

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/TDRDapsTue Feb 14:43:51 2022

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Mus_musculus	-----MA	2
Rattus_norvegicus	-----MA	2
Homo_sapiens	-----MA	2
Pan_troglodytes	MNKENVVYTVLDLEQYGFELCEFTYTWIFFDFYHATTETARPTPPLPPPPQPTQHEDNEDE	60
Macaca_mulatta	-----MA	2
Callithrix_jacchus	-----MA	2
Heterocephalus_glaber	-----MA	2
Equus_caballus	-----MA	2
Canis_lupus_familiaris	-----MS	2
Bos_taurus	-----MA	2
Pavo_muticus	-----MA	2
Pavo_cristatus	-----MA	2
Gallus_gallus	-----MA	2
Rhinatrema_bivittatum	-----MTQLFKVVKKTSRLK	15
Xenopus_tropicalis	-----MRMRARRTKAKPRASGSDAMKMAATNKST	30

1.....10.....20.....30.....40.....50.....60

	: **::*:*: * . : : :***** ***** **..* *	
Mus_musculus	EVSGAALSQAGWYLSDEGVEACTSSPGKGSINDIILIALNTDLRTIGKKFLPSDINGG-K	61
Rattus_norvegicus	EVSGAALSQAGWYLSDEGIEACTSSPGKVNINDIILIALNTDLRTIGKKFLPSDISGG-K	61
Homo_sapiens	QVAGAALSQAGWYLSDEGIEACTSSPDKVNVNDIILIALNTDLRTIGKKFLPSDINSK-K	61
Pan_troglodytes	DLNDGLFPHNEQYLSDEGIEACTSSPDKVNVNDIILIALNTDLRTIGKKFLPSDINSK-K	119
Macaca_mulatta	QVANAALSQAGWYLSDEGIEACTSSPDKVNVNDIILIALNTDLRTIGKKFLPSDINSK-K	61
Callithrix_jacchus	EVPGAALSQAGWYLSDEGIEACTSSPGKVNVDIIQIALNTDLRTIGKKFLPADINSK-K	61
Heterocephalus_glaber	EVPGALLSQAGWYLSDEGIEACTSSPDKVNINDIILIALNTDLRTIGKKFLPSDISGGK	62
Equus_caballus	EVPGAALSQAGWYLSDEGIEACTSSPDKVNINDIILIALNTDLRTIGKKFLPSDINGG-K	61
Canis_lupus_familiaris	EVPGAALSQAGWYLSDEGIEACTSSPDKVNINDIILIALNTDLRTIGKKFLPSDINGG-K	61
Bos_taurus	EAPGAALSQAGWYLSDEGIEACTSSPDKVNVNDIILIALNTDLRTIGKKFLPSDINGG-K	61
Pavo_muticus	DRARAALSESGWYLSDEGIETCINSSEKVNTNDIILVALNTDLRTIGKKFLPSDINGG-K	61
Pavo_cristatus	DRARAALSESGWYLSDEGIETCINSSEKVNTNDIILVALNTDLRTIGKKFLPSDINGG-K	61
Gallus_gallus	DRARAALSESGWYLSDEGIETCINSSEKVNTNDIILVALNTDLRTIGKKFLPSDINGG-K	61
Rhinatrema_bivittatum	NWRRTLPSWRTRYLSDEGIEACTNSSDKVNMSNIIPVVLNTDLRTIGKKFLPNDINGG-K	74
Xenopus_tropicalis	DLCILAPETAQAQCLSENGLEACKYSTEN---RTMLLIALNTDLRTIGKKFLPNDINGG-K	86

