Xenopus_tropicalis	SGSDVLHIAEEEDSGSKEFNATLDSSVES-----CDQSVQEAETEGSTNAVAEE	719
	.....730.....740.....750.....760.....770.....780	

Pavo_muticus	RETTNADTRGLHKPEEKQNASSE--DSQSQIMNTEKPAE-----	719
Pavo_cristatus	RETTNADTRGLHKPEEKQNASSE--DSQSQIMNTEKPAE-----	719
Gallus_gallus	RETTNADTRGLHKPEEKQNASSE--DSQSQIMNTEKPAE-----	720
Chelonia_mydas	SEAKNSEVCDLYKPAEKESSTARKSHDSKSETMETEKAAAGKPS-----	748
Rattus_norvegicus	-----	310
Mus_musculus	NKNSPSETAAEKNHMEKETMNESETSVAKNTDGESEPGAK-----TVSD--LSEKSCVOODS	694
Homo_sapiens	SKNSHSHKTSVEKNHVEKDKMNTLDILRMETTERENPEAE-----TVSV--LGEKNCLQEGS	694
Pan_troglodytes	SKNSHSHKTSVEKNHVEKDKMNTLDILRMETTERENPEAE-----TVSV--LGEKNCLQEGS	694
Macaca_mulatta	SKNSHSHKTSVEKDLHLEKDKMNTLDILRMETTERENPEAE-----TVSM--LGEKNCLQEGS	694
Callithrix_jacchus	SKNSHSEISVEKNHMEKDKMNTLDILRMETTERETPEAE-----TVSI--VGEKKCLQEGN	689
Bos_taurus	NKSLHKETPIEKNPMEKD-----CISGMNTEKGNPEPE-----TVSN--LSEKTCVQEDD	687
Equus_caballus	SESLHPETSMEKNHLEKDKRNTFDISETENEGENPEAE-----TVSN--LSEKTCVQEDD	698
Canis_lupus_familiaris	TKTLHAETSNEKNHMEKDKMNTLDISGMNTEKGNPEAE-----TVSN--LSEKTCVQEDD	699
Heterocephalus_glaber	NESSHSDTSEKNHMEKDKMNTLDISGMNTEKGNPEAE-----TVSN--LSEKTCVQEDD	694
Rhinatrema_bivittatum	CGAKNEDVCDTETSPAEDSSAAGRSREAQENEGKIADKPAR-----	770
Xenopus_tropicalis	ILSGDDGDDGTLEPYEDDDDDGDELLSMQEDTLVSNEQD-----	758
	.....790.....800.....810.....820.....830.....840	

Pavo_muticus	-----RRRLQPKPNIMKLSGKKEAVNHEKMEAETSSPKLVN-----	756
Pavo_cristatus	-----RRRLQPKPNIMKLSGKKEAVNHEKMEAETSSPKLVN-----	756
Gallus_gallus	-----RRRLQPKPNIMKLSGKKEAVNHEKMEAETSSPKLVN-----	757
Chelonia_mydas	-----VRGRLQRPKNLARASGKTEAAVQEKSEVKISPPPEPTEG-----	787
Rattus_norvegicus	-----	310
Mus_musculus	QAKVLRPTLRMRMRQRPKNPVVKAERKEILTSQEKFGAHVEKSEDESCVV-----	746
Homo_sapiens	QLKALRPVQVR--GRLOPKPNAGKAAERKEILISQEEIGANVEKNENESCAD-----	745
Pan_troglodytes	QLKALRPVQVR--GRLOPKPNAGKAAERKEILISQEEIGANVEKNENESCAD-----	745
Macaca_mulatta	QLKALTPAKVR--GRLOPKPNVGAAGRKEILMSQEEIGANVEKNENESRAD-----	745
Callithrix_jacchus	QLKAFRPAQVR--GRLOPKPNVGAAGRKEILISQEEIGANVEKNENESRAD-----	748
Bos_taurus	QPKAFRPARLMRGLLRPKPNVGAAGRKEILTSQEKFGAHVEKSEDESCVV-----	739
Equus_caballus	QPKAFRPTLRMRMRQRPKNPVVKAERKEILTSQEKFGAHVEKSEDESCVV-----	750
Canis_lupus_familiaris	QTKALRPALR--GRLOPKPNVGAAGRKEILTSQEKFGAHVEKSEDESCVV-----	750
Heterocephalus_glaber	QPKAPRPAQVR--GRLOPKPNVGAAGRKEILTSQEKFGAHVEKSEDESCVV-----	745
Rhinatrema_bivittatum	-----AVRGLSRKPKRILVKASGKTEAASHPKPTEGADKDAGEVDVLN-----	813
Xenopus_tropicalis	-----SVVLLASDISLFDNSSIADTQVETSPVESLQEAIDHK-----	797
850.....860.....870.....880.....890.....900	

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Pavo_muticus      -----ATEKCSSEDSGGNRSEITEAESMH-----LGTKSEGPKEKT    791
Pavo_cristatus    -----ATEKCSSEDSGGNRSEITEAESMH-----LGTKSEGPKEKT    791
Gallus_gallus     -----ITEKCSSEENSEGNRSEITEVESMD-----LDTKSEGPKEKT    792
Chelonia_mydas    -----AEKMYTMEAAEGNTAEITGDEIIGREIKALEIKSQETKA    827
Rattus_norvegicus -----                               -----          310
Mus_musculus      -----IPPTENESHKNLOCEDTVSEPGRKDP-FENIQPDQPQVLSDCPSIHEGNKENK  799
Homo_sapiens      ----RDTPOHMEDQSRKDFEEDVILQPEKNDS-FQNVQPDPEPKVLNECLSVQENNKANK  800
Pan_troglodytes   ----RDTPOHMEDQSRKDFEEDVILQPEKNDS-FQNVQPDPEPKVLNECLSVQENNKANK  800
Macaca_mulatta    ----RDT-QHMEDQSKDFEEDVILQPEKNDS-FQNVQPDPEPKVLNECLSVQENNKANK  799
Callithrix_jacchus SCVGRDTSQHMEDQSKDFEEDVIS--EKNDLS-QNVQPDPEPKVLNECLSVQENNKANK  805
Bos_taurus        ----RDTPEQLEDQSKNFCEDIASLSEKKDNSTFQNVQSDPKAVNECLSVQEDNKRAN  794
Equus_caballus    ----RGTPQIEDQSCQNVCECEDITSCSEKGTSTFQNVQPDPTILNECVSIQEDNKANT  806
Canis_lupus_familiaris ---RESPEQIEDKSSKDFDFEDIISQSEKEDDFQMN-----VNECLSIQED----  794
Heterocephalus_glaber ---KDILQMEDQSYKNLECE--DKQPEKKDTSFQNVQPDPEPRALNECLSVQEDSQANV  799
Rhinatrema_bivittatum -----VTVEEPAEKKNEDLDIDEQANKTSISPEENKQSS    847
Xenopus_tropicalis -----MTVSTTEKPEQCDIQEDSGARTREPSASEDEFIQSC    833
.....910.....920.....930.....940.....950.....960

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Pavo_muticus      VFGVARIRGNRQRFKPNLTRAPGRKEHENNTESDKMSHPESKEETERN-IDQSNKCD---  847
Pavo_cristatus    VFGVARIRGNRQRFKPNLTRAPGRKEHENNTESDKMSHPESKEETERN-IDQSNKCD---  847
Gallus_gallus     VSAVARIRGSRQRFKPNLTRASGRKEHENNSNDKMSQPSKEETERN-IDQSRKFD---  848
Chelonia_mydas    VTEKAAMRGRRQRFKPNVVGASGKREAPVQEGEKEKTPQEPVGAIEKQSTIDQGNTPD---  884
Rattus_norvegicus -----                               -----          310
Mus_musculus      RKQVPVLRTRFQKPKPNIGRGTGRREISSKEEVLEKILVSGEMAAALRETVRDLTSP-KE  857
Homo_sapiens      LNQVPILRTRFQKPKPNIGRGTGRREISSKEEVLEKILVSGEMAAALRETVRDLTSP-KE  859
Pan_troglodytes   LNQVPILRTRFQKPKPNIGRGTGRREISSKEEVLEKILVSGEMAAALRETVRDLTSP-KE  859
Macaca_mulatta    LNQVPILRTRFQKPKPNIGRGTGRREISSKEEVLEKILVSGEMAAALRETVRDLTSP-KE  858
Callithrix_jacchus RDQVSILRTRFQKPKPNIGRGTGRREISSKEEVLEKILVSGEMAAALRETITPNTSP-RE  864
Bos_taurus        -KDVRIPKTRFQKPKPNIGRGTGRRGISSKEEVVPEVIASEAMTAALRETATLETSL-RE  852
Equus_caballus    LKQVPMVKTRFQKPKPNVGRGIGRRKIFSKEEVSEIILTSGEMTALREVARLGASP-RE  865
Canis_lupus_familiaris -NKVPVLKTRFQKPKPNIGRGARRREVFSSKEEVSEIVASEQFTAPLRETVRVEETLPKE  853
Heterocephalus_glaber LKQVPILRTRFQKPKPNIVRGIRRKIPSSKEEVSEIVASEQFTAPLRETVRVEETLPKE  858
Rhinatrema_bivittatum VRPAQLPRGRSQRPKPNLRRRAAGRKEVAVAEAAEESTEEGTQEDNGHRSLSPLNYKP  907
Xenopus_tropicalis TKSSPVGKGRIQKPKPNLPKLSNRRGGQENRGDIPEGRIEVATEDNTTTFQNSRDDK---  890
.....970.....980.....990.....1000.....1010.....1020

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Pavo_muticus      -----                               -----          847
Pavo_cristatus    -----                               -----          847
Gallus_gallus     -----                               -----          848
Chelonia_mydas    -----                               -----          884
Rattus_norvegicus -----                               -----          310
Mus_musculus      VLSVPLAPLTATASTKDSSES-----          877
Homo_sapiens      MVPAEIN-----TKEMQS-----          872
Pan_troglodytes   MVPAEIN-----TKEMQS-----          872
Macaca_mulatta    MVPAEINT-----TKEMQS-----          872
Callithrix_jacchus MVAEGIST-----TKEMQS-----          878
Bos_taurus        KEPVET-----NTTEEMESDLREIGRKDISSRDIMPETSDVTVEMETDLKETENDISP  906
Equus_caballus    NGPVEA-----NTTEEMKS-----          879
Canis_lupus_familiaris RVSVEASTT-----NTTKEMES-----          870
Heterocephalus_glaber KVPVVITA-----TSKEMKS-----          873
Rhinatrema_bivittatum NQVEEIQPACSSSLGEFSLTN-----          927
Xenopus_tropicalis -----                               -----          890
.....1030.....1040.....1050.....1060.....1070.....1080

