

# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep\_msa/GLTSA1LupFeb 1 12:14:32 2022

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          *****
Pavo_muticus      -----MDDDDDESCLLDLIGDPQALNYFLHGPSKSNEDLTNAEYSVANSNSIFAN 52
Pavo_cristatus    -----MDDDDDESCLLDLIGDPQALNYFLHGPSKSNEDLTNAEYSVANSNSIFAN 52
Gallus_gallus     -----MDDDDDESCLLDLIGDPQALNYFLHGPSKSNEDLTNAEYSVANSNSIFAN 52
Chelonia_mydas    MERLLVMDDDDDESCLLDLIGDPQALNYFLHGPSKSNEDLTNAGYSAANSNSIFAN 58
Mus_musculus      -----MDDDDDESCLLDLIGDPQALNYFLHGPSKSGDDVTNAGYSAANSNSIFAN 51
Rattus_norvegicus -----MDDDDDESCLLDLIGDPQALNYFLHGPSKSGDDVTNAGYSAANSNSIFAN 51
Homo_sapiens      -----MDDDDDESCLLDLIGDPQALNYFLHGPSKSNDDLTNAGYSAANSNSIFAN 51
Pan_troglodytes   -----MDDDDDESCLLDLIGDPQALNYFLHGPSKSNDDLTNAGYSAANSNSIFAN 51
Macaca_mulatta    -----MDDDDDESCLLDLIGDPQALNYFLHGPSKSNDDLTNAGYSAANSNSIFAN 51
Canis_lupus_familiaris -----MDDDDDESCLLDLIGDPQALNYFLHGPSKSNDDLTNAGYSAANSNSIFAN 51
Equus_caballus    -----MDDDDDESCLLDLIGDPQALNYFLHGPSKSNDDLTNAGYSAANSNSIFAN 51
Bos_taurus        -----MDDDDDESCLLDLIGDPQALNYFLHGPSKSNEDLTNAGYSAANSNSIFAN 51
Heterocephalus_glaber -----MDDDDDESCLLDLIGDPQALNYFLHGPSKNKPSDDLTSAGYPAANSNSIFAN 51
Rhinatrema_bivittatum -----MDDDDDESCLLDLIGDPQALNYFLHGPSKSTDDLTSTVEYPATNSNSIFAN 51
Latimeria_chalumnae -----MDDDDDDRCLLDIIGDPQALNYFLHGPSNKTQDEDELTAAGYSSANSNSIFAN 54
Xenopus_tropicalis -----MDDDSG---LLDFIGDTQELNFFWHSNKT--VDEELTSTSLAPNTNSIFSS 49
1.....10.....20.....30.....40.....50.....60

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          ..::**.*::* : .* .*** .**::**:* :: :.::*****
Pavo_muticus      SNNTDPKSSVKGVSSQLGEGPSDGLQLSSSLQFLEDELVSS-PLPDLSEDQPFDILOKSL 111
Pavo_cristatus    SNNTDPKSSVKGVSSQLGEGPSDGLQLSSSLQFLEDELVSS-PLPDLSEDQPFDILOKSL 111
Gallus_gallus     SNNTDPKSSVKGVSSQLGEGPSDGLQLSSSLQFLEDELVSS-PLPDLSEDQPFDILOKSL 111
Chelonia_mydas    SNNTDPKSSIKGVSNQLGEGPSDGLQLSSSLQFLEDELESS-PLPDLSEDQPFDILOKSL 117
Mus_musculus      STNADPKSALKGVSDQLGEGPSDGLPLASSLQFLEDELESS-PLPDLSEDQPFDILOKSL 110
Rattus_norvegicus STNADPKSSLKGVSNQLGEGPSDGLPLASSLQFLEDELESS-PLPDLSEDQPFDILOKSL 110
Homo_sapiens      SSNADPKSSLKGVSNQLGEGPSDGLPLSSSLQFLEDELESS-PLPDLTEDQPFDILOKSL 110
Pan_troglodytes   SSNADPKSSLKGVSNQLGEGPSDGLPLSSSLQFLEDELESS-PLPDLTEDQPFDILOKSL 110
Macaca_mulatta    SSNADPKSSLKGVSNQLGEGPSDGLPLSSSLQFLEDELESS-PLPDLTEDQPFDILOKSL 110
Canis_lupus_familiaris SSNADPKSSLKAVSSQLGEGPSDGLPLSSSLQFLEDELESS-PLPDLSEDQPFDILOKSL 110
Equus_caballus    SSNADPKSSLKAVSNQLGEGPSDGLPLSSSLQFLEDELESS-PLPDLSEDQPFDILOKSL 110
Bos_taurus        SSNADPKSALKAVSSQLGEGPSDGLPLSSSLQFLEDELESS-PLPDLSEDQPFDILOKSL 110
Heterocephalus_glaber STNADPKSSLKGVSNQLGEGPSDGLPLSSSLQFLEDELESS-PLPDLSEDQPFDILOKSL 110
Rhinatrema_bivittatum SSNTDPKSSIKGSIQLGEGPSDGLQLSSSLQFLEDDLESS-SLPDLSEDQPFDILOKSL 110
Latimeria_chalumnae STNTDPSSSIKDVNNHLGEASGDGLQLPNSLQFLEDELDAASPLPELSEDQPFDILOKSL 114
Xenopus_tropicalis GSHADPKSSIKGVHNAAGHNDGLQSLSSLHFLDDELETS-PIHDINEDQPFDILOKSL 108
.....70.....80.....90.....100.....110.....120

