

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus	MPAPRRRRHRPPRPAALQOLPPRRRGRTARTGPRRAPAAAGMSDGA	VLIS-----	47
Pavo_cristatus	MPAPRRRRHRPPRPAALQOLPPRRRGRTARTGPRRAPAAAGMSDGA	VLIS-----	47
Gallus_gallus	MPAPRRRRHRPPRPAALQOLPPRRRGRTARHGPRRAPAAEMSDGA	VLIS-----	47
Chelonia_mydas	-----	MAEGVILVS-----	9
Mus_musculus	-----	MEDFIVISD-----	9
Rattus_norvegicus	-----	MEDFIVISD-----	9
Homo_sapiens	-----	MEDFIVISD-----	9
Pan_troglodytes	-----	MEDFIVISD-----	9
Macaca_mulatta	-----	MEDFIVISD-----	9
Callithrix_jacchus	-----	MEDFIVISD-----	9
Canis_lupus_familiaris	-----	MEDFIVISD-----	9
Bos_taurus	-----	MEDFIVISD-----	9
Rhinatrema_bivittatum	MAGPPLRDLWRSLLPTRTRDSLCTRSYVSLVKTDALGARLVGPAAP	EGAGPRCPGSGARR	60
Xenopus_tropicalis	-----	MSMASAIVISDES-----	13
	1.....10.....20.....30.....40.....50.....60		
Pavo_muticus	-DSGSE--GGRSPP-----	PPPAEIIIDLTQEDINSEPL----	77
Pavo_cristatus	-DSGSE--GGRSPP-----	PPPAEIIIDLTQEDINSEPL----	77
Gallus_gallus	-DSGSE--GGRSPP-----	PPPAEIIIDLTQEDINSEPL----	77
Chelonia_mydas	-DSGSE--GGRSPPRRKRRR--RRRPQRG--	RPGLAEVIDLTGEDECSEAA----	53
Mus_musculus	-DSGSESSAGTRSGRARRLRRLSRTPGAL--	PRRTVDFIDLTRE-NRARTK----	57
Rattus_norvegicus	-DSGSESSAGTRSGRARRLRRLSRTPGAL--	PRRTVDFIDLTRE-TRTRAK----	57
Homo_sapiens	-DSGSESSGGARPGRSRRPRLSRTPGAL--	PRRTVDFIDLTRE-TRPRTK----	57
Pan_troglodytes	-DSGSESSGGARPGRSRRPRLSRTPGAL--	PRRTVDFIDLTRE-TRPRTK----	57
Macaca_mulatta	-DSGSESSGGARPGRSRRPRLSRTPGAL--	PRRTVDFIDLTRE-TRPRTK----	57
Callithrix_jacchus	-DSGSESSGSARPARTRRLRRAQSRSSGAP--	PRRTVDFIDLTRE-TRPRPK----	57
Canis_lupus_familiaris	-DSGSESSGGARSGRARRLRRLSRTPGAL--	PRRTVDFIDLTRE-TRPRTK----	57
Bos_taurus	-DSGSESSGGTRPSRARRLRRLSRTPGAL--	PRRTVDFIDLTRE-TRPRAK----	57
Rhinatrema_bivittatum	DDVPSEPLTAAEPDARSQEEGGCRIPAACDAMADPIVISDISDAET	ADHGSFINISKN	120
Xenopus_tropicalis	-DSGTKADISLIRWHRARRKIPGHILGEDSSTPKIKRCHQDIIIDLT	TENNYNYNMEN----	69
70.....80.....90.....100.....110.....120		
Pavo_muticus	-----PWNYIPIIDLTKE-EDTCSPPPAADCTVQD-RVSSASPIVHT	SHPQLCFSTKO	126
Pavo_cristatus	-----PWNYIPIIDLTKE-EDTCSPPPAADCTVQD-RVSSASPIVHT	SHPQLCFSTKO	126
Gallus_gallus	-----PWNYIPIIDLTKE-EDSCSPPPAADCTVQD-QVS---MVHAAHP	QLCFSTKO	123
Chelonia_mydas	-----VQDDFTVIDLSE-VEEERP---ANFPPLAG-AGTAAGMACASPP	SLPALMDI	99
Mus_musculus	-----DRNGLCVIDLTRNEEENRPIATLDLTLEP-VASSQKEPTSLOTCT	SLSGKE	107
Rattus_norvegicus	-----DRNGLCVIDLTRNEEENRPIATLDLTLEP-VASSQKEPPSLOTCT	NLSGKE	107
Homo_sapiens	-----DRSGLYVIDLTRAEGENRPIATLDLTLEP-VTPSQKEPTSLOTCA	SLSGKA	107
Pan_troglodytes	-----DRSGLYVIDLTRAEGENRPIATLDLTLEP-VTPSQKEPTSLOTCA	SLSGKA	107
Macaca_mulatta	-----DRNGLCVIDLTGAEGENRPIATLDLTLEP-VTPSQKEPTSLOTCA	RLSGKE	107
Callithrix_jacchus	-----DRSGLCVIDLTRAEGENRPIATLDLTLEP-VTPSQKEPTSLOTCA	SLSGKK	107
Canis_lupus_familiaris	-----DRSGLCVIDLTRTEENRPIATLDLTLEP-VAPSQKEPPNLOTCA	SLSGKE	107
Bos_taurus	-----DRSGLCVIDLTGSEENRPIATLDLTLEP-VAPSQKEPASLQACAS	LSGKE	107
Rhinatrema_bivittatum	SKDIIIDLTEDDSCTVIDLTMPERMDGSVLSDDTGVELDSEPFHAGECS	YLAGGDLHIKD	180
Xenopus_tropicalis	-----ISGSDNEVIDLTEDINETFIKTSPVSSSEWNYGSSDSDSELMSAE	LCCSDQK	121
130.....140.....150.....160.....170.....180		
Pavo_muticus	-----EVETSTELIPAA---PLHGYPTQPTSTATGTVVKVENKSGFSPA	SHHSSSCSLEPSRSTT	183
Pavo_cristatus	-----EVETSTELIPAA---PLHGYPTQPTSTATGTVVKVENKSGFSPA	SHHSSSCSLEPSRSTT	183
Gallus_gallus	-----EVETSTELIPAA---PSHGYPTQPTSTATGTVVKVENKSGFSPA	SHHSSPSYSLPSRSTT	180
Chelonia_mydas	KRER-KEVADQG---PGDPWDRAHEETKGTHLEG---CVSPVSSCTRS	VCGPELS--ST	149
Mus_musculus	VMEAHEDRGSQP---AAQRIINNDPVLDLLEENLFEGSRPPTSISQDS	VYPPEPNCSSI	164
Rattus_norvegicus	MIEAQGDRTGP---AAQRIINNDPVLDLLEENLFEGSRPPTSISQDS	VYPPEPNCSSI	164
Homo_sapiens	VMEGHVDRSSQP---TARRIINSDPVLDLVEENTFVGPPPATSISGGS	VYPTEPNCSSA	164
Pan_troglodytes	VMEGHVDRSSQP---TARRIINSDPVLDLVEENTFVGPPPATSISGGS	VYPTEPNCSSA	164
Macaca_mulatta	AMERQVDRSSQP---TARRIINSDPVLDLVEENTFVGPPPATSISGGS	VYPTEPNCSSA	164
Callithrix_jacchus	VLEGQVDRSSQP---TAQRIINSHFVCLDLVEEN-FVGPLPTFISGGS	VYPTEPNCSSA	163
Canis_lupus_familiaris	VMEGRVDRSSWP---AARRIINSDPVLDLLEETTTEGPPPTSISGNS	VYSTPNCSSS	164
Bos_taurus	VMEGVDRSSRP---AARRIINSDPVLDLLEETTTEGPPPTSISGNS	VYSTPNCSSS	164
Rhinatrema_bivittatum	EIHEKSGGVSDVRLQGTGRYTLTDIDCKQKANLSRVSSSDCNESSGLS	LSLELSSSRT	240
Xenopus_tropicalis	LIKYLTTDDDCS--VTGHNVSVSSTRVNSDIDSLDLSLTPVQGSN	SPGRSKDEYCKPS	179
190.....200.....210.....220.....230.....240		

