

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/RUS2021.pst Tue Feb 1 14:29:12 2022

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      * *****:*****.*** *          ..* :: :*.:.
Mus_musculus      M P L L E L S R M D S P P K L T G E T L I V H H I P L V H C Q V P D R Q C C G G A G G G G G T R A N P F C P P E L G L 60
Rattus_norvegicus M P L L E I S R M D S P P K L T G E T L I V H H I P L V H C Q V P D R Q C C G G A G G G G R T R A N P F C P P E L G L 60
Homo_sapiens      -----M D S P P K L T G E T L I V H H I P L V H C Q V P D R Q C C G G A G G G G S T R P N P F C P P E L G I 52
Pan_troglodytes   -----M D S P P K L T G E T L I V H H I P L V H C Q V P D R Q C C G G A G G G S G S T R P N P F C P P E L G I 52
Macaca_mulatta    -----M D S P P K L T G E T L I V H H I P L V H C Q V P D R Q C C G G A G G G S G S T R P N P F C P P E L G I 52
Callithrix_jacchus M P L F E L S R M D S P P K L T G E T L I V H H I P L V H C Q V P D R Q C C G G A G G G S G S T R P N P F C P P E L G I 60
Canis_lupus_familiaris M P L F E I S R M D S P P K L T G E T L I V H H I P L V H C Q V P D R Q C C G G A S G G S G S T R P N P F C P P D L G I 60
Equus_caballus    M P L F E L S R M D S P P K L T G E T L I V H H I P L V H C Q V P D R Q C C G G A S G G S G S T R P N P F C P S E L G I 60
Bos_taurus        M P L F E L S R M D S P P K L T G E T L I V H H I P L V H C Q V P D R Q C C G G G G G G S G S T R P N P F C P P E L G I 60
Pavo_muticus      -----M D S P P K L T G E T L I V H H I P L V H C Q V P D R Q C C S -----V N K R T N P F C Q P D L G I 46
Pavo_cristatus    -----M D S P P K L T G E T L I V H H I P L V H C Q V P D R Q C C S -----V N K R T N P F C Q P D L G I 46
Gallus_gallus     -----M D S P P K L T G E T L I V H H I P L V H C Q V P D R Q C C S -----V N K R T N P F C Q P D L G I 46
Anas_platyrhynchos -----M D S P P K L T G E T L I V H H I P L V H C Q V P D R Q C C S -----V N K R T N P F C Q P D L N V 46
Chelonia_mydas    -----M D S P P K L A G E T L I V H H I P L V H C Q V P D R Q C C S -----G S K R T N P F C Q P D L G I 46
Xenopus_tropicalis -----M A S P P K L A G E T L I V H H I P L V H C Q V P D R Q R C P -----T S K R S H S Y G Q N D L G L 46
Rhinatrema_bivittatum -----M S V M D S P P K L A G E T L I V H H I P L V H C Q V S D R Q C C S -----T S K R G N P F C Q S D L G I 49
1.....10.....20.....30.....40.....50.....60

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Mus_musculus      T Q ---- P D H D L G Q A D S L L Y P S L H S A P G A P T G S S D S V K S R S R D G R G P G A P K R H N P F L V Q E G 116
Rattus_norvegicus T Q ---- P D Q D L G Q A D S L L Y T S L H S A P G A P T R S S D G V K S R S R D G R G P G A P K R H N P F L V Q E G 116
Homo_sapiens      T Q ---- P D Q D L G Q A D S L L F S S L H S T P G G T A R S I D S T K S R S R D G R G P G A P K R H N P F L L Q E G 108
Pan_troglodytes   T Q ---- P D Q D L G Q A D S L L F S S L H S A P G G T A R S I D S T K S R S R D G R G P G A P K R H N P F L L Q E G 108
Macaca_mulatta    T Q ---- P D Q D L G Q A D S L L F S S L H S A P G G T A R S I D S T K S R S R D G R G P G A P K R H N P F L L Q E G 108
Callithrix_jacchus T Q ---- P D Q D L G Q A D S L L Y S S L H S A P G G T A R S I D S T K I R S R D G R G P G V P K R H N P F L L Q D G 116
Canis_lupus_familiaris T Q ---- P D Q D L G Q A D S L L F N S L H S A P G G S T R P A D S T K S R V R D G R G P G A P K R H N P F L L Q E S 116
Equus_caballus    T K ---- P D Q D L G Q A D S L L Y N S R H S S T G S A R S A D S T K S R G R D G R G P G A P K R H N P F L Q Q E G 116
Bos_taurus        T Q ---- P D Q D L G Q A D S L L Y S S L Q S A P G G S T R S A D S A K S R G R D G R G P G A P K R H N P F L L Q T G 116
Pavo_muticus      T R T S T L P E R D L S Q T D S L V Y S S F L Q A S E S S A E A S D N K E G K A R D L V V P S A S K R H N P F L L T E G 106
Pavo_cristatus    T R T S T L P E R D L S Q T D S L V Y S S F L Q A S E S S A E A S D N K E G K A R D L V V P S A S K R H N P F L L T E G 106
Gallus_gallus     T R T S T L P E R D L S Q T D S L V Y S S F L Q T S E S S A E A S D N K E G K A R D L V V P S A S K R H N P F L L S E G 106
Anas_platyrhynchos T R T S A L P E R D L S Q T D S L V Y S S F L Q T S E S S A E A S D N K E G K A R D L I V A S A S K R H N P F L L N E G 106
Chelonia_mydas    T R T A S L P E R D L L Q A D S L V Y S S L L Q A S D A P A E A A E D K E S K A R D S V I P G I T T R H N P F L L G D S 106
Xenopus_tropicalis T R T T S L P E R D L S Q A D S L V Y S S L I Q A P E P --S G N E T R S K K E E D W Q G P S A R K R H N P F L P S E E 104
Rhinatrema_bivittatum T R T T S L P E R E L S Q T D S L V Y S S L I Q A S A L P A V G S D D A D V K V G D F Q G F V A N K R H N P F L L S K S 109
.....70.....80.....90.....100.....110.....120

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Mus_musculus      V G E T G L G D L H S S T G D S V T - Q Q S F H L H S ----A S Q P -F H L S S F Q L P P S G P G ----Q G R P W 166
Rattus_norvegicus V G E T G L G D L H D G S T G D G A T - Q Q S F H L H S ----T S Q P -F H L S S F Q L P P S G P G ----Q G R P W 166
Homo_sapiens      V G E P G L G D L Y D D S I G D S A T - Q Q S F H L H G ----T G Q P N F H L S S F Q L P P S G P R ----V G R P W 159
Pan_troglodytes   V G E P G L G D L Y D D S I G D S A T - Q Q S F H L H G ----T G Q P N F H L S S F Q L P P S G P R ----V G R P W 159
Macaca_mulatta    V G E P G L G D L Y D D S I G D S A T - Q Q S F H L H G ----T S Q P T F H L S S F Q L P P S G P G ----V G R P W 159
Callithrix_jacchus V G E P G L G D L Y D D S I G D S A T - Q Q S F H L H G ----T G Q P T F H L S S F Q L P P S G P G ----V G R P W 167
Canis_lupus_familiaris V A E P G L G N L Y D D S I V D S A T - Q Q S F H L H G ----A G Q P T F H L S P F Q L P P P G P R ----V G R P W 167
Equus_caballus    V A E P G F G D L Y E D S I G D S A T Q Q Q S F H L H G ----A G Q P T F Q L S S F Q L P P T G P R ----V G R P W 168
Bos_taurus        V A E P G L G D L Y E D S I S D S A A - Q Q S F H L H R ----A G Q P T F H L S S F Q L P P P G P R ----V G R P W 167
Pavo_muticus      E -----D L S V F G D D L G Q K S F H L H N -S L V G G K P P F H L H E L A L P P F H L H D S N H I V K S W 156
Pavo_cristatus    E -----D L S V F G D D L G Q K S F H L H N -S L V G G K P P F H L H E L A L P P F H L H D S N H I V K S W 156
Gallus_gallus     E -----D L S I F G D D L G Q K S F H L H N -S L M G G K P P F H L H E L A L P P F H L H D S N H I V K S W 156
Anas_platyrhynchos E -----D L S I F G D D L G Q K S F H L H N -S L A A G K P P F H L H E L A L P P F H L H D S N Q I V K S W 156
Chelonia_mydas    E -----G H G L L S D S T G Q K S F R L H S -S M V A G K P A F Q L H E L --P P F H L H D A G H V V K P W 154
Xenopus_tropicalis E -----E E D L I V S G -G E T S F H L H N -A S S V P K S C F Q F K E P A L P P F H L H D A A P I V K P W 153
Rhinatrema_bivittatum E -----E H D V Y G D S T S Q M S F H L H N G M A A G K S A F ----C L P P F H L Q E A N N I V K P W 155
.....130.....140.....150.....160.....170.....180

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/RUS021221 **Size: 1.1 MB** **Date: Tue Feb 1 14:29:12 2022**

