

## CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /home/ceglab2/Desktop/ajinkya/pavo/MSD/MSD\_NYSD Feb 16 12:11:04 2022

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Species	Sequence	Position
Pavo_muticus	-----MGKQGGFYIFLTVFCTMALKLNCSVSSMSVAG	31
Pavo_cristatus	-----MGKQGLGYIFLTVFCTMALKLNCSVSSMSVAG	31
Gallus_gallus	-----MGKQGGFYIFLTIFCTMALKLNCSVSSVSVAG	31
Anas_platyrhynchos	-----MGRQDFGYVFLTVFCTMALKLNCSVSSMSVAG	31
Chelonia_mydas	-----MALRLSYGRSVSVAG	15
Homo_sapiens	-----	
Bos_taurus	-----MPHLIAGAPGASSWKLKSLSPFCFWQAAPFTLSPTIS	35
Pan_troglodytes	-----MALHRPAPALLCALSLALCALSLPVRA---ATASR	32
Macaca_mulatta	MGGRLLKVGDPRLPLPTGSPAAVATMAPHRPAPALLCALFLALCALSLPVRRARA-ATASQ	59
Callithrix_jacchus	-----MAPHRPAPALLCALVLALCALSRPIRA---ATASR	32
Mus_musculus	-----MAPYR-SLLLCALLLLALCALSPSHAA---TTSR	30
Equus_caballus	-----MAPHRSAPELLGALVLALCALSPPARA---ATASR	32
Pteropus_alecto	-----MTLHRSTPVLLGMLVLALCVLSPPAST---ATASR	32
Ornithorhynchus_anatinus	-----MALKFQAGGAGGYLLLTVLCPVMLRVSLVNALSFED	36
Xenopus_tropicalis	-----	
Rhinatrema_bivittatum	-----	
	1.....10.....20.....30.....40.....50.....60	

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Pavo_muticus	LGYVVTAAV-----VLSAVPVSMV-EHAEFISKAGKEPGLQIWRIEKFDLVPVPKN	80	
Pavo_cristatus	LGYVVTAAV-----VLSAVPVSMV-EHAEFISKAGKEPGLQIWRIEKFDLVPVPKN	80	
Gallus_gallus	LGYVVTAAV-----VLSAVPVSMV-EHAEFISKAGKEPGLQIWRIEKFDLVPVPKN	80	
Anas_platyrhynchos	LGYVVTAAV-----VLSAVPVSMV-EHAEFISKAGKEPGLQIWRIEKFDLVPVPKN	80	
Chelonia_mydas	FGYLVTTAA-----VLSAVPVSMV-EHAEFLKAGKEPGLQIWRIEKFDLVPVPKN	63	
Homo_sapiens	-----MVVEHPFEFLKAGKEPGLQIWRVEKFDLVPVPTN	33	
Bos_taurus	AASLIGALFFFPMFSRSLTTSCLPGSMVVEHPFEFLKAGKEPGLQIWRVEKFDLVPVPPN	95	
Pan_troglodytes	GASQAGAP-----QGRVPEARPNSMVVEHPFEFLKAGKEPGLQIWRVEKFDLVPVPTN	84	
Macaca_mulatta	GASQARAP-----QGRVPEARPNSMVVEHPFEFLKAGKEPGLQIWRVEKFDLVPVPTN	111	
Callithrix_jacchus	GASQARAP-----RVQAQVRPSSMVVEHPFEFLKAGKEPGLQIWRVEKFDLVPVPTN	84	
Mus_musculus	GRAQERAP-----QSRVSEARPSTMVVEHPFEFLKAGKEPGLQIWRVEKFDLVPVPPN	82	
Equus_caballus	GAAQARAP-----QGRASPTRPSSMVVEHPFEFLKAGKEPGLQIWRVEKFDLVPVPPN	84	
Pteropus_alecto	EAAQTTPAS-----QGRVSQARPGSMVVEHPFEFLKAGKEPGLQIWRVEKFDLVPVPRN	84	
Ornithorhynchus_anatinus	LGYLVTTAA-----VALSAAPVSMVVEHAEFLKAGKEPGLQIWRVEKFDLVPVPKN	86	
Xenopus_tropicalis	MGNRNAAG-----VCCVPPPSEMVDHPEFEKAGKAPGLQVWRVEKFDLVAVPQN	50	
Rhinatrema_bivittatum	-----MVVEHPEFQKAGKEPGLQIWRVEKMDDLVAVPKN	33	
	.....70.....80.....90.....100.....110.....120		

