

## CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

**File: /media/morpheus/disk1/fst/pep\_msa/MEID/**  
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		.....:.....* * ** : ** * * * : * ..	
Pavo_muticus	MK-SSENVFYLLLVAHALSLERVRWCTMSNQELSKCKDMSNAFAGAGILPPLECVGESA		59
Pavo_cristatus	MK-SSENVFYLLLVAHALSLERVRWCTMSNQELSKCKDMSNAFAGAGILPPLECVGESA		59
Gallus_gallus	MK-SSENVFYLLLVAHALSLERVRWCTMSNQELSKCKDMSNAFTAGAGILPPLECMGESA		59
Anas_platyrhynchos	MK-NSRNVFLLLVFHAHLSLSEVRWCTVSQQEHSKCNDSKAFARAGILPRLECTEGGSA		59
Chelonia_mydas	MN-FQIGIFYRLCFFHTALSLOHVRWCTVSEQEQAQKCNDMRAAFTDANIFPNVLCVNGGSA		59
Mus_musculus	MRLLSVTFWLLLRLRTVVCVMEVOWCTISDAEQQCKCKDMSEAFQAGIRPSLLCVOGNSA		60
Rattus_norvegicus	MRLLSVTFWLLLRLRTVLCVMEMOWCTISDPEQQCKCKDMSKAFQAGIQPSLLCVOGTST		60
Homo_sapiens	MRGPSGALWLLLALRTVLGGMEVRWCATSDPEQHKCGNMSEAFREAGIQPSLLCVRGTSA		60
Pan_troglodytes	MRAPSGALWLLLALRTVLGGMEVRWCATSDPEQHKCGNMSEAFREAGIQPSLLCVOGTSA		60
Macaca_mulatta	MRGPSRALWLLLALRTVLGGMEVRWCTISDPEQHKCSNMSTAFREAGIQPSLLCVOGTSP		60
Callithrix_jacchus	MRGRSAALWLLLALRTVLGGMEVRWCTISDPEQKCSNDSKAFREAGIQPSLFCVOGTSA		60
Bos_taurus	MRGSSVALWLVFTILRTVLGGMEVRWCTISDPEQQKCSNDSKAFQAGIQPSVLCVOGTSA		60
Equus_caballus	MQGTSVPLWLLLALHTALGGMEVRWCTTSDPEQQKCSNDSKAFQDAGIQPALLCVOGASA		60
Canis_lupus_familiaris	MRGPSGALWVLLLALRTALSGAVRWCTTSDPEQRKCGDLKAFGAAGIQPPVGCVOAPS		60
Xenopus_tropicalis	-MIWK-IVFILFYFHTILCLNEVRWCTISDPENKKCNDMKAAFGQAKITPMLSCVNGKSG		58
Latimeria_chalumnae	-MTLKGLLVSVVLFHIALGMSVRWCTISVLELNKCNDMKEAFRAGANTHPLLSVVEGTGK		59
Rhinatrema_bivittatum	--MKLCRRLLLFLLCLHMGIGEVWCTTSEQETKKCSAMKTAFAFAGAGITPPLSLACVOGSSA		58
	1.....10.....20.....30.....40.....50.....60		

