

# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus      -----
Pavo_cristatus    -----
Anas_platyrhynchos -----
Gallus_gallus     -----
Chelonia_mydas    -----
Pan_troglodytes   -----
Macaca_mulatta    -----
Callithrix_jacchus MDFQINLSKAAHNSPFSKTFPIPTLRGTHGLPQVFTFFLDTRKHILTPGKQSWLSQFPSR 60
Homo_sapiens      -----
Mus_musculus      -----
Heterocephalus_glaber -----
Bos_taurus        -----
Equus_caballus    -----
Pteropus_alecto   -----
Ornithorhynchus_anatinus -----
Rhinatrema_bivittatum -----
Xenopus_tropicalis -----
1.....10.....20.....30.....40.....50.....60

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Pavo_muticus      -----
Pavo_cristatus    -----
Anas_platyrhynchos -----
Gallus_gallus     -----
Chelonia_mydas    -----
Pan_troglodytes   -----
Macaca_mulatta    -----
Callithrix_jacchus RTTLFLPPWSPAGSGAQVPICLGTEGGASWVDLTGSKRDISGQTGREVGRAAPRKRNQK 120
Homo_sapiens      -----
Mus_musculus      -----
Heterocephalus_glaber -----
Bos_taurus        -----
Equus_caballus    -----
Pteropus_alecto   -----
Ornithorhynchus_anatinus -----
Rhinatrema_bivittatum -----
Xenopus_tropicalis -----
.....70.....80.....90.....100.....110.....120

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Pavo_muticus      -----
Pavo_cristatus    -----
Anas_platyrhynchos -----
Gallus_gallus     -----
Chelonia_mydas    -----
Pan_troglodytes   -----
Macaca_mulatta    -----
Callithrix_jacchus TLAQEATPGTRGALGRTRPLTPFTEETEARDGLGVSAPPSTVSPKARSRAGRFLCPGS 180
Homo_sapiens      -----
Mus_musculus      -----
Heterocephalus_glaber -----
Bos_taurus        -----
Equus_caballus    -----
Pteropus_alecto   -----
Ornithorhynchus_anatinus -----
Rhinatrema_bivittatum -----
Xenopus_tropicalis -----
.....130.....140.....150.....160.....170.....180

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## CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus	-----	
Pavo_cristatus	-----	
Anas_platyrhynchos	-----MRVWFINTVVLDENSSVCPVGV	22
Gallus_gallus	-----	
Chelonia_mydas	-----	
Pan_troglodytes	-----	
Macaca_mulatta	-----	
Callithrix_jacchus	ASCLLLAPGPADAAGEECVSGGSGRRLRPREDRTTRREGGAAASFLPGGGSGPPSPILLPP	240
Homo_sapiens	-----	
Mus_musculus	-----	
Heterocephalus_glaber	-----	
Bos_taurus	-----	
Equus_caballus	-----	
Pteropus_alecto	-----	
Ornithorhynchus_anatinus	-----	
Rhinatrema_bivittatum	-----	
Xenopus_tropicalis	-----	
	.....190.....200.....210.....220.....230.....240	

Species	Sequence	Position
Pavo_muticus	-----QTNLTLTLTWGVLC	15
Pavo_cristatus	-----QTNLTLTLTWVGILCC	15
Anas_platyrhynchos	DRNIWFESTLFLSPKQLHVCTSMQFYFCLLV TINHKIWLSGFVFOINLKFLTWAGILCC	82
Gallus_gallus	-----MAETNLTLTLTWAGILCC	17
Chelonia_mydas	-----MAKTNFNSLWVVLCC	17
Pan_troglodytes	-----MNLRPFIWIGLIS	13
Macaca_mulatta	-----MNLQLIFWIGLIS	13
Callithrix_jacchus	LRGRSRRRPPRPRPGRPROPARAEREPSSRPEPTAPGLGRRACKMNLQLIFWIGLIS	299
Homo_sapiens	-----MNLQPIFWIGLIS	13
Mus_musculus	-----MNLQLVSWIGLIS	13
Heterocephalus_glaber	-----MNLQLAEWIGLIS	13
Bos_taurus	-----MMNLQLIFWIGLIS	14
Equus_caballus	-----MANREFOMNLQLVFWIGLIS	20
Pteropus_alecto		
Ornithorhynchus_anatinus	-----MNLQHIFVFLASC	13
Rhinatrema_bivittatum		
Xenopus_tropicalis	-----MARYSVLTFGLLTC	14

Pavo_muticus	LIWSGSAQGGSDCIKANAKSCGECIQAGPNCGWCKKTDFLQEGEPT	SARCDDLAALKSK	75
Pavo_cristatus	LIWSGSAQGGSDCIKANAKSCGECIQAGPNCGWCKKTDFLQEGEPT	SARCDDLAALKSK	75
Anas_platyrhynchos	LIWSGFGQAGSDCIKANAKSCGECIQAGPNCGWCKKTDFLQEGEPT	SARCDDLAALRSK	142
Gallus_gallus	LIWSGSAQGGSDCIKANAKSCGECIQAGPNCGWCKKTDFLQEGEPT	SARCDDLAALKSK	77
Chelonia_mydas	SIWHGFAQPGGSDCIKANAKSCGECIQAGPNCGWCKEENFLQEGEPT	SARCDLLEALKSK	77
Pan_troglodytes	SVCCVFAQTDENRCLKANAKSCGECIQAGPNCGWCTNSTFLQEGMPT	SARCDLLEALKKK	73
Macaca_mulatta	SICCVFGQTDENRCLKANAKSCGECIQAGPNCGWCTNSTFLQEGMPT	SARCDLLEALKKK	73
Callithrix_jacchus	SVCCVFGQTDENRCLKANAKSCGECIQAGPNCGWCTNSTFLQEGMPT	SARCDLLEALKKK	359
Homo_sapiens	SVCCVFAQTDENRCLKANAKSCGECIQAGPNCGWCTNSTFLQEGMPT	SARCDLLEALKKK	73
Mus_musculus	LICSVFGQTDKNRCLKANAKSCGECIQAGPNCGWCTNTTFLQEGMPT	SARCDLLEALKKK	73
Heterocephalus_glaber	SVCCVFGQTDKNRCLKANAKSCGECIQAGPNCGWCTNSTFLQEGMPT	SARCDLLEALKKK	73
Bos_taurus	SVCCVFGQADENRCLKANAKSCGECIQAGPNCGWCTNSTFLQEGMPT	SARCDLLEALKKK	74
Equus_caballus	SICVYVFGQADENRCLKANAKSCGECIQAGPNCGWCTNSTFLQEGMPT	SARCDLLEALKKK	80
Pteropus_alecto	-----MPT	SARCDLLEALKKK	16
Ornithorhynchus_anatinus	SICKVFGQTTGGNECLKANAKSCGECIQAGPNCGWCTNSTFLQEGMPT	SARCDDLAALKSK	73
Rhinatrema_bivittatum	-----		
Xenopus_tropicalis	LALCINAQGGTECLKANAKSCGECIQAGPNCGWCTKVNFLQEGEPT	SARCDDLAALKNK	74
	.....310.....320.....330.....340.....350.....360		

## CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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	GCPEQDIENPRGSKRVLEDRV	TNRKIGAAEKLKPEAITQIQPKLVLQLRVGEPOTFSL	135
Pavo_muticus	GCPEQDIENPRGSKRVLEDRV	TNRKIGAAEKLKPEAITQIQPKLVLQLRVGEPOTFSL	135
Pavo_cristatus	GCPEQDIENPRGSKRVLEDRV	TNRKIGAAEKLKPEAITQIQPKLVLQLRVGEPOTFSL	135
Anas_platyrhynchos	GCPEQDIENPRGSKRVLEDRV	TNRKIGAAEKLKPEAITQIQPKLVLQLRVGEPOTFSL	137
Gallus_gallus	GCPEQDIENPRGSKRVLEDRV	TNRKIGAAEKLKPEAITQIQPKLVLQLRVGEPOTFSL	137
Chelonia_mydas	GCPLDDIENPRGSKD	IKKNKVTNRSKGTAEKLKPEDITQIQPQOLVLRRLRS	133
Pan_troglodytes	GCPLDDIENPRGSKD	IKKNKVTNRSKGTAEKLKPEDITQIQPQOLVLRRLRS	133
Macaca_mulatta	GCPPDDIENPRGSKD	IKKNKVTNRSKGTAEKLKPEDITQIQPQOLVLRRLRS	133
Callithrix_jacchus	GCPPDDIENPRGSKD	IKKNKVTNRSKGTAEKLKPEDITQIQPQOLVLRRLRS	133
Homo_sapiens	GCQPSDIENPRGSQ	TIKKNKVTNRSKGTAEKLKPEDITQIQPQOLVLRRLRS	133
Mus_musculus	GCQPSDIENPRGSQ	TIKKNKVTNRSKGTAEKLKPEDITQIQPQOLVLRRLRS	133
Heterocephalus_glaber	GCHPDDIENPRGSK	TIKRNKVTNRNKGAAKLRPEEITQIQPQOLVLRRLRS	133
Bos_taurus	GCHPDDIENPRGSK	TIKRNKVTNRNKGAAKLRPEEITQIQPQOLVLRRLRS	133
Equus_caballus	GCHPDDIENPRGSK	TIKRNKVTNRNKGAAKLRPEEITQIQPQOLVLRRLRS	133
Pteropus_alecto	GCHPDDIENPRGSK	TIKRNKVTNRNKGAAKLRPEEITQIQPQOLVLRRLRS	133
Ornithorhynchus_anatinus	GCHPDDIENPRGSK	TIKRNKVTNRNKGAAKLRPEEITQIQPQOLVLRRLRS	133
Rhinatrema_bivittatum	-----MTENPRGNQ	TRSKDKDVTNRNKGNLQKLPEDITQIKPQOLVLRRLRS	55
Xenopus_tropicalis	GCPEQDIENPRGSK	RVLEDRV	135