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Pavo_muticus	LYGDFFTGDSYLVLNITQRSGSLQYDLHFWLGDESSQDERGAAAIFTVQMDDYLQGKAV	140
Pavo_cristatus	LYGDFFTGDSYLVLNITQRSGSLQYDLHFWLGDESSQDERGAAAIFTVQMDDYLQGKAV	140
Gallus_gallus	LYGDFFTGDSYLVLNITQRSGNLQYDLHFWLGDESSQDERGAAAIFTVQMDDYLQGKAV	140
Anas_platyrhynchos	LYGDFFTGDSYVLNLTIKQRNGNLQYDLHFWLGDESSQDERGAAAIFTVQMDDYLQGKAV	140
Chelonia_mydas	LYGDFFTGDAYLLNTIKQRSNGLQYDLHFWLGDFCQSDESGAAAIFTVQMDDYLHGKAI	123
Homo_sapiens	LYGDFFTGDAYVILKTIVQLRNGNLQYDLHYWLGNECSQDESAAAAIFTVQLDDYLNGRAV	93
Bos_taurus	LYGDFFTGDAYVILKTIVQLRNGNLQYDLHYWLGNECSQDESAAAAIFTVQLDDYLNGRAV	155
Pan_troglodytes	LYGDFFTGDAYVILKTIVQLRNGNLQYDLHYWLGNECSQDESAAAAIFTVQLDDYLNGRAV	144
Macaca_mulatta	LYGDFFTGDAYVILKTIVQLRNGNLQYDLHYWLGNECSQDESAAAAIFTVQLDDYLNGRAV	171
Callithrix_jacchus	LYGDFFTGDAYVILKTIVQLRNGNLQYDLHYWLGNECSQDESAAAAIFTVQLDDYLNGRAV	144
Mus_musculus	LYGDFFTGDAYVILKTIVQLRNGNLQYDLHYWLGNECSQDESAAAAIFTVQLDDYLNGRAV	142
Equus_caballus	LYGDFFTGDAYVILKTIVQLRNGNLQYDLHYWLGNECSQDESAAAAIFTVQLDDYLNGRAV	144
Pteropus_alecto	LYGDFFTGDAYVVLKTIVQLRNGNLQYDLHYWLGNECSQDESAAAAIFTVQLDDYLNGRAV	144
Ornithorhynchus_anatinus	LYGDFFTGDAYVLNLTIKQRNGNLQYDLHFWLGNECTQDESAAAAIFTVQMDDYLNKAI	146
Xenopus_tropicalis	QYGSFFTGDAYLVLSITIKRSNGLQYDLHYWLGDECTQDESAAAAIFTVQMDHLGGPI	110
Rhinatrema_bivittatum	LYGDFFTGDAYVLNLTIKQRSNGLQYDLHFWLGDYCTQDESAAAAIFTVQMDDYLCGPPI	93
	.....130.....140.....150.....160.....170.....180	

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Pavo_muticus      QHREVOGHESSTFLGYFKSGIKYKAGGVASGFRHVVPNEVTVQRLLOVKGRRTVRAMEVP 200
Pavo_cristatus    QHREVOGHESSTFLGYFKSGIKYKAGGVASGFRHVVPNEVTVQRLLOVKGRRTVRAMEVP 200
Gallus_gallus     QHREVOGHESSTFLGYFKSGIKYKAGGVASGFRHVVPNEVTVQRLLOVKGRRTVRATEVP 200
Anas_platyrhynchos QHREVOGHESATFLGYFKSGIKYKAGGVASGFRHVVPNEVTVQRLLOVKGRRAVRATEVP 200
Chelonia_mydas    QHREVOGHESSTFLGYFKSGLKYKAGGVASGFKHVVPNEVAVQRLLOIKGRRTIRATEVP 183
Homo_sapiens      QHREVOGFESATFLGYFKSGLKYKGGVASGFKHVVPNEVVVQRLFOVKGRRVVRATEVP 153
Bos_taurus        QHREVOGFESATFLGYFKSGLKYKGGVASGFKHVVPNEVVVQRLFOVKGRRVVRATEVP 215
Pan_troglodytes   QHREVOGFESATFLGYFKSGLKYKGGVASGFKHVVPNEVVVQRLFOVKGRRVVRATEVP 204
Macaca_mulatta    QHREVOGFESATFLGYFKSGLKYKGGVASGFKHVVPNEVVVQRLFOVKGRRVVRATEVP 231
Callithrix_jacchus QHREVOGFESATFLGYFKSGLKYKGGVASGFKHVVPNEVVVQRLFOVKGRRVVRATEVP 204
Mus_musculus      QHREVOGFESATFLGYFKSGLKYKGGVASGFKHVVPNEVVVQRLFOVKGRRVVRATEVP 202
Equus_caballus    QHREVOGFESATFLGYFKSGLKYKGGVASGFKHVVPNEVVVQRLLOVKGRRVVRATEVP 204
Pteropus_alecto   QHREVOGFESATFLGYFKSGIKYKGGVASGFKHVVPNEVAVQRLLOVKGRRVVRATEVP 204
Ornithorhynchus_anatinus QHREVOGFESATFLGYFKSGIKYKGGVASGFKHVVPNQVSVQRLFOVKGRRAPRATEVP 206
Xenopus_tropicalis QHREVOGYESSSTFLGYFKSGIKYKAGGVASGFTHVVPNEVDIKRLLQVKGRRVVRATEVP 170
Rhinatrema_bivittatum QHREVOGYESSSTFLGYFKSGIKYKAGGVASGFTHVVPNEVTVRLLQVKGRRLARATEVP 153
.....190.....200.....210.....220.....230.....240