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	.:.*:*** : : *	:	.
Mus_musculus	GATHSRPGVVEGOEQDPATILG-TQCSTSHCCRPELEAERMELDECGGHGGSGSGGGTS-	224	
Rattus_norvegicus	GAARSRPGVVEGOEQDPATILG-TQCNSHCCRPEPEAETMELDECGGHGGSGSGGGNN-	224	
Homo_sapiens	GTTRSRAGVVEGOEQEPVMILDTQCCGTSHCCRPELEAETMELDECGGPGGSGSGGGAS-	218	
Pan_troglodytes	GTTRSRAGVVEGOEQEPVMILDTQCCGTSHCCRPELEAETMELDECGGPGGSGSGGGAS-	218	
Macaca_mulatta	GATRSRAGVVEGOEQEPVTILDTQCCSAHCCRPELEADTMELDECGGPGGSGSGGGAS-	218	
Callithrix_jacchus	GATRSRAGVVEGOEQEPVMILNTPQCGTSHCCRPELEAETMELDECGGPGGSGSGGGAS-	226	
Canis_lupus_familiaris	GATRSRAGVVEGOEQEPVATVDPQHCSTSHCCRPDLEAETMELDECGGPGGSGSGGGAS-	226	
Equus_caballus	GTTRSRAGVVEGOEQEPVTILDTQECSTSYCCRPELEAETMELDECGGPGGSGSGGGAS-	227	
Bos_taurus	GAARSRAGVVEGOEQEPVTILDAFHCSTGRCCRPEPEAETMELDECGGPGGSGSGGGAS-	226	
Pavo_muticus	NMAS-RSGVVDGQEDK-ISSDDIQKRNNANRCH--QATERMELDECSCNRGSSSSFSFDG	212	
Pavo_cristatus	NMAS-RSGVVDGQEDK-ISSDDIQKRNNANRCH--QATERMELDECSCNRGSSSSFSFDG	212	
Gallus_gallus	NMAS-RSGVVDGQEDK-ISSDDIQKRNNANRCH--QATERMELDECSCNRGSSSSFSFDG	212	
Anas_platyrhynchos	NMAS-RSGVVDGQEDK-ISSDDIQKRNNANRCH--QATERMELDECSCNRGSSSSFSFDG	212	
Chelonia_mydas	SMAS-RSGVVDGQEDK-RTSADVQKRNNADYCL--LASERMELDECSCQRGSS--FSFEG	207	
Xenopus_tropicalis	ILTG-RSGLVDGQEEK-TSPDDLOKGSNNGQ----PSEFITEEHVWNQHTVPAYTLD-	205	
Rhinatrema_bivittatum	SMAS-RPGVVDGQEAK-SPMDNIQK-RNANRGR--LVSECMELDECSEFHDSSSNFSLDC	210	
190.....200.....210.....220.....230.....240		

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Mus_musculus	DISGFSFEQEWKISSDES	PRHPGRSGSGTQ	---	HCHCSSTSSQSEAADQ	SMGYVSDSSCN	281			
Rattus_norvegicus	DISGFSFEQEWKLSSDES	PRHPGRSGSGAQ	---	HCHCSSTSSQSEAADQ	SMGYVSDSSCN	281			
Homo_sapiens	DTSGFSFDQEWKLSSDES	PRNPGCSGSGDQ	---	HCRCSTSSQSEAADQ	SMGYVSDSSCN	275			
Pan_troglodytes	DTSGFSFDQEWKLSSDES	PRNPGCSGSGAQ	---	HCRCSTSSQSEAADQ	SMGYVSDSSCN	275			
Macaca_mulatta	DTSGFSFDQEWKLSSDES	PRNPGCSGSGAQ	---	HCRCSTSSQSEAADQ	SMGYVSDSSCN	275			
Callithrix_jacchus	DTSGFSFDQEWKLSSDES	PRNPGCSGSGAQ	---	HCRCSTSSQSEAADQ	SMGYVSDSSCN	283			
Canis_lupus_familiaris	DTSGFSFDQEWKLSSDES	PRNPGCSGSGPQ	---	HCRCSTSSQSEAADQ	SMGYVSDSSCN	283			
Equus_caballus	DTSGFSFDQEWKLSSDES	PRNPGCTGSGPQ	---	HCRCSTSSQSEAADQ	SMGYVSDSSCN	284			
Bos_taurus	DTSGFSFDQEWKLSSDES	PRNPRCSGSGTQ	---	HCRCSTSSQSEAADQ	SMGYVSDSSCN	283			
Pavo_muticus	GDQEWNQNTGESLRNHDLHSRTCS	CSSE-LQHCRCYSSSSQSEVIDQ	QMGYISDSSCN	271					
Pavo_cristatus	GDQEWNQNTGESLRNHDLHSRTCS	CSSE-LQHCRCYSSSSQSEVIDQ	QMGYISDSSCN	271					
Gallus_gallus	GDQEWNQNTGESLRNHDLHSRTCS	CSSE-LQHCRCYSSSSQSEVIDQ	QMGYISDSSCN	271					
Anas_platyrhynchos	GDQEWNQNTGEPLRNQDALHSRTCS	CSSE-LHRCRCYSSSSQSEVIDQ	QMGYISDSSCN	271					
Chelonia_mydas	GDQDWNNGSDESGRNLAAPHSR	TCSSTE-LLPCRCYSTSSQSETG	DQMGYISDSSCN	266					
Xenopus_tropicalis	----WNQSS--VLGNQDLLSRECS	CNGSDTLRHRCRCYSSSQSEM-	DQVSVSDSSCN	258					
Rhinatrema_bivittatum	GDPEWNNSSDES LRNQEIPRSRTCS	CSSE-LQHCRCYSSSQSEMDHQ	MGYISDSSCN	269					

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Mus_musculus	SSDGVLVTFSTLYNKMHSRRANLNSVPOQSCDSSFCSHADPGAFYLDLQPSPAESRMSC	341
Rattus_norvegicus	SSDGVLVTFSTLYNKMHGSPRANLNSVPOQSCDSSFCSHADPGAFYLDLQPSPAESRMSC	341
Homo_sapiens	SSDGVLVTFSTLYNKMHGTPRANLNSAPOQSCDSSFCSHSDPGAFYLDLQPSPFESKMSY	335
Pan_troglodytes	SSDGVLVTFSTLYNKMHGTPRANLNSAPOQSCDSSFCSHSDPGAFYLDLQPSPFESKMSY	335
Macaca_mulatta	SSDGVLVTFSTLYNKMHGTPRANLNSAPOQSCDSSFCSHSDPGAFYLDLQPSPAESKMSY	335
Callithrix_jacchus	SSDGVLVTFSTLYNKMHGTPRANLNSAPOQSCDSSFCSHSDPGAFYLDLQPSPAESKMSC	343
Canis_lupus_familiaris	SSDGVLVTFSTLYNKMHGNSRANLNSAPOQSCNSFFCCHSDPGAFYLDLQPSPAESKMSC	343
Equus_caballus	SSDGVLVTFSTLYNKMHGNSHANLNSAPOQSCDSSFCCHSDPGAFYLDLQTFPAE-----	339
Bos_taurus	SSDGVLVTFSTLYNKMHGNSRANLNSAPOQSCDSSFFYCHSDPGAFYLDLQPSPAESKMSC	343
Pavo_muticus	SSDGVLVNFSALYNKMNGHRSRNLNSANLSC-DSSFCCHSDTGAFYLDLHSSPTESKMSC	330
Pavo_cristatus	SSDGVLVNFSALYNKMNGHRSRNLNSANLSC-DSSFCCHSDTGAFYLDLHSSPTESKMSC	330
Gallus_gallus	SSDGVLVNFSALYNKMNGHRSRNLNSANLSC-DSSFCCHSDTGAFYLDLHSSPTESKMSC	330
Anas_platyrhynchos	SSDGVLVNFSALYNKMNGHRSRNLNSANLSC-DSSFCCHSDTGAFYLDLHSSPTESKMSC	330
Chelonia_mydas	SSDGVLVNFSALYNKMNGHRSRNLNSANLSC-DSSFCCHSDAGAFYLDLHSSPTESKMSC	325
Xenopus_tropicalis	SSDGILVNFSSTLYNKMNGQPRSNLNSGSLSC-DSSFCCHPDTGAFYLDLQPSPAESKMSC	317
Rhinatrema_bivittatum	SSDGVLVNFSALYNKMNEHRSRNLNSANLSC-DSSFCCHSDTGAFYLDLHSSPTESKMSY	328
310.....320.....330.....340.....350.....360	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Mus_musculus	ESHHP	ENG	DRE	EGCG	PHV	SSPELD	ANC	NAY	HPH	SEP	---CP	AVADLT	TACF	OSQ	ARLVV	397		
Rattus_norvegicus	ESHHP	ES	GDRE	EGCG	PHA	SSPELD	ANC	NAY	RPH	CEP	---CP	AVADLT	TACF	OSQ	ARLVV	397		
Homo_sapiens	ESHHP	ES	GGRE	GGYG	CPHA	SSPELD	ANC	NSY	RPH	CEP	---CP	AVADLT	TACF	OSQ	ARLVV	391		
Pan_troglodytes	ESHHP	ES	GGRE	GGCG	CPHA	SSPELD	ANC	NSY	RPH	CEP	---CP	AVADLT	TACF	OSQ	ARLVV	391		
Macaca_mulatta	ESHHP	ES	GGRE	GGYG	CPHA	SSPELD	ANC	NSY	RPH	CEP	---CP	AVADLT	TACF	OSQ	ARLVV	391		
Callithrix_jacchus	ESHHP	ES	AGRE	GGYG	CPHA	SSPELD	ANC	NSY	RPH	CEP	---CP	AVADLT	TACF	OSQ	ARLVV	399		
Canis_lupus_familiaris	ESHHP	DS	GGRE	GSYG	CPHA	SSPELD	ANC	NSY	RPH	CEP	---CP	AVADLT	TACF	OSQ	ARLVV	399		
Equus_caballus	ESHHP	PN	GGRE	GGYG	CPHA	SSPELD	ANC	NSY	HPH	CEP	---CP	AVADLT	TACF	OSQ	ARLVV	395		
Bos_taurus	ESHHP	DS	GGRE	GGYG	CPHA	SSPELD	ANC	NSY	RPH	CEP	---CP	AVADLT	TACF	OSQ	ARLVV	399		
Pavo_muticus	ESHHP	ES	SGKT	--	CECHRS	SSP	VLD	ANC	NSY	HLH	CEP	--CT	SESSDL	TACF	OSQ	ARLVV	385	
Pavo_cristatus	ESHHP	ES	SGKT	--	CECHRS	SSP	VLD	ANC	NSY	HLH	CEP	--CT	SESSDL	TACF	OSQ	ARLVV	385	
Gallus_gallus	ESHHP	ES	SGKT	--	CECHRS	SSP	VLD	ANC	NSY	HLH	CEP	--CT	SESSDL	TACF	OSQ	ARLVV	385	
Anas_platyrhynchos	ESHHP	ES	SGKA	--	CECHHS	SSP	VLD	ANC	NSY	HLH	CEP	--CT	SESSDL	TACF	OSQ	ARLVV	385	
Chelonia_mydas	ESHNP	ES	SGKV	--	CGCHHP	SSP	VLD	ANC	NSY	HLH	CEP	--CT	SESSDL	TACF	OSQ	ARLVV	380	
Xenopus_tropicalis	DSHL	HECS	GKQ	--	CGFHHP	SSP	VLD	ANC	NSY	HLN	CDLRQ	CP	GENSEL	TS	CFOSQ	ARLVV	375	
Rhinatrema_bivittatum	DSHN	PEGS	SGKA	--	CGCLHS	SSP	VLD	ANC	NSY	HLH	CEP	MP	CP	SDSSDL	TACF	OSQ	ARLVV	385
	370	380	390	400	410	420						

