

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/LTBD1.pst Tue Feb 1 13:56:33 2022

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[illegible]

		. **:* * *	
Pavo_muticus	Q-RTFNVQLNARYG-----TAERTRRMSKAGGAGVQ-LR-----		89
Pavo_cristatus	Q-RTFNVQLNARYG-----TAERTRRMSKAGGAGVQ-LR-----		89
Gallus_gallus	QQRTFNVQLNARYG-----TAERTRRMSKAGGAGVQ-LR-----		91
Chelonia_mydas	QQQTFFVALNARYSTG-----TLERTRRMSKPGSPSMQ-LH-----		93
Rattus_norvegicus	--RTFNVALDARYSRSSSTATS--SRSLAGPPPAERTTRTSQPGGAAALPGLRSPLPPE---		101
Mus_musculus	--RTFNVALDARYSRSSSTAAS--SRALAGPPPAERTTRTSQPGGAAALPGLRSPLPPE---		101
Homo_sapiens	RSRTFNVALNARYSRSSAAAAGAPSRASPGVPSETRTRTSKPGGAAALQGLRPPPPPPP----		106
Pan_troglodytes	RSRTFNVALNARYSRSSAAAAGAPSRASPGVPSETRTRTSKPGGAAALQGLRPPPPPPP----		105
Macaca_mulatta	RSRTFNVALNARYSRSSAAAAGAPSRASPGVPSETRTRTSKPGGAAALQGLRPPPPPPPP--		107
Callithrix_jacchus	SPRTFNVALNARYSRSSASAGAPSRASLRVPSETRTRTSKPGGAAALQGLRPPPPPPPE---		105
Canis_lupus_familiaris	RPRTFNVALDARYSR-----ASPGAPSERTRTRTSPPGGAALQGLRPPPPPPPPPOE		104
Equus_caballus	RPRTFNVALNARYSRSSAGAGTPSRASPGAPSERTRTRTSQPGGGALQGLRPPPPPPP----		105
Bos_taurus	RPRTFNVALNARYSRSS-----AGAGAPSERTRTRTSPPGGAALQGLRPPPPPPP----		97
Rhinatrema_bivittatum	-----AQERTRRMSSSS-----		55
Xenopus_tropicalis	--LSHNVVLSSGQQGAG-----SHMTQERSRRMRVIASPSLVQRQQIPGQ----		94
70.....80.....90.....100.....110.....120		

Pavo_muticus	-----LGPVGQSHSN-----SAASFAPARFGPRPKPPPG-PHGNSSGAPLROKHPL	135
Pavo_cristatus	-----LGPVGQSHSN-----SAASFAPARFGPRPKPPPG-PHGNSSGAPLROKHPL	135
Gallus_gallus	-----LGPVGQSHSN-----SAASFAPARFGPRPKPPPG-PHGNSSGAPPROKHPL	137
Chelonia_mydas	-----LGSSVOLHHRPG-----GPAALFSKPARLVQRSKLQRETRNSSSSP--QGHOR	141
Rattus_norvegicus	----PARPGAPSRQLHSKAGAQTAVTRFAKHGROVVRSKVQOD---TQSGGSRLOVQOK	154
Mus_musculus	----PARPGGSPSRQLHSKAGAQTAVTRFAKHGROVVRSKVQOD---AQSAGGSRLOVQOK	154
Homo_sapiens	---EPARPAVPGGQLHPNPGGHPAAAPFTKQGRQVVRSKVPOE---TQSGGSRLOVHQK	160
Pan_troglodytes	---EPARPAAPGGQLHPKPGGHPAAAPFTKQGRQVVRSKVPOE---TQSGGSRLOVHQK	159
Macaca_mulatta	---EPARPAAPGGQLHPKPGGHPAAAPFAKQGRQVLRSKVPOE---TQSGGSRLOVHQK	161
Callithrix_jacchus	---PARPEAPGGQLHPKPGGHPAAAPFARQGREVVRSKVPLE---TQSGGSRLOVHQK	158
Canis_lupus_familiaris	PPREPARPGAPGGQRAPRPGGAPAAAPRAAQGRQAVRAAAQPE---SRGGGSRPQGPOK	161
Equus_caballus	---EPARPGGGGGQLHPKPGGHPAIAK---QGRQVVRSKVPOD---TQSGGSRLOVHQK	156
Bos_taurus	---ELARPGGPGGQLHPKPGGHPAAAPFAKQGRQAMRSKVPOE---TQSGGSRLOVHQK	151
Rhinatrema_bivittatum	-----SKASSGVQIQHKK-----	68
Xenopus_tropicalis	-----NAASMVSYYSFSRGSAAQD---AHRSPSLTQIQHK	127
130.....140.....150.....160.....170.....180	

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      *:::* :*:***:..* ** *.* * *****:***:*** :*: **
Pavo_muticus      PPLPGVNVCGGQCCHGWSKATGSORCIKPNCAFFCQNGGMCLRPOLCVCKPGTKGNSCED 195
Pavo_cristatus    PPLPGVNVCGGQCCHGWSKATGSORCIKPNCAFFCQNGGMCLRPOLCVCKPGTKGNSCED 195
Gallus_gallus     PPLPGVNVCGGQCCHGWSRATGSORCIKPNCAFFCQNGGMCLRPOLCVCKPGTKGNSCED 197
Chelonia_mydas    HPLQGVNVCGGQCCHGWSKAPGFQRCITKPNCSPPCQNGGMCLRPOLCVCKPGTKGNSCED 201
Rattus_norvegicus QQLQGINVCGGQCCHGWSKAPGSORCTKPS CVPPCQNGGMCLRPOLCVCKPGTKGKACEI 214
Mus_musculus      QQLQGINVCGGQCCHGWSKPPGSORCTKPS CVPPCQNGGMCLRPOLCVCKPGSKGKACEI 214
Homo_sapiens      QQLQGVNVCGGRCCCHGWSKAPGSORCTKPS CVPPCQNGGMCLRPOLCVCKPGTKGKACET 220
Pan_troglodytes   QQLQGVNVCGGRCCCHGWSKAPGSORCTKPS CVPPCQNGGMCLRPOLCVCKPGTKGKACET 219
Macaca_mulatta    QQLQGVNVCGGRCCCHGWSKAPGSORCTKPS CVPPCQNGGMCLRPOLCVCKPGTKGKACET 221
Callithrix_jacchus QQMVGNVCGERCCRGWSKAPGSORCTKPS CVPPCQNGGICLRPFCVCKPETGKACET 218
Canis_lupus_familiaris PQLQGVNVCGGQCCHGWSKAPGSORCTKPS CVPPCQNGGMCLRPOLCVCKPGTKGKACES 221
Equus_caballus    QQLQGVNVCGGQCCHGWSKAPGSORCTKPS CVPPCQNGGMCLRPOLCVCKPGTKGQACET 216
Bos_taurus        QQLQGVNVCGGQCCHGWSKAPGSORCTKPS CVPPCQNGGMCLRPOLCVCKPGTKGKACET 211
Rhinatrema_bivittatum QQLQGVNVCGGQCCHGWSRAPGSARCTKPNCLVLCQNGGMCLRPOLCICKPGTRGKACEE 128
Xenopus_tropicalis FOHQGVNICGGKCCCHGWSKSPGSECTKPNCSPPCQNGGMCLRPOLCVCKPGTKGKVCEE 187
.....190.....200.....210.....220.....230.....240

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      .*      .*      ..      .* : : :*.. :.. :* : : : * :
Pavo_muticus      TVTQDTSS--GGRSR-V----VPPWPIPQQAAPQAFSOKVQVPPKVGPMTOMAFTIKQK 248
Pavo_cristatus    TVTQDTSS--GGRSR-V----VPPWPIPQQAAPQAFSOKVQVPPKVGPMTOMAFTIKQK 248
Gallus_gallus     TVMQDTSS--GGRSP-V----VPPWPIPQQAAPQAFSOKVQVPPKVGPMTOMAFTIKQK 250
Chelonia_mydas    TVTQDTSS--GGQGP-V----APPWPIPQQAAPQAFSOKVQVPPKVGPMTOMAFTIKQK 254
Rattus_norvegicus TAAQDTMSPVFGGQNP-----GSSWVPPEPAAKRTSTKKADTLPRVSPVAQMTLTLKPK 268
Mus_musculus      TAAQDTMPPAFGGQNP-----GSSWAPLEQAAKHTSTKKADTLPRVSPVAQMTLTLKPK 268
Homo_sapiens      IAAQDTSSPVFGGQSPGA----ASSWGPPEQAAKHTSSKKADTLPRVSPVAQMTLTLKPK 276
Pan_troglodytes   IAAQDTSSPVFGGQSPGA----ASSWGPPEQAAKHTSSKKADTLPRVSPVAQMTLTLKPK 275
Macaca_mulatta    IAAQDTSSPVFGGQSPGA----ASSWGPPEQAAKHTSSKKADTLPRVSPVAQMTLTLKPK 277
Callithrix_jacchus VAAQDTSLPLFGGQSPGA----ASSWIPPEQAAKHTSSKKADTLPRVSPVAQMTLTLKPK 274
Canis_lupus_familiaris TAAQDTSSPVFGGQSPGA----ASSWVPPEQAAKHTSLKKADSLPRISPVAQMTLTLKPK 277
Equus_caballus    TVAQDTSSPVFGGQSPGA----ASSWVPPEQAAKHTSSKKADTLPRVSPMAQMTLTLKPK 272
Bos_taurus        TAAQDTSSPVFGGQSTAA----ASSWVPPEQAAKRTSSKKADALPRVSPVAQMTLTLKPK 267
Rhinatrema_bivittatum SPVPGTTSKSVSGGQGTG----ASSWPIPLGAQKITAQKVQIPSKVNAGGOMTLTLKQN 184
Xenopus_tropicalis GPSQDTTFTATGGQNGVPAHAPPPRPPIPQQAAPQSTPQKVSQES--SPVGQVTLALKQK 245
.....250.....260.....270.....280.....290.....300