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Pavo_muticus      VTWESFNTGDCFILDGNSNIYQWCGSNSNRQERLKATVLAAGIRDNERNGRAKVFVSEEG 260
Pavo_cristatus    VTWESFNTGDCFILDGNSNIYQWCGSNSNRQERLKATVLAAGIRDNERNGRAKVFVSEEG 260
Gallus_gallus     VSWESFNTGDCFILDGNSNIYQWCGSNSNRQERLKATVLAAGIRDNEKNGRAKVFVSEEG 260
Anas_platyrhynchos VTWESFNTGDCFILDGNSNIYQWCGSNSNRQERLKATVLAAGIRDNERNGRAKVFVSEEG 260
Chelonia_mydas    VSWDSFNNGDCFILDGNSDIHQWCGSKSNRFEQMKATQVAKGIRDNERSGRAKVYVVEEG 243
Homo_sapiens      VSWESFNNGDCFILDGNNIYQWCGSGSNRERLKATQVSKGIRDNERSGRARVHVSEEG 213
Bos_taurus        VSWESFNNGDCFILDGNDIYQWCGSSSNRERLKATQVSKGIRDNERSGRARVHVSEEG 275
Pan_troglodytes   VSWESFNNGDCFILDGNNIYQWCGSGSNRERLKATQVSKGIRDNERSGRARVHVSEEG 264
Macaca_mulatta    VSWESFNNGDCFILDGNDIYQWCGSGSNRERLKATQVSKGIRDNERSGRARVHVSEEG 291
Callithrix_jacchus VSWDSFNNGDCFILDGNDIYQWCGSGSNRERLKATQVSKGIRDNERSGRARVHVSEEG 264
Mus_musculus      VSWDSFNNGDCFILDGNNIYQWCGSGSNRERLKATQVSKGIRDNERSGRAQVHVSEEG 262
Equus_caballus    VSWESFNNGDCFILDGNNIYQWCGSKSNRERLKATQVSKGIRDNERSGRAQVSVFEEG 264
Pteropus_alecto   VSWDSFNNGDCFILDGNDIYQWCGSGSNRERLKATQVSKGIRDNERSGRARVHVIEEG 264
Ornithorhynchus_anatinus VSWESFNTGDCFILDGNDIYQWCGSKSNRERLKAVQVSKGIRDNERSGRAKVHVLEEG 266
Xenopus_tropicalis VNWDSFNQGDGCFILDGNEIYQWFGSKSNQFEKLRAVAVAKGIRDTERNGRSKLYVVEEG 230
Rhinatrema_bivittatum VTWESFNKGDGCFILDGDEIYQWCGSKSNRFEKLKATNISKGIRDNERSGRAKVYVMEEG 213
.....250.....260.....270.....280.....290.....300

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Pavo_muticus      AEREEMLOVLGPKPSLPQGASDDTKTDANRKLAKLYKVSNGAGNMAVSLVADENPFSA 320
Pavo_cristatus    AEREEMLOVLGPKPSLPQGASDDTKTDANRKLAKLYKVSNGAGNMAVSLVADENPFSA 320
Gallus_gallus     AEREEMLOVLGPKPSLPQGASDDTKTDANRKLAKLYKVSNGAGNMAVSLVADENPFSA 320
Anas_platyrhynchos SEREEMLOVLGPKPTLPVGTPDDTKTDANRKLAKLYKVSNGAGNMAVSLVADENPFSA 320
Chelonia_mydas    SEREQMLQVLGPKPNLPEGASDDLKADASNRLAKLYKVSNGAGNMAVSLVADENPFSA 303
Homo_sapiens      TEPEAMLQVLGPKPALPAGTEDTAKEDAANRKLAKLYKVSNGAGTMSVSLVADENPFAQG 273
Bos_taurus        AEPEAMLQVLGPKPALPAGTEDTAKEDAANRKLAKLYKVSNGAGTMSVSLVADENPFAQG 335
Pan_troglodytes   AEPEAMLQVLGPKPALPAGTEDTAKEDAANRKLAKLYKVSNGAGTMSVSLVADENPFAQG 324
Macaca_mulatta    AEPEAMLQVLGPKPALPAGTEDTAKEDAANRKLAKLYKVSNGAGTMSVSLVADENPFAQG 351
Callithrix_jacchus AEPEAMLQVLGPKPNLPEGATEDTAKEDAANRKLAKLYKVSNGAGTMSVSLVADENPFAQG 324
Mus_musculus      GEPEAMLQVLGPKPALPEGATEDTAKEDAANRRLAKLYKVSNGAGSMTSVSLVADENPFAQG 322
Equus_caballus    AEPEAMLQVLGPKPTLPATEDTVKEDAANRKLAKLYKVSNGAGPMVSVSLVADENPFAQG 324
Pteropus_alecto   SEPEAMLQVLGPKPTLPAGTDDTVKEDAANRKLAKLYKVSNSVAGMTSVSLVADENPFAQG 324
Ornithorhynchus_anatinus AESQKMLEILGPKPNLPGPDPTTQVDTANRKLAKLYKVSNSAGAMTVSLVADENPFAQA 326
Xenopus_tropicalis MEREKMLEVLGQKPDLPPEGADDIKADASNRLAKLYKVSNGAGMTSVSLVADENPFTQA 290
Rhinatrema_bivittatum MEREKMLEVMGDKPDLPEGADDIKADASNRLAKLYRVNSNGSAGMTSVSLVADENPFTQS 273
.....310.....320.....330.....340.....350.....360

