

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/BRA144101.fst Tue Feb 1 11:27:41 2022

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Homo_sapiens	-----	
Pan_troglodytes	-----	
Macaca_mulatta	-----	
Callithrix_jacchus	MLGMYHQAPGGGDRSERHAWCLPVPSLSQFDLLPSSLALEASKAASRGSSIVPHDSHLRP	60
Bos_taurus	-----	
Equus_caballus	-----	
Mus_musculus	-----	
Rattus_norvegicus	-----	
Heterocephalus_glaber	-----MDSLVLGNHCWLPDCLLQPLLTLREQTLGLGTQADRKLPAPTPG	44
Pavo_muticus	-----	
Pavo_cristatus	-----	
Gallus_gallus	-----	
Chelonia_mydas	-----	
Xenopus_tropicalis	-----	
Danio_rerio	-----	
	1.....10.....20.....30.....40.....50.....60	

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Homo_sapiens	-----MDPECAQLLPALCAVLVDPRQPVAD	25								
Pan_troglodytes	-----MDPECAQLLPALCAVLVDPRQPVAD	25								
Macaca_mulatta	-----MDPECSRLLPALCAVLVDPRQPVAD	25								
Callithrix_jacchus	LPPPGLAGGTVRGRSLGRRAGFAVEEGTKRDP	120								
Bos_taurus	-----MDPECARLLPALCDVLADPRQPVAD	25								
Equus_caballus	-----MDPECSQLLPALCAVLADPRQPVAD	25								
Mus_musculus	-----MDPECSRLLPALCAVLADPRQLVAD	25								
Rattus_norvegicus	-----MDAECRSRLLPALCAVLADPRQLVAD	25								
Heterocephalus_glaber	HLQQNQPLPVFPNPLCQSRGSTDAECORNENPGLIMPECSRLLPAFCVSLVDPRQAVAD	104								
Pavo_muticus	-----MSPRGRRRAMSRACSLLLPRVCAALADPRQPGSD	33								
Pavo_cristatus	-----MSPRGRRRAMSRACSLLLPRVCAALADPRQPGSD	33								
Gallus_gallus	-----MSPRGRRRAMSRACARLLPRVCAALADPRQPGSD	33								
Chelonia_mydas	-----MDRECSQLLPSVCAVLADSRQLVAD	25								
Xenopus_tropicalis	-----MDAECRSQLLPHVCGVLVDNRQLMTD	25								
Danio_rerio	-----MDGDCSSLPAVCLVLADPKQTTPD	25								
70.....80.....90.....100.....110.....120									

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Homo_sapiens	DTCLEKLLLDWFKTVTEGESSVLLQEHPCLVELLSHVL--KVQDLSSGVLSFSLRLAGTF		83
Pan_troglodytes	DTCLEKLLLDWFKTVTEGESSVLLQEHPCLVELLSHVL--KVQDLSSGVLSFSLRLAGTF		83
Macaca_mulatta	DTCLEKLLLDWFKTVTEGESSVLLQGHPCLVELLSHVL--KVQDLSPGVLSFSLRLAGTF		83
Callithrix_jacchus	DTCLEKLLLDWFKTVTEGESSLLLLQEHPCLVLLDSQVL--KLQDLSPGVLSFSLRLTGIF		178
Bos_taurus	DTCLEKLLLDWFKAVTEAGSSLLLLQDHPCLVLLFHVLI--KPQDLSSRIILSFVLRLAGIF		83
Equus_caballus	DTCLEKLLLDWFKTITEAGSSQLQLLENPCLVELLCHVL--KPQGLSARVLSFSLRLAGVF		83
Mus_musculus	DTCLEKLLLDWFKTVTEAESSQLQLQDHPCLMELLSHVL--KPQDVSPRVLSFALRLVGVF		83
Rattus_norvegicus	DTCLEKLLLDWFKTVTEAPSLQLQDHPCLMELLSHVL--KPQDVSPRVLSFALRLVGVF		83
Heterocephalus_glaber	DTCLEKLLLDWFKTVTEAGSSLLLLQENPCLVLLSHVLDLKPQDVSPRVLSFSLRLAGMF		164
Pavo_muticus	DTCLEKMLDWFRELREAEPYVKLLRDNPCLTEFFTAVL--ALPEPEPNVLSFTLRLAGIV		91
Pavo_cristatus	DTCLEKMLDWFRELREAEPYVKLLRDNPCLTEFFTAVL--ALPEPEPNVLSFTLRLAGIV		91
Gallus_gallus	DTCLEKMLDWFRELREAEPYVKLLRDNPCLTEFFTAVL--ALPEPEPNVLSFTLRLAGIV		91
Chelonia_mydas	DTFLEKFLDWFKTLTETESSLLLLQENPCLTIELITCVL--KLKDPSSSTLSFILRLTGIF		83
Xenopus_tropicalis	SSCFEKLLLDWFTQMLNTVSAEQLLLENQCILMLFQHVLI--NAGDPDPNLLSFSMRLVGML		83
Danio_rerio	DTSLEKLLLDWFKDLHSQNSQVLLQHPCLLEFISSVC--ASKATDPAILSFYTLKLTGLL		83
130.....140.....150.....160.....170.....180		