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          * *****.****** *: *.**: ..*: .**:* *****:..*::.
Pavo_muticus      QEANITEQTLAEEAYLDASVGSQQFAQAQLHPSSSASFTQASNVSNNYSGQTLQPIGVTH 171
Pavo_cristatus    QEANITEQTLAEEAYLDASVGSQQFAQAQLHPSSSASFTQASNVSNNYSGQTLQPIGVTH 171
Gallus_gallus     QEANITEQTLAEEAYLDASVGSQQFAQAQLHPSSSASFTQASNVSNNYSGQTLQPIGVTH 171
Chelonia_mydas    QEANITEQTLAEEAYLDASIGSSQFAQAQLHPSSSASFTQASNVSNNYSGQTLQPIGVTH 177
Mus_musculus      QEANITEQTLAEEAYLDASIGSSQFAQAQLHPSSSASFTQASNVSNNYSGQTLQPIGVTH 170
Rattus_norvegicus QEANITEQTLAEEAYLDASIGSSQFAQAQLHPSSSASFTQASNVSNNYSGQTLQPIGVTH 170
Homo_sapiens      QEANITEQTLAEEAYLDASIGSSQFAQAQLHPSSSASFTQASNVSNNYSGQTLQPIGVTH 170
Pan_troglodytes   QEANITEQTLAEEAYLDASIGSSQFAQAQLHPSSSASFTQASNVSNNYSGQTLQPIGVTH 170
Macaca_mulatta    QEANITEQTLAEEAYLDASIGSSQFAQAQLHPSSSASFTQASNVSNNYSGQTLQPIGVTH 170
Canis_lupus_familiaris QEANITEQTLAEEAYLDASIGSSQFAQAQLHPSSSASFTQASNVSNNYSGQTLQPIGVTH 170
Equus_caballus    QEANITEQTLAEEAYLDASIGSSQFAQAQLHPSSSASFTQASNVSNNYSGQTLQPIGVTH 170
Bos_taurus        QEANITEQTLAEEAYLDASIGSSQFAQAQLHPSSSASFTQASNVSNNYSGQTLQPIGVTH 170
Heterocephalus_glaber QEANITEQTLAEEAYLDASIGSSQFAQQLHPSSSASFTQASNVSNNYSGQTLQPIGVTH 170
Rhinatrema_bivittatum QEANITEQTLAEEAYLDASIGSNQFTQSLHPSSSASFTQASNVSNNYSGQTLHPIGLTH 170
Latimeria_chalumnae QEANITEQTLAEEAYLDASIGSNQFTQSLHPSSSASFTQASDASYSGQTLHPIGVAQ 174
Xenopus_tropicalis QVANITEQTLAEEAYLDSSVSSQHFTASVHSHSSSFTQATSPNYSGQTLHSGVPL 168
.....130.....140.....150.....160.....170.....180

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# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep\_msa/GLTSA1LupsFeb 1 12:14:32 2022

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Pavo_muticus      VVQQ--PVGASFASNTVGVOHGFMQHVGIS-VPSQHLNSNNOISGSGQIQILIGSFSNQPS 228
Pavo_cristatus    VVQQ--PVGASFASNTVGVOHGFMQHVGIS-VPSQHLNSNNOISGSGQIQILIGSFSNQPS 228
Gallus_gallus     VVQQ--PVGASFASNTVGVOHGFMQHVGIS-VPSQHLNSNNOISGSGQIQILIGSFSNQPS 228
Chelonia_mydas    VVQQ--PVGASFASNTVGVOHGFMQHVGIS-VPSQHLNSNNOISGSGQIQILIGSFSNQPS 234
Mus_musculus      V-----PVGASFASNTVGVOHGFMQHVGIS-VPSQHLPNSSQISGSGQIQILIGSFGNQPS 224
Rattus_norvegicus V-----PVGASFASNTVGVOHGFMQHVGIS-VPSQHLPNSSQISGSGQIQILIGSFGNQPS 224
Homo_sapiens      V-----PVGASFASNTVGVOHGFMQHVGIS-VPSQHLSNSSQISGSGQIQILIGSFGNHPS 224
Pan_troglodytes   V-----PVGASFASNTVGVOHGFMQHVGIS-VPSQHLSNSSQISGSGQIQILIGSFGNHPS 224
Macaca_mulatta    V-----PVGASFASNTVGVOHGFMQHVGIS-VPSQHLSNSSQISGSGQIQILIGSFGNHPS 224
Canis_lupus_familiaris V-----PVGASFASNTVGVOHGFMQHVGIS-VPSQHLSNSSQISGSGQIQILIGSFGNQPS 224
Equus_caballus    V-----PVGASFASNTVGVOHGFMQHVGIS-VPSQHLSNSSQISGSGQIQILIGSFGNQPS 224
Bos_taurus        V-----PVGTSFASNTVGVOHGFMHVGIS-VPSQHLSNSSQISGSGQIQILIGSFGNQPS 224
Heterocephalus_glaber V-----PVGASFASNTVGVOHGFMQHVGIS-VPSQHLSNSSQISGSGQIQILIGSFGNQPS 224
Rhinatrema_bivittatum VPVVQHPVGASFASNTVGVOHGFMQVVGIS-VPSQHLSSTNQISGSGQIQILIGSFGNPSPS 229
Latimeria_chalumnae VPIVQQTAGTPTFANHAVSVQHGFMQVGVNNIANQHLSNSNSVGGPGQIQLVGSFNSQPS 234
Xenopus_tropicalis VQQ---QVGTSFERSNTVGVOHGFMQHVGI--PSQHIPSNNNS--SGQIHLIGSINNQPP 222
.....190.....200.....210.....220.....230.....240

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*:*** **~::~*..*.. :~::~*..*.. :~::~*..*.. :~::~*..*..
Pavo_muticus      MMTINNLDGSIILKGNQGQTPANMSSLLVHRQTPNGNSLFGNSNTSPVAQPVTVPFNS 288
Pavo_cristatus    MMTINNLDGSIILKGNQGQTPANMSSLLVHRQTPNGNSLFGNSNTSPVAQPVTVPFNS 288
Gallus_gallus     MMTINNLDGSIILKGNQGQTPANMSSLLVHRQTPNGNSLFGNSNTSPVAQPVTVPFNS 288
Chelonia_mydas    MMTINNLDGSIILKSGQQAPANMSSLLVHRQTPNGNSLFGNSNTSPVAQPVTVPFNS 294
Mus_musculus      MMTINNLDGSIILKSGQQAPSNVSGLLVHRQTPNGNSLFGNSTSSPVAQPVTVPFNS 284
Rattus_norvegicus MMTINNLDGSIILKSGQQAPSSVSGLLVHRQTPNGNSLFGNPTSSPGAQPVTVPFNS 284
Homo_sapiens      MMTINNLDGSIILKSGQQAPSNVSGLLVHRQTPNGNSLFGNSSSSPVAQPVTVPFNS 284
Pan_troglodytes   MMTINNLDGSIILKSGQQAPSNVSGLLVHRQTPNGNSLFGNSSSSPVAQPVTVPFNS 284
Macaca_mulatta    MMTINNLDGSIILKSGQQAPSNVSGLLVHRQTPNGNSLFGNSSSSPVAQPVTVPFNS 284
Canis_lupus_familiaris MMTINNLDGSIILKSGQQAPSNVSGLLVHRQTPNGNSLFGNSSSSPVAQPVTVPFNS 284
Equus_caballus    MMTINNLDGSIILKSGQQAPSNVSGLLVHRQTPNGNSLFGNSSSSPAAQPVTVPFNS 284
Bos_taurus        MMTINNLDGSIILKSGQQAPSNVSGLLVHRQTPNGNSLFGNSSSSPVAQPVTVPFNS 284
Heterocephalus_glaber MMTINNLDGSIILKSGQQAPSSVSGLLVHRQTPNGNSLFGNSSSSPVAQPVTVPFNS 284
Rhinatrema_bivittatum MMTINNLDGSIILKSGQQASANMSSGLLVHRQTPNGNSMFGNSNPNAGQTLTVPFNS 289
Latimeria_chalumnae MMAINNLDGSHIIVKGNVQHPSSGMSGGLMLQRTPNNGNSLYGSSNPSSVTQPVNVPFSS 294
Xenopus_tropicalis VMAINNVLDGSIILK--SGQOMPANSSGGSFVR---QNGNAMFGSPDSSPAGHPVAVTSCG 278
.....250.....260.....270.....280.....290.....300