	.*:*****:***** ** *:.* *****	
Pavo_muticus	KFKRAEDYPIDLYYLMDSL <sup>SM</sup> KDDLE <sup>NV</sup> KS <sup>LG</sup> TALMREMEK <sup>IT</sup> SDFRIGF <sup>GS</sup> FVEK <sup>IT</sup> VM	195
Pavo_cristatus	KFKRAEDYPIDLYYLMDSL <sup>SM</sup> KDDLE <sup>NV</sup> KS <sup>LG</sup> TALMREMEK <sup>IT</sup> SDFRIGF <sup>GS</sup> FVEK <sup>IT</sup> VM	195
Anas_platyrhynchos	KFKRAEDYPIDLYYLMDSL <sup>SM</sup> KDDLE <sup>NV</sup> KS <sup>LG</sup> TALMQEM <sup>OK</sup> ITSDFRIGF <sup>GS</sup> FVEK <sup>IT</sup> VM	262
Gallus_gallus	KFKRAEDYPIDLYYLMDSL <sup>SM</sup> KDDLE <sup>NV</sup> KS <sup>LG</sup> TALMREMEK <sup>IT</sup> SDFRIGF <sup>GS</sup> FVEK <sup>IT</sup> VM	197
Chelonia_mydas	TFKRAEDYPIDLYYLMDSL <sup>SM</sup> KDDLE <sup>NV</sup> KS <sup>LG</sup> TALMREMK <sup>KT</sup> ITSDFRIGF <sup>GS</sup> FVEK <sup>IT</sup> VM	197
Pan_troglodytes	KFKRAEDYPIDLYYLMDSL <sup>SM</sup> KDDLE <sup>NV</sup> KS <sup>LG</sup> TDLNMEMRR <sup>IT</sup> SDFRIGF <sup>GS</sup> FVEK <sup>IT</sup> VM	193
Macaca_mulatta	KFKRAEDYPIDLYYLMDSL <sup>SM</sup> KDDLE <sup>NV</sup> KS <sup>LG</sup> TDLNMEMRR <sup>IT</sup> SDFRIGF <sup>GS</sup> FVEK <sup>IT</sup> VM	193
Callithrix_jacchus	KFKRAEDYPIDLYYLMDSL <sup>SM</sup> KDDLE <sup>NV</sup> KS <sup>LG</sup> TDLNMEMRR <sup>IT</sup> SDFRIGF <sup>GS</sup> FVEK <sup>IT</sup> VM	479
Homo_sapiens	KFKRAEDYPIDLYYLMDSL <sup>SM</sup> KDDLE <sup>NV</sup> KS <sup>LG</sup> TDLNMEMRR <sup>IT</sup> SDFRIGF <sup>GS</sup> FVEK <sup>IT</sup> VM	193
Mus_musculus	KFKRAEDYPIDLYYLMDSL <sup>SM</sup> KDDLE <sup>NV</sup> KS <sup>LG</sup> TDLNMEMRR <sup>IT</sup> SDFRIGF <sup>GS</sup> FVEK <sup>IT</sup> VM	193
Heterocephalus_glaber	KFKRAEDYPIDLYYLMDSL <sup>SM</sup> KDDLE <sup>NV</sup> KS <sup>LG</sup> TDLMYKMK <sup>SI</sup> ITSDFRIGF <sup>GS</sup> FVEK <sup>IT</sup> VM	193
Bos_taurus	KFKRAEDYPIDLYYLMDSL <sup>SM</sup> KDDLE <sup>NV</sup> KS <sup>LG</sup> TDLNMEMRR <sup>IT</sup> SDFRIGF <sup>GS</sup> FVEK <sup>IT</sup> VM	194
Equus_caballus	KFKRAEDYPIDLYYLMDSL <sup>SM</sup> KDDLE <sup>NV</sup> KS <sup>LG</sup> TDLNMEMRR <sup>IT</sup> SDFRIGF <sup>GS</sup> FVEK <sup>IT</sup> VM	200
Pteropus_alecto	KFKRAEDYPIDLYYLMDSL <sup>SM</sup> KDDLE <sup>NV</sup> KS <sup>LG</sup> TDLNMEMRR <sup>IT</sup> SDFRIGF <sup>GS</sup> FVEK <sup>IT</sup> VM	136
Ornithorhynchus_anatinus	KFKRAEDYPIDLYYLMDSL <sup>SM</sup> KDDLE <sup>NV</sup> KS <sup>LG</sup> TDLMYEMK <sup>RI</sup> ITSDFRIGF <sup>GS</sup> FVEK <sup>IT</sup> VM	193
Rhinatrema_bivittatum	TFKRAEDYPIDLYYLMDSL <sup>SM</sup> KDDLE <sup>NV</sup> KRL <sup>GT</sup> DLMKEMK <sup>IT</sup> ITSDFRIGF <sup>GS</sup> FVEK <sup>IT</sup> VM	115
Xenopus_tropicalis	TFKRAEDYPIDLYYLMDSL <sup>SM</sup> KDDLE <sup>NV</sup> KS <sup>LG</sup> TALMTEMEK <sup>IT</sup> SDFRIGF <sup>GS</sup> FVEK <sup>IT</sup> VM	192
	.....430.....440.....450.....460.....470.....480	

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Pavo_muticus	PYISTTPAKLRNPCTGDNCTSPFSYKNVLSLTSEGKFNELVGKQHISGNLDSPEGGFD	255
Pavo_cristatus	PYISTTPAKLRNPCTGDNCTSPFSYKNVLSLTSEGKFNELVGKQHISGNLDSPEGGFD	255
Anas_platyrhynchos	PYISTTPAKLRNPCTGDNCTSPFSYKNVLSLTSEGNRFNELVGKQIHISGNLDSPEGGFD	322
Gallus_gallus	PYISTTPAKLRNPCTGDNCTSPFSYKNVLSLTSEGKFNELVGKQHISGNLDSPEGGFD	257
Chelonia_mydas	PYISTTPAKLRNPCTGDNCTSPFSYKNVLNLTSGKTFNELVGKQHISGNLDSPEGGFD	257
Pan_troglodytes	PYISTTPAKLRNPCTSEQNCTSPFSYKNVLSLTINKGEIFNELVGKQRISGNLDSPEGGFD	253
Macaca_mulatta	PYISTTPAKLRNPCTSEQNCTSPFSYKNVLSLTINKGEVFNELVGKQRISGNLDSPEGGFD	253
Callithrix_jacchus	PYISTTPAKLRNPCTSEQNCTSPFSYKNVLSLTINKGEVFNELVGKQRISGNLDSPEGGFD	539
Homo_sapiens	PYISTTPAKLRNPCTSEQNCTSPFSYKNVLSLTINKGEVFNELVGKQRISGNLDSPEGGFD	253
Mus_musculus	PYISTTPAKLRNPCTSEQNCTSPFSYKNVLSLTDRGEFFNELVGQQRISGNLDSPEGGFD	253
Heterocephalus_glaber	PYISTTPAKLRNPCTSEQNCTSPFSYKNVLSLTDKGEVFNELVGKQRISGNLDSPEGGFD	253
Bos_taurus	PYISTTPAKLRNPCTNEQNCTSPFSYKNVLSLTDKGEVFNELVGKQRISGNLDSPEGGFD	254
Equus_caballus	PYISTTPAKLRNPCTSEQNCTSPFSYKNVLSLTDKGEVFNELVGKQRISGNLDSPEGGFD	260
Pteropus_alecto	PYISTTPAKLRNPCTSEQNCTSPFSYKNVLSLTDKGEVFNELVGKQRISGNLDSPEGGFD	196
Ornithorhynchus_anatinus	PYISTTPAKLRNPCTGDNCTSPFSYKNVLNLTDKGEVFNELVGKQHISGNLDSPEGGFD	253
Rhinatrema_bivittatum	PYISTTPAKLRNPCTGDNCTSPFSYKNVLNLTDNGNLFDLVSKQHISGNLDSPEGGFD	175
Xenopus_tropicalis	PYISTTPAKLRNPCTSDQNCTSPFSYKNVLNLTSDGKLFNLDLVGKQHISGNLDSPEGGFD	252
	.....490.....500.....510.....520.....530.....540	