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	* : * * : : *	* : ** * : * : *	
Homo_sapiens	AAQENCFQYLOQGELLPGLFGEPPGLGRATWAVPTVRSGWIOGLRSLAQHPSALRFLADH	143	
Pan_troglodytes	AAQENCFQYLOQGELLPGLFGEAGPLGRAAWAVPTVRSGWIOGLRSLAQHPSALRFLADH	143	
Macaca_mulatta	AAQENCFQYLOQGELLPGLFGEAGPLGRAAWAVPTVRSGWIOGLRSLAQHPSALRFLADH	143	
Callithrix_jacchus	AAQENCFQYLOQGELLPELFGETGPLQAAWAVPTVRSGWIOGLRSLAQHPSALHFLADH	238	
Bos_taurus	AAQENCFQYLOQGELLPGLFGEPPGLGAAWAAPSVRSGWIOGLHSLAQHPSALRFLADS	143	
Equus_caballus	AAQESCFQYLOQAELLPGLFGEAGPLGQAASAPTIVRSGWIOGLRSLAQHPSALPFLADC	143	
Mus_musculus	AAQEDCFEYLOQGELLGLFGESGAPGWAAWSIPSVRSGWIOGLCYLAHHPSALHFLADS	143	
Rattus_norvegicus	AAQEDCFQYLOGELLGLFGETGALSWAAWSIPSVRSGWIOGLCSLAHHPSALHFLADS	143	
Heterocephalus_glaber	AAQEDCFEYLOQGLLGLFGELPLSWAVWSVPTVRSGWIOGLKSLAQHPGGLHFLGDS	224	
Pavo_muticus	AAVEDSFLHLQOELLARLFGEDGPLSSAAWEDASVRSGWVEGVHSMVQHHSALHFICSG	151	
Pavo_cristatus	AAVEDSFLHLQOELLARLFGEDGPLSSAAWEDASVRSGWVEGVHSMVQHHSALHFICSG	151	
Gallus_gallus	AAVEDSFMHLQOELLARLFGEDGPLNSAAWEDASVRSGWVEGVHSMVQHQSALHFICSG	151	
Chelonia_mydas	AASESCFQYLOQRELLISLFGVEVGPLSTALWEEASVRSGWVQGVHSMVQHQSALHFCLNC	143	
Xenopus_tropicalis	AGHETGFKYLLMMKNIVQRMFG-KYIYTNELWRDASVRRRAWIOGLLSMVQHKQAVFFLES	142	
Danio_rerio	AASKQDFHLLLEGGHLCVFEREAWSVCDLWEDASVRSGWIOGLLNMLKHQQALDFICRQ	143	
190.....200.....210.....220.....230.....240		

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Homo_sapiens	GAVDTIFSLQGDS	SLFVASAAS	QLLVHVLAL	SMRGGGAEG-----QPCLPGGDWPACAQ	196	
Pan_troglodytes	GAVDTIFSLQGDS	SLFVASAAS	QLLVHVLAL	SMQGGGAEG-----QPCLPGGDWPACAQ	196	
Macaca_mulatta	GAVDTIFSLQGDS	SLFVASAAS	QLLVHVLAL	SMRGGGAEG-----HPCLRGDDWPACAQ	196	
Callithrix_jacchus	GVVDTVFSLQGDS	SLFVASAAS	QLLVHVLAL	SMQGGAAEE-----QPCLQGDDWPTCAQ	291	
Bos_taurus	GAVDTIFSLQGD	SLFVASAAG	QLLVVRVLDLAL	CGPAEG-----HISLQAWDWPACAR	196	
Equus_caballus	GTLDTIFSLQGDS	SLFVASAAG	QLLVHILGL	SLQGAEG-----PPSPQACDWPVCAQ	196	
Mus_musculus	GAVDTLFSLQGD	SLFVASAAS	QLLVHILAL	SMQGGAPG-----SPVPEAAAWPMCAQ	196	
Rattus_norvegicus	GAVDTIFSLQGD	SLFVASAAS	QLLVHILAL	SMQGGAPG-----SPVPEAVAWPVCAQ	196	
Heterocephalus_glaber	GAVDALFSLQGDS	SLFVASAAS	QLLVHVLAL	SMQDKAEG-----SPSLKGSAWPACAQ	277	
Pavo_muticus	RGIDVIFTLQGD	SLFVASAARRLLVHLLTL	SVGSELT	V-----PLNAKDCDWPACAH	204	
Pavo_cristatus	RGIDVIFTLQGD	SLFVASAARRLLVHLLTL	SVGSELT	V-----PLNAKDCDWPACAH	204	
Gallus_gallus	GGIDVIFTLQGD	SLFVASAACRLLVHLLTL	SVGSELT	V-----PLNAKDCDWPACAH	204	
Chelonia_mydas	GAIDVIFTLQGD	SLFVASAAN	QLLVHMLTFS	SLQSFQTK-----LVSIKDCDWPVCAQ	196	
Xenopus_tropicalis	AIIEVMLNLQMS	SLFVASASN	QLVAHTFLV	CLKMEQEN-----SESKEIPNWPESAQ	195	
Danio_rerio	GLIKVILQLNDR	SLFVACLAN	QLLVQILKLL	TSPDVTSGSDAVVS	SKSSSLDWSVS	203
250.....260.....270.....280.....290.....300