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Pavo_muticus      VYNTDSSSLASALDQVLFSPSPSILDSNGN----- 214
Pavo_cristatus    VYNTDSSSLASALDQVLFSPSPSILDSNGN----- 214
Gallus_gallus     TNNTDSNSLASTQLDRVLFSPSPSILDSNGS----- 211
Chelonia_mydas    TINSDLGSLASLPLDSVFSFSPASSSRRAFW----- 182
Mus_musculus      TYKGDLSFLTSLQLSSDVSSFSSTSN-----ORASLPCPOQDVPCQSQGLL 210
Rattus_norvegicus TYKGDLSFLTSLQLSSDVSPFSSSTSNSSSSSN-----QRTSLPCPOQDVPCQSQGLL 217
Homo_sapiens      TFTGNLSFLASLQLSSDVSSLSPSTNNRSSSSSSNOKAPLPCPOQDVSRPPOALP 220
Pan_troglodytes   TFTGNLSFLASLQLSSDVSSLSPSTNNSSSSSSSSSSSSSSNOKAPLPCPOQDVSRPPOALP 224
Macaca_mulatta    TFTGNLSFLAGLQLSSDVSSLSPSTNNSSSSSSSSSSSSNOKAPLPCPOQDVPRPPOALP 221
Callithrix_jacchus TFTGNLSFLTGLQLSSDVSSLSPSTNNSSSSSSSSNOKAPLPCPOQDVPRPPOALP 212
Canis_lupus_familiaris TFKGDLSGLASLQLSSDVCSSTSPSTNNSSSSSNQ-----RAPLPCPOQDVPCPPOALP 216
Bos_taurus        IFKGDLSFLASLQPSNIHSLPQSTNNSSSSSNQ-----RIPLPCPOQDVPPPOALP 216
Rhinatrema_bivittatum MLNSDMGSLESLELEG-ASSSSPNIHTSQDLP----- 271
Xenopus_tropicalis ESNTVKLNLEVPALHSFISTLN----- 201
      .....250.....260.....270.....280.....290.....300

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Pavo_muticus      -----THGIEETPPTFQLRELPPRLSPAP----- 238
Pavo_cristatus    -----THGIEETPPTFQLRELPPRLSPAP----- 238
Gallus_gallus     -----TCGIEETPLTFQLRELPPRLSPVP----- 235
Chelonia_mydas    -----DCSAAESHSSSQOKEDPEHLPTAP----- 206
Mus_musculus      CPLQALSCPQTASPCPPRASSCPPQALSCPPQALSCP-----SQTLCQQLQ 256
Rattus_norvegicus CSLQALSYPRLRGSPPRASSCPPQALSCPPQALSCPSQTLSCPTQALSCP-----SQTVCQQLQ 277
Homo_sapiens      CPLRPLPCPPRASPCPPRASSCPPRALSCP-----SQTMCQQLP 259
Pan_troglodytes   CPLQALPCPPRASPCPPRAASCPPRALSCP-----SQTMCQQLP 263
Macaca_mulatta    CALQALPCPLRASPCPPRASSCPPRALSCP-----SQTMCQQLP 260
Callithrix_jacchus ---QALPCPLRTSPCPPRASSCPPRALSCP-----LQTMCCQVP 248
Canis_lupus_familiaris CFFRALPCPLRTSPCPPRASSCPPRALSCP-----SQTMCQQLQ 255
Bos_taurus        CPLQALPCPLQALPCPPRASSCPPRALSCP-----SQTMCQQLQ 255
Rhinatrema_bivittatum -----PLDLQDLASKNCGANSVTLQNSSP----- 295
Xenopus_tropicalis -----KTPQSDFTKCSAAAFQIYP----- 221
      .....310.....320.....330.....340.....350.....360

