

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/RTEDates Tue Feb 1 14:28:13 2022

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Mus_musculus	M P R V V L N G V T V D F P F Q P Y P C Q	-----	Q E Y M T K V L E C L Q K K V N G I L E S P T G T G K T	49
Rattus_norvegicus	M P R V V L N G V T V D F P F Q P Y P C Q	-----	Q E Y M T K V L E C L Q K K V N G I L E S P T G T G K T	49
Homo_sapiens	M P K I V L N G V T V D F P F Q P Y K C Q	-----	Q E Y M T K V L E C L Q K K V N G I L E S P T G T G K T	49
Macaca_mulatta	M P K I V L N G V T I D F P F Q P Y K C Q	-----	Q E Y M T K V L E C L Q K K V N G I L E S P T G T G K T	49
Callithrix_jacchus	M A L S P P D N A V C F L E V L P T G C R G L S P G G L C S L T	-----	T S S W L P H N P C S Q L Q K V N G I L E S P T G T G K T	60
Bos_taurus	M P K I T L K G V T V D F P F Q P Y K C Q	-----	E E Y M S K V L E C L Q E K V N G I L E S P T G T G K T	49
Equus_caballus	M P K I T L N G V T V D F P F Q P Y K C Q	-----	E E Y M T K V L E C L Q K K V N G V L E S P T G T G K T	49
Pavo_muticus	M P R I T L R G V T V D F P F Q P Y E C Q	-----	E T Y M A K V L E C L Q T K V N G I L E S P T G T G K T	49
Pavo_cristatus	M P R I T L R G V T V D F P F Q P Y E C Q	-----	E T Y M A K V L E C L Q T K V N G I L E S P T G T G K T	49
Gallus_gallus	M P R V T L R G V T V D F P F Q P Y E C Q	-----	E T Y M A K V L E C L Q T K V N G I L E S P T G T G K T	49
Chelonia_mydas	M P K I T L N G I A V D F P F Q P Y R C Q	-----	E E Y M T K V L E C L Q K K V N G I L E S P T G T G K T	49
Rhinatrema_bivittatum	M P R I A V A G L Q V D F P F P P Y K C Q	-----	E D Y M S K V I Q C L Q K K V N G I L E S P T G T G K T	49
Xenopus_tropicalis	M P Q V P V A G L T V D F P F Q P Y K C Q	-----	E D Y M G K V I Q C L Q Q G V N G V L E S P T G T G K T	49
	1.....10.....20.....30.....40.....50.....60			

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Mus_musculus	LCLLCSTLAWQOHLRDAVSLKIAERVQGLFASRTLSSWGSAAAASG-DSIECYTDIP	107
Rattus_norvegicus	LCLLCSTLAWREHLRDAVSLKIAERVQGLFASRTLSSWRSAADANG-DSIDCYTDIP	107
Homo_sapiens	LCLLCSTLAWREHLRDGISARKIAERAQGLFLFDRLALSSWGNAAAAAG-DPIACYTDIP	107
Macaca_mulatta	LCLLCSTLAWREHLRDTISARKIAERVQGLFLFPNQALSSWGNAAAAAE-DPIACYTDIP	107
Callithrix_jacchus	LCLLCSTLAWREHLRDTISARKIAERLQGLFLFPDRALSSWGSAAAAADGDPACIYTDVP	119
Bos_taurus	LCLLCSTLAWREHLRDAVSARRIAERASGLFLFPDRTLASWGNAIPEGD--VPACYTDIP	106
Equus_caballus	LCLLCSTLAWREHLHDAISARKIAARAQGLFLFPDRALSSWGNAAASDGDGDNTIACYTDIP	108
Pavo_muticus	LCLLCSTLAWREHFKDTISARKIAQRMNGVELFPDRPMSSWG--NAATDGDIPITYYTDIP	107
Pavo_cristatus	LCLLCSTLAWREHFKDTISARKIAQRMNGVELFPDRPMSSWG--NAATDGDIPITYYTDIP	107
Gallus_gallus	LCLLCSTLAWREHFKDTISARKIAQRMNGVELFPDRPMSSWG--NAATDGDIPITYYTDIP	107
Chelonia_mydas	LCLLCATLAWREHFKDTISEWKIAQRMNGVELFPDRPMSSWG--DAGKDAEIPAYYTDVP	107
Rhinatrema_bivittatum	LCLLCSTLAWREHFKDISARKIAERMTGVLEFPDRPMSSWG--SSATD-EASAYYTDVP	106
Xenopus_tropicalis	LCLLCATLAWRQHYKDGISARKIAERMNGAELFPERPAAAWG--GASAEQASAYYSDVP	107
70.....80.....90.....100.....110.....120	

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Mus_musculus	KIIYASRTHSQLTQVIRELRNTAYRPKVCVLGSREQLCIHPEVKKQESNHMQISLCRKKV	167
Rattus_norvegicus	KIIYASRTHSQLTQVIGELRNTSYRPKVCVLGSREQLCIHPEVKKQESNHMQISLCRKKV	167
Homo_sapiens	KIIYASRTHSQLTQVINELRNTSYRPKVCVLGSREQLCIHPEVKKQESNHQLIHLCRKKV	167
Macaca_mulatta	KIIYASRTHSQLTQVINELRNTSYRPKVCVLGSREQLCIHPEVKKQESNHMQIHLCRKKV	167
Callithrix_jacchus	KIIYASRTHSQLTQVISELRNTSYRPKVCVLGSREQLCIHPEVKKQESNHMQIHLCRKKV	179
Bos_taurus	KIIYASRTHSQLTQVISELRNTSYRPKVCVLGSREQLCIHPEVKKQESNHMQVHLCRKKV	166
Equus_caballus	KIIYASRTHSQLTQVISELRNTSYRPKVCVLGSREQLCIHPEVKKQESNHMQIHLCRKKV	168
Pavo_muticus	KIIYASRTHSQLTQVINELKNTVYRPKICVLGSREQLCINPEVKRQETNHMQIYMCRRKV	167
Pavo_cristatus	KIIYASRTHSQLTQVINELKNTVYRPKICVLGSREQLCINPEVKRQETNHMQIYMCRRKV	167
Gallus_gallus	KIIYASRTHSQLTQVINELKNTVYRPKICVLGSREQLCINPEVKRQESNHMQIYMCRRKV	167
Chelonia_mydas	KIIYASRTHSQLTQVISELKSTVYRPKVCVLGSREQLCINPEVKRQESNHMQIHMCRMKV	167
Rhinatrema_bivittatum	KIIYASRTHSQLSQVISELKSTSYRPKVCVLGSRDQLCIHPEVKKQESHGKIHMCRRAK	166
Xenopus_tropicalis	KIIYASRTHSQLTQVISELKHTVYRPKVCVLGSREQLCIHPEVKKQESNHAKVHMCRRKV	167
130.....140.....150.....160.....170.....180	