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      .. :***:..      .** : : :*.***:***:*** : : :* :* :*
Pavo_muticus      PPVGLPQQMQPQMIPLSSQTLMMNLHHGQTQEYVIKPKYYP-VKKVISGEQSTEGSLPLR 307
Pavo_cristatus    PPVGLPQQMQPQMIPLSSQTLMMNLHHGQTQEYVIKPKYYP-VKKVISGEQSTEGSLPLR 307
Gallus_gallus     PPVGLPQQMQPQMIPLSSQTLMMNLHHGQTQEYVIKPKYYP-VKKVISGEQSTEGSLPLR 309
Chelonia_mydas    PPVGLPQQMQPQMIPLSSQTLMMNLHHGQTQEYVIKPKYYP-AKKVISGEQSAEDSLPLR 313
Rattus_norvegicus PSMGLSQQIHSQVAPLSSQNVMI--RHGQTQEYVLKPKYFP-APKVVSQSTEGSFSLR 325
Mus_musculus      PSMGLSQQIHPQVAPLSSQNVMI--RHGQTQEYLLKPKYFP-APKVVSQSTEGSFSLR 325
Homo_sapiens      PSVGLPQQIHSQVTPPLSSQSVMI--HHGQTQEYVLKPKYFP-AQKGISGEQSTEGSFPLR 333
Pan_troglodytes   PSVGLPQQIHSQVTPPLSSQSVMI--HHGQTQEYVLKPKYFP-AQKGISGEQSTEGSFPLR 332
Macaca_mulatta    PSVGLPQQIHSQVTPPLSSQSVMI--HHSQTQEYVLKPKYFP-AQKGISGEQSTEGSFPLR 334
Callithrix_jacchus PSVGLPQQIHSQVTPPLSSQSMI--HHGQTQEYVLKPKYFP-AQKGISGEQSTEGSFPLR 331
Canis_lupus_familiaris PSVGLSQQIHSQVTPPLSSQNVMI--HHGQTQEYVLKPKYFA-AQKVISGEQSTEGSFPLR 334
Equus_caballus    PSVGLSQQIHSQVTPPLSSQNVMI--HHGQTQEYVLKPKYFA-AQKVISGEQSTEGSFPLR 329
Bos_taurus        PSVGLSQQIHSQMTPLSSQNVMI--HHGQTQEYVLKPTVFT-AQKVVSQSTEGSLPLR 324
Rhinatrema_bivittatum PPVVISQQIKPAH-LSSQTLMMNLHHGQTQOYIIPKYYT-SVR----EQATEGSLPLR 238
Xenopus_tropicalis SPTLVTQQVQPMVMSPOSLTMNLQHGQTQOFMIKPKYFSSSKKVLLGEQSTEGSLPLR 305
.....310.....320.....330.....340.....350.....360

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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	.. :: :. *:***** * *:.*:*****:***	
Pavo_muticus	LGQDQLASSFO-LGNHTGRIKVVFTPSICKVITCTKGNCQNNCEKGNNTTTLISENGHAADT	366
Pavo_cristatus	LSQDQLASSFO-LGNHTGRIKVVFTPSICKVITCTKGNCQNNCEKGNNTTTLISENGHAADT	366
Gallus_gallus	LGQDQLASSFO-LGNHTGRIKVVFTPSICKVITCTKGNCQNNCEKGNNTTTLISENGHAADT	368
Chelonia_mydas	MGQNOLASPFH-LGNHTGRIKVVFTPSICKVITCTKGNCQNNCEKGNNTTTLISENGHAADT	372
Rattus_norvegicus	YGQEQGTAPFO-VSNHTGRIKVVFTPSICKVITCTKGNCNNSCQKGNNTTTLISENGHAADT	384
Mus_musculus	YGQEQGTAPFO-VSNHTGRIKVVFTPSICKVITCTKGNCNNSCQKGNNTTTLISENGHAADT	384
Homo_sapiens	YVQDQVAAPFO-LSNHTGRIKVVFTPSICKVITCTKGSCQNSCEKGNNTTTLISENGHAADT	392
Pan_troglodytes	YVQDQVAAPFO-LSNHTGRIKVVFTPSICKVITCTKGSCQNSCEKGNNTTTLISENGHAADT	391
Macaca_mulatta	YVQDQVAAPFO-LSNHTGRIKVVFTPSICKVITCTKGSCQNSCEKGNNTTTLISENGHAADT	393
Callithrix_jacchus	YVQDVATPFO-LSNHTGRIKVVFTPSICKVITCTKGSCQNSCEKGNNTTTLISENGHAADT	390
Canis_lupus_familiaris	YGQGOVTAPFO-LSNHTGRIKVVFTPSICKVITCTKGSCQNSCEKGNNTTTLISENGHAADT	393
Equus_caballus	YGQDQVAAPFO-LSNHTGRIKVVFTPSICKVITCTKGSCQNSCEKGNNTTTLISENGHAADT	388
Bos_taurus	FGQDHVPAPFO-LSNHTGRIKVVFTPSICKVITCTKGSCQNSCEKGNNTTTLISENGHAADT	383
Rhinatrema_bivittatum	AGQDLLSSSFH-LGNQIGRIKVVFTPSICKVITCIKGHCQNNCEKGNNTTTLISENGHAADT	297
Xenopus_tropicalis	AGLDNLSSHQSLGNQIGRIKVVFTPSICKVITCKHHQNSCEKGNNTTTLISENGHADT	365
370.....380.....390.....400.....410.....420	

	.:***.:*****.:*****	* * :	*:							
Pavo_muticus	LTATNFRVVI	CHLPC	MNGGQ	CSSRDKCQ	CPPNYT	GKLCQ	IPVQNGNT	PKLYHH	POOVNKA	426
Pavo_cristatus	LTATNFRVVI	CHLPC	MNGGQ	CSSRDKCQ	CPPNYT	GKLCQ	IPVQNGNT	PKLYHH	POOVNKA	426
Gallus_gallus	LTATNFRVVI	CHLPC	MNGGQ	CSSRDKCQ	CPPNYT	GKLCQ	IPVQNGNT	PKLYHH	POOVNKA	428
Chelonia_mydas	LTATNFRVVI	CHLPC	MNGGQ	CSSRDKCQ	CPPNYT	GKLCQ	IPAKNANT	PKLYHQ	POQASKT	432
Rattus_norvegicus	LTATNFRVVI	CHLPC	MNGGQ	CSSRDKCQ	CPPNFT	GKLCQ	IPVLGASMP	KLYQHA	OOQPGKA	444
Mus_musculus	LTATNFRVVI	CHLPC	MNGGQ	CSSRDKCQ	CPPNFT	GKLCQ	IPVLGASMP	KLYQHA	OOQGKA	444
Homo_sapiens	LTATNFRVVI	CHLPC	MNGGQ	CSSRDKCQ	CPPNFT	GKLCQ	IPVHGASVP	KLYQHS	OOQPGKA	452
Pan_troglodytes	LTATNFRVVI	CHLPC	MNGGQ	CSSRDKCQ	CPPNFT	GKLCQ	IPVHGASVP	KLYQHS	OOQPGKA	451
Macaca_mulatta	LTATNFRVVI	CHLPC	MNGGQ	CSSRDKCQ	CPPNFT	GKLCQ	IPVHGASVP	KLYQHS	OOQPGKA	453
Callithrix_jacchus	LTATNFRVVI	CHLPC	MNGGQ	CSSRDKCQ	CPPNFT	GKLCQ	IPVHGASVP	KLYQHS	OOQPGKA	450
Canis_lupus_familiaris	LTATNFRVVI	CHLPC	MNGGQ	CSSRDKCQ	CPPNFT	GKLCQ	IPVHGASVP	KLYQHS	OOQSGKA	453
Equus_caballus	LTATNFRVVI	CHLPC	MNGGQ	CSSRDKCQ	CPPNFT	GKLCQ	IPVHGASVP	KLYQHS	OOQSGKA	448
Bos_taurus	LTATNFRVVI	CHLPC	MNGGQ	CSSRDKCQ	CPPNFT	GKLCQ	IPVHGASLP	KVYQHS	OOQSGKA	443
Rhinatrema_bivittatum	LTSSNFRVVI	CHLPC	MNGGQ	CSSRDKCQ	CPPNFT	GKLCQ	IIPLQ----	KQYQNP	POTAKA	352
Xenopus_tropicalis	LTSSNFRVVI	CHLPC	MNGGQ	CTARDKCQ	CPPNFT	GKLCQ	IIPLQNG	LQKQYPHQ	PAOKA	424
430.....	440.....	450.....	460.....	470.....	480				