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Pavo_muticus	ANCTOMIKDYLA	DAVTLDGRWIYQ	AGKEYGLKP	VVGEVYDQ	IEIGTSYYA	VAVVRK	-GSNI	118	
Pavo_cristatus	ANCTOMIKDYLA	DAVTLDGRWIYQ	AGKEYGLKP	VVGEVYDQ	IEIGTSYYA	VAVVRK	-GSNI	118	
Gallus_gallus	ANCTOMIKDYLA	DAVTLDGRWIYQ	AGKEYGLKP	VVGEVYDQ	IEIGTSYYA	VAVVRK	-GSNI	118	
Anas_platyrhynchos	ANCTOMIKDYLA	DAVTLDGRWIYQ	AGKEYGLKP	VVGEVYDQ	IEIGTSYYA	VAVVRK	-GSNI	118	
Chelonia_mydas	INCTHMIKNNLA	DAVTLDGGIYQ	AGKEHNLKP	VVGEVYDQ	IEIGTSYYA	VAVVRK	-KSFI	118	
Mus_musculus	DHCVQLIKEQ	KADAITLDGGA	IYEAGKEHGL	KP	VVGEVYDQ	DIGTSYYA	VAVVR	-NSNV	119
Rattus_norvegicus	DHCVOLIKDQ	KADAITLDGGA	IYEAGKEYGL	KP	VVGEVYDQ	DIGTSYYA	VAVVR	-NSNV	119
Homo_sapiens	DHCVOLIAAQ	EADAITLDGGA	IYEAGKEHGL	KP	VVGEVYDQ	EVGTSYYA	VAVVR	-SSHV	119
Pan_troglodytes	DHCVRLIAAQ	EADAITLDGGA	IYEAGKEHGL	KP	VVGEVYDQ	EVGTSYYA	VAVVR	-SSHV	119
Macaca_mulatta	DHCVOLIAAQ	EADAITLDGGA	IYEAGKEHGL	KP	VVGEVYDQ	EVGTSYYA	VAVVR	-SSQV	119
Callithrix_jacchus	NHCVOLIAAQ	EADAITLDGGA	IYEAGKEHGL	KP	VVGEVYDQ	EVGTSYYA	VAVVR	-SSHV	119
Bos_taurus	DHCVOLITAE	ADAITLDGGA	IYEAGKEHGL	KP	VVGEVYDQ	IEIGTSYYA	VAVVR	-GSQV	119
Equus_caballus	DHCVOLITAE	ADAITLDGGA	IYEAGKEHGL	KP	VVGEVYDQ	EVGTSYYA	VAVVR	-SSHV	119
Canis_lupus_familiaris	DHCIRLLIAQ	EADAITLDGGA	IYEAGKEHGL	KP	VVGEVYDQ	EVGTSYYA	VAVVR	-SSNV	119
Xenopus_tropicalis	MDCARMIMNNE	ADAVTLNGELI	YQAGSQYNL	KPVAGEVYDQ	GMGTSYYA	VAVVRK	-NSSY	117	
Latimeria_chalumnae	MDCVQKIADNL	ADAVTLDDGGI	IYQAGKEYD	LKP	VVGEKYDQ	DVGTSYYA	VAVVRSS	-NITI	119
Rhinatrema_bivittatum	IDCAQMVSDHN	KADAVTLDDGI	IYQAGKDYSL	KPVGGSYGL	ELGTSYYA	VAVVRK	-DSTI	117	
	.....70.....	80.....	90.....	100.....	110.....	120			

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Pavo_muticus	TINSLKGVRSCHTGINRTAGWNPVGYLIDSGRLPAMGCDLPKAVSDYFSASCVPGANSA	178
Pavo_cristatus	TINSLKGVRSCHTGINRTAGWNPVGYLIDSGRLPAMGCDLPKAVSDYFSASCVPGANSA	178
Gallus_gallus	TINSLKGVRSCHTGINRTAGWNPVGYLIDSGRLPAMGCDLPKAVSDYFSASCVPGTNSA	178
Anas_platyrhynchos	TINSLKGIRSCHTGINRTAGWDVPVGYLIDSGRITAMGCDLPKAVSEYFNASCVPGANSA	178
Chelonia_mydas	SINSLKGVRSCHTGINRTVGWNVPVGYLIDSGRMSSVMGCNVPKAVSEYFNASCVPGANNV	178
Mus_musculus	TINTLKGVKSCHTGINRTVGWNPVGYLIVESHLSVMGCDVLKAVGDYFGGSCVPGTGCT	179
Rattus_norvegicus	TINTLKGVKSCHTGINRTVGWNPVGYLIVETGHLSVMGCDVLKAVGDYFGGSCVPGAGET	179
Homo_sapiens	TIDTLKGVKSCHTGINRTVGWNPVGYLIVESHLSVMGCDVLKAVSDYFGGSCVPGAGET	179
Pan_troglodytes	TIDTLKGVKSCHTGINRTVGWNPVGYLIVESHLSVMGCDVLKAVSDYFGGSCVPGAGET	179
Macaca_mulatta	TINTLKGVKSCHTGINRTVGWNPVGYLIVESHLSVMGCDVLKAVSDYFGGSCVPGAGET	179
Callithrix_jacchus	TINTLKGVKSCHTGINRTVGWNPVGYLIVESHLSVMGCDVLKAVSNYFGGSCVPGAGDT	179
Bos_taurus	TINTLKGMKSCHTGINRTVGWNPVGYLIVESHLSVMGCDVLRAVDYFGGSCVPGAGET	179
Equus caballus	TINSLKGVKSCHTGINRTVGWNPVIGYLVDSGRLSVMGCDVLKAVSDYFGSSCVPGAGET	179
Canis_lupus_familiaris	TINSLKGVRSCHTGLNRTAGWNPVGYLIVESHLSVMGCDVLKAVSDYFGGSCVPGAAPT	179
Xenopus_tropicalis	TINNLLKGAKSCHTFQRTAGWNPVIGYLLIDSGRIAVVACNIQKAVSFFFSQS CVPPGS---	174
Latimeria_chalumnae	NINNLRGGKSCHTGLNRTVGWNPVIGYLLIDSGRMSSVMDCNVSRAVSEFFFSASCVPGANIP	179
Rhinatrema_bivittatum	TINSLKGVKSCHTGMSRTAGWNPVGYLIDSGRVSAMGCNIS KAVGEFFSKSCVPGARG-	176
	.....130.....140.....150.....160.....170.....180	

## CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

**File: /media/morpheus/disk1/fst/pep\_msa/MEID147.fst Tue Feb 1 14:00:45 2022**

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Pavo_muticus	SYPTSLCQLCKGDSGGNQCCQNSQEQYFDYSGAFRCCLAEGAGEVAFVKHSTVPENTDGR	238
Pavo_cristatus	NYPTSLCQLCKGDSGGNQCCQNSQEQYFDYSGAFRCCLAEGAGEVAFVKHSTVPENTDGR	238
Gallus_gallus	SYPTSLCQLCKGDSGGNQCKQNSQEQYDYDYSAGAFRCCLAEGAGEVAFVKHSTVPENTDGR	238
Anas_platyrhynchos	NYPASLCQLCKGDLGQKKCQNSQEQYDYDYSAGAFRCCLAEDAGAVAFVKHSTVPHYTDGR	238
Chelonia_mydas	NYPKSLCQLCKGDASGQNKCCERNKSKEQYDYDYSAGAFRCCLAEGAGDVAFVKHSTVSENTDGG	238
Mus_musculus	SHSESLCRLCRGDSGGHNVCDKSPLERYDYDYSAGAFRCCLAEGAGDVAFVKHSTVLENTDGN	239
Rattus_norvegicus	SHSESLCRLCRGDSGGHNVCDKSPLERYDYDYSAGAFRCCLAEGAGDVAFVKHSTVLENTDGK	239
Homo_sapiens	SYSESLCRLCRGDSGGEGVCDKSPLERYDYDYSAGAFRCCLAEGAGDVAFVKHSTVLENTDGK	239
Pan_troglodytes	RYSESLCRLCRGDSGGEGVCDKSPLERYDYDYSAGAFRCCLAEGAGDVAFVKHSTVLENTDGK	239
Macaca_mulatta	RYSESLCRLCRGDSGGEGVCDKSPLERYDYDYSAGAFRCCLAEGAGDVAFVKHSTVLENTDGK	239
Callithrix_jacchus	GYSESLCRLCRGDSGGEGVCDKSPLERYDYDYSAGAFRCCLAEGAGDVAFVKHSTVLENTDGK	239
Bos_taurus	SYSESLCRLCRGDSSTGEGVCDKSPLERYDYDYSAGAFRCCLAEGAGDVAFVKHSTVLENTDGK	239
Equus_caballus	SYSESLCRLCRGDAAGEGVCDKSPLERYDYDYSAGAFRCCLAEGAGDVAFVKHSTVLENTDGK	239
Canis_lupus_familiaris	GHADSLCRQCRGDAAGDGVCDKSPLERYDYDYSAGAFRCCLAEGAGDVAFVKHSTVLENTDGR	239
Xenopus_tropicalis	-TQADLCQLCIGDANGTNVCDLNG--RYSDYSAGAFRCCLVEGQGDVAFIKHSTVAENSDGK	231
Latimeria_chalumnae	GYPESLCQLCVGDNAGLNKCEKNDQERYYSYSGAFRCCLAESSGEVAFVKHTTVLENTDGR	239
Rhinatrema_bivittatum	INITSLCELVGVDGRGQSKCELPQELYSYDYGGAFFRCCLAEGAGDVAFVKHSTVLENTDGG	236
	.....190.....200.....210.....220.....230.....240	