.....70.....80.....90.....100.....110.....120

	:**:***:***:***** *****:***** .***:* .:*****	
Mus_musculus	VEKLEGPCVLQIQKVRNVAAPKDNEESQAAPRMLRVQMTDGHISCTAVEFSYISKISLNT	121
Rattus_norvegicus	VEKLEGPCVLQIQKVRNVAAPRDNEESQAAPRMLRVQMTDGHISCTAVEFSYISKISLNT	121
Homo_sapiens	VEKLEGPCVLQIQKIRNVAAPKDNEESQAAPRMLRLQMTDGHISCTAVEFSYMSKISLNT	121
Pan_troglodytes	VEKLEGPCVLQIQKIRNVAAPKDNEESQAAPRMLRLQMTDGHISCTAVEFSYMSKISLNT	179
Macaca_mulatta	VEKLEGPCVLQIQKVRNVAAPKDNEESQAAPRMLRLQMTDGHISCTAVEFSYMSKISLNT	121
Callithrix_jacchus	VEKLEGPCVLQIQKIRNVAAPKDNEESQAAPRMLRLQMTDGHISCTAVEFSYMSKISLNT	121
Heterocephalus_glaber	VEKLEGPCVLQIQKIRNVAAPKDNEESQAAPRMLRLQMTDGHISCTAVEFSYMSKISLNT	122
Equus_caballus	VEKLEGPCVLQIQKIRNVAAPKDNEESQAAPRMLRLQMTDGHISCTAVEFSYLSKISLNT	121
Canis_lupus_familiaris	VEKLEGPCVLQIQKIRNVAAPKDNEESQAAPRMLRLQMTDGHISCTAVEFSYMSKISLNT	121
Bos_taurus	VEKLEGPCVLQIQKIRNVAAPKDNEESQAAPRMLRLQMTDGHISCTAVEFSYLSKISLNT	121
Pavo_muticus	VEKLEGPCVLQIQKIRNVSAPKDNEESQAARRMLRLQMTDGHISCTAIEYNSMSKISLNT	121
Pavo_cristatus	VEKLEGPCVLQIQKIRNVSAPKDNEESQAARRMLRLQMTDGHISCTAIEYNSMSKISLNT	121
Gallus_gallus	VEKLEGPCVLQIQKIRNVSAPKDNEESQAAPRMLRLQMTDGHISCTAIEYNSMSKISLNT	121
Rhinatrema_bivittatum	VEKLEGPCVLQIQKIRNVSAPKDNEESQAAPRMLRLQMTDGHISCTAIEFNFLSQISLNT	134
Xenopus_tropicalis	VEKVNGPCVLQIQKIRNISAPKDNEESQAAPRMLRLQMTDGHISCTAIELNYLSKISLNT	146

.....130.....140.....150.....160.....170.....180

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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PPGTKVKLSGTVDIKNGFLLLSDSNTTVLGGEVEHLIDKWALQSRSLKHNRSNIGAEGGP
PPGTKVKLSGTVDIKNGFLLLSDSNTTVLGGEVEHLIDKWALQSRSLKHNRSNIGAEGGP
PPGTKVKLSGIVDIKNGFLLLDSTNTTVLGGEVEHLIEKWELQSRLSKHNRSNIGTEGGP
PPGTKVKLSGIVDIKNGFLLLDSTNTTVLGGEVEHLIEKWELQSRLSKHNRSNIGTEGGP
PPGTKVKLSGIVDIKNGFLLLDSTNTTVLGGEVEHLIEKWELQSRLSKHNRSNIGTEGGP
PPGTKVKLSGIVDIKNGFLLLDSTNTTVLGGEVEHLIEKWELQSRLSKHNRSNIGTEGGP
PPGTKVKLSGIVDIKNGFLLLDSTNTTVLGGEVEHLIEKWELQSRLSKHSRSNIGTEGGP
PPGTKVKLSGIVDVKNFLLLDSTNTTVLGGEVEHLIEKWELQSRLSKHNRSNIGTEGGP
PPGTKVKLSGIVDIKNGFLLLDSTNTTVLGGEVEHLIEKWELQSRLSKHNRSNIGTEGGP
PPGTKVKLSGAVDIKNGFLLLDSTNTTVLGGEVEHLIEKWELQSRLSKHNRSNIGTEGGP
PPGTKIKLSGIIIVRNGFLLLDSTNTAVLGGEVEHLIEKWELQSRSLAKHSRSNIGTEGGP
PPGTKIKLSGIIIVRNGFLLLDSTNTAVLGGEVEHLIEKWELQSRSLAKHSRSNIGTEGGP
PPGTKIKLSGIIIVRNGFLLLDSTNTAVLGGEVEHLIEKWELQSRSLAKHSRSNIGTEGGP
PPGTKIKLIKTIEVKNGFLLLDSTNTTVLGGEVEHLIEKWELQSRSLAKHSRSNIGTEGGP
PPGTKIKLLGTIEVKNGYLLLDSTNTTVLGGEVEHLIEKWELQSRSLAKHSRSNIGIEGGP