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Mus_musculus	ASRSCHFYNVNEAKFLEQDLATPILDIEDLVKNGSKQKMCPPYLSRNMKQQADIIFMPYN	227
Rattus_norvegicus	ASRSCHFYNVNEEKSLEQELATPILDIEDLVKNGSKHKVCPYYSRLNKQQADIIFMPYN	227
Homo_sapiens	ASRSCHFYNVNEEKSLEQELASPILDIEDLVKSGSKHRVCPYYSRLNKQQADIIFMPYN	227
Macaca_mulatta	ASRSCHFYNVNEEKGLEQELASPILDIEDLVKSGSKHRVCPYYSRLNKQQADIVFMPYN	227
Callithrix_jacchus	ASHSCHFYNNVEEKSLEQELTSPILDIEDLVKSGSRHRVCPYYSRLNKQQADIIFMPYN	239
Bos_taurus	ASRSCHFYNVNEEKSLEQELATPILDIEDLVRSGETKHKLCPPYYSRLNKQQADIIFMPYN	226
Equus_caballus	ASRSCHFYNVNEEKSLEQELAAPILDIEDLVKSGNRHKLCPYYSRLNKQQADIIFMPYN	228
Pavo_muticus	MARACHFYNNVEEKSTEKELMDSIMDIEDLVKNGSKHRACPPYLSRSLKQQADIIFMPYN	227
Pavo_cristatus	MARACHFYNNVEEKSTEKELMDSIMDIEDLVKNGSKHRACPPYLSRSLKQQADIIFMPYN	227
Gallus_gallus	MARACHFYNNVEEKSTEKGLMDSIMDIEDLVKNGSKHRACPPYLSRSLKQQADIIFMPYN	227
Chelonia_mydas	MARTCHFYNVNEEKSTEKELTNSILDIEDLVKNGNKHVCPYYSRSLKQQADIIFMPYN	227
Rhinatrema_bivittatum	ATRSCHFYNVNEEKSTDRDLATSILDIEDLVQTSKHRVCPYYLARALKQQAEIIFMPYN	226
Xenopus_tropicalis	STRTCHFYNVNEEKSTEKDLTNHILDIEDLVKSGTKHRACPPYLSRNLKQQADIIFMPYN	227
190.....200.....210.....220.....230.....240	

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Mus_musculus      YLLDAKSRKAHSIDLKGTVVVFDEAHNVEKICEESASFDLTPRDVASGLEIINQVLEEQA 287
Rattus_norvegicus YLLDAKSRKAHNIDLKGTVVVFDEAHNVEKICEESASFDLTPRDVASGLEVINQVLEEQA 287
Homo_sapiens      YLLDAKSRRAHNIDLKGTVVVFDEAHNVEKMCEESASFDLTPHDLASGLDVIDQVLEEQT 287
Macaca_mulatta    YLLDAKSRRAHSIDLKGTVVVFDEAHNVEKMCEESASFDLTPHDLASGLDVIDQVLEEQT 287
Callithrix_jacchus YLLDAKSRRAHSIDLKGTVVILDEAHNVEKICEESASFDLTPQDLASGLDVIDRVLEEQT 299
Bos_taurus        YLLDAKSRRAHGIDLKGTVVVFDEAHNVEKMCEEAASFDLTPHDLASGLDVIDQVLEERT 286
Equus_caballus    YLLDAKSRRAHSIDLKGTVVVFDEAHNVEKMCEESASFDLTPHDLASGLDVIDQVLEEQT 288
Pavo_muticus      YLLDAKSRRAHNIELKGTVIIIDEAHNVERLCEESSFDLTAYDLASDAIDVINVLEEQA 287
Pavo_cristatus    YLLDAKSRRAHNIELKGTVIIIDEAHNVERLCEESSFDLTAYDLASDAIDVINVLEEQA 287
Gallus_gallus     YLLDAKSRRAHNIELKGTVVILDEAHNVERLCEESSFDLTAYDLASDAIDVINVLEEQA 287
Chelonia_mydas    YLLDSKSRRAHNIDLKGTVVILDEAHNVEKLCEESSFDLTPYDLASAMDAINVVLEEQA 287
Rhinatrema_bivittatum YLLDPKSRRAHSIDLKGMVVVFDEAHNVERMCEESASFDLTPYDLASGIDAINVLEEQA 286
Xenopus_tropicalis YLLDPKSRRAHNIDLKGTVVVFDEAHNVERMCEESSFDLTPYDLASGIDAMDVLVKEQM 287
.....250.....260.....270.....280.....290.....300

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Mus_musculus      RVTQQGELQQEFIVDTISSSGLNMELEDIAKLKMIILLRLEEIDAVALPGDDRGVTKPG-- 345
Rattus_norvegicus RVAQHGEHQEFIIIDTISSSGLNMELEDIAKLKMIILLRLEEIDAVALPGDDRGVTKPG-- 345
Homo_sapiens      KAAQQGEPHPPEFSADSPSPGLNMELEDIAKLKMIILLRLEGAIDAVELPGDDSGVTKPG-- 345
Macaca_mulatta    KTVQLGEPHPPEFSTDSPSPGLNMELEDIAKLKMIILLRLEGAIDAVELPGDDRGVTKPG-- 345
Callithrix_jacchus KAAQQGEPHPPEFSADTPSSGLNMELEDIAKLKMIILLRLEGAIDAIELPGDNSGVTKPG-- 357
Bos_taurus        KVAQQAEHLHPEFSADSAGSGLNLEPEDLAKLKMIILLRLEGAIDAVELPGDNSGVTKPGSA 346
Equus_caballus    KVAQQGDLLEFSADSSSSGLNMELEDIAKLKMIILLRLEGAIDAVELPGDDNGVTKPG-- 346
Pavo_muticus      KVVORNEVNAEFNMESISSGLNMELEDIAKIKKILLQLESIDAVALPNDSGVTKDGD-- 345
Pavo_cristatus    KVVORNEVNAEFNMESISSGLNMELEDIAKIKKILLQLESIDAVALPNDSGVTKDGD-- 345
Gallus_gallus     KVVQONEVNAEFNMESISSGLNMELEDIAKIKKILLQLESIDAVALPNDSGVTKDGD-- 345
Chelonia_mydas    KVVQONEIHAEFNMEFASSGLSMELEDIAKIKRILLQLENAIDAVQLPANGNGVTKEG-- 345
Rhinatrema_bivittatum KSMECIDPHADVGMDSAGSGLNMQLEDIAKIKRILLQLESIDAVALPGSGNGLTKEG-- 344
Xenopus_tropicalis ENVEQKRYQAEFNMDSQSSGLTLELEDLAKVKAALMQLENSIESTQLPPGGGGVTKVKG-- 345
.....310.....320.....330.....340.....350.....360

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Mus_musculus      -----SYIFELFAEAQITFQTKGCILESLDQIIQHLAGRTG-VFTNTAGLQKLMDIIQ- 397
Rattus_norvegicus -----SYIFELFAEAQITFQTKGCILESLDQIIQHLTGRTG-VFTNTAGLQKLMDIIQ- 397
Homo_sapiens      -----SYIFELFAEAQITFQTKGCILDSDLQIIQHLAGRAG-VFTNTAGLQKLADIQ- 397
Macaca_mulatta    -----SYIFELFAEARITFQTKGCILDSDLQIIQHLAGRAG-VFTNTAGLQKLADIQ- 397
Callithrix_jacchus -----SYIFELFAEAQLITFQTKGCILDSDLQIIQHLAGRAG-VFTNTAGLQKLADIQV 410
Bos_taurus        EPPLSHSYIFELFAEAQITFQTKGCILDSDLQIIQHLAGRAG-LFTNTAGLQKLVDIIQ- 404
Equus_caballus    -----SYIFELFAEAQITFQTKGCILDSDLQIIQHLAGRAG-LFTNTAGLQKLADIQ- 398
Pavo_muticus      -----SYIFELFAKAQITFQTKASLLESLEQILQFLSGRTG-IFINTSGLHKLSDIIQ- 397
Pavo_cristatus    -----SYIFELFAKAQITFQTKASLLESLEQILQFLSGRTG-IFINTSGLHKLSDIIQ- 397
Gallus_gallus     -----SYIFELFAQAQITFQTKSLLLESLDQIIQFLSGRTG-IFINTSGLHKLSDIIQ- 397
Chelonia_mydas    -----SYIFDLFAEAQITFQTKSLLLESLEQIEQFLSGRTG-IFTNTAGLHKLSDIIQ- 397
Rhinatrema_bivittatum -----SFIFDLFAEAQITFRTKSAMLESLEQVTQYLGGGTTRRMFNNTVGLQKLMDIIQ- 397
Xenopus_tropicalis -----SYIFQLFAASGITFDTKAKLLESLEQIIQHVGSSG-IFTNTMGLQKLADIQ- 397
.....370.....380.....390.....400.....410.....420