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Pavo_muticus	TLSAWAQQLRSKDFOLLCRNGSTADVMEWRTCHLARVPAHAVVVRPDTDGTAVFQLLNQG	298
Pavo_cristatus	TLSAWAQQLRSKDFOLLCRNGSTADVMEWRTCHLARVPAHAVVVRPDTDGTAVFQLLNQG	298
Gallus_gallus	TLSTWAOQFRSKDFOLLCRNGSTADVTEWRTCHLARVPAHAVVVRPDTDGTAVFQLLNQG	298
Anas_platyrhynchos	TLSSWAOQLRSQDFOLLCRNGSTADVTEWRTCHLARIPARAVVVRPDTDGTGVIFQLLNQG	298
Chelonia_mydas	TPSSWAOELHSRDFOLLCRDGSTAEVTDWRKCHLARVPAHAVVVRPDTDGSILFIQMLKQG	298
Mus_musculus	TLPSSWGKSLMSQDFOLLCRDGSRADITEWRRCHLAKVPAHAVVVRGDMGGLIFQLLNEG	299
Rattus_norvegicus	TLPSSWGKALMSQDFOLLCRDGSRADITEWRRCHLAKVPAHAVVVRDDMDGGLIFRLLNEG	299
Homo_sapiens	TLPSSWGQALLSQDFELLCRDGSRADITEWRQCHLARVPAHAVVVRADTDGGLIFRLLNEG	299
Pan_troglodytes	TLPSSWGQALLSQDFELLCRDGRADVTEWRQCHLARVPAHAVVVRADTDGGLIFRLLNEG	299
Macaca_mulatta	TLPSSWGQALLSQDFELLCRDGSRADVTEWRQCHLARVPAHAVVVRADTDGGLIFRLLNEG	299
Callithrix_jacchus	TLPSSWGQALLSQDFELLCRDGSWADVTEWRQCHLARVPAHAVVVRADTDGGLIFRLLNEG	299
Bos_taurus	TLPSSWGQALLSQDFELLCDGTRADVTEWRQCHLARVPAHAVVVRADTDGGLIFRLLNEG	299
Equus_caballus	TLPSSWGQALLSQDFELLCRDGSRADVTEWRRCHLARVPAHAVVVRADADGGLIFRLLNEG	299
Canis_lupus_familiaris	TLPSSWGRALRSQDFALLCRDGSRADVTEWRRCHLARVPAHAVVVRADTDGGLVFRLLNEG	299
Xenopus_tropicalis	NTDSWAREVISDYQLLCRDGSHADISEWRQCNLARVPAHAVMTRTNTDGSILIYKMLQDG	291
Latimeria_chalumnae	NPAPWAENLQSKNYQLLCRDGSRAEVSEWSNCHLAKVPSHAVVVRPDSDGSLVFRFLNDG	299
Rhinatrema_bivittatum	NSDIWAADLQSRDFHLLCRDGSQADVTEWRRCNLARVPGHAVVARPDATWIFQLLNEG	296
	.....250.....260.....270.....280.....290.....300	

[illegible]

## CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus	SCDPNTLPESLNNVCVSTEEIWKCGEMGTAFRNKDLKPEIQCISAKTKEECMEMIOKKKEI	414		
Pavo_cristatus	SCDPNTLPESLNNVCVSTEEIWKCGEMGTAFRNKDLKPEIQCISAKTKEECMEMIOKKKEI	414		
Gallus_gallus	SCDPNTLPESLNNVCVSTEEIWKCGEMGTAFRSKNLKPEIQCISAKTKEECMEMIOKKKEI	414		
Anas_platyrhynchos	SCDPNTLPESLNNCVISTEEIWKCGEMATSFRRKNLKPEIQCISAKTKEECMELIOKKES	414		
Chelonia_mydas	SCDLSRLPESLRWCVVLTTEEIWKCSMAVAFAFEKNLKPEIQCSVAKTTEQCEMMIOKKES	407		
Mus_musculus	LCDPNRPLPHYLRCVLSAPEIQKCGDMAVAFVSRLNKLKPEIQCVSAESPHECMEQIOAGHT	415		
Rattus_norvegicus	LCDPNRPLPHYLRCVLSVPPEIQKCGDMAVAFVSRLSLKPEIQCVSAESPHECMQOIOAGHI	415		
Homo_sapiens	LCDPNRPLPYLRWCVLSTPEIQKCGDMAVAFAFRRLKPEIQCVSAKSPOHCMERIOAEQV	415		
Pan_troglodytes	LCDPNRPLPYLRWCVLSTPEIQKCGDMAVAFAFRRLKPEIQCVSAKSPOHCMERIOAEQV	415		
Macaca_mulatta	LCDPNRPLPYLRWCVLSTPEIQKCGDMAVAFAFRQLKPEIQCVSAKSPOHCMERIOAQOI	415		
Callithrix_jacchus	LCDPNRPLPYLRWCVLSTPEIQKCGDMAVAFVSRLKPEIQCVSAESPOHCMERIOAGHI	415		
Bos_taurus	LCDPNRPLPHYLRCVLSSTPEIQKCGDMAVAFVSRLKPEIQCVSAESPOQCMERIOAQOI	415		
Equus caballus	LCDPNRPLPHYLRCVLSSTPEIQKCGDMAVAFVSRLKPEIQCVSAESPOHCMERIOAQOI	415		
Canis_lupus_familiaris	LCDPNRPLPHYLRCVLSSTPEIQKCGDMAVAFVSRLKPEIQCVSAESPOHCMERIOAQOI	415		
Xenopus_tropicalis	NCDPDKLPKSLRWCTLSTPEIWKCADMARVFKDKNLDPSLCVSAADSPACMELIRQKEV	407		
Latimeria_chalumnae	DCAPGRLPFLRWCVLSRSSEILKCADMATSFKSKELPKPIQCVSADSPVNCKMEIKKKEA	419		
Rhinatrema_bivittatum	SCDPGRVPQNLRWCTLSTPEIWKCSDMAAFINOTLTPSIQCVSADSTEACMOIMONKEV	412		
	.....370.....380.....390.....400.....410.....420			