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Pavo_muticus      -----VINGEAAEKSDKVLEMASQSNETSGSQEDSKQS----- 880
Pavo_cristatus    -----VINGEAAEKSDKVLEMASQSNETAGSQEDSKQS----- 880
Gallus_gallus     -----VTDGEAAEKDDKVSEMVQSNETTGSQEGSKQS----- 881
Chelonia_mydas    -----GTRGETTEKDGRVSETEFOSKEISCLQEGGKQS----- 917
Rattus_norvegicus ----- 310
Mus_musculus      -----DVKDSGRNDTASNAEMSEMTDVTMEMETGLETIGRD----- 913
Homo_sapiens      -----DLKETGRRRAISPREKILDVIDDTIEMETGLKAMGRE-ICLREKT 915
Pan_troglodytes   -----DLKETGRRRAISPREKILDVIDVTMEMETGLKAMGRE-ICLREKT 915
Macaca_mulatta    -----DLKETGRRRAISPREKILDVIDVTREVEETGLKARGRE-ICLREKT 915
Callithrix_jacchus -----DLKESGRRRAISPREKTVDDVIDVIMKMETGLKAAGRE-ISPKDKT 921
Bos_taurus        REKMPEISDVTVMKTDLKETEKNDISPMEKIPEMIDVIAEMETDLKETGKNDICLREKM 966
Equus_caballus    -----DLTETERRGVSPMEKTPEMIDITVDMETGLDETGRG-VSLRDRV 922
Canis_lupus_familiaris -----YLKKTGR-DNSPREKIPEIMDNSVEMETDLKETGRE-VSPGDSV 912
Heterocephalus_glaber -----NLRETGRRDTSPSENIAEMSDVTVMETGLKATVTE----- 909
Rhinatrema_bivittatum -----FGGAHIPQKDEPTIANLEHEIQANENSSLED----- 958
Xenopus_tropicalis -----STNIPMSTPNNEDSVKEESAISKQVSSTLLGSTQTPE----- 928
.....1090.....1100.....1110.....1120.....1130.....1140

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Pavo_muticus      ----- 880
Pavo_cristatus    ----- 880
Gallus_gallus     ----- 881
Chelonia_mydas    ----- 917
Rattus_norvegicus ----- 310
Mus_musculus      -----TCPGEMGAEMIDIPMETEAGLKASLNE----- 940
Homo_sapiens      PEVIDATEEIDKDL EEAGRREISPOKNGPEEVKPLGEVETDLKATGNE----- 963
Pan_troglodytes   PEVVDATEEIDKDL EEAGRREISPOKNGPEEVKPLGEMETDLKATGNE----- 963
Macaca_mulatta    PEVIDATKEIDKDL EETGRREIPPHENGPEEVKPVGEMETNLKATGNE----- 963
Callithrix_jacchus PEMIDTTKDVDKDL EETGGREIFLEENVPEEVKPIGEMETDLKATGRE----- 969
Bos_taurus        PEMSDVTAEMETDLKETEKNDISPMEKIPEMSDIIAEMETDLKETGKNDISPMEKIPETS 1026
Equus_caballus    PEVTAATEERKTDLEENGRRRLSLEEKAPVVSTVGDMEETGLEETGRG----- 970
Canis_lupus_familiaris SEVSDVTEERVINLKETER-AVSPRDTTLEVSELTEERVINLEETGREVS-PRDITSEVS 970
Heterocephalus_glaber ----- 909
Rhinatrema_bivittatum -----YVHKETIEEPFRSDEEPGSPGKR----- 981
Xenopus_tropicalis -----IKPTPVVRFQRPKPNLTASSRK----- 950
.....1150.....1160.....1170.....1180.....1190.....1200

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Pavo_muticus      -----VLKPAPLKRGRVQ----- 893
Pavo_cristatus    -----VLKPAPLKRGRVQ----- 893
Gallus_gallus     -----VLKPAPLKRGRVQ----- 894
Chelonia_mydas    -----VLKPAPLMRGRMQ----- 930
Rattus_norvegicus ----- 310
Mus_musculus      -----TSCMEKVPELIDTTG----- 955
Homo_sapiens      -----SSPREKTIPEVTDATQ----- 978
Pan_troglodytes   -----SSPREKTIPEVTDATQ----- 978
Macaca_mulatta    -----SSPREKTIPEVTDATQ----- 978
Callithrix_jacchus -----SSPREKTIPEVTDATQ----- 984
Bos_taurus        DVTAEMGTDLKETGKNDISPMEKIPEMIDVSVETQDSKETGKNDISPMEKIPMSDVTE 1086
Equus_caballus    -----VSPRDKVPEVTDAAE----- 985
Canis_lupus_familiaris ELTEERVINLEETGR-----EGSPRDTILEVSELTE----- 1001
Heterocephalus_glaber -----SPPREKTIPELIDTTG----- 924
Rhinatrema_bivittatum -----NQDALKSVRLTISRFRN----- 997
Xenopus_tropicalis -----LEDRGDIQEEGSKMS----- 965
.....1210.....1220.....1230.....1240.....1250.....1260

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Pavo_muticus	KPKPNLGRITVAW-----	905
Pavo_cristatus	KPKPNLGRITVAW-----	905
Gallus_gallus	KPKPNLGRITVAW-----	906
Chelonia_mydas	RPKPNVGRAAGR-----	942
Rattus_norvegicus	-----	310
Mus_musculus	EICTNLGETGRKE-----	968
Homo_sapiens	EIDKNLEETGRRKISPRENGPEEVKPVDEMETHLNAIGRESSPREKTPPEVIDATEEID--	1036
Pan_troglodytes	EIDKNLEETGRRKISPRENGPEEVKPVDEMETHLNAIGRESSPREKTPPEVIDATEEID--	1036
Macaca_mulatta	EIDKDLEDTGRRKISPKENGPEEVKPVDEMETHLNAIGRESSPREKTPPEVIDATEEIEID	1038
Callithrix_jacchus	EIDKDLEETGRR-----	996
Bos_taurus	EMWTDKMETEKNDISSSEKIPPEMIDVTAEMETHLNAIGRESSPREKIPETNNVSVEMET	1146
Equus_caballus	ERKTDLEENGRRREISLEEKASEAVSTIGDMETGLEETGRG-----	1025
Canis_lupus_familiaris	ERVIDLEETGR-AVSPRDSISEVSELTEERVINLEETGKD-----	1040
Heterocephalus_glaber	EIETDWKESRRE-----	936
Rhinatrema_bivittatum	RSKPNLGRAAES-----	1009
Xenopus_tropicalis	TEEPAEGDRGPVVG-----	979
	.....1270.....1280.....1290.....1300.....1310.....1320	

Pavo_muticus	-----	905
Pavo_cristatus	-----	905
Gallus_gallus	-----	906
Chelonia_mydas	-----	942
Rattus_norvegicus	-----	310
Mus_musculus	-----	968
Homo_sapiens	-----LEETEREVSPQENGLEEVKPLGEMETDLKA	1066
Pan_troglodytes	-----LEETEREVSPQENGLEEVKPLGEMETDLKA	1066
Macaca_mulatta	-----LEETEREISPOENGPEEIKPLGEMETDLKA	1068
Callithrix_jacchus	-----	996
Bos_taurus	DLKENGKNDISPREKMLEMSDVTAEMETHLNAIGRESSPREKIPPEMIDVAAEMETHLKE	1206
Equus_caballus	-----VSLRDKVPEVIDATEERKTDLEE	1048
Canis_lupus_familiaris	-----VSPRDTILEVSELTEERVINLEE	1063
Heterocephalus_glaber	-----	936
Rhinatrema_bivittatum	-----	1009
Xenopus_tropicalis	-----	979
	.....1330.....1340.....1350.....1360.....1370.....1380	

Pavo_muticus	-----KKDHGHEKDPEGEKVEGGEAEGRV	929
Pavo_cristatus	-----KKDHGHEKDPEGEKVEGGEAEGRV	929
Gallus_gallus	-----KKDHSHEKDPEEEKVEGGEAEGHV	930
Chelonia_mydas	-----QEISTIKKDVQDEKTEVGEAVKSL	966
Rattus_norvegicus	-----	310
Mus_musculus	-----VFLOENGPKFVGPVSEPETGLQETGKD	995
Homo_sapiens	TGRDSFPRGKTPEVIDAI--EEIEIDLEETEREISPOENGLEEVKPLGEMOTDLKATGRE	1124
Pan_troglodytes	TGRESSPRGKTPEVIDAI--EEIEIDLEETEREISPOENGLEEVKPLGEMOTDLKATGRE	1124
Macaca_mulatta	AGRESSPREKTPEVTDTT--EEIEIDLEETEREISPOENGLEEVKPVGKMETDLKATGRE	1126
Callithrix_jacchus	-----EISPOEKGLEEVKPLGEMETDLKATGRE	1024
Bos_taurus	TGKDDISPMEKMPETNNVTAEMEADLKGTKNYISPREKMPMSDVTAEMETHLNAIGRESSPREKIPETNNVSVEMET	1266
Equus_caballus	SGRE-----ISLQETPEAVSTVGDMEETGLEETGRG	1079
Canis_lupus_familiaris	TGKE-----VSPRNTILEVSELMEERVINLEETGRE	1094
Heterocephalus_glaber	-----IFPOENDPGEVKSIGETEAGLQETRRE	963
Rhinatrema_bivittatum	-----KDAPVAEKGAERKTEVEQAEI	1032
Xenopus_tropicalis	-----MPGPKNISMNIPLISQEDSPEDQENS	1006
1390.....1400.....1410.....1420.....1430.....1440	

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Pavo_muticus	IHHVNESNDACHRNDMDG-----	947
Pavo_cristatus	IHHVNESNDACHRNDMDG-----	947
Gallus_gallus	VHHVNEGNDNSCHKNDMVG-----	948
Chelonia_mydas	IHCENKSGALLTTGDATEGNEIDILL-----	990
Rattus_norvegicus	-----	310
Mus_musculus	LAMKESTPDTTDSTEEREAYSSEETERQEKIS-----	1026
Homo_sapiens	ISPREKTPEVIDATEEIDKDLEETGRREISPEENGPEEVKPVDEMETDLKTTGREGSSRE	1184
Pan_troglodytes	ISPREKTPEVIDATEEIDKDLEETGRREISPEENGPEEVKPVDEMETDLKATGREGSPRE	1184
Macaca_mulatta	ISPKEKTPEVIDATEEIDKDLEETGRREISPEENGPEEVKPVDEMETDLKATGRESFPRE	1186
Callithrix_jacchus	ISPRKKTPEVIDATKEIDIDLEET-----	1048
Bos_taurus	IFPREIITVVTDATERKTDLEETERREMSLQENAPEEVDITIGEVETDLKKTTEREISPNE	1326
Equus_caballus	VSTRDKVPEVTDATERQTDLEES-GREISLEEKAPAVSTIDDVETGLKETGRGVSTRD	1138
Canis_lupus_familiaris	ASPKDTISEVSELTEERVINLEETGRREISLQENAP-EVSTTDEVETGLEETRSEISIRE	1153
Heterocephalus_glaber	NPTGERTLEMIDPTEERTDLEES-----	987
Rhinatrema_bivittatum	MPEHAGNCTSLSSPDPTGPAQEQS-----	1056
Xenopus_tropicalis	CDKKEESVSQVECTSSPVISLPSARGRLQRP-----	1037
	.....1450.....1460.....1470.....1480.....1490.....1500	