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Homo_sapiens	KIMDHVEESLCSAATPKV	TQALNVL	TTT	FGRCQ	SPWTEALWVRL	SPRVACLLERD	PIPA				256
Pan_troglodytes	RIMDHVEESLCSAATPKV	TQALNVL	TTT	FGRCQ	SPWTEALWVRL	SPRVACLLERD	PIPA				256
Macaca_mulatta	KITDHVEESLCCTATPKV	TQALNVL	TTT	FGRCQ	SPWTEALWVRL	SPRVACLLERD	PIPA				256
Callithrix_jacchus	KIMGHIEESLCSATATPKV	TQALNVL	TTT	FGRCQ	SPWTEALWVRL	SAHVACLLERD	PVPA				351
Bos_taurus	KIVCHLEDCLRSEATPRV	TQALHVL	TTA	FGHCHGLWTQGLWVQL	SPLVARLLEKDPVP						256
Equus_caballus	KIVGHIEGSLRSMATPQV	TQALNVL	TTT	FGHCHGHPWMOVLWERL	SPLVACLLQEDPL						256
Mus_musculus	KIVNVHDES LHAKATPQV	TQALNVL	TTT	FGRC HNPWTGVLWERL	SPVARL FERDPI						256
Rattus_norvegicus	KIMNHVEESLHSKATPQV	TQALNVL	TTT	FGRC HNPWTGVLWERL	SPVARL FERDPI						256
Heterocephalus_glaber	KIVAHVEASLCSTTALQIT	TQALNVL	TTT	FGRC HSPWTEVLWGQLSPLVAHL	LDSEVPAT						337
Pavo_muticus	VIKIHIEDSLQSSASHVKQ	SLKLL	TS	LFSGCAPWTKVLWLGI	AKQVESFLT	EDSVEAQ					264
Pavo_cristatus	VIKIHIEDSLQSSASHVKQ	SLKLL	TS	LFSGCAPWTKVLWLGI	AKQVESFLT	EDSVEAQ					264
Gallus_gallus	MIIRHIEESLQSNSASHIKQ	SLKLL	TS	LFSGCAPWTKVLWLGI	AKQVESFLT	EDSVQAQ					264
Chelonia_mydas	KLVVHIEESLKSNSASRINQ	SLKLL	TS	VFGCCHDLWTEVLWSQLSQPIVYLL	LEEPVHAG						256
Xenopus_tropicalis	TILTFLEKSLMSGISFSVTQ	AIKVL	TLF	YKGC	TDTLAAILWSRIVVAVNSLLD	QKTVQSA					255
Danio_rerio	EITNAVVEALS	ENHPQV	LQVLL	SLVL	SQCEPIRS	SLWKDVLPPLEVLINR	GSEPLT				263
310.....	320.....	330.....	340.....	350.....	360					

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Homo_sapiens	HSFV	DL	LL	LC	VAR	SP	VF	SS	SD	GS	LW	ET	VAR	AL	316
Pan_troglodytes	HSFV	DL	LL	LC	VAR	SP	VF	SS	SD	GS	LW	ET	VAR	AL	316
Macaca_mulatta	HSLV	DL	LL	LC	VAR	SP	VF	SS	SD	GG	LW	ET	LA	QAL	316
Callithrix_jacchus	HSLV	DL	LL	LC	VAR	SP	VF	SS	SD	GG	LW	ET	LA	QAL	316
Bos_taurus	HALV	DL	LL	SV	AR	SS	ML	SS	-DP	GL	WE	TAA	QTL	SRL	315
Equus_caballus	HSLV	DL	LL	SV	AR	SP	VL	SS	SD	CG	LW	ET	LA	QTL	316
Mus_musculus	HALM	DL	LL	SV	AR	SP	VL	NFA	AC	GL	WE	ML	AQTL	SRL	316
Rattus_norvegicus	HSLM	DL	LL	SV	AR	SP	VL	NFA	AC	GL	WE	ML	AQTL	SRL	316
Heterocephalus_glaber	HSLV	DL	LL	SV	AR	SP	VF	AS	AD	TL	WE	TI	AR	ML	397
Pavo_muticus	HILAD	LL	LN	MA	RS	SP	VF	HG	TE	GS	FW	AL	VT	SA	324
Pavo_cristatus	HILAD	LL	LN	MA	RS	SP	VF	HG	TE	GS	FW	AL	VT	SA	324
Gallus_gallus	HILAD	LL	LN	MA	RS	SP	VF	HD	TE	GS	FW	AL	VT	SA	324
Chelonia_mydas	HSLV	DL	FL	SM	TR	SP	VF	SC	PE	CS	LT	WS	VT	CA	316
Xenopus_tropicalis	KHLE	EL	LL	CV	AR	FP	AF	SD	PE	SD	LW	TL	IK	HA	315
Danio_rerio	QLPM	TV	LR	AA	VM	TL	PL	LG	Q	SE	YK	VE	EF	LE	323
	370	380	390	400	410	420			