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Pavo_muticus	DVVALGGADIYTAGKTYGLVPAAGESFSAEDTNAYYAVALVKRNP	SNAFTIISDLKGKKS	474	
Pavo_cristatus	DVVALGGADIYTAGKTYGLVPAAGESFSAEDTNAYYAVALVKRNP	SNAFTIISDLKGKKS	474	
Gallus_gallus	DVVALGGADIYIAGKTYGLVPAAGESFSAEDNNAYYAVALVKRNP	SNAFTINDLKGKKS	474	
Anas_platyrhynchos	DVALGGADIYTAGKTYGLVPAAGESYADDNNAYYAVALVKRNP	SNAFTIISDLKGKKS	474	
Chelonia_mydas	DAVSVDVDIYIAGKMYGLVPAAGESYADDNSNMYAVALVKRNT	SNAFTINDLKGKKS	467	
Mus_musculus	DAVTLRGEDIYRAGKVYGLVPAAGELYAEEDRSNSYFVVAVARRD	SSYSFTLDELRGKRS	475	
Rattus_norvegicus	DAVTLRGEDIYRAGKAYGLVPAAGELYAEEDRSNSYFVVAVVRRD	SSYSFTLDELRSKRS	475	
Homo_sapiens	DAVTLSGEDIYTAGKTYGLVPAAGEHYAPEDSSNSYFVVAVVRRD	SSHAFTLDELRGKRS	475	
Pan_troglodytes	DAVTLSGEDIYTAGKTYGLVPAAGEHYAPEDSSNSYFVVAVVRRD	SSHAFTLDELRGKRS	475	
Macaca_mulatta	DTVTLSGEDIYTAGKTYGLAPAGEGYASEDRSSNSYFVVAVVRRD	SSHAFTLDELWGKRS	475	
Callithrix_jacchus	DAVTLSSEDIYMAGKTYGLVPAAGERYASEDKSNSYFVVAVVKRD	SSHAFTLDELRGKRS	475	
Bos_taurus	DAVTILKGEDIYTAGKTYGLVPAAGEHYTPEDRSNSYFVVAVVKRNS	SYAFTLDELRGKRS	475	
Equus_caballus	DAVTLRGEDIYMAGKTYGLVPAAGEQYASEDRSNSYFVVAVVKRNS	SYAFTVDELRGKRS	475	
Canis_lupus_familiaris	DAVTLRGEDIYLAGQKHGLVPAAGERYAPDDTSSSYFAVAVVKRNS	SDAFSLDELGRRS	475	
Xenopus_tropicalis	DAVTLDGGDVYKAGKTYGLVPAAGESYPETNLS	SSYYAVALVRRDPLNAFTIHD	LKGKKS 467	
Latimeria_chalumnae	DAVTLDGGYIYTAGETVYGLVPAAGESYADDNGNMYAVAVVKRNS	SNAFTIKDLKGKKS	479	
Rhinatrema_bivittatum	DAVTLDGGDVYKAGKVYGLVPAAGERYADEPNAN	YYAVAVVKKISSEAF	TINDLKGKKS 471	
	.....430.....440.....450.....460.....470.....480			