Pavo_muticus	-----APKKSPOKL-RAVENEK-GPSDVSE	970
Pavo_cristatus	-----APKKSPOKL-RAVENEK-GPSDVSE	970
Gallus_gallus	-----APKKSPOKL-KDVENEK-GSSDVLK	971
Chelonia_mydas	-----CSEISEKEATAGPETVVS MHVKQHSQEKPLGS-ESCEQEKELCVDDLE	1037
Rattus_norvegicus	-----	310
Mus_musculus	--ALIKDAEEAKARGEMETPLEEIGGGTSQRGKAAGAPVEQSAS-EEEPQGSACREEVAV	1083
Homo_sapiens	KTREVIDAAEVIETDLEETER-EISPOENGPEEVKPVGKMETDL-KEIREEISQREKVLA	1242
Pan_troglodytes	KTREVIDAAEVIETDLEETER-EISPOENGPEEVKPVGKMETDL-KEIREEISQREKVLA	1242
Macaca_mulatta	KTPEVIDAAEEIEIDVEETER-EIAPQESGPPEVVRPVGKMETDL-KEIREEISQREKVLA	1244
Callithrix_jacchus	-----ER-EISPOEKGPEEVKPIGEMETDL-KEVREEISQREKGLV	1087
Bos_taurus	EITEMPDAAEEVETDLEETDRREISTQENASEVKTVDMEIDL-KEIGIETS PREKVLV	1385
Equus_caballus	KVPEVTDATERKTDLEESGR-EISLEEKAPAVSTIDDVETGL-KETGRGVSPRDKVLV	1196
Canis_lupus_familiaris	NVPPEMVDATEEREIHLEETEKEGIDIEG----EVKIQGEMETDW-KEIGKETS PREKVP	1208
Heterocephalus_glaber	-----ERREIPVPGKVPKELKTIGEVETDL-KDIEGEISQREKVLV	1027
Rhinatrema_bivittatum	-----PFLDDSKYTDLTQKGKGSNSLQSPQRTHTVSLGKPEPGEMAENVVLE	1104
Xenopus_tropicalis	-----KPNLLSISRKGKKEVKADIQSSEANEDTVKIDYMKESCAIGKPOE	1085
	.....1510.....1520.....1530.....1540.....1550.....1560	

Pavo_muticus	DVSEFSTGESGPNQEEKTVISSVGLRRSRFHRPOPNNFRITSRK-DVMDINKGVSOEDTS	1029
Pavo_cristatus	DVSEFSTGESGPNQEEKTVISSVGLRRSRFHRPOPNNFRITSRK-DVMDINKGVSOEDTS	1029
Gallus_gallus	DVSDFNTGESGPNQEDKTVISSVRLRRSRFHRPKPNLRITSRK-EVIDINKGVSOEDTN	1030
Chelonia_mydas	EVSDFGTGDASSQ-QEEKVAVQTTLLRNQFQKPKSNVKGAEAGGEVPGVDKDVSEDNSE	1096
Rattus_norvegicus	-----	310
Mus_musculus	ESSTAEGKELNLRRETGEDDVSSMVVLGEKTDIEETNGDPKETERESSVSWERGSGEIQV	1143
Homo_sapiens	EFSAIREKEIDLKETGKRDIPIMEKVS GKM VEEEM EADLKETGKEN--FRERGSEEEICV	1300
Pan_troglodytes	EISAIREKEIDLKETGKRDIPIMEKVS GKM VEEEM EADLKETGKEN--FRERGSEEEICV	1300
Macaca_mulatta	EISAVREKEIDLKETGKRDISMMEKVS GKM VEEEM G TDMKETGREN--FRERGSEEEICV	1302
Callithrix_jacchus	EISAVREREIDLKETRKGKISMMEKVS GDM AIEEM EADLKETGIEN--FRESGSEEEICV	1145
Bos_taurus	GISATGERETDLEETGQDIFLMRKASAKVA AVEEIEADLKDITGKEIS-LTKSRSEE---	1441
Equus_caballus	GINAIGGKEVDSKETGKGAI SLTEKVLGKT TAVEETQADLEETGREIS-LRKSRSSEETST	1255
Canis_lupus_familiaris	DISAIREKEIDLKETEERNLSLMEKESGKITAIETEADLKETGGDIS-LRESRSEEEISP	1267
Heterocephalus_glaber	GVSTLEEREIDLKETGKEDISLMEITILRKTIVTEEIEADLKETETEIS-LREREAEQICV	1086
Rhinatrema_bivittatum	LAATEHLRSDEELERTEVDAQPGQLTRGRMQRPKPNLGRAARRKEVQLAEKETVEKSEV	1164
Xenopus_tropicalis	HVLDTLLTEESSTAGIASAVSCPDTFKTTLTMAEADGHKRDVGSDEPEKNSEPMOKSTS	1145
1570.....1580.....1590.....1600.....1610.....1620	

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Pavo_muticus	RKESLMQSSHECCIL-DADKAETCEVLPSSSEFGKEKSVGPQDVSES-----	1075
Pavo_cristatus	RKESLMQSSHECCIL-DADKAETCEVLPSSSEFGKEKSVGPQDVSES-----	1075
Gallus_gallus	KKESLMQSTDECCVLLDTDKAENCEVLQSLSELGKEKSVGPQDVSES-----	1077
Chelonia_mydas	KDNSLIQCHSKCSMLPDLDKAAKCEVMPSLQTLKEKEDPADSQEIFATP-----	1144
Rattus_norvegicus	-----	310
Mus_musculus	GEEMVEDLGKPEKIDVAPREREPEEH-SSGOPEADVILSSSDGSTGSPQDKVN--ISSKI	1200
Homo_sapiens	TEEKVAELKQTGKTDISPENELEETSTSRQTDTHLMQSGSNDFAVPSLDIQNISSEVL	1360
Pan_troglodytes	TEEKVAELKQTGKTDISPENELEETSTSRQTDTHLMQSGSNDFAVPSLDIQNISSEVL	1360
Macaca_mulatta	TEEKVAELKKTGKTHISPENELEETSTSRQTDTHLMQSGSNDFAVPSLDIQNISSEVL	1362
Callithrix_jacchus	TEETVAELKKTGKTDISPENELEETSTSRQTDTHLMQSGSNDFAVPSLDIQNISSEVL	1205
Bos_taurus	IEKSMADLENIEEIDISLREKDPEDTGTSSRAEADPLQTSDDSSSTVSSLTNRDLGREVL	1501
Equus_caballus	TEEMVADLEKTGKIDISLRGNVPEETGISROTETDLMESIRAVGSALPSLNQIGSEAL	1315
Canis_lupus_familiaris	PEEMAADLEKTGKIDISLRKNGAETKTSTROTETGLIQSNSSCCSTVPSLNQIGSEAL	1327
Heterocephalus_glaber	IEEMVADLEKTGNIDISPEN-LEEPATSRREIETDVMQKSSADCSIVPSLDVKNIVSEVQ	1145
Rhinatrema_bivittatum	EESGTLDDGSGCTLIPTSHVSRREEYGPLLSMSVKNLDLDFVQAEVP-----	1213
Xenopus_tropicalis	EEQQAQSPVKATPLSRSRFQKPKPNLMKTSVRKGKEGNKVSADNLAETPQDKKE-----	1199
	.....1630.....1640.....1650.....1660.....1670.....1680	

Pavo_muticus	-----SSFKSPDTLSGSECGKLEACLP-VDNQNETSSTNAGIDRKITTQ	1118
Pavo_cristatus	-----SSFKSPDTLSGSECGKLEACLP-VDNQNETSSTNAGIDRKITTQ	1118
Gallus_gallus	-----SSFKSPDTLPRSEDGKVEPCLL-VDNQNETSSTNAGIDREITTQ	1120
Chelonia_mydas	-----ISLQSPKKLSGSESGEQNVSPPPADNLEKTSAVAARLHNSHISQ	1188
Rattus_norvegicus	-----	310
Mus_musculus	SVMPRTLVEEKETTDKDISSHLGHVESCSQNLGRHET-DOGMPLPDALERFSDTNLSKPLP	1259
Homo_sapiens	SMMHTPVVEEKRNSEKEVSSSHFHFKISSQTHESDKTEVQGIQSPDVPEQFSDINLSKSLP	1420
Pan_troglodytes	SMMHTPVVEEKRNSEKEVSSSHFHFKISSQTHESDKTEVQGIQSPDVPEQFSDINLSKSLP	1420
Macaca_mulatta	LMMHTPVVEEKRNSEKEVSSSHFHFKISSQTHESDKTEVQGIQSPDVPEQFSDINLSKSLP	1422
Callithrix_jacchus	SMMHTPVVEEKRNSEKEVSSSHLHFKVSSQTHESDKTKVQGLRSPDVSEQFSDINLSKSLP	1265
Bos_taurus	SVVHIS-VEEKNSEKEVSNQLSHLNISSQSELDKVEDORMRPPSVPEQFSDINLSKSLP	1560
Equus_caballus	LVVPVPGEEERSSEKEGSSQLSHLKTSSQTPELGETEDQGMPLPDALERFSDANLSKSLP	1375
Canis_lupus_familiaris	SMVHTP-EEETNSEKELSDHLRLKLT-LOISEPDKTEDQGISSSDVPEQFSDTNLSKSLP	1385
Heterocephalus_glaber	PVVPTS-IEENNSEKELSDHLSCSKPASQISEFYKTEDQGIQPPDVSEHFSFSDTNLSQSLP	1204
Rhinatrema_bivittatum	-----PKNAWSENAQPHKLMPEQHQVQDKDHTVEPAIEVSEKSSSEQPSPQ	1259
Xenopus_tropicalis	DTSLSEMLELQLKEPEISSVDEEKVPNCROSSAGSMLPSTVAPDSITETLEAKGTSNNSQ	1259
	.....1690.....1700.....1710.....1720.....1730.....1740	