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Mus_musculus	ATQNYKKLVTC	CDLSSQSSSP	PAGSSITSCSEEHTKISPPPGPCPD	PDNOPS	EYLLFQKP	457		
Rattus_norvegicus	ATQNYKKLVTC	CDLSSQSSSP	PAGSSITSCSEEHTKISPPPGPGSD	PDPSQP	EYLLFQKP	457		
Homo_sapiens	ATQNYKKLVTC	CDLSSQSSSP	PAGSSITSCSEEHTKISPPPGPGPD	PGPSQP	EYLLFQKP	451		
Pan_troglodytes	ATQNYKKLVTC	CDLSSQSSSP	PAGSSITSCSEEHTKISPPPGPGPD	PGPSQP	EYLLFQKP	451		
Macaca_mulatta	ATQNYKKLVTC	CDLSSQSSSP	PAGSSITSCSEEHTKISPPPGPGPD	PGPSQP	EYLLFQKP	451		
Callithrix_jacchus	ATQNYKKLVTC	CDLSSQSSSP	PAGSSITSCSEEHTKISPPPG--	PDPGPSQP	EYLLFQKP	457		
Canis_lupus_familiaris	ATQNYKKLVTC	CDLSSQSSSP	PAGSSITSCSEEHTKIS	PAPGPGPD	PGPSQP	EYLLFORP	459	
Equus_caballus	ATQNYKKLVTC	CDLSSQSSSP	PAGSSITSCSEEHTKIS	PAPGPGPH	PGPSQP	EYLLFQKP	455	
Bos_taurus	ATQNYKKLVTC	CDLSSQSSSP	PAGSSVTS	CSEEHTKIS	PAPGPGPD	PGPSQP	EYLLFQKP	459
Pavo_muticus	ATQNYKKLVTC	CDLSSQSSSP	PAGSSITSC	SEDQTKGS	-----	PAOPT	EYLLFRRP	435
Pavo_cristatus	ATQNYKKLVTC	CDLSSQSSSP	PAGSSITSC	SEDQTKGS	-----	PAOPT	EYLLFRRP	435
Gallus_gallus	ATQNYKKLVTC	CDLSSQSSSP	PAGSSITSC	SEDQTKGS	-----	PAOPT	EYLLFRRP	435
Anas_platyrhynchos	ATQNYKKLVTC	CDLSSQSSSP	PAGSSITSC	SEDHTKGS	-----	PAOPT	EYLLFRRP	435
Chelonia_mydas	ATQNYKKLVTC	CDLSSQSSSP	PAGSSITSC	SEDHTKGS	-----	PVOP	EYLLFRRP	430
Xenopus_tropicalis	ATQNYKKLVTC	CDLSSQSSSP	PAGSSITSC	SDEQTKGS	-----	PVOP	EYFLFOQP	425
Rhinatrema_bivittatum	ATQNYKKLVTC	CDLSSQSSSP	PAGSSITSC	SEEHTKIS	-----	PVOP	EYLLFOQP	435
430440450460470480		

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Mus_musculus	DIQPEEQEAVGSPAEAAATAMGPTVLEGOVYTNTSPPNLTGRQRSRSYDRSLERSPPVRL	517		
Rattus_norvegicus	----EEQEAVGSSTEAATTMGPTVLEGOVYTNTSPPNLSTGRQRSRSYDRSLERSPAVRL	513		
Homo_sapiens	EVOPEEQEAVSSTQAAAAVGPTVLEGOVYTNTSPPNLSTGRQRSRSYDRSLQRSPPVRL	511		
Pan_troglodytes	EVOPEEQEAVSSTQSAAAAGPTVLEGOVYTNTSPPNLSTGRQRSRSYDRSLQRSPPVRL	511		
Macaca_mulatta	EVOPEEQEAVSSSEIAAAGPTVLEGOVYTNTSPPNLSTGRQRSRSYDRSLERSPPVRL	511		
Callithrix_jacchus	EVC-EEQEGVSSSVFAAAAMGPPVFEGOVYTNTSPPNLSTGRQRSRSYDRSLQRSPPVRL	516		
Canis_lupus_familiaris	EVOPEEQGAVGSSVEAATPVGPVTIEGOVYTNTSPPNLSTGRQRSRSCDRSLARSPPVRL	519		
Equus_caballus	EVOPEEQEAGGSSEIAAAPVGPAMIEGOVYTNTSPPNLSTGRQRSRSYDRSLERSPPVRL	515		
Bos_taurus	EVOPEEQEAVGSEVEAEAPMGRTVIEGOVYTNTSPPNLSTIGRQRSRSYDRSLERSPPVRL	519		
Pavo_muticus	DLREEGNVECSEETIKGESTENMIEGOVVNVSPPNLNTSRQRSRSYDQNLDPSGNRL	495		
Pavo_cristatus	DLREEGNVECSEETIKGESTENMIEGOVVNVSPPNLNTSRQRSRSYDQNLDPSGNRL	495		
Gallus_gallus	DLREEGNVECSEETIKGETTENMIEGOVVNVSPPNLNTSRQRSRSYDQNLDPSGNRL	495		
Anas_platyrhynchos	DLRQEESNVECSEETIKGEATQNMIEGOVVNVSPPNLNTSRQRSRSYDQNLDPSSSL	495		
Chelonia_mydas	DAKPEESDGECFMAETKGEAVKNMIEGOVVNISPPNLNAGRPRSRSYDRNLDPSPTSRL	490		
Xenopus_tropicalis	DINLDTVEPKGPIERSKSD-----IIEGOVVNVSPPNFTTGRQRSRSYDRSLDKSPSTR	481		
Rhinatrema_bivittatum	ETTQGEDADCFRDMSQEDLENAIEGOVVNVSPPNLNTGRQRSRSYDRSLDRSPSVRL	495		
490.....500.....510.....520.....530.....540			

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/RUS02a.fst Tue Feb 14:29:12 2022

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*****:****:***:
Mus_musculus      GSLERMLS CPVRLS EGPAAALAGPASPPRRVTSFAELAKGRKKAAGSGSPPLRASVGDSSQ 577
Rattus_norvegicus GSLERMLS CPVRLS EGPALAGPASPPRRVTSFAELAKGRKKAAGSGSPPLRVSIGDSSQ 573
Homo_sapiens      GSLERMLS CPVRLS EGPAAAMAGPGSPRRVTSFAELAKGRKKTGGSGSPPLRVSVGDSSQ 571
Pan_troglodytes   GSLERMLS CPVRLS EGPAAAMAGPGSPRRVTSFAELAKGRKKTGGSGSPPLRVSVGDSSQ 571
Macaca_mulatta    GSLERMLS CPVRLS EGPAAIAGPSPPRRVTSFAELAKGRKKTGGSGSPPLRVSVGDSSQ 571
Callithrix_jacchus GSLERMLS CPVRLS EGPATAMAGPSPPRRVTSFAELAKGRKKTGGSGSPPLRVSVGDSSQ 576
Canis_lupus_familiaris GSLERMLS CPVRLS EGPAAALAGTGSPPRRVTSFAELAKGRKKVAGSGSPPLRVSIGDSSQ 579
Equus_caballus    GSLERMLS CPVRLS EGPAAALAGPSPPRRVTSFAELAKGRKKAAGSGSPPLRVSIGDSSQ 575
Bos_taurus        GSLERMLS CPVRLS EGPAAITGPSPRRVTSFAELAKGRKKAAGSGSPPLRASTGDSSQ 579
Pavo_muticus      GSLERMVS CPVKLS ESPAIPIQ--SSPPKRVTSFAELAKGRKKNST--PPLRCS--GDSSL 551
Pavo_cristatus    GSLERMVS CPVKLS ESPAIPIQ--SSPPKRVTSFAELAKGRKKNST--PPLRCS--GDSSL 551
Gallus_gallus     GSLERMVS CPVKLS ESPAIPIQ--SSPPKRVTSFAELAKGRKKNST--PPLRCS--GDSSL 551
Anas_platyrhynchos GSLERMVS CPVKLS ESPAIPIQ--SSPPKRVTSFAELAKGRKKNST--PPLRCS--GDSSL 551
Chelonia_mydas    GSLERMVS CPVKLS ESPALTIQ--SLPPKRVTSFAELAKGRKKNGS--PPLRCS--GDSSL 546
Xenopus_tropicalis GSLERMLS CPVKLS EGVQVQAQ--SSSPKRVTSFELAKSRKKNGTS--PPLRCS--GDSSL 537
Rhinatrema_bivittatum GSLERMLS CPVKLS DSTHTTSTQ--DSVPRRVTSFVELAKSRKKNGFS--PPLRCS--GDSSL 551
.....550.....560.....570.....580.....590.....600