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Pavo_muticus      ----- 238
Pavo_cristatus    ----- 238
Gallus_gallus     ----- 235
Chelonia_mydas    ----- 206
Mus_musculus      ALPQPPQEVPCSTQN-----VPCPQONMPSTPQGLSWHPRHTLYPYQDTLGLP----- 304
Rattus_norvegicus ALPQPPQEVPCSTQN-----VPCPQONIPSTPQDLFWHPRHPLYPSQDTLGLP----- 325
Homo_sapiens      ALTHPPQEV-----CPRQNIIPGPPQ-----SLGLP----- 286
Pan_troglodytes   ALTHPPQEV-----CPRQNIIPGPPQ-----SLGLP----- 290
Macaca_mulatta    ALTHPPQEV-----CPGQNIIPSPQDSLWHPQHSPSPQDSLGLP----- 301
Callithrix_jacchus ALTHPPQEV-----CPQCSMPSPQDSLWHPQHSPSPQDSLGLP----- 290
Canis_lupus_familiaris ALPHLPQAVPRPPO-----DMPCPQQTVPSPPPDSSWRPQHSPSPQDSLCPQDSPLG 309
Bos_taurus        TLSRLPQEEELCPPQDMAYPQNVGPQQGMPSPPHGSSWHPQRLSPPQHSLGPP----- 309
Rhinatrema_bivittatum ----- 295
Xenopus_tropicalis ----- 221
      .....370.....380.....390.....400.....410.....420

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Pavo_muticus      ----- 238
Pavo_cristatus    ----- 238
Gallus_gallus     ----- 235
Chelonia_mydas    ----- 206
Mus_musculus      --QDVPGRPNMSYPQDVTQLQDMPWSLHDMPLSLQDVLSLQDVPELLGDPVPSPEVMQ 362
Rattus_norvegicus --QDVPGRPNVSYQDVTQLQDMPWSLQDMPPLSLQDVLSLQDVPELLGDPVPSPEVMQ 383
Homo_sapiens      --QDVPGLPQNSILHPQDVAYLQ-----DMPRSPGDVP----- 316
Pan_troglodytes   --QDVPGPPQNSILHPQDVAYLQ-----DMPQSPGDVPRSPGTMPPSP-DVPOSSP----- 336
Macaca_mulatta    --QDVPGPPQNSILHPQDVAYVQ-----DMPQSPGDVPRSPGNMPPSP-DVPOSSP----- 347
Callithrix_jacchus --QVVPGPPQNSILHPQDVITYLQ-----DMPQSPGDVPRTPGDMQSP-DVPOSSP----- 336
Canis_lupus_familiaris LPQDVPGPPQNSISYPQDVAYLQ-----DMPHSSQEDVPQSPEDVPQSPRHVPQSP----- 358
Bos_taurus        --QDAPAPPQKISYLEDVSHLQDVPSLEDMPQTPQDMQSSGDMPLSPFVSIPQSP----- 363
Rhinatrema_bivittatum ----- 295
Xenopus_tropicalis ----- 221
      .....430.....440.....450.....460.....470.....480

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Pavo_muticus	-----	238
Pavo_cristatus	-----	238
Gallus_gallus	-----	235
Chelonia_mydas	-----	206
Mus_musculus	LPGYVTQTSTRDVIQSPAGVTQSLGSMQSPGVTQSLRSMQSSGVTQSLRSMQSSGS	422
Rattus_norvegicus	LPGYMTQSSRNVIQSSAGVIRSSGGVMQPSG-----CMMQPSGG	422
Homo_sapiens	-----	316
Pan_troglodytes	-----	336
Macaca_mulatta	-----	347
Callithrix_jacchus	-----	336
Canis_lupus_familiaris	-----	358
Bos_taurus	-----	363
Rhinatrema_bivittatum	-----	295
Xenopus_tropicalis	-----	221
490.....500.....510.....520.....530.....540	

Pavo_muticus	-----	238
Pavo_cristatus	-----	238
Gallus_gallus	-----	235
Chelonia_mydas	-----	206
Mus_musculus	VTQSLRSMQSSGSMQSPGGVTQSLRSMQSPGGVMQSPGGVMQSPRDVMQSPRDVMQ	482
Rattus_norvegicus	VTQSLRSAIQSSGGVMQSSG-VTQSLRSMQSSGGVMQSSG-----VTQS	466
Homo_sapiens	-----	316
Pan_troglodytes	-----	336
Macaca_mulatta	-----	347
Callithrix_jacchus	-----	336
Canis_lupus_familiaris	-----	358
Bos_taurus	-----	363
Rhinatrema_bivittatum	-----	295
Xenopus_tropicalis	-----	221
550.....560.....570.....580.....590.....600	