Pavo_muticus	GESKQTPLOQVQLVRSFGFKYKPNLGKGFRRKELQIPENNE-DKKSEADDLEVQKTESAH	1177
Pavo_cristatus	GESKQTPLOQVQLVRSFGFKYKPNLGKGFRRKELQIPENNE-DKKSEADDLEVQKTESAH	1177
Gallus_gallus	GESKQTPLOQVQLVRSFGFKYKPNLGKGVRRKELQIPEDNE-DKKSEADELEVQKTESVH	1179
Chelonia_mydas	GESKPASLOPAQIVRSRFRPKPNIGRAVGRKETRATEKDETEKKTEAEQSALQKDESAG	1248
Rattus_norvegicus	-----	310
Mus_musculus	QEQQPLQVKPAPFVRSRFRKPKPNLSRAALKRATIEAEHCVPGKKSEACKVEAAMLOQDS	1319
Homo_sapiens	QEQQPLEIKPAPFVRSRFRKPKPNLARAALKRETTESEKYYIEKKSETKKMETIVMOENN	1480
Pan_troglodytes	QEQQPLEIKPAPFVRSRFRKPKPNLARAALKRETTESEKYYIEKKSETKKMETIVMOENN	1480
Macaca_mulatta	QEQQSLEIKPAPFVRSRFRKPKPNLARAALKRETTESEKNIYGGKSETKKMETIVMOENN	1482
Callithrix_jacchus	QEQQPLEIKPAPFVRSRFRKPKPNLARAALKRETTESETCLSGKKSETKKMETIVMOENN	1325
Bos_taurus	QEQTPEIKLTPFVRSRFRKPKPNLARAALKRETTEKAEKHAPGKEAEADKTETVVIQNC	1620
Equus_caballus	QEQQPLEVVKPAPFVRSRFRKPKPNLARAALKREMTETGMSVPGKKLETGKTETGVIOQSR	1435
Canis_lupus_familiaris	QEQQPLEVVKPAPFVRSRFRKPKPNLARAALKRETTEAEKHVRGKKLETGKTETGVIOQSS	1445
Heterocephalus_glaber	QEQQPLEVVKPAPFVRSRFRKPKPNLARAALKRETTEAEKYVPEKKLETNHNMETIEIQDDR	1264
Rhinatrema_bivittatum	GKSKLAAVKLSPLPRGRFRQPKPNLGRAAGRGKPVAEKDSVEERTEAETTVKLSETSCSS	1319
Xenopus_tropicalis	QTRKQELRPVAVLPGRFRQPKPNLVGRAAAKKEVLSSQELSSDGTSAASDQSMHEMEY	1319
1750.....1760.....1770.....1780.....1790.....1800	

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Pavo_muticus          HVSAIGK---NEAALHEGN---VLSNEEQ---AQEEVPOVPCVSENLLGEQS----- 1220
Pavo_cristatus        HVSAIGK---NEAALHEGN---VLSNEEQ---AQEEVPOVPCVSENLLGEQS----- 1220
Gallus_gallus         HVSAIGK---KEAALHEEN---VLSNEEP---AQEEVPOMPGISGNLLCEQI----- 1222
Chelonia_mydas        ILSTVHKSGKGENEAVSSEASGDKLLGCEKQ---MPEGESPVVDIYQNVSDQSSSQEDK 1304
Rattus_norvegicus     ----- 310
Mus_musculus          DQAALSP-QHNVPSLMASTRENDKSGHEEEEEAAAILPCTQTEKDASPPNSSEPKEGSQLT 1378
Homo_sapiens          EQTDTLPSQHDEASLMISREKDTLGHNEE-AVILPCTQTERNLSPNSCEPKESQSAP 1539
Pan_troglodytes       EQTETLPSQHDEASLMISREKDTSGHRNEE-AVILPCTQTERNLSPNSCEPKESQSAP 1539
Macaca_mulatta        EQADTLPSQHDEASLMISREKDTSGHRNEE-AVILPCTQTEKNLSPNSCEPKESQSAQ 1541
Callithrix_jacchus    EQPDTVPFQYDETSLMISREKDTSGHRNEE-AVILPCIQTENNLSPNSCEPKEDSQSAQ 1384
Bos_taurus            EQMSTFPSQHDVASLMTSREKDKLDHGPEE-TVILPCVQTEKDLSPSSCESKEESQSTQ 1679
Equus_caballus        EQTNMLPSQHDVAFLMTSREKDGSGPRPEE-AVSPCVQIEKDLSPSFCEPVEESQAAR 1494
Canis_lupus_familiaris EEMNTSPSQHGVASLTTREKDKSGYRQEE-AVILPCIQTEKDLSPASSCDPEEKAOPTK 1504
Heterocephalus_glaber EQANTLPLQPDVTSILVSREKDKSGPKKEE-TVILPCIQTEKDPAP-SACEPAEHSQSVQ 1322
Rhinatrema_bivittatum DPALDGPAKCEEGLVSPVAETVDSKQVTLT----PTSSKSPSNVLGLKDRFETDAPSTN 1375
Xenopus_tropicalis    HLPVTSENKEQSHLISRDKGKESLSNPESSSSNATVQEDKEKNATAISIQELEHTKG 1379
.....1810.....1820.....1830.....1840.....1850.....1860

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Pavo_muticus          ----- 1220
Pavo_cristatus        ----- 1220
Gallus_gallus         ----- 1222
Chelonia_mydas        PCAIKPAQLMRSRFQRRARNLGRAYGKKEEPVAEKVTAPVEGETGKAESPPLPHRVSDV- 1363
Rattus_norvegicus     ----- 310
Mus_musculus          NOENGLLVPIGTMMNTVTQETRONVVQTILPVRGRLQRP RPNVQKARQRIIVEKGGEAR- 1437
Homo_sapiens          VQKND SVSVSGTINNNTFQOEMKESVIQTARQVRGRLQRP RPNI RKTGQRQIVDKGEAK- 1598
Pan_troglodytes       VQKND SVSVSGTINNNTFQOEMKESVIQTARQVRGRLQRP RPNI RKTGQRQIVDKGEAK- 1598
Macaca_mulatta        AQENDLVSVSGTINNNTFQOETKESVIQTARPVGRGLQRP RPNI RKTGQRQIVDKGDAK- 1600
Callithrix_jacchus    AQENDFVSVSGTINNNTSQQEMKESVIIPARPVRGRLQRP RPNI RKTGQRQIVEKSDAK- 1443
Bos_taurus            AQEKELLVSMGTHNNTFEOGIKERVIO TAPLVRGRLQRP RPNI RKLKAGQRQVIEHSETK- 1738
Equus_caballus        AQGEEGVSVSVRTQNINTFQOEMKESVIQTAPSVRGRLQRP RPNI RKLKAGQRQVEKGEAE- 1553
Canis_lupus_familiaris AQEKELVSMRAQNTNTFQOEVKESIIIPARIVRSRLQRP RPNI RKTGQRQ-IGKSEAE- 1562
Heterocephalus_glaber EQTQDLAVPMVIQKNTFQOEMKETVTOMVLPMPRARLQRP KPNVKNARHROVVEKGEAK- 1381
Rhinatrema_bivittatum EQTQDFGAVVQTSIKPIPOEESTVDIIQPAKLVRGRFSRPKPNLGRITVVRKEVPSAETKN 1435
Xenopus_tropicalis    GPAQES-----LKPAVPLKGRYQRPKPNLSRAAAHKDSACLKN- 1418
.....1870.....1880.....1890.....1900.....1910.....1920

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Pavo_muticus          ----- 1220
Pavo_cristatus        ----- 1220
Gallus_gallus         ----- 1222
Chelonia_mydas        ---HLSPKAEVEAQKDS SDSCGVTS PKRSIQSEKLC SLEKSLSCNNQQDQRKSCMST DVE 1420
Rattus_norvegicus     ----- 310
Mus_musculus          ---DIAKNEGPELOKDETRTCLTVANS SHIESGVAIDMSSRVSECQVSESQGHADPVENL 1494
Homo_sapiens          ---GIIKEGRITILPKDETEKKVLT VNSQIETEIEV-PSSAVPEHRMYENQSQVVLVENL 1654
Pan_troglodytes       ---GIIKEGRITILSKDETEKKVLT VSDSQIETEIEV-PSSAVPEHRMYENQSQVVLVENL 1654
Macaca_mulatta        ---GIIKEERTILQKDETEKKILTASNPQIETDIEV-PSSTVSEHRMCENQSQVILVENL 1656
Callithrix_jacchus    ---GIIKEERTILQKDESEKKVLIVNSQIETEIEI-PSSTVSEYRMYENQSQVVLVENL 1499
Bos_taurus            ---ETTKEEK-MLQKDETEGEKFLTVPNSQIATEIEV-VSSEVSEGRVSENQSHVLLLEN-L 1792
Equus_caballus        ---GIVEEERTVVKDETEKKFLTGANFOIGTEVEV-VPSKVSEGGMSSENQSHVVLVGNL 1609
Canis_lupus_familiaris ---GILKEERTIVQKDET-KKLLTVPNSPVGTIEV-VSSKVSEDRYENQSHMVPVEPL 1617
Heterocephalus_glaber ---GMNKNERTVLQKDETNKSLIVNSQIETEIEV-VSSRVSECNMDENQSHVILVGNL 1437
Rhinatrema_bivittatum ETENLISSALPDTGSDTLQSTRHILPNEKEDLLCETSKGRSSSEDASTEHGGDSDDLSSLS 1495
Xenopus_tropicalis    ----TSCETVEQQQSSASSAPKVEIMVMPGLPEKLSGLAENS EAPQVCSKNGQNNSTTD 1473
.....1930.....1940.....1950.....1960.....1970.....1980

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Pavo_muticus      ----RSNEKLSSGEESNQCDTKPSQARVSLRNPKNLTRAHRKRGHSEEDRTRRDEDSA 1276
Pavo_cristatus    ----RSNEKLSSGEESNQCDTKPSQARVSLRNPKNLTRAHRKRGHSEEDRTRRDEDSA 1276
Gallus_gallus     ----RSNEKLSSGEESNQCDTKPSQARVSLRNPKNLTRAHRKRSHSE-DRNRDRDKDNA 1277
Chelonia_mydas    SRLPNSSERSSSGEESKQSAIKPAQLVRGHLRRPKPNLVRASRKKEALEEGENTSE-KT 1479
Rattus_norvegicus ----- 310
Mus_musculus      SVNKASVVHEQMRHENKPYVPSALLIRRRFQAKPNLGGARR-KDEQPGVEKGRTDEST 1553
Homo_sapiens      HVNKT---NETIRHENKPYVPSSAQMTRRKFKQAKPNLGRAHS-KKEEPVLEKVTDDQSK 1710
Pan_troglodytes   HVNKT---NETIRHENKPYVPSSAQMTRRKFKQAKPNLGRAHS-KKEEPVLEKGTDDQSK 1710
Macaca_mulatta    HINKT---DETIRHENKLYVPSSAQMTRRKFKQAKPNLGRAHS-KKEEPVLEKSTDDQSK 1712
Callithrix_jacchus HVNKT---NKTFSHENKPYVPSPVQMTRRKFKQAKPNLARAQS-KKEEPVLEKGATDQSK 1555
Bos_taurus        HINKVDVLGEKMRHGHETVYVSPPPQIMRRQFORATPDLGRAQS-KKEASDIEEDRADQSK 1851
Equus_caballus    PVNKVSVLDEKTRHEHETCVPGPAQLIRRRFQAKGNLGRAHG-EKEAAAVEEDRAEQSK 1668
Canis_lupus_familiaris HLNKVNVLDEKMRDEPKSSVPSPAHLVRRQFKVKPNLGRAHG-KKEEPDIDGRDRADQSE 1676
Heterocephalus_glaber HVNKKNTSDAKMRFENKPCVPSPAQLIRMKFQKTKPDLGRACSRKVEEAGIEKGPADQSG 1497
Rhinatrema_bivittatum QGQSETTGKFNSQEERKQVTIKPALLAKGRFQKPKPNLGTAAARRGTPERGKHISENKMME 1555
Xenopus_tropicalis LKQDDILQQQSVNKKDSQNSAVQPSPIRGRFQRPKNLRLRAIAKKATSKPSPDDEKAKHAG 1533
.....1990.....2000.....2010.....2020.....2030.....2040