[illegible]

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Homo_sapiens	QPLPQRPSPWPQASLLGATVTVLRLCDGSAAPASSVGGHLCGTLAGCVRVQRAALDFLGT							435
Pan_troglodytes	QPLPQRPSPWPQASLLGATVTVLRLCDGSAAPASSVGGHLCGTLAGCVRVQRAALDFLGT							435
Macaca_mulatta	QPLPQRPSPWPQASLLGAAVTVLRLCDGSAAPASSVGGSHLCGTLAGCVRVQRAALDFLGT							435
Callithrix_jacchus	QPLPQRPSPWPQASLLGAAVTVLRLCDGSATPVSSVGGHLCGTLAGCVRVQRAALDFLGM							530
Bos_taurus	QPLPQRPSPWPQAPLLAAVAILRLCNGSAAPNSEAGGRLCAMLGGCVRVQRAALDFLGV							434
Equus_caballus	QPLPQRPSPWPQAPLLGAAVTILRFCNGSAAPASDVGGRLCAILAGCVRVQRAALDFLGA							435
Mus_musculus	QMLPQCPSWPQVHLLQAALTILHLCDGSADPSSSAGGRLCGTTLGGCVRVQRAALDFLGT							435
Rattus_norvegicus	QMLPQCPSWPQVPLLQAAVTILRLSDGSADPSSSAGGRLCGALGGCVRVQRAALDFLGT							435
Heterocephalus_glaber	QPLPQHPLPWPQTLTLEAVVITLRLCDGSAAPSSSEGCRLCGTLAGCVRVQRAALGFLGT							517
Pavo_muticus	LSVAFLPVNLPYASLLCSVVTILQFCNGLLIPASPLGSKISQILVGCFRVQKSALDALAA							441
Pavo_cristatus	LSVAFLPVNLPYASLLCSVVTILQFCNGLLIPASPLGSKISQILVGCFRVQKSALDALAA							441
Gallus_gallus	LSVVFLPVNLPYASLLRSVVTILQFCNGLLIPASPLGSKISQILVGCFRVQKSALDALAA							443
Chelonia_mydas	QYLTCLPVDLPHIPLLQSVVTVLQFCIGLATPATCLGTKISRILIGCFRVQRSADFILGA							435
Xenopus_tropicalis	CHMG-SLIKIPHESVLNCVTVLQFCIGQAAGASSAGSSLCRFLIGCLRVSAMDTLGS							432
Danio_rerio	AKKEYFEGVCIPS-VTSRVVQLLRVCSG-HCTSSLHVSACTHLIGSCKIQRCGLDTLGA							431
490.....500.....510.....520.....530.....540							

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Homo_sapiens	LSQGTGPQELVTQALAVLLECLESPGSSPT	-----	-----	-----	-----	-----	-----	465
Pan_troglodytes	LSQGTGPQELVTQALAVLLECLESPGSSPT	ASADGAFTQGHRAAAQRASRRRWLHGAGPG	-----	-----	-----	-----	-----	495
Macaca_mulatta	LSEGTGPQELVTQALAVLLECLESPGSSPT	-----	-----	-----	-----	-----	-----	465
Callithrix_jacchus	LSQGTSPQELVTQALAVLLECLESPGSSPT	-----	-----	-----	-----	-----	-----	560
Bos_taurus	LSQGLGPQELVTQVFAILLEYLVSPDSSPT	-----	-----	-----	-----	-----	-----	464
Equus_caballus	LAQETGPQELVTQVSAVLLLEYLRSPDSSPT	-----	-----	-----	-----	-----	-----	465
Mus_musculus	LSQGTSPLELVLEVFAVLLKTLESPSSPM	-----	-----	-----	-----	-----	-----	465
Rattus_norvegicus	LSLGTSPLELVLEVFAVLLKTLESPSSPM	-----	-----	-----	-----	-----	-----	465
Heterocephalus_glaber	LTLGTSSWELVPQVFAILLETLKSPASSPT	-----	-----	-----	-----	-----	-----	547
Pavo_muticus	LSDWKCSDTVVRSLFDVLLAYLDSPTNTAPT	-----	-----	-----	-----	-----	-----	471
Pavo_cristatus	LSDWKCSDTVVRSLFDVLLAYLDSPTNTAPT	-----	-----	-----	-----	-----	-----	471
Gallus_gallus	LSDRKCSDTVVGSLFDVLLAYLESPTNTTPT	-----	-----	-----	-----	-----	-----	473
Chelonia_mydas	LSHWESHVSFVMGSVSDILLAYLKSPDTSPT	-----	-----	-----	-----	-----	-----	465
Xenopus_tropicalis	LALWPLTQDSLKKIYNVLLAYLENPESDPT	-----	-----	-----	-----	-----	-----	462
Danio_rerio	LSVYEDNLDLRKIDFGVLLDYLKSPDSSHAT	-----	-----	-----	-----	-----	-----	461
	.....550.....560.....570.....580.....590.....600							

