

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONTepTue Feb 1 12:21:01 2022

Page 1 of 32

	.	:	:	:*:.******	
Danio_rerio	-----MDLITSPFFGLILVLNLSTAQDPKE----	DVPEGASTLAFVFDVTG	44		
Callorhinchus_milii	-----MPVPVSPIRTVCLIVLLCSSATPGSEER--	AEDIPEGASTLAFVFDVTG	47		
Pavo_muticus	--MALGEAQAGLGALLLLLLLLL-----ALSSRAAPESG--	SEAVPEGASTLAFVFDVTG	52		
Pavo_cristatus	--MALGEAQAGLGALLLLLLLLL-----ALSSRAAPESG--	SEAVPEGASTLAFVFDVTG	52		
Gallus_gallus	--MALGKAQGAGPG-----AVILLLLL-----ALSSCAAPESG--	AEAIPLEGASTLAFVFDVTG	49		
Chelonia_mydas	-MISCGNIPITWRAGLCTVFLLALFSSCYAQNANAEEKPR--	AEIIEPAGASTLAFVFDVTG	57		
Rattus_norvegicus	-----MIAQELVHTVFLVALFHSSLAGVGTPPOSESR--	AEIIEPAGASTLAFVFDVTG	50		
Mus_musculus	-----MIAQEVVHTVFLVALFRSSLAGDGTPOSESR--	AEIIEPAGASTLAFVFDVTG	50		
Homo_sapiens	-----MISWEVVHTVFLFALLYSSSLAQDASPOSEIR--	AEIIEPAGASTLAFVFDVTG	50		
Pan_troglodytes	-----MISWEVVHTVFLFALLYSSSLAQDASPOSEIR--	AEIIEPAGASTLAFVFDVTG	50		
Macaca_mulatta	-----MISREVHTVFLFALLYSSSLAQDASPOSEIR--	AEIIEPAGASTLAFVFDVTG	50		
Callithrix_jacchus	-----MISREAVHRAFLALLALLYSSSLAQDASPOSETS--	AEIIEPAGASTLAFVFDVTG	50		
Canis_lupus_familiaris	-----MISRDIVPTVFLFALLYSSSLAHDAPOSEPEPGAGEIPEGASTLAFVFDVTG	52			
Equus caballus	-----MISWDMVHTVFLFALLYSSSLAQDASSQSEIR--	AEIIEPAGASTLAFVFDVTG	50		
Bos_taurus	-----MISWDMIHTIFLLALLYPSRAQDAIPOSEVE--	AEIIEPAGASTLAFVFDVTG	50		
Rhinatrema_bivittatum	MLLCRASLSRQAELCFVLV FALLSHLCAQESSENEQK--	AEIIEGGSTLAFVFDVTG	58		
Xenopus_tropicalis	-----MFP CRTLCLOQLLLLLLVQLLIQNSCGVAEPET--	PYIPDGASTLAFVFDVTG	51		
	1.....10.....20.....30.....40.....50.....60				

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Danio_rerio	SMYDDLVOVIEGASKILETSLSRPQRPPLYNFALVPFHDPEIGPVTITTTDPKKFQFELREL	104
Callorhinchus_milii	SMYDDLVOVIEGASKILETSLSRPKKPLHNFALVPFHDPEIGPVTITTTDPKKFQFELREL	107
Pavo_muticus	SMYDDLVOVIEGASKILETSLKRPRPPLYNFALVPFHDPEIGPVTITTTDPKKFQFELREL	112
Pavo_cristatus	SMYDDLVOVIEGASKILETSLKRPRPPLYNFALVPFHDPEIGPVTITTTDPKKFQFELREL	112
Gallus_gallus	SMYDDLVOVIEGASKILETSLKRPKRPLYNFALVPFHDPEIGPVTITTTDPKKFQFELREL	109
Chelonia_mydas	SMYDDLVOVIEGASKILETSLKRPKKPLYNFALVPFHDPEIGPVTITTTDSKKFQFELREL	117
Rattus_norvegicus	SMYDDLVOVIEGASKILETSLKRPKRPLYNFALVPFHDPEIGPVTITTTDPKKFQFELREL	110
Mus_musculus	SMYDDLVOVIEGASKILETSLKRPKRPLYNFALVPFHDPEIGPVTITTTDPKKFQFELREL	110
Homo_sapiens	SMYDDLVOVIEGASKILETSLKRPKRPLFNALVPFHDPEIGPVTITTTDPKKFQFELREL	110
Pan_troglodytes	SMYDDLVOVIEGASKILETSLKRPKRPLFNALVPFHDPEIGPVTITTTDPKKFQFELREL	110
Macaca_mulatta	SMYDDLVOVIEGASKILETSLKRPKRPLFNALVPFHDPEIGPVTITTTDPKKFQFELREL	110
Callithrix_jacchus	SMYDDLVOVIEGASKILETSLKRPKRPLFNALVPFHDPEIGPVTITTTDPKKFQFELREL	110
Canis_lupus_familiaris	SMYDDLVOVIEGASKILETSLKRPKRPLFNALVPFHDPEIGPVTITTTDPKKFQFELREL	112
Equus_caballus	SMYDDLVOVIEGASKILETSLKRPKRPLFNALVPFHDPEIGPVTITTTDPKKFQFELREL	110
Bos_taurus	SMYDDLVOVIEGASKILETSLKRPKRPLFNALVPFHDPEIGPVTITTTDPKKFQFELREL	110
Rhinatrema_bivittatum	SMYDDLVOVIEGASKILETSLKRPKKPLYNFALVPFHDPEIGPVTITTTDPKKFQFELREL	118
Xenopus_tropicalis	SMYDDLVOVIEGASKILETSLNRPKKPLYNFALVPFHDPEIGPVTITTTDEKFFQNELREL	111
70.....80.....90.....100.....110.....120	

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Danio_rerio	YVGGGDCPEMSIGAIAKIALEISLPGSYIYVFTDARSKDYRLTHDVLQLIQKQSQVVFV	164
Callorhinchus_milii	YVGGGDCPEMSIGAIAKIALEISLPGSFIYVFTDARSKDYRLTNEVLQLIQKQSQVVFV	167
Pavo_muticus	YVGGGDCPEMSIGAIAKIALEISLPGSFIYVFTDARSKDYRLTHEVLQLIQKQSQVVFV	172
Pavo_cristatus	YVGGGDCPEMSIGAIAKIALEISLPGSFIYVFTDARSKDYRLTHEVLQLIQKQSQVVFV	172
Gallus_gallus	YVGGGDCPEMSIGAIAKIALEISLPGSFIYVFTDARSKDYRLTHEVLQLIQKQSQVVFV	169
Chelonia_mydas	YVGGGDCPEMSIGAIAKIALEISLPGSFIYVFTDARSKDYRLTHEVLQLIQKQSQVVFV	177
Rattus_norvegicus	YVGGGDCPEMSVGAIAKIALEISLPGSFIYVFTDARSKDYRLTHEVLQLIQKQSQVVFV	170
Mus_musculus	YVGGGDCPEMSIGAIAKIALEISLPGSFIYVFTDARSKDYRLTHEVLQLIQKQSQVVFV	170
Homo_sapiens	YVGGGDCPEMSIGAIAKIALEISLPGSFIYVFTDARSKDYRLTHEVLQLIQKQSQVVFV	170
Pan_troglodytes	YVGGGDCPEMSIGAIAKIALEISLPGSFIYVFTDARSKDYRLTHEVLQLIQKQSQVVFV	170
Macaca_mulatta	YVGGGDCPEMSIGAIAKIALEISLPGSFIYVFTDARSKDYRLTHEVLQLIQKQSQVVFV	170
Callithrix_jacchus	YVGGGDCPEMSIGAIAKIALEISLPGSFIYVFTDARSKDYRLTHEVLQLIQKQSQVVFV	170
Canis_lupus_familiaris	YVGGGDCPEMSIGAIAKIALEISLPGSFIYVFTDARSKDYRLTHEVLQLIQKQSQVVFV	172
Equus_caballus	YVGGGDCPEMSIGAIAKIALEISLPGSFIYVFTDARSKDYRLTHEVLQLIQKQSQVVFV	170
Bos_taurus	YVGGGDCPEMSIGAIAKIALEISLPGSFIYVFTDARSKDYRLTHEVLQLIQKQSQVVFV	170
Rhinatrema_bivittatum	YVGGGDCPEMSIGAIAKIALEISLPGSFIYVFTDARSKDYRLAHEVLQLIQKQSQVVFV	178
Xenopus_tropicalis	YVGGGDCPEMSVGAIAKIALEISLPGSFYVFTDARSKDYRLTNEVLQLIQKQSQVVFV	171
	.....130.....140.....150.....160.....170.....180	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONtepTue Feb 1 12:21:01 2022

Page 2 of 32

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Danio_rerio      LTGDCDDRSHIGYKVEEIASTSSGVFHLDDKKQVNEVLKWVEEAVQSSKVHLLSTDHQN 224
Callorhinchus_milii LTGDCDDRSHVGYKAYEEIASTSSGVFHLDDKKQVNEVLKWVKEAVQASKVHLLSTDHLT 227
Pavo_muticus     LTGDCDDRSHIGYKVEEIASTSSGVFHLDDKKQVNEVLKWVEEAVQASKVHLLSTDHLT 232
Pavo_cristatus  LTGDCDDRSHIGYKVEEIASTSSGVFHLDDKKQVNEVLKWVEEAVQASKVHLLSTDHLT 232
Gallus_gallus    LTGDCDDRSHIGYKVEEIASTSSGVFHLDDKKQVNEVLKWVEEAVQASKVHLLSTDHLT 229
Chelonia_mydas   LTGDCDDRSHIGYKVEEIASTSSGVIFHLDDKKQVNEVLKWVEEAVQASKVHLLSTDHLT 237
Rattus_norvegicus LTGDCDDRSHIGYKVEEIASTSSGVFHLDDKKQVNEVLKWVEEAVQASKVHLLSTDHLE 230
Mus_musculus     LTGDCDDRSHIGYKVEEIASTSSGVFHLDDKKQVNEVLKWVEEAVQASKVHLLSTDHLE 230
Homo_sapiens     LTGDCDDRTHIGYKVEEIASTSSGVFHLDDKKQVNEVLKWVEEAVQASKVHLLSTDHLE 230
Pan_troglodytes  LTGDCDDRTHIGYKVEEIASTSSGVFHLDDKKQVNEVLKWVEEAVQASKVHLLSTDHLE 230
Macaca_mulatta   LTGDCDDRTHIGYKVEEIASTSSGVFHLDDKKQVNEVLKWVEEAVQASKVHLLSTDHLE 230
Callithrix_jacchus LTGDCDDRTHIGYKVEEIASTSSGVFHLDDKKQVNEVLKWVEEAVQASKVHLLSTDHLE 230
Canis_lupus_familiaris LTGDCDDRSHIGYKVEEIASTSSGVFHLDDKKQVNEVLKWVEEAVQSSKVHLLSTDHLG 232
Equus_caballus   LTGDCDDRSHIGYKVEEIASTSSGVFHLDDKKQVNEVLKWVEEAVQSSKVHLLSTDHLQ 230
Bos_taurus       LTGDCDDRSHIGYKVEEIASTSSGVFHLDDKKQVNEVLKWVEEAVQASKVHLLSTDHLE 230
Rhinatrema_bivittatum LTGDCDDRSHIGYKVEEIASTSSGVFHLDDKKQVNEVLKWVEEAVQASKVHLLSTDHLA 238
Xenopus_tropicalis LTGDCDDRSHHGKVEEIASTSSGVFHLDDKKQVNEVLKWVEEAVQASKVHLLSTDHSG 231
.....190.....200.....210.....220.....230.....240

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Danio_rerio      GLANTWQIPFDPSSLKEVTVALSGPAPNIEIRNSQGLIGIKEGLSELLHIPNSAKVLNLK 284
Callorhinchus_milii RAKNTWQIPFDPSSLKEVTVALSGPAPFIELRDP TGKLIKKGSGLVELLHIANSARVNVNIK 287
Pavo_muticus     MAVNTWQIPFDPSSLKEVTVALSGPSPPTIETIDPLGKQISKGLGLNELLNIHNSAKVVNVK 292
Pavo_cristatus  MAVNTWQIPFDPSSLKEVTVALSGPSPPTIETIDPLGKQISKGLGLNELLNIHNSAKVVNVK 292
Gallus_gallus    MAVNTWKIPFDPSSLKEVTVALSGPSPAIEIHDPLGKQISKGLGLNELLNIHNSAKVVNVK 289
Chelonia_mydas   LAVNTWQIPFDPSSLKEVTVALSGPSPVIEIHDPLGKEIRKGGSLNELLNIHNSAKVVNVK 297
Rattus_norvegicus HAVNTWKIPFDPSSLKEVTVALSGPSPVIEIRNPFGLIKKGFGLNELLNIHNSAKVVNVK 290
Mus_musculus     HAVNTWKIPFDPSSLKEVTVALSGPSPVIEIRNPFGLIKKGFGLNELLNIHNSAKVVNVK 290
Homo_sapiens     QAVNTWRIPFDPSSLKEVTVALSGSPMIEIRNPLGKLIKKGFGLHELLNIHNSAKVVNVK 290
Pan_troglodytes  QAVNTWRIPFDPSSLKEVTVALSGSPMIEIRNPLGKLIKKGFGLHELLNIHNSAKVVNVK 290
Macaca_mulatta   QAVNTWRIPFDPSSLKEVTVALSGPSPVIEIRNPLGKLIKKGFGLNELLNIHNSAKVVNVK 290
Callithrix_jacchus KAVNTWRIPFDPSSLKEVTVALSGPSPVIEIRNPLGKLIKKGFGLNELLNIHNSAKVVNVK 290
Canis_lupus_familiaris QAVNTWKIPFDPSSLKEVTVALSGSPGIEIRNPLGRLIKKGFGLNELLNIHNSAKVVNVK 292
Equus_caballus   EAVNTWKIPFDPSSLKEVTVALSGPSPAIEIRNPLGKLIKKGFGLNELLNIHNSAKVVNVK 290
Bos_taurus       QAENTWKIPFDPSSLKEVTVALSGSPMIEIHNPLGKLIKKGFGLNELLNIHNSAKVVNVK 290
Rhinatrema_bivittatum EAINTWQIPFDPSSLKEVTVALSGPSPGIEIRHPSGKSIKKGSLNELLNIHNSAKVVNIK 298
Xenopus_tropicalis GASHTWEIPFDPSSLKEVTVALSGPSPGIELYDPSGKRMTPE TGLNELLNIFNSAKVINMK 291
.....250.....260.....270.....280.....290.....300

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Danio_rerio      DPAPGMWTIKTSSSEGRHSVRISGLSTIDFRAGFSRRQTLDFKMTSSSRPVQGIPTFILLNT 344
Callorhinchus_milii DPEPGRWTIKTSSGGRHSVRITGLSSIDFRGGFSRKPTMDFKNIANRPVQGIPTYLLNT 347
Pavo_muticus     DPEPGMWTIKTSSSGRHSVRITGLSTVEFRAGFSKKPTLDFKKTSSSRPVQGIPTFVLLNT 352
Pavo_cristatus  DPEPGMWTIKTSSSGRHSVRITGLSTVEFRAGFSKKPTLDFKKTSSSRPVQGIPTFVLLNT 352
Gallus_gallus    DPDPGTWTIKTSSSGRHSVRITGLSTIEFRAGFSKKSTLDFKKTSSSRPVQGIPTFVLLNT 349
Chelonia_mydas   DPEPGMWTIKTSSSGRHSVRITGLSTIDFRAGFSRKPTLDFKKTSSSRPVQGIPTYVLLNT 357
Rattus_norvegicus EPEAGMWTVKTSSSGRHSVRITGLSTIDFRAGFSRKPTLDFKKTSSSRPVQGIPTYVLLNT 350
Mus_musculus     EPEAGMWTVKTSSSGRHSVRITGLSTIDFRAGFSRKPTLDFKKTSSSRPVQGIPTYVLLNT 350
Homo_sapiens     EPEAGMWTVKTSSSGRHSVRITGLSTIDFRAGFSRKPTLDFKKTSSSRPVQGIPTYVLLNT 350
Pan_troglodytes  EPEAGMWTVKTSSSGRHSVRITGLSTIDFRAGFSRKPTLDFKKTSSSRPVQGIPTYVLLNT 350
Macaca_mulatta   EPEAGMWTVKTSSSGRHSVRITGLSTIDFRAGFSRKPTLDFKKTSSSRPVQGIPTYVLLNT 350
Callithrix_jacchus EPEAGMWTVKTSSSGRHSVRITGLSTIDFRAGFSRKPTLDFKKTSSSRPVQGIPTYVLLNT 350
Canis_lupus_familiaris EPEAGMWTVKTSSSGRHSVRITGLSTIDFRAGFSRKPTLDFKKTSSSRPVQGIPTYVLLNT 352
Equus_caballus   EPEAGMWTVKTSSSGRHSVRITGLSTIDFRAGFSRKPTLDFKKTSSSRPVQGIPTYVLLNT 350
Bos_taurus       EPEAGIWTIKTSSTGRHSVRITGLSTIDFRAGFSRKPTLDFKKTSSSRPVQGIPTYVLLNT 350
Rhinatrema_bivittatum DPDPGMWTIKISSSGRHSVRITGLSTIDFRAGFSKATLDFKKTSSSRPVQGIPTYILLNT 358
Xenopus_tropicalis EPVPGMWKIKTSSNGRHSVRITGLSTIDFRVGFNPKPTLDFKKTSSSRPIQGIPTYVLLNT 351
.....310.....320.....330.....340.....350.....360