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Pavo_muticus      AIMQVAVCGDQIGWRNVTRLLVFSTDAGFHFAGDGKLG GIVLPNDGKCHLENNMYTMSHY 315
Pavo_cristatus    AIMQVAVCGDQIGWRNVTRLLVFSTDAGFHFAGDGKLG GIVLPNDGKCHLENNMYTMSHY 315
Anas_platyrhynchos AIMQVAVCGDQIGWRNVTRLLVFSTDAGFHFAGDGKLG GIVLPNDGKCHLENNMYTMSHY 382
Gallus_gallus     AIMQVAVCGDQIGWRNVTRLLVFSTDAGFHFAGDGKLG GIVLPNDGKCHLENNMYTMSHY 317
Chelonia_mydas    AIMQVAVCGTQIGWRNVTRLLVFSTDAGFHFAGDGKLG GIVLPNDGKCHLENNMYTMSHY 317
Pan_troglodytes   AIMQVAVCGSLIGWRNVTRLLVFSTDAGFHFAGDGKLG GIVLPNDGQCHLENNMYTMSHY 313
Macaca_mulatta    AIMQVAVCGSLIGWRNVTRLLVFSTDAGFHFAGDGKLG GIVLPNDGQCHLENNMYTMSHY 313
Callithrix_jacchus AIMQVAVCGSLIGWRNVTRLLVFSTDAGFHFAGDGKLG GIVLPNDGQCHLENNMYTMSHY 599
Homo_sapiens      AIMQVAVCGSLIGWRNVTRLLVFSTDAGFHFAGDGKLG GIVLPNDGQCHLENNMYTMSHY 313
Mus_musculus      AIMQVAVCGSLIGWRNVTRLLVFSTDAGFHFAGDGKLG GIVLPNDGQCHLENNMYTMSHY 313
Heterocephalus_glaber AIMQVAVCGSLIGWRNVTRLLVFSTDAGFHFAGDGKLG GIVLPNDGQCHLENNMYTMSHY 313
Bos_taurus        AIMQVAVCGSLIGWRNVTRLLVFSTDAGFHFAGDGKLG GIVLPNDGQCHLENNMYTMSHY 314
Equus_caballus    AIMQVAVCGSLIGWRNVTRLLVFSTDAGFHFAGDGKLG GIVLPNDGQCHLENNMYTMSHY 320
Pteropus_alecto   AIMQVAVCGSLIGWRNVTRLLVFSTDAGFHFAGDGKLG GIVLPNDGQCHLENNMYTMSHY 256
Ornithorhynchus_anatinus AIMQVAVCGSLIGWRNVTRLLVFSTDAGFHFAGDGKLG GIVLPNDGQCHLENNMYTMSHY 313
Rhinatrema_bivittatum AIMQVAVCGEQIGWRNVTRLLVFSTDAGFHFAGDGKLG GIVLPNDGQCHLENNMYTMSHY 235
Xenopus_tropicalis AIMQVAVCGEQIGWRNVTRLLVFSTDAGFHFAGDGKLG GIVLPNDGQCHLENNMYTMSHY 312
.....550.....560.....570.....580.....590.....600

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Pavo_muticus      YDYPSTIAHLVQKLSENNIIQTIFAVTEEFQAVYKELKNLIPKSAVGTLSSNSSNVIQLIID 375
Pavo_cristatus    YDYPSTIAHLVQKLSENNIIQTIFAVTEEFQAVYKELKNLIPKSAVGTLSSNSSNVIQLIID 375
Anas_platyrhynchos YDYPSTIAHLVQKLSENNIIQTIFAVTEEFQAVYKELKNLIPKSAVGTLSSNSSNVIQLIID 442
Gallus_gallus     YDYPSTIAHLVQKLSENNIIQTIFAVTEEFQAVYKELKNLIPKSAVGTLSSNSSNVIQLIID 377
Chelonia_mydas    YDYPSTIAHLVQKLSENNIIQTIFAVTEEFQAVYKELKNLIPKSAVGTLSSNSSNVIQLIID 377
Pan_troglodytes   YDYPSTIAHLVQKLSENNIIQTIFAVTEEFQAVYKELKNLIPKSAVGTLSSNSSNVIQLIID 373
Macaca_mulatta    YDYPSTIAHLVQKLSENNIIQTIFAVTEEFQAVYKELKNLIPKSAVGTLSSNSSNVIQLIID 373
Callithrix_jacchus YDYPSTIAHLVQKLSENNIIQTIFAVTEEFQAVYKELKNLIPKSAVGTLSSNSSNVIQLIID 659
Homo_sapiens      YDYPSTIAHLVQKLSENNIIQTIFAVTEEFQAVYKELKNLIPKSAVGTLSSNSSNVIQLIID 373
Mus_musculus      YDYPSTIAHLVQKLSENNIIQTIFAVTEEFQAVYKELKNLIPKSAVGTLSSNSSNVIQLIID 373
Heterocephalus_glaber YDYPSTIAHLVQKLSENNIIQTIFAVTEEFQAVYKELKNLIPKSAVGTLSSNSSNVIQLIID 373
Bos_taurus        YDYPSTIAHLVQKLSENNIIQTIFAVTEEFQAVYKELKNLIPKSAVGTLSSNSSNVIQLIID 374
Equus_caballus    YDYPSTIAHLVQKLSENNIIQTIFAVTEEFQAVYKELKNLIPKSAVGTLSSNSSNVIQLIID 380
Pteropus_alecto   YDYPSTIAHLVQKLSENNIIQTIFAVTEEFQAVYKELKNLIPKSAVGTLSSNSSNVIQLIID 316
Ornithorhynchus_anatinus YDYPSTIAHLVQKLSENNIIQTIFAVTEEFQAVYKELKNLIPKSAVGTLSSNSSNVIQLIID 373
Rhinatrema_bivittatum YDYPSTIAHLVQKLSENNIIQTIFAVTEEFQAVYKELKNLIPKSAVGTLSSNSSNVIQLIID 295
Xenopus_tropicalis YDYPSTIAHLVQKLSENNIIQTIFAVTEEFQAVYKELKNLIPKSAVGTLSSNSSNVIQLIID 372
.....610.....620.....630.....640.....650.....660