Homo_sapiens	-----	VLKKAFAQATLR	476
Pan_troglodytes	PLVGEDTSARRAPHRAGPWQVQTLCHLPLSRQQTILEEGPRASWDPKEK	VLKKAFAQATLR	555
Macaca_mulatta	-----	VLKKAFAQATLQ	476
Callithrix_jacchus	-----	VLKKAFAQATLR	571
Bos_taurus	-----	VLKKAFAQATLC	475
Equus_caballus	-----	VLKKAFAQATLR	476
Mus_musculus	-----	VLKKAFAQATLR	476
Rattus_norvegicus	-----	VLKKAFAQATLR	476
Heterocephalus_glaber	-----	VLKKAFAQAVLH	558
Pavo_muticus	-----	VLKKSFKAMSR	482
Pavo_cristatus	-----	VLKKSFKAMSR	482
Gallus_gallus	-----	VLKKSFKAMSK	484
Chelonia_mydas	-----	VLKKSFAQATLK	476
Xenopus_tropicalis	-----	VLKKSFAQSLK	473
Danio_rerio	-----	VLKKTFAQVLR	472
610.....620.....630.....640.....650.....660		

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Homo_sapiens	WLLSSPKTPGCS	DLGPLIPQFLRELFPVLQKRLCHPCWEVRDS	SALEFLTQLSRHWGGQAD	536					
Pan_troglodytes	WLLSSPKTPGCS	DLGPLIPQFLRELFPVLQKRLCHPCWEVRDS	SALEFLTQLSRHWGGQAD	615					
Macaca_mulatta	WLLSSPKTPGCS	DLGPLIPQFLRELFPVLQKRLCHPCWEVRDS	SALEFLTQLSRHWGGQAD	536					
Callithrix_jacchus	WLLSSPKTPSCD	DLGPHIPQFLRELFLVLQKRLCSPCWEVRDS	SALEFLTQLSRHWGGQAD	631					
Bos_taurus	WLLSSAAPPGCCD	LEPYAQLVLGELLVLRKRLCSPCWEVRDS	SGLEFLTQMRHQGGQAG	535					
Equus_caballus	WLLSSPRAPGCCD	LDPTQLFLRELLPVLRLKRLCSPCWEVRDS	SGLEFLTQVTRHWGGQAG	536					
Mus_musculus	WLQNPHKTPSS	DLSSDALLFLGELFPILQKRLCSPCWEVRDS	SALEFLTHLIRHWGGQAD	536					
Rattus_norvegicus	WLQSPHKTPSG	DLSPDALLFLGELFPILQKRLCSPCWEVRDS	SALEFLTHLIRHWGGQAD	536					
Heterocephalus_glaber	WLLDSPPTPGCS	DLGPHTPLFLRELFPVLQKHLCSPCWEVRDS	SALEFLTHLSCWGGEAN	618					
Pavo_muticus	WLVSPLGTSFFK	NQQQTEKTLQDVFLVLQKRLCSPCWEVRDS	SLEFLTNLIRNLRDHDE	541					
Pavo_cristatus	WLVSPLGTSFFK	NQQQTEKTLQDVFLVLQKRLCSPCWEVRDS	SLEFLTNLIRNLRDHDE	541					
Gallus_gallus	WLMSLPGMSFFK	NQQQTEKTLQDVFLVLQKRLCSPCWEVRDS	SLEFLTNLIRNLRDHDE	543					
Chelonia_mydas	WLVSLSSEAPSS	RDHWEQIEQFLRDLFLVLQKRLCSPYWEVRDS	SALEFLIHLVKHLREKEG	536					
Xenopus_tropicalis	WLQVS	LVSTDSEHWHCSCRFQDVFPVLKKRMCSPSWEIRDS	STLEFLALLIDSVNEKGL	532					
Danio_rerio	WIGVCASF	PDLLQFISN-----DLFPVLEKRMCDVRWEVRDS	STLEFITQLTVALSDNSG	526					
670.....	680.....	690.....	700.....	710.....	720			