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Pavo_muticus	VGSQIIHSTHTLPLTMSGOQGVKVKFPPNIVNIHVKHPPPEASVQIHQVSRIDSASTGOKS	486
Pavo_cristatus	VGSQIIHSTHTLPLTMSGOQGVKVKFPPNIVNIHVKHPPPEASVQIHQVSRIDSASTGOKS	486
Gallus_gallus	VGSQIIHSTHTLPLTMSGOQGVKVKFPPNIVNIHVKHPPPEASVQIHQVSRIDSASTGOKS	488
Chelonia_mydas	IGSHVIHSTHTLPLTMPGOQGVKVKFPPNVNIVNIHVKHPPPEASVQIHQVSRIDSTAGOKV	492
Rattus_norvegicus	LGSVHIHSTHTLPLTMNQGVKVKFPPNIVNIHVKHPPPEASVQIHQVSRIDGP-VGORV	503
Mus_musculus	LGSVHIHSTHTLPLTMTSQQGVKVKFPPNIVNIHVKHPPPEASVQIHQVSRIDSP-GGOKV	503
Homo_sapiens	LGTHVIHSTHTLPLTVTSQQGVKVKFPPNIVNIHVKHPPPEASVQIHQVSRIDGP-TGOKT	511
Pan_troglodytes	LGTHVIHSTHTLPLTVTSQQGVKVKFPPNIVNIHVKHPPPEASVQIHQVSRVDGP-TGOKT	510
Macaca_mulatta	LGTHVIHSTHTLPLTVTSQQGVKVKFPPNIVNIHVKHPPPEASVQIHQVSRIDGP-TGOKT	512
Callithrix_jacchus	LGTHVIHSTHTLPLTVTSQQGVKVKFPPNIVNIHVKHPPPEASVQIHQVSRIDGP-TGOKT	509
Canis_lupus_familiaris	LGTHVVHSTHTLPLTMTSQQGVKVKFPPNIVNIHVKHPPPEASVQIHQVSRIDGP-TGOKT	512
Equus_caballus	LGTHVVHSTHTLPLTMTSQQGVKVKFPPNIVNIHVKHPPPEASVQIHQVSRIDGP-TGOKV	507
Bos_taurus	LGTHVVHSTHTLPLTMTSQQGVKVKFPPNIVNIHVKHPPPEASVQIHQVSRVDGP-TGOKV	502
Rhinatrema_bivittatum	TGSHVIHSTHTLPLTVPGQQGVKVKFPPNLVNIHVKHPPPEATVQIHQVSRFDSSAGOKV	412
Xenopus_tropicalis	TGSQVIHSTHTLPLTVTGQQGIKVNFPNMVNIHVKHPPPEASVQIHQVSRIESSTOK-	483
490.....500.....510.....520.....530.....540	

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Pavo_muticus	KVPOPGHPQVS YQGLPVOKTQKGHATYTNQQPIPHVFPVSVKTLGRCFOETIGTQCCKA	546
Pavo_cristatus	KVPOPGHPQVS YQGLPVOKTQKGHATYTNQQPIPHVFPVSVKTLGRCFOETIGTQCCKA	546
Gallus_gallus	KVPOPGHPQVS YQGLPVOKTQKGHATYTNQQPIPHVFPVSVKTLGRCFOETIGTQCCKA	548
Chelonia_mydas	KVPOPGHPQVS YQGVPHYHTQKGYSTYPHQPIPHVFPVSAKTOLGRCFOETIGTQCCKA	552
Rattus_norvegicus	KEVQPGQS QVS YQGLPVOKTQT VHSYSTSHQQVIPHVYPVAAKTLGRCFOETIGSQCGKA	563
Mus_musculus	KEAQPGQS QVS YQGLPVOKTQT VHSYSTSHOQLIPHVYPVAAKTLGRCFOETIGSQCGKA	563
Homo_sapiens	KEAQPGQS QVS YQGLPVOKTQTIHSTYSHQQVIPHVYPVAAKTLGRCFOETIGSQCGKA	571
Pan_troglodytes	KEAQPGQS QVS YQGLPVOKTQTIHSTYSHQQVIPHVYPVAAKTLGRCFOETIGSQCGKA	570
Macaca_mulatta	KEAQPGQS QVS YQGLPVOKTQTIHSTYSHQQVIPHVYPVAAKTLGRCFOETIGSQCGKA	572
Callithrix_jacchus	KEAOPGH SQVS YQGLPAOKTQTIHSTHSHQHVP HVYPVAAKTLGRCFOETIVGSQCGKA	569
Canis_lupus_familiaris	KEAOPS QSQIS YQGLPVOKTQT VHSYSTSHQQVIPHVYPVAAKTLGRCFOETIGSQCGKA	572
Equus_caballus	KEAQPGQS QVS YQGLPVOKTQT VHSYSTSHQQVVP HVYPVAAKTLGRCFOETIGSQCGKA	567
Bos_taurus	KEAQPGS QA PYQGLPVOKTQTVHSSY-- QQVIPHVYPVAAKTLGRCFOETIGSQCGKA	560
Rhinatrema_bivittatum	KDAOPGHPQVTYQSVPLQKH--AHSSYSHOOTVSHQYPVSAKTOLGRCFOETTGSQCGKA	471
Xenopus_tropicalis	KDSIQIGTQTSYHST--OKHQLPHNYPHQQFIPNVYPISTKNLGRFCFOETIVGSQCGKP	541
550.....560.....570.....580.....590.....600	

	*****: ** ***** * : ** **: * *:*****:	
Pavo_muticus	LPGLSKQEDCCGTVGTSWGFNKCQKCPKKPSYHGYNPMTECPQGYKRINATFCODINECQ	606
Pavo_cristatus	LPGLSKQEDCCGTVGTSWGFNKCQKCPKKPSYHGYNPMTECPQGYKRINATFCODINECQ	606
Gallus_gallus	LPGLSKQEDCCGTVGTSWGFNKCQKCPKKPSYHGYSPMTECPQGYKRINATFCODINECQ	608
Chelonia_mydas	LPGLSKQEDCCGTVGTSWGFNKCQKCPKKPSYGYTOMVECPQGYKRINATFCODINECQ	612
Rattus_norvegicus	LPGLSKQEDCCGTVGTSWGFNKCQKCPKKQSYHGYTOMMECLOGYKRVNNTFCODINECQ	623
Mus_musculus	LPGLSKQEDCCGTVGTSWGFNKCQKCPKKQSYHGYTOMMECLOGYKRVNNTFCODINECQ	623
Homo_sapiens	LPGLSKQEDCCGTVGTSWGFNKCQKCPKKPSYHGYNOMMECLPGYKRVNNTFCODINECQ	631
Pan_troglodytes	LPGLSKQEDCCGTVGTSWGFNKCQKCPKKPSYHGYNOMMECLPGYKRVNNTFCODINECQ	630
Macaca_mulatta	LPGLSKQEDCCGTVGTSWGFNKCQKCPKKPSYHGYNOMMECLPGYKRVNNTFCODINECQ	632
Callithrix_jacchus	LPGLSKQEDCCGTVGTSWGFNKCQKCPKKPSYHGYNOMMECLPGYKRVNNTFCODINECQ	629
Canis_lupus_familiaris	LPGLSKQEDCCGTVGTSWGFNKCQKCPKKPSYHGYNOMMECLOGYKRVNNTFCODINECQ	632
Equus_caballus	LPGLSKQEDCCGTVGTSWGFNKCCLKCPKKPSYHGYNOMMECLOGYKRVNNTFCODINECQ	627
Bos_taurus	LPGLSKQEDCCGTVGTSWGFNKCQKCPKKPSYHGYNOMMECLOGYKRVNNTFCODINECQ	620
Rhinatrema_bivittatum	LPGLSKQEDCCGTVGTSWGFNKCQKCPKKTSHPGYGOMSECPQGYKRVNATFCODINECR	531
Xenopus_tropicalis	LPGLSKQEDCCGTVGTSWGFNKCQKCPKKTQHVSQIMECPQGYRRINATFCODINECH	601
610.....620.....630.....640.....650.....660	