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****:~::~*..*.. **~::~*..*.. :~::~*..*.. :~::~*..*.. :~::~*..*..
Pavo_muticus      TNFQTSVPVHNIIIIQRLAPNSNKVPINIQPKPVQMGOQSAYNVNVLGIQQHHVQOGIPF 348
Pavo_cristatus    TNFQTSVPVHNIIIIQRLAPNSNKVPINIQPKPVQMGOQSAYNVNVLGIQQHHVQOGIPF 348
Gallus_gallus     TNFQTSVPVHNIIIIQRLAPNSNKVPINIQPKPVQMGOQSAYNVNVLGIQQHHVQOGIPF 348
Chelonia_mydas    TNFQTSLPVHNIIIIQRLAPNSNKVPINIQPKPIQMGOQTAYNVNVLGIQQHHVQOGIPF 354
Mus_musculus      TNFQASLPVHNIIIIQRLAPNSNKVPINIQPKPVQMGOQSAYNVNVLGIQQHHAQOGISF 344
Rattus_norvegicus TNFQASLPVHNIIIIQRLAPNSNKVPINIQPKPIQMGOQSTYNVNVSLGLQQHHVQOGISF 344
Homo_sapiens      TNFQTSLPVHNIIIIQRLAPNSNKVPINIQPKPIQMGOQNTYNVNVNLGIQQHHVQOGISF 344
Pan_troglodytes   TNFQTSLPVHNIIIIQRLAPNSNKVPINIQPKPIQMGOQNTYNVNVNLGIQQHHVQOGISF 344
Macaca_mulatta    TNFQTSLPVHNIIIIQRLAPNSNKVPINIQPKPIQMGOQNTYNVNVNLGIQQHHVQOGISF 344
Canis_lupus_familiaris TNFQTSLPVHNIIIIQRLAPNSNKVPINIQPKPIQMGOQNTYNVNVNLGIQQHHVQOGISF 344
Equus_caballus    TNFQTSLPVHNIIIIQRLAPNANKVPINIQPKPIQMGOQNTYNVNVNLGIQQHHVQOGISF 344
Bos_taurus        TNFQTSLPVHNIIIIQRLAPNSNKVPINIQPKPIQMGOQNTYNVNVNLGIQQHHVQOGISF 344
Heterocephalus_glaber TNFQTSLPVHNIIIIQRLAPNSNKVPINIQPKPIQTGQNTYNVNVNLGIQQHHVQOGISF 344
Rhinatrema_bivittatum ANFQTSLPVHNIIIIQRLAPNANKIPINIQPKPIQMGOQTAYSVNVLGIQQHHIPOGIPF 349
Latimeria_chalumnae SNFQTLPIPNIIIIQRSQAPNQNKMPINIQPKPIQMGGHTVYNVNVNMGMOQHHVQOGVPY 354
Xenopus_tropicalis SNFQTSLPVHNIIIIHRSQVNPANKMPINIQPKPVQAG-QIPYNVNVNLGMQHHVHOGIPF 337
.....310.....320.....330.....340.....350.....360

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## CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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	..: ***.*... :: . :...:*.:: * ..*...:*** ** : ..**.	
Pavo_muticus	ASASSPQSSVVGPHMSVNIIVNQNTRKSVTPQTIVSNAGGSIVIHS PMGQPHAP--QNOFL	406
Pavo_cristatus	ASASSPQSSVVGPHMSVNIIVNQNTRKSVTPQTIVSNAGGSIVIHS PMGQPHAP--QNOFL	406
Gallus_gallus	ASASSPQSSVVGPHMSVNIIVNQNTRKSVTPQTIVSNAGGSIVIHS PMGQPHAP--QNOFL	406
Chelonia_mydas	ASASSPQNSVVGPHMSVNIIVNQNTRKSVTPQTIVSNAGGSIVIHS PMGQPHVS--QNOFL	412
Mus_musculus	APTSSPQGSVVGPHMSVNIIVNQNTRKPVTSQAVSGTGGSIIVHS PMGQPHTP--QSQFL	402
Rattus_norvegicus	ASASSPQGSVVGPHMSVNIIVNQNTARKPVTSQAVSSAGGSIVIHS PMGQPHTP--QSQFL	402
Homo_sapiens	ASASSPQGSVVGPHMSVNIIVNQNTRKPVTSQAVSSTGGSIIVHS PMGQPHAP--QSQFL	402
Pan_troglodytes	ASASSPQGSVVGPHMSVNIIVNQNTRKPVTSQAVSSTGGSIIVHS PMGQPHAP--QSQFL	402
Macaca_mulatta	ASASSPQGSVVGPHMSVNIIVNQNTRKPVTSQAVSSAGGSIVIHS PMGQPHAP--QSQFL	402
Canis_lupus_familiaris	ASASSPQGSVVGPHMSVNIIVNQNTRKPVTSQAVSSAGGSIVIHS PMGQPHTP--QSQFL	402
Equus_caballus	ASASSPQGSVVGPHMSVNIIVNQNTRKPVTSQAVSSAGGSIVIHS PMGQPHTP--QSQFL	402
Bos_taurus	ASASSPQGSVVGPHMSVNIIVNQNTRKPVTSQSVSSAGGSIVIHS PMGQPHTP--QSQFL	402
Heterocephalus_glaber	ASASSPQGSVVGPHMSVNIIVNQNTRKPVTSQAVSSAGGSIVIHS PMGQPHTP--QSQFL	402
Rhinatrema_bivittatum	TSAHSPQSSVAGPQMNANIGSQNSRKSVTPQTGGNTGGNIVIHS PMGQPHMH--QNOFL	407
Latimeria_chalumnae	ASTNSPQSSAVGPGMAVNIIVNQHGTRKSVGPOVINHS GNSIVVHSPAGQHQLSTHNOFF	414
Xenopus_tropicalis	SSANSPPSSAVSQQLPV---HQONPQKPVGQQ-----PGSSIIVHS PMGQAHGH--TNQFV	388
	.....370.....380.....390.....400.....410.....420	