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Pavo_muticus	C	H	T	G	L	G	R	T	A	G	N	I	P	I	G	M	L	I	K	K	G	F	I	N	P	R	D	C	N	I	P	Q	A	V	S	E	F	F	S	A	S	C	V	P	S	A	E	Q	D	N	Y	P	S	T	L	C	Q	L	C		534	
Pavo_cristatus	C	H	T	G	L	G	R	T	A	G	N	I	P	I	G	M	L	I	K	K	G	F	I	N	P	R	D	C	N	I	P	Q	A	V	S	E	F	F	S	A	S	C	V	P	S	A	E	Q	D	N	Y	P	S	T	L	C	Q	L	C		534	
Gallus_gallus	C	H	T	G	L	G	R	T	A	G	N	I	P	I	G	M	L	V	K	K	G	F	I	N	P	R	D	C	N	I	P	Q	A	V	S	E	F	F	S	A	S	C	V	P	S	A	E	Q	G	N	Y	P	S	T	L	C	Q	L	C		534	
Anas_platyrhynchos	C	H	T	G	L	G	R	T	A	G	N	I	P	I	G	M	L	I	K	K	G	I	I	K	P	K	D	C	N	I	P	Q	A	V	S	E	F	F	S	A	S	C	V	P	S	A	N	L	D	N	Y	P	S	K	L	C	Q	L	C		534	
Chelonia_mydas	C	H	T	G	Y	G	R	M	A	G	N	I	P	I	G	V	L	I	K	R	G	F	I	R	P	D	C	N	I	P	Q	A	V	S	D	F	F	S	A	S	C	V	P	A	A	K	M	D	N	Y	P	S	K	L	C	E	L	C		527		
Mus_musculus	C	H	P	Y	L	G	S	P	A	G	W	E	V	P	I	G	S	L	I	Q	R	G	F	I	R	P	K	D	C	D	V	L	T	A	V	S	O	F	F	N	A	S	C	V	P	V	M	N	P	K	N	Y	P	S	S	L	C	A	L	C		535
Rattus_norvegicus	C	H	P	G	L	G	S	P	A	G	W	E	V	P	I	G	S	L	I	Q	R	G	F	I	R	P	K	D	C	D	V	L	T	A	V	S	E	F	F	N	A	S	C	V	P	V	M	N	P	K	N	Y	P	S	S	L	C	A	L	C		535
Homo_sapiens	C	H	A	G	F	G	S	P	A	G	W	D	V	P	V	G	A	L	I	Q	R	G	F	I	R	P	K	D	C	D	V	L	T	A	V	S	E	F	F	N	A	S	C	V	P	V	M	N	P	K	N	Y	P	S	S	L	C	A	L	C		535
Pan_troglodytes	C	H	A	G	F	G	S	P	A	G	W	D	V	P	V	G	A	L	I	Q	R	G	F	I	R	P	K	D	C	D	V	L	T	A	V	S	E	F	F	N	A	S	C	V	P	V	M	N	P	K	N	Y	P	S	S	L	C	A	L	C		535
Macaca_mulatta	C	H	A	G	F	G	S	P	A	G	W	D	I	P	V	G	A	L	I	R	R	G	F	I	R	P	K	D	C	D	V	L	T	A	V	S	E	F	F	N	A	S	C	V	P	V	M	N	P	K	N	Y	P	S	S	L	C	A	L	C		535
Callithrix_jacchus	C	H	A	S	F	G	S	P	A	G	W	D	I	P	V	G	A	L	I	Q	R	G	F	I	R	P	K	D	C	D	V	L	T	A	V	S	E	F	F	N	A	S	C	V	P	V	M	N	A	K	N	Y	P	S	S	L	C	A	L	C		535
Bos_taurus	C	H	P	G	F	G	S	P	A	G	W	D	I	P	V	G	L	V	Q	R	G	F	I	R	P	R	D	C	D	V	L	T	A	V	S	E	F	F	N	A	S	C	V	P	V	M	N	P	Q	N	Y	P	S	S	L	C	A	L	C		535	
Equus caballus	C	H	P	G	F	G	S	P	A	G																																																				



## CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus	IGDNSGNNKCSASSQERYYSYNGAFRCCLAEDAGDVAFVKHSTVFENTDGKNITESWARDLK	594
Pavo_cristatus	IGDNSGNNKCSASSQERYYSYNGAFRCCLAEDAGDVAFVKHSTVFENTDGKNITESWARDLK	594
Gallus_gallus	IGDNNGNKKCSASSQERYYSYNGAFRCCLAEDAGDVAFVKHSTVFENTDGKNITESWAHDLK	594
Anas_platyrhynchos	IGDDSGNNKCSASSQERYYSYGSAFRCLAQDSGDVAFVKHSTVFENTDGKNITESWARDLK	594
Chelonia_mydas	IGDNSGNNKCDAStOERYYSYSGAFCRLVEDSGDVAFVKHSTVFENTDGNADSWALHLQ	587
Mus_musculus	VGDEKGRNKCVCSSQERYYGYSGAFCRLVEHAGDVAFVKHTTVFENTNGHNPEPWASHLR	595
Rattus_norvegicus	VGDEKGRNKCVCSSQERYYGYSGAFCRLVENAGDVAFVKHTTVFENTNGHNPEPWASHLR	595
Homo_sapiens	VGDEQGRNKCVCNSQERYYGYSRGAFCRLVENAGDVAFVRHTTVFDNTNGHNSEPWAAELR	595
Pan_troglodytes	VGDEQGRNKCVCNSQERYYGYSRGAFCRLVENAGDVAFVRHTTVFDNTNGHNSEPWAAELR	595
Macaca_mulatta	VGDEQGRNKCVCNSQERYYGNSGAFCRLVENAGDVAFVRHTTVFDNTNGHNSEPWAAELR	595
Callithrix_jacchus	VGDEQGRNKCAGNSQERYYGYSGAFCRLVENAGDVAFVRHTTVFDNTNGHNSEPWAEELR	595
Bos_taurus	VGDEQGRNKCVCNSQERYYGYSGAFCRLVENAGDVAFVKHTTVFDNTNGHSSEPWAAELM	595
Equus_caballus	VGDERGRNKCVCNSQERYYGYSGAFCRLVEDAGDVAFVKHTTIFDNTNGHSSEPWAAELR	595
Canis_lupus_familiaris	VGDERGRNKCVCSSQERYYGHRGAFCRLAESAGDVAFVKHTTVFDNTNGHNSEPWAGLR	595
Xenopus_tropicalis	KGDSKGQNCKEKPTRQYFGYSGAFCRLAEKAGDVAFVKHATVFELTDGQSTESWAKNLK	587
Latimeria_chalumnae	IGDTKGNDKCARSSNEQYSGYSGAFCRLAEGSGDVAFIKHSTVFENDTGKNPDPWGALK	599
Rhinatrema_bivittatum	KGDEKEKKCVKGVEEPYFDYSGAFCRLVEGAGDVAFVKHSTVIEN TGKNPASWAAGVN	591
	.....550.....560.....570.....580.....590.....600	