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Pavo_muticus      AYNSLSSEVILENSKLPKGVTISYKSYCKNGVNDTQEDGRKCSNISIGDEVRF EINV TAN 435
Pavo_cristatus    AYNSLSSEVILENSKLPKGVTISYKSYCKNGVNDTQEDGRKCSNISIGDEVRF EINV TAN 435
Anas_platyrhynchos AYNSLSSEVILENSKLPKGVAISYKSYCKNGVNDTQEDGRKCSNISIGDEVRF EINV TAY 502
Gallus_gallus     AYNSLSSEVILENSKLPKEVTISYKSYCKNGVNDTQEDGRKCSNISIGDEVRF EINV TAN 437
Chelonia_mydas    AYNSLSSEVILENSKLPKGVTINYSYCKNGVNGTGENG RKCSNISIGDEVKFEISVTAN 437
Pan_troglodytes   AYNSLSSEVILENSKLPKGVTISYKSYCKNGVNGTGENG RKCSNISIGDEVQFEISITSN 433
Macaca_mulatta    AYNSLSSEVILENSKLPKGVTISYKSYCKNGVNGTGENG RKCSNISIGDEVQFEISITSN 433
Callithrix_jacchus AYNSLSSEVILENSKLPKGVTISYKSYCKNGVNGTGENG RKCSNISIGDEVQFEISITSN 719
Homo_sapiens      AYNSLSSEVILENSKLPKGVTISYKSYCKNGVNGTGENG RKCSNISIGDEVQFEISITSN 433
Mus_musculus      AYNSLSSEVILENSKLPKGVTISYKSYCKNGVNGTGENG RKCSNISIGDEVQFEISITSN 433
Heterocephalus_glaber AYNSLSSEVILENSKLPKGVTISYKSYCKNGVNGTGENG RKCSNISIGDEVQFEISITSN 433
Bos_taurus        AYNSLSSEVILENSKLPKGVTISYKSYCKNGVNGTGENG RKCSNISIGDEVQFEISITSN 434
Equus_caballus    AYNSLSSEVILENSKLPKGVTISYKSYCKNGVNGTGENG RKCSNISIGDEVQFEISITSN 440
Pteropus_alecto   AYNSLSSEVILENSKLPKGVTISYKSYCKNGVNGTGENG RKCSNISIGDEVQFEISITSN 376
Ornithorhynchus_anatinus AYNSLSSEVILENSKLPKGVTISYKSYCKNGVNGTGENG RKCSNISIGDEVQFEISITSN 433
Rhinatrema_bivittatum SYNSLSSEVILENSKLPKGVTISYKSYCKNGVNGTGENG RKCSNISIGDEVQFEISITAH 355
Xenopus_tropicalis SYNSLSSEVILENSKLPKGVTISYKSYCKNGVNGTGENG RKCSNISIGDEVQFEISITAH 432
.....670.....680.....690.....700.....710.....720

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# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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:***: : ::*:*****: **.* * * . * . ** ***:*****
Pavo_muticus      ECPKKGQNETIKIKPLGFTEEVEINLOFICECLCQEGEPNSPACHDNGTTFECGACRCN 495
Pavo_cristatus    ECPKKGQNETIKIKPLGFTEEVEINLOFICECLCQEGEPNSPACHDNGTTFECGACRCN 495
Anas_platyrhynchos ECPKKGQNETIKIKPLGFTEEVEINLOFICECQCEGEPNSPACHDNGTTFECGACRCN 562
Gallus_gallus     ECPKKGQNETIKIKPLGFTEEVEIHLQFICDCLCQEGEPNSPACHDNGTTFECGACRCN 497
Chelonia_mydas    ECPKKGQNETIKIKPLGFTEEVEINLOFICECQCEGIPHSPCHEGNGTTFECGACRCN 497
Pan_troglodytes   KCPKK-DSDSFKIRPLGFTEEVEILOFICECECQSEGIPESPKCHGNGTTFECGACRCN 492
Macaca_mulatta    KCPKK-DSDSFKIRPLGFTEEVEILOFICECECQSEGIPESPKCHGNGTTFECGACRCN 492
Callithrix_jacchus KCPKK-DSDAFKIRPLGFTEEVEILOFICECECQSEGIPESPKCHGNGTTFECGACRCN 778
Homo_sapiens      KCPKK-DSDSFKIRPLGFTEEVEILOFICECECQSEGIPESPKCHGNGTTFECGACRCN 492
Mus_musculus      KCPNK-ESETIKIKPLGFTEEVEVLOFICKCNCQSHGIPASPKCHGNGTTFECGACRCN 492
Heterocephalus_glaber KCPNK-NSETIKIKPLGFTEEVEILOFICECECQSEGIADSPKCHDNGSTFECGACRCN 492
Bos_taurus        KCPNK-NSETIKIKPLGFTEEVEILOFICECECQSEGIPESPKCHDNGTTFECGACRCN 493
Equus_caballus    KCPNK-NSETIKIKPLGFTEEVEVLOFICECECQSEGVPSPPKCHGNGTTFECGACRCN 499
Pteropus_alecto   KCPNK-NSETIKIKPLGFTEEVEILOFICECECQSEGIPESPKCHGNGTTFECGACRCN 435
Ornithorhynchus_anatinus KCPKKGQNETIKIKPLGFTEEVEINLOFICECECQNEGIPESSKCHGNGTTFECGACRCN 493
Rhinatrema_bivittatum KCPKRGQNETIKIKPLGFTEEVEILOFICECKCQETGIPESPDCHYNGTTFECGACRCN 415
Xenopus_tropicalis KCPKKQAESIKIKPLGFTEEVEILOFICECDCEKGTTPNSPECHHGNGTTFECGACRCN 492
.....730.....740.....750.....760.....770.....780