.....190.....200.....210.....220.....230.....240

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***:****:* * .***:*** ***** . * :*****
PPFLPFGQKCASTVQVDSRELDRRKTLQVSLPAKPANDNDEFEKORTAAIAEVAKSKETK
PPFLPFGQKCASTVQVDSRELDRRKTLQVSLPAKPTNDNDEFEKORTAAIAEVAKSKETK
PPFVVPFGQKCVSHVQVDSRELDRRKTLQVTMPVKPTNDNDEFEKORTAAIAEVAKSKETK
PPFVVPFGQKCVSHVQVDSRELDRRKTLQVTMPVKPTNDNDEFEKORTAAIAEVAKSKETK
PPFVVPFGQKCVSHVQVDSRELDRRKTLQVTMPIKPTNDNDEFEKORTAAIAEVAKSKETK
PPFVVPFGQKCVSHVQVDSRELDRRKTLQVTMPVKPTNDNDEFEKORTAAIAEVAKSKETK
PPFVVPFGQKASHVQVDSRELDRRKTLQVTMPVKPTNDNDEFEKORTAAIAEVAKSKETK
PPFVVPFGQKCVSHVQVDSRELDRRKTLQVTMPVKPTNDNDEFEKORTAAIAEVAKSKETK
PPFVVPFGQKCVSHIQVDSRELDRRKTLQVTMPVKPPNDNDEFEKORTAAIAEVAKSKETK
PPFLPFGQKCASTQVQVDSRELDRRKTLQMTNTAKPVADNDEFEKORTAAIAEVAKSKETK
PPFLPFGQKCASTQVQVDSRELDRRKTLQMTNTAKPVADNDEFEKORTAAIAEVAKSKETK
PPFLPFGQKASHMQVDSRELDRRKTLQMTNTAKPVTNDNDEFEKORTAAIAEVAKSKETK
PPFVVPFGQRCVSVQVDSRELDRRKTLQTPNATKPLGENDEFEKORTAAIAEVAKSKETK
PPFVVPFGQRCASVASVDSKELDSRKTLQASSVTKPVGENDEFEKORTAAIAEVAKSKETK
.....250.....260.....270.....280.....290.....300