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Pavo_muticus      ETRNTEEQLLEEAGVS-----VQNSSNREEAASFTESTRKHFDTDSVEKPSCKRIRODS 1330
Pavo_cristatus    ETRNTEEQLLEEAGVS-----VQNSSNREEAASFTESTRKHFDTDSVEKPSCKRIRODS 1330
Gallus_gallus     ETRNTEEHLLEKTGVS-----VKNSSNTEEAAASFTESTGKHDSITDSVERPSCKRIKIRIS 1331
Chelonia_mydas    EGRNTEEGLIISCDIKSENLTPLLLTSRNLVEVASSSEDGRKKESADSIHVAVPPKRSRQSC 1539
Rattus_norvegicus ----- 310
Mus_musculus      ALTAEDHLLQKEDCDTQ-----LSLQAREKADMPLEVSVRKECIHSEESGSDRN-DAQP 1606
Homo_sapiens      EGKPEDHLLQKGASNTQ-----LLLKEKAELLTSLEVSARKDCVGSKESALAKIDAEL 1764
Pan_troglodytes   EGKPEDHLLQKGASNTQ-----LLLKEKAELLTSLEVSARKDCVGSKESALAKIDAEL 1764
Macaca_mulatta    EGKPEDHLLQKGASNTQ-----LLLKEKAELLTSMEVSARKDCVGSNESAALAKIDAEL 1766
Callithrix_jacchus AGKPEDHLLQKGDSNTQ-----FLLKEKTELLTSLEVSARKDYVGSKESALAKIDAEL 1608
Bos_taurus        ARKPEDSLSQHEDSDSQ-----LLQKGKPEFLTSLVSARKDSVGSKETELAKK-DDQS 1904
Equus_caballus    AKKPEDDLLDQEDSDTQ-----LLQKEKAEFLLSLAVSARKDSVGSREAVWAKK-DAES 1721
Canis_lupus_familiaris ARKPENILLQPRDSIT-----HLQKEKAGFLISSEVSARKDCIDSKESLAKK-NAHS 1728
Heterocephalus_glaber ASKPEEDSLHQGNLDSQ-----LLLKEAEFIVTSPGISARKDCIGSEESVLAKKNVLE 1551
Rhinatrema_bivittatum TRILEEPEPVQHNIISRELPL--LLALGTSTEKMPLSSYVCKRKDPEDSVEMGSLKRSRRSS 1613
Xenopus_tropicalis DSKTDLISETKGSDAES-----SQQLSVEEHQPTSGSPPLHSGHGSGEKDISPA 1582
.....2050.....2060.....2070.....2080.....2090.....2100

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Pavo_muticus      S-FQSPEIPLESSESQVEQE-DSQLSAPQOKKPDQTRRQSRSSSKQIALPKHGLELRTCS 1388
Pavo_cristatus    S-FQSPEIPLESSESQVEQE-DSQLSAPQOKKPDQTRRQSRSSSKQIALPKHGLELRTCS 1388
Gallus_gallus     SSFQSPEVPLESESQVEQE-DSQLSAPQOKKSDQTRRQSRRLSKQITLPHKGLELRTGS 1390
Chelonia_mydas    K-FQSPERLSESESQIEQEEDSOPLYAQEKTSKDLIRRQSRSSSEGGPLPKRVSELRT-- 1596
Rattus_norvegicus ----- 310
Mus_musculus      NAGPSEGSRDETAKEQPTS-----LGLEECSLSKQIRS-CPQLWKESYYPKTVSRRITPL 1661
Homo_sapiens      EVGPSRRVGEETVGDNSPS-----SVVEEQYLNKLT--SCPOPLNETSYSKIALDGKTTI 1817
Pan_troglodytes   EVGPSRRVGEETVGDNSPS-----SVVEEQYLNELA--SCPOPLKETSYSKIALDGKTTI 1817
Macaca_mulatta    EAGPSRRVGEETVGDNSLS-----SVVEEQYLNKLT--SCPOPLKESNYSKIALDGKTTI 1819
Callithrix_jacchus EVGPSRRVGEETVGDNSVS-----SVVQEO-LNKLT--SCPOPLKESNYSKIAPDGKATI 1660
Bos_taurus        EVEPSGSVGEKTGEDNSVC-----AVVEKQCVSKP--SPOLLKEPDNSKIALDRRRAL 1956
Equus_caballus    -----SRAAGDKSAS-----SGVEEQHLSKLT--SCPOLLKESDYSKIALDQRTTV 1765
Canis_lupus_familiaris EAGPSGSVGEKTGRDNSVS-----LVVEEQCVSKLS--SPOLLKESNYSKIGLERRTTI 1781
Heterocephalus_glaber EVGSSENVREETVQDNSAS-----SVVEEQCFSKLT--SPOLLKESYYSKIALDGRTIMI 1604
Rhinatrema_bivittatum KPQPQAWPSENETSTEQEE-----DVPTSNAGEPAPDKPARLERSYKQPGPVKAAPASSSS 1669
Xenopus_tropicalis AGTTLAEFPGSLNKEDNSS-----PAIKPAPLRGRILRLKPNLVNVPCKRESQGWDT 1636
.....2110.....2120.....2130.....2140.....2150.....2160

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Pavo_muticus	SSASECEADCSEKGNQROEVKSSVTRGKSMKTAHKKKPVKEQRSSKTSLLVTLRASQE-D	1447
Pavo_cristatus	PSASECEADCSEKGNQROEVKSSVTRGKSMKTAHKKKPVKEQRSSKTSLLVTLRASQE-D	1447
Gallus_gallus	SSAPECEADCCSEKGNQROEVKSSVIRGKSMKTAHRKKPVKEQRSSKTSLLVTLRASQE-D	1449
Chelonia_mydas	SSASECEVDRCEKGGKPROKTKPNITKGKGLKTAHSKRSKGHEGSSKVT-LVTLRASQEED	1655
Rattus_norvegicus	-----	310
Mus_musculus	SSASECEIEHSWKRTQR-KTKPNLTGGRGSKRIRGKTAKKEPRASKSVLVTILRASQKED-	1719
Homo_sapiens	SSTSEYERNRGERRSHK-KFKPNVTRGRGSKRVRGKTSKKEPRASKAMLVTLRASQEE--	1874
Pan_troglodytes	SSTSEYERNRGERRSHK-KIKPNVTRGRGSKRVRGKTPKKEPRASKAMLVTLRASQEE--	1874
Macaca_mulatta	SSASEYERNRGERRSHR-KIKPNVTRGRGSKRVRGKTSKKEPRASKAILVTILRASQEE--	1876
Callithrix_jacchus	SSASEYERNHGERMPR-KIKPNVTRGRGSKRVRGKNSKKEPRAPKAMLVTLRASQEE--	1717
Bos_taurus	SSASEREIDSRRRVRR-KVKPSVPKGRGSKRSRTKTSKKEPRASRLVTLILRASQEED-	2014
Equus_caballus	SSASECEGGRSERRTHR-KSKPNVTGGRGSKRIRTKTSKKGPRASRAVLVTILRASQEED-	1823
Canis_lupus_familiaris	SSASECEVDHSGRRMHR-KMKPSVTRGRGSKRVRSKTSKKEPRASKATLVTLRASQEED-	1839
Heterocephalus_glaber	SSASGSEIDHSERMQR-KIKTSVTRGRGTKRARAKTSRKEPRAPKAMLVTLRASQEEDD	1663
Rhinatrema_bivittatum	SSASKSEADPCEKGKTPRRPKLHIPKGRGSKSSHSRKSRRGPK-----TTLVTLRLAQEVD	1725
Xenopus_tropicalis	KAASDDAIDSGAAECVLPESHITDALGKAPANKR---KATDKSVKLLAKKIRSDIA	1693
	.....2170.....2180.....2190.....2200.....2210.....2220	

Pavo_muticus	EEEADDFFEPEDDE--CFALEEVNKAPVFVPVGLRSPKPIPVOIETMEE-----	1495
Pavo_cristatus	EEEADDFFEPEDDE--CFALEEVNKAPVFVPVGLRSPKPIPVOIETMEE-----	1495
Gallus_gallus	EEEADDFFEPDDDE--CFALEEVNKAPVFVPVGLRSPKPIPVOIETMEE-----	1497
Chelonia_mydas	EDDADEFELDDDE--CFSPEEVNKAPVFVPVGLRSPKVPVOIETMEE-----	1703
Rattus_norvegicus	-----	310
Mus_musculus	EDDAEDFDSYEEETYLHAPPEELSKAPVFVPVGLRSPPEVSAQIETMEE-----	1769
Homo_sapiens	DDDADDFFESDYEEESYHLAPEEVNKAPVFVPVGLRSPPEVSAQIETMEE-----	1924
Pan_troglodytes	EDDADDFFESDYEEESYHLAPEEVNKAPVFVPVGLRSPPEVSAQIETMEE-----	1924
Macaca_mulatta	EDDADDFFESDYEEESCHLAPEEVNKAPVFVPVGLRSPPEVSAQIETMEE-----	1926
Callithrix_jacchus	EDDADDFFESDYEEESYHLAPEEVNKAPVFVPVGLRSPPEVSAQIETMEE-----	1767
Bos_taurus	EDDGEDFD--YEEESYHLAPEEVNKAPVFVIGLRSPPEVPVOIETMEE-----	2062
Equus_caballus	EDDTEDFECDYEEETYLHAPPEEVNKAPVFVPVGLRSPPEVSAQIETMEE-----	1873
Canis_lupus_familiaris	EDDAEDFFPDYEDESYHLAPEEVNKAPVFVPIGLRSPPEVSAQIETMEE-----	1889
Heterocephalus_glaber	DDDAQDFESNYEDESCHLAPEEVNKAPVFVPLGLRSPPEVSAQIETMEEGCGMKSVPSEP	1723
Rhinatrema_bivittatum	EDDVEDSEQSEEEESCSLPPEEVNKAPVFVPRSLRSPNPVPAEVEETVEE-----	1775
Xenopus_tropicalis	ETQESLSESESDRGSLDIEGQES-TAATRTRFGRKVKNISPEKPVQVQPKG-----	1742
	.....2230.....2240.....2250.....2260.....2270.....2280	