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Mus_musculus      -----IVFSVDPPEGSPGSLVGLGISHSYKVVIH 426
Rattus_norvegicus -----IVFSVDPLEGSPGSQLGLSSHFYKVVIH 426
Homo_sapiens      -----IVFSVDPSEGPSGSPAGLGALQSYKVVIH 426
Macaca_mulatta    -----IVFSVDPSEGSRCSPAGLGALQSYKVVIH 426
Callithrix_jacchus DLLPCPRWVAEHLQHMARPGSPAAPGPRGIVFSVDPSEFGPDFLEGLGALRSYKVVIH 470
Bos_taurus        -----IVFSVDSAEGDPGPMMG-LASQSYKVVIH 432
Equus_caballus    -----IVFSMDPAEGGPSMVGPGVSQSYKVVIH 427
Pavo_muticus      -----TVFSIEPPEGTASFVPPQISRCYKVVIH 426
Pavo_cristatus    -----TVFSIEPPEGTASFVPPQISRCYKVVIH 426
Gallus_gallus     -----TVFNIDPPEGTTSFVPPQISRYKVVIH 426
Chelonia_mydas    -----IVFNIDPPEGTSSSMPVQSISKYKVVIH 426
Rhinatrema_bivittatum -----TVFSTEPEEGAPSSSTVGRTASKHYRVVIH 426
Xenopus_tropicalis -----IVFSMEPPEGANVSFNFQNIISKYKVVIH 426
.....430.....440.....450.....460.....470.....480

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Mus_musculus	PETSHRRA-AKRSDAWSTTASRKQGVLSYWCFSQSMRELVCQGVRTLILTSGLAPL	485
Rattus_norvegicus	PETSHRRA-AQRSDAWSTTASRKQGVLSYWCFSQSPGSMRELVCQGVRTLILTSGLAPL	485
Homo_sapiens	PDAGHRRT-AQRSDAWSTTAARKRGKVLSYWCFSQSPGSMHRELVRQGVRSILTSGLAPV	485
Macaca_mulatta	PDAGHRRT-AQRSDAWSTTAARKRGKVLSYWCFSQSPGSMRELVRQGVRSILTSGLAPV	485
Callithrix_jacchus	HDAGHWRA-AQQSDAWSTTAARKPGKVLSYWCFSQSPGSMRELVRQGVRTLILTSGLAPV	529
Bos_taurus	LDAGHRRT-AQRSDVWNTTAARKPGKVLSYWCFSQSPGSMRELVRQGVRTLILTSGLAPM	491
Equus_caballus	PDTSHRRT-AQRSDAWSTSAARKQGVLSYWCFSQSPGSMRELVRQGVRTLILTSGLAPV	486
Pavo_muticus	LDNSNQKKRKDRDTLWDSSAAKKQKTLSYWCFSQSPGSMHRELVRQGVRTIILTSGLSPL	486
Pavo_cristatus	LDNSNQKKRKDRDTLWDSSAAKKQKTLSYWCFSQSPGSMHRELVRQGVRTIILTSGLSPL	486
Gallus_gallus	LDNSNQKKKKERTDLWDSSAAKKQKTLSYWCFSQSPGSMHRELVRQGVRTIILTSGLSPL	486
Chelonia_mydas	MDTSNQKK-TQRTDLWSSSVTKKEGKILSYWCFSQSPGSMHRELVRQGVRTIILTSGLSPL	485
Rhinatrema_bivittatum	QDTSQQRK-KPKVDLWSSAVTKKAGKTLSYWCFSQSPGSMQELVRQGVRTIILTSGLSPL	485
Xenopus_tropicalis	PDTNQRRK--PRGDVWSNSK-KQGGKVLSYWCFSQSPGYTMHDLVRQGVRCVILTSGLCPL	483
490.....500.....510.....520.....530.....540	

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Mus_musculus	SSFALEMQIPFPVCLENPHIIDKNQLWVGIVPRGPDGVQLSSAYDKRFS EECLSSLGKAL	545
Rattus_norvegicus	SSFALEMQIPFPVCLENPHIIDKNQLWVGVI PRGPDGVQLSSAYDKRFS EECLSSLGKAL	545
Homo_sapiens	SSFALEMQIPFPVCLENPHIIDKHQLIWGVVPRGPDGAQLSSAFDRRFSEEC LSSLGKAL	545
Macaca_mulatta	SSFALEMQIPFPVCLENPHIIDKHQLIWGVVPRGPDGAQLSSAFDRRFSEEC LSSLGKAL	545
Callithrix_jacchus	SSFALEMQIPFPVCLENPHIIDKHQLIWGVVPRGPDGAQLSSAFDRRFSEEC LSSLGKAL	589
Bos_taurus	ASFSLEMQIPFPVCLENPHVINQHQLIWGVVIPKGPDGAQLSSAFDRRFSD ECLSSLGKVL	551
Equus_caballus	SSFALEMQIPFPVCLENPHVIDKHQLIWGVVPKGPDGAQLSSAFDKRFS D T CLASLGKAL	546
Pavo_muticus	SSFTMEMQIPFVLLLENPHVIDKRQLWVGII PKGPDGAVLNSAYERRFSE DY L SSLGKTI	546
Pavo_cristatus	SSFTMEMQIPFVLLLENPHVIDKRQLWVGII PKGPDGAVLNSAYERRFSE DY L SSLGKTI	546
Gallus_gallus	SSFTMEMQIPFVLLLENPHVIDKRQLWVGII PKGPDGTVLNSAYERRFSE DY L SSLGKTI	546
Chelonia_mydas	SSFTMEMQIPFPVCLENPHVIDKQLIWVGII PKGPDGGLLSSTYEKRFSVE C L SSLGKTI	545
Rhinatrema_bivittatum	SSFAMEMQIPFPVSLENPHVIDKHQLIWGVIPKGPDGVLLSSAYEKRF T V E Y M S S LGKTI	545
Xenopus_tropicalis	SSFTMEMQIPFPVSLENPHVIDKHQLIWGVIPRGPDGS LSSSYDRRFSE E Y L S S LGKTI	543
550.....560.....570.....580.....590.....600	