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TFGGGGGGGARSNLNIGAAHRNREVLQKEKASKSESKNEGVIYRELVDKALKHITMGFS

TFGGGGGGGVSRSHLNIAGGHRNREVSQKEKASKSESKNEGVIYRELVDKALKHITMGFS

TFGGGGGGGARSNLNMNAAGNRNREVLQKEKSTKSEGGKHEGVIYRELVDKALKHITMGFS

TFGGGGGGGARSNLNMNAAGNRNREVLQKEKSTKSEKHGHEGVIYRELVDKALKHITMGFS

TFGGGGGGGARSNLNMNAAGNRNREVLQKEKSTKSEGGKHDGVIYRELVDKALKHITMGFS

TFGGGGGGGARSNLNTSAAGNRNREVLQKEKSTKLEGGKHEGVIYRELVDKALKHITMGFS

TFGGAGGGGARSNLNMNAVGNRGREVLQKEKSTRLEGGKHEGVIYRELVDKALKHITMGFS

TFGGGGGGGARSNLNMNTAGNRNREILQKEKSTKSEGGPEGVIYRELVDKALKHITMGFS

TFGGGGGGGARSNLNMSAAGNRNREILQKEKSAKSEGGKHEGVIYRELVDKALKHITMGFS

TFGGGGGGGARSNLNMNAAGNRNREILQKEKANKSEGGKHEGVIYRELVDKALKRHITMGFS

TFGGGGGSSRSNLSVSAGGNRNRELFQKEKITKPEGKNEGVIYRELVDKALKHITMGFS

TFGGGGGSSRSNLSVSAGGNRNRELFQKEKITKPEGKNEGVIYRELVDKALKHITMGFS

TFGGGGGSSRSNLTVSAGGNRNRELFQKEKITKPEGKNEGVIYRELVDKALKHITMGFS

TFGG--GGNAGSNLNTAAGGNRSREVFQKEKIIIRPEGKLEGVIYRELVDKALKHITMGFS

TFGG--GGNAGSNLNPAGGSRNKEVFQKEKIIIRAEKSGEVIYRELVDKALKRHITMGFS

.....310.....320.....330.....340.....350.....360

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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	*:::***** .*:***** **...* ** *** :*:***** * *:***:*.****	
Mus_musculus	KEASRQALMDNANNLEAALNVLLNSKQKPAVGPPARGRGKGRGRGRSEDEEDLGTARPS	361
Rattus_norvegicus	KEASRQALMDNANNLEAALNVLLNSKQKPVVGPPPRGRGKGRGRVRSSEDEEDLGNARPS	361
Homo_sapiens	KEASRQALMDNGNNLEAALNVLLTSNKQKPVMGPPPLRGRGKGRGRIRSEDEEDLGNARPS	361
Pan_troglodytes	KEASRQALMDNGNNLEAALNVLLTSNKQKPVMGPPPLRGRGKGRGRIRSEDEEDLGNARPS	419
Macaca_mulatta	KEASRQALMDNGNNLEAALNVLLTSNKQKPVMGPPPLRGRGKGRGRIRSEDEEDLGNARPS	361
Callithrix_jacchus	KDASRQALMDNGNNLEAALNVLLNSNKQKPVIGPPPLRGRGKGRGRIRSEDEEDLGNARPS	361
Heterocephalus_glaber	KDASRQALMDNGNNLEAALNVLLNNKQKPVTPPPRGRGKGRGRVRSSEDEEDLANARPS	362
Equus_caballus	KEASRQALMDNGNNLEAALNVLLNSNKQKPVTPPPLRGKGRGRIRSEDEEELGSARPS	361
Canis_lupus_familiaris	KEASRQALMDNGNNLEAALNVLLNSNKHKPVTPPPLRGKGRGRIRSEEEEEELGNARPS	361
Bos_taurus	KEASRQALMDNGNNLEAALNVLLNSNKQKPVTPPPLRGKGRGRIRSEDEEELGNARPS	361
Pavo_muticus	KEAARQALMDNSNNLEAALNFFLLNSNKQKPLQGPPARGKGRGRIRPEDEEELGNARPS	361
Pavo_cristatus	KEAARQALMDNSNNLEAALNFFLLNSNKQKPLQGPPARGKGRGRIRPEDEEELGNARPS	361
Gallus_gallus	KEAARQALMDNSNNLEAALNFFLLNSNKQKPLQGPPPRGKGRGRIRPEDEEELGNARPS	361
Rhinatrema_bivittatum	KDAARQALMDYSNNLEAALNFFLLTGKQKPLQGPPPRGKGRGRIRRIEDEDELANARPS	373
Xenopus_tropicalis	KDAARQALMDHSNNVEAALNSLLTGKSKPVQGPARGKGRGRIRAEDEDELTSARPS	385
370.....380.....390.....400.....410.....420	
	*****.....*: : * * * : : * :***:*. : * .*	
Mus_musculus	APSTLDFDFLESKMGTNLNVEEPKSPQOHLHOGQ-HRGWNAEQNGMKDG-----TQSRHLPR	415
Rattus_norvegicus	APSTLDFDFLESKMGTNLNVEEPKSPQOHLHOGQ-HRVSNTEQNGIKDG-----NQSRLHPR	415
Homo_sapiens	APSTLDFDFLESKMGTNLNVEEPKSPQOHLHOGQ-YRSSNTEQNGVKDN-----NHLRHPPR	415
Pan_troglodytes	APSTLDFDFLESKMGTNLNVEEPKSPQOHLHOGQ-YRSSNTEQNGVKDN-----SHLRHPPR	473
Macaca_mulatta	APSTLDFDFLESKMGTNLNVEEPKSPQOHLHOGQ-YRSSNTEQNGVKDN-----NHLRHPPR	415
Callithrix_jacchus	APSTLDFDFLESKMGTNLNVEEPKSPQOHLHOGQ-YRSSNTEQNGIKDT-----NQLRFLPR	415
Heterocephalus_glaber	APSTLDFDFLESKMGNLSVEEPKSPQOQFHOGH-HRMSNNEQNGVKD-----NQPRHLPR	415
Equus_caballus	APSTLDFDFLESKMGTLSVEEPKSPQOHLHOGQ-HRLSNAEQNGVKDN-----NQPRYLPR	415
Canis_lupus_familiaris	APSTLDFDFLESKMGTLSVEEPKSPQOHLHOGQ-HRLSNTQNGVKDN-----NQPRHLPR	415