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Homo_sapiens	FRCALLAS	EV	PQ	LAL	QL	LQ	DP	ES	YV	RA	SA	VT	AM	QL	SS	QGLHAP--TSPEHA	EAER--QSLF	593
Pan_troglodytes	FRCALLAS	EV	PE	LAL	QL	LQ	DP	ES	YV	RA	SA	VT	AM	QL	SS	QGLHAP--TSPEHA	EAER--QSLF	672
Macaca_mulatta	FRCALLAS	EV	PE	LAL	QL	LQ	DP	ES	YV	RA	SA	VT	AT	GL	SS	RGLHAP--TSPEYA	EAER--QSLF	593
Callithrix_jacchus	FRCALLAS	EV	PE	LAW	QL	LQ	DP	ES	YV	RA	SA	VT	AT	GL	SS	RGLHTP--TS	PQHTVAR--QSL	688
Bos_taurus	FRQALLAS	EV	PE	LTR	QL	LQ	DP	ES	YV	RA	SA	VA	AV	GL	SS	WGLLAAPS	SPEHAATPQ-KT	PL594
Equus_caballus	FRHALLAS	EV	PE	LAE	QL	LR	DP	ES	YV	RA	SA	VT	AV	GL	SS	QGLHATAAS	PEQLGGQK--ES	LL595
Mus_musculus	FREALRS	SE	VP	TLAR	QL	LQ	DP	ES	YV	RA	SA	VGA	AG	QL	SS	QGLQAAPAS	PE--NSQAQ--Q	GLL594
Rattus_norvegicus	FREALHS	SE	VP	TLAR	QL	LQ	DP	ES	YV	RA	SA	VGA	AG	QL	SS	QGLQATPAN	-----Q--Q	GLL588
Heterocephalus_glaber	FREVLLS	SD	VP	KLAR	QL	LR	DP	ES	YV	RA	SA	VT	AM	GL	SS	QGLQAASD	SPG--HPEVQ--Q	GLV676
Pavo_muticus	FRQCLLS	SE	VP	KL	TEN	LL	ED	PE	SY	VR	SA	VT	AM	GH	LA	FITYFF	FPESPVAGNQYNKE	KTIV601
Pavo_cristatus	FRQCLLS	SE	VP	KL	TEN	LL	ED	PE	SY	VR	SA	VT	AV	GH	LA	FITYFF	FPESPVAGNQYNKE	KTIV601
Gallus_gallus	FRQCLLS	SE	VP	KL	TEN	LL	ED	PE	SY	VR	SA	VT	AM	GH	LA	FITYFF	FPESPVAGNQYNKE	KTIV603
Chelonia_mydas	FRQVLFS	SE	VP	KL	TED	LL	ED	PE	SY	VR	SA	VT	AM	GL	SF	LT	HLISKKPGIENG	NDKEKSIV596
Xenopus_tropicalis	FQKVFR	TS	GS	VQLV	ELL	KD	PE	SY	VR	SA	VS	CL	GK	IV	AIT	LLYPTL	CEENWL	PINTEDIA592
Danio_rerio	FKEVLYT	SG	LV	SILL	SLL	SD	TE	GY	VR	SA	VT	AV	GE	AV	TSSV	QQMALV	SKIN--LLE	FEAL583
	.....	730	.....	740	.....	750	.....	760	.....	770	.....	780						

	: :	* : *	* . * . * . * .	*	** :	:	.	::	:: :	* : * * * :																																																			
Homo_sapiens	L	E	L	L	H	I	L	S	V	D	S	E	G	F	P	R	R	A	V	M	Q	V	F	T	E	W	L	R	D	G	H	A	D	A	A	Q	D	T	E	Q	F	V	A	T	V	L	Q	A	A	S	R	D	L	D	W	E	V	R	A	Q	653
Pan_troglodytes	P	E	L	L	H	I	L	S	V	D	S	E	G	F	P	R	R	A	V	M	Q	V	F	T	E	W	L	R	D	G	H	A	D	A	A	R	D	M	E	Q	F	V	A	T	V	L	Q	V	A	S	R	D	L	D	W	E	V	R	A	Q	732
Macaca_mulatta	L	E	L	L	H	I	L	S	V	D	S	E	G	F	P	R	R	A	V	M	Q	V	F	T	E	W	L	R	D	G	H	A	D	A	A	Q	D	T	E	Q	F	V	A	T	V	L	Q	A	A	S	R	D	L	D	W	E	V	R	A	Q	653
Callithrix_jacchus	R	E	L	L	H	I	A	D	S	E	G	F	P	R	R	A	V	M	Q	V	F	T	E	W	L	R	D	S	H	A	D	V	A	Q	D	T	E	Q	F	V	A	T	V	L	Q	V	A	S	R	D	L	D	W	E	V	R	A	Q	748		
Bos_taurus	E	E	L	L	V	L	T	T	D	S	E	G	F	P	R	R	A	V	M	R	V	F	T	E	W	L	R	D	G	Y	A	D	V	A	E	D	P	E	R	F	V	A	R	V	L	Q	A	A	S	G	D	L	D	W	E	V	R	V	Q	654	
Equus_caballus	A	E	L	L	H	V	L	S	T	D	S	E	G	F	P	R	R	A	A	M	Q	V	F	T	E	W	L	R	D	R	H	A	D	V	A	E	D	T	E	R	F	V	A	R	V	L	Q	A	A	S	R	D	L	D	W	E	V	R	A	Q	655
Mus_musculus	M	D	L	M	H	I	L	S	T	D	S	E	G	F	P	R	R	A	V	L	R	V	F	T	D	W	L	R	D	G	H	A	D	V	V	R	D	T	E	W	F	V	A	T	V	L	Q	A	V	S	R	D	L	D	W	E	V	R	V	Q	654
Rattus_norvegicus	M	D	L	M	H	I	L	S	T	D	S	E	G	F	P	R	R	A	V	L	R	V	F	T	E	W	L	R	D	G	H	A	D	V	V	R	D	T	E	W	F	V	A	T	V	L	Q	A	V	S	R	D	L	D	W	E	V	R	V	Q	648
Heterocephalus_glaber	G	E	L	L	H	I	L	S	V	D	S	E	G	F	P	R	R	A	V	T	R	V	F	T	E	W	L	R	N	S	H	A	D	V	O	D	T	E	W	F	V	A	T	V	L	Q	M	V	S	R	D	L	D	W	E	V	R	A	Q	736	
Pavo_muticus	A	K	L	Q	E	I	L	S	T	D	P	E	G	F	P	R	R	A	V	M	S	I	F	T	M	W	L	K	E	S	C	T	G	Q	L	E	E	T	E	Q	F	V	S	T	V	Q	T	A	A	R	D	L	D	W	E	V	K	L	G	661	
Pavo_cristatus	A	K	L	Q	E	I	L	S	T	D	P	E	G	F	P	R	R	A	V	M	S	I	F	T	M	W	L	K	E	S	C	T	G	Q	L	E	E	T	E	Q	F	V	S	A	V	Q	T	A	A	R	D	L	D	W	E	V	K	L	G	661	
Gallus_gallus	A	K	L	Q	E	I	L	S	T	D	P	E	G	F	P	R	R	A	V	M	N	V	F	T	M	W	L	K	E	S	C	T	G	Q	L	E	E	T	E	Q	F	V	S	T	V	Q	T	A	H	D	L	D	W	E	V	K	L	G	663		
Chelonia_mydas	A	Q	L	Q	E	I	L	S	T	D	S	E	G	F	P																																														