Pavo_muticus	-----	238
Pavo_cristatus	-----	238
Gallus_gallus	-----	235
Chelonia_mydas	-----	206
Mus_musculus	PRDVMQSPRGVTQSLGSMQSPGGVMQSLRSMQSSGGVTQSLRSMQSPGGVMQSPGGV	542
Rattus_norvegicus	SGGVTVSLRSMQSSGCMQSPGGVMLSGDMMQSSGGATRLRSMQSSGCMQSPGGV	526
Homo_sapiens	-----	316
Pan_troglodytes	-----	336
Macaca_mulatta	-----	347
Callithrix_jacchus	-----	336
Canis_lupus_familiaris	-----	358
Bos_taurus	-----	363
Rhinatrema_bivittatum	-----	295
Xenopus_tropicalis	-----	221
610.....620.....630.....640.....650.....660	

Pavo_muticus	-----	238
Pavo_cristatus	-----	238
Gallus_gallus	-----	235
Chelonia_mydas	-----	206
Mus_musculus	TQSPRGMIKSPGMMLSPGDVQLNSVPQSSRDRMQSAGHVPASGDAIQSPGGMSPTSR	602
Rattus_norvegicus	TQSS-----GSVMQSLRNVIQSS-----GGVTQSSGGVTQSSSSGVPQSLR	566
Homo_sapiens	-----	316
Pan_troglodytes	-----	336
Macaca_mulatta	-----	347
Callithrix_jacchus	-----	336
Canis_lupus_familiaris	-----	358
Bos_taurus	-----	363
Rhinatrema_bivittatum	-----	295
Xenopus_tropicalis	-----	221
670.....680.....690.....700.....710.....720	

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Pavo_muticus	-----	238
Pavo_cristatus	-----	238
Gallus_gallus	-----	235
Chelonia_mydas	-----	206
Mus_musculus	DRMQSPGGVSLATEDSIQLP-GGVPLSSDVIQSQGGVPLSSKDRMQSPGGVPPSSGDMIQ	661
Rattus_norvegicus	DRMQSPGVSQSSGDVIQSPRGASPASGDVIKIQGGMPRLRDRMQSPGGVPPSSS---	622
Homo_sapiens	-----	316
Pan_troglodytes	-----	336
Macaca_mulatta	-----	347
Callithrix_jacchus	-----	336
Canis_lupus_familiaris	-----	358
Bos_taurus	-----	363
Rhinatrema_bivittatum	-----	295
Xenopus_tropicalis	-----	221
730.....740.....750.....760.....770.....780	

Pavo_muticus	-----	238
Pavo_cristatus	-----	238
Gallus_gallus	-----	235
Chelonia_mydas	-----	206
Mus_musculus	SQGGVPQSLGDAIQSAGGVPPSSGDAIQSPGGVSLATGDSIQLPGGVPLSSGDVIQSQGG	721
Rattus_norvegicus	-----DVIQSAGGVSPASGDVIQSPGGVSPASGDAMQSSGGVTPSLGDVPPSSSGG	672
Homo_sapiens	-----	321
Pan_troglodytes	-----	352
Macaca_mulatta	-----	363
Callithrix_jacchus	-----	345
Canis_lupus_familiaris	-----	367
Bos_taurus	-----	379
Rhinatrema_bivittatum	-----	295
Xenopus_tropicalis	-----	221
790.....800.....810.....820.....830.....840	

Pavo_muticus	-----	238
Pavo_cristatus	-----	238
Gallus_gallus	-----	235
Chelonia_mydas	-----	206
Mus_musculus	VPRSSRDRMQSPGGVPPSSGGVIOQSPGGVSPASGDVIQSPGSLPASGDVIQSPGGVLLA	781
Rattus_norvegicus	VSPASGDAMQSPGGVTPSLGDAMQSPGGVSPASGDAMQSPGGVSPSLGDVPPQ---	724
Homo_sapiens	VSPSPD-APQSPGGMPHLPGDVLHSPGDMPHSSGDVTHSPR-----	361
Pan_troglodytes	VSPSPD-APQSPGGMPHLPGDVLHSPGDMPHSSGDVTHSPR-----	392
Macaca_mulatta	ASPSPD-VPPSPGGMPHLPGDVLHSPGDRPHSSGDVTHSPR-----	403
Callithrix_jacchus	APPSPD-APQSPGGMPHFTGDVLYSPGDMPHSSGEVPHSPQ-----	385
Canis_lupus_familiaris	APQLPESVPHSPGEVPDFPGDMLHSPGDRPCLLGDMPHSFG-----	408
Bos_taurus	VSQSPVNAPPSPGDASFPSPGDVPPSPGDAPPSPASVPHSSREVSCLS---	426
Rhinatrema_bivittatum	-----	295
Xenopus_tropicalis	-----	221
850.....860.....870.....880.....890.....900	

Pavo_muticus	-----	238
Pavo_cristatus	-----	238
Gallus_gallus	-----	235
Chelonia_mydas	-----	206
Mus_musculus	SGDAIQSPRSVPQSPSGTLRSPGNMSESLGDTPNLSGDVSNPQALLDLARDRPKSSPND	841
Rattus_norvegicus	-----SPGNMLES LGNTPNLSGDVSHVPOELLDLAKGRPKLSLNA	764
Homo_sapiens	-----	377
Pan_troglodytes	-----	408
Macaca_mulatta	-----	419
Callithrix_jacchus	-----	401
Canis_lupus_familiaris	-----	424
Bos_taurus	-----	464
Rhinatrema_bivittatum	-----	295
Xenopus_tropicalis	-----	221
910.....920.....930.....940.....950.....960	