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Pavo_muticus	SSDFOLLCRNGARAEVTFQAOCHLARVPAQAIMVHPDNTNIFALYGLLDKAQDYFGNNSNR	654
Pavo_cristatus	SSDFOLLCRNGARAEVTFQAOCHLARVPAQAIMVHPDNTNIFALYGLLDKAQDYFGNNSNR	654
Gallus_gallus	SSGFOLLCRNGARAEVTFQAOCHLARVPAQAIMVHPDNTNIFALYGLLDKAQDYFGNNSNR	654
Anas_platyrhynchos	SSDFOLLCRNGARAEVTFQAOCHLARVPAQAIMVHPDNTNIFALYGLLDKAQDYFGNDSNG	654
Chelonia_mydas	SSDFOLLCPNGARAEITQAOCHLAQVPAQVVMVHPDNTNIFAVYGLLDKAQDIFYGNDNSNG	647
Mus_musculus	WQDYELLCPNGARAEVDQFQACNLAQMPSHAVMVHPDNTNIFTVYGLLDKAQDLFGDDHNNK	655
Rattus_norvegicus	WQDYELLCPNGARAEVDQFQACNLAQMPSHAVMVHPDNTNIFTVYGLLDKAQDLFGDDHNNK	655
Homo_sapiens	SEDYELLCPNGARAEVTSQFAACNLAQIPPHAVMVHPDNTNIFTVYGLLDKAQDLFGDDHNNK	655
Pan_troglodytes	SEDYELLCPNGARAEVTSQFAACNLAQIPPHAVMVHPDNTNIFTVYGLLDKAQDLFGDDHNNK	655
Macaca_mulatta	SEDYELLCPNGARAEVTSQFAACNLAQMPPHAVMVHPDNTNIFTVYGLLDKAQDLFGDDHNNK	655
Callithrix_jacchus	SEDYELLCPNGARAEVTSQFVACNLAQIPPHAVMVHPDNTNIFTVYGLLDKAQDLFGDDYNNK	655
Bos_taurus	SEDYELLCPNGARAEVTFQFAACNLAQIPSHAVMVHPDNTNIFTVYGLLDKAQDLFGDDHNNK	655
Equus_caballus	SEDYELLCPNGARAEVTSQFAACNLAQMPSHAVMVHPDNTNIFTVYGLLDKAQDLFGDDHNNK	655
Canis_lupus_familiaris	SEDYELLCPNGARAEVTSQFAACNLAQIPPHAVMVHPDNTNIYAVYGLLDKAQDLFGDDNNK	655
Xenopus_tropicalis	SSDFOLLCPNGARAEVTSQYPCNWAQVPAHAVMVHPDNTNIHAVYGLLANAQDYFGND-NS	646
Latimeria_chalumnae	SSEFOLLCPNGARADVDQYQACNLAQVPAHAVMIHPDNTNIYAVYGLLDYQADYFGNDSNQ	659
Rhinatrema_bivittatum	SSEFOLLCPNGARAEVDQYACNWAQVPAHAVMVHPDNTNIFAVFGLLDKAQDIFYGNG-NN	650
	.....610.....620.....630.....640.....650.....660	