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** : ***:*** : ***:***: ** :*:*.***:***:*** ** ***:***:***.***.*
Pavo_muticus      ALNTEDCFILDHGTGDKIFVWKGRSANSDEKKAALKTATDFIDKMGYPKHTQVQVLPESG 380
Pavo_cristatus    ALNTEDCFILDHGTGDKIFVWKGRSANSDEKKAALKTATDFIDKMGYPKHTQVQVLPESG 380
Gallus_gallus     ALNTEDCFILDHGTGDKIFVWKGRSANSDEKKAALKTATDFIDKMGYPKHTQVQVLPESG 380
Anas_platyrhynchos ALNTDDCFILDHGTGDKIFVWKGRSANSDEKKAALKTASEFIDKMSYPKHTQIQVLPESG 380
Chelonia_mydas    ALDSNDCFILDHGSDDGKIFIWKGGKANSDEKKAALKTASEFISKMRYPKHTQIQVLPESG 363
Homo_sapiens      ALRSEDCFILDHGRDGGKIFVWKGRQANTEERKAALKTASDFITKMDYPKQTQVSVLPEGG 333
Bos_taurus        ALRSEDCFILDHGRDGGKIFVWKGRQANTEERKAALKTASDFITKMDYPKQTQVSVLPEGG 395
Pan_troglodytes   ALKSEDCFILDHGRDGGKIFVWKGRQANTEERKAALKTASDFITKMDYPKQTQVSVLPEGG 384
Macaca_mulatta    ALKSEDCFILDHGRDGGKIFVWKGRQANTEERKAALKTASDFITKMDYPKQTQVSVLPEGG 411
Callithrix_jacchus ALRSEDCFILDHGRDGGKIFVWKGRQANSEERKAALKTASDFITKMDYPKQTQVSVLPEGG 384
Mus_musculus      ALRSEDCFILDHGRDGGKIFVWKGRQANSEERKAALKTASDFITKMDYPKQTQVSVLPEGG 382
Equus_caballus    ALRSEDCFILDHGRDGGKIFVWKGRQANSEERKAALKTASDFITKMDYPKQTQVSVLPEGG 384
Pteropus_alecto   ALRSEDCFILDHGRDGGKIFVWKGRQANSEERKAALKTASDFITKMDYPKQTQVSVLPEGG 384
Ornithorhynchus_anatinus ALKSEDCFILDHGSNKKIFVWKGRQANSEERKAALKTATDFISKMGPYKHTQIQVLPENG 386
Xenopus_tropicalis ALNSDDCFVLDHGSDDGKIFVWKGRNANSEERKAALKTATEFISKMGPYKHTQIQVLPENG 350
Rhinatrema_bivittatum ALNSGDCFILDHGSDDGKIFVWKGRNANSEERKAALKTATEFISKMGPYKHTQIQVLPENG 333
.....370.....380.....390.....400.....410.....420