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Mus_musculus	SN ¹ IA ² RV ³ VP ⁴ HG ⁵ LL ⁶ VFF ⁷ PS ⁸ YP ⁹ VM ¹⁰ EK ¹¹ SL ¹² EF ¹³ W ¹⁴ Q ¹⁵ GL ¹⁶ AR ¹⁷ K ¹⁸ VE ¹⁹ AL ²⁰ K ²¹ PL ²² FVE ²³ PR ²⁴ NK ²⁵ GS ²⁶ FS ²⁷ EVI ²⁸ DAY ²⁹	605
Rattus_norvegicus	GN ¹ IA ² RV ³ VP ⁴ HG ⁵ LL ⁶ VFF ⁷ PS ⁸ YP ⁹ VM ¹⁰ EK ¹¹ SL ¹² EF ¹³ W ¹⁴ Q ¹⁵ AG ¹⁶ MS ¹⁷ KK ¹⁸ VE ¹⁹ AL ²⁰ K ²¹ PL ²² FVE ²³ PR ²⁴ NK ²⁵ GS ²⁶ FS ²⁷ EVI ²⁸ DAY ²⁹	605
Homo_sapiens	GN ¹ IA ² RV ³ VP ⁴ YGL ⁵ L ⁶ IFF ⁷ PS ⁸ YP ⁹ VM ¹⁰ EK ¹¹ SL ¹² EF ¹³ WR ¹⁴ AR ¹⁵ D ¹⁶ L ¹⁷ AR ¹⁸ KE ¹⁹ AL ²⁰ K ²¹ PL ²² FVE ²³ PR ²⁴ SK ²⁵ GS ²⁶ FS ²⁷ ETI ²⁸ SAY ²⁹	605
Macaca_mulatta	GN ¹ IA ² RV ³ VP ⁴ YGL ⁵ L ⁶ IFF ⁷ PS ⁸ YP ⁹ VM ¹⁰ EK ¹¹ SL ¹² EF ¹³ WR ¹⁴ AR ¹⁵ D ¹⁶ L ¹⁷ AR ¹⁸ KE ¹⁹ AL ²⁰ K ²¹ PL ²² FVE ²³ PR ²⁴ SK ²⁵ GS ²⁶ FS ²⁷ ETI ²⁸ SAY ²⁹	605
Callithrix_jacchus	GN ¹ IA ² RV ³ VP ⁴ YGL ⁵ LL ⁶ VFF ⁷ PS ⁸ YP ⁹ VM ¹⁰ EK ¹¹ SL ¹² EF ¹³ WR ¹⁴ AR ¹⁵ D ¹⁶ F ¹⁷ AR ¹⁸ K ¹⁹ IE ²⁰ AL ²¹ K ²² PL ²³ FVE ²⁴ PR ²⁵ SK ²⁶ GS ²⁷ FS ²⁸ ETI ²⁹ SAY ³⁰	649
Bos_taurus	SN ¹ IS ² RV ³ VP ⁴ HG ⁵ LL ⁶ VFF ⁷ PS ⁸ YP ⁹ VM ¹⁰ EK ¹¹ SL ¹² EF ¹³ WR ¹⁴ AR ¹⁵ D ¹⁶ FT ¹⁷ R ¹⁸ K ¹⁹ LE ²⁰ VR ²¹ K ²² PL ²³ FVE ²⁴ PR ²⁵ SK ²⁶ GG ²⁷ FS ²⁸ EV ²⁹ ME ³⁰ AF ³¹	611
Equus_caballus	GN ¹ IA ² RV ³ VP ⁴ HG ⁵ LL ⁶ VFF ⁷ PS ⁸ YP ⁹ VM ¹⁰ EK ¹¹ SL ¹² EF ¹³ WR ¹⁴ AQ ¹⁵ D ¹⁶ F ¹⁷ AR ¹⁸ K ¹⁹ LE ²⁰ AL ²¹ K ²² PV ²³ FVE ²⁴ PR ²⁵ SK ²⁶ GG ²⁷ LS ²⁸ EV ²⁹ MD ³⁰ AY ³¹	606
Pavo_muticus	GN ¹ LVR ² VP ³ PH ⁴ GL ⁵ LVFF ⁶ PS ⁷ YP ⁸ VM ⁹ DK ¹⁰ SL ¹¹ EY ¹² WR ¹³ EH ¹⁴ DF ¹⁵ AK ¹⁶ RI ¹⁷ EE ¹⁸ VK ¹⁹ PM ²⁰ FVE ²¹ PR ²² NK ²³ GS ²⁴ SFA ²⁵ EV ²⁶ MD ²⁷ AY ²⁸	606
Pavo_cristatus	GN ¹ LVR ² VP ³ PH ⁴ GL ⁵ LVFF ⁶ PS ⁷ YP ⁸ VM ⁹ DK ¹⁰ SL ¹¹ EY ¹² WR ¹³ EH ¹⁴ DF ¹⁵ AK ¹⁶ RI ¹⁷ EE ¹⁸ VK ¹⁹ PM ²⁰ FVE ²¹ PR ²² NK ²³ GS ²⁴ SFA ²⁵ EV ²⁶ MD ²⁷ AY ²⁸	606
Gallus_gallus	GN ¹ LVR ² VP ³ PH ⁴ GL ⁵ LVFF ⁶ PS ⁷ YP ⁸ VM ⁹ DK ¹⁰ SL ¹¹ EY ¹² WR ¹³ EH ¹⁴ DF ¹⁵ AK ¹⁶ RI ¹⁷ EE ¹⁸ VK ¹⁹ PM ²⁰ FVE ²¹ PR ²² NK ²³ GS ²⁴ SFA ²⁵ EV ²⁶ MD ²⁷ AY ²⁸	606
Chelonia_mydas	GN ¹ LVR ² I ³ IP ⁴ HG ⁵ LL ⁶ VFF ⁷ PS ⁸ YP ⁹ VM ¹⁰ EK ¹¹ SL ¹² DY ¹³ WR ¹⁴ EH ¹⁵ DF ¹⁶ AK ¹⁷ RI ¹⁸ EE ¹⁹ VK ²⁰ PM ²¹ FVE ²² PR ²³ NK ²⁴ GT ²⁵ IF ²⁶ TEI ²⁷ MD ²⁸ AY ²⁹	605
Rhinatrema_bivittatum	GN ¹ ICRV ² VP ³ PH ⁴ GL ⁵ LVFF ⁶ PS ⁷ YP ⁸ VM ⁹ DK ¹⁰ SL ¹¹ EH ¹² WR ¹³ DH ¹⁴ GF ¹⁵ SCR ¹⁶ LED ¹⁷ VK ¹⁸ PM ¹⁹ FVE ²⁰ PK ²¹ GG ²² KN ²³ FT ²⁴ EI ²⁵ MD ²⁶ AY ²⁷	605
Xenopus_tropicalis	GN ¹ IA ² RV ³ VP ⁴ HG ⁵ LL ⁶ VFF ⁷ PS ⁸ YP ⁹ VL ¹⁰ DK ¹¹ SL ¹² EF ¹³ WK ¹⁴ ER ¹⁵ GL ¹⁶ SA ¹⁷ KI ¹⁸ DD ¹⁹ VK ²⁰ PM ²¹ FVE ²² PR ²³ KG ²⁴ SF ²⁵ TEI ²⁶ MD ²⁷ AY ²⁸	603
	.....610.....620.....630.....640.....650.....660	