	** : * : * . * . . : * : * : * * : * . * * . : * : * . * : . : . : . : * : * *	
Pavo_muticus	IPTSLSVNSNSVHHVQAINGQLLTQTPSQLVPSQVSAEHVMLNRNSTNMLRANQSYSGOM	466
Pavo_cristatus	IPTSLSVNSNSVHHVQAINGQLLTQTPSQLVPSQVSAEHVMLNRNSTNMLRANQSYSGOM	466
Gallus_gallus	IPTSLSVNSNSVHHVQAINGQLLTQTPSQLVPSQVSAEHVMLNRNSTNMLRANQSYSGOM	466
Chelonia_mydas	IPTSLSVNSNSVHHVQTINGQLLTQTPSQLVPSQVSAEHVMLNRNSTMLRANHSYSGOM	472
Mus_musculus	IPTSLSVSSNSVHHVQAINGQLLTQTPSQLISGOVASEHVMMLNRNSTMLRTNPQSYSGOM	462
Rattus_norvegicus	IPTSLSVSSNSVHHVQTINGQLVQTQTPSQLISGOVASEHVMMLNRNSSNMLRTNPQPYAGOM	462
Homo_sapiens	IPTSLSVSSNSVHHVQTINGQLLTQTPSQLISGOVASEHVMMLNRNSSNMLRTNPQPYTGPM	462
Pan_troglodytes	IPTSLSVSSNSVHHVQTINGQLLTQTPSQLISGOVASEHVMMLNRNSSSMLRTNPQPYTGOM	462
Macaca_mulatta	IPTSLSVSSNSVHHVQTINGQLLTQTPSQLISGOVASEHVMMLNRNSSNMLRTNPQPYSGOM	462
Canis_lupus_familiaris	IPTSLSVSSNSVHHVQTINGQLLTQTPSQLISGOVASEHVMMLNRNSSNMLRTNPQPYSGOM	462
Equus_caballus	IPTSLSVSSNSVHHVQTINGQLLTQTPSQLISGOVASEHVMMLNRNSSNMLRTNPQPYSGOM	462
Bos_taurus	IPTSLSVSSNSVHHVQTINGQLLTQTPSQLISGOVASEHVMMLNRNSSNMLRTNPQPYSGOM	462
Heterocephalus_glaber	IPTSLAVTSSSVHHVQTINGQLLTQTPSQLLPQVASEHIMMLNRNSSSMLRASQPYSGPM	462
Rhinatrema_bivittatum	IPTGLSVNSNSVHHVQTINGQLLTQTPHLVPSQVPADHVMMLNRNSTSLVRANQSYTGOM	467
Latimeria_chalumnae	IPTTSLSVNSNSVHHVQTLNGQILQSQPHTLVASQVSSSEHIMMLNRNSAGTVMANQSYSGOM	474
Xenopus_tropicalis	IPAGLSVNSNPVQHIOISINTQLVQTQTAHLGPHQVSADHVMMLSGNIANMVRPSQPYSGOM	448
	.....430.....440.....450.....460.....470.....480	

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Pavo_muticus	LNNQN-AAVQLVSGQTFTAPGNQVIVNHGTSQIVGGQVPLQQASPTVLHLSPSQANASQG	525
Pavo_cristatus	LNNQN-AAVQLVSGQTFTAPGNQVIVNHGTSQIVGGQVPLQQASPTVLHLSPSQANASQG	525
Gallus_gallus	LNNQN-AAVQLVSGQTFTAPGNQVIVNHGTSQIVGGQVPLQQASPTVLHLSPSQANASQG	525
Chelonia_mydas	LNNQN-TAVQLVSGQTFTAPGSPVIVNHGTSQIVGGQVPLQQASPTVLHLSPSQSSVSQG	531
Mus_musculus	LNNQN-TAVQLVSGQTFTATSGSPVIVNHASPOIVGGQVPLQQASPTVLHLSPSQSSVSQG	521
Rattus_norvegicus	LNNQS-AAVQLVSGQTFTATSGSPVIVNHASPOIVGGQVPLQQASPTVLHLSPSQSSVSQG	521
Homo_sapiens	LNNQN-TAVHLVSGQTFAASGSPVIANHASPOLVGGQVPLQQASPTVLHLSPSQSSVSQG	521
Pan_troglodytes	LNNQN-TAVHLVSGQTFAASGSPVIANHASPOLVGGQVPLQQASPTVLHLSPSQSSVSQG	521
Macaca_mulatta	LNNQN-TAVHLVSGQTFAASGSPVIANHASPOLVGGQVPLQQASPTVLHLSPSQSSVSQG	521
Canis_lupus_familiaris	LNNQN-AAVQLVSGQTFAASGSPVIVNHASPOIVGGQVPLQQASPTVLHLSPSQSSVSQG	521
Equus_caballus	LNNQN-TAVQLVSGQTFTATSGSPVIVNHASPOIVGGQVPLQQASPTVLHLSPSQSSVSQG	521
Bos_taurus	LNNQS-AAVQLVSGQTFAASGSPVIVNHASPOIVGGQVPLQQASPTVLHLSPSQSSVSQG	521
Heterocephalus_glaber	LNSQNAAVQLVSGQTFTATSGSPVIVNHASPOIVGGQVPLQQASPTVLHLSPSQSSVSQG	522
Rhinatrema_bivittatum	LNNQN-AGVQLVSGQTFTGPGNQVIVSHGTSQIVGGQVPLQQASPTVLHLSPSQGNIPPG	526
Latimeria_chalumnae	LNNQN-NAMQLVSGQAFAPGGQLIVNHGNSVVGQVPLQQASPTVLHLSPSQSSIPAG	533
Xenopus_tropicalis	LNSQG-TAVQLISGQTFTGPGSQFIVNHGTSQIVGGQVPLQQASPTVLHLSPSQSSVSQG	505
	.....490.....500.....510.....520.....530.....540	



# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep\_msa/GLTSAIR1LupFeb 1 12:14:32 2022