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Pavo_muticus      ETPLFKQFFKNWRDKDQTEGLGEAYISGHVAKIEKVPFDDAATLHTSRAMAAQHGMEDDGS 440
Pavo_cristatus    ETPLFKQFFKNWRDKDQTEGLGEAYISGHVAKIEKVPFDDAATLHTSRAMAAQHGMEDDGS 440
Gallus_gallus     ETPLFKQFFKNWRDKDQTEGLGEAYISGHVAKIEKVPFDDAATLHTSRAMAAQHGMEDDGS 440
Anas_platyrhynchos ETPLFKQFFKNWRDKDQTEGLGQAYISGHVAKIEKVPFDDAATLHTSKAMAAQHGMEDDGS 440
Chelonia_mydas    ETPLFKQFFKNWRDRDQTEGLGTAYISSHIAQVEKVPFDDAATLHNSTAMAAQHGMEDDGS 423
Homo_sapiens      ETPLFKQFFKNWRDPDQTDGGLSYLSSHIANVERVPFDDAATLHTSTAMAAQHGMDDDG 393
Bos_taurus        ETPLFKQFFKNWRDPDQTDGGLSYLSSHIANVERVPFDDAATLHTSTAMAAQHGMDDDG 455
Pan_troglodytes   ETPLFKQFFKNWRDPDQTDGGLSYLSSHIANVERVPFDDAATLHTSTAMAAQHGMDDDG 444
Macaca_mulatta    ETPLFKQFFKNWRDPDQTDGGLSYLSSHIANVERVPFDDAATLHTSTAMAAQHGMDDDG 471
Callithrix_jacchus ETPLFKQFFKNWRDPDQTDGGLSYLSSHIANVERVPFDDAATLHTSTAMAAQHGMDDDG 444
Mus_musculus      ETPLFKQFFKNWRDPDQTDGGLSYLSSHIANVERVPFDDAATLHTSTAMAAQHGMDDDG 442
Equus_caballus    ETPLFKQFFKNWRDPDQTEGLGLAYLSSHIAHVERVPFDDAATLHTSTAMAAQHGMDDDG 444
Pteropus_alecto   ETPLFKQFFKNWRDPDQTDGGLSYLSSHIANVERVPFDDAATLHTSTAMAAQHGMDDDG 444
Ornithorhynchus_anatinus ETPLFKQFFKNWRDPDQTDGGLSYLSSHIANVERVPFDDAATLHTSTAMAAQHGMDDDG 446
Xenopus_tropicalis ETPLFKQFFKNWRDKDQTEGLGVAIVSNHIAKIENVPFDDVSLHTSPAMAAQHGMVDDGS 410
Rhinatrema_bivittatum ETPLFKQFFKNWRDKDQTEGLGVAIVSNHIAKIENVPFDDVSLHTSPAMAAQHGMVDDGS 393
.....430.....440.....450.....460.....470.....480

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Pavo_muticus      GKKQIWRIEGSEKVPVNPATYGFYGGDSYIILYDYQHAGKQGQIIYTWQGAHSTQDEIT 500
Pavo_cristatus    GKKQIWRIEGSEKVPVNPATYGFYGGDSYIILYDYQHAGKQGQIIYTWQGAHSTQDEIT 500
Gallus_gallus     GKKQIWRIEGSEKVPVNPATYGFYGGDSYIILYDYQHAGKQGQIIYTWQGAHSTQDEIA 500
Anas_platyrhynchos GRKQIWRIEGSEKVPVNPATYGFYGGDSYIILYDYQHAGKQGQIIYTWQGAHSTQDEIA 500
Chelonia_mydas    GKKQIWRIEGSAKVPVNPATYGFYGGDSYIILYDYKHGGKTGQIIYTWQGAHSTQDEIT 483
Homo_sapiens      GKKQIWRIEGSAKVPVNPATYGFYGGDSYIILYDYKHGGKTGQIIYTWQGAHSTQDEIA 453
Bos_taurus        GKKQIWRIEGSAKVPVNPATYGFYGGDSYIILYDYKHGGKTGQIIYTWQGAHSTQDEIA 515
Pan_troglodytes   GKKQIWRIEGSAKVPVNPATYGFYGGDSYIILYDYKHGGKTGQIIYTWQGAHSTQDEIA 504
Macaca_mulatta    GKKQIWRIEGSAKVPVNPATYGFYGGDSYIILYDYKHGGKTGQIIYTWQGAHSTQDEIA 531
Callithrix_jacchus GKKQIWRIEGSAKVPVNPATYGFYGGDSYIILYDYKHGGKTGQIIYTWQGAHSTQDEIA 504
Mus_musculus      GKKQIWRIEGSAKVPVNPATYGFYGGDSYIILYDYKHGGKTGQIIYTWQGAHSTQDEIA 502
Equus_caballus    GKKQIWRIEGSAKVPVNPATYGFYGGDSYIILYDYKHGGKTGQIIYTWQGAHSTQDEIA 504
Pteropus_alecto   GKKQIWRIEGSAKVPVNPATYGFYGGDSYIILYDYKHGGKTGQIIYTWQGAHSTQDEIA 504
Ornithorhynchus_anatinus GKKQIWRIEGSAKVPVNPATYGFYGGDSYIILYDYKHGGKTGQIIYTWQGAHSTQDEIA 506
Xenopus_tropicalis GKKQIWRIEGSAKVPVNPATYGFYGGDSYIILYDYKHGGKTGQIIYTWQGAHSTQDEIA 470
Rhinatrema_bivittatum GKKQIWRIEGSAKVPVNPATYGFYGGDSYIILYDYKHGGKTGQIIYTWQGAHSTQDEIA 453
.....490.....500.....510.....520.....530.....540