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Pavo_muticus	NGFKMFDSSAFQGKDLIFKDSAVKIIVPVEERRTYAEWLGSSEYVESLEGMQTPOCPSAGANK	714													
Pavo_cristatus	NGFKMFDSSAFQGKDLIFKDSAVKIIVPVEERRTYAEWLGSSEYVESLEGMQTPOCPSAGANK	714													
Gallus_gallus	NGFKMFDSSAFQGKDLIFKDSAVKIIVPVEERRTYAEWLGSSEYVESLEGMQTPOCPSAGANK	714													
Anas_platyrhynchos	NGFKMFDSTTFHGKNLIFKDSAVEIIPVKERTTYKEWLGSEYIDSLSEGMQTPOCSGSGNK	714													
Chelonia_mydas	NGFKMFDDSDFLGTDFLKDTSVKILVPIGEKITTYAEWLGSSEYIDSLEGMSQSCSAAAAI	707													
Mus_musculus	NGFQMFDSSKYHQSDDLFFKDATVRAPVPREKTITYLWDWGPDYVVVALEGLMLSQQCSAGAA	715													
Rattus_norvegicus	NGFQMFDSSKYHQSDDLFFKDATVRAPVPREKTITYLWDWGPDYVVVALEGLMLSQQCSAGAA	715													
Homo_sapiens	NGFKMFDSSNYHGDLLFFKDATVRAPVPGEKITTYRGWLGLDYVAAALEGMSQQCSGAAAAP	715													
Pan_troglodytes	NGFKMFDSSNYHGDLLFFKDATVRAPVPGEKITSYRDWLGLDYVAAALEGMLSQSCSAGAAA	715													
Macaca_mulatta	NGFKMFDSSNYHGDLLFFKDATVRAPVPGEKITTYRDWLGLDYVAAALEGMLSQSCSAGRA	715													
Callithrix_jacchus	NGFKMFDDSSNYHGDLLFFKDATVRAPVPGEKITTYRDWLGLDYVAAALEGMLSQSCSAGART	715													
Bos_taurus	NGFKMFDDSSNYHGDLLFFKDATIRVVPVEKITTYRSWLGPDIYYVALEGLMQSCSGTIVTS	715													
Equus caballus	NGFKMFDSSNYHGDLLFFKDATIRAPVPGEKITTYLDWLGDYVAAALEGMLSQSCSNAAVP	715													
Canis_lupus_familiaris	NGFRMYDSSNYHGDLLFFKDATIRMVPVGEEKATYRDWLGPDIYYVALEGMLSQSCSGAAAAP	715													
Xenopus_tropicalis	SQFKMFDSSSYNANDLIKFCDSTYKIVPVQEKKITYSQWLGSYGLESLEGMQ---CSSSAAK	703													
Latimeria_chalumnae	DDFMFDSSSKYEGRSDLIFKDSITVKITSVGEKHITYKEWLKG DY LESLEGLY --- CSG-AAV	715													
Rhinatrema_bivittatum	EAFNMFSSSKYHEKDLLFKDSTIKIIIPVEEKITYLEWLKGYEYETLKGVH---CPSVAVA	707													
	.....670.....680.....690.....700.....710.....720														

## CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus	LIQ-----	QHLIVITFVPFIIL	731
Pavo_cristatus	LIQ-----	QHLIVITFVPFIIL	731
Gallus_gallus	LVQ-----	QHLIVITFVPFIIL	731
Anas_platyrhynchos	MIQ-----	QHLVITVVLFLIL	731
Chelonia_mydas	SMN-----	IVVLPAAASVLLIRF	724
Mus_musculus	VQR-----	VPLLALLLITLAAGLLP	735
Rattus_norvegicus	VHR-----	VPPPALLLLALAAGLLP	735
Homo_sapiens	AP-----	GAPLLPLLLPALAARLLP	735
Pan_troglodytes	AP-----	GAPLLPLLLPALAARLLP	735
Macaca_mulatta	GPPRRILPGAVOTPLPONLEGAG-RGCCRSGEAGGGRFTAVRVGCPGSLARRAGARRVSQ		774
Callithrix_jacchus	GPPCCLPGAIQTSPONLEGVGGWCCGSGEPGGGPVHSSPGGVSRDTAVQEGRNPAESP		775
Bos_taurus	ASR-----	VSLLLLLLPLALTASLLQ	736
Equus_caballus	ASG-----	VSLLLLLLLLLSLSTGLLR	736
Canis_lupus_familiaris	GLS-----	SPLLPLLLGLPAGLLH	734
Xenopus_tropicalis	LR-----	VNITFLLISALLLIT	720
Latimeria_chalumnae	SS-----	VSMLLVGVSVIFLMS	732
Rhinatrema_bivittatum	VSS-----	INIVPLLLLSSILLLS	725
	.....730.....740.....750.....760.....770.....780		

Pavo_muticus	GQLOGLG-----	738
Pavo_cristatus	GQLOGLG-----	738
Gallus_gallus	GQLOGLG-----	738
Anas_platyrhynchos	YQLQDL-----	738
Chelonia_mydas	YS-----	726
Mus_musculus	RVL-----	738
Rattus_norvegicus	RVL-----	738
Homo_sapiens	PAL-----	738
Pan_troglodytes	PAL-----	738
Macaca_mulatta	TKLGSE-CKRSKRGGAGRI	791
Callithrix_jacchus	RQTWVMSVNAQNSGAGRI	793
Bos_taurus	PCL-----	739
Equus_caballus	PSL-----	739
Canis_lupus_familiaris	PGL-----	737
Xenopus_tropicalis	FSV-----	723
Latimeria_chalumnae	FCM-----	735
Rhinatrema_bivittatum	LHM-----	728
	.....790.....	