	*	.	..	**	*****	*****	:	*	*****	:	****	:	***	:	*****	:	*
Mus_musculus	YQQVAS	PAS	NGATFLAVCRGKASEGLDFSDMNGRGVIVTGLPYPPRMDPRVVVKMQFLDE	665													
Rattus_norvegicus	YQQVAS	PGS	NGATFLAVCRGKASEGLDFSDMNGRGVIVTGLPYPPRMDPRVILKMQFLDE	665													
Homo_sapiens	YARVAAP	GS	TGATFLAVCRGKASEGLDFSDTNGRGVIVTGLPYPPRMDPRVVVKMQFLDE	665													
Macaca_mulatta	YARVAAP	GS	TGATFLAVCRGKASEGLDFSDTNGRGVIVTGLPYPPRMDPRVVVKMQFLDE	665													
Callithrix_jacchus	YERVTS	PGS	TGAFLAVCRGKASEGLDFSDTNGRGVIVTGLPYPPRMDPRVVVKMQFLDE	709													
Bos_taurus	YARVAAP	ESS	GAIFLAVCRGKASEGLDFADVNGRGVIVTGLPYPPRMDPRVLLKMQFLDE	671													
Equus_caballus	YSTVAS	PGAS	GAVFLAVCRGKVS EGLDFADTNGRGVIVTGLPYPPRMDPRVVVKMQFLDE	666													
Pavo_muticus	YGKIA	CPKS	NGAAFLAVCRGKASEGLDFADINRGVITGLPFPFRWEPRVVVKMQFLNE	666													
Pavo_cristatus	YGKIA	CPKS	NGAAFLAVCRGKASEGLDFADINRGVITGLPFPFRWEPRVVVKMQFLNE	666													
Gallus_gallus	YSKIA	CPKS	NGAAFLAVCRGKASEGLDFADMNGRGVITGLPFPFRWEPRVVVKMQFLNE	666													
Chelonia_mydas	YDKIV	CPKS	SGATFLAVCRGKASEGLDFADMNGRGVITGLPFPFRMEPRVVVKMQFLDE	665													
Rhinatrema_bivittatum	YKKNL	CNK	SGAMFLAVCRGKASEGLDFADMNGRGVITGLPFPFRMDPRVVVKMQFLDE	665													
Xenopus_tropicalis	YEKIR	SANGS	GAFLAVCRGKASEGLDFADNNGRGVITGLPFPFRMDPRVVVKMQFLDE	663													
670.....680.....690.....700.....710.....720																

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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*:
***:***.*****:****:****.*
Mus_musculus      MRGRSGVGG-----OCLSGQEWYQQQASRAVNQAIGRVIRHRHDYGAIFLCDHRFAY 717
Rattus_norvegicus MKGRSRVGG-----OCLSGQEWYQQQASRAVNQAIGRVIRHRHDYGAIFLCDHRFAY 717
Homo_sapiens      MKGQGGAGG-----OFLSGQEWYRQQASRAVNQAIGRVIRHRQDYGAVFLCDHRFAF 717
Macaca_mulatta    MKGQGGAGG-----OFLSGQEWYRQQASRAVNQAIGRVIRHRQDYGAVFLCDHRFAF 717
Callithrix_jacchus MKGQGGAGG-----OFLSGQEWYRQQASRAVNQAIGRVIRHRQDYGAVFLCDHRFAF 761
Bos_taurus       MKAQSGAGG-----OFLSGHDWYRQQASRAVNQAIGRVIRHRHDYGAIFLCDHRFAH 723
Equus_caballus    MKGQGGAGG-----OFLSGRDWYRQQASRAVNQAIGRVIRHRHDYGAIFLCDHRFSY 718
Pavo_muticus      MKKSSMGAQ-----YLSGHWYNQOASRAVNQAIGRVIRHRQDYGAIFLCDDRFTT 717
Pavo_cristatus    MKKSSMGAQ-----YLSGHWYNQOASRAVNQAIGRVIRHRQDYGAIFLCDDRFTT 717
Gallus_gallus     MKKSSMGAQ-----CLSGHWYNQOASRAVNQAIGRVIRHRQDYGAIFLCDDRFTT 717
Chelonia_mydas    MKRQSGAQGSQWLFNNMYSLSGREWYRQQASRAVNQAIGRVIRHRQDYGAIFLCDHRFVN 725
Rhinatrema_bivittatum MRGKHDGRK-----OYLSGQEWYRQQASRAVNQAIGRVIRHRHDYGAIFLCDHRFMH 717
Xenopus_tropicalis MRSQGSAG-----LYLSGQEWYRQQASRAVNQAIGRVIRHRNDYGAIFLCDHRFNQ 715
.....730.....740.....750.....760.....770.....780

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Mus_musculus      ADARAQLPSWVRPYLKVYDNFGHVIRDVAOFFRVAQKTMPLP----- 759
Rattus_norvegicus ADARAHLPSWVRPYLKVYDNFGHVIRDVAOFFRVAQKAMLP----- 759
Homo_sapiens      ADARAQLPSWVRPHVRVYDNFGHVIRDVAOFFRVAERTMPAP----- 759
Macaca_mulatta    ADARAQLPSWVRPHVRVYDNFGHVIRDVAOFFRVAERTMPAP----- 759
Callithrix_jacchus ADARAQLPSWVRPHVRVYNNFGHVIRDVVOFFRVAERTMPAP----- 803
Bos_taurus       ADTRAQLPSWVRPHVKVYDSFGHVIRDVAOFFRVAQKTMPEP----- 765
Equus_caballus    ADARAQLPSWVRPHVKVYDGFHVIRDVAOFFRVAQKTMPP----- 760
Pavo_muticus      DNVRGKLPSWVRPYVNIYDNFGHAVRSVSFFRVAQEIMPP-----PV 760
Pavo_cristatus    DNVRGKLPSWVRPYVNIYDNFGHAVRSVSFFRVAQEIMPP-----PV 760
Gallus_gallus     DNVRGKLPSWVRPYVNIYDNFGHAVRSVSFFRVAQEIMPP-----PV 760
Chelonia_mydas    NDVRSQLPWVRPYVKVYNNFGHAVREVSQFFRIAQKIRLSGLATVHGRGALLDVPQMP 785
Rhinatrema_bivittatum SDAKAQLPSWLRPYITAYDNFGHVIRDVSQFFRIAQKIMPV-----PS 760
Xenopus_tropicalis SDARAQLPSWVRPYVRTYDNFGHIIRDVSQFFRVALKIMPT-----TLHSD 762
.....790.....800.....810.....820.....830.....840

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** ** *****:
Mus_musculus      VPQAVTSSVSEGEIALKDATLSYSLSLSTRKAMSLDVHVPSLRQK----- 803
Rattus_norvegicus VPQAVTSSVSEGEAAVKEATLSHSLSTRKAMSLDVHVPSLRRR----- 803
Homo_sapiens      APRATAPSVR-GEDAVSEAKSPGPFFSTRKAKSLDLHVPSLKQR----- 802
Macaca_mulatta    APRAAAPSLREGEDAVREAKSPDPLLSTRKAKSLDLHVPSLKQR----- 803
Callithrix_jacchus APRAAASSSCEKEDGVRVAKSPGTLSTRKAKSLDLHVPSLKQK----- 847
Bos_taurus       APRAAAPSLGEGGIVSVSPGP-LPTRKAMSLDVHVPSLRQK----- 808
Equus_caballus    VPLAAAPSLSGEGAVTVAVSRP-LSTRKAKTLDHVPSLRQKPTGCF----- 809
Pavo_muticus      AQCLSDSAVTLSENDVEPSTSSGQVLSLQAKILDDHVPSLKRKRVIESHSAARDGGGDE 820
Pavo_cristatus    AQCLSDSAVTLSENDVEPSTSSGQVLSLQAKILDDHVPSLKRKRVIESHSAARDGGGDE 820
Gallus_gallus     AQCLSGSAVTLSENDVEPSTSSERILSLQAKILDDHVPSLKRKRIVIESHSAARDGREDE 820
Chelonia_mydas    PPTRSSCSSTICEGDPTSSSTSSGQPLSRTKAKNLDHVPSLKRKR----- 830
Rhinatrema_bivittatum QSLSLHK-AVDAARPSHASLSPKSFTCLLKAKSLDAHVPSLKRKRWRG----- 806
Xenopus_tropicalis QKEGPVPLIGCSSQSPRPVAPSSSREAPKKAKTLDHVPSLKRKRDE----- 809
.....850.....860.....870.....880.....890.....900