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*** * * :*:
Mus_musculus      EFSPIQEAQQDRAAPLDEGTRCSHSLPSPPLGPSLDLLGPEP---WSTPVCQGSQSSEMP 634
Rattus_norvegicus EFSPIQEAQQDRAGPLDEGTRCSHSLPSPMLGPSLDLLGPEP---WSTQVCQDPQSSEML 630
Homo_sapiens      EFSPIQEAQQDRGAPLDEGTCCSHSLPMPPLGPGMDLLGPDPSPPWSTQVCQGPHSSEMP 631
Pan_troglodytes   EFSPIQEAQQDRGAPLDEGTRCSHSLPMPPLGPGMDLLGPEPSPPWSTQVCQGPHSSEMP 631
Macaca_mulatta    EFSPIQEAQQDRGAPLDEGTRCSHSLPMPPLGPGMDLLGPKPSPPWSTQVCQGPHSSEMP 631
Callithrix_jacchus EFSPIQEAQQDRGAPLDEGTHCSHSLPMPPLGPGMDLLGPEPSPPWSTQVCQGPHASEMP 636
Canis_lupus_familiaris EFSPIQEAQQDRVGPLDEGTRCSHSLPMPPLGPGMDLVGPES---WSTQVCQGPQSSEVP 636
Equus_caballus    DFSPIQEAQQDRVGPLDEGTRCSHSLPMPPLGPGMDLLDPEP---WSTQVCQGPQSSEMP 632
Bos_taurus        EFSPIQEAQQDRVGPLDEGTHCSHSLPMPPLGPGMDLVGPEP---WSTQVCQGSQSSEMP 636
Pavo_muticus      EFSPIPEAQRDCPTFLEERAHRSQSLPMPFIHGLNQSCEGFCNLNHPFGDRQALCSTKDS 611
Pavo_cristatus    EFSPIPEAQRDCPTFLEERAHRSQSLPMPFIHGLNQSCEGFCNLNHPFGDRQALCSTKDS 611
Gallus_gallus     EFSPIPEAQRDCPTFLEERAHRSQSLPMPFIHGLNRSCEGFCNLNHPFGDRQALCSTKDS 611
Anas_platyrhynchos EFSPIPEAQRDCPTFLEERARRSQSLPMPFVHGLNRSCEGFCNLNHPFGDRQALCSTKDS 611
Chelonia_mydas    EFSPIPEFQRDCPTGLLEDRARRCSQSLPMPFVHGLNRSCEGSRVEHRLGDPRACSSKDS 606
Xenopus_tropicalis EFSPIPEFHRDNGITHEHGEFRSHSLPMPMSFLHCRSRTCEGCTGDTREAKAT---NSNQM 594
Rhinatrema_bivittatum EFSPIPEFQKDCPVFARDGEHRCQSLPMPVVFQCNWSSEGSRGSGFGEGQ---EVSFQ 608
.....610.....620.....630.....640.....650.....660

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* . . . * * * *:
Mus_musculus      LPSLRRA-----GQGPLAQLMDPGPAFSGSPATSHRTQDTSRARAD-----GGG 677
Rattus_norvegicus LPSLRAS-----GQGLLAQPMDFVPALLGSPANSHRTQDARARAD-----GGG 673
Homo_sapiens      PAGLRAT-----GQGPLAQLMDPGPALPGSPANSHRTQDARARAD-----GGG 674
Pan_troglodytes   PAGLRAT-----GQGPLAQLMDPGPALPGSPANSHRTQDARARAD-----GGG 674
Macaca_mulatta    PAGLRAA-----GQGPLAQLMDPGTALPGSPANSHRTQDARARAD-----GGG 674
Callithrix_jacchus PAGLRAA-----GQGMALAQLMDPGTALPGSPASHTQDTRARAD-----GGG 679
Canis_lupus_familiaris PASLRAA-----GQGPLAQLMDPGPALPGSPANSHRTQKDTRARAD-----GGG 679
Equus_caballus    SAGLRAA-----EQGPLAQLMDPGPALPGSPANSHRTQDARARAD-----GGG 675
Bos_taurus        PAGLRAA-----GQGPLAQLMDPGPALPGSPANSHRTQDARAKADVFDSSIPVAAAGG 690
Pavo_muticus      GPSETFPSGHHGAGEQASLTVLMEADANFSGSSTSGHGQORDVRARAD-----GGG 660
Pavo_cristatus    GPSETFPSGHHGAGEQASLTVLMEADANFSGSSTSGHGQORDVRARAD-----GGG 660
Gallus_gallus     GPNETVSSGHHGAGEQASLTLLTEADANFSGSSTSGHGQORDVRARAD-----GGG 660
Anas_platyrhynchos GSTETVPSGHHGAGEQASLTLLTEADANFSGSSTSGHGQORDVRARAD-----GGG 660
Chelonia_mydas    GAN-----GPEAAEQASLTLLMEAGASFSGSPASGHGQORDVRARAD-----GGG 650
Xenopus_tropicalis GAALQTSGLCDIDADEDL---LCDGMEPGGSGLSFLQLDLRAKGD-----GIG 639
Rhinatrema_bivittatum GAAQVLA-----SLESGLSDGHVQDPRAKAD-----GLG 639
.....670.....680.....690.....700.....710.....720

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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*.*.*.:*****.*.*.*.*	*.*.*.*	*:***.*	.	
Mus_musculus	TESRPVLRYSKEQRPRTLPIQPFVFOHHFPKOLAKARALHS	-----	LSQLYSLSMPC	CSRA	732
Rattus_norvegicus	TESRPVLRYSKEQRPRTLPIQPFVFOHHFPKOLAKARALHS	-----	LSQLYSLSG	-CSRA	727
Homo_sapiens	TESRPVLRYSKEQRPRTLPIQPFVFOHHFPKOLAKARALHS	-----	LSQLYSLSG	-CSRT	728
Pan_troglodytes	TESRPVLRYSKEQRPRTLPIQPFVFOHHFPKOLAKARALHS	-----	LSQLYSLSG	-CSRT	728
Macaca_mulatta	TESRPVLRYSKEQRPRTLPIQPFVFOHHFPKOLAKARALHS	-----	LSQLYSLSG	-CSRT	728
Callithrix_jacchus	TESRPVLRYSKEQRPRTLPIQPFVFOHHFPKOLAKARALHS	-----	LSQLYSLSG	-CSRT	733
Canis_lupus_familiaris	AESRPVLRYSKEQRPRTLPIQPFVFOHHFPKOLAKARALHS	-----	LSQLYSLSG	-CSRA	733
Equus_caballus	AESRPVLRYSKEQRPRTLPIQPFVFOHHFPKOLAKARALHS	-----	LSQLYSLSG	-CSRA	729
Bos_taurus	AESRPVLRYSKEQRPRTLPIQPFVFOHHFPKOLAKARALHS	-----	LSQLYSLSG	-CSRA	744
Pavo_muticus	TDSKPVVRYSKDQRPRTLPIQPFVFOHHFSKP	-PKARALHSHFASSL	SQLYGLSSNRSAS		719
Pavo_cristatus	TDSKPVVRYSKDQRPRTLPIQPFVFOHHFSKP	-PKARALHSHFASSL	SQLYGLSSNRSAS		719
Gallus_gallus	TDSKPVVRYSKDQRPRTLPIQPFVFOHHFSKP	-PKARALHSHFASSL	SQLYGLSSNRPAS		719
Anas_platyrhynchos	ADSKPVVRYSKDQRPRTLPIQPFVFOHHFSKP	-PKARALHSHFASSL	SQLYGLSSNRAAS		719
Chelonia_mydas	ADSKAVVRYSKDQRPRTLPIQPFVFOHHFSKP	-PKARALHSHFAASLAQLYGASSSRPAS			709
Xenopus_tropicalis	AEAKPVFRYSKDQRPRTLPIQPFVFOHHFTK	--PKTRPLHSHFTSSSL	SQLYGLSSGRPSN		697
Rhinatrema_bivittatum	SDGKPVVRYSRDQRPRTLPIQPFVFOHHFSKT	-AKPRPLHSHFTSSSL	SQLYGLSSAGRAPS		698
730.....740.....750.....760.....770.....780				

	*	.	.	:	.	*::*	*****	
Mus_musculus	QQP-----	APLVISTA	QGPAPAPSGEP	QPF	TSQASGRGARNAGPE	PETSRPSPLGS		783
Rattus_norvegicus	QQP-----	APLVISTA	QGSAPAPSGEP	QAF	PSQTTRGGRARNAGPE	PETSRPSPLGS		778
Homo_sapiens	QQP-----	APLAAPAA	QVSVAPAPSGEP	QASTPRAT	TRGGRARKAGSE	PETSRPSPLGS		779
Pan_troglodytes	QQP-----	APLAAPAA	QVSVAPAPSGEP	QASTPRAT	TRGGRARKAGSE	PETSRPSPLGS		779
Macaca_mulatta	QQP-----	APLAAPAA	QVSVAPAPSGEP	QASTLRAT	TRGGRARKAGSE	PETSRPSPLGS		779
Callithrix_jacchus	QQP-----	APVAAPTA	QVSVAPAPSGEP	QASTPRAT	TRGGRARKAGSE	PETSRPSPLGS		784
Canis_lupus_familiaris	QQP-----	ASLAASTA	QAPTLLASSGES	QAPTN---	RGARKAGPE	PETSRPSPLGS		780
Equus_caballus	QQP-----	APLAAPTA	QVPAPAPSGES	QASAN---	KGAGKAGPE	PETSRPSPLGS		776
Bos_taurus	QQP-----	APAAAPT	QAGPAPAPSGEP	QAPTH---	RGARKARPE	PETSRPSPLGS		791
Pavo_muticus	QQISSSSQ	NSAALAEQ	SAVAGGQAHG	MLLTQRSADGAAS	LNDGCIKKAAP	PETTRPSPLGS		779
Pavo_cristatus	QQISSSSQ	NSAALAEQ	SAVAGGQAHG	MLLTQRSADGAAS	LNDGCIKKAAP	PETTRPSPLGS		779
Gallus_gallus	QQISSSSQ	NSAALAEQ	SAVAGGQAHG	VLLTQRSADGAAS	LNDGCIKKTAP	PETTRPSPLGS		779
Anas_platyrhynchos	QQISSSSQ	---ALAEQ---	AAGSQAHS	ALLTQRSADGAAS	LNDGCMKKP	PAPETTRPSPLGS		774
Chelonia_mydas	QQPSSNSR	-GSTSAEQ	PGAAGGPAH	GALLAQRSADGAAS	LSDGYAKKP	PAPESTRPSPLGS		768
Xenopus_tropicalis	QQMASDSQ	---SSAPG	TLTSTQTEPRVIS	LQGHQSQDRRT	SKKEETKNP	PAPDSTRPSPLGS		754
Rhinatrema_bivittatum	QQNSDESO	---SSATS	SAGLCMEQIQ	AQRPPGKRSADG	---ADGCGRKP	TPETARLSPLGS		752
790.....	800.....	810.....	820.....	830.....	840		