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONTepTue Feb 1 12:21:01 2022

Page 3 of 32

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TGLSPPARVDRLLELLSITGRVMKTLPIRYFFPERHPYGIWNITEFVPPKEAFFLKVTVGYDR
TGLTPPARVDQVDLLSISGSLKLTIPVKYFPDRKPYGLWNISDFIPPEEAFFLKVTVGYDK
TGILLPARVDRLLELLSISGEPLETLIPVKYYPDRKPYELWNISDFIPPEEAFFLKIMGYDK
TGILLPARVDRLLELLSISGEPLETLIPVKYYPDRKPYELWNISDFIPPEEAFFLKIMGYDK
TGILLPARVDHLELLSISGEPLKLTIPVKYYPDRKPYGLWNISDFIPPEEAFFLKIMGYDK
TGISLPARVDRLLELLSITGELLKTMIPVKYYPDRKPYGIWNITDFIPPEEAFFVKIMGYDK
SGISSPARVDRLLELLSISGSSLKTIIPVKHYFPDRKPYGIWNISDFIPPEEAFFLKVTVGYDK
SGISSPARVDRLLELLSISGSSLKTIIPVKHYFPDRKPYGIWNISDFIPPEEAFFLKVTVGYDK
SGISTPARIDLLELLSISGSSLKTIIPVKYYPHRKPYGIWNISDFVPPNEAFFLKVTVGYDK
SGISTPARIDLLELLSISGSSLKTIIPVKYYPDRKPYGIWNISDFVPPNEAFFLKVTVGYDK
SGISTPARIDLLELLSISGSSLKTIIPVKYYPDRKPYGIWNISDFVPPNEAFFLKVTVGYDE
SGISTPARIDLLELLSISGSSLRTIIPVKYYPDRKPYGIWNISDFMPPNEAFFLKVTVGYDK
SGISVPARVDRLLELLSISGSSLKTIPIKYYFPDRKPYGLWNISDFIPPEEAFFLKVTVGYDK
SGISIPARVDRLLELLSISGSSLKTIIPVKYYPDRKPYGIWNISDFIPPEEAFFLKVTVGYDK
SGISIPAKVDRLLELLSISGSSLKTIIPVKYYPDRKPYGIWNISDFIPPEEAFFLKVTVGYDK
TGISPPARVDHLELLSISGGLKLTIPVRYFPDRKPYGIWNITEFLPPEEAFFLKITGYDK
KGLSYPAKVERLELLITSGSLKLTIPKYYFPDRTPYEIWNITEFVPPNEAFFIKIIGYDK
.....370.....380.....390.....400.....410.....420

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 DGFLFQRVSSVSYSIVPDAPKVSMPSTRIPGYLQKGGITCFVESLIPFTLRFTRGLRL
 EGYLFQRVSSVSYSIVPGAPEVIMPARTIPGYLQTASLLCTVNSLIPFTLRFSTRGGAKL
 DGYLFQRVSSVSFSSITPDAPKVTMPNKTIPGYYSQPGSVPCYVESLIPFTQHFTKNGVKL
 DGYLFQRVSSVSFSSITPDAPKVTMPNKTIPGYYSQPGSVPCYVESLIPFTQHFTKNGVKL
 DGYIFQRVSSVSFSSITPDAPKVTMPNKTIPGYYSQPGSVCHVESLIPFTQHFTKNGVKL
 DDYLFQRVSSVSFSSIVPDAPKVIMPKKTIPGYLQPGYISCHVESLIPFIQRFSTRNGVKL
 EDYLFQRVSSVSFSSIVPDAPKVTMPTRTSGYYLQPGRIILCSVESLLPFTLSFVRNGIAL
 DGYLFQRVSSVSFSSIVPDAPKVTMPTRTLGYLQPGQILCSVESFLPFTLSFMRDGIALL
 DDYLFQRVSSVSFSSIVPDAPKVTMPKKTIPGYLQPGQIPCSVDSLPLPFTLSFVRNGVTL
 DDYLFQRVSSVSFSSINIVPDAPKVTMPKKTIPGYLQPGQIPCSVDSLPLPFTLSFVRNGVTL
 DDYLFQRVSSVSFSSIVPDAPKVTMPKKTIPGYLQPGQIPCSVDSLPLPFTLSFVRNGVTL
 DDYLFQRVSSVSFSSIVPDAPKVTMPKKTIPGYLQPGQIPCSVDSLPLPFTLSFVRNGVTL
 DDYLFQRVSSVSFSSIVPDAPKVTMPKKTIPGYLQPGQIPCSVDSLPLPFTLSFVRNGVTL
 DDYLFQRVSSVSFSSIVPDAPKVTMPKKTIPGYLQPGQIPCSVDSLPLPFTLSFVRNGVTL
 DDYLFQRVSSVSFSSIVPDAPKVTMPKKTIPGYLQPGQIPCAVDSLPLPFTLSFVRNGATL
 DDYLFQRVSSVSFSSIIPDPVKVTMLQRTIPGYLQPGHIPCDVESLIPFTLRFIRNGKEL
 DDYLFQRVSSVSFSSNIIPGAPKVSMPKKTIPGYLQSGSVPCFVESLIPVTVRFSGKNGVKL
430.....440.....450.....460.....470.....480

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GVDQLFRESTNASWPIAQTILKDEGFYECIAISSAGTGRAQTFLDVSEPPPAITVPFNAT
GADVFKESTSAKLDIRVSAVNEGYYECIAISSAGTGRAQTFLDVSEPPPITIQVPNNVT
GVDQLFKESSMSWDINRVSLSDGEFYECIATS DAGTGRAQTFLDVSEPPPVIQVPNNVT
GVDQLFKESSMSWDINRVSLSDGEFYECIATS DAGTGRAQTFLDVSEPPPVIQVPNNVT
GMDQLFKESSMSWDINRVSLSDGEFYECIANSTAGTGHQTFLDVSEPPPVIQVPNNVT
GMDQFFKESSSMNWIEIAKVSLSDGEFYECTAISSVGTGRAQTFLDVSEPPPVVQVPNNVT
GVEQYLKESASVPWFDPKVTLSDEGFYECIAMNSAGTGRAQTFFDVSEPPPIIQVPNNVT
GVDQYLRESASVNWDFTKVTLSDGEFYDCIAVSSAGTGRAQTFFDVSEPPPIIQLPNNVT
GVDQYLKESASVNLDAIKVTLSDEGFYECIAVSSAGTGRAQTFFDVSEPPPVIQVPNNVT
GVDQYLKESASVNLDIEKVILSDEGFYECIAVSSAGTGRAQTFFDVSEPPPVIQVPNNVT
GVDQYLKESASVNLDIEKVTLSDGEFYECIAVSSAGTGRAQTFFDVSEPPPIIQVPSNVT
GVDQYLKESARVNLDAIEKVTLSDGEFYECIAVSSAGTGRAQTFFDVSEPPPIIQVPNNVT
GVDQYLKESASVTWEIEKVTLSDEDTYECIAVSSAGTGRAQTFFDVSEPPPIIQVPDNVT
GVDQYLKESASVNWDIEKVTLSDEGSYECIAVSSAGTGRAQTFFDVSEPPPVIQVPNNVT
GVDQYLKESASVTWDIEEVTLADEGAYECVAVSTAGIGRAQTFFDVSEPPPVIQVPSNVT
GVDQFFRESSSVNWDIAKVSLSDGEYYECIAISKAGTGRAQTFFDVSEPPPVIQSPNNVT
GTDQKFRESSVNASWIEANVSVDGEYYDCYASSAGNARAQTFLDVNEPPPVIKAPSNIT

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONtepTue Feb 1 12:21:01 2022

Page 4 of 32

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Danio_rerio      ASPGANVILTCLVTSVRFNLTWQRGDVRLDHLH--RIRVTNLSLEIQRVTPDDVGWYT 582
Callorhinchus_milii VVPGERAVLTCLTLSTVRYNLTWQRYGADPRLTEGLRAQVMSNLSLEIRSVRTTDAGQYN 587
Pavo_muticus      AVLREGAILTCLVSTMHYNLTWQRNGRDVRLQEPRLMKVMSNLSLEVRVQFTDAGKYN 592
Pavo_cristatus    AVLREGAILTCLVSTMHYNLTWQRNGRDVRLQEPRLMKVMSNLSLEVRVQFTDAGKYN 592
Gallus_gallus     AVLREGAILTCLVSTMRYNLTWQRNGRDVRLQEPRLMRVMSNLSLEVKAVQFTDAGKYN 589
Chelonia_mydas    VTPGERAILTCLTLSTVRYNLTWQRNGNDLRLVEPSRIRMSNLSLEVKSVKLTDDAGEYS 597
Rattus_norvegicus VTPGERAVLACLVISAVDYNLTWQRSGRDVRLADSARIRTLANLSLELRSVKIGDAGEYR 590
Mus_musculus      VTPGERAVLACLVISAVDYNLTWQRSGDIRLADSARIRTLANLSLELRSVKIGDAGEYR 590
Homo_sapiens      VTPGERAVLTCLIIISAVDYNLTWQRNDRDVRLEAPARIRTLANLSLELKSVKFNDAGEYH 590
Pan_troglodytes   VTPGERAVLTCLIIISAVDYNLTWQRNDRDVRLEAPARIRTLANLSLELTSVKFNDAGEYH 590
Macaca_mulatta    VTPGETAVLTCLIIISAVDYNLTWQRNDRDVRLEAPARIRTLNLSLELKSVKFNDAGEYL 590
Callithrix_jacchus VTPGERAILTCLVISAVDYNLTWQRNDRDARLEAPARIRTLANLSLELKSVKFNDAGEYH 590
Canis_lupus_familiaris VTPGERAILTCLVISAVDYNLTWQRNDRDARLADPARMRSLANLSLELRTPVKFNDAGEYQ 592
Equus_caballus    VTPGERTVLTCLVISAVDYNLTWQRNDRDVSLEADPARMRILANLSLELRSVKFSDDAGEYH 590
Bos_taurus        VTPGETAVLTCLVVSAGVYNLTWQRNDRDIRLTDAGMRILANLSLELRSVKFSDDAGEYR 590
Rhinatrema_bivittatum MTLGEQAILTCLTSSTVQYNLTWKRNMMDQKYVEPFRIKVMNSLSLEIKSVKLTDDGEYN 598
Xenopus_tropicalis VTVGKGAILTCDVSVTVRFNLTWLRNNLDLKHMPNPKLSILRNLSLEIKSVTIDDGGEYN 591
      .....550.....560.....570.....580.....590.....600

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Danio_rerio      CIAANEGLVSAARVYLVNQEPVVTVDPRNQTFQTGQEIWIRCSAKGYPSPMVWVTHNDM 642
Callorhinchus_milii CIASNEGGATLGSVYLVVQEPFRVTVHPKTQTFIERKQVRIRCSATGYPPHIVWTHNDM 647
Pavo_muticus      CIASNKDGSTMASVFLTVQEPFRIVISPKDQTFIEGSEVSIKCSATGYPKPTVVWTRNEM 652
Pavo_cristatus    CIASNKDGSTMASVFLTVQEPFRIVISPKDQTFIEGSEVSIKCSATGYPKPTVVWTRNEM 652
Gallus_gallus     CVASNKDGSTTASVFLTVQEPFRIVISPKDQTFIEGSEVSIKCSATGYPKPTVVWTHNEM 649
Chelonia_mydas    CTASNEGGSTVASVFLTVQEPKVVVSPKNQSFTEGSEVSIKCSATGYPKPKIVWTHNDM 657
Rattus_norvegicus CVVSSEGGSSAAASVFLTVQEPKPVTVMPKNQSFTEGSEVSIKCSATGYPKPKIVWTHNEM 650
Mus_musculus      CVVSSEGGSSAAASVFLTVQEPKPVTVMPKNQSFTEGSEVSIKCSATGYPKPKIVWTHNEM 650
Homo_sapiens      CMVSSEGGSSAAASVFLTVQEPKPVTVMPKNQSFTEGSEVSIKCSATGYPKPKIAWTVNDM 650
Pan_troglodytes   CMVSSEGGSSAAASVFLTVQEPKPVTVMPKNQSFTEGSEVSIKCSATGYPKPKIAWTVNDM 650
Macaca_mulatta    CMVSSEGGSSAAASVFLTVQEPKPVTVMPKNQSFTEGSEVSIKCSATGYPKPKIAWTVNDT 650
Callithrix_jacchus CMVSSEGGSSAAASVFLTVQEPKPVTVLPRNQSFTEGSEVSIKCSATGYPKPKIAWTVHDM 650
Canis_lupus_familiaris CVVSNEGGSSAAASVFLTVQEPKPVTVMPKNQSFTEGSEVSIKCSATGYPKPKIWTINDM 652
Equus_caballus    CVVSNEGGSSAAASVFLTVQEPKPVTVMPKNQSFTEGSEVSIKCSATGYPKPKIAWTVNDM 650
Bos_taurus        CVVSNEGGSSAAASVFLTVQEPKPVTVMPKNQSFTEGSEVSIKCSATGYPKPKIAWTVNDV 650
Rhinatrema_bivittatum CIASNEGGTTIISVFLTVQELPKVFVEPKTQTFIEGSEVSIKCSATGHPKPKIIVWTHNDM 658
Xenopus_tropicalis CFASNEGGTATASVTLIAQDPPKAVLEPRNVTFIKGAEIKLKCLVTGYPTPHIWMHNDM 651
      .....610.....620.....630.....640.....650.....660

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      *: * *: : *.: *: : :*: * **.:* ** : * : :*: * * : : :
Danio_rerio      FIMGSSRRHMTDPDGLTIKNTGLKDAGTYGCLASNVAGTDSQTAVSVYIESPQVTVPHSD 702
Callorhinchus_milii FIMGSSNRHILIEGGLNVIRYATQKDAGVYTCGLSNPAGTDROASVLTYYIEVPKVNVRKE 707
Pavo_muticus      FIIGSNRYRLTPEGTLIIRKAIPKDAGVYGCLASNSAGTEKQTSILTYIEGPTVTIVQSE 712
Pavo_cristatus    FIIGSNRYRLTPEGTLIIRKAIPKDAGVYGCLASNSAGTEKQTSILTYIEGPTVTIVQSE 712
Gallus_gallus     FIIGSNRYRLTPEGTLIIRKAIPKDAGVYGCLASNSAGTEKQTSILTYIEGPTVTIVQSE 709
Chelonia_mydas    FIMGSDRYSLSPGTLIIRKAIPKDAGLYGCLASNSAGTERQTSILTYIESPKLTVVHSE 717
Rattus_norvegicus FILGSHRYRMTAEGTLFIKNAVPKDAGTYSCLASNEAGTDEQTSILTYIEAPKLIVVQSE 710
Mus_musculus      FIMGSHRYRMTSEGLTFIKNAVPKDAGTYACLASNAAGTDKQTSILTYIEAPKLIVVQSE 710
Homo_sapiens      FIVGSHRYRMTSDGTLFIKNAAPKDAGIYGCLASNSAGTDKQNSTLRYIEAPKLMVQSE 710
Pan_troglodytes   FIVGSHRYRMTSDGTLFIKNAAPKDAGIYGCLASNSAGTDKQNSTLRYIEAPKLMVQSE 710
Macaca_mulatta    FIVGSHRYRMTSDGTLFIKNAAPKDAGIYGCLASNSAGTDKQNSTLRYIEAPKLIVVQSE 710
Callithrix_jacchus FIMGSHRYRMTSDGTLFIKNAAPKDAGVYGCLASNSAGTDKQNSTLRYIEAPKLIVVQSE 710
Canis_lupus_familiaris FIMGSHRYRMTSEGLTFIKNAIPKDAGIYGCLASNSAGTDKQTSILTYIEAPKLIVVQSE 712
Equus_caballus    FIVGSHRYRMTSEGLTFIKNAVPKDAGIYGCLASNTAGTDKQTSILTYIEAPKLIVVQSE 710
Bos_taurus        FIMGSHRYRMTSEGLTFIKNAVPKDAGIYGCLASNSAGMDKQTSILTYIEAPKLIVVQSE 710
Rhinatrema_bivittatum FLIGSNRYRLTPAGTLTIKKAISKDTGSYGCLASNPAGTDROTANLTYIEAPSVTVVKRE 718
Xenopus_tropicalis FVRFSNRYIITHNGTFIKNNAVERDSGVYKCLATNAAGTDHQTVMVYIEVPQVTVAVKNE 711
      .....670.....680.....690.....700.....710.....720

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONTepTue Feb 1 12:21:01 2022