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Pavo_muticus      RSSFTTAMSPGQSAVSSMSASNRFVAVSSSGSVHPSLGPVSVQSVASGGNFTGDQLT-QNRT 584
Pavo_cristatus    RSSFTTAMSPGQSAVSSMSASNRFVAVSSSGSVHPSLGPVSVQSVASGGNFTGDQLT-QNRT 584
Gallus_gallus     RSSFTTAMSPGQSTVSNMSASNRFVAVSSSGSVHPSLGPVSVQSVASGGNFTGDQLT-QNRT 584
Chelonia_mydas    RSGFTTAMSPGQSTVSNMSASNRFVAVSSSGSVHPSLGPVSVQSVASGGNFTGDQLT-QNRT 591
Mus_musculus      RPGFATMP-----AVSGMAGPARFPAVSSASTAHPITLGPVTVQSGAPGSNFTGDQLTQANRT 577
Rattus_norvegicus RPGFATMA-----SVSSMSGPARFPAVSSASTAHPITLGPVAVQSGASGSNFTGDQLTQANRT 577
Homo_sapiens      RPGFATMP-----SVTSMGSPSRFPVAVSSASTAHPITLGPVAVQSGSSGSNFTGDQLTQPNRT 577
Pan_troglodytes   RPGFATMP-----SVTSMGSPSRFPVAVSSASTAHPITLGPVAVQSGSSGSNFTGDQLTQPNRT 577
Macaca_mulatta    RPGFATMP-----SVTSMGSPSRFPVAVSSASTAHPITLGPVAVQSGSSGSNFTGDQLTQPNRT 577
Canis_lupus_familiaris RPGFATMP-----SVTSMGSPSRFPVAVSSASTAHPITLGPVAVQSGSSGSNFTGDQLTQPNRT 577
Equus_caballus    RPGFATMP-----SVTSMGSPSRFPVAVSSASTAHPITLGPVAVQSGSSGSNFTGDQLTQPNRT 577
Bos_taurus        RPGFATMP-----SVTSMGSPSRFPVAVSSASTAHPITLGPVAVQSGSSGSNFTGDQLTQPNRT 576
Heterocephalus_glaber RPGFATMP-----SVTSMGSPSRFPVAVSSASTAHPITLGPVAVQSGSSGSNFTGDQLTQPNRT 578
Rhinatrema_bivittatum RSNFTTLLSTGQPSVPSMPVFNRTVTVSSG-TVHNLGPPPLQTVASGSNFTGDQLTQPNRT 585
Latimeria_chalumnae RPGFVQTG--QPMVQGMILQNRFTVINTSSTVRPSYQQTVPVMSAANALGEQTAQQVQS 591
Xenopus_tropicalis RSTFPSLP---HSNPNMSSSGRFTVLSSG-TVIQSMGPFHTSTGDO-----QQSRs 553
.....550.....560.....570.....580.....590.....600

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Pavo_muticus      QVPVSAASHRLPASSSKSI STFSHTSVGVTVQQQFAFS--QKKGMNQAS----PVSASKAQD 638
Pavo_cristatus    QVPVSAASHRLPASSSKSI STFSHTSVGVTVQQQFAFS--QKKGMNQAS----PVSASKAQD 638
Gallus_gallus     QVPISASHRLPASSSKSV STFSHTSVGVTVQQQFIFS--QKKGMNQTS----PVSASKAQD 638
Chelonia_mydas    QVSVSVSHCLPVSSSKSI STFSRTSVGVTVQQQFTFAQAKKVMNQSS----PVSASKSQD 647
Mus_musculus      PAPVSVSHRLPVSAKSPSTLSNTP--GTQQQFFCQ-AQKKCLNQTS----PIPTSKTTD 630
Rattus_norvegicus PVPVSVSHRLPVSAKSPSTLSNTP--GTQQQFFCQ-APKKCLNQTAIPITPIPTSKTTD 634
Homo_sapiens      PVPVSVSHRLPVSSSKSTSTFSNTPGTGTQQQFFCQ-AQKKCLNQTS----PISAPKTTD 632
Pan_troglodytes   PVPVSVSHRLPVSSSKSTSTFSNTPGTGTQQQFFCQ-AQKKCLNQTS----PISAPKTTD 632
Macaca_mulatta    PVPVSVSHRLPVSSSKCTSTFSNTPGAGTQQQFFCQ-AQKKCLNQTS----PISAPKTTD 632
Canis_lupus_familiaris PVPVSVSHRLPVSSSKSTSTFSNTPGAGTQQQFFCQ-AQKKCLNQTS----PISASKTTD 632
Equus_caballus    PVPVSVSHRLPVSSSKSTSTFSNTPGAGTQQQFFCQ-AQKKSLTQTS----PVSASKTAD 632
Bos_taurus        PGPVSVSHRLPVPSSKSTSTFSNTPGVGSQQQFFCQ-AQKKSLNQTS----PISASKTTD 631
Heterocephalus_glaber PAPVSAASHRLPVPSSKSTSAFNSNAPGTGAQQQFFCQ-AQKKSLNQTS----PVSTSKAAD 633
Rhinatrema_bivittatum QVSVSVSHRLPVPSSK--STYSHTSVAVAQPLPCCQTSKQVMNQPS----PISALKTQD 639
Latimeria_chalumnae QVSVSVSHRLPAASSKTTNVYSYKTASAPQQLLAYSQAQKKNMNQSS----LGLTSKPQD 647
Xenopus_tropicalis HSGISESH-VQSTSTGQPANIFSSIS--GSHFTSCGQAQKEVMDHVS----PVSILNNQE 606
.....610.....620.....630.....640.....650.....660

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. * :      * . :      :      : :      *
Pavo_muticus      NLRQHQLSSLLS-NTLSGQDSGGKIIQQSLGTSQ---EKGVGSSSVQ-CIQVDGHLVGQK 693
Pavo_cristatus    NLRQHQLSSLLS-NTLSGQDSGGKIIQQSLGTSQ---EKGVGSSSVQ-CIQVDGHLVGQK 693
Gallus_gallus     NLRQHQLSSLLS-NTLSGQDSGGKIIQQSLGTSQ---EKGVGSSSVQ-CIQVDGHLVGQK 693
Chelonia_mydas    SLRQPQLTGLLS-NTLPGQDSGSKIIQQPLGTTQSQQENVVGSSSPVQHVQVDVHTVGQK 706
Mus_musculus      GLRPSQIPGLLS-TALPGQDSGSKIMPATLGATCAQPESSVVGSSSPSQTAVQVDSHPG-OK 688
Rattus_norvegicus SLRQPQIPGLLS-TALPGQDSGSKIMPAPLGTTPQPESSVVGSSSPSQTAVQVDSHSG-OK 692
Homo_sapiens      GLRQAQIPGLLS-TTLPGQDSGSKVISASLGTAQPPQEKVVGSSSPGHPAVQVDSHSGGQK 691
Pan_troglodytes   GLRQAQIPGLLS-TTLPGQDSGSKVISASLGTAQPPQEKVVGSSSPGHPAVQVDSHSGGQK 691
Macaca_mulatta    GLRQAQIPGLLS-TALPGQDSGSKVISASLGTAQPPQEKVVGSSSPGHPAVQVDSHSGGQK 691
Canis_lupus_familiaris GLRQAQIPGLLN-TALPGQDSGSKVMPVSLGTTQPPQEKVVGSSSPGQPAVQVDSHSGGQK 691
Equus_caballus    GLRQTHIAGLSS-TALPGQDSGSKVMPAPLGTAPQPEKVVGSSSPGQPVVQVDSHSGGQK 691
Bos_taurus        GLRPAQIPGLLS-TALPGQDSGSKVIPASLGTTPQPEKVVGSSPPGQPTVQVDGHPGGQK 690
Heterocephalus_glaber GLRPAQIPGLLS-TTLPGQDTGSKVMPASLGTAPQPEKAVGSSSPGQPAVQVDGHLGGQK 692
Rhinatrema_bivittatum SLRQPQLTSLNNSASLSGQAPGGKLLQPLGTGQLQ-----EKVDGQTVGQK 686
Latimeria_chalumnae NLRQPQLASLLSNTLLPGQNN-FQAGQNSGGTVVQQQORDKVVGQAHLQSSMADGQIVGQK 706
Xenopus_tropicalis NSRQHQLC---TTSLAGHSGSKQMHYTVSPAQPPQ---ENIAGTQLRPVEVDGRSGVMK 659
.....670.....680.....690.....700.....710.....720