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Homo_sapiens	GLELALVFLGQTLGPP-RTHCPYAVALPEVAPAQPLTEALRALCHVGLGDFAFCAFLDCD				712
Pan_troglodytes	GLELALVFLGQTLGPL-RTHCPYAVALPEVAPAQPLTEALRALCHVGLGDFAFCAFLDCD				791
Macaca_mulatta	GLELALVFLGQTLGPP-RTHCPYAVALPEVAPARPLTEALRAFCHVGLGDFAFCAFLDCD				712
Callithrix_jacchus	GLELALVFLGQTLGPP-HTHCPYTVALPEAAPARFAEALRALCHVGLGDFAFRALDCD				807
Bos_taurus	GLELALFLEQLLG-----PCGPSAVAPPGALAAQALQALCRVQLFEFAFRSLFDCD				705
Equus_caballus	GLELALVFLAQTLGQP-SARCPYAVAAPQATPPGPLAQALRALSRVRLFEFAFRALFDCD				714
Mus_musculus	GLELARVFLTQALGQP-SLHCPYTVGLPRASSPRPHPEFLQTLCLRLPLFEFAFCAALLDCD				713
Rattus_norvegicus	GLELAQVFLIQAMGQP-RLHCPYTVGLPGATSSRPHLFELQTLCLRLPLFEFAFCAALLDCD				707
Heterocephalus_glaber	GLELVQVFLAQTLGQP-NPSCPYAVALPKVTPPSLQLEVLRLQCMQIFDFAFRALDCD				795
Pavo_muticus	CLELVQIFCTHMFRCFGLPECPYAPVPSAVTGSIHQNEPLQMFCRANLFSFLFRSLCDDC				721
Pavo_cristatus	CLELVQIFCTHMFRCFGLPECPYAPVPSAVTGSIHQNEPLQMFCRANLFSFLFRSLCDDC				721
Gallus_gallus	CLELVQIFCNHMFRCFGLPECPYAPISSAVTSSICQNEPLQIFCRANLFSFLFRSLCDDC				723
Chelonia_mydas	GLELAEVFSAQTLGRLGLAACPYAAVLSSATRSTHLSESLQIFCQVKLFEFLLFGALCDDC				716
Xenopus_tropicalis	ALDLADVFLDQTLAICNFSGCPYTVGLHCNNSSYAVTEAIOKQDEVLGFQFLLSSLCDDC				712
Danio_rerio	TLELAEALMEKMLT----CCPYAVQSFSSSERTRLTQSLSKLKDGLGLVDLLNGLDCD				696
850.....860.....870.....880.....890.....900				