Page 5 of 32

	*: *: : : * : * * : *: *::* .* .: ::. * * *: :* .**.* LLIGLGQKFTVMECRVTGVPHPDIMWYKGDLLQKPSVLSMDPQRGILTITQQTQDTHAGQY ILVGLGDTSVLECPATGVPAPFVKWFKGDLELRPSNFLRIDTSQGTILRIQGSQDL DAGDY ILVALGDTTIMECKTTGIPHPOVKWFKGDLELRASAFLLIIDTHRGLLKIQTETOEL DAGDY ILVALGDTTIMECKTTGIPHPOVKWFKGDLELRASAFLLIIDTHRGLLKIQTETOEL DAGDY ILVALGDTTVMCEKTTGIPHPOVKWFKGDLELRASAFLLIIDTHRGLLKIQTETOEL DAGDY ILVALGDTTVMCEKTTGVPPOVKWFKGDLELRASMFLIIDSHRGLLKIQTETDLDAGDY LLVALGDTTVMCEKTS GIPPPQVKWFKGDLELRPSTFLSIDPLMGLLKIQTETDLDAGDY LLVALGDTTVMCEKTS GIPPPQVKWFKGDLELRPSTFLSIDPLVGLLKIQTETDLDAGDY LLVALGDTTVMCEKTS GIPPPQVKWFKGDLELRPSTFLIIDPLLGLLKIQTETDLDAGDY LLVALGDTTVMCEKTS GIPPPQVKWFKGDLELRPSTFLVIDPLLGLLKIQTETDLDAGDY LLVALGDTTVMCEKTS GIPPPQVKWFKGDLELRPSTFLIIDPLLGLLKIQTETDLDAGDY LLVALGDTTVMCEKSSGTPLPQVKWFKGDLELRSPFLIIDPLLGLLKIQTETDLDAGDY LLVALGDTTVLECKTS GVPPOVKWFKGDLELRPSTFLIIEPLLGLLKIQTETDLDAGDY LLVALGDTTVMCEKTS GVPPOVKWFKGDLELRPSTFLIIDPLLGLLKIQTETDLDAGDY LLVALGATARMCEHSTGVPPQITWFKGDLELRASAFVIIIEPQQGVLLKIQTETDLDAGDY MLVPVGSEITLACKATGIPRPOLIYWKENIKLSPSALITIDSLGLTKIKNTQFSDAGHY .....730.....740.....750.....760.....770.....780	
Danio rerio	762	
Callorhinchus milii	767	
Pavo muticus	772	
Pavo cristatus	772	
Gallus gallus	769	
Chelonia mydas	777	
Rattus norvegicus	770	
Mus musculus	770	
Homo sapiens	770	
Pan troglodytes	770	
Macaca mulatta	770	
Callithrix jacchus	770	
Canis lupus familiaris	772	
Equus caballus	770	
Bos taurus	770	
Rhinatrema bivittatum	778	
Xenopus tropicalis	771	

	: *.*	*	::*	**	*	:	*	:	:*	::**	.	..*	.*	.*	:	.*	:	.*	:
Danio_rerio	TCVAVNSAGSAQGYITLDVGSAPQFTKKPSDLSDADIGTNITLPCYAOGHKPKQLSWRRD	822																	
Callorhinchus_milii	MCVATNEAGRDTGQVILEVGSAPTFFQSPLDISVDIGSNLTLP CQAQGYPEPRVRWRRRLD	827																	
Pavo_muticus	TCVASNDAGRASGKITLDVGSPPIFTQEPSDESVDIGSNITLPCYVQGYPEPEVKWRRRLN	832																	
Pavo_cristatus	TCVASNDAGRASGKITLDVGSPPIFTQEPSDESVDIGSNITLPCYVQGYPEPEVKWRRRLN	832																	
Gallus_gallus	TCVATNDAGRASKITLDVGSPPVFIOEPSDESVDIGSNITLPCYVQGYPEPKIKWRRRLN	829																	
Chelonia_mydas	TCVASNDAGRASGKITLDVGSILPVFTQEPSDESVDIGSNVTLPCYVQGYPEPKIKWRRRLD	837																	
Rattus_norvegicus	TCVAANDAGRATGSLTLDVGSPPVFIOEPSDVSM EIGSNVTLPCYVQGYPEPKIKWRRRLD	830																	
Mus_musculus	TCVAINEAGRATGRLTLDVGSPPVFIOEPSDVAVEIGSNVTLPCYVQGYPEPKIKWRRRLD	830																	
Homo_sapiens	TCVAINEAGRATGKITLDVGSPPVFIOEPADVSM EIGSNVTLPCYVQGYPEPTIKWRRRLD	830																	
Pan_troglodytes	TCVAINEAGRATGKITLDVGSPPVFIOEPADVSM EIGSNVTLPCYVQGYPEPTVKWRRRLD	830																	
Macaca_mulatta	TCVAINEAGRATGKITLDVGSPPVFIOEPADVSM EIGSNVTLPCYVQGYPEPTIKWRRRLD	830																	
Callithrix_jacchus	TCVAINEAGRATGKITLDVGSPPNFIOEPVDVSM EIGSNVTLPCYAOGYPEPTIKWRRRLD	830																	
Canis_lupus_familiaris	TCVAVNDAGRAAGKITLDVGSPPVFIOEPADVSV EIGSNVTLPCYVQGYPEPKIKWRRSD	832																	
Equus_caballus	TCVAVNDAGRATGKITLDVGSPPVFIOEPIDVSV EIGSNVTLPCYVQGYPEPKIKWORLD	830																	
Bos_taurus	TCVAVNDAGRATGRITLDVGSPPVFIOEPTDVSV EIGSNVTLPCYVQGYPEPKIKWRRVD	830																	
Rhinatrema_bivittatum	TCVASNEAGRATGKITLDVGSAPVFTOEPTDVSD IGLNVTLPCSVOGYPEPRVKWRRVD	838																	
Xenopus_tropicalis	VCIADVNDAGKANGKVS LRVGSTPGDVSM D IGSDVSLTCSAEGIPEPKIKWRRRLN	831																	
	.....790.....800.....810.....820.....830.....840																	

[illegible]

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONtepTue Feb 1 12:21:01 2022

Page 6 of 32

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* *. ** .****. :**** **.*. :* :. :. . * .:* * **.*
Danio_rerio          PLIALSPTVSVIEDQOVTLP CVLLAGNPLPERHWLHDNGLVTSSPYVTVRDGS LHIEQ 941
Callorhinchus_milii PLIGISPAVVNVIEGQPLTLPCLLLAGNPLAERRWTKNSLLVLS DGYVTVRD KSLHIER 946
Pavo_muticus         PLIGISPATANVIEGQQLTLP CVLLAGNPIPD RKWIKNSMVLVNPYINVRSDGSLHLER 952
Pavo_cristatus       PLIGISPATANVIEGQQLTLP CVLLAGNPIPD RKWIKNSMVLVNPYINVRSDGSLHLER 952
Gallus_gallus        PLIGISPATANVIEGQQLTLP CVLLAGNPIPD RKWIKNSMVLVNPYINVRSDGSLHLER 949
Chelonia_mydas       PLIGMSPAVANVIEGQQLTLP CVLLAGNPIPD RKWIKNDMVLVNPYVNVRS DGS LHIER 957
Rattus_norvegicus    PLIGISPSKASVIEGQPLTLPCTLLAGNPIPERRWMKNSAMLVONPYITVRS DGS LHIER 949
Mus_musculus         PLIGISPSMASVIEGQPLTLPCTLLAGNPIPERRWMKNSAMLVONPYITVRS DGS LHIER 949
Homo_sapiens         PLIGISPSVANVIEGQQLTLPCTLLAGNPIPERRWMKNSAMLLQNPYITVRS DGS LHIER 949
Pan_troglodytes      PLIGISPSVANVIEGQQLTLPCTLLAGNPIPERRWMKNSAMLLQNPYITVRS DGS LHIER 949
Macaca_mulatta       PLIGISPSVANVIEGQQLTLPCTLLAGNPIPERRWMKNSAMLLQNPYITVRS DGS LHIER 949
Callithrix_jacchus   PLIGISPSVANVIEGQQLTLPCTLLAGNPIPERRWMKNSAMLLQNPYITVRS DGS LHIER 949
Canis_lupus_familiaris PLIGISPSVTSVIEGQQLTLPCTLLAGNPIPERRWMKNSAMLVONPYITVRS DGS LHIER 951
Equus_caballus       PLIGISPSVTSVIEGQQLTLPCTLLAGNPIPERRWMKNSAMLVONPYITVRS DGS LHIER 949
Bos_taurus          PLIGISPPVTSVIEGQQLTLPCTLLAGNPIPERRWMKNSAMLVONPYITVRS DGS LHIER 949
Rhinatrema_bivittatum PAIGVSPAVANVIEGQQLTLP CVLLAGNPLPERRWMKNSVVL TSSPYVTIRSDGSLHLEW 957
Xenopus_tropicalis   PVIGESPSVSVIEGNQVTLP CVLLVGNPLPERHWVKDNVVLVTNPYTSIRADGSLHLER 950
.....910.....920.....930.....940.....950.....960

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*: *.* * :*.*. :. :. :. :.* * :* * :***** :****.* * **
Danio_rerio          VSQDGGGYTCLTENVVGSNRRTILNVYVMP TIQHGPQIFSTIEGTPISLPCRAHGVPK 1001
Callorhinchus_milii VRLHDGGKYTCVASNVAGTSKRMTTVNIFVLPTIQHGPQIFSTIEGVRVTLPCKAHGTPK 1006
Pavo_muticus         VWLQDGGDYTCMASNIAGTNNKTTTVNVYVLP IIOHRQQIFSTIEGIPVTLPCKASGVPK 1012
Pavo_cristatus       VWLQDGGDYTCMASNIAGTNNKTTTVNVYVLP IIOHRQQIFSTIEGIPVTLPCKASGVPK 1012
Gallus_gallus        VRLQDGGDYTCMASNVAGTNNKTTTVNVYVLP IVOHQQQIFSTIEGIPVTLPCKASGVPK 1009
Chelonia_mydas       LRLQDGGEYTCMASNVAGTNNKTTTVSVFVLP IIOHQQQIFSTIEGIPVTLPCKASGVPK 1017
Rattus_norvegicus    VRLQDGGEYTCVASNVAGTNNKTTSVAVHVLPTIQHQQILSTIEGVPVTLPCKASGIPK 1009
Mus_musculus         VRLQDGGKYTCVASNVAGTNNKTTSVAVHVLPSIQHQQILSTIEGVPVTLPCKASGIPK 1009
Homo_sapiens         VQLQDGGEYTCVASNVAGTNNKTTSVVHVLP TIQHQQILSTIEGIPVTLPCKASGNPK 1009
Pan_troglodytes      VQLQDGGEYTCVASNVAGTNNKTTSVVHVLP TIQHQQILSTIEGIPVTLPCKASGIPK 1009
Macaca_mulatta       VQLQDGGEYTCVASNVAGTNNKTTSVVHVLP TIQHQQILSTIEGIPVTLPCKASGIPK 1009
Callithrix_jacchus   VQLQDGGEYTCVASNVAGTNNKTTTVDVHVLPTIQHQQVLSSTIEGIPVTLPCKASGIPK 1011
Canis_lupus_familiaris VRLQDGGKYTCVASNVAGTNNKTTTVDVHVLPTIQHQQVLSSTIEGIPVTLPCKASGIPK 1009
Equus_caballus       VRLQDGGEYTCVASNVAGITNKTTTVDVHVLPTIQHQQILSTIEGIPVTLPCKASGIPK 1009
Bos_taurus          VRLQDGGEYTCVASNVAGITNKTTTVDVHVLPTIQHQQILSTIEGIPVTLPCKASGIPK 1009
Rhinatrema_bivittatum ARLQDGGEYTCMASNVAGTSNR TSLVSVYVLP IIOHQQIFSTIEGVAVTLPCKANGVPK 1017
Xenopus_tropicalis   VLLKDGGDYLC TAKNVAGTADRIITINHVHSPVIOHGPQIFSTIEGIAVSLPCKASGVPK 1010
.....970.....980.....990.....1000.....1010.....1020

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* : *.*.*. :. :. :. :*.* :* * :***** :*****
Danio_rerio          PDITWSKRGELLDLSGSVFSLTEDGSLHIHSPSGEESGEFVCTATNAAGYSSRKVQLTIVY 1061
Callorhinchus_milii PSITWSKNSEVITEDNQKFKTGSDGSL LIFSP TGEQTGEFVCTATNAAGYASRKVQLTIVY 1066
Pavo_muticus         PSITWSKNGEIIFPSNGKFSAGSDGSLYVVSPEGEETGEYVCTATNAAGYATRKVQLTIVY 1072
Pavo_cristatus       PSITWSKNGEIIFPSNGKFSAGSDGSLYVVSPEGEETGEYVCTATNAAGYATRKVQLTIVY 1072
Gallus_gallus        PSITWSKKGEVIFPSNEKFSAGSDGSLYVVSPEGEETGEYVCTATNAAGYATRKVQLTIVY 1069
Chelonia_mydas       PSIVWSKKGELIPPRNMKFSARS DGS LYVVS PGEETGEYMCATNAAGYATRKVQLTIVY 1077
Rattus_norvegicus    PSITWSKKGELISTGNAKFSAGADGSLYVVS PGEESGEYICTATNAAGYAKRKVQLTIVY 1069
Mus_musculus         PSITWSKKGELISTSSAKFSAGADGSLYVVS PGEESGEYICTATNAAGYAKRKVQLTIVY 1069
Homo_sapiens         PSVIWSKKGELISTSSAKFSAGADGSLYVVS PGEESGEYVCTATNAGYAKRKVQLTIVY 1069
Pan_troglodytes      PSVIWSKKGELISTSSAKFSAGADGSLYVVS PGEESGEYVCTATNAGYAKRKVQLTIVY 1069
Macaca_mulatta       PSVIWSKKGELISTSSAKFSAGADGSLYVVS PGEESGEYVCTATNAGYAKRKVQLTIVY 1069
Callithrix_jacchus   PSVVSWSKKGELISTSSAKFSAGADGSLYVVS PGEESGEYVCTATNAGYAKRKVQLTIVY 1069
Canis_lupus_familiaris PSIIWSKKGELISTSSAKFSAGADGSLYVSPGGEESGEYVCTATNAGYAKRKVQLTIVY 1071
Equus_caballus       PSIIWSKKGELISTSSAKFSAGADGSLYVSPGGEESGEYVCTATNAGYAKRKVQLTIVY 1069
Bos_taurus          PSIAWSKKGELIFTSSAKFSAGADGSLYVSPGGEESGEYVCTATNAGYAKRKVQLTIVY 1069
Rhinatrema_bivittatum PSIIWSKKGELITPSNAKFLAGSDGSLHIVSPGGEESGEYVCTATNAGYATRKVQLTIVY 1077
Xenopus_tropicalis   PTIIWKKKGELIVPNDTIIAESDGTLLLS PGGESGEYSCSAINAGYAARKVQLTIVY 1070
.....1030.....1040.....1050.....1060.....1070.....1080

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONtepTue Feb 1 12:21:01 2022

Page 7 of 32

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****:
Danio_rerio      VRPKLSGVG-EADIHDNSEKLLMSVIVGDDITLPCVEVSVPPIITWAKDKQLISPFSP 1120
Callorhinchus_milii VKPRVSAG-----SRSGESPREISVVAGHDATLPCEVQSFPPPIITWAKNRQLISPYSP 1120
Pavo_muticus     VKPRVSRP--GDQQG---HGPVEISVITGEDVTLPCEVKSLLPPPIITWAKETQLVSPFSL 1127
Pavo_cristatus   VKPRVSRP--GDQQG---HGPVEISVITGEDVTLPCEVKSLLPPPIITWAKETQLVSPFSL 1127
Gallus_gallus    VKPRVSRP--GDQQG---HGPVEISVITGDDVTLPCEVKSLLPPPIITWAKETQLISPFSL 1124
Chelonia_mydas   VKPRVSRP--GDQQGGTYDKPIEISVITAGEDVTLPCEVKSLLPPPIITWAKEMQLISPFSP 1135
Rattus_norvegicus VRPRVF----GDQRLSODKDPVEISVLAGEEATLPCAEKSLPPPIITWAKDSQLISPFSP 1125
Mus_musculus     VRPRVF----GDQRLSODKDPVEISVLAGEEATLPCAEKSLPPPIITWAKDSQLISPFSP 1125
Homo_sapiens     VRPRVF----GDQRLSODKDPVEISVLAGEEVTLPCEVKSLLPPPIITWAKETQLISPFSP 1125
Pan_troglodytes  VRPRVF----GDQRLSODKDPVEISVLAGEEVTLPCEVKSLLPPPIITWAKETQLISPFSP 1125
Macaca_mulatta   VRPRVF----GDQRLSODKDPVEISVLAGEEVTLPCEVKSLLPPPIITWAKETQLISPFSP 1125
Callithrix_jacchus VRPRVF----GDQRLSODKDPVEISVLAGEEVTLPCEVKSLLPPPIITWAKETQLISPFSP 1125
Canis_lupus_familiaris VRPRVF----GDQRLSODKDPVEISVLAGEEVTLPCEVKSLLPPPIITWAKETQLISPFSP 1127
Equus_caballus    VRPRVF----GDQRLSODKDPVEISVLAGEEVTLPCEVKSLLPPPIITWAKETQLISPFSP 1125
Bos_taurus       VRPRVF----GDQRLSODKDPVEISVLAGEEVTLPCEVKSLLPPPIITWAKETQLISPFSP 1125
Rhinatrema_bivittatum VKPRVTRPGSGDQQGHSPGDAIEISVITEGEDVLLPCVKSIPPPPIISWAKEMQLISPFSP 1137
Xenopus_tropicalis VKPRIVSP-DANGSSIAQKNQIEISVRAGDDVILPCVKSVPPIITWAKETQLISPFSP 1129
.....1090.....1100.....1110.....1120.....1130.....1140