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***: : *****:***:*****:*****:***:***:***:
Pavo_muticus      EGRIGRLCECSTDEVNSEDMDAYCRRENSTEICSNNGECICGQCVCKKRENTNEVYSGKY 555
Pavo_cristatus    EGRIGRLCECSTDEVNSEDMDAYCRRENSTEICSNNGECICGQCVCKKRENTNEVYSGKY 555
Anas_platyrhynchos EGRIGRLCECSTDEVNSEDMDAYCRRENSTEICSNNGECICGQCVCKKRENTNEVYSGKY 622
Gallus_gallus     EGRIGRLCECSTDEVNSEDMDAYCRRENSTEICSNNGECICGQCVCKKRENTNEVYSGKY 557
Chelonia_mydas    EGRIGKECECSTDEVNSEDMDAYCRRENSTEICSNNGECICGQCVCKKRENTNEVYSGKY 557
Pan_troglodytes   EGRVGRHCECSTDEVNSEDMDAYCRKENSSEICSNNGECVCGQCVCKKRDNTNEIYSGKF 552
Macaca_mulatta    EGRVGRHCECSTDEVNSEDMDAYCRKENSSEICSNNGECVCGQCVCKKRDNTNEIYSGKF 552
Callithrix_jacchus EGRVGRHCECSTDEVNSEDMDAYCRKENSSEICSNNGECICGQCVCKKRDNTNEIYSGKF 838
Homo_sapiens      EGRVGRHCECSTDEVNSEDMDAYCRKENSSEICSNNGECVCGQCVCKKRDNTNEIYSGKF 552
Mus_musculus      EGRVGRHCECSTDEVNSEDMDAYCRKENSSEICSNNGECVCGQCVCKKRDNTNEIYSGKF 552
Heterocephalus_glaber EGRVGRHCECSTDEVNSEDMDAYCRKENSSEICSNNGECVCGQCVCKKRDNTNEIYSGKF 552
Bos_taurus        EGRVGRHCECSTDEVNSEDMDAYCRKENSSEICSNNGECVCGQCVCKKRDNTNEIYSGKF 553
Equus_caballus    EGRVGRHCECSTDEVNSEDMDAYCRKENSSEICSNNGECVCGQCVCKKRDNTNEIYSGKF 559
Pteropus_alecto   EGRVGRHCECSTDEVNSEDMDAYCRKENSSEICSNNGECVCGQCVCKKRDNTNEIYSGKF 495
Ornithorhynchus_anatinus EGRVGRHCECSTDEVNSEDMDAYCRKENSSEICSNNGECVCGQCVCKKRDNTNEIYSGKF 553
Rhinatrema_bivittatum EGRIGRLCECSTDEVNSEDMDAYCRKENSSEICSNNGECICGQCVCKKRENTNEIYSGKY 475
Xenopus_tropicalis EGRIGKECECSTDEVNSEDMDAYCRRENSEICSNNGDCICGQCVCKKRDNPNEVYSGKY 552
.....790.....800.....810.....820.....830.....840

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Pavo_muticus      CECDNFNCNDRSNGLICGGNGICKCRVCECFNFTGSACDCSLDTPCLAANGQICNGRGT 615
Pavo_cristatus    CECDNFNCNDRSNGLICGGNGICKCRVCECFNFTGSACDCSLDTPCLAANGQICNGRGT 615
Anas_platyrhynchos CECDNFNCNDRSNGLICGGNGICKCRVCECFNFTGSACDCSLDTPCMASNGQICNGRGT 682
Gallus_gallus     CECDNFNCNDRSNGLICGGNGICKCRVCECFNFTGSACDCSLDTPCMAGNGQICNGRGT 617
Chelonia_mydas    CECDNFNCNDRSNGLICGGNGVCKCRVCECPNFTGSACDCSLDKSSCMASNGQICNGRGT 617
Pan_troglodytes   CECDNFNCNDRSNGLICGGNGVCKCRVCECPNFTGSACDCSLDTPCEASNGQICNGRGT 612
Macaca_mulatta    CECDNFNCNDRSNGLICGGNGVCKCRVCECPNFTGSACDCSLDTPCEASNGQICNGRGT 612
Callithrix_jacchus CECDNFNCNDRSNGLICGGNGVCKCRVCECPNFTGSACDCSLDTPCEASNGQICNGRGT 898
Homo_sapiens      CECDNFNCNDRSNGLICGGNGVCKCRVCECPNFTGSACDCSLDTPCEASNGQICNGRGT 612
Mus_musculus      CECDNFNCNDRSNGLICGGNGVCKCRVCECPNFTGSACDCSLDTPCLASNGQICNGRGT 612
Heterocephalus_glaber CECDNFNCNDRSNGLICGGNGVCKCRVCECPNFTGSACDCSLDTPCVASNGQICNGRGT 612
Bos_taurus        CECDNFNCNDRSNGLICGGNGVCKCRVCECPNFTGSACDCSLDTPSCMAVNGQICNGRGT 613
Equus_caballus    CECDNFNCNDRSNGLICGGNGVCKCRVCECPNFTGSACDCSLDTPSCMATNGQICNGRGT 619
Pteropus_alecto   CECDNFNCNDRSNGLICGGNGVCKCRVCECPNFTGSACDCSLDTPSCMATNGQICNGRGT 555
Ornithorhynchus_anatinus CECDNFNCNDRSNGLICGGNGVCKCRVCECPNFTGSACDCSLDTPSCLASNGQICNGRGT 613
Rhinatrema_bivittatum CECDNFNCNDRSNGLICGGNGICKCRVCECFNFTGSACDCSLDTPCEASNGQICNGRGT 535
Xenopus_tropicalis CECDNFNCNDRSNGLICGGNGVCKCRVCECFNFTGSACDCSLDTPSCMAKNGQICNGRGT 612
.....850.....860.....870.....880.....890.....900