	***:	.	*:..	*	:	*	..**	.	:	
Mus_musculus	YSPVRSAGPFGS	STDSSASTS	CSPPPEQGTAA	SVSPW	SH	CPPI	VRPAT	SQQ	-----	836
Rattus_norvegicus	YSPVRSAGPFGS	STDSSASTS	CSPPPEQATASE	SLRPW	SH	CPPI	VVRPAT	SQQ	-----	831
Homo_sapiens	YSPIRSVGPF	GPSTDSSASTS	CSPPPEQPTATES	SLPPW	SH	CP	SAVRPAT	SQQ	-----	832
Pan_troglodytes	YSPIRSVGPF	GPSTDSSASTS	CSPPPEQPTATES	SLPPW	SH	CP	PAVRPAT	SQQ	-----	832
Macaca_mulatta	YSPIRSVGPF	GPSTDSSASTS	CSPPPEQPTATES	SLPPW	SH	CP	SAVRPAT	SQQ	-----	832
Callithrix_jacchus	YSPIRSVGPF	GPSTDSSASTS	CSPPPEQPTATES	SLPPW	SH	CP	AVQPDAS	SQQ	-----	836
Canis_lupus_familiaris	YSPIRSAGPFG	PSTDSSASTS	CSPPPEQATATES	PPPW	SH	CP	FVARPAT	SQQ	-----	833
Equus_caballus	YSPIRSAGPFG	PSTDSSP	STSCSPPLEQATATES	PPPW	SH	CP	PAVRPAT	SQQ	-----	829
Bos_taurus	YSPIRSTGPF	GPSTDSSASTS	CSPLPEQATATES	PPPW	GL	CP	PAVRPAV	SQQ	-----	844
Pavo_muticus	YSPVRCNV	PFFQ	GVDDSS	-----	SP	TTERAGES	QPPRSRS	CPISASLLPTR	SSPAVSAM	833
Pavo_cristatus	YSPVRCNV	PFFQ	GVDDSS	-----	SP	TTERAGEN	QPPRSRS	CPISASLLPTR	SSPAVSAM	833
Gallus_gallus	YSPVRCNV	PFFQ	GVDDSS	-----	SP	TTERAGES	QPPRSRS	CPISASLLPTR	SSPAVSAM	833
Anas_platyrhynchos	YSPVRCNV	PFFQ	GVDDSS	-----	SP	TAERAGES	QPPRSRS	CPISANLLPTR	SSPAVSAT	828
Chelonia_mydas	YSPVCS	MAPFFQ	SLDSSSG	----	SP	TPERAGES	SHPPRSRS	CPLSANLLPTR	ASPAAGAA	823
Xenopus_tropicalis	YSPIRS	NATFFQ	MDSGSS	----	SP	SP-EKAKET	QPPRSRS	CPMSANLLPFR	ASPARGTT	810
Rhinatrema_bivittatum	YSPVRGGGT	PKCV	ITDSSSG	---	SP	TPPERAKE	PRPPRSRS	CPLSANLLPTR	PSARGTA	809
850860870880890900				

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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                                *  **
Mus_musculus      -----PPKE-----DQKIPTLAEYRLHGTGS 857
Rattus_norvegicus -----PRKE-----DQKIPTLAEYRLHGTGS 852
Homo_sapiens      -----PQKE-----DQKILTLTEYRLHGTGS 853
Pan_troglodytes   -----PQKE-----DQKILTLTEYRLHGTGS 853
Macaca_mulatta    -----PQKE-----DQKILTLTEYRLHGTGS 853
Callithrix_jacchus -----PQKE-----DQKILTLAEYRLHGTGS 857
Canis_lupus_familiaris -----PQKE-----DQKILTLAEYRLHGTGS 854
Equus_caballus    -----PPKE-----DQKILTLAEYRLHGTGS 850
Bos_taurus        -----PQKE-----DPKILTLAEYRLHGTGS 865
Pavo_muticus      QPTQV-----TKVDASRONENPRVPKKE-APLESPPFSEYRLHSRSLPLSLSSVPM 886
Pavo_cristatus    QPTQV-----TKVDASRONENPRVPKKE-APLESPPFSEYRLHSRSLPLSLSSVPM 886
Gallus_gallus     QPTQV-----TKVDALRONENPKVPKKE-APLESPPFSEYRLHSRSLPLSLSSVPM 886
Anas_platyrhynchos QPSQA-----TKADALROKENPRLVPKKE-APLESPHLSEYRLHSGSLPLSLGGVPL 881
Chelonia_mydas    LP-----AQADALHRQESPRPGPRKE-APLEQSTRVSEYRLHGGSLPLPLASEGASA 873
Xenopus_tropicalis LPGAAKPPQKYEVSPKVEVQRTAVKEPMKEPSPLVSKH-----GLQP--ITSIPLLSI-V 862
Rhinatrema_bivittatum RGPPAELAR-PGPREAPQESRTPRVPKKEAGALERKSKPSGLGLKPGSLPPWPLLEPGP 868
.....910.....920.....930.....940.....950.....960

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                                .  .  .  .  :  *  *  *****:****
Mus_musculus      LPPLGSWRSGLFTRAESLVRGGGEGSMANRPNNANHLSPQALKWREYRRKNPLGP----- 911
Rattus_norvegicus LPPLGSWRSGLFTRTESLARGGGEGSMASRPNNVNHLSPQALKWREYRRKNPLGP----- 906
Homo_sapiens      LPPLGSWRSGLSRAESLARGGGEGSMATRPNSANHLSPQALKWREYRRKNPLGP----- 907
Pan_troglodytes   LPPLGSWRSGLSRAESLARGGGEGSMATRPNSANHLSPQALKWREYRRKNPLGP----- 907
Macaca_mulatta    LPPLGSWRSGLSRAESLARGGGEGSMATRPNSANHLSPQALKWREYRRKNPLGP----- 907
Callithrix_jacchus LPPLGSWRSGLSRAESLARGGGEGSMATRPNSANHLSPQALKWREYRRKNPLGP----- 911
Canis_lupus_familiaris LPPLGSWRSGLSRAESLARGGGEGSMASRPNNANHLSPQALKWREYRRKNPLGP----- 908
Equus_caballus    LPPLGSWRSGLFTRAESLARGGGEGSMASRPNSANHLSPQALKWREYRRKNPLGP----- 904
Bos_taurus        LPPLGSWRSGLGRAESLARGGGEGSMASRPNSANHLSPQALKWREYRRKNPLGP----- 919
Pavo_muticus      SRVAAQADPHWRRGSETSSSGPLSSMGGRLPNANHLSPQALKWREYRRRNPLGLDRVSGL 946
Pavo_cristatus    SRVAAQADPHWRRGSETSSSGPLSSMGGRLPNANHLSPQALKWREYRRRNPLGLDRVSGL 946
Gallus_gallus     SRVGAQADPHWRRGSETSSSGPLSSMGGRLPNANHLSPQALKWREYRRRNPLGLDRVSGL 946
Anas_platyrhynchos SRAGAHADPHWRSGETSSSGPLSSMGMRLPNANHLSPQALKWREYRRRNPLGLDRVSGL 941
Chelonia_mydas    SRAGGPAELHWTGTSEAGSSGSLSSVGTPLNANHLSPQALKWREYRRRNPLGLDRVSGV 933
Xenopus_tropicalis LHEGSQAVTTKK-DNDSGSRSSESIIVSRVNNANHLSPQALKWREYRRRNPLGLDRVHGL 921
Rhinatrema_bivittatum GRAGSQAQTPGR-SDESSKTGPGSLASRPVNANHLSPQALKWREYRRRNPLGLEGVSGL 927
.....970.....980.....990.....1000.....1010.....1020