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Pavo_muticus          -----ASITK-----SPGKAKRTFLEACG-SQEAIRO 264
Pavo_cristatus        -----ASITK-----SPGKAKRTFLEACG-SQEAIRO 264
Gallus_gallus         -----ASITK-----RSGKAKRTSLEAGG-SQEAIRO 261
Chelonia_mydas        -----AQRQSPGLSSCPPA-----STPRSEOPPLETSNPMLTAVKO 243
Mus_musculus          VQNRDTPMDISASSSSSCSANPQSRQSEFKLDKVPWLITDSSARREKSLPOLANPGSAQ 901
Rattus_norvegicus     VQNRHSPMTISAPSSPSCSANPLSQSEFSEKRPWLTVSNSSAREERSLPQSATPGSAQ 824
Homo_sapiens          VQNRDMPMDISALSSPSCSPSPQS---ETPLEKVPWLSVMEETPARKEISLSEPAKPGSAH 434
Pan_troglodytes       VQNRDMPMDISALSSPSCSPSPQS---ETPLEKVPWLSVMEETPARKEISLSEPAKPGSAH 465
Macaca_mulatta        VQNRDMPMDISALSSPSCSPSPQS---ETPLEKVPWLSVMEETPARKEISLSEPAKPGSAH 476
Callithrix_jacchus    IQNQDMPMDISAPSSPSCSPSPQSQSETSLEKVPWLSVMEETPARKEISLSEPSKPGFSH 461
Canis_lupus_familiaris VQNHDTPEVSAAPSSPRFSPSPQSPQSETSLEKVPWLSVTEETPARKDRSLSEPANPRSAQ 484
Bos_taurus            IQNHDTPMDVDAPSSPSSSPSPQSEFETSLEKVPWLSVTENPARKERSLSEFVNPGCAL 524
Rhinatrema_bivittatum -----LPCQHRQCPVSLD-----PSSSLRSTQQLSLGVDSKGAIP 331
Xenopus_tropicalis    -----SDNSNSILLSPINTQQADLV 242
.....970.....980.....990.....1000.....1010.....1020

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Pavo_muticus          VTST-RTKADSV--VWLNLKRYFRRSQVQHLFFHGATSD---RETPQRKPELIPSSKMSM 318
Pavo_cristatus        VTST-RTKADSV--VWLNLKRYFRRSQVQHLFFHGATSD---RETPQRKPELIPSSKMSM 318
Gallus_gallus         VTSA-STKADSM--VWLNLKRYFRRSQVQHLFFHGATSD---RETPQRKPELIPSSKMSM 315
Chelonia_mydas        EPPE-PAKLRPVNKAWLHKLRYFRRTPVHHLFLQGVVQDEESRQNAQRKAQPIPSRKLSM 302
Mus_musculus          IQGQ-IPQGVGNRPCLHRLKYFLRPPVHHLFFQTLIPDKDTRESKGOKLEPIPHRRRLRM 960
Rattus_norvegicus     IQGQ-IAQAGVYNRPCLHRLKYFLRPPVHHLFFQTLIPDKDTRESKGOKLEPIPHRRRLRM 883
Homo_sapiens          VQSR-TPQGGLYNRPCLHRLKYFLRPPVHHLFFQTLIPDKDTRENGKOKLEPIPHRRRLRM 493
Pan_troglodytes       VQSR-TPQGGLYNRPCLHRLKYFLRPPVHHLFFQTLIPDKDTRENGKOKLEPIPHRRRLRM 524
Macaca_mulatta        VQAR-TPQGGLYNRPCLHRLKYFLRPPVHHLFFQTLIPDKDTRENGKOKLEPIPHRRRLRM 535
Callithrix_jacchus    VQAR-TPQGGLYNRPCLHRLKYFLRPPVHHLFFQTLIPDKDTRENGKOKLEPIPHRRRLRM 520
Canis_lupus_familiaris VQAR-TPQGGLYNRPCLHRLKYFLRPPVHHLFFQTLIPDKDTRESKGOKLEPIPHRRRLRM 543
Bos_taurus            IQTQ-IPQGGLYNRPCLHRLKYFLRPPVHHLFFQTLIPDKDTRENGKOKLEPIPHRRRLRM 583
Rhinatrema_bivittatum LDLVGSPPKRCPSNRAWLNKLYFCNPPVQHLFFQDLKADAEIRKQSQSK--PIPERRLNM 389
Xenopus_tropicalis    KEEP-----SFKASLYKLRCYRNPVHHLFFHRLKQNEETRKKLKITPQIPSRRMNF 296
.....1030.....1040.....1050.....1060.....1070.....1080