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Pavo_muticus	LQGVCPNGECLNTMGSYRCTCKMGFVPDPTLSRCIADS-PMVAEEKGPCYRFVSAGKQCM	665
Pavo_cristatus	LQGVCPNGECLNTMGSYRCTCKMGFVPDPTLSRCIADS-PMVAEEKGPCYRFVSAGKQCM	665
Gallus_gallus	LQGVCPNGECLNTMGSYRCTCKMGFVPDPTLSRCIADS-PIVAEEKGPCYRFVSAGKQCM	667
Chelonia_mydas	LQGVCPNGECLNTMGSYRCTCKMGFVPDPTLSRCIPDN-PMVSEKGPCYRFVSAGKQCM	671
Rattus_norvegicus	LQGVCPNGECLNTMGSYRCSCKMGFGPDPTFSSCVDPD-PMISEEKGPCYRLVSPGRQCM	682
Mus_musculus	LQGVCPNGECLNTMGSYRCSCKMGFGPDPTFSSCVDPD-PVISEEKGPCYRLVSPGRHCM	682
Homo_sapiens	LQGVCPNGECLNTMGSYRCTCKIGFGPDPTFSSCVDPD-PVISEEKGPCYRLVSSGROCM	690
Pan_troglodytes	LQGVCPNGECLNTMGSYRCTCKIGFGPDPTFSSCVDPD-PVISEEKGPCYRLVSSGROCM	689
Macaca_mulatta	LQGVCPNGECLNTMGSYRCTCKIGFGPDPTFSSCVDPD-PVISEEKGPCYRLVSSGROCM	691
Callithrix_jacchus	LQGVCPNGECLNTMGSYRCTCKIGFGPDPTFSSCVDPD-PVISEEKGPCYRLVSSGROCM	688
Canis_lupus_familiaris	LQGVCPNGECLNTMGSYRCTCKMGFGPDPTFSSCVPDT-PVISEEKGPCYRLVSSGROCM	691
Equus_caballus	LQGVCPNGECLNTMGSYRCTCKIGFGPDPTFSSCVPDT-PVVSEKGPCYRLVSSGROCM	686
Bos_taurus	LQGVCPNGECLNTMGSYRCTCKVGFDPDPTFSSCVPDT-PVISEEKGPCYRLVSSGROCM	679
Rhinatrema_bivittatum	LQGVCPNGECLNTMGSYRCTCKPGFVPDPTLSSCIPDN-PTVSEKGPCFRFVSAGROCM	590
Xenopus_tropicalis	MQGVCPNGDCLNTMGSYRCKKVGIVPDLSSLSCVVDNPIVSEKGPCYRFFSPGKQCM	661
670.....680.....690.....700.....710.....720	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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**:::***:::***:***** *:***:***:***:*****...*.
Pavo_muticus      HPLSVQLSKQLCCCSVGKAWGPNCEKCLPGTAAFKEICPGGMGYTVSGPHRNKL-YHHP 724
Pavo_cristatus    HPLSVQLSKQLCCCSVGKAWGPNCEKCLPGTAAFKEICPGGMGYTVSGPHRNKL-YHHP 724
Gallus_gallus     HPLSVQLSKQLCCCSVGKAWGPNCEKCLPGTAAFKEICPGGMGYTVSGPHRNKL-YHHP 726
Chelonia_mydas    HPLSVQLSKQLCCCSVGKAWGPNCEKCLPGTAAFKEICPGGMGYTVSGPHRNKL-YHHP 730
Rattus_norvegicus HPLSVHLTKQICCCSVGKAWGPNCEKCLPGTAAFKEICPGGMGYTVSGIHRRRR- IHQH 741
Mus_musculus      HPLSVHLTKQICCCSVGKAWGPNCEKCLPGTAAFKEICPGGMGYTVSGVHRRR- IHQH 741
Homo_sapiens      HPLSVHLTKQLCCCSVGKAWGPNCEKCLPGTAAFKEICPGGMGYTVSGVHRRR- IHHH 749
Pan_troglodytes   HPLSVHLTKQLCCCSVGKAWGPNCEKCLPGTAAFKEICPGGMGYTVSGVHRRR- IHHH 748
Macaca_mulatta    HPLSVHLTKQLCCCSVGKAWGPNCEKCLPGTAAFKEICPGGMGYTVSGVHRRR- IHHH 750
Callithrix_jacchus HPLSVHLTKQLCCCSVGKAWGPNCEKCLPGTAAFKEICPGGMGYTVSGVHRRR- IHHH 747
Canis_lupus_familiaris HPLSVHLTKQLCCCSVGKAWGPNCEKCLPGTAAFKEICPGGMGYTVSGVHRRR- IHHH 750
Equus_caballus    HPLSVHLTKQLCCCSVGKAWGPNCEKCLPGTAAFKEICPGGMGYTVSGVHRRR- IHHH 745
Bos_taurus        HPLSVHLTKQLCCCSVGKAWGPNCEKCLPGTAAFKEICPGGMGYTVSGVHRRR- IHHH 738
Rhinatrema_bivittatum HPLSVQLSKQLCCCSVGKAWGPNCEKCLPGTAAFKEICPGGMGYTVSGSYRNKMSVYHP 650
Xenopus_tropicalis HPIAVQLSQICCCSVGKAWGPNCEKCLPGTAAFKEICPGGMGYTVSNVPRNPI----- 716
.....730.....740.....750.....760.....770.....780

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: . : . : * . : : * : * : * : . . : : :
Pavo_muticus      AVRVOPPVIGKTPITQPVAKGTSPPPLPAKEEPEALTFSSQKSEPDMAVQEVATAAPDQE 784
Pavo_cristatus    AVRVOPPVIGKTPITQPVAKGTSPPPLPAKEEPEALTFSSQKSEPDMAVQEVATAAPDQE 784
Gallus_gallus     AVRVOPPVIGKTPITQPVAKGTSPPPLPAKEEPEALTFSSQKSEPDMAVQEVATAAPDQE 786
Chelonia_mydas    AVRVOPPVIGKTPITQPVAKGTSPPPLPAKEEPEALTFSSQKSEPEVAVQEVATAAPDQE 790
Rattus_norvegicus IG--KEAVFVKPKNTQPVAKSTHPPPLPAKEEPEALTFSSREHGPVGAEPVVTAPPEKE 799
Mus_musculus      IG--KEAVFVKPKNTQPVAKSTHPPPLPAKEEPEALTFSSWEHGPVGAEPVVTAPPEKE 799
Homo_sapiens      VG--KGPVFKPKNTQPVAKSTHPPPLPAKEEPEALTFSSREHGPVGAEPVVTAPPEKE 807
Pan_troglodytes   IG--KGPVFKPKNTQPVAKSTHPPPLPAKEEPEALTFSSREHGPVGAEPVVTAPPEKE 806
Macaca_mulatta    VG--KGPVFKPKNTQPVAKSTHPPPLPAKEEPEALTFSSREHGPVGAEPVVTAPPEKE 808
Callithrix_jacchus VG--KGPVFKPKNTQPVAKSTHPPPLPAKEEPEALTFSSREHGPVGAEPVVTAPPEKE 805
Canis_lupus_familiaris VG--KGPVFKPKNTQPVAKSTHPPPLPAKEEPEALTFSSREHGPVGAEPVVTAPPEKE 808
Equus_caballus    VG--KGPVFKPKNTQPVAKSTHPPPLPAKEEPEALTFSSREHGPVGAEPVVTAPPEKE 803
Bos_taurus        VG--KGPVFKPKNTQPVAKSTHPPPLPAKEEPEALTFSSREHGPVGAEPVVTAPPEKE 796
Rhinatrema_bivittatum AIRVHPPSIGKFTQAPTQVVRATLAS-IPAKNEPIEALSFPEKNEANGPVQEVNRPAPDQE 709
Xenopus_tropicalis ---RVPPPNRPITVQPPVRTTHAP-IVTKEEPIEALSVSEERNYPHPERKGEATDDDA 771
.....790.....800.....810.....820.....830.....840

```