Species	Sequence	Position
Pavo muticus	LDISVNVPDVPVATNVEGLSH---VSVQPVVQEEE	1527
Pavo cristatus	LDISVNVPDVPVATNVEGLSH---VSVQPVVQEEE	1527
Gallus gallus	LDISVNIPDVPVATNVEGPSY---VSVQPAIQKE-	1528
Chelonia mydas	LEISVNVPDVPCTTAEYLSHDLNVVVQPVQMORDE	1738
Rattus norvegicus	-----	310
Mus musculus	LEITMDVADM---LVVEHQLSH-MDTTAQAVQAQEK	1800
Homo sapiens	LEITVNVPDVGCIADVVEHELPN-TDVTTEEMKQEE	1958
Pan troglodytes	LEITVNVPDVGCIADVVEHELPN-TDVTTEEMKQEE	1958
Macaca mulatta	LEITVNVPDVGCIADVVEHELPN-TDVTTEEMKQEE	1960
Callithrix jacchus	LEITVNVPDVGSIADVVEHQLPN-TDVTTEEMKQEE	1801
Bos taurus	LVIPNTVTDVGCITVVEHQLSNIDVVIPOEMROEE	2097
Equus caballus	LEITVNVPDVGCIITVDEPQLLH-TDAATQEMKQGD	1907
Canis lupus familiaris	LEITVNAPDIGCIADVVEHPLSN-TDVTTOEMKEEE	1923
Heterocephalus glaber	ISMGIKNHVAGMVEHAYNPSTGEAELEITVNADVGCITVVEHLLSN-TDETQKLEQEN	1782
Rhinatrema bivittatum	FEIAVDIIDADCIPDTEYNPGVHEEIVLDGGGNNA	1810
Xenopus tropicalis	-----TDNVSDLEKGRNAQNAKSNKSKIAARPVSRK	1774

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Pavo_muticus	KGNTLPAAEATVHONPEVEKGI-SDGSTEAAMTLLAMGDPFOLKAN---AEWTRVLPAQ	1583
Pavo_cristatus	KGNTLPAAEATVHONPEVEKGI-SDGSTEAAMTLLAMGDPFOLKAN---AEWTRVLPAQ	1583
Gallus_gallus	KGNTLPAAELTVHENPELDKGI-SDGSTEAAMTLLAMGDPFOLKAN---TEWTRMLPAQ	1584
Chelonia_mydas	NLNASQIEVTTTHENPETDTGI-SDGSTEAAMTLLAMGDPFOLKIS---TQGRVQVFPDQ	1794
Rattus_norvegicus	-----	310
Mus_musculus	AVYPPSFEMDVGEQTQEEPG-PSDGSTEAATLLTMGDIVLQSEIIPGQGDVGVCVFPDV	1859
Homo_sapiens	NLSVP-FEMTTSEHIQDEPG-TNDGSTEAATLLTMGDLVLQSEISSEQGDVGVCIIIPHV	2016
Pan_troglodytes	NLSAP-FEMTTSEHIQDEPG-TNDGSTEAATLLTMGDLVLQSEISSEQGDVGVCIIIPHV	2016
Macaca_mulatta	NLNASSFEMTTGEHIQDEPG-TSDGSTEAATLLTMGDLVLQSEISTEQGDVGVCILPHV	2019
Callithrix_jacchus	NLNAPSFEMTTGEHIQDEPG-TNDGSTEAATLLTMGDLVLQSEISTEQDDVGVCILPHV	1860
Bos_taurus	NLNTLSVEMTVGGHSAETESINDGSTEAATLLTMGDLVLQSEISPEQSD-GICILPDA	2156
Equus_caballus	-LNSLSLEMTTGGHTPDETG-ANDGSTEAATLLTMGDLVLQSEISTEQSDVGVCVLPDG	1965
Canis_lupus_familiaris	SLKALSVEVNTGEHIQDETG-TNDGSTEAATLLTMGDLVLQSEIGTEQSD-GVCVLLDV	1981
Heterocephalus_glaber	NLNMS-FEMTTGEQNQDEAG-TSDGSTEAATLLTMGDLMLQSEMSTQGDVGVCVFPDV	1840
Rhinatrema_bivittatum	SIEVASCMASYAAPEEETEN---DGSTEAAMTLLAMGDPFQSRMN--IQGTTFFVFNDRG	1865
Xenopus_tropicalis	GTALVKLRASRWEEQDDDE----ELDFKDESFNLSPKVNPAPVVFVPSLRSLKHGPAAE	1830
	.....2350.....2360.....2370.....2380.....2390.....2400	

Pavo_muticus	GELNMASSLVGHDDSEQNRAPNQHVVSATS-AKVPCCKDGSNVNVED--QSTCAGTGVEE	1640
Pavo_cristatus	GELNMASSLVGHDDSEQNRAPNQHVVSATS-AKVPCCKDGSNVNVED--QSTCAGTGVEE	1640
Gallus_gallus	DEVNIANSLVSHDDSEQNIAPNQYVVSATS-AKVPCCKDGSNVNVED--RSTCAGTGVEE	1641
Chelonia_mydas	DELHMADSLINQPNTEQNVAPSNLSLSSPTNNELVPSSEGNKVIILPD--HSSGKEESVQF	1852
Rattus_norvegicus	-----	310
Mus_musculus	HSSEDKSHIPFSPDNVNQKVVDYPEVCSPIVISTSHASFEENRIVSKE---QSNRDAAVEE	1916
Homo_sapiens	HSKDKSHIPSSLDNVNHNKIVHECQELSSPVITTSASFEEKNIVLEE--QSSREEISLME	2074
Pan_troglodytes	HSKDKSHIPSSLDNVNHNKIVHECQELSSPVITTSASFEEKNIVLEE--QSSKEEISLME	2074
Macaca_mulatta	HSKDKSHIPFSLDNVNHNKIVHECQELSSPVITTSASFEEKNIVLEE--QSSREEISLME	2077
Callithrix_jacchus	HSKDKSHIPFSLNVNHNKIVHECQELSSPVITTSLSFEEKIVLEE--QSSRKEISLME	1918
Bos_taurus	HSIDQSHIPFSPDNVNLTIVHECQEPSSSVHSTSP-SVEENKIVLDVDKQNIKEEIGLTE	2215
Equus_caballus	HSKDKSHIPFSPDNVDHRIVHECQELPSAVNSASP-SLEENKIVLEE--QSSKEESGLVE	2022
Canis_lupus_familiaris	HSKDKSCVPFSPHNVNHNKIIPECELSAVSTTSPSSLEENKIVLEE--QSTKEETDLVE	2039
Heterocephalus_glaber	HSKDKSHIPFSPDNVSHKIVHECQELSSSVINTSA--TEENKCVSEK---QNRFEVGLKE	1895
Rhinatrema_bivittatum	ELTDVTPALLEQCDVAPDMAPTSQASSSSTIDGELSPSKQEDQGPSAEKIATMVVDTTTEE	1925
Xenopus_tropicalis	IEETVEELIIPVDILDSTIPETONNNPISEESSENSSLKSDELSD--VTDSESVTADK	1888
	.....2410.....2420.....2430.....2440.....2450.....2460	

Pavo_muticus	YFEKNATDARNSSVPMVN-SMRLRRGSLQKSNPNTG-VLKSNESVIQKPLNTNVVMEQLD	1698
Pavo_cristatus	YFEKNATDARNSSVPMVN-SMRLRRGSLQKSNPNTG-VLKSNESVIQKPLNTNVVMEQLD	1698
Gallus_gallus	YFEKDATDARNSSSLPMVN-SMRLRRGSLQKSNPNTG-VLKSNESVIQKPLNTNVVMEQLD	1699
Chelonia_mydas	FFKEDAAPTSDHPVPKANSTSRFARCLPKPKPNLSRVLTNRNVHQKSLRPNADVEQFK	1912
Rattus_norvegicus	-----	310
Mus_musculus	EAVEETLPTRTNTTSTMT--HLRMESMVVTPELNSEKTLSEIS-SHGHEVASFCITKET	1973
Homo_sapiens	KVKENATPTRNTISKVTS--NLRIRSRRLAKPKPNLEKTLGTNR-LDDYQEVSSLCVTKGA	2131
Pan_troglodytes	KVKENATPTRNTISKVTS--NLRIRSRRLAKPKPNLEKTLGTNR-LDDYQKVSLLCVTKGA	2131
Macaca_mulatta	KVKENATPTRNTISKVTS--NLRIRSRRLAKPKPNLEKTLGTNR-FDDHQEISSLCVTKGE	2134
Callithrix_jacchus	NLKENATPTRNTTISKVTS--NSRL-SRFAKPKPHLEKILGTNR-LDDYQEVSSLCVTKGE	1974
Bos_taurus	EVKENTISSRTTSEVTN--NLRKRSRFAKPKPNLKKILGTNR-FGAHQKVPVSLFVTKGE	2272
Equus_caballus	NVKENTVPARNATSEVTG--NLRMRSRLAEPKPNLR-ILGTNR-FGAHQEVPGLFVTKGE	2078
Canis_lupus_familiaris	KVKENAISIRNTTSDVTS--NLRMRSRFPKPKPNLK-ALRTNR-LNVHQEVNLFVNRGE	2095
Heterocephalus_glaber	EIMENTTSTRSTASKVDS--SFQNRSRFVRPEPNLE-VLVTNR-VDAHQEVSG--VSKGD	1949
Rhinatrema_bivittatum	VMSEVRTPSDDHSVPRGE-----FMKPRPNLDRAIGKPKSLTEADQIDP-----	1969
Xenopus_tropicalis	GTKDCSDGSTEAAMTLISMGNPVFQSRVHEESSNLKEDLSSS--ETQSDLQHLDFVNSL	1946
2470.....2480.....2490.....2500.....2510.....2520	

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Pavo_muticus      SVQSESMVLRGTSSETQKVEQVRVGPTSRDTSVLON-----SATSTELVKOMDNR 1747
Pavo_cristatus    SVQSESMVLRGTSSETQKVEQVRVGPTSRDTSVLON-----SATSTELVKOMDNR 1747
Gallus_gallus     SIQSESMDSRGTTTEAQKVEQVSVGPTILRDTSVLQD-----FATSVELVKQIDNK 1748
Chelonia_mydas    QVQSE-----EQEVELEWKIRPAENSSAGLON-----FGSGSIDLAETENK 1953
Rattus_norvegicus ----- 310
Mus_musculus      EVEIQRETEGDDSKAVELEDKSHAPVTAETKEEESSQCVGDVEGASVSQEAILPARIED 2033
Homo_sapiens      EMETQRETEKNASKATELENKNLGPVTTAENKDKSKLACVHGIGKTSISSEVNLTERNEN 2191
Pan_troglodytes   EMETQRETEKNASKATELENKNLGPVTTAENKDKSKLACVHGIGKTSISSEVNLTERNEN 2191
Macaca_mulatta    EMETQRETEKNSASKATELENKNVGPVTTAENKDKSKLACVHGIGKTSISPEVNLTERNEN 2194
Callithrix_jacchus ELEAQRETEKNASKATELEDKNLGPVTTAENNEQSKLAFVPGIKGTSIPQEVNLTERNEN 2034
Bos_taurus        EVEIQRETEKNASQETALEDKNLGSVTATETEQSKVASVHGIEETSISQETHLTERGED 2332
Equus_caballus    EVDIQRETEKNVSKATELEDKNLGSVTTAESKEQSR SARVHGIEESSVSKEAQLTGRNED 2138
Canis_lupus_familiaris VIESQREPEKNVSEATELQDKSLGSLTAAENKEQNKLACEHGIEETTVSQEANLTERNDD 2155
Heterocephalus_glaber EVESQKETENIASKATELEDKNSGPVRTAENQEQNLACVQHIGKTSISQEANPTARNED 2009
Rhinatrema_bivittatum QVQNDVEGKPLGSTIQDPDKTTWSSVPLHESGSSN-----TYATQIVGNDRLPE 2018
Xenopus_tropicalis SLPSELGPIHTGLPSGEIVAEAEATAEVIDTHVHT-----FEE 1984
.....2530.....2540.....2550.....2560.....2570.....2580