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Pavo_muticus          VRTTMEENFLEGTILHFLSDFISROHCPPKEIVSHLVRHILLN-SQOEELQNTYTLLMKI 377
Pavo_cristatus        VRTTMEENFLEGTILHFLSDFISROHCPPKEIVSHLVRHILLN-SQOEELQNTYTLLMKI 377
Gallus_gallus         VRTTMEENFLEGTILHFLSDFISROHCPPKEIVSHLVRHILLN-SQOEELQNTYTLLMKI 374
Chelonia_mydas        VSTTMEENFPKGTILQFLTDFVSCHHYPPKEIVSHVIRNILLS-SETGEMLKDAYMLLMKI 361
Mus_musculus          VTNTIEENFPLGTVOFLMDFVSPQHYPPEPREIVAHIIQKILLSGSETVDVLKEAYMLLMKI 1020
Rattus_norvegicus     VTNTIEENFPLGTVOFLMDFVSPQHYPPEPREIVAHIIQKILLSGSETVDVLKEAYMLLMKI 943
Homo_sapiens          VTNTIEENFPLGTVOFLMDFVSPQHYPPEPREIVAHIIQKILLSGSETVDVLKEAYMLLMKI 553
Pan_troglodytes       VTNTIEENFPLGTVOFLMDFVSPQHYPPEPREIVAHIIQKILLSGSETVDVLKEAYMLLMKI 584
Macaca_mulatta        VANTIEENFPLGTVOFLMDFVSPQHYPPEPREIVAHIIQKILLSGSETVDVLKEAYMLLMKI 595
Callithrix_jacchus    VANTIEENFPLGTVOFLMDFVSPQHYPPEPREIVAHIIQKILLSGSETVDVLKEAYMLLMKI 580
Canis_lupus_familiaris VTNTIEENFPLGTVOFLMDFVSPQHYPPEPREIVAHIIQKILLSGSETVDVLKEAYMLLMKI 603
Bos_taurus            VTNTIEENFPLGTVOFLMDFVSPQHYPPEPREIVAHIIQKILLSGSETVDVLKEAYMLLMKI 643
Rhinatrema_bivittatum VTSTIEENFPQGTLOFLSDFVSLQHYPPKEIVSHVINKIMLG-LHGPDIILMDAYMLLMKI 448
Xenopus_tropicalis    VESTMEENFPQGTILHFLNEFVSIHYPKISVLRHVVSDFLLG-SEESGIRNDAYTFLMKV 355
.....1090.....1100.....1110.....1120.....1130.....1140

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* : * : * : * : * : * : * : * : * : * : * : * : * : * : * : * : * : * :
Pavo_muticus          QMLHPATTTTVGWDWTLLOQYTMENQ-E-KLPGRLLFLQYVVQTLLEDDFQQLNR--LHLLQK 434
Pavo_cristatus        QMLHPATTTTVGWDWTLLOQYTMENQ-E-KLPGRLLFLQYVVQTLLEDDFQQLNR--LHLLQK 434
Gallus_gallus         QMLHPANTTTTVGWDWMLLKQYTMENEE-KLPGRLLFLQYVVQTLLEDDFQQLNR--LHLLQK 431
Chelonia_mydas        QMLHPATATMVGWDWELLRYVMEEQ-EETLPGRVFLFLQYVVQTLLEDDFQQLNLK--LRFLQK 419
Mus_musculus          QQLHPANAKTVEWDWKLITYVMEEEGQTLPGRVFLFLRYVVQTLLEDDFQQLILRROROHLOQ 1080
Rattus_norvegicus     QQLHPANAKTVEWDWKLITYVMEEEGQTLPGRVFLFLRYVVQTLLEDDFQQLILRROROHLOQ 1003
Homo_sapiens          QQLHPANAKTVEWDWKLITYVMEEEGQTLPGRVFLFLRYVVQTLLEDDFQQLILRROROHLOQ 613
Pan_troglodytes       QQLHPANAKTVEWDWKLITYVMEEEGQTLPGRVFLFLRYVVQTLLEDDFQQLILRROROHLOQ 644
Macaca_mulatta        QQLHPANAKTVEWDWKLITYVMEEEGQTLPGRVFLFLRYVVQTLLEDDFQQLILRROROHLOQ 655
Callithrix_jacchus    QQLHPANAKTVEWDWKLITYVMEEEGQTLPGRVFLFLRYVVQTLLEDDFQQLILRROROHLOQ 640
Canis_lupus_familiaris QQLHPANAKTVEWDWKLITYVMEEEGQTLPGRVFLFLRYVVQTLLEDDFQQLILRROROHLOQ 663
Bos_taurus            QQLHPANAKTVEWDWKLITYVMEEEGQTLPGRVFLFLRYVVQTLLEDDFQQLILRROROHLOQ 703
Rhinatrema_bivittatum QRFHPANASTVKWDWKLIVSNMEKMD-AFPSQLLFLQYVIQTLLEDDFQQLNLK--RRLLQK 505
Xenopus_tropicalis    QRLHPANQHTVPWDWESLSKAMENKE--QPVLCFLQYVVQTLLEDDFQQLCVH--RRNLHT 411
.....1150.....1160.....1170.....1180.....1190.....1200

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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      .:. .:***      *: .*:***: .:.
Pavo_muticus      SITKKVLSCDTCFNNVKEVVEWLVAVVTGARFFFOLEQTOEMTRLSAG--AECSS-----S 488
Pavo_cristatus    SITKKVLSCDTCFNNVKEVVEWLVAVVTGARFFFOLEQTOEMTRLSAG--AECSS-----S 488
Gallus_gallus     SITKKVLSCDTCFNNVKEVVEWLVAVVTGARFFFOLEQTOEMTRLSAETGAECSS-----S 487
Chelonia_mydas    SIAKEVLSCDRCFSNVTEVIEWELVAAVTGLGFSQPRKQOKAPCPSSSEADGSISSRGPDSS 479
Mus_musculus      SIANTVLSCDKQPHNVRDVIKWLKAVTENELTPPQDETQ-----TSPRTGVLKTS----- 1131
Rattus_norvegicus SIANTVLSCDKQPHNVRDVIKWLKAVTENALTPPQDETQ-----TSPGPGVLKTS----- 1054
Homo_sapiens      SIANMVLSCDKQPHNVRDVIKWLKAVTEDGLTQPPNGNQ-----TSSGTGILKAS----- 664
Pan_troglodytes   SIANMVLSCDKQPHNVRDVIKWLKAVTEDGLTQPPNGNQ-----TSSGTGILKAG----- 695
Macaca_mulatta    SIANMVLSCDKQPHNVRDVIKWLKAVTADGLTQPPNGNQ-----MSSGTGILRAG----- 706
Callithrix_jacchus SIANMVLSCDKQPHNVRDVIKWLKAVTEDGFTQPSNRNQ-----MSSGTGILKAG----- 691
Canis_lupus_familiaris SIASTVLSCDKQPHNVRDVIKWLKVVTEDGLTQPPNGNQ-----TSSATGILKAS----- 714
Bos_taurus        AIASTVLSCDKQPHNVRDVIKWLRAVTEDRLIQPPNENQ-----TSPGKGILKTS----- 754
Rhinatrema_bivittatum SIAKSVLSCDNHFSNVRDVIQWLVNAVKFSSLEVSEVQPG-----TSSGTGILKAG----- 545
Xenopus_tropicalis CLSKVMISCDTKFSNIRHVINWLIKTMNDSSHITPEMEDS-----TSSGTGILKAG----- 451
      .....1210.....1220.....1230.....1240.....1250.....1260