```

. : * ****:***:***:***:***:***:***:***:***:***:***:***:***:***:***:***:
Pavo_muticus      LVSLD-DEKQILEPGQPQLSPGISTINLHPQFP-VVIEKTSPPPLPVEVAPEVSTSSASQV 842
Pavo_cristatus    LVSLD-DEKQILEPGQPQLSPGISTINLHPQFP-VVIEKTSPPPLPVEVAPEVSTSSASQV 842
Gallus_gallus     LVSLD-DEKQILEPGQPQLSPGISTINLHPQFP-VVIEKTSPPPLPVEVAPEVSTSSASQV 844
Chelonia_mydas    LVSLDD-DEKQILEPGQPQLSPGISTINLHPQFP-AVIEKTSPPPLPVEVAPEVSTSSASQV 849
Rattus_norvegicus IPSLD-DEKTRLEPGQPQLSPGVSTIHLHPQFP-VVIEKTSPPVPVEVAPEGSTSSASQV 857
Mus_musculus      IPSLD-DEKTRLEPGQPQLSPGVSTIHLHPQFP-VVIEKTSPPVPVEVAPEASTSSASQV 857
Homo_sapiens      IPSLD-DEKTKLEPGQPQLSPGISTIHLHPQFP-VVIEKTSPPVPVEVAPEASTSSASQV 865
Pan_troglodytes   IPSLD-DEKTKLEPGQPQLSPGISTIHLHPQFP-VVIEKTSPPVPVEVAPEASTSSASQV 865
Macaca_mulatta    IPSLD-DEKTKLEPGQPQLSPGISTIHLHPQFP-VVIEKTSPPVPVEVAPEASTSSASQV 867
Callithrix_jacchus ISSLD-DEKTKLEPGQPQLSPGISTIHLHPQFP-VVIEKTSPPVPVEVAPEASTSSASQV 863
Canis_lupus_familiaris IPSLD-DEKTKLEPGQPQLSPGISTIHLHPQFP-VVIEKTSPPVPVEVAPEASTSSASQV 866
Equus_caballus    IPSLD-DEKTKLEPGQPQLSPGISTIHLHPQFP-VVIEKTSPPVPVEVAPEASTSSASQV 862
Bos_taurus        IPSLD-DEKTRLEPGQPQLSPGISTIHLHPQFP-VVIEKTSPPVPVEVAPEASTSSASQV 854
Rhinatrema_bivittatum LESPQ-----EPGQPQLSPGISTVNLEPRYP-VLIEKTSPPVPVEVAPDVSTSSASQV 761
Xenopus_tropicalis HVPFE--ERRVVEGGQPQVSPGISTVNLDGQFP-VVIEKTSPPVPVALAPDVSTASASQV 828
.....850.....860.....870.....880.....890.....900

```

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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*****:::*** **::*** **::*: **::*: **::*: **::*: **::*:
Pavo_muticus      IAPTQVTEINECTVNPDICGAGHCVNLPVGYTCICYEGYRLNDQOTKCS DINECNOTPHL 902
Pavo_cristatus    IAPTQVTEINECTVNPDICGAGHCVNLPVGYTCICYEGYRLNDQOTKCS DINECNOTPHL 902
Gallus_gallus     IAPTQVTEINECTVNPDICGAGHCVNLPVGYTCICYEGYRLNDQOTKCS DINECNOTPHL 904
Chelonia_mydas    IAPTQVTEINECTVNPDICGAGHCVNLPVGYTCICYDGYKLNDQOTKCS DINECAOTPHL 909
Rattus_norvegicus IAPTQVTEINECTVNPDICGAGHCINLPVRYTCICYEGYKFSEQQRKCIDIDECAQAQHL 917
Mus_musculus      IAPTQVTEINECTVNPDICGAGHCINLPVRYTCICYEGYKFSEQLRKCV DIDECAQVRHL 917
Homo_sapiens      IAPTQVTEINECTVNPDICGAGHCINLPVRYTCICYEGYRFSEQQRKCV DIDECTQVOHL 925
Pan_troglodytes   IAPTQVTEINECTVNPDICGAGHCINLPVRYTCICYEGYKFSEQQRKCV DIDECTQVOHL 925
Macaca_mulatta    IAPTQVTEINECTVNPDICGAGHCINLPVRYTCICYEGYKFSEQQRKCV DIDECTQVOHL 927
Callithrix_jacchus IAPTQVTEINECTVNPDICGAGHCINLPVRYTCICYEGYKFSEQQRKCV DIDECTQAOHL 923
Canis_lupus_familiaris IAPTQVTEINECTVNPDICGAGHCINLPVRYTCICYEGYKFSEQQRKCV DIDECTQVQQL 926
Equus_caballus     IAPTQVTEINECTVNPDICGAGHCINLPVRYTCICYEGYKFSEQQRKCV DIDECTQVOHL 922
Bos_taurus        IAPTQVTEINECTVNPDICGAGHCINLPVRYTCICYDGYKFNEQQRKCV DIDECAQDOHL 914
Rhinatrema_bivittatum IAPTQVTEINECSVDPNICGAGYCINLPVGYTCVCYDGYKPNQKSKCIDINECMQSPQL 821
Xenopus_tropicalis IAPTQVTEINECAVDVNICGEGNCINLPVGYTCLCFTGYKLNEQKTKCVDINECAEDPHL 888
.....910.....920.....930.....940.....950.....960

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**::***: *::*: *::*: *::*: *::*: *::*:
Pavo_muticus      CSLGRCENTEGSFLLCICQAGFMASEDGTDCVDFDECSRPHTCGE-GFCINTVGSYRCEYC 961
Pavo_cristatus    CSLGRCENTEGSFLLCICQAGFMASEDGTDCVDFDECSRPHTCGE-GFCINTVGSYRCEYC 961
Gallus_gallus     CSLGRCENTEGSFLLCICQAGFMASEDGTDCIDFDECSRPHTCGE-GFCINTVGSYRCEYC 963
Chelonia_mydas    CSLGHCENTEGSFLLCICQAGFMASEDGTDCIDFDECSRPHTCGE-GFCINTVGSYRCEYC 941
Rattus_norvegicus CSQGRCENTEGSFLLCICPAGFMASEEGTNCIDVDECLRPDVCRD-GRCINTAGAFRCEYC 976
Mus_musculus      CSQGRCENTEGSFLLCICPAGFMASEEGTNCIDVDECLRPDMCRD-GRCINTAGAFRCEYC 976
Homo_sapiens      CSQGRCENTEGSFLLCICPAGFMASEEGTNCIDVDECLRPDVCGE-GHCVNTVGAFRCEYC 984
Pan_troglodytes   CSQGRCENTEGSFLLCICPAGFMASEEGTNCIDVDECLRPDVCGE-GHCVNTVGAFRCEYC 984
Macaca_mulatta    CSQGRCENTEGSFLLCICPAGFMASEEGTNCIDVDECLRPDVCGE-GHCVNTVGAFRCEYC 986
Callithrix_jacchus CSQGRCENTEGSFLLCICPAGFMASEEGTNCIDVDECLRPAICGE-GRCVNTVGAFRCEYC 982
Canis_lupus_familiaris CSQGRCENTEGSFLLCICPAGFMASEEGTNCIDVDECLRPDVCGE-GHCINTVGAFRCEYC 985
Equus_caballus     CSQGRCENTEGSFLLCICPAGFMASEEGTNCIDVDECLRPDVCGE-GHCINTVGAFRCEYC 981
Bos_taurus        CSQGRCENTEGSFLLCICPAGFMASEEGTNCIDVDECLRPDVCGE-GHCVNTMGAFRCEYC 973
Rhinatrema_bivittatum CSHGHCENTEGSFLLCVCQVGFMSSEGGTDCIDFDECSRPHICGE-GFCINTVGSFRCKYC 880
Xenopus_tropicalis CSHGRCENTKGRFLCICHAGYMANEQGIDCVDVNECLRPACEDGLCINTIGSFGCEYC 948
.....970.....980.....990.....1000.....1010.....1020

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::**      **      *: *      *** *: **      *: . * **
Pavo_muticus      DSGYQMNRRGECEDIDECLTPTTTPDAQCINAPGSYQCIPCRVGFGRWNG----- 1011
Pavo_cristatus    DSGYQMNRRGECEDIDECLTPTTTPDAQCINAPGSYQCIPCRVGFGRWNG----- 1011
Gallus_gallus     DSGYQMNRRGECEDIDECLTPTTTPDAQCINAPGSYQCIPCRVGFGRWNG----- 1013
Chelonia_mydas    -----IDECLTQSIQPCDEQINGPGSYHCVPCTIDGFRWNG----- 977
Rattus_norvegicus DSGYRMSRRGHCEDEIDECLTPTTTPDAQCINAPGSYQCIPCRVGFGRWNG----- 1036
Mus_musculus      DSGYRMSRRGYCEDIDECLTPTTTPDAQCINAPGSYQCIPCRVGFGRWNG----- 1036
Homo_sapiens      DSGYRMTQRGRCEDEIDECLTPTTTPDAQCINAPGSYQCIPCRVGFGRWNG----- 1044
Pan_troglodytes   DSGYRMTQRGRCEDEIDECLTPTTTPDAQCINAPGSYQCIPCRVGFGRWNG----- 1044