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                                ..::.*:::  :  :  .  :*:*.::  .  :  **  *  :  :  .*:
Mus_musculus      PGLSGSLDRRPQ-EARLARRNPIFEFPGSFGTTSHLNCRLN---GQISKPLSLTICPDLO- 966
Rattus_norvegicus PGVSGSLDRRPQ-EARLAHRNPIFEFPGSFGTTNHLNCRNLN---GQIAKPLSLTICPDLO- 961
Homo_sapiens      PGLSGSLDRRSQ-EARLARRNPIFEFPGSLSAASHLNCRLN---GQAVKPLPLTICPDFQ- 962
Pan_troglodytes   PGLSGSLDRRSQ-EAWLARRNPIFEFPGSLSAASHLNCRLN---GQAVKPLPLTICPDFQ- 962
Macaca_mulatta    PGLSGILDRRSQ-EARLARRNPIFEFPGSLSAASHLNCRLN---GQALKPFPLTICPDFQ- 962
Callithrix_jacchus PGLSGSLDRRSQ-EARLARRNPIFEFPGSLSAASHLNCRLN---GQAVKPLPLTICPDFQ- 966
Canis_lupus_familiaris PGLSGSLDRRPQ-EARLARRNPIFEFPGSFSAAGHLNYRLN---GQIVKPLPLTICPDFQ- 963
Equus_caballus    PGLSGSLDRRPQ-EARLARRNPIFEFPGSLSAAGHLNCRNLN---GQVVKPLPLTICPDFQ- 959
Bos_taurus        PGLSGSLDRRPQ-DARLARRNPIFEFPGSLGAAGHLNCRNLN---GQVVKPLPLTICPDFQ- 974
Pavo_muticus      PSLASSLDRRQ-EPRLNRGNPIFEFPGLTNTS-HFHCKLN---GQSMKQLQLTYTDFFP 1001
Pavo_cristatus    PSLASSLDRRQ-EPRLNRGNPIFEFPGLTNTS-HFHCKLN---GQSMKQLQLTYTDFFP 1001
Gallus_gallus     PSLASSLDRRQ-EPRLNRGNPIFEFPGLTNTS-HFHCKLN---GQSMRQLQLTYTDFFP 1001
Anas_platyrhynchos PGLASSLDRRQ-EPRLNRGNPIFEFPGLNAN-NFHCKLN---GQSMRQLQLTYTDFFP 996
Chelonia_mydas    AGLAGSLDRRQ-EPQLARRNPIFEFPGLNTG-HVHGRLNGPAGQPVKQLQLGYADFFP 991
Xenopus_tropicalis AGLSGSLERRQ-ENKITRRGHFFDFPSSIHGNSLQSRNLN---G---KPSAISSSDFFP 972
Rhinatrema_bivittatum AGLAGSLDRKQCAEPRVTRSLIFDFPSSIHGNSHIHPRNLN---GPLAKHLHINHSDFFP 983
.....1030.....1040.....1050.....1060.....1070.....1080