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      * : *****:***** :*.*: :*: :* :.:.
Pavo_muticus      AAQPASTDQAQLTPPTFFAQKAMLLLRMLSFAVEVDRSPNCSSCKIADLIFPFLNIPV 548
Pavo_cristatus    AAQPASTDQAQLTPPTFFAQKAMLLLRMLSFAVEVDRSPNCSSCKIADLIFPFLNIPV 548
Gallus_gallus     AAQPASTDQAQLTPPTFFAQKAMLLLRMLSFAVEVDRSPNCSSCKIADLIFPFLNIPV 547
Chelonia_mydas    AQNDSETGQAEAVLPAFLSKVVLRLRMLSFAVEVDRSPNCSTNKIANVIFLYLVNIPL 539
Mus_musculus      ----SDHLSRPQNQKNTNQLIVCOLRMLSFAVEVDRTPTCSSNKIAEMMFGFVLDIPE 1187
Rattus_norvegicus ----SDHLSRPQNLRNTNQLIVCOLRMLSFAVEVDRTPTCSSNKIAEMMFGFVLDIPE 1110
Homo_sapiens      ----SSHPPSQPNLTKNNTNQLIVCOLRMLSFAVEVDRTPTCSSNKIAEMMFGFVLDIPE 720
Pan_troglodytes   ----SSHPPSQPNLTKNNTNQLIVCOLRMLSFAVEVDRTPTCSSNKIAEMMFGFVLDIPE 751
Macaca_mulatta    ----GSHPPSQPNLTKNNTNQLIVCOLRMLSFAVEVDRTPTCSSNKIAEMMFGFVLDIPE 762
Callithrix_jacchus ----SGHPPSQPNRTKNNTNQLIVCOLRMLSFAVEVDRTPTCSSNKIAEMMFGFVLDIPE 747
Canis_lupus_familiaris ----SNHPPSQANLTKNNTNQLIVCOLRMLSFAVEVDRTPTCSSNKIAEMMFGFVLDIPE 770
Bos_taurus        ----SSHPPSQPNLTKNANQLIICOLRMLSFAVEVDRTPTCSSNKIAEMMFGFVLDIPE 810
Rhinatrema_bivittatum ----PSLLPITDSTRSKTSLVCLLRMLSFAVEVDKSPTCSSNKIADAMFPFLLSIPK 600
Xenopus_tropicalis ----AGCDNQRIMCLLRMLSFAVEVDLSPSCSSSRIADSVFEPDVICLTS 497
      .....1270.....1280.....1290.....1300.....1310.....1320

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      * :** :.:.:*** ***.*:.....: ***      *.*:***: :*: :* :.
Pavo_muticus      RSQREALNTMESNLLRCKLLEMMFQHS CDVPTN--LPLSLSKILYFLGHSSVLLQ---- 602
Pavo_cristatus    RSQREALNTMESNLLRCKLLEMMFQHS CDVPTN--LPLSLSKILYFLGHSSVLLQ---- 602
Gallus_gallus     RSQREALNTMESNLLRCKLLEMMFQHS CKVPTN--LPLSLSKILYFLGHSSVLLQ---- 601
Chelonia_mydas    RSQREAFLNMSQQLLRCKVLEILFHHS CAIPAS--LPLSLSKILHFLSCHSLLQ---- 593
Mus_musculus      RSQREMFFTTMESHLRCKVLEIIFLHSCETPTR--LPLSLAQALYFLNNSTSLK---- 1241
Rattus_norvegicus RSQREMFFTTMESHLRCKVLEIIFLHSCETPTR--LPLSLAQALYFLNNSTSLK---- 1164
Homo_sapiens      RSQREMFFTTMESHLRCKVLEIIFLHSCETPTR--LPLSLAQALYFLNNSTSLK---- 774
Pan_troglodytes   RSQREMFFTTMESHLRCKVLEIIFLHSCETPTR--LPLSLAQALYFLNNSTSLK---- 805
Macaca_mulatta    RSQREMFFTTMESHLRCKVLEIIFLHSCETPTR--LPLSLAQALYFLNNSTSLK---- 816
Callithrix_jacchus RSQREMFFTTMESHLRCKVLEIIFLHSCETPTR--LPLSLAQALYFLNNSTSLK---- 801
Canis_lupus_familiaris RSQREMFFTTMESHLRCKVLEIIFLHSCETPTR--LPLSLAQALYFLNNSTSLK---- 824
Bos_taurus        RSQREMFFTTMESHLRCKVLEIIFLHSCETPTR--LPLSLAQALYFLNNSTSLK---- 864
Rhinatrema_bivittatum RCQRETLFNSMESPLLRKVIDIMFDHSCPELLSPSLPLSLAKILYFVKHSTLLLE---- 656
Xenopus_tropicalis RHEREMFLSSIESALLRAKVIEVILQHS CPERKD--LSLSVAKILYFLVNSKLLLGKQLR 555
      .....1330.....1340.....1350.....1360.....1370.....1380