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Pavo_muticus      ASAFLLTVQLDEELGGSPVQK-----RVVOGKEPPHLMMSMFGGKPLIVYKGGTSREG 551
Pavo_cristatus    ASAFLLTVQLDEELGGSPVQK-----RVVOGKEPPHLMMSMFGGKPLIVYKGGTSREG 551
Gallus_gallus     TSAFLTVQLDEELGGSPVQK-----RVVOGKEPPHLMMSMFGGKPLIVYKGGTSREG 551
Anas_platyrhynchos TSAFLTVQLDEELGGSPVQK-----RVVOGKEPPHLMMSMFGGKPLIVYKGGTSREG 551
Chelonia_mydas    TSAFLSVQLDEELGGSPVQK-----RVVOGKEPAHLMMSMFGGRKPLIVYKGGTSRDG 534
Homo_sapiens      ASAILTAQLDEELGGTPVQS-----RVVOGKEPAHLMMSLFGGKPMIIVYKGGTSREG 504
Bos_taurus        ASAILTAQLDEELGGTPVQS-----RVVOGKEPAHLMMSLFGGKPMIIVYKGGTSREG 566
Pan_troglodytes   ASAILTAQLDEELGGTPVQS-----RVVOGKEPAHLMMSLFGGKPMIIVYKGGTSREG 555
Macaca_mulatta    ASAILTAQLDEELGGTPVQS-----RVVOGKEPAHLMMSLFGGKPMIIVYKGGTSREG 582
Callithrix_jacchus ASAILTAQLDEELGGTPVQS-----RVVOGKEPAHLMMSLFGGKPMIIVYKGGTSREG 555
Mus_musculus      ASAILTAQLDEELGGTPVQS-----RVVOGKEPAHLMMSLFGGKPMIIVYKGGTSRDG 553
Equus_caballus    ASAILTAQLDEELGGTPVQS-----RVVOGKEPAHLMMSLFGGKPMIVYKGGTSREG 555
Pteropus_alecto   ASAILTAQLDEELGGTPVQS-----RVVOGKEPAHLMMSIFDGKPMIVYKGGTSREG 555
Ornithorhynchus_anatinus ASAILTAQLDEELGGTPVQS-----RVVOGKEPAHLMMSLFGGKPMIVYKGGTSREG 557
Xenopus_tropicalis ASAILSQAQLDEELGGTPVQ-----ARSQVRVVVOGKEPAHLMMSLFGGKPMIVNKGTSREG 526
Rhinatrema_bivittatum TSAFLSAQLDELTGGGPVQSLGSLRSQVRVVVOGKEPAHLMMSMFDGKPLVVYRGGTSRQG 513
.....550.....560.....570.....580.....590.....600

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Pavo_muticus      GQTTPAQTRLFQVRSSTSGATRAVELDPSASQLNSNDAFVLKTPSAAYLWVGQGSNNNAEL 611
Pavo_cristatus    GQTTPAQTRLFQVRSSTSGATRAVELDPSASQLNSNDAFVLKTPSAAYLWVGQGSNNNAEL 611
Gallus_gallus     GQTTPAQTRLFQVRSSTSGATRAVELDPAASQLNSNDAFVLKTPSAAYLWVGGRGSNSNAEL 611
Anas_platyrhynchos GQTTPAETRLFQVRSSTSGATRAVELDPAASQLNSNDAFVLKTPSAAYLWVGQGSNAEAK 611
Chelonia_mydas    GQTAPAAATRLFQVRSSTSGATRAVELDAVASLNSNDVFLVLTTPSAAYLWVGQAASDTEI 594
Homo_sapiens      GQTAPASTRLFQVRANSAGATRAVEVLPAKAGALNSNDAFVLKTPSAAYLWVGAGASEAEK 564
Bos_taurus        GQTAPASTRLFQVRASSSGATRAVEVMPKAGALNSNDAFVLKTPSAAYLWVGAGASEAEK 626
Pan_troglodytes   GQTAPASTRLFQVRANSAGATRAVEVLPAKAGALNSNDAFVLKTPSAAYLWVGAGASEAEK 615
Macaca_mulatta    GQTAPASTRLFQVRANSAGATRAVEVLPAKAGALNSNDAFVLKTPSAAYLWVGAGASEAEK 642
Callithrix_jacchus GQTAPASTRLFQVRANSAGATRAVEVLPAKAGALNSNDAFVLKTPSAAYLWVGAGASEAEK 615
Mus_musculus      GQTAPASIRLFQVRASSSGATRAVEVMPKSGALNSNDAFVLKTPSAAYLWVGAGASEAEK 613
Equus_caballus    GQTAPASTRLFQVRASSSGATRAVEIIPKAGALNSNDAFVLKTPSAAYLWVGAGASEAEK 615
Pteropus_alecto   GQTAPASTRLFQVRASSSGATRAVEVTPKASALNSNDAFVLKTPSTAYLWVGAGANEAEK 615
Ornithorhynchus_anatinus GQTAPASTRLFQVRSSSSGATRAVELTPAAGELNSNDAFVLKTPSAAYLWVGQGSNAEAK 617
Xenopus_tropicalis GQTKDADVRLFQVRASSSGFSRAVEVDSTASNLNSNDAFVLKTPSAAYQWVGQGSTDAEK 586
Rhinatrema_bivittatum GQTEPAETRLFQVRASSSGCTRAIELEATVSNLNSNDVFLKTPSAAYVWVGQGSNAEAK 573
.....610.....620.....630.....640.....650.....660