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** : ****:* : : * * * * * : * : * : * * * : : : : *
Danio_rerio      RHIQLPSGSMRITDTRVTDSDGYLCAVATNIAGNFSQTVKLSVLVPPSISAGPRAMKVQIG 1180
Callorhinchus_milii RHTQLSSGSMKILKTQLSDGGIYRCVATNIAGNITQSVILSIHVPPKIQPGPRVMKVQVG 1180
Pavo_muticus     RHTFLPSGSMKIISETQVSDSGMYFCVATNIAGNVTSKLKSVHVPPKIQRGPOIMKVQAG 1187
Pavo_cristatus   RHTFLPSGSMKIISETQVSDSGMYFCVATNIAGNVTSKLKSVHVPPKIQRGPOIMKVQAG 1187
Gallus_gallus    RHTFLPSGSMKIISETQVSDSGMYFCVATNIAGNVTSKLKSVHVPPKIQRGPOIMKVQAG 1184
Chelonia_mydas   RHTFLPSGSMKIISETQVSDSGMYFCVATNIAGNVTSKLKSVHVPPKIQRGPRVMKVQVG 1195
Rattus_norvegicus RHTFLPSGSMKIISETQVSDSGMYLCAVATNIAGNVTSKLKSVHVPPKIQHGNRHLKVQVG 1185
Mus_musculus     RHTFLPSGSMKIISETQVSDSGMYLCAVATNIAGNVTSKLKSVHVPPKIQHGNRHLKVQVG 1185
Homo_sapiens     RHTFLPSGSMKIISETQVSDSGMYLCAVATNIAGNVTSKLKSVHVPPKIQRGPKHLKVQVG 1185
Pan_troglodytes  RHTFLPSGSMKIISETQVSDSGMYLCAVATNIAGNVTSKLKSVHVPPKIQRGPKHLKVQVG 1185
Macaca_mulatta   RHTFLPSGSMKIISETQVSDSGMYLCAVATNIAGNVTSKLKSVHVPPKIQRGPKHLKVQVG 1185
Callithrix_jacchus RHTFLPSGSMKIISETQVSDSGMYLCAVATNIAGNVTSKLKSVHVPPKIQRGPKHLKVQVG 1185
Canis_lupus_familiaris RHTFLPSGSMKIISETQVSDSGMYLCAVATNIAGNVTSKLKSVHVPPKIQRGPKLMKVQVG 1187
Equus_caballus    RHTFLPSGSMKIISETQVSDSGMYLCAVATNIAGNVTSKLKSVHVPPKIQRGPKLMKVQVG 1185
Bos_taurus       RHTFLPSGSMKIISETQVSDSGMYLCAVATNIAGNVTSKLKSVHVPPKIQRGPKVMKVQVG 1185
Rhinatrema_bivittatum RHTILSSGSMKIISETQVSDSGMYLCAVATNIAGNVTSKLKSVHVPPKIQRAPQVMKIQVG 1197
Xenopus_tropicalis RHSIFPSGSLKIFETRVS DAGMYTCVGTNIAGNITQLVKLSVYVPPKIQRGPKLIRVKLG 1189
.....1150.....1160.....1170.....1180.....1190.....1200

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: . : * : * * * : * : : : . * : . . : : * * * *
Danio_rerio      HAIDLPCVTVGVPEPSVSWLKDGTVLQD--GSRYRIS-DGALTINQVALTDEGIYVCRAV 1237
Callorhinchus_milii HRVDIPCNAGHLPPTPTVTWYKDRSIVLDARGTRFTLGTEGLTIVKEVQLSDAGVYRCVAI 1240
Pavo_muticus     HRVDIPCRAQGNPSPAITWFRGS-SAVPIDSGOPTQSLDGALSSINVQLSNAGIYRCIAS 1246
Pavo_cristatus   HRVDIPCRAQGNPSPAITWFRGS-SAVPIDSGOPTQSLDGALSSINVQLSNAGIYRCIAS 1246
Gallus_gallus    HRVDIPCRAQGNPSPAITWFRGS-SAVPIDSGOPTQSLDGALSSINVQLSNAGIYRCIAS 1243
Chelonia_mydas   HRVDIPCNAQGIPPPITVTFWFKGR-STMLIDGGQYISNLDGTLSSISKVQFSDSGIYKCVAS 1254
Rattus_norvegicus QRVDIPCNAGHSPPPVITWFKSG-RPMPFNGVQHPGSPDGMLTIEQTTLSDAGTYTCTAT 1244
Mus_musculus     QRVDILCNAGHSPPPVITWFKSG-RPF-LDGAQHPGSPDGTLSSIEQAVISDAGVYTCAAT 1243
Homo_sapiens     QRVDIPCNAQGTPLPVITWSKGG-STMLVDGEHHVSNPDGTLSSIDQATPSDAGIYTCVAT 1244
Pan_troglodytes  QRVDIPCNAQGTPLPVITWSKGG-STMLVDGEHHVSNPDGTLSSIDQATPSDAGIYTCVAT 1244
Macaca_mulatta   QRVDIPCNAQGTPLPVITWSKGG-STMLVDGVQHVSNPDGTLSSIDQAMPDAGIYTCVAT 1244
Callithrix_jacchus QRVDIPCNAQGTPLPVITWSKGG-SAMLVDPGVQHVSPDGTLSSIDQAVPSDTGIYTCVAT 1244
Canis_lupus_familiaris QRVDIPCTAAGMPLPVITWFKGG-SAMLVDPGVQHVSNPDGTLSSIDQAMLSAGIYTCVAT 1246
Equus_caballus    QRVLGPCSAEGTPLPVITWFKGR-STVLVDGVQHVSPDGTLSSINQAMLSHDTGVYTCVAT 1244
Bos_taurus       QRVDIPCNAQGTPLPVITWFKGG-GAVLVDGLQHIRHPDGTLSSIKQAVLSDAGIYTCVAT 1244
Rhinatrema_bivittatum HPVDIPCNAQGIPPEVTWFKDG-SAVLIDGGQYSAAPNGMLSIDKAQLSDSGVYKCVAS 1256
Xenopus_tropicalis HSFEIACISHGIPPPITAAWYKDG-QIMEFDQGG----DNNMLRVESAKPSDGGTYTCVAS 1244
.....1210.....1220.....1230.....1240.....1250.....1260

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONTepTue Feb 1 12:21:01 2022

Page 8 of 32

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Danio_rerio	NIAGKEETAIQLHVQVPPVVEVSEPPFNSPLOERVANQOIAFFCPAKGTPEPVIKWFERN	1297
Callorhinchus_milii	NAAGRDEAATTLQIHQPPSVEDPGPPYNTTFFOERVANQORIAFFCPAKGIPKPIIKWLRNG	1300
Pavo_muticus	NVAGSDTSEITIQVQEPPTIGDLDPYNNPFOERVANQORIAFFCPVKGIPKPVIKWLHNG	1306
Pavo_cristatus	NVAGSDTSEITIQVQEPPTIGDLDPYNNPFOERVANQORIAFFCPVKGIPKPVIKWLHNG	1306
Gallus_gallus	NAAGSDTSEITIQVQEPPTMDLDPQYNNPFOERVVNQORIAFFCPVKGTTPKPVIKWLHNG	1303
Chelonia_mydas	NIAGSDESEITIQVQEPPTVDDLDPYNTTFFOERVANQORVSFFCPAKGTPKPVIKWLRNG	1314
Rattus_norvegicus	NIAGSDEAEVTLHVQEPPTVEDLQPPFNTTFFOERLANORMAFFCPAKGTPKPTIKWLHNG	1304
Mus_musculus	NIAGSDEAEVTLHVQEPSSVEDLQPPFNTTFFOERLANQRIEFPFPAKGTTPKPTIKWLHNG	1303
Homo_sapiens	NIAGTDETEITLHVQEPPTVEDLEPPYNTTFFOERVANQRIEFPFPAKGTTPKPTIKWLHNG	1304
Pan_troglodytes	NIAGTDETEITLHVQEPPTVEDLEPPYNTTFFOERVANQORIAFFCPAKGTTPKPTIKWLHNG	1304
Macaca_mulatta	NIAGTDETEITLHVQEPPTVEDLEPPYNTTFFOERVANQORIAFFCPAKGTTPKPTIKWLHNG	1304
Callithrix_jacchus	NIAGIDETEITLHVQEPPTVEDLEPPYNNPFOERVANQORIAFFCPAKGTTPKPTIKWLHNG	1304
Canis_lupus_familiaris	NIAGSDETEITLHVQEPPTLEDLEPPYNTTFFOERVANQORIAFFCPAKGTTPKPTIKWIWNG	1306
Equus_caballus	NIAGSDETEITLHVQEPPTLEAPEPPYNTTFFOERVVSQRIAFFCPAKGTTPKPTIKWLWNG	1304
Bos_taurus	NIAGSDETEITLHVQEPPTILEDLEPPYNTTFFOERVANQORIAFFCPAKGTTPKPTIKWLRNG	1304
Rhinatrema_bivittatum	NIAGRDEAEITVQVQEPPTVEEVEPPNTTFFOERVANQORIAFFCPAKGVKPKPIIKWERN	1316
Xenopus_tropicalis	NVIGTDSANATVEIYAPPTLSLEPPYNNKQYQERISROQISFFCPVKGHKPKPIKWFERN	1304
1270.....1280.....1290.....1300.....1310.....1320	

[illegible]

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Danio_rerio	GLLSNVSVVINQPTNLVCDVTGTPVPVITWYKDGVEVVPSSDV-QILQKGKTLKLLKAAV	1416
Callorhinchus_milii	EKFPVNRSVVNQPINLYCDVSGNPAPIITWYKDRKPTISGSNII-QILNEGKMLRLLKAST	1418
Pavo_muticus	ERVNTNTSVVNHVPVSLFCEVFGNPFPPVISWYKEDIQVVESNTL-QILHNGKILKLLKATL	1425
Pavo_cristatus	ERVNTNTSVVNHVPVSLFCEVFGNPFPPVISWYKEDIQVVESNTL-QILHNGKILKLLKATL	1425
Gallus_gallus	ERVNTNTSVVNHPISLFCEVFGNPFPPVISWYKEDIQVVESNTLHQLHNGKILKLLKATV	1423
Chelonia_mydas	EKVTINASVVVNQPVNLFCVSGNPFPIITWYKDDVQVVESTL-QILHNGKILKLLKIAT	1433
Rattus_norvegicus	EHVSNVSVLVNQLASLYCEVEGTPSPVIMWYKDDIQVTESSTV-QIVNNGKILKLFKASA	1423
Mus_musculus	EHVTNVSVLTSOLASLYCEVEGTPSPVITWYKDDIQVTESSTV-QIVNNGKILKLFKVSA	1422
Homo_sapiens	EQVTNVSVLLNQLTNLFCVEGTPSPIIMWYKDNVQVTESSTI-QTVNNGKILKLFKRATP	1423
Pan_troglodytes	EQVTNVSVLLNQLTNLFCVEGTPSPIIMWYKDNVQVTESSTI-QIVNNGKILKLFKATP	1423
Macaca_mulatta	EQVTNVSVLLNQLTNLFCVEGTPSPIIMWYKDNVQVTESSTV-QIVNNGKILKFFKATP	1423
Callithrix_jacchus	EQVTNVSVLLNQLTNLFCVEGTPSPIIKWYKDNVQVTESSTI-QIVSNGKILKLFKATP	1423
Canis_lupus_familiaris	EHITNVSVLINQLTNLFCVEGTPSPIIMWYKDDVQVSESSTI-QIVNNGKILKLFKVTP	1425
Equus_caballus	EQITNVSVLVNQLTNLFCVEGTPSPIIMWYKDDVQVTESSSM-QIVNNGKVLKLFKATP	1423
Bos_taurus	EQVTNVSVLVNQPTLSLFCVEGTPSPIIMWYKDDVQVTESSSI-QIVNNGKILKLFRTSP	1423
Rhinatrema_bivittatum	EKLTVNSVVLNQSTISFCDASGAPSPIITWYKDEQVVESNVL-QILQNGRILKLLKAVP	1435
Xenopus_tropicalis	DIISNVSVLLHQTMSLLCEASGSPPLITWYKGRTOVDESATV-QILEKGKILKILKMAL	1423
	.....1390.....1400.....1410.....1420.....1430.....1440	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONTep Tue Feb 1 12:21:01 2022

Page 9 of 32

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Danio_rerio	QDAGRYICKAINIAGSRERDFYLDVLVPPTIIGTVGSRDLSAVLNQEIIVLECKVKVGDPFPF	1476
Callorhinchus_milii	GDTGRYLCRAINIAGTAEKSFNVEVLVPPSIITNAGSPSEISVIFNREIMLECKVKGVPLP	1478
Pavo_muticus	DDAGLYSCAVNVAGSSEKLFNLDILVPPSIIGADTPSEIAVILNQEMSLECRAGKGFPPF	1485
Pavo_cristatus	DDAGLYSCAVNVAGSSEKLFNLDILVPPSIIGADTPSEIAVILNQEMSLECRAGKGFPPF	1485
Gallus_gallus	DDAGQYSCKAINVAGSSEKLFNLYILVPPSIIGADTPSEIAVILNQEMSLECRAGKGFPPF	1483
Chelonia_mydas	GDGGQYSCKATNIAGSSEKLFNVDVLVPPNIKGADTPAEVSVTLNQESSLECKVKGSPFP	1493
Rattus_norvegicus	EDTGRYSCKAINIAGTSQKDFSVNVLVPPSIQGAGSPNEVSVVLNHNITLQCPVRGTPFP	1483
Mus_musculus	EDAGRYSCKAINIAGTSQKDFSVNVLVPPSILGASSPSEVSVVLNHNVTLQCPGTGVPFP	1482
Homo_sapiens	EDAGRYSCKAINIAGTSQKYFNIDVLVPPTIIGTNFPNEVSVVLNRDVALECVKGTTPFP	1483
Pan_troglodytes	EDAGRYSCKAINIAGTSQKYFNIDVLVPPTIIGTNFPNEVSVVLNRDVALECVKGTTPFP	1483
Macaca_mulatta	EDAGRYSCKAINIAGTSQKYFNIDVLVPPTIIGTNFPNEVSVVLNSHDVALECVKGTTPFP	1483
Callithrix_jacchus	EDAGRYSCKAINIAGTSQKYFNIDVLVPPTIIGTNFPNEVSVVLNHDATLECVKGTTPFP	1483
Canis_lupus_familiaris	EDVGRYSCKAVNIAGTSQKYFNIDVLVPPTIIGANSPNEVSVVLNHDTTLECVKGTTPFP	1485
Equus_caballus	EVAGRYSCKAINIAGTSQKYFNIDVLVPPTIIGASSPNEVSVVLNHDTTLECVKGTTPFP	1483
Bos_taurus	EDAGGYSCKAVNVAGTSQKHFNIDVLVPPTIIGAGSPGEVSVVLNQNTTLECVKGTTPFP	1483
Rhinatrema_bivittatum	SDSGRYTCRAINIAGSSEKLFNIDVHPPTIAGAVIPSEVNVALSKEIRLECKVKGTTPFP	1495
Xenopus_tropicalis	KDSGHYTCKANNIAGSEKKQYFNVDLVPPTIAGVGTTISDVSVIAGREVNLECKVKGIPTFP	1483
1450.....1460.....1470.....1480.....1490.....1500	