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## CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /home/ceglab2/Desktop/ajinkya/pavo/MSDA/TEG/16 Feb 15 16:16:59 2022

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Pavo_muticus	CECGTCNCCTDPKFGGPTCEMCQTCLGVCAEHKDCVQCRAFSKGEKKETCS	ECMHFNMTL	675	
Pavo_cristatus	CECGTCNCCTDPKFGGPTCEMCQTCLGVCAEHKDCVQCRAFSKGEKKETCS	ECMHFNMTL	675	
Anas_platyrhynchos	CECGTCNCCTDPKFGGPTCEMCQTCLGVCAEHKDCVQCRAFDKGEKKETCS	ECMHFNMTL	742	
Gallus_gallus	CECGTCNCCTDPKFGGPTCEMCQTCLGVCAEHKDCVQRAFEKGEKKETCS	ECMHFNMTL	677	
Chelonia_mydas	CECGTCNCCTDAKFGGPTCEMCQTCLGVCAEHKDCVQCRAFKKGEKKDTCS	GCKNFSMTL	677	
Pan_troglodytes	CECGVCKCTDPKFGGPTCEMCQTCLGVCAEHKECVQCRAFNKGEKKDTCT	ECSYFNITK	672	
Macaca_mulatta	CECGVCKCTDPKFGGPTCEMCQTCLGVCAEHKECVQCRAFNKGEKKDTCT	ECSYFNITK	672	
Callithrix_jacchus	CECGVCKCTDPKFGGPTCEMCQTCLGVCAEHKECVQCRAFNKGEKKDTCA	ECESYFNITK	958	
Homo_sapiens	CECGVCKCTDPKFGGPTCEMCQTCLGVCAEHKECVQCRAFNKGEKKDTCT	ECSYFNITK	672	
Mus_musculus	CECGACKCTDPKFGGPTCEMCQTCLGVCAEHKECVQCRAFNKGEKKDTCA	ECSHFNITK	672	
Heterocephalus_glaber	CECGVCKCTDPKFGGPTCEMCQTCLGVCAEHKECVQCRAFNKGEKKDRCA	EECSHFNLTK	672	
Bos_taurus	CECGACKCTDPKFGGPTCEMCQTCLGVCAEHKECVQCRAFNKGEKKDTCA	ECSHFNITK	673	
Equus_caballus	CECGACKCTDPKFGGPTCEMCQTCLGVCAEHKECVQCRAFNKGEKKDTCA	ECSHFNITK	679	
Pteropus_alecto	CECGTCCKCTDPKFGGPTCEMCQTCLGVCAEHKECVQCRAFNKGEKKDTCA	ECSHFNITK	615	
Ornithorhynchus_anatinus	CECGSCKCTDPKFGGPTCEMCQTCLGVCAEHKECVQCRAFDKGEKKDTCV	ECSHFNMTL	673	
Rhinatrema_bivittatum	CECGRCKCTDPKFGGATCEMCQTCPGVCAEHKECVQCRAFKKGEKKDTCM	ECMYFNMTL	595	
Xenopus_tropicalis	CDCGRCKCTDPKFGGPTCEMCQTCLGVCAEHKECVQCRAFKKGEKKDTCM	ECMHFNISL	672	
	.....910.....920.....930.....940.....950.....960			