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Homo_sapiens	RPVAAQKS	CDLLLFLRDKIASY	SSLREARG	-----	SPNTASAEATLPRWR---	756
Pan_troglodytes	RPVAAQKS	CDLLLFLRDKIASY	SSLREARG	-----	GPNTASAEATLPRWR---	835
Macaca_mulatta	RPVAAQKS	CDLLLFLRDKIASY	SSLREAGG	-----	GPNTASAEALPRCR---	756
Callithrix_jacchus	RPVAAQKS	CDLLLFLRDKIASYNILREAS	-----	-----	PNTNSMEVALPRWR---	849
Bos_taurus	RPVAAQKS	CDLLLFLRAKAI	PSSNSQEAGD	-----	GPDVTSTVEAALRRWQ---	749
Equus_caballus	RPVAAQKS	CDLLLFLRAQATPS	GGLQEAEG	-----	SPDVVPVEAALQRWR---	758
Mus_musculus	RPVAAQKAC	CDLLLFLRDKITVPC	SSPREAGD	-----	SPNSASVEAALQRWR---	757
Rattus_norvegicus	RPVAAQKAC	CDLLLFLRDKITVSC	SNPQEAGD	-----	SPNSASVEAALQRWR---	751
Heterocephalus_glaber	RPVAAQKAC	CDLLLFLRNKSAFCS	GGLQEAEG	-----	SSDVASVEATLERWQ---	839
Pavo_muticus	KPVGQKAC	DILLALKSHFCQS	SITGSHGTGDL	-----	AGHGIHWLQRTLROGSLVQ	773
Pavo_cristatus	KPVGQKAC	DILLALKSHFCQS	SITDSQGTGDL	-----	AGHGIHWLQRTLROGSLVQ	773
Gallus_gallus	KPVGQKAC	DILLALKSHFCQS	STTDLQGPGL	-----	AGHGIHWLQRTLROGSLVQ	775
Chelonia_mydas	RPVAAQKACS	ILIALKAELCDESS	SQKEGTSAGLST	-----	EAHGIAWLEETLRR---WS	766
Xenopus_tropicalis	RPVALKSC	DMLCALKEKLRVGE	SATIEYVPS	-----	ELHDTDWIESILKERC---	758
Danio_rerio	RPVCEKSC	QLLLKLRLNAEKADF	DHDLVLKACGNRWG	DEVQSRFLNK	QVKASEHVLI	756
910.....920.....930.....940.....950.....960	

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Homo_sapiens	--AGECAQPPGDQEPEAVLAMLRLSLDLEGLRSTLAESSDHVEKSPQSLLQDMLATGGFLO	814									
Pan_troglodytes	--AGECAQPPGDQEPEAVLAMLRLSLDLEGLRSTLAESSDHVEKSPQSLLQDMLATGGFLO	893									
Macaca_mulatta	--TGEHAQPPGDQEPEAVLAMLRLSDLEGLRSTLAESSDHVEKSPQSLLQDMLATGGFLO	814									
Callithrix_jacchus	--AGECTQPQEDQEPELLAMLRSLDLEGLRSTLAESSDHVEKSPHSLQLDMLATGGFLO	907									
Bos_taurus	--AGEGQGPLGELAPEAVLAVLRSMDLALQDTLAESSDHVERSPOSSLQDMLATVGVLG	807									
Equus_caballus	--AGEGQEPLGDLEPEAVLAVLRSLDLEGLRGALAESSDHVEKSPQSLLQDMLATVGVGR	816									
Mus_musculus	--EGECAQPLGDLDP EAMLAAILRALDLEGLQGRLAKSSDHVEKSPQSLLQDMLATVGVLE	815									
Rattus_norvegicus	--EGECAQPLGDLPEEAMLAILRLSLDLEGLQGRLAKSSDHVEKSPQSLLQDMLATVGVLE	809									
Heterocephalus_glaber	--VGEQGQPLGSLEPEVVLAALRSMDLEGLQRSLEASSDHVEKSPQSLLQDVLATVALLE	897									
Pavo_muticus	NFPTDDGN GVDFQ DPESMMLALTITIDLVELHN DLNKCSDYVEKSPQS LLED ILATVG TVE	833									
Pavo_cristatus	NFPTDDGN GVDFQ DPESMMLALTITIDLVELHN DLNKCSDYVEKSPQS LLED ILATVG TVE	833									
Gallus_gallus	NFPTDDGN GVDFQ DPESMMLALTITIDLVELHN DLNKCSDYVEKSPQS LLED ILATVG TAE	835									
Chelonia_mydas	SCPRGDADEAGSQDPNGVLLVLRITVDLEQLHRSLNRSSDHIEKSPQSLLQDILATVGTILE	826									
Xenopus_tropicalis	-VKDKHSYNGVAQ DANWFTIDILKKVDLVGLKTSLSKSGSHMHETPQS LLYDIKATLWSLE	817									
Danio_rerio	GGGEGTEKD LHCIKEIPLSVILOILDLDMDQRMLKLSSDHVNVS PRS LME DILSA AQOSE	816									
 970 980 990 1000 1010 1020										

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Homo_sapiens	GDEADCY		821
Pan_troglodytes	GDEADCY		900
Macaca_mulatta	GDEADCY		821
Callithrix_jacchus	GDGADCY		914
Bos_taurus	DNEADCY		814
Equus_caballus	ENQADCY		823
Mus_musculus	ENEADCY		822
Rattus_norvegicus	ENEADCY		816
Heterocephalus_glaber	ENVADCY		904
Pavo_muticus	ENEADCY		840
Pavo_cristatus	ENEADCY		840
Gallus_gallus	ENEADCY		842
Chelonia_mydas	ENEADCY		833
Xenopus_tropicalis	EHDADCY		824
Danio_rerio	ENIVDCY		823