Bos_taurus	APSTLDFDFLESKMGTLSVEEPKSPQOHLHOGQ-NRVSNTEQNGVKDN-----NQPRYLPR	415
Pavo_muticus	APSTLDFDFLESKMGTLTAEPPKLOFOTPHOVQ-PKVMNTEQNGIKE-----NHSRHISR	414
Pavo_cristatus	APSTLDFDFLESKMGTLTAEPPKLOFOTPHOVQ-PKVMNTEQNGIKE-----NHSRHISR	414
Gallus_gallus	APSTLDFDFLESKMGTLTVEEPKLOFOPPHOVQ-PKVMNTEQNGIKE-----NHSRHISR	414
Rhinatrema_bivittatum	APSTLDFDFLESKMSTFSIEENKSPQSYQQGOHRLNLTQNGVKDF-----NQRHPPR	428
Xenopus_tropicalis	APSTLDFDFLESKMGSFSIEDHKLOSQSQSOVH-QKPLNLEQNGIKDYNHKDYNNQPRQFTR	444
430.....440.....450.....460.....470.....480	
	** * ***:*****: : :.. :.* :*. : * :*:*. :.	
Mus_musculus	NDTRQPRNERPPRFQKDTPTSKSTVENSVLSRNRGSERPSSSSGSDVWAEERIKCDRPYS	475
Rattus_norvegicus	NDPRQPRNEKPPRFQRTDTPNLKSALENSVLSRNRGSERPSSSSGSDVWAEERIKCDRPYS	475
Homo_sapiens	NDTRQPRNEKPPRFQRTDTPNLKSALENSVLSRNRGSERPSSSSGSDVWAEERIKCDRPYS	475
Pan_troglodytes	NDTRQPRNEKPPRFQRTDTPNLKSALENSVLSRNRGSERPSSSSGSDVWAEERIKCDRPYS	533
Macaca_mulatta	NDTRQPRNEKPPRFQRTDTPNLKSALENSVLSRNRGSERPSSSSGSDVWAEERIKCDRPYS	475
Callithrix_jacchus	NDTRQPRNEKPPRFQRTDTPNLKSALENSVLSRNRGSERPSSSSGSDVWAEERIKCDRPYS	475
Heterocephalus_glaber	NDTRQPRNEKPPRFQRTDTPNLKSALENSVLSRNRGSERPSSSSGSDVWAEERIKCDRPYS	475
Equus_caballus	NDTRQSRNEKPPRFQRTDTPNLKSALENSVLSRNRGSERPSSSSGSDVWAEERIKCDRPYS	475
Canis_lupus_familiaris	NDTRQPRNEKPPRFQRTDTPNLKSALENSVLSRNRGSERPSSSSGSDVWAEERIKCDRPYS	475
Bos_taurus	NDTRQPRNEKPPRFQRTDTPNLKSALENSVLSRNRGSERPSSSSGSDVWAEERIKCDRPYS	475
Pavo_muticus	NDMRQPRNEKPPRFQRTDTPNLKSALENSVLSRNRGSERPSSSSGSDVWAEERIKCDRPYS	471
Pavo_cristatus	NDMRQPRNEKPPRFQRTDTPNLKSALENSVLSRNRGSERPSSSSGSDVWAEERIKCDRPYS	471
Gallus_gallus	NDMRQPRNEKPPRFQRTDTPNLKSALENSVLSRNRGSERPSSSSGSDVWAEERIKCDRPYS	471
Rhinatrema_bivittatum	NDTRQPRNEKPPRFQRTDTPNLKSALENSVLSRNRGSERPSSSSGSDVWAEERIKCDRPYS	487
Xenopus_tropicalis	NDTRAPRNEKPPRFQRTDTPNLKSALENSVLSRNRGSERPSSSSGSDVWAEERIKCDRPYS	502
490.....500.....510.....520.....530.....540	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Mus_musculus      RYDRTKDASHPLGLQHNDGAFKK-RENSMQNRPGRGPLYAEAKENPLPPEF-VDYNNQRR 533
Rattus_norvegicus RYDRTKDASYPPLGFQHNDGAFKK-RDNSMQNRSGRGPLYAEAKENPHPEF-VDYNNQKR 533
Homo_sapiens      RYDRTKDTSYPLGSQHSSDGAFKK-RDNSMQSRSSGKGPSFAEAKENPLPQGS-VDYNNQKR 533
Pan_troglodytes   RYDRTKDTSYPLGSQHSSDGAFKK-RDNSMQSRSSGKGPSFVEAKENPLPQGS-VDYNNQKR 591
Macaca_mulatta    RYDRTKDTSYPLGSQHSSDGAFKK-RDNSMQSRSSGKGPCFAEAKENPLPQEC-VDYNNQKR 533
Callithrix_jacchus RYDRTKDTSYPLRSQHSSDGAFKK-RDNSMQSRSSGKGPSYADAKENPRPQES-IDYNNQKR 533
Heterocephalus_glaber RYDRTKDTSYPLSSQHSSDGAFNK-RDNAMQSRSSGKGPAYAEAKENPLPQEF-TDYNNQKR 533
Equus_caballus    RYDRTKDTSYPSSSQHNDGAFKK-RDNSMQSRSSGKGLSYAEAKENPLPQES-VDFNSQKR 533
Canis_lupus_familiaris RYDRTKEPSSYPFSSQH-DGAFKK-RDNSMQSRSSGKGPSYAEAKENPLAQES-TDYNNQKR 532
Bos_taurus        RYDRTKDTSYLLSSQHSDTVFKK-RDNSMQSRSSGKGPSYTEAKENPFPOES-VDYNNHKK 533
Pavo_muticus      RNDRPKDLGYPIAAHQSDISFKK-RDNNMQNRRIGKGVSFTEFKENSAAQDT-TDNNNQKR 529
Pavo_cristatus    RNDRPKDLGYPIAAHQSDISFKK-RDNNMQNRRIGKGVSFTEFKENSAAQDT-TDNNNQKR 529
Gallus_gallus     RNDRPKDLGYPIAAHQSDISFKK-RDNNMQNRRIGKGVSFTEFKENSAAQDA-TDNNNQKR 529
Rhinatrema_bivittatum RNDRLKDFAYPANIQQNDSSFKK-KDTTMSRQQKVATFMDVKENSTNODI-TDIANHKK 545
Xenopus_tropicalis RNDRLKDFSHLPSSHQNEGSYKKSSYTNPMQGRGMKGGNHTEVKEEFHHQNSNTEGSHQKR 562
.....550.....560.....570.....580.....590.....600