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Pavo_muticus      RRTQKEMKDVCGTSGNLSAECERSHLGQEDYLDSESVDRITAVQNS---CPAKDSQCTIRF 1804
Pavo_cristatus    RRTQKEMKDVCGTSGNLSAECERSHLGQEDYLDSESVDRITAVQNS---CPAKDSQCTIRF 1804
Gallus_gallus     GRTQKEMKDVCGTSGNLSPGCEKSHLGLDYLDSESVDRITAVQNP---CPAKDSQCTLGF 1805
Chelonia_mydas    TRESWEAS-VELKSPILAPKAEVFLPGLNDPNQSSSTGVLPENKP---GTMHSLPEVQL 2009
Rattus_norvegicus ----- 310
Mus_musculus      HEETLQEVQESGTA-VASSEIGQQTLDSGQSFGESAAKEALKETP---KGSDVPVLHGP- 2088
Homo_sapiens      QEESQEVHMLSVAPVASSETGPCTILGLDRGLGENSVVEEPQIKDS---KGDSVLTLVPV- 2247
Pan_troglodytes   QEESQEVHMLSVAPVASSETGPCTILGLDRGLGENSVVEEPQIKDS---KGDSVLTLVPV- 2247
Macaca_mulatta    QEESQEVHMLSVAPVASSETGPCTILGLDRGLGENSVVEEPQIKDS---KGDSVLTLVPV- 2251
Callithrix_jacchus QDESSQEVHMLSVAPIASSETGPRITLGLDRGLGENSVVEEPQIKDS---KGDSVLTLVPV- 2090
Bos_taurus        QERRSEEVPISSVAPAVYSESGPHTCGLGMGLGESSVEEPLGKDF---NGDPVLTILNVP- 2388
Equus_caballus    QEEGCHEGRTL SVAPVVSFETRPHAFGLAQLHGEAVEEALRKGA---DGDGVLTILRVP- 2194
Canis_lupus_familiaris QEEESQKVQILSVAPVVSFETRPHITLGSMDGLTSSSIKEPQREDS---DGDSMLTFHVS- 2211
Heterocephalus_glaber QEENSQEVQMLFPVAPNLSSEAGPPTLVSSGGLSKNSVEEPLIKDA---KGDSVSTLHVP- 2065
Rhinatrema_bivittatum PVQEMQEAKTENSSSLGSPRIQTSQFESDLYRSSEFVLPAEDIDLFAANSCTFNLEQV 2078
Xenopus_tropicalis GNGDPAKMQPRAESLDGSGVATESGIILLECLPSNSSDLRLSGES---DAPSDATCEVQL 2041
.....2590.....2600.....2610.....2620.....2630.....2640

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Pavo_muticus      AQNETHAQDCEQQHISSTEETSVDN-DDRRCPEE-EEQTFILTLVEILADSEEFNT--SAL 1860
Pavo_cristatus    AQNETHAQDCEQQHISSTEETSVDN-DDRRCPEE-EEQTFILTLVEILADSEEFNT--SAL 1860
Gallus_gallus     AQNETHAQDCAQQHISSTEETSVDN-NYPRCPEE-EEQTFILTLVEILANSEEFNT--SAL 1861
Chelonia_mydas    TQTEAVTQEFQOQYITSTKETSVDNGNGNEYPEEVAEQTFILTLVEIPADSREYHDF-SMS 2068
Rattus_norvegicus ----- 310
Mus_musculus      ESVPSHIPEAQQENTG-PQAVTVNPFADGQDGEDEQAFILTLVEIPTHATEGFT--DAA 2145
Homo_sapiens      EYTPTSISPEVQQENIINPQDLTVNLVANVPDGEDEQAFILTLVEIPANAVEEFT--DAT 2305
Pan_troglodytes   EYTPTSISPEVQQENIINPQDLTVNLVANVPDGEDEQAFILTLVEIPTANAVEEFT--DAT 2305
Macaca_mulatta    QYTPTSISPEVQQENIINPQDLTVNLVANVPDGEDEQAFILTLVEIPTANAVEEFT--DAT 2309
Callithrix_jacchus EYTPTSISPEVQQENVINPQDLTVNLVANISDGEDEQAFILTLVEIPTANAVEEFT--DAA 2148
Bos_taurus        KCIPTGIPEVQQENVNDLQDLTVNLVN-VHODGEDEQAFILTLVEIPTHAVEEYA--DST 2445
Equus_caballus    QCTPASISPEVQQENVIPPQDLTVNLVANMHODGEEEQAFILTLVEIPTSAVEEFT--DPT 2252
Canis_lupus_familiaris EGTPT-MPEIQQENVISSQDLTVNLVANVHODGEDEQAFILTLVEIPTANAVEEFT--DTT 2268
Heterocephalus_glaber ECTPTSISPEVQQENITNTQDLTVNLFGNVHODGEDEQAFILTLVEIPASAAEEFT--DAA 2123
Rhinatrema_bivittatum MSKEQNSEAMQYQNAIASTDQTAAVDLVANDYPKEEETIILTLVEIPTVPIDGYHDSGAA 2138
Xenopus_tropicalis EQSEKHSEEVQHSIVPDGDNLSGE-----NECPAEEATFILTLVEIPINSEYPYS---C 2092
.....2650.....2660.....2670.....2680.....2690.....2700

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Pavo_muticus	QEQISEPLLPAPILISPVKSSGTSLTEVESTGSSTTADELGEYSSSSETKQQQRAS-V	1919
Pavo_cristatus	QEQISEPLLPAPILISPVKSSGTSLTEVESTGSSTTADELGEYSSSSETKQQQRAS-V	1919
Gallus_gallus	QEQTSEPLLPAPILISPVKSSGTSLTEVESIGSLTTAADELGEYNSGSETKQQESAS-V	1920
Chelonia_mydas	LEQALEPLLPAPILLTPVNTGLANVMGEOSIGSLTAPVDRAATSLDICTGTGELQRAS-I	2127
Rattus_norvegicus	-----	310
Mus_musculus	MQLMPSSLLPAPILVRSNGA-----AERGLSGSLQTSLVVQD-APSLSPSRSGSSE-K	2197
Homo_sapiens	AQFMPNPLLPAPILVKSNT-----EERGDMSICLPATSVGQD-AMGLSISGRDNSK-K	2357
Pan_troglodytes	AQFMPNPLLPAPILVKSNT-----EERGDMSICLPATSVGQD-AMGLSISGRDNSK-K	2357
Macaca_mulatta	AQFMPNPLLPAPILVKSNT-----EERGDMSICLPATSVGQD-AMGLSISGRDNSK-K	2361
Callithrix_jacchus	AQLMPNPLLPAPILVKSNT-----EERGDMSICLPATSVGQD-AMGLSISGRDNSK-K	2200
Bos_taurus	VQLMPNPLLPAPILVKSNT-----KEREDTSISFPVTSVGQD-DVCLNSNERDGESE-N	2497
Equus_caballus	VQLTPSPLLPAPILVRSVST-----EERGDMSMSFPVASVGQD-AMCLSDSGREDSE-E	2304
Canis_lupus_familiaris	AQLMPNPLLPAPILIKSVNT-----EGRSDLSMNFVTSFGQD-AMCLSDSGKDGSE-K	2320
Heterocephalus_glaber	AQLMPSPVLPAPILVKSNGP-----KEKADVSMTLFVTSVGED-TVCLNSNERADSE-K	2175
Rhinatrema_bivittatum	LPLGSEHLLLPVFIPLNTG---LTEGOSTESMTAALEKYTSTANQLSPSEFQMATSM	2195
Xenopus_tropicalis	DSLSSSEPLPAPVLISGSA-----QPVTLTQSSESSEAEVSVRLPSEQCSTSG-E	2142
	.....2710.....2720.....2730.....2740.....2750.....2760	

Pavo_muticus	EPALNLVQTPQKRSAAEALAESDFPPVKKTLSTIVESNVEGPCQAYSSKSTINTQIRTSGNP	1979
Pavo_cristatus	EPALNLVQTPQKRSAAEALAESDFPPVKKTLSTIVESNVEGPCQAYSSKSTINTQIRTSGNP	1979
Gallus_gallus	ESVLTLVHTAQKRSAAEPAENDVPLVKKTVSTVVENVEGPCQGYSSKSTINTQIRTSDDP	1980
Chelonia_mydas	ESFTNMDQTSCKRCAIDLEESDTPPAKRTPSTADDNLANTYKESSVKSTHAPRKMGRI	2187
Rattus_norvegicus	-----	310
Mus_musculus	PP-ANLDLTSRKRFCCSPDESIHVPPAKKSSLVPGIDYQECTSEVCSEELN-VFEKTAES	2255
Homo_sapiens	PP-DNLDLVSRKRFQCRLDKNDHIPPAAKRSLLTLRDDCQEYTTSEVHSKELTNVFEETGES	2416
Pan_troglodytes	PP-DNLDLVSRKRFQCRLDKNDHIPPAAKRSLLTLRDDCQEYTTSEVHSKELTNVFEETGES	2416
Macaca_mulatta	PP-DNLDLVSRKRFKCRLDENDHIPPAAKCLLTLRDDCQEYTTSEVHSKELTNVFEETGES	2420
Callithrix_jacchus	PS-DNLDLVSRKRFHCRLDENDHIPPAAKCFLLTLRDDCQEYTTSEVHSKELTSSVKETGES	2259
Bos_taurus	SA-ANLDLVSRKRYHCSLDES DHVPPAKKXSLTSIDDCQKYTSEVCSEKELTDVLEETGES	2556
Equus_caballus	PP-ASLDLVSRKRFHCRLDSDHVPPAKKSALLSRDTCQKYTSEVCSEKELINVFEETGEP	2363
Canis_lupus_familiaris	PPANLDLTSRKRFHCTLDSDHVPPAKKTSLTSGDDCQNYTSEVCSEKELINVSEETGES	2380
Heterocephalus_glaber	SP-ANLDLVSRKRFHCTLDSDHVPPAKKTSLTSGDDCQNYTSEVCSEKELN-AFEKKGES	2233
Rhinatrema_bivittatum	MSITCELNPISRKRIACDPEESDMPPAKKSQPFITKQDPKEIDQERGNQGHAFELQVSE	2255
Xenopus_tropicalis	ESNCSWSSSSAPRKRTASRODDGSPSVKR-ALLMCDKPEESSEDSGTEARNSPESSTTNT	2201
	.....2770.....2780.....2790.....2800.....2810.....2820	