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Mus_musculus      -----PIGLPAAGDSESSLCEYEYEQQTFSAQORPMGLLALEYNEQKAGASEE----- 851
Rattus_norvegicus -----PVGLPTAGDSESSVCVEYEYEQQTFSQAKRPMGLLALEYNEQKAGASEE----- 851
Homo_sapiens      -----SSGSPAAGDPESSLCVEYEYQEPVPAQRPRGLLAALEHSEQRAGSPGE----- 850
Macaca_mulatta    -----SSGSPAAGDPESSLCVEYEYQEPVPAQRPRGLLAALEHSEQRAGDLGE----- 851
Callithrix_jacchus -----PSGSPAAGDLEGLCVEYEYQESVPAGQRPKGLLAALEHSEQQAGGPSK----- 895
Bos_taurus       -----HTGSPVTKDTEGLCVEYEYQEPVPAQRPRPAGLLAALHNEQLAEGPGDEA--LP 860
Equus_caballus    -AHTHVLTGPLATRDAGSLCVEYEYQELVHTQRRPMGLLAALEHSEQLARGPGDQA--IP 866
Pavo_muticus      TPHLCGLLIMPVNGSGASSLCTEYEYQEMISPRRRRCVGLLDALERNEKNSREVEEDEDLP 880
Pavo_cristatus    TPHLCGLLIMPVNGSGASSLCTEYEYQEMISPRRRRCVGLLDALERNEKNSREVEEDEDLP 880
Gallus_gallus     TTHLCGLLIVPVNGDGASNLCTEYEYQEMNSPRRRRCIGLLDALERNEKNSKEAEEDDNL 880
Chelonia_mydas    -----MGLLDGAGATSLCVEYDQELISSRKQPIGLLDALERNEKNSKEAEEDDCLPG 880
Rhinatrema_bivittatum ----YGDEALSEGSGAGMASLCVEYEYQELNSPTRKPAGLLDALEQSEKRKECVGEVESLTG 862
Xenopus_tropicalis -----CSSEVVPGSVCEGYEQEVPMSORPAGLLDALEHSEKRVQEEKAG----- 854
.....910.....920.....930.....940.....950.....960

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Mus_musculus	--QALGS	STPSLR	CEKRLSTE	QKGG	RKKVRLVNH	PEE--	PMAGT	---	QAGRA	KFMFMVAVKQ	905
Rattus_norvegicus	--QALSS	STPSLR	CEKRLSVE	QRGG	KKKVRLVNH	PEE--	PVAGT	---	QAGRA	KFMFMVAVKQ	905
Homo_sapiens	-EQAHS	CTLSLL	SEKRPAAE	PRGG	RKKIRLVSH	PEE--	PVAGA	---	QTDRA	KLFMFMVAVKQ	905
Macaca_mulatta	-EQAHS	CTLSLL	AEKRPAE	ELRGG	RKKIRLVSH	LEE--	PVAGA	---	QMDRA	KLFMFMVAVKQ	906
Callithrix_jacchus	-EQAHR	YSTLSL	PCEKRLAE	PRGG	RKKIRLVTH	LEE--	PAAAA	---	QVDR	AKLFMFMVAVKQ	950
Bos_taurus	VEEAC	GCPTLL	GPREKRPAE	QRGR	RRKVRLV	-GSSE	VPAAS	T---	DTGRA	KLFMFMVAVKQ	916
Equus_caballus	EEEEA	HIRSTLS	LLSEKRLP	DEQR	GGKKIRLVSG	QEG	PAASA	---	QAGRA	KLFMFMVAVKQ	923
Pavo_muticus	EEKAQ	HLSTLS	LQYEKRLT	DEQK	GGKKIKLVSN	PLANKI	TDPAE	PKKARAT	LYIATV	VKK	940
Pavo_cristatus	EEKAQ	HLSTLS	LQYEKRLT	DEQK	GGKKIKLVSN	PLANKI	ADPAE	PKKARAT	LYIATV	VKK	940
Gallus_gallus	EEKAQ	RLSTLS	LQYEKRLT	DEQK	GGKKIKLVN	NPLASKI	ADPSEP	PKKARAT	LYIATV	VKK	940
Chelonia_mydas	EEKAK	RLSTLS	LQYEKRLT	DEQK	GGKKIRIVN	NVEADK	VADPAE	PKKTRAT	LFIATV	VKK	940
Rhinatrema_bivittatum	KEKAG	HLALS	LQHOKRLA	DEHR	GGKKIKILS	-KHGG	ELAAGLN	QSSSRA	ALFMSV	VKK	921
Xenopus_tropicalis	-EKVSR	LSLSTLS	LQYDKRLA	DEQR	GGKKIKIVQ	NRAPED	TSD---	QKMTS	ASLFLV	SVKK	910
	.....970	.....980	.....990	.....1000	.....1010	.....1020					

	*** : * *: *: *: : : ** :* *: **: ****:***:*** .*: :	
Mus_musculus	ALSQANFDITFTQALQHYKSSDDFEALVASLTCLFAEDPKKHTLLKGIFYQFVRPHHKQQFE	965
Rattus_norvegicus	ALSQANFDITFTQALQHYKSSDDFEALVASLTCLFAEDPKKHTLLKGIFYQFVRPHHKQQFE	965
Homo_sapiens	ELSQANFATFTQALQDYKGSDDFAALAACLGLPFAEDPKKHNLLOGIFYQFVRPHHKQQFE	965
Macaca_mulatta	ELSQANFATFTQALQDYKGSDDFAALAACLGLPFAEDPKKHSLLQGFYQFVRPHHKQFE	966
Callithrix_jacchus	ELSQANFATFTQALQDYKGSDDFAALVAHLRPLFAEDPKKHSLLQGFYQFVRPHHKQQFE	1010
Bos_taurus	ALSQASFDITFTQALRDYKSSDDLEALVARLSPLFAEDPKKHSLLQGFYQFVRPHHKQQFE	976
Equus_caballus	ALSQASFDITFARALQDYKGSDDFEALVACLHPLFAEDPKKHSLLQGFYQFVRPHHKQRFE	983
Pavo_muticus	TLSSQSYNLFSEALQRYRTTADFNMALSQMSSLFTFTEDEKKHILLREFYQFVRPHHKKQFD	1000
Pavo_cristatus	TLSSQSYNLFSEALQRYRTTADFNMALSQMSSLFTFTEDEKKHILLREFYQFVRPHHKKQFD	1000
Gallus_gallus	TLSSQSYNLFSEALQRYRTTADFNTMLSQMSSLFTFTEDEKKHILLREFYQFVRPHHKKQFD	1000
Chelonia_mydas	ALSQLHYDLFSKALQYKRTDDFKAMLSQMSSLFMEDQKKHILLREFYQFVRPQHKKQFD	1000
Rhinatrema_bivittatum	ALSQSSYEIFMQAMQHYKKEDDFHATSSQLVSLFTEDPNKYVLLREFYQFIRPHHKKQFD	981
Xenopus_tropicalis	SLSQENYGTFFMAAMTEYKKNNLDLQQLISHLRTLFCDPKAYNNLLRGFYQFIRPQHKLFE	970
	.....1030.....1040.....1050.....1060.....1070.....1080	