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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: **:.*:***** :.:*:*:*.****:* *****:*****  
DPFSLTEKPPAEFCLSPDGNSEAISIDILQKKGLVKAVNTAVDLIVAHFGTSRDPGVKAK  
DPFSLTEKPPAEFCLSPDGNSEAVSIDILQKRGLVKAVNTAVDLIVAHFGTSRDPGVKAK  
DPFSLTEKPPAEFCLSPDGSSSAISIDLLQKKGLVKAVNTAVDLIVAHFGTSRDPGVKAK  
DPFSLTEKPPAEFCLSPDGSSSAISIDLLQKKGLVKAVNTAVDLIVAHFGTSRDPGVKAK  
DPFSLTEKPPAEFCLSPDGSSSAISIDLLQKKGLVKAVNTAVDLIVAHFGTSRDPGVKAK  
DPFSLTEKPPAEFCLSPDGSSSAISIDLLQKKGLVKAVNTAVDLIVAHFGTSRDPGVKAK  
DPFSLTEKPPAEFCLSPDGNSEAISIDLLQKKGLVKAVNTAVDLIVAHFGTSRDPGVKAK  
DPFSLTEKPPAEFCLSPDGNSEAISIDLLQKKGLVKAVNTAVDLIVAHFGTSRDPGVKAK  
DPFSLTEKPPAEFCLSPDGSSSAISIDVLQKKGLVKAVNTAVDLIVAHFGTSRDPGVKAK  
DYFSLAEKPPEAFCLSPDGNTEISISIDLLQKKGLVKAVNTAVDLIVAHFGTSRDPGVKAK  
DYFSLAEKPPEAFCLSPDGNTEISISIDLLQKKGLVKAVNTAVDLIVAHFGTSRDPGVKAK  
DYFSLAEKPPEAFCLSPDGNTEISISIDLLQKKGLVKAVNTAVDLIVAHFGTSRDPGVKAK  
EYFSLAEKPPEAFCLSPDGNTEISISIDLLQKKGLVKAVNTAVDLIVAHFGSSRDPGVKA  
DYFSMAERPPAEFCLSPDGGAESLIDLMQKRALVKAVNTAVDLIVAHFGTSRDPGVKAK  
DFFSLAEKPPEAFCLSPDGASESISVDLVQKKGLVKAVNTAVDLIVAHFGTSRDPGVKAK  
.....1090.....1100.....1110.....1120.....1130.....1140
```

*****:***:*****: :*.****:***:***:* **:******
 LGNSSVSPNVGHLVLKYLCPAVQAVLEDGLKAFVLDVIIGQRKNMPWSVVEASTQLGPST
 LGNSSVSPNVGHLVLKYLCPAVQAVLEDGLKAFVLDVIIGQRKNMPWSVVEASTQLGPST
 LGNSSVSPNVGHLVLKYLCPAVRAVLEDGLKAFVLDVIIGQRKNMPWSVVEASTQLGPST
 LGNSSVSPNVGHLVLKYLCPAVRAVLEDGLKAFVLDVIIGQRKNMPWSVVEASTQLGPST
 LGNSSVSPNVGHLVLKYLCPAVRAVLEDGLKAFVLDVIIGQRKNMPWSVVEASTQLGPST
 LGNSSVSPNVGHLVLKYLCPAVQAVLEDGLKAFVLDVIIGQRKNMPWSVVEASTQLGPST
 LGNSSVSPNVGHLVLKYLCPAVRAVLEDGLKAFVLDVIIGQRKNMPWSVVEASTQLGPST
 LGNSSVSPNVGHLVLKYLCPAVRAVLEDGLKAFVLDVIIGQRKNMPWSVVEASTQLGPST
 LGNSSVSPNVGHLVLKYLCPAVQAVLEDGLKSFVLDVIIGQRKNTPWSVVEASTQLGPST
 LGNSSVSPNVGHLILKYLCPAVRDILSDGLKAYVLDMIIGQRNIPWSVVEASTQLGPST
 LGNSSVSPNVGHLILKYLCPAVRDILSDGLKAYVLDMIIGQRNIPWSVVEASTQLGPST
 LGNSSVSPNVGHLILKYLCPAVRDILSDGLKAYVLDMIIGQRNIPWSVVEASTQLGPST
 LGNSSVSPNVGHLILKYLCPAIRDILSDGLKAYVLDVIIGQRKNTPWSVVEASTQLGPST
 LGNSSVSPNIGHLILKYLCPAVRGILSDGLKPWVLDVIIGQRNLPWTVVEASTQLGPST
 LGNSSVSPNVGHLILKYLCPAIRAILSDGLKAYVLDMIIGQRNLPWSVAEASTQLGPST
1150.....1160.....1170.....1180.....1190.....1200

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*:**.* ::**.*:.*:*****:*****:**:*****:*****.***.* ***
KVLHGGLYNKVSQFPELTSHTMRFNAFILGLLNIRSLEFWFNHLYNHEDIIQTHYQPWGFL
KVLHGGLYNKVSQFPELTSHTMRFNAFILGLLNIRSLEFWFNHLYDHEDIIQTHYQPWGFL
KVLHGGLYNKVSQFPELTSHTMRFNAFILGLLNIRSLEFWFNHLYNHEDIIQTHYQPWGFL
KVLHGGLYNKVSQFPELTSHTMRFNAFILGLLNIRSLEFWFNHLYNHEDIIQTHYQPWGFL
KVLHGGLYNKVSQFPELTSHTMRFNAFILGLLNIRSLEFWFNHLYNHEDIIQTHYQPWGFL
KVLHGGLYNKVSQFPELTSHTMRFNAFILGLLNIRSLEFWFNHLYNHEDIIQTHYQPWGFL
KVLHGGLYNKVSQFPELTSHTMRFNAFILGLLNIRSLEFWFNHLYNHEDIIQTHYQPWGFL
KVLHGGLYNKVSQFPELTSHTMRFNAFILGLLNIRSLEFWFNHLYNHEDIIQTHYQPWGFL
KVLHGGLYNKVSQFPELTSHTMRFNAFILGLLNIRSLEFWFNHLYNHEDIIQTHYQPWGFL
KLLHSLYSKISQYTELTNHTMRFNAFIFGLLNIRSLEFWFNHLYNHEDIIIAHYQPVGFL
KLLHSLYSKISQYTELTNHTMRFNAFIFGLLNIRSLEFWFNHLYNHEDIIIAHYQPVGFL
KLLHSLYSKISQYTELTNHTMRFNAFIFGLLNIRSLEFWFNHLYNHEDIIIAHYQPVGFL
KLLHSLYSKISQYTELTNHNMRFNAFIFGLLNIRSLEFWFNHLYNHEDIIIAHYQPVGFL
KVLHGGLHSRISQFAELTSHSMRFNAFIFGLLNVRSLFWFNHLYNHEDIIILVHYQPVGFL
KLLHSLCKVSQYSELSSHNLRFNAFIFGLLNIRSVEFWFNHLYNHEDIIIFAHYEPVGFL
KVLHNLYSKISQCELTNHSMRFNAFIFGLLNIRSLEFWFNHLYNHEDIIIAHYQPVGFL
.....1210.....1220.....1230.....1240.....1250.....1260

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/RUS02.psf Tue Feb 1 14:29:12 2022

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	: * ** ***** : **** . ***** : * : * * * : : : * * * . * . * . * * *	
Mus_musculus	RAAHTVCPGLFEELLLLLQPLALLPFSLDLLFQHRLLQSGRQQRQHKE LLRVSDLLLSA	1206
Rattus_norvegicus	RAAHTVCPGLFEELLLLLQPLALLPFSLDLLFQHRLLQNGRQQRQHKE LLRVSDLLLSA	1201
Homo_sapiens	SAAHTVCPGLFEELLLLLQPLALLPFSLDLLFQHRLLQS GQQQRQHKE LLRVSDLLLSA	1202
Pan_troglodytes	SAAHTVCPGLFEELLLLLQPLALLPFSLDLLFQHRLLQS GQQQRQHKE LLRVSDLLLSA	1202
Macaca_mulatta	SAAHTVCPSLFEELLLLLQPLALLPFSLDLLFQHRLLQS GQQQRQHKE LLRVSDLLLSA	1202
Callithrix_jacchus	SAAHTVCPGLFEELLLLLQPLALLPFSLDLLFQHRLLQS GQQQRQHKE LLRVSDLLLSA	1206
Canis_lupus_familiaris	SAAHTVCPGLFEELLLLLQPLALLPFSLDLLFQHRLLQS GQQQRQHKE LLRVSDLLLSA	1203
Equus_caballus	SAAHTVCPGLFEELLLLLQPLALLPFSLDLLFQHRLLQS GQQQRQHKE LLRVSDLLLSA	1199
Bos_taurus	NAAHTVCPGLFEELLLLLQPLALLPFSLDLLFQHRLLQS GQQQRQHKE LLRVSDLLLSA	1214
Pavo_muticus	CLSHSVCQPLFEELLLLLQPLSLLPFNLDLLFEHHLMMGK EQQQKELLRVKODLLLSA	1241
Pavo_cristatus	CLSHSVCQPLFEELLLLLQPLSLLPFNLDLLFEHHLMMGK EQQQKELLRVKODLLLSA	1241
Gallus_gallus	CLSHSVCQPLFEELLLLLQPLSLLPFNLDLLFEHHLMMGK EQQQKELLRVKODLLLSA	1241
Anas_platyrhynchos	CLSHSVCQPLFEELLLLLQPLSLLPFNLDLLFEHHLMMGK EQQQKELLRVKODLLLSA	1236
Chelonia_mydas	CLSHGVCAALFEELLLLLQPLSLLPFSLDLLFEHHLMMGRE QQQRKELLRVKODLLSV	1231
Xenopus_tropicalis	SVSHGVCQTLEELLLLLQPLSLLPFDLDDLLFEHHLVMGRE QQKKEMLVKODLLQSV	1212
Rhinatrema_bivittatum	SLSHSVCQALFEELLLLLQPLSLLPFDLDDLLFEHHLMMGRE QRKRQEVLVKOGLLSV	1223
1270.....1280.....1290.....1300.....1310.....1320	

	***** :.*	.	** .*	***					
Mus_musculus	HSTLQLARSG	-----	QEGPGDM	DRVAPGERVKGV	GASEGGEE 1244				
Rattus_norvegicus	HSTLQLARARG	-----	QEGPGVD	DRAAPGERVKGV	GASEGGEE 1239				
Homo_sapiens	HSTLQLARARG	-----	QEGPGD	VDRAAQGERVKGV	GASEGGEE 1240				
Pan_troglodytes	HSTLQLARARG	-----	QEGPGD	VDRAAQGERVKGV	GASEGGEE 1240				
Macaca_mulatta	HSTLQLARARG	-----	QEGPGD	MDRAAQGERVKGV	GASEGGEE 1240				
Callithrix_jacchus	HSTLQLARARG	-----	QEGPGD	VDRAAQGERVKGV	GASEGGEE 1244				
Canis_lupus_familiaris	HSTLQLARARG	-----	QEGPGD	VDRAVHGERVKGV	GAPEGGED 1241				
Equus_caballus	HSTLQLAARG	-----	QEGPGD	MDRAAHGERVKGV	GAPEGGED 1237				
Bos_taurus	HSTLQLARSR	-----	QDGP	GDVDRAAPGERVKGV	GAPEGGEE 1252				
Pavo_muticus	HSTLQLMRTRGSS	EDPDG	CGSTAPEAR	KVGGRDG	MSPGHSPERAASERVKGV	GASCGDGD 1301			
Pavo_cristatus	HSTLQLMRTRGSS	EDPDG	CGSTAPEAR	KVGGRDG	MSPGHSPERAASERVKGV	GASCGDGD 1301			
Gallus_gallus	HSTLQLMRTRGSS	EDPDG	CGSTAPEAR	KVGGDGG	MSPGHSPERAASERVKGV	GASCGDGD 1301			
Anas_platyrhynchos	HSTLQLMRTRGSS	EDPDG	CGSTAPEAR	KVGGRDG	VSPGHSPERAASERVKGV	GASCGDGD 1296			
Chelonia_mydas	HSTLQLMRSRG	STEEPAGWSAAPE	QGP	SAGDERPSAQ	QGEAAW	ERVKGV	GASCGDGA 1291		
Xenopus_tropicalis	HSTLQLMRS	REEEEQ	-----	GNQEK	KTAEK	EACD	VLETERPT	GEGAASIE	-L 1258
Rhinatrema_bivittatum	HSTLQLMRTRG	SGD	-----	WSLP	GRASR	TEGERAA	ERVKGV	GAAAGE	-K 1269

	:	.	..	*****:*.:.:.*	
Mus_musculus	DEEDA--EEVAVVAGSSDHGKWARGGOAGWWYQLMOSSQVYIDGTAEGSRFP	SSSSSG	1302		
Rattus_norvegicus	DEDDS--EEVAVVPGSSDHGKWARGGOAGWWYQLMOSSQVYIEGTAEGSRFP	SSSSSG	1297		
Homo_sapiens	EEEEETEETEEVAAAGGSGRARWARGGOAGWWYQLMOSSQVYIDGSTIEGSRFP	RGSSNS	1298		
Pan_troglodytes	EEEEETEETEEVAAAGGSGRARWARGGOAGWWYQLMOSSQVYIDGSTIEGSRFP	RGSSNS	1298		
Macaca_mulatta	EEEEETEETEEVAAAGGSGRGRWARGGOAGWWYQLMOSSQVYIDGSTIEGSRFP	RGSSNS	1298		
Callithrix_jacchus	EEE--ETEEVAAAGGSGNGRWAQGGHAGWWYQLMOSSQVYIDGSTIEGSRFP	RGSSNS	1300		
Canis_lupus_familiaris	EEEDE-TEEVAAAGGSGRGRWARGGOAGWWYQLMOSSQVYIDGSTIEGSRFP	RGGTS	1297		
Equus_caballus	EEEEETEEMAAAGGSGRGRWAQGGQAGWWYQLMOSSQVYIDGSTIEGSRFP	RGSSNS	1297		
Bos_taurus	EEEE--ETEAAGSGRGRWARSQAGWWYQLMOSSQVYIDGSSEGSRFPRG	SSSTG	1306		
Pavo_muticus	REEERKRVRESMWEGKKDK-----QAGWWYQLMOSSQIYIEGSTEGSKFIR	-----	1347		
Pavo_cristatus	REEERKRVRESMWEGKKDK-----QAGWWYQLMOSSQIYIEGSTEGSKFIR	-----	1347		
Gallus_gallus	REEERKRVRESMWEGKKDK-----QAGWWYQLMOSSQIYIEGSTEGSKFIR	-----	1347		