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Mus_musculus      GRRENQTGHPDHCYERKPRTMNSEAVSGLKIEKHFSVN---TDYPRPVQSNS-LGVPNGE 589
Rattus_norvegicus GKRENQTSNPDHFYDRKSRTTMNEAFSGLKIEKHFSAN---TDYQNPVQSNSSVGVPNGE 590
Homo_sapiens      GKRESQTSIPDYFYDRKSQTINNEAFSGIKIEKHFNVN---TDYQNPVRNSSFIGVPNGE 590
Pan_troglodytes   GKRESQTSIPDYFYDRKSQTINNEAFSGIKIEKHFNVN---TDYQNPVRNSSFIGVPNGE 648
Macaca_mulatta    GKRENQTSNPDHFYDRKSQTINNEAFSGIKIEKHFNVN---TDNQNPVRNSSFIGVPNGE 590
Callithrix_jacchus GKRENQTSNPDHFYDRSRTINNEAFSGQKIEKHFNVN---TDYQNPVRNSSFIGVPNGE 590
Heterocephalus_glaber GKRESQTNPDHFYDRKSRTINNEAFSGVKIEKHFNVN---TDYQNPVRNSSFIGIPNGE 590
Equus_caballus    GKRENQIANPDHFYDRKPRTINNEAFSGIKIEKHFNVN---TDYQNPVRTSNSFISVPNGE 590
Canis_lupus_familiaris GKRENQTANPDHFYDRKPRTSN-ETFSGVKIEKHFNVN---TDFQNPVRTSNSFLGVPNGE 588
Bos_taurus        GKRENQTANSDHFYDRKPRTINNEAFSGVKIEKHFNVN---TDYQHPVRMNSSFIGVPNGE 590
Pavo_muticus      GKRENQIHNSENFCDRKARTISNETFM-VKSEQHFGVN---NDYQNTGRTDNFNSIPNGD 585
Pavo_cristatus    GKRENQIHNSENFCDRKARTISNETFM-VKSEHHFGVN---NDYQNTGRTDNFNSIPNGD 585
Gallus_gallus     GKRENQIHNSENFCDRKARTISNETFM-VKSEQHFGVN---NDYQNPCRTDNFNSIPNGD 585
Rhinatrema_bivittatum GKKENQRHNPD-FYDRKSRTINNEFGGLKIEKHFNIN---AEYQNPLRTHVVIDFQNGE 601
Xenopus_tropicalis GKKDDQRYNSEFYTDRRARTGNTETFINIPNEKCFSANNELSNFQTILIKDGANDLSNGE 622
.....610.....620.....630.....640.....650.....660