	. * : * *. *	* . : *	
Mus_musculus	DICFQLTGQRCGYQPG-----KRELESKLTLT	992	
Rattus_norvegicus	DICFQLTGQRCSYQPGNSLPFGQAQSTASKQG-----RRELESKLTLT	1009	
Homo_sapiens	EVCIQLTGRCGCGYRPEHSIPRRQRAQPVLDPGT-----RTAPDPKLTVS	1009	
Macaca_mulatta	EVCILQLTGRCGCGYRPEHVSVPRRQRAQPALDPTG-----RTALDPKLTVS	1010	
Callithrix_jacchus	EVCIQLIGRGCGYQPEHSIPQRQRAQPALDPTG-----RMAPDPKLTLT	1054	
Bos_taurus	EVCLQLTGQGCSSPHKHGHFPQRQGAQLALDSSG-----RKESDPKLTVS	1020	
Equus_caballus	EVCIQLTGQGCGLYQPEHSLPQRQGAAPPALDPSGEQGPTPSGPSKSDPEGRRREFDPKLTLT	1043	
Pavo_muticus	EACCNLTGVGCGYKPEHSLLLLEEREGLAKKTTEE-----KESRQKTTFS	1043	
Pavo_cristatus	EACCNLTGVGCGYKPEHSLLLLEEREGLAKKTTEE-----KESRQKTTFS	1043	
Gallus_gallus	EACCNLTGVGCGYKPEHSLLLLEEREGLAKKIEE-----KESRQKTTFS	1043	
Chelonia_mydas	EACCSLTGVGCGYKPEHSLLLREEREVLAKKAGE-----KQCLQKTAIFS	1043	
Rhinatrema_bivittatum	ELCLAVTGKGCGYKPEHEHLQKERHRRAGAADAG-----PSCSRREITGKVSVFS	1029	
Xenopus_tropicalis	SACTQLTGTGCGYKAHCVPRAEREAQAAAAV-----AVSEPKVTIFS	1013	
	.....1090.....1100.....1110.....1120.....1130.....1140	

	***:*	***:	.	*			
Mus_musculus	EGVDRLDPGQHLNQGP	PHLSAHPTSKAHFSKPGHTSHCTKVGCAV	---	EKPGQPAVSDY 1049			
Rattus_norvegicus	EGADRLDPGEHLNQGWPHLS	THLTSTK-----	GDTSNCPKVGCVG	---	EKPGQPAVNDY 1060		
Homo_sapiens	TAAAQQLDPGEHLNQGRPHLS	SRPPPTG---	DPGSQPQWGSVGPRA	---	GKQGQHAVSAY 1063		
Macaca_mulatta	KAAAQQLDPREHLNQGRPHLS	SPRPPTG---	GPSSHQPQGSRA	---	GKQGQRAVSAY 1064		
Callithrix_jacchus	KAATQQLDPREHLNQGGPHLT	TPRPPEG---	DPGSHQPQWGS	GAHRA	---	GKQGQRAVSAY 1108	
Bos_taurus	QGATRLDPCEQLNQGRPHLAS	GPFPAG---	DLNCSLHKGSRA	PGA	---	EKQHPSTVSAY 1074	
Equus_caballus	QGAARQLDPGEHLNQGRPHLT	SRPSSAG---	VSSSRPQEKSGA	PR	---	ERQGPAPVSAY 1097	
Pavo_muticus	ESSCVQLNPGLHLNQGGFHLT	TAGQTSAGD	NGSQAMSKDMKNVAGS	---	RRDHQVLRITY 1100		
Pavo_cristatus	ESSCVQLNPGLHLNQGGFHLT	TAGQTSAGD	NGSQAMSKDMKNVAGS	---	RRDHQVLRITY 1100		
Gallus_gallus	ENSCSQLNPGLHLNQGGFHLT	TGQTSAGD	NTSQATSKDTKNVSGS	---	RRDHQVLRITY 1100		
Chelonia_mydas	EGSSSQLNSQLHLNKGGS	SHLTSGLNRTGENH	THIPKDPPEEAS	RS	---	LDHHELV	
Rhinatrema_bivittatum	SGSAQQLDTETQLNNGG	THLSRTQAS	KGMDMCTLKADSVKGSQ	PHKGP	---	QERHQFLPAY 1089	
Xenopus_tropicalis	EGSAQQLD	TLNNGG	THLSRTQAS	KGMDMCTLKADSVKGSQ	PHKGP	---	QERHQFLPAY 1089
1150.....	HLNHGGGHLS	TD	SIKAPT	GCNCPAQAGRSQ	-----	VSGY 1052
1150.....	1160.....	1170.....	1180.....	1190.....	1200	

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Mus_musculus      LSDVHKALGSASCNQLTAALRAYKQDDDLKVVAVVAALTAKPEHLPLLRFGMFVRRH 1109
Rattus_norvegicus LSDVHKALGSASCNQLTAALRAYKQDDDLKVLAVVAALTAKPEHLPLLRFGMFIRRH 1120
Homo_sapiens       LADARRALGSAGCSQLLAALTAYKQDDDLKVLAVLAALTAKPEDFPLLRFSMFVRPH 1123
Macaca_mulatta     LADVRRALGSAGCSQLLAALTAYKQDDDLKVLAVLAALTAKPEDFPLLRFSMFVRPH 1124
Callithrix_jacchus LADARQALGSAGYSQLLAALRAYKQDDDLKVLAVLAALTTERPEDFPLLRFSMFVRPH 1168
Bos_taurus         LADVRRTLGAAGYSQLLTALTITYKQDDDFEKVVAVVAALTTEKPEDLPLLRFGMFVRRH 1134
Equus_caballus     LADARRALGSAGCSRLLAALTYKRDDDFEKVVAVVAALTTERPEDLPLLRFSMFVRPH 1157
Pavo_muticus       LNDVKKALKEGAYSRFHEALLAYKRTDDYDAMIPVIAALTTERPEDFHLRFTMFVRPH 1160
Pavo_cristatus     LNDVKKALKEGAYSRFHEALLAYKRTDDYDAMIPVIAALTTERPEDFHLRFTMFVRPH 1160
Gallus_gallus      LNDVKKALKESAYSRFHEALLAYKRTDDYDAMIPVIAALTTERPEDFHLRFTMFVRPH 1160
Chelonia_mydas     LNDLKNALDKNSYSRFCAALSAYKKTDDYDAMVLVIAALTTEKPEYFHLRFTMFVRPH 1161
Rhinatrema_bivittatum LTEVKKALGQDKYHRFCTALSMYKKTDDYLAVVSEIASLFTENPEDSHLLRWYFKFIRPH 1149
Xenopus_tropicalis LSQVRGALGSSSFQRFATAALSYYKKSDDSYEAMVCEIAALLTGQPEHYPLREFHRFVRPH 1112
.....1210.....1220.....1230.....1240.....1250.....1260