Macaca_mulatta    DSGYRMTQRGRCEDEIDECLTPTTTPDAQCINAPGSYQCIPCRVGFGRWNG----- 1046
Callithrix_jacchus DSGYRMTQRGRCEDEIDECLTPTTTPDAQCINAPGSYQCIPCRVGFGRWNG----- 1042
Canis_lupus_familiaris DSGYRMTQRGRCEDEIDECLTPTTTPDAQCINAPGSYQCIPCRVGFGRWNG----- 1045
Equus_caballus     DSGYRMTQRGRCEDEIDECLTPTTTPDAQCINAPGSYQCIPCRVGFGRWNG----- 1041
Bos_taurus        DSGYHMTQGGQCEDVDECLTPTTTPDAQCINAPGSYQCIPCRVGFGRWNG----- 1033
Rhinatrema_bivittatum DSGYRMTQRGRCEDEIDECLTPTTTPDAQCINAPGSYQCIPCRVGFGRWNG----- 940
Xenopus_tropicalis EKGFRHNQRGECEDINECLNQLTTPHDCVNSVGSYSCVPCTVGYQGWNGOCLDVDECRD 1008
.....1030.....1040.....1050.....1060.....1070.....1080

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		: * ** : *** * . : * ** * * : *** . *	
Pavo_muticus	-----	QCHDINECOYGNLCANGRCENIEGSFRC	1039
Pavo_cristatus	-----	QCHDINECOYGNLCANGRCENIEGSFRC	1039
Gallus_gallus	-----	QCHDINECOYGNLCANGRCENIEGSFRC	1041
Chelonia_mydas	-----	QCHDIDECOYGNLCTNGHCENIEGSFRC	1005
Rattus_norvegicus	PK-VCTNGSCTNLEGSYMCSCHKGYSPTPDHRHCQDIDECOQGNLCMNGQCKNTDGSFRC		1095
Mus_musculus	PK-VCTNGSCTNLEGSYMCSCHRGYSPTPDHRHCQDIDECOQGNLCMNGQCRNTDGSFRC		1095
Homo_sapiens	PN-VCANGDCSNLEGSYMCSCHKGYTRTPDHKHCRDIDECOQGNLCVNGQCKNTEGSFRC		1103
Pan_troglodytes	PN-VCTNGDCSNLEGSYMCSCHKGYTRTPDHKHCRDIDECOQGNLCVNGQCKNTEGSFRC		1103
Macaca_mulatta	PN-VCTNGDCSNLEGSYMCSCHKGYTRTPDHKHCKDIDECOQGNLCVNGQCKNTEGSFRC		1105
Callithrix_jacchus	PN-VCTNGDCSNLEGSYMCSCHKGYTRTPDQHKCKDIDECOQGNLCVNGQCKNTEGSFRC		1101
Canis_lupus_familiaris	PQ-VCTNGTCSNLEGSYMCSCHKGYSPTPDHKHCKDIDECOQGNLCINGQCKNTEGSFRC		1104
Equus_caballus	PK-VCTNGTCSNLEGSYMCSCHKGYTPTPDHKHCKDIDECOQGNLCINGQCKNTEGSFRC		1100
Bos_taurus	PK-ICTNGTCSNLEGSYMCSCHKGYSPTPDHKHCEPIDECOQGTMCNMNGQCKNTDGSFRC		1092
Rhinatrema_bivittatum	PS-VCANGDCSNLEGSYTCSCHRGYKLSPMNKQCKDIDECOLGSFCRMNGQCKNLOGSFRC		999
Xenopus_tropicalis	DTSVCANGDCSNLEGSYRCTCHRGYDVTSQKQCIDINECOGSTLCLNGLCONTGSFEC		1068
1090.....1100.....1110.....1120.....1130.....1140		

	.::*:*.: : ***.*:***.: ** :*.**** *** *:.* : ** * :*.:***.::	
Pavo_muticus	ICGGFKLSESEDQCEDIDECQHRSLCVNGHCRNTEGSFRCVCNCGYVLSATGDQCEDID	1099
Pavo_cristatus	ICGGFKLSESEDQCEDIDECQHRSLCVNGHCRNTEGSFRCVCNCGYVLSATGDQCEDID	1099
Gallus_gallus	ICGGFKLSASEDQCEDIDECQDRSLCVNGRCRNTEGSFRCVCSQGYVLSATGDQCEDID	1101
Chelonina_mydas	TCSGYKLSSAAGDQCEDIDECQHHLLCTNGNCRNTEGSFRCICSGYTLSSMGDQCEDIN	1065
Rattus_norvegicus	TCGGGYQLSAAKDQCEDIDECQHRHLCSHGQCRNTEGSFQCLCNQGYRASVLGDHCEIN	1155
Mus_musculus	TCGGGYQLSAAKDQCEDIDECQHHHLCSHGQCRNTEGSFQCVNCGYRASVLGDHCEIN	1155
Homo_sapiens	TCGGGYQLSAAKDQCEDIDECQHRHLCAHGQCRNTEGSFQCVCDQGYRASGLGDHCEIN	1163
Pan_troglodytes	TCGGGYQLSAAKDQCEDIDECQHRHLCAHGQCRNTEGSFQCVCDQGYRASGLGDHCEIN	1163
Macaca_mulatta	TCGGGYQLSAAKDQCEDIDECQHHHLCAHGQCRNTEGSFQCVCDQGYRASGLGDHCEIN	1165
Callithrix_jacchus	TCGGGYQLSAAKDQCEDIDECQHRHLCAHGQCRNTEGSFQCVCDQGYRASGLGDHCEIN	1161
Canis_lupus_familiaris	TCGGGYQLSAAKDQCEDIDECQHHHLCSNGQCRNTEGSFQCVCDRGYRASALGDHCEIN	1164
Equus_caballus	TCGGGYQLSEAKDQCEDIDECQHHHLCSNGQCRNTEGSFRCVCDQGYRASALGDHCEIN	1160
Bos_taurus	TCGGGYQLSAAKDQCEDIDECQHHHLCSNGQCRNTEGSFRCVCDHGYRASALGDHCEIN	1152
Rhinatrema_bivittatum	TCSKGYQLTASNDQCEDVDECQDTKLCKNGECRNTEGSFSCVCSKGYKPSAAGDQCEDVD	1059
Xenopus_tropicalis	SCNEGYQLAPSGDQCHDIDECQNTNLCSNGQCRNTRGSFSCICHQGYKVSADGEQCEDID	1128
1150.....1160.....1170.....1180.....1190.....1200	

	** : . * * . * ** ** * . * ** : . *** : ** . * : ***** :	
Pavo_muticus	ECLO ^Q SDICLGG-NCMNTDGSYKCSCLDGFQ ^Q IANRGCQDINECERSDFCSPHGECLNTD	1158
Pavo_cristatus	ECLO ^Q SDICLGG-NCMNTDGSYKCSCLDGFQ ^Q IANRGCQDINECERSDFCSPHGECLNTD	1158
Gallus_gallus	ECLO ^Q SDICLGG-NCMNTDGSYKCSCLDGFQ ^Q IANRGCQDINECERSDLCSPHGECLNTD	1160
Chelonia_mydas	ECLO ^Q SDICLGR-NCMNTAGSYECTCPDGFQ ^Q MANRGCQDIDEC ^Q SELCLPHGECLNTD	1124
Rattus_norvegicus	ECLED ^S SVCQGG-DCINTAGSYDCTCPDGLQ ^L NDNKGQDINECAQ ^P GLCGPHGECLNTQ	1214
Mus_musculus	ECLED ^S SVCQGG-DCINTAGSYDCTCPDGFQ ^L NDNKGQDINECAQ ^P GLCGSHGECLNTQ	1214
Homo_sapiens	ECLEDK ^S VCQRG-DCINTAGSYDCTCPDGFQ ^L DDNKTCQDINECEHPGLCGPQGECLNTE	1222
Pan_troglodytes	ECLEDK ^S VCQRG-DCINTAGSYDCTCPDGFQ ^L DDNKTCQDINECEHPGLCGPQGECLNTE	1222
Macaca_mulatta	ECLEDK ^S VCQRG-DCINTAGSYDCTCPDGFQ ^L DDNKTCQDINECEHPGLCGPQGECLNTE	1224
Callithrix_jacchus	ECLEDK ^S VCQRG-DCINTAGSYDCTCPDGFQ ^L DDNKACQDINECEHPGLCGPQGECLNTE	1220
Canis_lupus_familiaris	ECLED ^N SVCQGG-DCINTEGSYDCTCPDGFQ ^L NDNKACQDINECERPGRCGPHGECLNTD	1223
Equus_caballus	ECLED ^N SVCQGG-DCINTEGSYDCTCPDGFQ ^L NDNKGQDINECEQ ^P GVCGPHGECLNTD	1219
Bos_taurus	ECLEDK ^S VCQGG-DCINTKGSYECTCPDGFQ ^L NDNKGQDINECBQ ^P GLCGPHGECLNTD	1211
Rhinatrema_bivittatum	ECQEVD ^A CLGGSC ^T NTVGSYGCTCPDGFQ ^L INGRRQDINECELS ^E LSLNGECLNTE	1119
Xenopus_tropicalis	ECQEAEVCLGGSC ^H NTDGSYECTCPDGFQ ^L LV ^D GIRQDINECEQ ^P DL ^C NPNGECLNTE	1188
1210.....1220.....1230.....1240.....1250.....1260	

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* *****:***:**** *:***:***:****:***
GCTDVNECEMLSSGVCGEALCENVDGSFLCLCSDENQEYDPMTGQCRFR----- 1266
GCTDVNECEMLSSGVCGEALCENVDGSFLCLCSDENQEYDPMTGQCRFR----- 1266
GCTDVNECEMLSSGVCGEALCENVDGSFLCLCSDENQEYDPMTGQCRFR----- 1268
GCVDVNECEMLSSGVCGEALCENVEGTFLLCLCSDENQEYDPMTGQCRFR----- 1232