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Mus_musculus      TAPPLKGRRVGPIKSAGPVTAVPYDD--KIFYN-SGPKRRSGPIKPEKVIESSIPVEYAK 646
Rattus_norvegicus TDMPMKGRRVGPIKPAGPVTAVPYDD--KIFYN-SGPKRRSGPIKPEKVIESSIPVEYAK 647
Homo_sapiens      VEMPLKGRRIGPIKPAGPVTAVPCDD--KIFYN-SGPKRRSGPIKPEKILESSIPMEYAK 647
Pan_troglodytes   VEMPLKGRRIGPIKPAGPVTAVPCDD--KIFYN-SGPKRRSGPIKPEKILESSIPMEYAK 705
Macaca_mulatta    VEMPLKGRRIGPIKPAGPVTTIPYDD--KIFYS-SGPKRRTGPIKPEKILESSIPMEYAK 647
Callithrix_jacchus VEMPLKGRRIGPIKPAGPITAISYDD--KMFYN-SGPKRRSGPIKPEKILESSIPMEYAK 647
Heterocephalus_glaber TEMPLKGRRVGPIKPAGSVAAMPYED--KIFYN-SGPKRRSGPIKPEKVLESSIPMEYAK 647
Equus_caballus    TEMPPKGRRVGPIKPAGPITATPYDD--KIFYN-SGPKRRSGPIKPEKVLESSIPMEYAK 647
Canis_lupus_familiaris TDMPLRGRRVGPIKPAGPITATPYDD--KVIFYN-SGPKRRSGPIKPEKVLESSIPMEYAK 645
Bos_taurus        TEMPLKGRRVGPIKPAGPIMASSCDD--KIFYS-SGPKRRSGPIKPEKVLESSIPMEYAK 647
Pavo_muticus      TEHHQKGRRVGPIKLSSPTVIPSYDD--KILYYNTGPKRRSGPIKPEKIIEPSIHAEYGK 643
Pavo_cristatus    TEHNQKGRRVGPIKLSSPTVIPSYDD--KILYYNTGPKRRSGPIKPEKIIEPSIHAEYGK 643
Gallus_gallus     TEHHQKGRRVGPIKLSGPTIVIPSYDD--KILYYNTGPKRRSGPIKPEKIMEPSIHAEYGK 643
Rhinatrema_bivittatum TDQ--KGRRVGPIKPMGSHMIASVDDRNKIFSYNSGPKRRSGPIKPEKILDDADYPLESGI 659
Xenopus_tropicalis VDQ--KARRFGPIKPIGTNLNSSHEDKSKMFSY-NNAKRRSGPIKQERPLEAVY---SGF 676
.....670.....680.....690.....700.....710.....720

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*:.**:*:*****:****:***** ***** *****:~::~*
Mus_musculus      VWKPGDECFALYWEDNKFYRAEVEALHSSGMTAVVKFTDYGNYEEVLLSNIKPVQTEAWE 706
Rattus_norvegicus MWKPGDECFALYWEDNKFYRAEVEALHSSGMTAVVKFTDYGNYEEVLLSNIKPVQTEAWE 707
Homo_sapiens      MWKPGDECFALYWEDNKFYRAEVEALHSSGMTAVVKFTDYGNYEEVLLSNIKPIQTEAW- 706
Pan_troglodytes   MWKPGDECFALYWEDNKFYRAEVEALHSSGMTAVVKFTDYGNYEEVLLSNIKPIQTEAW- 764
Macaca_mulatta    MWKPGDECFALYWEDNKFYRAEVEALHSSGMTAVVKFTDYGNYEEVLLSNIKPVQTEAW- 706
Callithrix_jacchus MWKPGDECFALYWEDNKFYRAEVEALHSSGMTAVVKFTDYGNYEEVLLSNIKPIQTEAWA 707
Heterocephalus_glaber MWKPGDECFALYWEDNKFYRAEVEALHSSGMTAVVKFTDYGNYEEVLLSNIKPIQTEAW- 706
Equus_caballus    LWKPGDECFALYWEDNKFYRAEVEALHSSGMTAVVKFTDYGNYEEVLLSNIKPIQTEAWL 707
Canis_lupus_familiaris LWKPGDECFALYWEDNKFYRAEVEALHSSGMTAVVKFTDYGNYEEVLLSNIKPIQTEAWL 705
Bos_taurus        LWKSGDECLALYWEDNKFYRAEVEALHSSGMTAVVKFTDYGNYEEVLLSNIKPIQSEAW 707
Pavo_muticus      TWRPGDECFALYWEDNKFYRAEVEALHSSGMTAVVKFSDYGNYEEVLLSNIKPIHADTWE 703
Pavo_cristatus    TWRPGDECFALYWEDNKFYRAEVEALHSSGMTAVVKFSDYGNYEEVLLSNIKPIHADTWE 703
Gallus_gallus     TWRPGDECFALYWEDNKFYRAEVEALHSSGMTAVVKFSDYGNYEEVLLSNIKPIHADTWE 703
Rhinatrema_bivittatum CWRPGDKCFALYWEDNKFYRAEVEALHSSGMTAVVKFSDYGNYEEVLLSNIKPIQAEAWG 719
Xenopus_tropicalis SWRPGDECLALYWEDNKYYRAEVEALHSSGMTAVVKFSDYGNYEEVLLSNIKPIQAEAW 736
.....730.....740.....750.....760.....770.....780