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** : *  *  *  *
Mus_musculus      HKPQFLQTCADLMGLPTTGKDLELE---GPRDESPTVPPELTTHEDL----- 1152
Rattus_norvegicus HKPRFVOTCADLMGLPTTGKLELP---CPRDESTVPSSELTHEDM----- 1163
Homo_sapiens       HKQRFSTCTDLTGRP--YPGMEPP---GPOEERLAVPPVLTHRAP----- 1164
Macaca_mulatta     HKQRFSTCTDLTGRP--SLGTEPP---GPOEESLAVPPVLTHRAP----- 1165
Callithrix_jacchus HKQRFLOTCTDLTGWP--HGGMELL---GPOEESLATPPVLAHGTH----- 1209
Bos_taurus         HKQRFROMCVDLSGP---GTQAP---GPOEGGPAMPSPDPVCEAP----- 1172
Equus_caballus     HKQRFROTCAALTGPPVPGTDTEPP---GPWEGSPAVPPDPPTHGAP----- 1200
Pavo_muticus       HKEQFROVCKDLTGAVGGDEQK-QQQ-VQNEKSAVTLERWFSKRENCPKQSGDGDVP--- 1215
Pavo_cristatus     HKEQFROVCKDLTGAVGGDEQK-QQQ-VQNEKSAVTLERWFSKRENCPKQSGDGDVP--- 1215
Gallus_gallus      HKEQFROVCKDLTGAVGGDEQK-QQQQMQSEKSAVTLERWFTKRENCPKQSEDGDVP--- 1216
Chelonia_mydas     HKEQFROMCKDLTGMSCSSEKKKQLLEVQEPKSPNLNLENSCSKAENSETQDKAVSHTPAT 1221
Rhinatrema_bivittatum HKQQFNECMRDLTGMSCSADADQ---KEKEQQDSVTVPSSESKED----- 1190
Xenopus_tropicalis HKKKFNALCEELTGSGYCPQKP---QVLPPSEAGTSDPVAHNKG----- 1154
.....1270.....1280.....1290.....1300.....1310.....1320

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Mus_musculus      ----KPGPSMSKKPEKTQSKISSFRRORPDESVRSDDTTPKPMQLPPRLPHELMKPHR-- 1206
Rattus_norvegicus ----KPGPSTSKKPEKTQSKISSFRLRQPDQSARSDDT---IMQLPPRLPPEHTTSQWNF 1216
Homo_sapiens       ----QPGPSRSEKTKGTQSKISSFRLRQPDQVAGGEDAGPSQSS-GPPHGPAASEWGE 1219
Macaca_mulatta     ----QPGPSRSEKPGKTQSELSTFLRQPDQVAGGEAAGPSQSP-GPPHGPAASEWGE 1220
Callithrix_jacchus ----QPGPSWPKKAGKTQSKISSFRLRQPDQVAGGEAAGPSQSS-RPPHGPAASEWGR 1264
Bos_taurus         ----SPGPR-----KTQSKISSFRLMORTAEDTGA-----PGSPL-SFPRGQAQLEWAG 1215
Equus_caballus     ----GPGPSQLDKPGRTQSKISSFRRORPVGGAGS-----PSRPP-GAPRGHAQSEWAG 1249
Pavo_muticus       -KSEVPEKNEGEAASSCLSQKCKLGLPKTEVPKEMSNVRAPTAPGVVPSLPLELDPEFGR 1274
Pavo_cristatus     -KSEVPEKNEGEAASSCLSQKCKLGLPKTEVPKEMSNVRAPTAPGVVPSLPLELDPEFGR 1274
Gallus_gallus      -KSEVPEKNEGETSSSCLSQKCKLELPKTEVSKEISNVRAPTAPGVVPSLPLELDPEFGR 1275
Chelonia_mydas     FKSEMPRKTKQSKILSFCNSQNRKTKGSKTDLTGSSSIRAPTNPSRLHVLFPNMEPECGR 1281
Rhinatrema_bivittatum ----ISGRPRGGDLQTSAPGDRQTGRADPNHPPDGEPIRVARS----DPSPLPYVPOAEG 1190
Xenopus_tropicalis ----ISGRPRGGDLQTSAPGDRQTGRADPNHPPDGEPIRVARS----DPSPLPYVPOAEG 1206
.....1330.....1340.....1350.....1360.....1370.....1380

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Mus_musculus      ----- 1206
Rattus_norvegicus -----VCPACAT----- 1223
Homo_sapiens       -----PHGRDIAGQQATGAPGGPLSAG-CVCQCGC----- 1248
Macaca_mulatta     -----PPGRDLAQQAAGAPSGPLSAG-CVCQCGC----- 1249
Callithrix_jacchus RTWCPSALPVTIFSAARPAGNGTFRPLERAQPATPPAGGRVSCRSSGRSPTRTMRALGEP 1324
Bos_taurus         -----VACAGCR----- 1222
Equus_caballus     -----SACPCCG----- 1256
Pavo_muticus       -----YQCPNCKS----- 1282
Pavo_cristatus     -----YQCPNCKS----- 1282
Gallus_gallus      -----YQCPNCKS----- 1283
Chelonia_mydas     -----FQCSCKKS----- 1289
Rhinatrema_bivittatum ----- 1190
Xenopus_tropicalis -----PVCLRCR----- 1214
.....1390.....1400.....1410.....1420.....1430.....1440

```


CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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```

Mus_musculus      ----- 1206
Rattus_norvegicus ----- 1238
Homo_sapiens      ----- 1264
Macaca_mulatta    ----- 1265
Callithrix_jacchus ----- 1384
Bos_taurus        ----- 1238
Equus_caballus    ----- 1272
Pavo_muticus      ----- 1297
Pavo_cristatus    ----- 1297
Gallus_gallus     ----- 1298
Chelonia_mydas    ----- 1304
Rhinatrema_bivittatum ----- 1190
Xenopus_tropicalis ----- 1229
.....1450.....1460.....1470.....1480.....1490.....1500

```

```

Mus_musculus      ----- 1206
Rattus_norvegicus ----- 1257
Homo_sapiens      ----- 1283
Macaca_mulatta    ----- 1284
Callithrix_jacchus ----- 1444
Bos_taurus        ----- 1257
Equus_caballus    ----- 1291
Pavo_muticus      ----- 1314
Pavo_cristatus    ----- 1314
Gallus_gallus     ----- 1315
Chelonia_mydas    ----- 1327
Rhinatrema_bivittatum ----- 1190
Xenopus_tropicalis ----- 1246
.....1510.....1520.....1530.....1540.....1550.....1560

```

```

Mus_musculus      ----- 1209
Rattus_norvegicus ----- 1274
Homo_sapiens      ----- 1300
Macaca_mulatta    ----- 1301
Callithrix_jacchus ----- 1504
Bos_taurus        ----- 1274
Equus_caballus    ----- 1308
Pavo_muticus      ----- 1329
Pavo_cristatus    ----- 1329
Gallus_gallus     ----- 1330
Chelonia_mydas    ----- 1378
Rhinatrema_bivittatum ----- 1190
Xenopus_tropicalis ----- 1269
.....1570.....1580.....1590.....1600.....1610.....1620

```

```

Mus_musculus      ----- 1209
Rattus_norvegicus ----- 1274
Homo_sapiens      ----- 1300
Macaca_mulatta    ----- 1301
Callithrix_jacchus ----- 1564
Bos_taurus        ----- 1274
Equus_caballus    ----- 1308
Pavo_muticus      ----- 1329
Pavo_cristatus    ----- 1329
Gallus_gallus     ----- 1330
Chelonia_mydas    ----- 1387
Rhinatrema_bivittatum ----- 1190
Xenopus_tropicalis ----- 1269
.....1630.....1640.....1650.....1660.....1670.....1680

```

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/RTEDData Tue Feb 1 14:28:13 2022

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Mus_musculus	-----	1209
Rattus_norvegicus	-----	1274
Homo_sapiens	-----	1300
Macaca_mulatta	-----	1301
Callithrix_jacchus	WGPAPRVGRAALRLKLQORLKELLEVGDTLLARLLRALRVARLPGLERSIRERFLPAH	1623
Bos_taurus	-----	1274
Equus_caballus	-----	1308
Pavo_muticus	-----	1329
Pavo_cristatus	-----	1329
Gallus_gallus	-----	1330
Chelonia_mydas	-----	1387
Rhinatrema_bivittatum	-----	1190
Xenopus_tropicalis	-----	1269
	.....1690.....1700.....1710.....1720.....1730.....	