Pavo_muticus	FQKPGASAKIN--VLTSASLSESV-----SPVDEERSQCETSENSGKASCHNLA	2025
Pavo_cristatus	FQKPGASAKIN--VLTSASLSESV-----SPVDEERSQCETSENSGKASCHNLA	2025
Gallus_gallus	FQKTGVSAKEN--ILASALL--SI-----SPVDEERSQCETLENSGKASFHNLA	2024
Chelonia_mydas	SEKLKTSKSKKK--LPTSIFV-----SKTAESGQSESFQNLGITPVEESA	2229
Rattus_norvegicus	-----	310
Mus_musculus	CMGQGIFPTSG--STHATSK-----PQKEHSEPTDTG--SSGSLDEIK	2294
Homo_sapiens	HKGQDIFLTSG--STLTTPPE-----PQRQVEAAAFQSRGSRSPD---	2453
Pan_troglodytes	HKGQDIFLTSG--STLTTPPE-----PQRQVEAAAFQSRGSRSPD---	2453
Macaca_mulatta	HKGQDIFPTSG--STLTTPPE-----PQRQVEPAFQSRGSRSPD---	2457
Callithrix_jacchus	PKGQDIFPTSG--STLTTPPE-----HKEQVEPDPFQSIIVSRSPD---	2296
Bos_taurus	YKGQDIFPTSG--NIQTISE-----PQKEQLEPASQSIIRSGSLDKIT	2596
Equus_caballus	FRGQGVFPFSG--RTHHTTPE-----PQKEQLESASFQSLERCLDKVT	2403
Canis_lupus_familiaris	YTAQDTFPTSG--STHTTPE-----PQKEQLEPTLQNIQSGSPDKVT	2420
Heterocephalus_glaber	HKGQGISITTSR--STYTIPE-----PQKERLEPVLQNKESRSLDKII	2273
Rhinatrema_bivittatum	ETPLESASIQN--HESKYSLEQFSKDETAATSEGISVTSQEKQLTSLQSSDALQLRVTS	2313
Xenopus_tropicalis	QEITSPEAVCDNVTEPSQ-----DSLESGDALSGVETLPEGSPD	2240
2830.....2840.....2850.....2860.....2870.....2880	

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Pavo_muticus	SSQDEEVTCRLTSSRKTEISEQGKLGDKHEE-----AOLECTESLLESSKTPLLSR--	2076
Pavo_cristatus	SSQDEEVTCRLTSSRKTEISEQGKLGDKHEE-----AOLECTESLLESSKTPLLSR--	2076
Gallus_gallus	SSQDEEMTCGLTSSSTETEISEQGKLGDKHEA-----AOLECTESLLESSKTPLVSR--	2075
Chelonia_mydas	CKCSDELVSGMDHEGKAAPNEQESSMDICES-----GHSGHVGSTAALSKSPMLRAGR	2282
Rattus_norvegicus	-----	310
Mus_musculus	DACVENMA-QLPQSE-IVSDKEEKTEPASNS-----EQDIVTSSS---KPPLTRPGR	2342
Homo_sapiens	-ACMDKNVPQLPQDEMIVSDKEERTDAAPKS-----QOMDSRTSSS---KASLSRPGR	2502
Pan_troglodytes	-ACIDKNVPQLPQDEMIVSDKEERTDAAPKS-----QOMDSRTSSS---KASLSRPGR	2502
Macaca_mulatta	-ACIDKNVPQLPQDEMIVSDKEERTDAAPKS-----EQMDNRTSSS---KAPLSRPGR	2506
Callithrix_jacchus	-RCIEKNVPQLPQDEMIVSDKEERTDAAPKS-----EQMD-KTSSS---KAPLSRPGR	2344
Bos_taurus	DTQ-EQNASQLPQDETMVSDKEERTCTASES-----EQMGSITSSS---NRPLTRPGR	2645
Equus_caballus	DTHIEKNTPOIPAERTVSDKDEGSCAAPKS-----EQMDSIASSS---KAPLSRPGR	2453
Canis_lupus_familiaris	DTHTEKSTSOLPQDERIVSDKEEKTCAASKS-----EQVTITSSS---KTPLTRPGR	2470
Heterocephalus_glaber	GTCIEKNMPQLSQDNAVMSD-EERIDAASKS-----EQGVRTKSS---KAPLTRSGR	2322
Rhinatrema_bivittatum	ADGNEDAHNHLATGTCRTHHEEQNFKEQDPVTTGLKQCKSVSTASSSRVTLTRPGR	2373
Xenopus_tropicalis	SRLSDSLPAIAAGDATSKQQGVMDALHFSC-----INTLPSTS---TTPIKRPGW	2288
	.....2890.....2900.....2910.....2920.....2930.....2940	

Pavo_muticus	-----KDSSESAAE-MQRKRGKIPNPQTGTTKQSLKKTASNK---DDRESCSF	2121
Pavo_cristatus	-----KDSSESAAE-MQRKRGKIPNPQTGTTKQSLKKTASNK---DDRESCSF	2121
Gallus_gallus	-----KSSSESAAE-VQRKREKIPNPQTGTTKPSLKNITPSSK---DDKESCSF	2120
Chelonia_mydas	RPLGFLSLICKSSNPEGED-ITKNGGRLQKPLIAASKQSLKRPPTPSAENNTDQESCSL	2341
Rattus_norvegicus	-----	310
Mus_musculus	RPLGFLSLICPKN-SLESDEVTQTHSKRLKPQIPVSRNLRKPNLHNTSQKKNQDSSAP	2401
Homo_sapiens	RPLGFLSLICSKN-SLESDEPMQVHSHKRLKPLIPGLRKKLKRNPFPNESQEKNNRESSDL	2561
Pan_troglodytes	RPLGFLSLICSKN-SLESDEPMQVHSHKRLKPLIPGLRKKLKRNPFPNESQEKNNRESSDL	2561
Macaca_mulatta	RPLGFLSLICSKN-SLESDEPMQVHSHKRLKPLIPALRQKLRNPFPNESQKKNQDSSDP	2565
Callithrix_jacchus	RPLGFLSLICSKN-SLESDEPTQFHNKRLKPLIPALRQKFKRNPVNESQKKNQESSDP	2403
Bos_taurus	RPLGFLSLICSKN-SLDSDEATQVHSHKRLKPVIPVSRQNLKRNLPSVSQKKTQESSD-	2703
Equus_caballus	RPLGFLSLICSKN-GLESDEPSQVHSHKRLKPLIPVSRQNLKRNPFPSEGGKKIQESSAL	2512
Canis_lupus_familiaris	RPLGFLSLICSRN-SLESDEPTVHSHKRLRPLIPAPRQNLKRNPFPNLPHEQKKNQESSDP	2529
Heterocephalus_glaber	RPLGFLALICSKNNLMDEGTHVRSKRLKPLIPVSRNLRKRNPPNFPNLPHEQKKNQESSNV	2382
Rhinatrema_bivittatum	RPRGFLSLICKKS-SSVNEKDTKSNSSRIQKPRVPVPKPCLKSRSTSE-----NDVKVSC	2428
Xenopus_tropicalis	KPMGFLSLVCKNK--NNKANNPSNRKRVLPK-----NVCKK	2323
	.....2950.....2960.....2970.....2980.....2990.....3000	

Pavo_muticus	PSGSTSSF---VEYDSITADAVVTAPHNEPSEKPPHCAEDQEKE--EPTKISEYFFSDIF	2177
Pavo_cristatus	PSGSTSSF---VEYDSITADAVVTAPHNEPSEKPPHCAEDQEKE--EPTKISEYFFSDIF	2177
Gallus_gallus	PSTSTSSF---VEYDSVPADAVVAPHNEPSEKPPHCAEDQEKE--EPTKISEYFFSDIF	2176
Chelonia_mydas	PSTSLTTS---AECENIGTAAVQIS--SESEKQASSTK-QEKE--EPTRISEYFFNDIF	2394
Rattus_norvegicus	-----	310
Mus_musculus	PPSPSVIAPLSGTAGSPSSAAQVSSDQPLLKEECKNGPKGAPE--EPTVPVSEYFFSDIF	2460
Homo_sapiens	LPSPSVIT---TQSENISSSATQVSCDQPLLKEGYKSAQKRAPQ--GEPTTVSEYFFNDIF	2617
Pan_troglodytes	LPSPSVIT---TQSENISSSATQVSCDQPLLKEGYKSAQKRAPQ--GEPTTVSEYFFNDIF	2617
Macaca_mulatta	LPSPSVIN---TQSKNISSSATQVSCDQPLLKEGHKSAQKRAPQ--GEPTTVSEYFFNDIF	2621
Callithrix_jacchus	LPSPSVIN---TQSENISSSATQVSCDQPLLKG-YKSGQKWAPE--GEPTTVSEYFFNDIF	2458
Bos_taurus	VPSPSVVDN---TQPTNNDGSATQVSHNRPLPKGECKGGQNRVPE--EPTTVSEYFFNDIF	2760
Equus_caballus	LPSPKVVVD---TQSENTGGSAAQVSCDHPLPKEEGKSVNRRAPE--GEPTTVSEYFFSDIF	2569
Canis_lupus_familiaris	LPSPSVVN---TQSESIDSSAAQVSCDRPLPKEECKSVQNRVPE--EPTTVSEYFFNDIF	2585
Heterocephalus_glaber	LPSPSDATS---TQAEDAGNAATQVSCDQPLLKEECKSGQKAPSE--EPTTVSEYFFGDIF	2440
Rhinatrema_bivittatum	PPPASIMSTEGDSHMKDTSQGSTAVSRDEGHEEAISGGQDSSESQAEPTSVSEYFFSDIF	2488
Xenopus_tropicalis	PPSTAVQS-----QDVTIVSEVSDSQAATSKTLGANEVASEE--EGTIVSQYFFSDIF	2373
3010.....3020.....3030.....3040.....3050.....3060	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus	MEVDDPE	2184
Pavo_cristatus	MEVDDPE	2184
Gallus_gallus	MEVDDPE	2183
Chelonia_mydas	MEVNDSE	2401
Rattus_norvegicus	-----	310
Mus_musculus	IEVDETL	2467
Homo_sapiens	IEVDETE	2624
Pan_troglodytes	IEVDETE	2624
Macaca_mulatta	IEVDETE	2628
Callithrix_jacchus	IEVDETE	2465
Bos_taurus	IEVDETE	2767
Equus_caballus	IEVDETE	2576
Canis_lupus_familiaris	IEVDETE	2592
Heterocephalus_glaber	IKVDEAE	2447
Rhinatrema_bivittatum	MEVDELG	2495
Xenopus_tropicalis	MPVDDE-	2379
	