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Danio_rerio	TIQWYKDRKPVLGDPNIEVLNRGQOLKIKSARLGDQARYQCSATNAAGKQSKDFNLSIF	1536
Callorhinchus_milii	NIQWYKDNRLPLFSGNPNVVEITDSGQALQIKSARLADQGHYQCSAVNAAGKQKFKEFKLNVY	1538
Pavo_muticus	GIHWFKDSKPLFLGDPNVELLEKGOVLHIKSARRVDKGHYQCSATNAAGKQIKEVKLIH	1545
Pavo_cristatus	GIHWFKDSKPLFLGDPNVELLEKGOVLHIKSARRVDKGHYQCSATNAAGKQIKEVKLIH	1545
Gallus_gallus	GIHWFKDSMPFLFLGDPNVELLEKGOVLHIKSARRMVDKGHYQCSATNAAGKQIKEVKLIH	1543
Chelonia_mydas	VIQWFKDGKPLFLGDPNIELLDKGQILRIKSARRLDKGRYQCSVTNAAGKQVKEVKLIH	1553
Rattus_norvegicus	AIHWFKDGKPLFLGDPNIELSDRGONLHLRNARRSDKGRYQCSVSNAAGKQAKDIKLTLY	1543
Mus_musculus	AIHWFKDGKPLFLGDPNIELSDRGOSLHLRNARRSDKGRYQCTVSNAAGKQAKDIKLTLY	1542
Homo_sapiens	DIHWFKDGKPLFLGDPNVELLDRGQVLHLKNARRNDKGRYQCTVSNAAGKQAKDIKLTLY	1543
Pan_troglodytes	DIHWFKDGKPLFLGDPNVELLDRGQVLHLKNARRNDKGRYQCTVSNAAGKQAKDIKLTLY	1543
Macaca_mulatta	DIHWFKDGKPLFLGDPNVELLDRGQVLHLKNARRNDKGRYQCTVSNAAGKQAKDIKLTLY	1543
Callithrix_jacchus	DIHWFKDGKPLFLGDPNVELLDRGQVLHLKNARRSDKGRYHCTVSNAAGKQTKDVKLTLY	1543
Canis_lupus_familiaris	AIHWFKDGKPLFLFEDPNIELLDKGQVLHLKNARRSDKGRYQCAVSNAAGKQTKDIRLTVY	1545
Equus_caballus	IIHWFKDGKPLFLGDPNIELLDRGQVLRILKNARRSDKGRYQCAVSNAAGKQAKDIKLTLY	1543
Bos_taurus	VIRWLKD GKPLFLGDPNIELLDRGQVLHLKNARRSDKGRYQCSVSNAAGKQAKDIKLTLY	1543
Rhinatrema_bivittatum	AIQWFKDKPLFFGDSNYELLSKGQILQIKSSRLSDRGYQCSATNTAGQOTKEIKLVN	1555
Xenopus_tropicalis	SIQWFKENRLISTEDPNVMLENGQVLHIKHSRLSDSGKYKCIANTAGSOTKEIKLTVY	1543
1510.....1520.....1530.....1540.....1550.....1560	

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Danio_rerio	VPPSIKGGNVSSSEVTVLLGNLVTLECEVRGVPLPAVTWYKNGEVILSSRAQYVDRGQFL	1596
Callorhinchus_milii	VPPSIKGGNLTDTLVLLNSAVALCEHARGVPLPAVTWYKDARPLISSSHATYIERGKFL	1598
Pavo_muticus	VPPSIKGGSITTEVSALLNNLISLDCETKGIPVPTITWYKEGRPIISSPOALYEDRGQFL	1605
Pavo_cristatus	VPPSIKGGSITTEVSALLNNLISLDCETKGIPVPTITWYKEGRPIISSPOALYEDRGQFL	1605
Gallus_gallus	VPPSIKGGNITTEVSALLNNLNLDCETKGIPVPTITWYKEGRRIISSPOALYVDRGQFL	1603
Chelonia_mydas	VPPTIKGGNVITEISTILLNSLIKLECETRGPAPAITWYKDGRLIISSSQALYVDRGQFL	1613
Rattus_norvegicus	VPPSIKGGNVITEISALLNSVVKLECETRGLPVPAPITWYKDGQVVTSSSQALYIDKGQFL	1603
Mus_musculus	VPPSIKGGNITTEISALLNSIVKLECETRGLPVPAPITWYKDGQVVTSSSQALYIDKGQLL	1602
Homo_sapiens	IPPSIKGGNVTTDISVLINSLIKLECETRGLMPAPITWYKDGQPIMSSSQALYIDKGQYL	1603
Pan_troglodytes	IPPSIKGGNVTTDISVLINSLIKLECETRGLMPAPITWYKDGQPIMSSSQALYIDKGQYL	1603
Macaca_mulatta	IPPSIKGGNVTTDISVLINSIIKLECETRGLMPAPITWYKDGQPIMSSSQALYIDKGQYL	1603
Callithrix_jacchus	IPPTVKGGNVTTDISVLINSVIKLECETRGLPVPAPITWYKDGQTIMSSSQALYIDKGQYL	1603
Canis_lupus_familiaris	IPPSIKGGNVITEISALINSIIKLECETRGLMPAVTWYKDGQPVISSSQALYVDKGQFL	1605
Equus_caballus	IPPSIKGGNVITEISALINSIIKLECETRGLMPAPITWYKDGQPVISSSQALYIDKGQFL	1603
Bos_taurus	IPPSIKGGNVITEVSALINSIIKLECETRGLMPAPITWYKDGQPVISSSQALYVEKGQFL	1603
Rhinatrema_bivittatum	VPPSIKGGNITSEVTILLNSLLTLECETKGIPAPAITWFKDEKPILSSPOALYVERGQFL	1615
Xenopus_tropicalis	IAPTIKDGNSTTDLSFTVNNGEINLECDARGIPPTIHWKDGEPILLSPYVTTYIQKKYL	1603
	.....1570.....1580.....1590.....1600.....1610.....1620	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONTepTue Feb 1 12:21:01 2022

Page 10 of 32

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Danio_rerio	KILRAQVSDAGQYTCRVTSVAGTAEKVVELDYYVPPSITAGSDGPTDMKVVLNKSLLILEC	1656
Callorhinchus_milii	QISRAQVSDAGKYTCRVTSVAGTAEKPYNLDVYLPNIDGTSDDTPQOKKVIIIGNSVTILEC	1658
Pavo_muticus	RIPHAQVSDSAKYTCHVTNAAGAAAEKVVEVDVYVPPVIEGDTETAQSRQVVGNSLTILEC	1665
Pavo_cristatus	RIPHAQVSDSAKYTCHVTNAAGAAAEKVVEVDVYVPPVIEGDTETAQSRQVVGNSLTILEC	1665
Gallus_gallus	QIPHAQVSDSAKYTCHVTNAAGAAAEKTYEVDVYVPPVIEGDAETAQSRQVVGNSLTILEC	1663
Chelonia_mydas	QIPRAQVSDSAKYTCLVTNIAAGTAEKIYQVDVYVPPVIEGSDTIQNKQVVGNSLTILEC	1673
Rattus_norvegicus	HIPRAQVSDSATYTCHASNAGTAEKSFHVDIYVPPPIIEGDLTTPSSKQVVGQSLVILEC	1663
Mus_musculus	HIQRAQVSDSATYTCHASNAGTAEKSFHVDIYVPPPIIEGDLTAPSNKQVVIIGQSLILEC	1662
Homo_sapiens	HIPRAQVSDSATYTCHVANVAGTAEKSFHVDVYVPPMIEGNLATPLNKQVVIAGSLTILEC	1663
Pan_troglodytes	HIPRAQVSDSATYTCHVANVAGTAEKSFHVDVYVPPMIEGNLAMPNKQVVIAGSLTILEC	1663
Macaca_mulatta	HIPRAQVSDSAIYMCHVNVAGTAEKSFHVDVYVPPMIEGDLAMPNKQVVIAGSLTILEC	1663
Callithrix_jacchus	HIPRAQVSDSATYTCHVANVAGTVEKSFHVDVYVPPMIEGDLATPLNKQVVIAGSLTILEC	1663
Canis_lupus_familiaris	HIPRAQVSDSATYSCRVTNVAGTAEKSFQVDVYVPPMIEGDLGAPLNKQVVIAGSLTILEC	1665
Equus_caballus	HIPRAQVSDSATYTCHVTNVAGTAEKSFHVDVYVPPMIEADLALPLNKQVVIAGSLTILEC	1663
Bos_taurus	HIPRAQVSDSAAYKCLVTNVAGTAEKSFHVDVYVPPVIEGDLAEPLNKQVKVAGSLTILEC	1663
Rhinatrema_bivittatum	QISRAQVSDSAKYTCQVTNIAAGTAEKAYDVDVYVPPSIKGDSEKPOAKRVVIATNSLSDC	1675
Xenopus_tropicalis	RITESQIIDGGTYTCSVTNVAGTQEKNYKVVDIYVPARIHGDEKKHQNKKVIVGKSLTILEC	1663
1630.....1640.....1650.....1660.....1670.....1680	

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Danio_rerio	EAE G H P P P S L T W L K D G S P V A V R E S L R V L D Q G R K I E I L N A L O S D A G R V C V A T S V A G E K E I	1716
Callorhinchus_milii	DAS G H P P P I L T W L K D G V P V E H S N N V R V L L G G R R V O I L S I A L S E A G G V V C V A T S I A G E N E V	1718
Pavo_muticus	KAAG N P S P L L T W L K D G V P V K A S D N L R V V S G G K K L E I L N A V E A D R G O Y L C V A T S I A G E O E I	1725
Pavo_cristatus	KAAG N P S P L L T W L K D G V P V K A S D N L R V V S G G K K L E I L N A V E A D R G O Y L C V A T S I A G E O E I	1725
Gallus_gallus	KAAG N P S P L L T W L K D G V P V K A S D N L R V V S G G K K L E I L N A V E A D R G O Y L C V A T S I A G E O E I	1723
Chelonia_mydas	KAAG N P P P L L T W L K D G V P V K A S D N L H I V S G G K K L E I L N A V E A D H G O Y I C V A T S I A G E K E I	1733
Rattus_norvegicus	KAVG N P P P V L T W L K D G V P V K A S D N I H T E A G G K K L E I L S A E V D R G O Y I C V A T S V A G E R E I	1723
Mus_musculus	KAAG N P P P I L T W L K D G V P V K A S D N I H T E A G G K K L E I L S A E V D R G O Y I C V A T S V A G E R E I	1722
Homo_sapiens	KAAG N P S P I L T W L K D G V P V K A N D N I R I E A G G K K L E I M S A Q E I D R G O Y I C V A T S V A G E K E I	1723
Pan_troglodytes	KAAG N P S P I L T W L K D G V P V K A N D N I R I E A G G K K L E I L N A Q E I D R G O Y I C V A T S V A G E K E I	1723
Macaca_mulatta	KAAG N P S P I L T W L K D G V P V K A N D N I H T E A G G K K L E I M S A Q E I D O G O Y I C V A T S V A G E K E I	1723
Callithrix_jacchus	KAAG N P S P I L T W L K D G V P V K A N D N I R I E A G G K K L E I M S A Q E I D R G O Y I C V A T S V A G E K E I	1723
Canis_lupus_familiaris	KATG N P P P V L T W L K D G I P V K A S D N I R T E G G G K K L E I M S A E A D R G O Y V C V A T S V A G E K E I	1725
Equus_caballus	KAAG N P P P V L T W L K D G V P V K A S D N I R I E A G G K K L E I M S A E V D R G O Y V C V A T S V A G E K E L	1723
Bos_taurus	KAAG N P P P V L T W L K D G V P V K A S D N I R I E A G G K K L E I T S A E V D R G O Y I C V A T S V A G E K E I	1723
Rhinatrema_bivittatum	EADG H P P P L L T W L K E G V P V K A S D N V R I L F G G K L Q I L S A A E S D R G R V C V A T S A A G E K K S	1735
Xenopus_tropicalis	EATG H P P P L I T W L K D G V P V E I N D N I R L H Y N G K L E I R N T V E Y D R G L T C V A V N A G E T E M	1723
1690.....1700.....1710.....1720.....1730.....1740	

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Danio_rerio	KYDVSVLVPPVVDGASDITDATTILNNILELECYATGRPTPTITWLKDGVPVKHGEVRI	1776
Callorhinchus_milii	KYNVDVLVPPHIEGSEETIDTITVTHHLELEQQAAGSPPPKITWLKDGRLNVQVGVKI	1778
Pavo_muticus	KYGV EVLVPPFVEGGDEF LDYIVVLHSPLELDCSATGTPSPITITWLKGGQPIEEGTGHKI	1785
Pavo_cristatus	KYGV EVLVPPFVEGGDEF LDYIVVLHSPLELDCSATGTPSPITITWLKGGQPIEEGTGHKI	1785
Gallus_gallus	KYGV EILVPPFVEGGDEF LDYIVVLHSPLELDCSATGTPLPITITWLKGGQPIEEGTGHKI	1783
Chelonia_mydas	KYDVEILVLPFVEGGEPSNYIIVLHSPLELDCPATGTPPTITIMWLKDGQVVEEGDGYKI	1793
Rattus_norvegicus	KYEVDVLVPPAVEGGDETSYFIVLANLLELDCQVSGSPPTITIMWLKGGQLIDERDGFKI	1783
Mus_musculus	KYEVDVLVPPAVEGGEETS YFIVLANLLELDCQVSGSPPTITIMWLKGGQLIDERDGFKI	1782
Homo_sapiens	KYEVDVLVPPAIEGGDETSYFIVMVN LLELDCHVTGSPPTITIMWLKDGQLIDERDGFKI	1783
Pan_troglodytes	KYEVDVLVPPAIEGGDETSYFIVMVN LLELDCHVTGSPPTITIMWLKDGQLIDERDGFKI	1783
Macaca_mulatta	KYEVDVLVPPAIEGGDETSYFIVMVN LLELDCHVTGSPPTITIMWLKDGQLIDERDGFKI	1783
Callithrix_jacchus	KYEVDVLVPPAIEGGDETSYFIVMVN LLELDCHVTGSPPTITIMWLKDGQLIDERDGFKI	1783
Canis_lupus_familiaris	KYKVDVLVPPAIEGGDETSYFIVMVN LLELDCHVTGSPPTITIMWLKDGQLIDERDGFKV	1785
Equus_caballus	IYEVDVLVPPAVEGGGETSYFIVMVN SLELEQVGTGSPPTITIMWLKDGQLIDERDEFKI	1783
Bos_taurus	KYEVDVLVPPAIEGGDETSYFIVMVN LLELDCHVTGSPPTITIMWLKDGQLIDERDGFRI	1783
Rhinatrema_bivittatum	NMRVDVLVPPVVGGERADSTIIANPLELDCQATGIPPTITIW LKDGKPIEKREGLKI	1795
Xenopus_tropicalis	KYKVSVLVPPSIEGGNDPADHTVIASGAVELECLASGTPLPSVMWLKNGTVPVDTSGRLII	1783
	.....1750.....1760.....1770.....1780.....1790.....1800	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONTepTue Feb 1 12:21:01 2022

Page 11 of 32

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Danio_rerio	TSGRRLLVISRAQVSDTALFHCVAITNEAAGEQEREFKVSVHVPPAIRSTGPAERSVVLHTS	1836
Callorhinchus_milii	LADGRKLVISRAQVSDTGQYRCVATNEAGNQKRGFSVTVQVPPTIRSTGPSERSVVVHKT	1838
Pavo_muticus	LLNGQKFLISRQVSDTGHYKCVAVNMAGEHEREFVVTVHVPPTIKSTGASERAVVLHKKP	1845
Pavo_cristatus	LLNGQKFLISRQVSDTGHYKCVAVNMAGEHEREFVVTVHVPPTIKSTGASERAVVLHKKP	1845
Gallus_gallus	LLSGQKFLISRQVSDTGHYKCVAVNVAGEHEREFVVTVHVPPTIKSAGTSERAVVVHKA	1843
Chelonia_mydas	LLNGRKLISRQVSDTGHYKCVATNKAGDHERKLDITVHVPPTIKSTGPSERAVVVYKP	1853
Rattus_norvegicus	LLSGRKLIVIAQAQVSDTGLYQCVATNVAGDRRKEFEVTVHVPPTIKSSDLPEKTVVRYKP	1843
Mus_musculus	LLNGRKLIVIAQAQVSDTGLYQCVATNIAGDHRKEFEVTVHVPPTIKSSDLPEKTVVRYKP	1842
Homo_sapiens	LLNGRKLIVIAQAQVSNTGLYRCMAANTAGDHHKKEFEVTVHVPPTIKSSGLSERVVVKYKP	1843
Pan_troglodytes	LLNGRKLIVIAQAQVSDTGLYRCMAANTAGDHHKKEFEVTVHVPPTIKSSGLSERVVVKYKP	1843
Macaca_mulatta	LLNGRKLIVIAQAQVSDTGLYRCMATNTAGDHHKKEFEVTVHVPPTIKSSGLSERVVVKYKP	1843
Callithrix_jacchus	LLNGHKLIVIAQAQVSDTGLYRCMATNTAGDRKKEFEVTVHVPPTIKSSGLSERVVVKYKP	1843
Canis_lupus_familiaris	LLNGRKLIVIAQAQVSDTGLYRCVATNIAGDRKKEFEVTVHVPPTIKSSGPSERAIVKYKP	1845
Equus_caballus	LLNGRKLIVIAQAQVSDTGLYRCVATNTAGDGKKEFEVTVHVPPTIKSSGLSERAVVKYKP	1843
Bos_taurus	LLNGHKLIVIAQAQVSDTGLYRCVATNTAGDHRKKEFEVTVHVPPTIKSSGLSERAVLKYKP	1843
Rhinatrema_bivittatum	LLNGRKLITPRAHISDTGRYHCVAITNEAGQEREYDVTVVHVPPAIRSTGPSERSVVLHKKP	1855
Xenopus_tropicalis	QSNHGKLLIISTESSDGSNYQCVVKNEAGSSTKQFNVTVVHVVRPTIKPVASPVSIILMHKA	1842
1810.....1820.....1830.....1840.....1850.....1860	