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Pavo_muticus      SGAQELLKVLGARPVQISEGREPDGFWAALGGKAPYRTSPRLKDKKMDAHPPLRFACSNK 671
Pavo_cristatus    SGAQELLKVLGARPVQISEGREPDGFWAALGGKAPYRTSPRLKDKKMDAHPPLRFACSNK 671
Gallus_gallus     SGAQELLKVLGARPVQVSEGREPDNFWVALGGKAPYRTSPRLKDKKMDAHPPLRFACSNK 671
Anas_platyrhynchos SGAQELLNVLGARSVQVSEGREPENFWAALGGKAPYRTSPRLKDKKMDAHPPLRFACSNK 671
Chelonia_mydas    SGAQELLKILGARPVQIAEGSEPDSEFWEALGGKAAAYRTSPRLKDKKMDVNPPLRFACSNK 654
Homo_sapiens      TGAQELLRVLRAQPVQVAEGSEPDGFWEALGGKAAAYRTSPRLKDKKMDAHPPLRFACSNK 624
Bos_taurus        TGALELLRVLRAQPVQVAEGSEPDSEFWEALGGKAAAYRTSPRLKDKKMDAHPPLRFACSNK 686
Pan_troglodytes   TGAQELLRVLRAQPVQVAEGSEPDGFWEALGGKAAAYRTSPRLKDKKMDAHPPLRFACSNK 675
Macaca_mulatta    TGAQELLRVLRAQPVQVAEGSEPDGFWEALGGKAAAYRTSPRLKDKKMDAHPPLRFACSNK 702
Callithrix_jacchus TGAQELLRVLRAQPVQVTEGSEPDSEFWEALGGKAAAYRTSPRLKDKKMDAHPPLRFACSNK 675
Mus_musculus      TGAQELLKVLRSQHVVQVEEGSEPDADFWEALGGKTAYRTSPRLKDKKMDAHPPLRFACSNR 673
Equus_caballus    TGAQELLRVLRAQPVQVAEGSEPDSEFWEALGGKATYRTSPRLKDKKMDAHPPLRFACSNK 675
Pteropus_alecto   TGAQELLKVLQTKFVQVAEGSEPDSEFWEALGGKTAYRTSPRLKDKKIDAHPPLRFACSNK 675
Ornithorhynchus_anatinus TGAQELLKVLGVKSVSVEEGREPDSFWQALGGKASYRTSPRLK-QKMDSHPPPLRFACSNK 676
Xenopus_tropicalis KGAQELLAVLGVSAEILEGQETDDFWAALGGKADYRTSARLK-DKLNTHPPPLRFACSNK 645
Rhinatrema_bivittatum RGAQALLSILGVQASSIAEGRETDDFWAALGGKAAAYRTSARLK-DRLNAHPPLRFACSNK 632
.....670.....680.....690.....700.....710.....720

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# CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /home/ceglab2/Desktop/ajinkya/pavo/MSD/MSD\_NY22 Wed Feb 16 12:11:04 2022