Anas_platyrhynchos	REEERRKRVRESTWEGKKDK-----QAGWWYQLMOSSQIYIEGSTEGSKLIR	-----	1342		
Chelonia_mydas	REEERKAKESAWEGKKDK-----QAGWWYQLMOSSQVYIEGSAEGSKFIR	-----	1337		
Xenopus_tropicalis	EOK-----KDPNVEVKDK-----QAGWWYQLMOSSQVYIESSDTARFTR	-----	1299		
Rhinatrema_bivittatum	EEEEGKRGRSEGEAKRDR-----QAGWWYQLMOSSQVYIEGSAEGRPFVR	-----	1315		
1390.....1400.....1410.....1420.....1430.....1440				

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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      *::*
Mus_musculus      S-GSEKKKGVGSGGPS-----QAPPPPPREGVVEGAECAPAEALGQ----- 1344
Rattus_norvegicus --GGEKKKGAGGGGPS-----QTTPPPPPREGVVEGAECAPAEALGQ----- 1338
Homo_sapiens      --SSEKKKGAGGGGPP-----QA--PPPREGVVEGAECAPAEALGR----- 1337
Pan_troglodytes   --SSEKKKGAGGGGPP-----QA--PPPREGVVEGAECAPAEALGR----- 1337
Macaca_mulatta    --SSEKKKGAGGGGPP-----QA--PPPREGVVEGAECAPAEALGR----- 1337
Callithrix_jacchus--SSEKKKGAGGGGPP-----QA--PPPREGVVEGAECAPAEALGR----- 1339
Canis_lupus_familiaris--SSIEKKKGAGGGG-----PPPREGVVEGAECAPAEALGR----- 1333
Equus_caballus    GSSSEKKKGAGGGR-----PPPREGVVEGAECAPAEALGR----- 1333
Bos_taurus        -NSSEKKKGAGGVC-----PPPREGVVEGAECAPAEALGR----- 1342
Pavo_muticus      ---YEKKK--ALSGVP--SSAESHTPPPPREGVVEGAECACHIAEGSLEEKPKAASRPSPE 1400
Pavo_cristatus    ---YEKKK--ALSGVP--SSAESHTPPPPREGVVEGAECACHIAEGSLEEKPKAASRPSPE 1400
Gallus_gallus     ---YEKKK--ALNSVP--SSAESHTPPPPREGVVEGAECACHIAEGSLEEKPKAASRPSPE 1400
Anas_platyrhynchos---YEKKK--ALSGVP--RPAETHRAPPPREGVVEGAECACHIAEGSLEEKPKIASRPSPG 1396
Chelonia_mydas    ---PEKKKQKAPGAAP--RLAEGGKAPPPREGVVEGAECAPVAEGAVEEKPKAAAEFG-- 1390
Xenopus_tropicalis---QERRKPGTLGTP-----KKVPPPPREGVVEGAECPSLEVTTEKPTKKERDD-- 1346
Rhinatrema_bivittatum---HEKRKRKQEGTAAARATEGREVPLPREGVVEGAECAPSPAPVGERARAPSGKE-- 1370
.....1450.....1460.....1470.....1480.....1490.....1500

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      *****::: **:.:.*:
Mus_musculus      -----ERGWPFWMGSPDPSVLAEELRRSRERE-----GPVAPP 1376
Rattus_norvegicus -----ERGWPFWMGSPDPSVLAEELRRSRERE-----GPVAPP 1370
Homo_sapiens      -----ERGWPFWMGSPDPSVLAEELRRSRERE-----GPAASP 1369
Pan_troglodytes   -----ERGWPFWMGSPDPSVLAEELRRSRERE-----GPAAPP 1369
Macaca_mulatta    -----ERGWPFWMGSPDPSVLAEELRRSRERE-----GPAAPP 1369
Callithrix_jacchus-----ERGWPFWMGSPDPSVLAEELRRSRERE-----GPSAPP 1371
Canis_lupus_familiaris-----DRGWPFWMGSPDPSVLAEELRRSRERE-----GSTAPP 1365
Equus_caballus    -----RAWPFWMGSPDPSVLAEELRRSRERE-----GSTAPP 1364
Bos_taurus        -----ERGWPFWMGSPDPSVLAEELRRSRERE-----GSAAPT 1374
Pavo_muticus      AVEEPELEKPOHVPGGEEVKERSWPFWMGSPDPSVVTTELKRSKEKEMGTQLKAGAAAAAAP 1460
Pavo_cristatus    AVEEPELEKPOHVPGGEEVKERSWPFWMGSPDPSVVTTELKRSKEKEMGTQLKAGAAAAAAP 1460
Gallus_gallus     TVEEPELEKPOHVPGGEEVKERSWPFWMGSPDPSVVTTELKRSKEKETGTQLKVG-AAAAAP 1459
Anas_platyrhynchosAVEEPELEKPOQVPAGEEVKERSWPFWMGSPDPSVVTTELKRSKEKETGTQPSLG-AAAAAP 1455
Chelonia_mydas    -----EKPG-----EASERSWPSWMGSPDPSVLAEELRRSRERE-----GVAPP 1436
Xenopus_tropicalis-----KQKEE-KKSWMGSPDPSVLAEELRRSRERE-----GVAPP 1436
Rhinatrema_bivittatum-----EWKSGHRSWMGSPDPSVLAEELRRSRERE-----AGPAALPHEDRKAA 1413
.....1510.....1520.....1530.....1540.....1550.....1560

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      . . *****::: * * : .*:**.*.* *:::.*:
Mus_musculus      TENEEGTAEPSPGGIKWHLFGSRKQREARPTNRLPSDWLSLDKSVFQLVAQTMGA--R 1434
Rattus_norvegicus TENE-GTPEPSPGGIKWHLFGSRKQREARPTNRLPSDWLSLDKSVFQLVAQTMGA--R 1427
Homo_sapiens      AENEEGASEPSPGGIKWHLFGSRKQREARPTNRLPSDWLSLDKSMFQLVAQTVGS--R 1427
Pan_troglodytes   AENEEGASEPSPGGIKWHLFGSRKQREARPTNRLPSDWLSLDKSMFQLVAQTVGS--R 1427
Macaca_mulatta    AENEEGASEPSPGGIKWHLFGSRKQREARPTNRLPSDWLSLDKSMFQLVAQTVGA--R 1427
Callithrix_jacchusAENEEGASEASLGGIKWHLFGSRKQREARPTNRLPSDWLSLDKSMFQLVAQTMGA--R 1429
Canis_lupus_familiarisAENEEGASEPSPGGIKWHLFGSRKQREARPTNRLPSDWLSLDKSMFQLVAQTVGA--R 1423
Equus_caballus    AENEEGTSEPSPGGIKWHLFGSRKVQREARPTNRLPSDWLSLDKSMFQLVQTVGA--R 1422
Bos_taurus        AENEEGASEPSPGGIKWHLFGSRKVQREARPTNRLPSDWLSLDKSVFQLVAQTVGA--R 1432
Pavo_muticus      QEESNASASESSQPIKWHLFGSRKVQKEPRQPNRLPSGWLSDKSVFQLVAQ--VGASMW 1519
Pavo_cristatus    QEESNASASESSQPIKWHLFGSRKVQKEPRQPNRLPSGWLSDKSVFQLVAQ--VGASMW 1519
Gallus_gallus     QEESNASASESSQPIKWHLFGSRKVQKEPRQPNRLPSGWLSDKSVFQLVAQ--VGASMW 1518
Anas_platyrhynchosQEESNASASESSQTIKWHLFGSRKVQKEPRQPNRLPSGWLSDKSVFQLVAQTVGASMW 1515
Chelonia_mydas    VAESSPGPPDGSQPIKWHLFGSRKVQKEPRQPNRLPSGWLTLDRSMFQLVAQTVGASMW 1496
Xenopus_tropicalis TAKENVAPVQSSPARKWHLFGSRKQREARPTNRLPSDWLSLDKSVLQIVAQTVSAGIW 1449
Rhinatrema_bivittatumAA---GPSEAGQAWKWLFGSRKQREARPTNRLPSDWLSLDKSVLQIVAQTVGGGIR 1469
.....1570.....1580.....1590.....1600.....1610.....1620

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      :. .
Mus_musculus      REPEPRENLOESHPPAVP-----SKPPCEVQALCHHLATGPGQLSFHKGDILRVL 1484
Rattus_norvegicus REPEPRENLOESHPPAVP-----SKPPCEVQALCHHLATGPGQLSFHKGDILRVL 1477
Homo_sapiens      REPEPKESLQEPHSPALP-----SSPPCEVQALCHHLATGPGQLSFHKGDILRVL 1477
Pan_troglodytes   REPEPKESLQEPHSPALP-----SSPPCEVQALCHHLATGPGQLSFHKGDILRVL 1477
Macaca_mulatta    REPEPKESLQEPHSPALP-----SSPPCEVQALCHHLATGPGQLSFHKGDILRVL 1477
Callithrix_jacchus REPEPKESLQEPHSPALP-----SSPPCEVQALCHHLATGPGQLSFHKGDILRVL 1479
Canis_lupus_familiaris RDPEPKESLQDPHSPVLP-----SKPPCEVKALCHHLATGPGQLSFHKGDILRVL 1473
Equus_caballus     REPEPRESLQEPHPPALP-----SKPPCKVKALCHHLATGPGQLSFHKGDILRVL 1472
Bos_taurus        REPEPKDSLQEPSPGLP-----SKPPCEVKALCHHLATGPGQLSFRKGDITLRLV 1482
Pavo_muticus       RETAPEPERPQPEPPEVSPAPQPARGLCANPPCEVKALCHHIATEEGQLSFNKGDILOVI 1579
Pavo_cristatus     RETAPEPERPQPEPPEVSPAPQPARGLCANPPCEVKALCHHIATEEGQLSFNKGDILOVI 1579
Gallus_gallus      RETAPEPDPPQPEPPEVSPAPQPARGLCANPPCEVKALCHHIATEEGQLSFNKGDILOVI 1578
Anas_platyrhynchos REAAPEPEPPRAEPPEVSPLPAPARGLCNPPCEVKALCHHIATEAGQLSFNKGDILOVI 1575
Chelonia_mydas     REAAPEPERPQAEPLNPEPPEQELAGGLPPQIPCEVKALCHHIATEAGQLSFTKGAVLRVL 1556
Xenopus_tropicalis GETTPEKGEEMISEMAASPASPGSQNPRKEKPLHPTPEPGHHSFA----- 1495
Rhinatrema_bivittatum RDPGPEK-----ELP----- 1479
      .....1630.....1640.....1650.....1660.....1670.....1680

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      : : * ...
Mus_musculus      GPARGDWLRCSRGPDTGLVPLAYVTLTPTPSSPPGSSQN 1523
Rattus_norvegicus GPAGGDWLCCSRGPDTGLVPLAYVTLTPTPSSP-GNSQN 1515
Homo_sapiens      GRAGGDWLRCRSGPDSGLVPLAYVTLTPTPSPTPGSSQN 1516
Pan_troglodytes   GRAGGDWLRCRSGPDSGLVPLAYVTLTPTPSPTPGSSQN 1516
Macaca_mulatta    GQAGGDWLRCRSGPDSGLVPLAYVTLTPTPSPTPGSSQN 1516
Callithrix_jacchus GRAGGDWLRCRSGPDSGLVPLAYVTLTPTPSPTPGSSQN 1518
Canis_lupus_familiaris GPAGGDWLRCRSGPDTGLVPLAYVTLTPTPSPTPGSSQN 1512
Equus_caballus    GPAKGDWLHCSRGTDMGLVPLAYVTLTPTPSPTPGSSQN 1511
Bos_taurus        GPAGADWLRCRSGPDTGLVPLAYVTLTPTPSPSPGSSQN 1521
Pavo_muticus       SKVDGDWLQCSLGSEKGLVPIMYVTHPEDEDY----- 1611
Pavo_cristatus     SKVDGDWLQCSLGSEKGLVPIMYVTHPEDEDY----- 1611
Gallus_gallus      SKVDGDWLQCSLGSEKGLVPIMYVTHPEDEDY----- 1610
Anas_platyrhynchos SKVDGDWLQCSLGSEKGLVPIMYVTHPEDEDY----- 1607
Chelonia_mydas     AKVDSDWLQCSLGSLVPMYVTHPADEDY----- 1588
Xenopus_tropicalis YTSHSDQLRCTSASHNGLMPLKYVSRPDPVDS----- 1527
Rhinatrema_bivittatum -----EAVRCRGAPQ----- 1489
      .....1690.....1700.....1710.....

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