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Danio_rerio	ISLQCVVSGIPPPSTITWLKDRPVDITQEFLKLESAGRVLHIKKARLEDAGKYTCVATNA	1896
Callorhinchus_milii	LTMCCVANGIPNPTITWLKDRPVNTARGETIKLESAGRELQIVNALLEDAGMYSCVATNR	1898
Pavo_muticus	VTLQCVASGIPSPSITWLKDGOPVNTARGNTRLEFTGRVLQVVEALLKDAGRYTCVATNA	1905
Pavo_cristatus	VTLQCIASGIPSPSITWLKDGOPVNTARGNTRLEFTGRVLQVVEALLKDAGRYTCVATNA	1905
Gallus_gallus	VTLQCIANGIPSPSITWLKDGOPVNTARGNTRLESSGRVLQVVAEALLEDAGRYTCVAINA	1903
Chelonia_mydas	MTLQCIANGIPSPSITWLKDGOPVNTARGNIRLESSGRILQIAKALLEDAGRYTCVATNA	1913
Rattus_norvegicus	VSLOCIANGIPNPSITWLKDDQPVNTAPGNLRIOSSGRVLQIAKALLEDAGRYTCVATNA	1903
Mus_musculus	VTLQCIANGIPNPSITWLKDDQPVNTAHGNLKIQSSGRVLQIAKALLEDAGRYTCVATNA	1902
Homo_sapiens	VALQCIANGIPNPSITWLKDDQPVNTAQGNLKIQSSGRVLQIAKTLLLEDAGRYTCVATNA	1903
Pan_troglodytes	VALQCIANGIPNPSITWLKDDQPVNTAQGNLKIQSSGRVLQIAKTLLLEDAGRYTCVATNA	1903
Macaca_mulatta	VTLQCIANGIPNPSITWLKDDQPVNTAQGNLKIQSSGRVLQIAKTLLLEDAGRYTCVATNA	1903
Callithrix_jacchus	VTLQCIANGIPNPSITWLKDDHPVNNTAQGNLKIQSSGRILQIAKTLLLEDTGRYTCVATNA	1903
Canis_lupus_familiaris	ITLQCIANGIPNPSITWLKDGOPVNTAQGNLKIQSSGRVLQIAKALMEDAGRYTCVATNA	1905
Equus_caballus	VTLQCIANGIPHPSITWLKDGOPVNTAQGNLKIQSSGRVLQIAKALMEDAGRYTCVATNA	1903
Bos_taurus	ITLQCIANGIPNPSITWLKDGOPVNTAQGNLKIQSSGRILLQIAKALMEDAGRYTCVATNA	1903
Rhinatrema_bivittatum	VVLQCIATGIPNPSLMWLKDRPVNTAIGNIRLESSGRVLQIAKALLEDSGRYTCVATNA	1915
Xenopus_tropicalis	TTLQCIASGIPNPHITWLKDLFPNVAKANIKMESFGRSLOFKKTLLLEDAGKYTCVATNA	1902
1870.....1880.....1890.....1900.....1910.....1920	

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Danio_rerio	AGEA	QO	HIRL	SV	HEPPS	I	OY	A	GEM	LNET	IL	AGF	QI	OLK	CATG	SP	LPAVTWYKDGRPLTS	1956	
Callorhinchus_milii	AGEA	QO	HVRH	IV	HEPPS	I	EDGG	QTVN	RRTVI	NNP	VQLECKASGNPT	PAVTWYKDNRPLGT	1958						
Pavo_muticus	AGEA	QO	HILL	HV	HEPPS	SLED	AGKMLDET	VIVNNPIHLECRSSGNPL	PAITWYKDSRPLAS	1965									
Pavo_cristatus	AGEA	QO	HILL	HV	HEPPS	SLED	AGKMLDET	VIVNNPIHLECRSSGNPL	PAITWYKDSRPLAS	1965									
Gallus_gallus	AGEA	QO	HIRL	RV	HEPPS	SLED	AGKMLNETVVVN	NNPIHLECRALGNPL	PAITWYKDSHSLTS	1963									
Chelonia_mydas	AGEA	QO	HIRL	HV	HEPPS	SVEH	AGKMLNETVVVN	NNPIHLECKASGNPL	PAITWYKDSHPLAG	1973									
Rattus_norvegicus	AGEA	HQ	TOLH	V	HEPPS	SLDD	GGKMLNESVVVN	NNPIOLECKATGSPVPVL	TWYKDSHPLAG	1963									
Mus_musculus	AGEA	HQ	TOLH	V	HEPPS	SLDD	AGKMRNETVVVN	NNPIOLECKATGKPLPVIT	TWYKDSHPLSG	1962									
Homo_sapiens	AGET	QO	HI	QLHV	HEPPS	SLED	AGKMLNETVLVS	NPNVQLECKAAGNPVPVIT	TWYKDNRLLSG	1963									
Pan_troglodytes	AGET	QO	HI	QLHV	HEPPS	SLED	AGKMLNETVLVS	NPNVQLECKAAGNPVPVIT	TWYKDNRLLSG	1963									
Macaca_mulatta	AGET	QO	HI	QLHV	HEPPS	SLED	AGKMLNETVVVN	NPNVQLECKAAGNPVPVIT	TWYKDNRLLSG	1963									
Callithrix_jacchus	AGET	QO	HI	QLHV	HEPPS	SLED	SGKMLNETVVVN	NPNVQLECKAAGNPVPVIT	TWYKDNRLLSG	1963									
Canis_lupus_familiaris	AGET	RO	HL	QLHV	HEPPS	SLED	AGKMLNETVVVN	NNPIOLECKAAGNPLPAIKWYKDNRPLSA	1965										
Equus_caballus	AGEG	QO	HI	QLHV	HEPPS	SLED	AGKMLNETVVVN	NNPIOLECKAAGNPLPAVTWYKDNRPLSG	1963										
Bos_taurus	AGET	QO	HI	QLHV	HEPPS	SLDD	AGKMLNETVVVN	SPVQLECKAAGTPSPAITWYKDNRPLSD	1963										
Rhinatrema_bivittatum	AGEV	QO	HI	QLNV	HEPPS	IED	AGLILNETVIVH	NPNVQLECKASGNPVPVAISWYKDGRLLTN	1975										
Xenopus_tropicalis	AGEA	EQT	IWLNV	YEPPKIENS	GELIQET	VLANHNIILECKATGNPD	PVVTWFKNQOLTN	1962											
	....	1930	....	1940	....	1950	....	1960	....	1970	....	1980							

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONTep Tue Feb 1 12:21:01 2022

Page 12 of 32

	.	. : * . : : :	* : . : *	* * *	*	.	**	: *	* . * * : * . * * :	.	:	.
Danio_rerio	AAGVNILSRGHVLEIDRAQVS	DAGFYKCVAINVAGS	TSLTYSLQVVVPPTIS	SKGGMVTV	2016							
Callorhinchus_milii	GFGVSARERGFPLQIARAQVGDTGLYRCTATNVAGATEILYSLOVHVAPTIS	SGTSDTVAV	2018									
Pavo_muticus	AASVTFLNKGQVLIEGAQISD	TGIYKCAINTAGTAELSYSLOVHVPPSISDS	SNTVTA	2025								
Pavo_cristatus	AASVTFLNKGQVLIEGAQISD	TGIYKCAINTAGTAELSYSLOVHVPPSISDS	SNTVTA	2025								
Gallus_gallus	AASVTFLNKGQVLIEGAQISD	TGIYKCAVNTAGTAELSYSLOVHVPPSISDS	SSDTVTA	2023								
Chelonia_mydas	SASVTFLNRGOIVOLDSAQISD	TGIYKCAVNTAGTAELFYNLOVHVPPSISG	KNEMVAV	2033								
Rattus_norvegicus	STSATFLKRGOILEIGSAQIS	DAGIYKCAINSAGATELFYSLOVHVPPSISGS	SSMVEV	2023								
Mus_musculus	SASAFLKRGOVLEIGSAQIS	DAGIYKCAINSAGATELFYSLOVHVPPSISGS	SSMVEV	2022								
Homo_sapiens	STSMTFNLNRGOIIDIESAQIS	DAGIYKCAINSAGATELFYSLOVHVAPSISGS	NNMVAV	2023								
Pan_troglodytes	STSMTFNLNRGOIIDIESAQIS	DAGIYKCAINSAGATELFYSLOVHVAPSISGS	NNMVAV	2023								
Macaca_mulatta	STSMTFNLNRGOIIDIESAQIS	DAGIYKCAINSAGATELFYSLOVHVAPSISGS	NNMVAV	2023								
Callithrix_jacchus	STSMTFNLNRGOIIDIKSAQIS	DAGMYKCAINSAGATELFYSLOVHVPPSISAS	NNMVAV	2023								
Canis_lupus_familiaris	STGVTFNLNRGOIIDIESAQIT	DAGIYKCMAINSAGATELFYSLOVHVPPSISGS	NBMVAV	2025								
Equus caballus	SASVTFLNRGOIIDIESAKIADAGIYKCAINSAGATELFYSLOVHVPPSISGS	NNMVAV	2023									
Bos_taurus	SSSVTFNLNRGOINIINIESAQIT	DAGIYKCAINSAGATELFYSLOVHVPPSIFGS	NNMVAV	2023								
Rhinatrema_bivittatum	AAGVTLLNRGOIIQINSAQISD	TGIYKCAVASAGMAELLYSLQVVVPPTISGS	SDMVAV	2035								
Xenopus_tropicalis	TGDISVSDRGQVLIQSAGVFHAGTYKCAASIAGRaelSYNLOVHVPPSISGR	SSSITV	2022									
1990.....2000.....2010.....2020.....2030.....2040											

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Danio_rerio	VVNDPVRLECEASGVPVPSLTWLKEGSPVSSFSFDGIQVLSGGRVLSFISAQVSDAGHYTC	2076
Callorhinchus_milii	VVNNPVRLECEARGIPAPSLTWLKDGPVSSFSFDGIQVLSGSRVLALTSAQVSDTGRYTC	2078
Pavo_muticus	VVNNIVRLECEARGIPAPILTTLWLKDGPVSSFSFDGLQVLSGGRVLVLTSAQISDTGKYTC	2085
Pavo_cristatus	VVNNVVRLECEARGIPAPILTTLWLKDGPVSSFSFDGLQVLSGGRVLVLTSAQISDTGKYTC	2085
Gallus_gallus	VVNNLVVRLECEARGIPAPILTTLWLKDGPVSSFSFDGLQVLSGGRVLVLTSAQISDTGKYTC	2083
Chelonia_mydas	VVNNLVVRLECEARGIPTPILTTLWLKDGPVSSFSFDGLQVLSGGRVLALTSAQISDTGKYIC	2093
Rattus_norvegicus	VVNNLARLECEARGIPAPSLTWLKDGPVSSFSFNGIQVLSGGRILALTSAQMSDTGRYTC	2083
Mus_musculus	VVNNLARLECEARGIPAPSLTWLKDGPVSSFSFNGIQVLSGGRILALTSAQMSDAGRYTC	2082
Homo_sapiens	VVNNPVRLECEARGIPAPSLTWLKDGPVSSFSFNGIQVLSGGRILALTSAQISDTGRYTC	2083
Pan_troglodytes	VVNNPVRLECEARGIPAPSLTWLKDGPVSSFSFNGIQVLSGGRILALTSAQISDTGRYTC	2083
Macaca_mulatta	VVNNPVRLECEARGIPAPSLTWLKDGPVSSFSFNGIQVLSGGRILALTSAQISDTGRYTC	2083
Callithrix_jacchus	VVNNPVRLECEARGIPAPSLTWLKDGPVSSFSFNGIQVLSGGRILALTSAQISDTGRYTC	2083
Canis_lupus_familiaris	VVNNLVVRLECEARGIPAPSLTWLKDGPVSSFANGIQVLSGGRILALTSAQISDTGRYTC	2085
Equus_caballus	VVNNLVVRLECEARGIPAPSLTWLKDGPVSSFANGIQVLSGGRILALTSAQISDTGRYTC	2083
Bos_taurus	VVNNLVVRLECEARGIPAPSLTWLKDGPVTSFVNGIQVLSGGRILALTSAQISDTGRYTC	2083
Rhinatrema_bivittatum	VVNNLVVRLECEARGIPAPSLTWLKDGPVSSFSFDGTQVLFSGGRVLVLTSAQISDTGRYTC	2095
Xenopus_tropicalis	IVNNVVRLECEATGFPAPSLTWLKDGPVSSFTNGIQVLSGGRVLALINAQVGDAGKYTC	2082
2050.....2060.....2070.....2080.....2090.....2100	

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Danio_rerio	VAVNAGGGECHREYELRVVPPNIMGEEVNNTVLMSGSVOLHCOSDAIPPPALSWRKDGRP	2136
Callorhinchus_milii	VAVNAAGEQORNIDFRVHVPPNIMGEEQNVSVIINQAVVLTCSNAIPPPALSWLKDGRP	2138
Pavo_muticus	VAVNAAGESQRDIDLRVVPPNIMGEEQNVSVLMSQAVELLCSNAVPLPMLTWLKDGP	2145
Pavo_cristatus	VAVNAAGESQRDIDLRVVPPNIMGEEQNVSVLMSQAVELLCSNAVPLPMLTWLKDGP	2145
Gallus_gallus	VAVNAAGESQRDIDLRVVPPNIMGEEQNVSVLISQAELLCSNAVPLPMLMWKDGPR	2143
Chelonia_mydas	VAVNAAGEKORDIDLRVVPPNIMGEEQNVSVLISQAVELRCOSNAIPPMTLWLKDGRP	2153
Rattus_norvegicus	VAVNAAGEKORDFDLRVYAPPNIMGEEQNVSVLISQTVELFCSDAVPPPPTLMWFKDGRP	2143
Mus_musculus	VAVNAAGEKORDIDLRVYAPPNIMGEEQNVSVLISQAVELFCSDAVPPPPTLMWLKDGRP	2142
Homo_sapiens	VAVNAAGEKORDIDLRVVPPNIMGEEQNVSVLISQAVELLCSDAIPPPPTLTWLKDGH	2143
Pan_troglodytes	VAVNAAGEKORDIDLRVVPPNIMGEEQNVSVLISQAVELLCSDAIPPPPTLTWLKDGH	2143
Macaca_mulatta	VAVNAAGEKORDIDLRVVPPNIMGEEQNVSVLISQAVELLCSDAIPPPPTLTWLKDGH	2143
Callithrix_jacchus	VAVNAAGEKORDIDLRVVPPNIMGEEQNVSVLISQAVELLCSDAIPPPPTLTWLKDGH	2143
Canis_lupus_familiaris	VAVNAAGEKORDIDLRIYVPPNIMGEEQNISVLISQSVELLCSDAIPPPPTLTWLKDGRP	2145
Equus_caballus	VAVNAAGEKORDIDLRVVAPNIMGEEQNISVLINQAVELLCSDAIPPPPTLTWLKDGR	2143
Bos_taurus	VAVNAAGEKORDIDLRVVAPNIMGEEQNVSVLISQAVELLCSDAIPPPPTLTWLKDGH	2143
Rhinatrema_bivittatum	VAVNAAGEKORDIDLRVVPPNIMGEEQNVSVLISHTVVLQCQTNAVPPPTLTWLKDGRP	2155
Xenopus_tropicalis	VAVNAAGEQOTDYDSLVVPPNIMGEEQNISLSIETILIKCESDAIPFPVLTWYKWKP	2142
	.....2110.....2120.....2130.....2140.....2150.....2160	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONtepTue Feb 1 12:21:01 2022

Page 13 of 32

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Danio_rerio      LYRKPLSVSEEDGSFLKIISAQVQDTGRYTCEATNVAGKTEKHYNLVWVPPSIRGSDEV 2196
Callorhinchus_milii LLRKAGLSVSEEDGSTLKIDVAQVLDTGRTCEATNVAGKTEKNYNLVWVPPSIRGSDEL 2198
Pavo_muticus     LLKKPGLSISEEDGSVLKIEGAHVQDTGRYTCEATNVAGKTKKNYNVNIWVPPSIHDSGDI 2205
Pavo_cristatus   LLKKPGLSISEEDGSVLKIEGAHVQDTGRYTCEATNVAGKTKKNYNVNIWVPPSIHDSGDI 2205
Gallus_gallus    LLNKPGLSISEEDGSVLKIEGAQVQDTGRYTCEATNVAGKTKKNYNVNIWVPPSIYGSDDT 2203
Chelonia_mydas   LLKKPGLSISEEDGSVLKIEEAQVQDTGRYTCEATNVAGKTEKNYNVNIWVPPSIYGSDEL 2213
Rattus_norvegicus LLKRPGLSISENGSVLMIEDAQAGDTGRYTCEATNVAGKTEKNYNVNIWVPPSIYGSDEL 2203
Mus_musculus     LLKRPGLSISENGSVLKIEDAQAGDTGRYTCEATNVAGKTEKNYNVNIWVPPSIYGSDEL 2202
Homo_sapiens     LLKKPGLSISENRSVLKIEDAQVQDTGRYTCEATNVAGKTEKNYNVNIWVPPNIGGSDEL 2203
Pan_troglodytes  LLKKPGLSISENGSVLKIEDAQVQDTGRYTCEATNVAGKTEKNYNVNIWVPPNIGGSDEL 2203
Macaca_mulatta   LLKKPGLSISENGSVLKIEDAQVQDTGRYTCEATNVAGKTEKNYNVNIWVPPNIGGSDEL 2203
Callithrix_jacchus LLKKPGLSISENGSVLKIEVAQVQDTGRYTCEATNVAGKTEKNYNVNIWVPPNIYGSDEL 2203
Canis_lupus_familiaris LLKKPGLSISENGSVLKIEDAQVQDTGRYTCEATNVAGKTEKNYNVNIWVPPSIYGSDEP 2205
Equus_caballus   LLKKPGLSISENGSMLKIVDAQVQDTGRYTCEATNVAGKTEKNYNVNIWVPPNIYSSDEL 2203
Bos_taurus       LLKKPGLSVTENGSVLKIEDAQVQDSGRYTCEATNVAGKTEKNYNVNIWVPPNISGSDEA 2203
Rhinatrema_bivittatum LLQKAGLTISEGGTQLKIEGAQIQDTGRYTCEATNVAGKTEKNYNVNIWVPPVIRGSEEV 2215
Xenopus_tropicalis LVNRPGLTISEEDGSILKIEGAQVKDTGRYSCEAVNIAGKTEKNFNVNIMVPPAIRGSAEE 2202
.....2170.....2180.....2190.....2200.....2210.....2220