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Mus_musculus      E-----EGTYDHTIEFRRGGDGQP----- 725
Rattus_norvegicus E-----EGTYDHTIEFRRGGDGQP----- 726
Homo_sapiens      -----EEEGTYDQTLFRRGGDGQP----- 726
Pan_troglodytes   -----EEEGTYDQTLFRRGGDGQP----- 784
Macaca_mulatta    -----EEEGTYDQTLFRRGGDGQP----- 726
Callithrix_jacchus LERTISFIVHLLKVMLVDPYLOQQPLIETSRSGEEEGTYDQTLFRRGGDGQP----- 760
Heterocephalus_glaber -----EEEGTYDQTLFRRGGDGQP----- 726
Equus_caballus    Q-----GSWKYTGGRPGSSPGSATYY-L 731
Canis_lupus_familiaris Q-----GSWKCTGGIRPGSSPGSTYY-L 729
Bos_taurus        EE-----GTVDQTLFRRGGDGQP----- 726
Pavo_muticus      D-----EEETYEQTLFRRGGDGQP----- 723
Pavo_cristatus    D-----EEETYEQTLFRRGGDGQP----- 723
Gallus_gallus     D-----EEETYEQTLFRRGGDGQP----- 723
Rhinatrema_bivittatum S-----TFYLNSTASIQPPGCTEKITEEIPD 745
Xenopus_tropicalis E-----EGDFG--DFRRGGDGQP----- 752
.....790.....800.....810.....820.....830.....840

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::. . * .
Mus_musculus      ---RRSTRPTQQFY---OPPRARN--- 743
Rattus_norvegicus ---RRSTRPTQQFY---OPPRARN--- 744
Homo_sapiens      ---RRSTRPTQQFY---OPPRARN--- 744
Pan_troglodytes   ---RRSTRPTQQFY---OPPRARN--- 802
Macaca_mulatta    ---RRSTRPTQQFY---OPPRARN--- 744
Callithrix_jacchus ---RRSTRPTQQFY---OPPRARN--- 778
Heterocephalus_glaber ---RRSTRPTQQFY---OPPRARN--- 744
Equus_caballus    CDFGRKKAPTITKLLSSVEEVTASHGDPGPPSSFTNLPLGLTSMKRVFVKGAID--- 786
Canis_lupus_familiaris CDFGRKKPPMTKRLSSVEEVMASQEDPLGPPSSFTNLPGPGTNMRRVFVKGAIDWSKPV 789
Bos_taurus        ---RRSTRPTQQFY---OPPRARN--- 744
Pavo_muticus      ---RRSTRPTQQFY---OPPRARN--- 741
Pavo_cristatus    ---RRSTRPTQQFY---OPPRARN--- 741
Gallus_gallus     ---RRSTRPTQQFY---OPPRARN--- 741
Rhinatrema_bivittatum LKALQHEGGPVLDMSCLLCEG---DPPGQANGTSHKWCYAALPAEAVSLGRWQY-- 796
Xenopus_tropicalis ---RRSTRPTQQFY---OPPRARN--- 770
.....850.....860.....870.....880.....890.....900

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Mus_musculus	-----	743
Rattus_norvegicus	-----	744
Homo_sapiens	-----	744
Pan_troglodytes	-----	802
Macaca_mulatta	-----	744
Callithrix_jacchus	-----	778
Heterocephalus_glaber	-----	744
Equus_caballus	-----	786
Canis_lupus_familiaris	DRLPTFPPE	798
Bos_taurus	-----	744
Pavo_muticus	-----	741
Pavo_cristatus	-----	741
Gallus_gallus	-----	741
Rhinatrema_bivittatum	-----	796
Xenopus_tropicalis	-----	770
	