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# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep\_msa/GLTSA1LupsFeb 1 12:14:32 2022

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      ...:** *:::**::**::* :: :*. *. * :...:***.*** **::*.. *: :
Pavo_muticus      RPAAKQLTKGAFMLQQLQKDOMQAVTPDKSQFRSLNDAVQRLLSYHVCQGSPLTEEDLRK 753
Pavo_cristatus    RPAAKQLTKGAFMLQQLQKDOMQAVTPDKSQFRSLNDAVQRLLSYHVCQGSPLTEEDLRK 753
Gallus_gallus     RPAAKQLTKGAFMLQQLQKDOMQAVTPDKSQFRSLNDAVQRLLSYHVCQGSPLTEEDLRK 753
Chelonia_mydas    RPAAKQLTKGAFILQQLQKEQAHAVTPDKSQFRSLNDAVQRLLSYHVCQGSPLTKEDLRK 766
Mus_musculus      RPAAKQLTKGAFILQQLQORDQAHAVTPDKSQFRSLNDTVQRLLSYHVCQGSMPTEEDLRK 748
Rattus_norvegicus RPAAKQLTKGAFILQQLQORDQAHAVTPDKSQFRSLTDTVQRLLSYHVCQGSMPTEEDLSK 752
Homo_sapiens      RPAAKQLTKGAFILQQLQORDQAHTVTPDKSHFRSLSDAVQRLLSYHVCQGSMPTEEDLRK 751
Pan_troglodytes   RPAAKQLTKGAFILQQLQORDQAHTVTPDKSHFRSLSDAVQRLLSYHVCQGSMPTEEDLRK 751
Macaca_mulatta    RPAAKQLTKGAFILQQLQORDQAHTVTPDKSHFRSLSDAVQRLLSYHVCQGSMPTEEDLRK 751
Canis_lupus_familiaris RPAAKQLTKGAFILQQLQORDQTHAVTPDKSQFRSLSDAVQRLLSYHVCQGSALPTEEDLKK 751
Equus_caballus    RPAAKQLTKGAFILQQLQORDQAHAVTPDKSQFRSLSDAVQRLLSYHVCQGSMPTEEDLKK 751
Bos_taurus        RPAAKQLTKGAFILQQLQORDQAHAVTPDKNQFRSLSDAVQRLLSYHVCQGSMPTEEDLRK 750
Heterocephalus_glaber RPAATKQLTKGAFILQQLQORDQAHAVTPDKSQFRSLSDAVQRLLSYHVCQGSMPTEEDLRK 752
Rhinatrema_bivittatum RPAAKQLTKGTFMLQQLQORDQAQAVAPDKSKFKSLNDVVQRLLSYHVCQGSPLSPDEDLKK 746
Latimeria_chalumnae RPASKQLTKGTFILQQLQKDKQSLAIGPEKTPFKSSEAVQRLLPYHVFQGSPLPNEADFAK 766
Xenopus_tropicalis MSGPROLRKASLILQRLHKDQCHAVFLDKNPFESLSDAERLLPYHVFQGSPLTPDDDLKK 719
      .....730.....740.....750.....760.....770.....780

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      **.*** .: :***:*::***** *:.*: * *****:**:**:*****::*: :**
Pavo_muticus      VDSEFESVATQLLKRTQAMLNKYRCLLIEDAMRINPSAEMVMIDRMFNQEEASLTREKR 813
Pavo_cristatus    VDSEFESVATQLLKRTQAMLNKYRCLLIEDAMRINPSAEMVMIDRMFNQEEASLTREKR 813
Gallus_gallus     VDSEFESVATQLLKRTQAMLNKYRCLLIEDAMRINPSAEMVMIDRMFNQEEASLTREKR 813
Chelonia_mydas    VDSEFESVATQLLKRTQAMLNKYRCLLIEDAMRINPSAEMVMIDRMFNQEEASLTREKR 826
Mus_musculus      VDNEFEVATQLLKRTQAMLNKYRFLLEDAMRINPSAEMVMIDRMFNQEEASLTREKR 808
Rattus_norvegicus VDSEFEVATQLLKRTQAMLNKYRSLLEDAMRINPSAEMVMIDRMFNQEEASLTREKR 812
Homo_sapiens      VDNEFETVATQLLKRTQAMLNKYRCLLIEDAMRINPSAEMVMIDRMFNQEEASLTREKR 811
Pan_troglodytes   VDNEFETVATQLLKRTQAMLNKYRCLLIEDAMRINPSAEMVMIDRMFNQEEASLTREKR 811
Macaca_mulatta    VDNEFETVATQLLKRTQAMLNKYRCLLIEDAMRINPSAEMVMIDRMFNQEEASLTREKR 811
Canis_lupus_familiaris VDSEFETVATQLLKRTQAMLNKYRCLLIEDAMRINPSAEMVMIDRMFNQEEASLTREKR 811
Equus_caballus    VDNEFETVATQLLKRTQAMLNKYRCLLIEDAMRINPSAEMVMIDRMFNQEEASLTREKR 811
Bos_taurus        VDSEFETVATQLLKRTQAMLNKYRCLLIEDAMRINPSAEMVMIDRMFNQEEASLTREKR 810
Heterocephalus_glaber VDSEFETVATQLLKRTQAMLNKYRCLLIEDAMRINPSAEMVMIDRMFNQEEASLTREKR 812
Rhinatrema_bivittatum VDNEFEVATQLLKRTQAMLNKYRWLLIEDAARINPSAEMVMIDRMFNQEEASLTREKR 806
Latimeria_chalumnae VDDEFEAVASQLLKRTQAMLNKYRLLEEAkraIPSAEMVMIDRMFNQEEASLTREKR 826
Xenopus_tropicalis VDNEFESASIHLLKKTQSMNLKYRLLLLEDAMRINPSAEVVMIDRMFNQEEASLTREKR 779
      .....790.....800.....810.....820.....830.....840