GCVDVNECELLSSGVCGEAFCENVEGSFLLCVCADENQEYSPMTGQCRSR----- 1322
GCVDVNECELLSSGVCGEAFCENVEGSFLLCVCADENQEYSPMTGQCRSR----- 1322
GCVDVNECELLSSGVCGEAFCENVEGSFLLCVCADENQEYSPMTGQCRSR----- 1330
GCVDVNECELLSSGVCGEAFCENVEGSFLLCVCADENQEYSPMTGQCRSR----- 1330
GCVDVNECELLSSGVCGEAFCENVEGSFLLCVCADENQEYSPMTGQCRSR----- 1332
GCVDVNECELLSSGVCGEAFCENVEGSFLLCVCADENQEYSPMTGQCRSL----- 1328
GCVDVNECELLSSGVCGEAFCENVEGSFLLCVCADENQEYSPMTGQCRSR----- 1331
GCVDVNECELLSSGVCGEAFCENVEGSFLLCVCADENQEYSPMTGQCRSR----- 1327
GCVDVNECELLSSGVCGEAFCENVEGSFLLCVCADENQEYSPMTGQCRSR----- 1319
ECMDVNECEMLSSGICGEALCENVEGSFLCLCSDENQEYDPMTGHCRCFRNLSPDTDECODP 1239
GCVDVNECEMLSSGVCGEARECNVEGSFLLCLCTDESQEYDPMTGHCRNHLHG----- 1300
.....1330.....1340.....1350.....1360.....1370.....1380

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      . :                               . : . *:****: . . :*:
-----TSPE-----LPIEPDQHEDGKKECYYNLNDANFC D   1296
-----TSPE-----LPIEPDQHEDGKKECYYNLNDANFC D   1296
-----TSSE-----LPIEPDQHEDGKKECYYNLNDANFC D   1298
-----TSTD-----LPVDVGQPADEKKKECYYNLNDANFC D   1262
-----ATED-----SGVD--RQPKEEKKECYYNLNDASLC D   1351
-----VTED-----SGVD--RPREEKKECYYNLNDASLC D   1351
-----TSTD-----LDVDVDQPKEEKKECYYNLNDASLC D   1360
-----TSTD-----LDVDVDQPKEEKKECYYNLNDASLC D   1360
-----TSTD-----LDVE--QPKEEKKECYYNLNDASLC D   1360
-----ASTD-----LDVD--QPKEEKKECYYNLNDASLC D   1356
-----ASGD-----LDED--QPKEEKKECYYNLNDASLC D   1359
-----ASGD-----LDVD--QPKEEKKECYYNLNDASLC D   1355
-----LSMD-----SEVD--EPREEKKECYYNLNDASLC D   1347
NSCIDGQCINTDGSYCNCFCTHPMVLDASGKRCKIKPSSESQSGKEKKECYYNLNDANFC D   1299
---INSFGDSNTDSLNN-----AFSPSVTHNTDENDDQKDCYYNIIGDDFC Q   1345
.....1390.....1400.....1410.....1420.....1430.....1440

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****:.*:***** *.*****:**** *: *:*** ** *.:
Pavo_muticus      NVLASNVTKQECCTTLGAGWGDNCEIFPCPVFGTAEFIDLCPGKGFIPSGESSYGLLAE 1356
Pavo_cristatus    NVLASNVTKQECCTTLGAGWGDNCEIFPCPVFGTAEFIDLCPGKGFIPSGESSYGLLAE 1356
Gallus_gallus     NVLASNVTKQECCTTLGAGWGDNCEIFPCPVFGTAEFIDLCPGKGFIPSGESSYGLLAE 1358
Chelonia_mydas    NVLTSNITKQECCTTLGAGWGDNCEIFPCPVFGTAEFIDLCPGKGFIPSGDSSYGVITQ 1322
Rattus_norvegicus NVLAPNVTKQECCTSGAGWGDNCEIFPCPVQGTAEFSEMCPRGKGFVPAGESSYETGGE 1411
Mus_musculus      NVLAPNVTKQECCTSGAGWGDNCEIFPCPVQGTAEFTEMCPRGKGLVPAGESSYDTGGE 1411
Homo_sapiens      NVLAPNVTKQECCTSGAGWGDNCEIFPCPVLTAEFTEMCPKGKGFVPAGESSSEAGGE 1420
Pan_troglodytes   NVLAPNVTKQECCTSGAGWGDNCEIFPCPVLTAEFTEMCPKGKGFVPAGESSSEAGGE 1419
Macaca_mulatta    NVLSPNVTKQECCTSGAGWGDNCEIFPCPVLTAEFTEMCPKGKGFVPAGESSSEAGGE 1420
Callithrix_jacchus NVLAPNVTKQECCTSGAGWGDNCEIFPCPVLTAEFTEMCPKGKGFVPAGESSSEAGGE 1416
Canis_lupus_familiaris NVLAPNVTKQECCTSGAGWGDNCEIFPCPVVGTAEFTEMCPRGKGFVPTGESSYDTSGE 1419
Equus_caballus    NVLAPNVTKQECCTSGAGWGDNCEIFPCPVLTAEFTEMCPRGKGFVPTGESSYDGDGE 1415
Bos_taurus        NVLAPNVTKQECCTSGAGWGDNCEIFPCPVLTAEFTEMCPRGKGFVPTGESSYVDGE 1407
Rhinatrema_bivittatum NVLTSNVTKQECCTTLGAGWGDNCEIFPCPVLTGSEYTMCPGKGFISISSTSYGDGVQ 1359
Xenopus_tropicalis NVLAANVSKQECCTTLGAGWGDNCEIYPCPVIGSDEFTMCPGKGFVPTGESSYVDGE 1405
.....1450.....1460.....1470.....1480.....1490.....1500

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.:***** ***:*****:.*:*** ..*****:*****.*****.*: **:*.*:***
Pavo_muticus      NYRDADECQLFGQEICKNGFCLNTQPGYECYCKQGTYYDPVKLQCFDTECDPNSCIDG 1416
Pavo_cristatus    NYRDADECQLFGQEICKNGFCLNTQPGYECYCKQGTYYDPVKLQCFDTECDPNSCIDG 1416
Gallus_gallus     NYKDADECQLFGQEICKNGFCLNTQPGYECYCKQGTYYDPVKLQCFDTECDPNSCIDG 1418
Chelonia_mydas    NYRDADECLLFGQEICKNGFCLNTQPGYECYCKQGTYYDPVKLQCFDTECDPNSCVDG 1382
Rattus_norvegicus NYKDADECLLFGQEICKNGYCLNTQPGYECYCKQGTYYDPVKLQCFDTECDPNSCIDG 1471
Mus_musculus      NYKDADECLLFGQEICKNGYCLNTQPGYECYCKQGTYYDPVKLQCFDTECDPNSCIDG 1471
Homo_sapiens      NYKDADECLLFGQEICKNGFCLNTRPGYECYCKQGTYYDPVKLQCFDTECDPNSSCIDG 1480
Pan_troglodytes   NYKDADECLLFGQEICKNGFCLNTRPGYECYCKQGTYYDPVKLQCFDTECDPNSSCIDG 1479
Macaca_mulatta    NYKDADECLLFGQEICKNGFCLNTRPGYECYCKQGTYYDPVKLQCFDTECDPNSSCIDG 1480
Callithrix_jacchus NYKDADECLLFGQEICKNGFCLNTRPGYECYCKQGTYYDPVKLQCFDTECDPNSCIDG 1476
Canis_lupus_familiaris NYKDADECLLFGQEICKNGFCLNTQPGYECYCKQGTYYDPVKLQCFDTECDPNSCIDG 1479
Equus_caballus    NYKDADECLLFGQEICKNGFCLNTQPGYECYCKQGTYYDPVKLQCFDTECDPNSCIDG 1475
Bos_taurus        NYKDADECLLFGQEICKNGFCLNTQPGYECYCKQGTYYDPVKLQCFDTECDPNSCIDG 1467
Rhinatrema_bivittatum KYKDADECLLFGQEICKNGFCLNTQSGYECYCKQGTYYDSVKLQCFDTECDPNSSCIDG 1419
Xenopus_tropicalis SYQDADECLLFGKEICKNGYCLNTESSYECYCKQGTYYDPVKLQCIDNTECDPNSSCIDG 1465
.....1510.....1520.....1530.....1540.....1550.....1560

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****:.*:***.*****:.*:*** :.*:*** :.*:*** **.*:***:***.*:***:***.:
Pavo_muticus      QCINTEGSYNCFCTHPMVLDATEKRCIRP--ADSEQTEETEVEYQDLQWOHLSDDFVCSR 1474
Pavo_cristatus    QCINTEGSYNCFCTHPMVLDATEKRCIRP--ADSEQTEETEVEYQDLQWOHLSDDFVCSR 1474
Gallus_gallus     QCINTEGSYNCFCTHPMVLDATEKRCIRP--ADSEQTEETEVEYQDLQWOHLSDDFVCSR 1476
Chelonia_mydas    QCINTEGSYNCFCTHPMVLDATEKRCIRP--ADSEQTEETEVEYQDLQWOHLSDDFVCSR 1440
Rattus_norvegicus QCVNTEGSYNCFCTHPMVLDASEKRCVQP--TESNEQIEETDVYQDLQWOHLSEEVVCSR 1529