	** . .**** * :.:***** :*****:..: ****: *:**:*****	
Pavo_muticus	VESRDKLPQPGQPDPLSHCKEKDVDDCWFYFTYSVNSNGEANVHVHVVETPECPSGPDIIPI	735
Pavo_cristatus	VESRDKLPQPGQPDPLSHCKEKDVDDCWFYFTYSVNSNGEANVHVHVVETPECPSGPDIIPI	735
Anas_platyrhynchos	VESRDKLPQPGQPDPLSHCKEKDVDDCWFYFTYSVNSNGEANVHVHVVETPECPSGPDIIPI	802
Gallus_gallus	VESRDKLPQPGQPDPLSHCKEKDVDDCWFYFTYSVNSNGEASVHVHVVETPECPSGPDIIPI	737
Chelonia_mydas	VESRDKLPQPGQPDPLTHCKEKDVDDCWFYFTYSVNANNDIAIVHVVETPECPTGPDIIPI	737
Pan_troglodytes	VESRDKLPQPVQPDVSHCKEKDVDDCWFYFTYSVNGNNEVMVHVVENPECPGTGPDIIPI	732
Macaca_mulatta	VESRDKLPQPVQPDVSHCKEKDVDDCWFYFTYSVNGNNEVMVHVVENPECPGTGPDIIPI	732
Callithrix_jacchus	VESREKLQPVQPDVSHCKEKDVDDCWFYFTYSVNGNNEIMVHVVENPECPGTGPDIIPI	1018
Homo_sapiens	VESRDKLPQPVQPDVSHCKEKDVDDCWFYFTYSVNGNNEVMVHVVENPECPGTGPDIIPI	732
Mus_musculus	VESREKLQPVQVDVPTHCKEKDIDDCWFYFTYSVNGNNEAIVHVVETPDCPTGPDIIPI	732
Heterocephalus_glaber	VESRDKLPQPVQVDPLSHCKEKDVDDCWFYFTYSVNGNNEAIVHVVETPDCPTGPDIIPI	732
Bos_taurus	VENRDKLPQPGQVDPLSHCKEKDVDDCWFYFTYSVNGNNEATVHVHVVETPECPTGPDIIPI	733
Equus caballus	VENRDKLPQPGQVDPLSHCKEKDVDDCWFYFTYSVNGNNEAIVHVVETPECPTGPDIIPI	739
Pteropus_alecto	VENRDKLPQPGQVDPLSHCKEKDVDDCWFYFTYSVNGNNEAIVHVVETPECPTGPDIIPI	675
Ornithorhynchus_anatinus	VENRDKLPQPGQVDPLSHCKEKDAEDCWFYFTYSVNGNNEAIVHVVETPECPTGPDIIPI	733
Rhinatrema_bivittatum	VENSKKLPQPGQADALTHCKEKDAEDCWFYFTYSVNGNEVLVHVHVVETPECPSGPDIIPI	655
Xenopus_tropicalis	VESREDLPQPGAELTHCKEKDAEDCWFYFTYSVDSKNLEVLVHVHVVKEPCPSGPDIIPI	732
	.....970.....980.....990.....1000.....1010.....1020	

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Pavo_muticus	VAGVVAGIVLIGLALLLIWKLLMIHDRREFAKFEKEKMNAKWD	TGENPIYKS	SAVTTTVN	795
Pavo_cristatus	VAGVVAGIVLIGLALLLIWKLLMIHDRREFAKFEKEKMNAKWD	TGENPIYKS	SAVTTTVN	795
Anas_platyrhynchos	VAGVVAGIVLIGLALLLIWKLLMIHDRREFAKFEKEKMNAKWD	TGENPIYKS	SAVTTTVN	862
Gallus_gallus	VAGVVAGIVLIGLALLLIWKLLMIHDRREFAKFEKEKMNAKWD	TQENPIYKSPINNFKN		797
Chelonia_mydas	VAGVVAGIVLIGLALLLIWKLLMIHDRREFAKFEKEKMNAKWD	TGENPIYKS	SAVTTTVN	797
Pan_troglodytes	VAGVVAGIVLIGLALLLIWKLLMIHDRREFAKFEKEKMNAKWD	TQENPIYKSPINNFKN		792
Macaca_mulatta	VAGVVAGIVLIGLALLLIWKLLMIHDRREFAKFEKEKMNAKWD	TQENPIYKSPINNFKN		792
Callithrix_jacchus	VAGVVAGIVLIGLALLLIWKLLMIHDRREFAKFEKEKMNAKWD	TQENPIYKSPINNFKN		1078
Homo_sapiens	VAGVVAGIVLIGLALLLIWKLLMIHDRREFAKFEKEKMNAKWD	TGENPIYKS	SAVTTTVN	792
Mus_musculus	VAGVVAGIVLIGLALLLIWKLLMIHDRREFAKFEKEKMNAKWD	TGENPIYKS	SAVTTTVN	792
Heterocephalus_glaber	VAGVVAGIVLIGLALLLIWKLLMIHDRREFAKFEKEKMNAKWD	TGENPIYKS	SAVTTTVN	792
Bos_taurus	VAGVVAGIVLIGLALLLIWKLLMIHDRREFAKFEKEKMNAKWD	TQENPIYKSPINNFKN		793
Equus caballus	VAGVVAGIVLIGLALLLIWKLLMIHDRREFAKFEKEKMNAKWD	TQENPIYKSPINNFKN		799
Pteropus_alecto	VAGVVAGIVLIGLALLLIWKLLMIHDRREFAKFEKEKMNAKWD	TGENPIYKS	SAVTTTVN	735
Ornithorhynchus_anatinus	VAGVVAGIVLIGLALLLIWKLLMIHDRREFAKFEKEKMNAKWD	TQENPIYKSPINNFKN		793
Rhinatrema_bivittatum	VAGVVAGIVLIGLALLLIWKLLMIHDRREFAKFEKEKMNAKWD	TQENPIYKSPINNFKN		715
Xenopus_tropicalis	VAGVVAGIVLIGLALLLIWKLLMIHDRREFAKFEKEKMNAKWD	TQENPIYKSPINNFKN		792
	.....1030.....1040.....1050.....1060.....1070.....1080			

## CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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	*:**	*	
Pavo_muticus	PKYEGK	---	801
Pavo_cristatus	PKYEGK	---	801
Anas_platyrhynchos	PKYEGK	---	868
Gallus_gallus	PNYGRKAGL		806
Chelonia_mydas	PKYEGK	---	803
Pan_troglodytes	PNYGRKAGL		801
Macaca_mulatta	PNYGRKAGL		801
Callithrix_jacchus	PNYGRKAGL		1087
Homo_sapiens	PKYEGK	---	798
Mus_musculus	PKYEGK	---	798
Heterocephalus_glaber	PKYEGK	---	798
Bos_taurus	PNYGRKAGL		802
Equus_caballus	PNYGRKAGL		808
Pteropus_alecto	PKYEGK	---	741
Ornithorhynchus_anatinus	PNYGRKAGL		802
Rhinatrema_bivittatum	PNYGRKAAL		724
Xenopus_tropicalis	PNYGRKAAL		801