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Danio_rerio      SSLTVIEGGLITLVCESSGIPPPSLIWKKGDSSELKGD--RVRVLSGGRLQIISAEKAD 2254
Callorhinchus_milii SOLTVEIGSLISLICESSAIPPNLMWKKDGLSLTDTGGRVRVLSGGRLQVNSAEPAD 2258
Pavo_muticus     SOLTVEIGSLISLICESTGIPPPSLTWKKSGSPLMADQSGRVRILSGGRQLQISVAEMSD 2265
Pavo_cristatus   SOLTVEIGSLISLICESTGIPPPSLTWKKSGSPLMADQLGRVRILSGGRQLQISVAEMSD 2265
Gallus_gallus    SOLTVEIGSLISLICESTGIPPPSLTWKKSGSPLVADQSGRVRILSGGRQLQISVAEMSD 2263
Chelonia_mydas   SQLAVIEGSLISLVCESSGIPPPSLTWKKNSPLPADPTGRVRVLSGGRLQRIAIAEKSD 2273
Rattus_norvegicus VOLTAIEGNLITLLCESSGIPPPNLTWKKKGSVLADAGRVHILSGGRLQISIAEKAD 2263
Mus_musculus     VQLTAIEGNLITLLCESSGIPPPDLTWKKKGSVLADAGRVHILSGGRLQISIAEKAD 2262
Homo_sapiens     TQLTVIEGNLISLLCESSGIPPPNLIWKKKGSPLVLTDSMGRVRILSGGRQLQISIAEKSD 2263
Pan_troglodytes  TQLTVIEGNLISLLCESSGIPPPNLIWKKKGSPLVLTDSMGRVRILSGGRQLQISIAEKSD 2263
Macaca_mulatta   TQLTVIEGNLISLLCESSGIPPPNLIWKKKGSPLVLTDSMGRVRILSGGRQLQISIAEKSD 2263
Callithrix_jacchus TQLTVIEGNLMSLLCESSGIPPPNLIWKKKGSPLVLTDSMGRVRILSGGRQLQISIAEKSD 2263
Canis_lupus_familiaris AQLTVIEGNLISLLCESSGIPPPNLIWKKKGSPLVLPDSAGRVRTFSGGRLQISIAEKSD 2265
Equus_caballus   AQLTVIEGNLISLLCESSGIPPPNLIWKKKGSPLVLPDSAGRVRTFSGGRLQISIAEKSD 2263
Bos_taurus       AQLTVIEGHLISLLCESSGIPPPNLIWKKKGSPLVLPDSAGRVRTFSGGRLQISIAEKSD 2263
Rhinatrema_bivittatum SOLTVEIEGNLISLICESSGIPPPGLSWKKKGSLLMADLLGRVRVLSGGRLQISIAENSD 2275
Xenopus_tropicalis SEVNITIEGTLISLLCDSGTGIPPPALAWKKNDVAIQSGAGHIRLLSGGRQLQIITARKSD 2262
.....2230.....2240.....2250.....2260.....2270.....2280

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Danio_rerio      ASSYTCLASSAAGSAIKEYNLQVYVRPSISSAQ--DEETVTRGGDITLRCEADGVPRPA 2312
Callorhinchus_milii SASYTCEASNVAAGSKKEYTLQVYVRPTISNSGTRPTEVTITQGVSEVSLECEAOGTTPRA 2318
Pavo_muticus     AASYICIASNVAGSAKKEYSLQVYIHPITILDSGSHPSSEVVAAQGSSEISLECKAOGIPEPA 2325
Pavo_cristatus   AASYICIASNVAGSAKKEYSLQVYIHPITILDSGSHPSSEVVAAQGSSEISLECKAOGIPEPA 2325
Gallus_gallus    AASYICIASNVAGSAKKEYSLQVYTRPVILDSGSHPSSEVVAAQGSSEISLECKAOGIPEPA 2323
Chelonia_mydas   AASYMCLASNIAGNTKKEYNLQVYVRPTILNSGNHSSEVVVIRGNNISLECKVOGNPOPA 2333
Rattus_norvegicus AGLYTCVASNVAGIAKKEYNLQVYIRPSIANSNGSHRPEITVIRGRSISLECEVOGIPQPT 2323
Mus_musculus     AGLYTCVASNVAGVAKKEYNLQVYIRPSITNSGGHRPEITVIRGRSISLECEVOGIPQPT 2322
Homo_sapiens     AALYSCVASNVAGTAKKEYNLQVYIRPTITNSGSHPTTEIIVTRGKSISLECEVOGIPPPPT 2323
Pan_troglodytes  AALYSCVASNVAGTAKKEYNLQVYIRPTITNSGSHPTTEIIVTRGKSISLECEVOGIPPPPT 2323
Macaca_mulatta   AALYSCVASNVAGTAKKEYSLQVYIRPTITNSGSHPTTEIIVTRGKSISLECEVOGIPPPPT 2323
Callithrix_jacchus AGLYSCVASNVAGTVKKEYSLQVYIRPTITNSGSHPTTEIIVTRGKSISLECKVOGIPQPT 2323
Canis_lupus_familiaris AGLYTCVASNVAGTAKKDYGLQVYIRPTISNSGNHPTTEIIVTRGKSISLECEVOGIPQPK 2325
Equus_caballus   AGLYACVASNVAGTAKKDYGLQVYIRPTISNSGNHPTTEIIVTRGKSISLECEVOGIPQPT 2323
Bos_taurus       AGLYSCMASNVAGTAKKDYGLQVYIRPTISNSGSHPTTEIIVTRGKSISLECEVEGVPOPA 2323
Rhinatrema_bivittatum AGSYTCVASNLAGSAMKEYKLOVYVRPVISDSGSHPFVDVIATRGSNISLACEAKGNPRPA 2335
Xenopus_tropicalis AASYTCTASNSVGSAMKKYTVKVVYVRPSISESGNHPSSEIVVITQGNNVITLCEADARGDPOPM 2322
.....2290.....2300.....2310.....2320.....2330.....2340

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONTepTue Feb 1 12:21:01 2022

Page 14 of 32

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Danio_rerio      VSWMKDGRLSTGRKAQILNEGRLLRILEAQVADTGRYTCAINVAGQADRKYDVNVHVP 2372
Callorhinchus_milii LTWLKDGRLPLTSGRRLTVLSDGQRLLVKDTQVFDTGRYTCVAVNVAGQADRKYDLSVHVP 2378
Pavo_muticus      VTWMKDGRLPLASGRDVAVLHDGHFLQLRNLIQVSDTGRYVCVAANVAGLSDRKYDLNVHVP 2385
Pavo_cristatus    VTWMKDGRLPLASGRDVAVLHDGHFLQLRNLIQVSDTGRYVCVAANVAGLSDRKYDLNVHVP 2385
Gallus_gallus     VTWMKDGRLPLVSGRDVAVLHDGHFLLLRNLIQVSDTGHYVCVAANVAGLYDRKYDLNVHVP 2383
Chelonia_mydas    ITWMKDGHPVLVNGRGVEILNDGHLLOLKNHVSDTGRYVCVAVNVAGLTDRKYDLNIHVP 2393
Rattus_norvegicus VTWMKDGRLPLSKGKGVEILDEGRVLOLKNVHVSdTGRYVCVAVNVAGMTDKRYDLSVHVP 2383
Mus_musculus      VTWMKDGRLPLTKGKGVEILDEGRILQLKNVHVSdTGRYVCVAVNVAGMTDKRYDLSVHAP 2382
Homo_sapiens      VTWMKDGHPLIKAKGVEILDEGHILQLKNIHVSdTGRYVCVAVNVAGMTDKKYDLSVHAP 2383
Pan_troglodytes   VTWMKDGRLPLIKAKGVEILDEGHILQLKNIHVSdTGRYVCVAVNVAGMTDKKYDLSVHAP 2383
Macaca_mulatta    VSWMKDGRLPLIKAKGVEILDEGHILQLKNIHVSdTGRYVCVAVNVAGMTDKKYDLSVHAP 2383
Callithrix_jacchus VTWMKDGRLPLTKGRGMEILDEGRVLOLKNVHVSdTGRYVCVAVNVAGMTDKKYDLSVHAP 2383
Canis_lupus_familiaris VTWMKDGRLPLTKGRGMEILDEGRVLOLKNIHVSdTGRYVCVAVNVAGMTDKRYDLSVHAP 2385
Equus_caballus     VTWMKDGRLPLTKGRGMEIMDEGRVLOLKNIHVSdTGRYVCVAVNVAGMTDKRYDLSVHAP 2383
Bos_taurus        VTWMKDGRLPLTKGRGMEIMDEGRVLOLKNVHVSdTGRYVCVAVNVAGMTDKRYDLSVHAP 2383
Rhinatrema_bivittatum ITWLKDGRLPLIAGRGVEILNEGRLLHLKNIQVSDTGRYLCAINVAGQADRKYDLTVRVP 2395
Xenopus_tropicalis LTWLKEGIPLISGNCFEISNGRLLHLQKAQISNAGLYVCVAVNVAGQSDRYDVKVFPV 2382
.....2350.....2360.....2370.....2380.....2390.....2400

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* . . **:* * :.. * **.*:* * : * * * * : . * :***** **
Danio_rerio      PTIIGQTHMPENISVVVKNPVVLTCESGMPPPAITWLKDGQPISTSSSVRVISGGRGLR 2432
Callorhinchus_milii PSISGALSVPENVSVVKNPVVLTCESGIPLPSITWLKDGRLPISLSNLRILSGGRILR 2438
Pavo_muticus      PSIAGELQLPENISTVEKNPISLVCEASGIPLPSITWLKTGWVPTSNISVQILSGGRTL 2445
Pavo_cristatus    PSIAGELQLPENISTVEKNPISLVCEASGIPLPSITWLKTGWVPTSNISVQILSGGRTL 2445
Gallus_gallus     PDIAGDLQLPENISTVEKNPISLVCEASGIPLPSVWMLKNGWVPTSNISVQILSGGRTL 2443
Chelonia_mydas    PSVVGDLQLEPENISAVEKNPVALICEASGIPLPSITWLKNGRPVPLNSSVRILSGGRTL 2453
Rattus_norvegicus PSIIGNHGVPENISVVEKSSVSLTCESGIPLPSITWLKDGWPVSLGSSVKILSGGRMLR 2443
Mus_musculus      PSIIGNHGVPENISVVEKSSVSLTCESGIPLPSITWLKDGWPVNLGSSVKILSGGRMLR 2442
Homo_sapiens      PSIIGNHRSPENISVVEKNSVSLTCESGIPLPSITWFKDGWPVSLNSVRILSGGRMLR 2443
Pan_troglodytes   PSIIGNHRSPENISVVEKNSVSLTCESGIPLPSITWFKDGWPVSLNSVRILSGGRMLR 2443
Macaca_mulatta    PSIIGNHRSPENISVVEKNSVSLTCESGIPLPSITWLKDGWPVSLNSVRILSGGRMLR 2443
Callithrix_jacchus PSIIGNHRSPENISVVEKNSVSLTCESGIPLPSITWLKDGWPVSLNSVRILSGGRMLR 2442
Canis_lupus_familiaris PSIIGNHETPENISVVEKNSVSLTCESGIPLPSITWLKDGWPVSLSSSVRILSGGRTL 2445
Equus_caballus     PSIIGNHETPENISVVEKNSVSLTCESGIPLPSITWLKDGWPVSLSSSVRILSGGRTL 2443
Bos_taurus        PSIIGNHRTPENISVVEKSSVSLNCEASGIPLPSITWLKDGWPVNLSSSLRILSGGRILR 2443
Rhinatrema_bivittatum PSILGDLGGPENISVVERNPFVLTCEASGIPLPSITWLKEGRPIGPSVSRILSGGRTL 2455
Xenopus_tropicalis PAFPDGIMKHENISIVEKNPFVLTCEVSGIPPPKVITWYKDNPIPPSRSPQIMSGGFLR 2442
.....2410.....2420.....2430.....2440.....2450.....2460

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: : : . * * * * * * * * * : * : * * * * : . . * : * * * . * : * *
Danio_rerio      LMHAASSDAGRYTCIVSNSAGEERKNFDLYVLVPPSIVNEGTVEDVKVKERQNAIACEV 2492
Callorhinchus_milii LMHTEVEDAGRYFCVVTNAAGEERKTFDLVLPVPSMVNEGTVEDVKVKESLSVTLSCV 2498
Pavo_muticus      LTHTTVSDEGHYTCVVTNAAGEVRKDFYLSVLVPPRIVDESKQEDVKVKEKNSVTLTCEV 2505
Pavo_cristatus    LTHTTVSDEGHYTCVVTNAAGEVRKDFYLSVLVPPRIVDESKQEDVKVKEKNSVTLTCEV 2505
Gallus_gallus     LTHTTVSDEGHYTCVVTNAAGEARKDFYLSVLVPPGIVDENKQEDMKVKEKNSVTLTCEV 2503
Chelonia_mydas    LMHTKMEDAGQYTCIVTNAAGEARKHFGLSVLVPPGIVGENKLEDVKVKEKHSVTLTCEV 2513
Rattus_norvegicus LMQTRPEDAGQYTCIVRNAAGEDRKMFGLSVLVPPHIVGDNLTLEDIKIKEKQSVTLTCEV 2503
Mus_musculus      LMQTRPEDAGQYTCIVRNAAGEDRKMFGLSVLVPPHIVGENTLEDVKIKEKQSVTLTCEV 2502
Homo_sapiens      LMQTTMEDAGQYTCVVRNAAGEERKIFGLSVLVPPHIVGENTLEDVKVKEKQSVTLTCEV 2503
Pan_troglodytes   LMQTTMEDAGQYTCVVRNAAGEERKIFGLSVLVPPHIVGENTLEDVKVKEKQSVTLTCEV 2503
Macaca_mulatta    LMQTRMEDAGQYTCVVRNAAGEERKIFGLSVLVPPHILGENTLEDVKVKEKQSVTLTCEV 2503
Callithrix_jacchus LMQTRMEDAGQYTCVVRNAAGEERKIFGLSVLVPPHIVGENTLEDVKVKEKQSVTLTCEV 2502
Canis_lupus_familiaris LMQTRLEDAGQYTCVVRNAAGEERKIFGLSVLVPPRIVGENTLEDVKVKEKQSVTLTCEV 2505
Equus_caballus     LMQTRIEDAGQYTCVVRNAAGEERKIFGLSVLVPPRIVGENTLEDVKVKEKQSVTLTCEV 2503
Bos_taurus        LMQTRTEDAGQYTCVVRNAAGEERKIFRLSVLVPPHIMGENTFEDVKVKEKQSVTLTCEV 2503
Rhinatrema_bivittatum LMQAAVNDAGSYACVVINSAGEERKHFFELFVLVPPSILGENRLEDVKVKERSVTLSCV 2515
Xenopus_tropicalis FSQSSSLSDTGRYTCAVSNAGEEDMRKFDVNVLPVPPKITG-SVQEEIKVKERGNITLSCV 2501
.....2470.....2480.....2490.....2500.....2510.....2520

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONtepTue Feb 1 12:21:01 2022