Mus_musculus      QCVNTEGSYNCFCTHPMVLDASEKRCVQP--TESNEQIEETDVYQDLQWOHLSEEVVCSR 1529
Homo_sapiens      QCVNTEGSYNCFCTHPMVLDASEKRCIRP--AESNEQIEETDVYQDLQWOHLSEEVVCSR 1538
Pan_troglodytes   QCVNTEGSYNCFCTHPMVLDASEKRCIRP--AESNEQIEETDVYQDLQWOHLSEEVVCSR 1537
Macaca_mulatta    QCVNTEGSYNCFCTHPMVLDASEKRCIRP--AESNEQIEETDVYQDLQWOHLSEEVVCSR 1538
Callithrix_jacchus QCVNTEGSYNCFCTHPMVLDASEKRCIQP--AESNEHLEEVVQDLQWOHLNDDYVCSR 1534
Canis_lupus_familiaris QCVNTEGSYNCFCTHPMVLDASEKRCIRP--TESHEQIEETDVYQDLQWOHLSEEVVCSR 1537
Equus_caballus    QCINTEGSYNCFCTHPVLDAEKKCIRP--TESHEQIEETDVYQDLQWOHLSEEVVCSR 1533
Bos_taurus        QCINTEGSYNCFCTHPMVLDASEKRCIRP--TESHEQIEETDVYQDLQWOHLSEEVVCSR 1525
Rhinatrema_bivittatum QCINTDGSYNCFCTHPMVLDVSGKRCVKP--SETSEQTEETDVYQDLQWOHLSDDFVCSR 1477
Xenopus_tropicalis QCINNEGSYSCFCTHPMILDES GKRCIQPKPVDISEPTTEETDVYQDFCWOHLSEEVVCSR 1525
.....1570.....1580.....1590.....1600.....1610.....1620

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/LTBD1.pst Tue Feb 1 13:56:33 2022

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****.:*****:*****:***** :.:***:** *.:***:***:*
PLVGKQTTYTECCCLYGEAWGMCALCPMKESDYAQLCNIPVPGSRRPYGDALVDI-E 1533
PLVGKQTTYTECCCLYGEAWGMCALCPMKESDYAQLCNIPVPGSRRPYGDALVDI-E 1533
PLVGKQTTYTECCCLYGEAWGMCALCPMKESDYAQLCNIPVPGSRRPYGDALVDF-E 1535
PLVGKQTTYTECCCLYGEAWGMCALCPMKDSDDYAQLCNVPVPGSRRPYGDALVDF-E 1499
PLVGKQTTYTECCCLYGEAWGMCALCPMKDSDDYAQLCNIPVTGRRRPYGRDALVDF-S 1588
PLVGKQTTYTECCCLYGEAWGMCALCPMKDSDDYAQLCNIPVTGRRRPYGRDALVDF-S 1588
PLVGKQTTYTECCCLYGEAWGMCALCPLKDSDDYAQLCNIPVTGRRPYGRDALVDF-S 1597
PLVGKQTTYTECCCLYGEAWGMCALCPMKDSDDYAQLCNIPVTGRRPYGRDALVDF-S 1596
PLVGKQTTYTECCCLYGEAWGMCALCPMKDSDDYAQLCNIPVTGRRPYGRDALVDF-S 1597
PLVGKQTTYTECCCLYGEAWGMCALCPMKNSDDYAQLCNIPITGRRPYGRDALVDF-S 1593
PLVGKQTTYTECCCLYGEAWGMCALCPMKDSDDYAQLCNIPVTGRRRPYGRDALVDF-S 1596
PLVGKQTTYTECCCLYGEAWGMCALCPMKDSDDYAQLCNIPVAGRRPYGRDALVDF-S 1592
PLVGKQTTYTECCCLYGEAWGMCALCPMKDSDDYAQLCNIPVTGRRRPYGRDALVDF-S 1584
PLVGKQTTYTECCCLYGEAWGMDCALCPMEESDYAQLCNNRGRGARPPYGODALVDFGD 1537
PLVGRRTTYTECCCLFGEAWGMCALCPTKDSEDYAELCN---LQYRRPYGHDAIDP-- 1580
.....1630.....1640.....1650.....1660.....1670.....1680
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: . *: : *: : ***** **
EHYTPETNPYFVEDRFLNSFEELQAEECGILNGCENGRCVRVQEGYTCDCFDGYHLDMAK 1593
EHYTPETNPYFVEDRFLNSFEELQAEECGILNGCENGRCVRVQEGYTCDCFDGYHLDMAK 1593
EHYTPETNPYFVEDRFLNSFEELQAEECGILNGCENGRCVRVQEGYTCDCFDGYHLDMAK 1595
EHYTPETDPFFVEDRFLNSFEELQAEECGILNGCENGRCVRVQEGYTCDCFDGYHLDMAK 1559
EQYGPETDPYFIQDRFLNSFEELQAEECGILNGCENGRCVRVQEGYTCDCFDGYHLDMAK 1648
EQYGPETDPYFIQDRFLNSFEELQAEECGILNGCENGRCVRVQEGYTCDCFDGYHLDMAK 1648
EQYTPEADPYFIQDRFLNSFEELQAEECGILNGCENGRCVRVQEGYTCDCFDGYHLDMAK 1657
EQYTPEADPYFIQDRFLNSFEELQAEECGILNGCENGRCVRVQEGYTCDCFDGYHLDMAK 1656
EQYAPEADPYFIQDRFLNSFEELQAEECGILNGCENGRCVRVQEGYTCDCFDGYHLDMAK 1657
EQYGPBANPYFIQDRFLNSFEELQAEECGILNGCENGRCVRVQEGYTCDCFDGYHLDMAK 1653
EQYAPEADPYFIQDRFLNSFEELQAEECGILNGCENGRCVRVQEGYTCDCFDGYHLDMAK 1656
EQYAPQDPYFIQDRFLNSFEELQAEECGILNGCENGRCVRVQEGYTCDCFDGYHLDMAK 1652
EQYAPEADPYFVRDRFLNSFEELQAEECGILNGCENGRCVRVQEGYTCDCFDGYHLDMAK 1644
HHYVPERNPYLVQDRFLNSFEELQAEECGILNGCENGRCVRVQEGYTCDCFDGYHLDMAK 1597
-YTSHDSGPYELPERYS--YEELQAEECGILNGCENGRCVRVQEGYTCDCFDGYHLDMAK 1637
.....1690.....1700.....1710.....1720.....1730.....1740

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*****.*.*.*.:*****:*****:*****: ** *****.*.: :
MTCVDVNECSELNRRMSLCKNAKCINTEGSYKCLCLPGYVPSDKPNYCTPLNSEL----D 1649
MTCVDVNECSELNRRMSLCKNAKCINTEGSYKCLCLPGYVPSDKPNYCTPLNSEL----D 1649
MTCVDVNECSELNRRMSLCKNAKCINTEGSYKCLCLPGYVPSDKPNYCTPLNSEL----D 1651
MTCVDVNECSELNRRMSLCKNAKCINTEGSYKCLCLPGYVPSDKPNYCTPLNSEI----D 1615
MTCVDVNECSELNRRMSLCKNAKCINTEGSYKCVCLPGYVPSDKPNYCTPLNTALNLDKD 1708
MTCVDVNECSELNRRMSLCKNAKCINTEGSYKCLCLPGYIPSDKPNYCTPLNSALNLDKE 1708
MTCVDVNECDELNRRMSLCKNAKCINTDGSYKCLCLPGYVPSDKPNYCTPLNTALNLEKD 1717
MTCVDVNECDELNRRMSLCKNAKCINTDGSYKCLCLPGYVPSDKPNYCTPLNTALNLEKD 1716
MTCVDVNECDELNRRMSLCKNAKCINTEGSYKCLCLPGYVPSDKPNYCTPLNTALNLEKD 1717
MTCVDVNECSELNRRMSLCKNAKCINTEGSYKCLCLPGYVPSDKPNYCTPLNTALNLEKD 1713
MTCVDVNECDELNRRMSLCKNAKCINTEGSYKCVCLPGYVPSDKPNYCTPLNTALNLEKD 1716
MTCVDVNECDELNRRMSLCKNAKCINTEGSYKCLCLPGYVPSDKPNYCTPLNAALNLEKD 1712
MTCVDVNECDELNRRMSLCKNAKCINTEGSYKCVCLPGFVPSDKPNYCTPLNTALNLEKD 1704
MTCVDVNECSELNRRMSLCKNAKCINTEGSYKCLCLPGYVPSDKPNYCTALDTGRG----D 1654
MTCVDVNECSELNRRMSLCKNAKCINTEGSYKCVCLPGYKPSAKPNYCTALNSDKD----D 1694
.....1750.....1760.....1770.....1780.....1790.....1800

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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      .:*:
Pavo_muticus      SELE 1653
Pavo_cristatus    SELE 1653
Gallus_gallus     SELE 1655
Chelonia_mydas    SELE 1619
Rattus_norvegicus SDLE 1712
Mus_musculus      SDLE 1712
Homo_sapiens      SDLE 1721
Pan_troglodytes   SDLE 1720
Macaca_mulatta    SDLE 1721
Callithrix_jacchus SDLD 1717
Canis_lupus_familiaris GDLE 1720
Equus_caballus    SDLE 1716
Bos_taurus        SDLE 1708
Rhinatrema_bivittatum SELE 1658
Xenopus_tropicalis SELE 1698
      ....
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