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      :.*:**.: :***: : ::: :
Pavo_muticus      LALVDPDGYQADFCCSAKQFDKTADEAQTSKSDHQSGKTLPSRSQTTTKTLARDRPKSSSA 873
Pavo_cristatus    LALVDPDGYQADFCCSAKQFDKTADEAQTSKSDHQSGKTLPSRSQTTTKTLARDRPKSSSA 873
Gallus_gallus     LALVDPDGYQADFCCSAKQFDKTADEAQTSKSDHQSGKTLPSRSQTTTKTLARDRPKSSSA 873
Chelonia_mydas    LALVDPDGYLADFCCSSKQFDETADEAQSSESDHQSKTLTSHSQPTKIQTDRDRPKSSSA 886
Mus_musculus      LALVDPEGFQADFCCSFK-LDEAVPETPLDRSDQHRSKT-SSLHQVPRAQSRDRAPKPGMA 866
Rattus_norvegicus LALVDPEGFQADFCCSFK-LDKAAHETQFGRSDQHGSKASSSLQPPAKAQRDRAKTGVTA 870
Homo_sapiens      LALVDPEGFQADFCCSFK-LDKAAHETQFGRSDQHGSKASSSLQPPAKAQRDRAKTGVTA 870
Pan_troglodytes   LALVDPEGFQADFCCSFK-LDKAAHETQFGRSDQHGSKASSSLQPPAKAQRDRAKTGVTA 870
Macaca_mulatta    LALVDPEGFQADFCCSFK-LDKAAHETQFGRSDQHGSKASSSPHPPAKAQRDRAKTGVTA 870
Canis_lupus_familiaris LALVDPEGFQADFCCSFK-LDKAAHETQFGRSDQHGSKASSSLQPPAKAQRDRAKTGVTA 870
Equus_caballus    LALVDPEGFQADFCCSFK-LDKAAHETQFGRSDQHGSKASSSLQPPAKAQRDRAKTGVTA 870
Bos_taurus        LALVDPEGFQADFCCSFK-LDKAAHEMDFGRSDQHGSKASSSLQPPAKAQRDRAKTGVTA 869
Heterocephalus_glaber LALVDPEGFQADFCCSFK-LDKAAHETQFGRSDQHGSKASSSLQPPAKAQRDRAKTGVTA 871
Rhinatrema_bivittatum FALIDPDSYQADFCCSSKFLEKTDKTFQSDSNHVSKKASTSPSWTIGLQ--DPTKSIITA 864
Latimeria_chalumnae LVLVDPDGYHADFFCCASKFLEKSTDEMCSAEPSSKTVIAVNQTKAALIQDRDGYNSIT 886
Xenopus_tropicalis FALVDPDGYLSEFCSSSKYQEESEMAETLLAELDVNSKTVANWCQNLRDK---KDRNDLIT 836
      .....850.....860.....870.....880.....890.....900

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# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep\_msa/GLTSA&ITLupsFeb 1 12:14:32 2022

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      :. . ** . *.: ..
Pavo_muticus      ESTNHSKLPVPNNILTSQEG--TAKKSESLTKALKFEKANCCSGSQCKALSEEKMAGKV 931
Pavo_cristatus    ESTNHSKLPVPNNILTSQEG--TAKKSESLTKALKFEKANCCSGSQCKALSEEKMAGKV 931
Gallus_gallus     ESTNHNKLPVPNNILTSQEG--TTKKSESLTKALKFEKANCCSGSQYKALSEEKMAGKV 931
Chelonia_mydas    ESTNHDKLHLPVPNNIMTQQEGKISTKKTESLTKALKFEKASCSPDSQYMAVSEEKLADKD 946
Mus_musculus      EATNHDQFHLVPNHIVVSAEGN-ISKKEGHSRTLKFDRGVLG---QYRGPPEDKGGRRD 922
Rattus_norvegicus EATNHDQFHLVPNHIVVSAEGN-ISKKEGHSRTLKFDRGVLG---QYRGPPEDKGGRRD 926
Homo_sapiens      EPMNHDQFHLVPNHIVVSAEGN-ISKKTECLGRALKFDKVLV---QYQSTSEEKASRRE 926
Pan_troglodytes   EPMNHDQFHLVPNHIVVSAEGN-ISKKTECLGRALKFDKVLV---QYQSTSEEKASRRE 926
Macaca_mulatta    ESMNHDQFHLVPNHIVVSAEGN-ISKKTECLGRALKFDKVLV---QYQSTSEEKASRRE 926
Canis_lupus_familiaris EPANHDQFHLVPNHIVVSAEGN-ISKKTECLGRALKFDKVLV---QYRGSTSEEKSSRRE 926
Equus_caballus    EPTNHDQFHLVPNHIVVSAEGN-ISKKTECLGRALKFDKAGLV---QYRSVSEEKASRRD 926
Bos_taurus        EPMNHDQFHLVPNHIVVSAEGN-ISKKTDCLGRALKFDKVGSA---QYRSASEEKTSSRD 925
Heterocephalus_glaber EPTNHDQFHPVPNHIVVSAEGN-ILKKSECLGQALKFDKAALA---QYRSMCDDKGSRRD 927
Rhinatrema_bivittatum DSTYNDRFNLVPPNNTATTHIVKGTAKTESLLKNVKVQKTSFSSSGSPHNM-ATIKQSVTE 923
Latimeria_chalumnae ESVDGDKPHSVPSDKKAKREKA-DCNKTDHHTDALLTDNPLPP-----GRVHGYSDDLKD 940
Xenopus_tropicalis ESSRNDIIGLVPDS-VTPQIPNAPSLKKEEVCKDKLKKIGVS-----PRK 881
      .....910.....920.....930.....940.....950.....960