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      :.      ** ***:..      :
Pavo_muticus      --YQDEIATWQKWDELLOYLSSLLLSYQNVVAEHLRSSLSERVDLIKKAKPKLQDDDDI 660
Pavo_cristatus    --YQDEIATWQKWDELLOYLSSLLLSYQNVVAEHLRSSLSERVDLIKKAKPKLQDDDDI 660
Gallus_gallus     --YEDEVATWQKWDELLOYLSSLLLSYQNVVAEHLRSSLIERVDLIKKAKPKRQDDDDNI 659
Chelonia_mydas    --YQDHEVTWQWDEMLQDLILLISYRNVVLGHLRSSLSERMDLIISNAKPOLQDNDISI 651
Mus_musculus      --CQSDKTQWQTWDELVEHLOFLLSSYQHVLREHLRSSVIDRKDLIIKRIKPKPOQGDDI 1299
Rattus_norvegicus --CQSDKSQWQTWDELVEHLOFLLSSYQHVLREHLRSSVIDRKDLIIKRIKPKPOQGDDI 1222
Homo_sapiens      --CQSDKSQWQTWDELVEHLOFLLSSYQHVLREHLRSSVIDRKDLIIKRIKPKPOQGDDI 832
Pan_troglodytes   --CQSDKSQWQTWDELVEHLOFLLSSYQHVLREHLRSSVIDRKDLIIKRIKPKPOQGDDI 863
Macaca_mulatta    --CQSDKSQWQTWDELVEHLOFLLSSYQHVLREHLRSSVIDRKDLIIKRIKPKPOQGDDI 874
Callithrix_jacchus --CQSDKTQWQTWDELVEHLOFLLSSYQHVLREHLRSSVIDRKDLIIKRIKPKPOQGDDI 859
Canis_lupus_familiaris --CQSDKTQWQTWDELVEHLOFLLSSYQHVLREHLRSSVIDRKDLIIKRIKPKPOQGDDI 882
Bos_taurus        --CQSDKTQWQKWDELVEHLOFLLSSYQHVLREHLRSSVIDRKDLIIKRIKPKPOQGDDI 922
Rhinatrema_bivittatum --QDSSGDWQWDEILHHCVCFF----- 678
Xenopus_tropicalis CLSKDLESEWQWDELLHFLILLFLSYQIKSENLLIRITDRIDKIAH-VQQAVNSDDDI 614
      .....1390.....1400.....1410.....1420.....1430.....1440

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus      S Q L D I H L K M K D F L C R M Q Q I L E E P L P V O I K E K V C M L K K L F L I V A A T ----- 705
Pavo_cristatus    S Q L D I H L K M K D F L C R M Q Q I L E E P L P V O I K E K A C M L K K L F L I V A A T ----- 705
Gallus_gallus     S Q L D I H L K I K D F L G Q M Q Q I L E E P F P V O I K E K V C M L K K L F L I V A A T ----- 704
Chelonia_mydas    T T V D I E L H V K D F S S W L L Q I L G K P L P P O I K D K V C V L Q A L L L S A A A T ----- 697
Mus_musculus      T V L D V E K Q I E A F R S R L V H I L G E P L V P O L Q D K V H L L K L L L F Y A A D L N P D T E P A S E H ----- 1354
Rattus_norvegicus T V V D V E K Q I E A F R S R L V H I L G E P L V P O L Q D K V H L L K L L L F Y A A D L N P D T E P A S E R ----- 1277
Homo_sapiens      T V V D V E K Q I E A F R S R L I Q M L G E P L V P O L Q D K V H L L K L L L F Y A A D L N P D A E P F O K G W S G S ----- 891
Pan_troglodytes   T V V D V E K Q I E A F R S R L I Q M L G E P L V P O L Q D K V H L L K L L L F Y A A D L N P D A E P F O K G W S G S R ----- 923
Macaca_mulatta    T V V D V E K Q I E A F R S R L I Q M L G E P L V P O L Q D K V H L L K L L L F Y A A D L N P D A E P S O K G W S S S ----- 933
Callithrix_jacchus T V V D V E K Q I E A F R S R L I H M L G E P L V P O L Q D K V H L L K L L L F F A A D L N P D A E P S O K G W S S S ----- 918
Canis_lupus_familiaris T A V D V E R Q I E A F R S R L T Q I L G E P L A P O L Q D K V H L L K L L L F Y A A D L N P D A E P S P K N W S S P ----- 941
Bos_taurus        S V V D V E K Q I E A F R S R L V R M L G E P L V P O L Q D K V H L L R L L L F F A A D L N P D S E A S P ----- 975
Rhinatrema_bivittatum ----- 678
Xenopus_tropicalis T E K E I D S H L D T F K K R T N -- L E T D I P S A L T E R L H M L R I L L C T A V H Q K T ----- 659
.....1450.....1460.....1470.....1480.....1490.....1500

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Pavo_muticus      ----- 705
Pavo_cristatus    ----- 705
Gallus_gallus     ----- 704
Chelonia_mydas    ----- 697
Mus_musculus      ----- 1354
Rattus_norvegicus ----- 1277
Homo_sapiens      ----- 891
Pan_troglodytes   G P A K H 928
Macaca_mulatta    ----- 933
Callithrix_jacchus ----- 918
Canis_lupus_familiaris ----- 941
Bos_taurus        ----- 975
Rhinatrema_bivittatum ----- 678
Xenopus_tropicalis ----- 659
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