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*** *****: *:*****:*****:*****:.....**.*: ** :*::**
Pavo_muticus      SGRFTIEEVPGDLTQDDLATDDVMILDTWDQVFVWIGKDAQEEEEKTEALKSAKRYVETDP 731
Pavo_cristatus    SGRFTIEEVPGDLTQDDLATDDVMILDTWDQVFVWIGKDAQEEEEKTEALKSAKRYVETDP 731
Gallus_gallus     SGRFTIEEVPGDLTQDDLATDDVMILDTWDQVFVWIGKDAQEEEEKTEALKSAKRYIETDP 731
Anas_platyrhynchos SGRFTIEEVPGDLTQDDLATDDVMILDTWDQVFVWIGKDAQEEEEKTEALKSAKRYIETDP 731
Chelonia_mydas    SGRFIIIEVPGELTQDDLATDDVMILDTWDQVFVWIGNEAQDEEEKTEALTSAKRYIETDP 714
Homo_sapiens      IGRFVIEEVPGELMQEDLATDDVMLLDTWDQVFVWVGKDSQEEEEKTEALTSAKRYIETDP 684
Bos_taurus        IGRFVIEEVPGELMQEDLATDDVMLLDTWDQVFVWVGKDSQEEEEKTEALTSAKRYIETDP 746
Pan_troglodytes   IGRFVIEEVPGELMQEDLATDDVMLLDTWDQVFVWVGKDSQEEEEKTEALTSAKRYIETDP 735
Macaca_mulatta    IGRFVIEEVPGELMQEDLATDDVMLLDTWDQVFVWVGKDSQEEEEKTEALTSAKRYIETDP 762
Callithrix_jacchus IGRFVIEEVPGELMQEDLATDDVMLLDTWDQVFVWVGKDSQEEEEKTEALTSAKRYIETDP 735
Mus_musculus      IGRFVIEEVPGELMQEDLATDDVMLLDTWDQVFVWVGKDSQEEEEKTEALTSAKRYIETDP 733
Equus_caballus    IGRFVIEEVPGEFMQEDLATDDVMLLDTWDQVFVWVGKDSQDEEEKTEALTSAKRYIETDP 735
Pteropus_alecto   IGRFVIEEVPGEFMQEDLATDDVMLLDTWDQVFVWVGKDSQEEEEKTEALASAKRYIETDP 735
Ornithorhynchus_anatinus IGRFTIEEVPGELLQEDLATDDVMLLDTWNQIFVWVGKDAEEEEKTEALSSAKRYIETDP 736
Xenopus_tropicalis TGRFIIIEVPGEISQDDLATDDVMLLDTWDQVFVWVGKEAQDEDEKKEAIASAYKYIESDP 705
Rhinatrema_bivittatum TGRFIIIEVPGENTQDDLATDDVMLLDTWDQVFVWVGTEAQDEEEKKEALASASKYIETDP 692
.....730.....740.....750.....760.....770.....780

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* ** ***:.....** ***:* *****: .** :
Pavo_muticus      ASRDMRTPVTLVKQGLEPPTFSGWFLGWDDDYWSVDPLQRAMADVDV 778
Pavo_cristatus    ASRDMRTPVTLVKQGLEPPTFSGWFLGWDDDYWSVDPLQRAMADVDV 778
Gallus_gallus     ASRDKRTPVTLVKQGLEPPTFSGWFLGWDDDYWSVDPLQRAMADVDV 778
Anas_platyrhynchos ASRDKRTPVTLVKQGFEPPTFSGWFLGWDDDYWSVDPLQRAMADVDV 778
Chelonia_mydas    ANRDKRTPITIIKQGFEPPTFSGWFLGWDDDYWTVDPLERAMAEELAA 761
Homo_sapiens      ANRDRRTIPITVVKQGFEPSSFVGWFLGWDDDYWSVDPLDRAMAEELAA 731
Bos_taurus        ANRDRRTIPITVVKQGFEPSSFVGWFLGWDDNYWSVDPLDRALAEELAA 793
Pan_troglodytes   ANRDRRTIPITVVKQGFEPSSFVGWFLGWDDDYWSVDPLDRAMAEELAA 782
Macaca_mulatta    ANRDRRTIPITVVKQGFEPSSFVGWFLGWDDDYWSVDPLDRAMAEELAA 809
Callithrix_jacchus ANRDRRTIPITVVKQGFEPSSFVGWFLGWDDDYWSVDPLDRAMAEELAA 782
Mus_musculus      ANRDRRTIPITVVRQGFEPSSFVGWFLGWDDNYWSVDPLDRALAEELAA 780
Equus_caballus    AHRDRRTIPITVVKQGFEPSSFVGWFLGWDDSYWSVDPLDRALAEELAA 782
Pteropus_alecto   ANRDRRTIPITVVKQGFEPSSFVGWFLGWDDSYWWLV----- 771
Ornithorhynchus_anatinus AHRDKRTPITLIKQGAEPSSFVGWFLGWDDNYWTLSPDRAMAEELAV 783
Xenopus_tropicalis ANRDKRTPVAIIKQGFEPPTFTGWFLGWETDYWDISPLERALADL-- 750
Rhinatrema_bivittatum ANRDKRTPIAIVKQGFEPPTFTGWFLGWDDNYWSVDPLESAMAELNA 739
.....790.....800.....810.....820.....

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