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      . . : * . . .: .. :.
Pavo_muticus      LTKSAENSLSSSEDFSKSV-SRGNHGTHNKISRNTVQSFQSVTCNNSFKDKTLRSPPKNEV 990
Pavo_cristatus    LTKSAENSLSSSEDFSKSV-SRGNHGTHNKISRNTVQSFQSVTCNNSFKDKTLRSPPKNEV 990
Gallus_gallus     LSKSAENSLSSSEDFSKAV-SRGNHGTHNKISRNTVQSFQSVTCNNSFKDKTLRSPPKNEV 990
Chelonia_mydas    LAKTNENSSNSSEDLTKTL-SRANHGTGTH-KMSRNTVESHSEVICNNSLQDKTQSFPPKNEV 1004
Mus_musculus      PAKVSRCSPPGPEGHRKSL-PRPDHGSESKLPGVLASSHMEMPCLDSPQDKALRNSPKNEV 981
Rattus_norvegicus PAKASGCSPPGPEGHRKTL-PRPDHGSESKLPGILASSHMEMPCLDSPQDKALRNSPKNEV 985
Homo_sapiens      PLKASQCSPPGPEGHRKTS-SRSDHGTESKLSSILADSHLEMTCNNSFQDKSLRNSPKNEV 985
Pan_troglodytes   PLKASQCSPPGPEGHRKTS-SRSDHGTESKLSSILADSHLEMTCNNSFQDKSLRNSPKNEV 985
Macaca_mulatta    PLKASECSPGPEGHRKTS-SRSDHGTESKLSSILADSHLEMTCNNSFQDKSLRNSPKNEV 985
Canis_lupus_familiaris SVKAS--SPGPEGPRKAS-CRPDHGTESKLSSILVDSHLEMTCNNSFQDKTLRNSPKNEV 983
Equus_caballus    SMKGSSECSPPGPEGHRKTS-SRPDHGTESKLSSILVDSHLEMTCNNSFQDKTLRNSPKNEV 985
Bos_taurus        SAKGSECSPPGPEGHRKNS-SRPDHGPDSDLSSILVDSQLEMTCNNSFQDKTLRNSPKNEV 984
Heterocephalus_glaber ---PGKCSPPGPEGLRTL-SCPDHGAESKLSSILADSHLEMMCNNSFHDKALRNSPKNEV 983
Rhinatrema_bivittatum SSESNECPSSESDQLSRTLNRVDEDDGTDKVSQDITIKLNSDVSCNNSVQDKALRNSPKNEV 983
Latimeria_chalumnae TASTGSSSLVPEVLSERL-LREDRDTDNKILSNTVKCDSQLCKNALKNKPLENPPKKEL 999
Xenopus_tropicalis HQLGEGCRQHPLGLCKVS-EEEDNPKGPKRPKLISEGTMTGTAEEKCLQATTSGPSARNYN 940
      .....970.....980.....990.....1000.....1010.....1020

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      . : :. :. :. :. * *
Pavo_muticus      LHPDNMKGSSSEPQDQLLSKSLETTTFKNILELKKSGRPTONEASSSGSVDLEFPNFSPLA 1050
Pavo_cristatus    LHPDNMKGSSSEPQDQLLSKSLETTTFKNILELKKSGRPTONEASSSGSVDLEFPNFSPLA 1050
Gallus_gallus     LHPDNMKGSSSEPQDQLLSKSLETTTFKNILELKKSGRPTONEASSSGSVDLEFPNFSPLA 1050
Chelonia_mydas    LHPDNMKGSLGEPQDQLLSKSLETTTFKNILELKKSGRPTONEASSSGSVDLEFPNFSPLA 1064
Mus_musculus      LHTDIMKGSSEGPQDQLTKSLETTTFKNILELKNAGR-PPSDPTASGAADLDFPSFSPMA 1040
Rattus_norvegicus LHTDIMKGSSEGPQDQLTKSLETTTFKNILELKNAGR-PQNDPAASGAVDLDFPSFSPMA 1044
Homo_sapiens      LHTDIMKGSSEGPQDQLTKSLETTTFKNILELKKAGROPQSDPTVSGSVELDFPNFSPMA 1045
Pan_troglodytes   LHTDIMKGSSEGPQDQLTKSLETTTFKNILELKKAGROPQSDPTVSGSVELDFPNFSPMA 1045
Macaca_mulatta    LHTDIMKGSSEGPQDQLTKSLETTTFKNILELKKAGROPQSDPTVSGSVELDFPNFSPMA 1045
Canis_lupus_familiaris LHTDIMKGSSEGPQDQLTKSLETTTFKNILELKKAGROPQSDPTVSGSVELDFPNFSPMA 1043
Equus_caballus    LHTDIMKGSSEGPQDQLTKSLETTTFKNILELKKAGROPQSDPAVSGSVELDFPNFSPMA 1045
Bos_taurus        LHTDIMKGSSEGPQDQLTKSLETTTFKNILELKKAGROPQSDPTVSGSVELDFPNFSPMA 1044
Heterocephalus_glaber LHTDIMKGSSEGPQADLQLTKTLETTTFKNILELKKAGROPQSDLAGSGSVELDFPNFSPMA 1043
Rhinatrema_bivittatum LPTGIVKCTSELO-EVSLNKSLETTVNTILELKKIGGSSETETGNSARSSEYPHFS-SV 1041
Latimeria_chalumnae TDMDIEDIS-VPKQEEELLKEPLETAKSILELKKSQKPPGSEVSVNRSTELKSSNFSPSS 1058
Xenopus_tropicalis SSPSILGRS-----DPNVKSLIHSSKTNVLDQKLTEKHLENKPGGSSRQTKFLKSSPTA 995
      .....1030.....1040.....1050.....1060.....1070.....1080

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# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep\_msa/GLTISGLT1Lups Feb 1 12:14:32 2022

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*::: ::* ..* *. ****:*****
Pavo_muticus      SQENCLEKFIPDHSEG-VETDSILEAAVNSILEC 1083
Pavo_cristatus    SQENCLEKFIPDHSEG-VETDSILEAAVNSILEC 1083
Gallus_gallus     SQENCLEKFIPDHSEG-VETDSVLEAAVNSILEC 1083
Chelonia_mydas    SQENCLEKFIPDHSEGVVETDSILEAAVNSILEC 1098
Mus_musculus      SQENCLEKFIPDHSEGVVETDSILEAAVNSILEC 1074
Rattus_norvegicus SQENCLEKFIPDHSEGVVETDSILEAAVNSILEC 1078
Homo_sapiens      SQENCLEKFIPDHSEGVVETDSILEAAVNSILEC 1079
Pan_troglodytes   SQENCLEKFIPDHSEGVVETDSILEAAVNSILEC 1079
Macaca_mulatta    SQENCLEKFIPDHSEGVVETDSILEAAVNSILEC 1079
Canis_lupus_familiaris SQENCLEKFIPDHSEGIVETDSILEAAVNSILEC 1077
Equus_caballus    SQENCLEKFIPDHSEGVVETDSILEAAVNSILEC 1079
Bos_taurus        SQENCLEKFIPDHSEGVVETDSILEAAVNSILEC 1078
Heterocephalus_glaber SQENCLEKFIPDHSEGVVETDSILEAAVNSILEC 1077
Rhinatrema_bivittatum SQDNCLEKCVSDHNEGIVETDSILEAAVNSILEC 1075
Latimeria_chalumnae SQESCLEKIIPDHNEGVVETDSVLEAAVNSILEC 1092
Xenopus_tropicalis SNENFVDKRFSDTRESVSETDSVLEAAVNSILEC 1029
.....1090.....1100.....1110.....
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