Page 15 of 32

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      *.:* *** **: : .* :. : *:* :. :*** *:*. **.:* :
Danio_rerio      TGNPVPEITWLKDGQPLASDTRLQVMSNGRFLOISASQVADTGGRYSCLASNSAGDRSRHF 2552
Callorhinchus_milii SGKPIPNITWLKDGQPLTKDQRHRVLSGGRFLQIDRTIRVSDTGRTYCVASNAAGDRSKNF 2558
Pavo_muticus      IGNPVVPQITWIKDGOPLMEDKDKHFLSSGRFLQITNAQVSDTGRTYCVASNTAGDKSKSY 2565
Pavo_cristatus    IGNPVVPQITWIKDGOPLMEDKDKHFLSSGRFLQITNAQVSDTGRTYCVASNTAGDKSKSY 2565
Gallus_gallus     IGNPVVPQITWIKDGOPLMEDKDKHFLSSGRFLQITNAQVSDTGRTYCVASNTAGDKSKSY 2563
Chelonia_mydas    IGNPVVPQITWIKDGOPLTKDGDHQLSSGRFLQITNAQVSDTGRTYCVASNTAGDKSKSY 2573
Rattus_norvegicus RGNPVVPQITWIKDGOPLQEDDEVHMMSSGGRFLQITNAQVSDTGRTYCVASNTAGDKSKSF 2563
Mus_musculus      RGNPVVPQITWIKDGOPLQEDDEVHMMSSGGRFLQITNAQVSDTGRTYCVASNTAGDKSKSF 2562
Homo_sapiens      TGNPVPEITWIKDGOPLQEDDEVHMMSSGGRFLQITNAQVSDTGRTYCVASNTAGDKSKSF 2563
Pan_troglodytes   TGNPVPEITWIKDGOPLQEDDEVHMMSSGGRFLQITNAQVSDTGRTYCVASNTAGDKSKSF 2563
Macaca_mulatta    TGNPVPEITWIKDGOPLQEDDEVHMMSSGGRFLQITNAQVSDTGRTYCVASNTAGDKSKSF 2563
Callithrix_jacchus TGNPVVPQITWIKDGOPLQEDDEVHMMSSGGRFLQITNAQVSDTGRTYCVASNTAGDKSKSF 2562
Canis_lupus_familiaris TGNPVVPQITWIKDGOPLQEDDEVHMMSSGGRFLQITNAQVSDTGRTYCVASNTAGDKSKSF 2565
Equus_caballus    TGNPVPEITWIKDGOPLQEDDEVHMMSSGGRFLQITNAQVSDTGRTYCVASNTAGDKSKSF 2563
Bos_taurus        TGNPVPEITWIKDGOPLQEDDEVHMMSSGGRFLQITNAQVSDTGRTYCVASNTAGDKSKSF 2563
Rhinatrema_bivittatum TGNPVVPQITWIKDGOPLQEDDEVHMMSSGGRFLQITNAQVSDTGRTYCVASNTAGDKSKSF 2575
Xenopus_tropicalis TGTPIPIQITWLKDGHPVLEDTNHRIDHKRQLLRISNVMMTDSGRYVCVASNPAGERSRSF 2561
      .....2530.....2540.....2550.....2560.....2570.....2580

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      :.:*** * * .. *: * * * * * * * * * * * * * * * * * * * * * *
Danio_rerio      NLNVLVSPITAGSGPEGSAAEVTVTLSNPTSLVCEAQSYPPIITWLKDGTPFES--SRNV 2611
Callorhinchus_milii NLNVLVSPITIPGANSEGTPEVDVTILNSPTSLVCEAQSYPPIITWLKDGAAFDNSONI 2618
Pavo_muticus      SINVLVSPITIVGADSHGRAEEVTVILNSPTSLVCEAYSYPPIITWLKDGNNLLES--NRNT 2624
Pavo_cristatus    SINVLVSPITIVGADSHGRAEEVTVILNSPTSLVCEAYSYPPIITWLKDGNNLLES--NRNT 2624
Gallus_gallus     FLNVLVSPITIVGADSHGSAEEVTVILNSPTSLVCEAYSYPPIITWLKDGSLLES--NRNI 2622
Chelonia_mydas    SLNVLVSPITAGTDSHGSAEDVTVILNSPTSLACEAYSYPPIITWLKDGAPLES--NRNI 2632
Rattus_norvegicus SLNVFVSPITAGVSDGSPEDVIVILNSPTSLVCEAYSYPPIITWFKDGAPLES--SRNL 2622
Mus_musculus      RLNVFVSPITAGVSDGSPEDVIVILNSPTSLVCEAYSYPPIITWFKDGTPLES--NRNI 2621
Homo_sapiens      SLNVFVSPITAGVSDGSPEDVIVILNSPTSLVCEAYSYPPIITWFKDGTPLES--NRNI 2622
Pan_troglodytes   SLNVFVSPITAGVSDGSPEDVIVILNSPTSLVCEAYSYPPIITWFKDGTPLES--NRNI 2622
Macaca_mulatta    SLNVFVSPITAGVSDGSPEDVIVILNSPTSLVCEAYSYPPIITWFKDGTPLES--NRNI 2622
Callithrix_jacchus SLNVFVSPITAGVSDGSPEDVIVILNSPTSLVCEAYSYPPIITWFKDGTPLES--NRNM 2621
Canis_lupus_familiaris SLNVLVSPITAGVSDGSPEDVIVILNSPTSLVCEAYSYPPIITWFKDGTPLES--NRNI 2624
Equus_caballus    SLNVLVSPITAGVSDGSPEDVIVILNSPTSLVCEAYSYPPIITWFKDGTPLES--NRNI 2622
Bos_taurus        SLNVLVSPITAGVSDGSPEDVIVILNSPTSLVCEAYSYPPIITWFKNGTPLES--NRNI 2622
Rhinatrema_bivittatum SLNVLVSPITAGTENNGAPEEVTVILNSPTSLVCEAYSYPPIITWLKDGAPFES--NRNV 2634
Xenopus_tropicalis SLGVLISPTIKG-AINGSPEDVKVLLSSISLECEVHSHPPATITWIKDGRLEKFK-KDNV 2619
      .....2590.....2600.....2610.....2620.....2630.....2640

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      :.:**** * * * * * * * * * * * * * * * * * * * * * *
Danio_rerio      RVLPGGRTLQILNAKEEDAGRYTCVATNEAGETLKHYEVKVYVPPVINKNDIPGESLAPK 2671
Callorhinchus_milii RIFPGGRTLQILNAQEKDAGRYTCIATNEAGETLKHYEVKVYIPPTINKDDVPGFGLSPK 2678
Pavo_muticus      HILPGGRTLQILSAQKHSAAARTCIATNEAGETLKHYEVKVYIPPTINRGDVPGMGLSPN 2684
Pavo_cristatus    HILPGGRTLQILSAQKHSAAARTCIATNEAGETLKHYEVKVYIPPTINRGDVPGMGLSPN 2684
Gallus_gallus     HILPGGRTLQILSAQKHSAAARTCIATNEAGETLKHYEVKVYIPPTINRGDVPGMGLSPK 2682
Chelonia_mydas    RILPGGRTLQILNAQEDSAGRYTCIATNEAGETLKHYEVKVYIPPTVINKGDISSMGLSPK 2692
Rattus_norvegicus RILPGGRTLQILNAQEDNAGRYSCVATNEAGEMIKHYEVKVYIPPIIKKGDLLGTGLSPK 2682
Mus_musculus      RILPGGRTLQILNAQEDNAGRYSCVATNEAGEMIKHYEVKVYIPPIIKKGDLLGPGLSPK 2681
Homo_sapiens      RILPGGRTLQILNAQEDNAGRYSCVATNEAGEMIKHYEVKVYIPPIINKGDLWGPGLSPK 2682
Pan_troglodytes   RILPGGRTLQILNAQEDNAGRYSCVATNEAGEMIKHYEVKVYIPPIINKGDLWGPGLSPK 2682
Macaca_mulatta    RILPGGRTLQILNAQKDNAGRYSCVATNEAGEMIKHYEVKVYIPPIINKGDLWGPGLSPK 2682
Callithrix_jacchus RIVPGGRTLQILNAQEDSAGRYSCVATNEAGEMIKHYEVKVYIPPIINKGDLGPGLSPK 2681
Canis_lupus_familiaris RILPGGRTLQILNAQEDNAGRYSCVATNEAGEMIKHYEVKVYIPPIINKGDLGPGLSPK 2684
Equus_caballus    RILPGGRTLQILNAQEDNAGRYSCVATNEAGEMIKHYEVKVYIPPIINKGDLGPGLSPK 2682
Bos_taurus        RILPGGRTLQILNAQEDDAGRYACVATNEAGEMIKHYEVKVYIPPIINKGDLGPGLSPK 2682
Rhinatrema_bivittatum HILPGGRTLQILNAQADSAGRYTCIATNEAGETLKHYEVKVYIPPIIAKRDGFGIGLFPK 2694
Xenopus_tropicalis RILPGGRTLQILNAQEKDAGRYSCVATNEAGETLKHYEVKVYIPPIIAKRDGFGIGLFPK 2679
      .....2650.....2660.....2670.....2680.....2690.....2700

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONTep Tue Feb 1 12:21:01 2022

Page 16 of 32

[illegible]

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* * . * . : . * * * * * : : * . : * * * * * *
YTCVATNIAGEDEKDFDVNIQVPPSFGRG-----FGDGGPGNNG-EVKDVLINNPISLY
YTCVASNIAGEDEKDYDVNIQVPPSFVKPVYVQDTKGRALEGSNGIEVKDVIINNPISLY
YTCLASNIAGEDEVEFDINIQVPPSFQKPYRGWEAGNMVDTGRRG-ENKDVIVNNNPISLY
YTCLASNIAGEDEVEFDINIQVPPSFQKPYRGWEAGNMVDTGRRG-ENKDVIVNNNPISLY
YTCLASNIAGEDEVEFDINIQVPPSFQKPYRGWESGNMVDTGRRG-ENKDVIVNNNPISLY
YMCVASNVAGEDEVEFDVNIQVPPRFQKPRRAWEVGNTVDTGRRG-ETKDVIVNNNPISLY
YTCVASNLAGEDELDFDVNIQVPPSFQK---LWEIGNMLDTGRSG-EAKDVIINNPISLH
YTCVASNLAGEDELDFDVNIQVPPSFQK---LWEIGNMLDTGRSG-EAKDVIINNPISLH
YTCVASNIAGEDELDFDVNIQVPPSFQK---LWEIGNMLDTGRNG-EAKDVIINNPISLY
YTCVASNIAGEDELDFDVNIQVPPSFQK---LWEIGNMLDTGRNG-EAKDVIINNPISLY
YTCVASNIAGEDELDFDVNIQVPPSFQK---LWEIGNMLDTGRSG-EAKDVIINNPISLY
YTCVASNIAGEDELDFDVNIQVPPSFQK---LWEIGNMLDTGRSG-EAKDVIINNPISLY
YTCVASNIAGEDELDFDVNIQVPPSFQK---LWEIGNMLDTGRSG-EAKDVIINNPISLY
YTCVASNIAGEDELDFDVNIQVPPSFQK---LWEIGNMLDTGRSG-EAKDVIINNPISLY
YTCVASNIAGEDELDFDVNIQVPPSFQK---LWEIGNMLDTGRSG-EAKDVIINNPISLY
YTCVASNIAGEDELDFDVNIQVPPSFQK---LWEIGNMLDTGRSG-EAKDVIINNPISLY
YTCVASNVAGEDELDFDVNIQVPPSFQK---LWEIGNRVDTGRRG-EAKDVIINNPISLY
YTCVASNIAGEDELDFDVNIQVPPSFQK---VPLDDGNLARSGETRVDVIINNPISLY
YTCLASNIAGEDELDFDVTIQVPPNFPKLSGLWTTSKSSTGSSNG-EHKEVIINNPFSLY
.....2770.....2780.....2790.....2800.....2810.....2820

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[illegible]

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONtepTue Feb 1 12:21:01 2022

Page 17 of 32

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::*::*:
Danio_rerio      IQYDVRVL-----LPPSIRGADGELPDEVTVLVNKTMLEECQV--DGSPTP 2887
Callorhinchus_milii IQYEVVRVM-----TPPSIKGADSDLPEEVIVLINKTVVLDCMV--SGNPTP 2902
Pavo_muticus     IHYNVRVL-----LPPSISGADGDLPEEVNVLGNKVAVMDCVT--SGSPSP 2907
Pavo_cristatus   IHYNVRVL-----LPPSISGADGDLPEEVNVLGNKVAVMDCVT--SGSPSP 2907
Gallus_gallus    IHYNVHVL-----LPPSIRGADGDLPEEVNVLGNKVAVMDCVT--SGSPSP 2905
Chelonia_mydas   IQYDVQVL-----LPPSINGAD--EPEEVTVLVNKTTVMCEVA--TGSPAP 2913
Rattus_norvegicus LOYDIHVL-----LPPVIKGANSDDLPEEVTVLVNKSAQMECS--SGSPAP 2902
Mus_musculus     LRYDVHVL-----LPPVIKGANSDDLPEEVTVLVNKSTQMECS--SGNPAP 2901
Homo_sapiens     LOYDVRVL-----VPPIIKGANSDDLPEEVTVLVNKSALIECLS--SGSPAP 2902
Pan_troglodytes  LOYDVRVL-----VPPIIKGANSDDLPEEVTVLVNKSALIECLS--SGSPAP 2916
Macaca_mulatta   LOYDVRVL-----VPPIIKGANSDDLPAEVTVLVNKSALMECLS--SGSPAP 2902
Callithrix_jacchus LHYDVRVL-----LPPVIKGANSDDLPEEVTVLVNKSALMECLS--SGSPAP 2901
Canis_lupus_familiaris LQYDVRVL-----LPPVIKGANSDDLPEEVTVLVNKSTLMECLS--SGSPAP 2904
Equus_caballus    LQYDVRVL-----LPPSIKGASDDLPEEVTVLVNQSVLMECIS--SGSPAP 2902
Bos_taurus       LOYDIRVL-----LPPVIKGANGDDLPEEVTVLVNKSVTMECS--SGSPTP 2902
Rhinatrema_bivittatum IQYDVRVL-----LPPSIKGADADFPEDVTVLVNKSVGMECLIV--SGNPSP 2912
Xenopus_tropicalis MHYNVRVL-----LPPAFEGSDEDLKSDITSLVNETLEMDCTVAVTGSAP 2903
.....2890.....2900.....2910.....2920.....2930.....2940

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* **.: : . : :.* *:* * : . ***.:** * * : * **.: *
Danio_rerio      KISWVKDSQPLTQDNTHRLLSNGRTLQILNAQVTDIGRYVCVAQNLAGTAEKSFNLHVHV 2947
Callorhinchus_milii KISWLKDGQPLSGDNTHKLLSSGRTLQVLNAQVSDIGRYICVAENVAGNSEKVFNLNVHV 2962
Pavo_muticus     SITWQKDGHILAEDDKHSFSLNGRRLOILNSQITDTGRYVCVVENIAGRAKKYFNLNVHV 2967
Pavo_cristatus   SITWQKDGHILAEDDKHSFSLNGRRLOILNSQITDTGRYVCVVENIAGRAKKYFNLNVHV 2967
Gallus_gallus    SITWEKDGHLLAEDNKHSFSLNGRRLOILNSQVTDIGRYVCVVENIAGRAKKYFNLNVHV 2965
Chelonia_mydas   SITWQKDGQLLAEDDHKFLSNGRRLOILNSQITDTGRYVCVVENIAGSAKKYFNLNVHV 2973
Rattus_norvegicus RNFQKQDGQPLLEDEHHKFLSDGRVLOILNAQITDTGRYVCVAENTAGSAKKYFNLNVHV 2962
Mus_musculus     RNYWQKDGQILLEDEHHKFSQDGRSLQILNAQITDTGRYVCVAENTAGSAKKYFNLNVHV 2961
Homo_sapiens     RNSWQKDGQPLLEDDHHKFLSNGRILQILNTQITDTGRYVCVAENTAGSAKKYFNLNVHV 2962
Pan_troglodytes  RNSWQKDGQPLLEDDHHKFLSNGRILQILNTQITDTGRYVCVAENTAGSAKKYFNLNVHV 2976
Macaca_mulatta   RNSWQKDGQPLLEDDHHKFLSNGRILQILNTQIIDIGRYVCVAENTAGSAKKYFNLNVHV 2962
Callithrix_jacchus RNSWQKDGQPLVLAEDDHKFLSNGRILQILNTQIMIDIGRYVCVAENTAGSAKKYFNLNVHV 2961
Canis_lupus_familiaris RNSWQKDGQPLLEDEHHKFVSNRILQILNTQITDTGRYVCIAENTAGSAKKYFNLNVHV 2964
Equus_caballus    RNSWQKDGQPLLEDEHHKFLSNGRILQILNTQITTSIGRYVCIAENTAGSAKKYFNLNVHV 2962
Bos_taurus       RSSWQKDGQPLLEDERHTFLSNGRILQVLNSQITDTGRYVCVAENTAGSAKKYFNFNVHV 2962
Rhinatrema_bivittatum KISWHKDGQLLAEDARHKFLSNGRTLQILNSQITDTGRYVCVAENVAGRAKKYFNFNVHV 2972
Xenopus_tropicalis TISWLKDGHPHQEGTRYHFLTNGRTLKILYAQLMDTGRYVCVVENPAGSVQKSFNLNIYV 2963
.....2950.....2960.....2970.....2980.....2990.....3000

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.*.:* . *.:** . :.*.*.:** : *.: : . : : :*.*.:*
Danio_rerio      SPTIVGIREENVTVVLNFFVSLNCEATGLPPPTLRWFKDRRPVQASTNALIMPGGRTLQI 3007
Callorhinchus_milii PPSIVGTNAENMTVVVNNFISLTCEATAFPMPMLSWFKDGKPLQSNNTNVLIMPGGRTVQL 3022
Pavo_muticus     PPSVVGANPENLTVVVNNFISLTCEVTGFPPPDLSWLKNGKPVSLNTNTFVVPDARTLHI 3027
Pavo_cristatus   PPSVVGANPENLTVVVNNFISLTCEVTGFPPPDLSWLKNGKPVSLNTNTFVVPDARTLHI 3027
Gallus_gallus    PPSVVGANPENLTVVVNNLISLTCEVTGFPPPDLSWLKNGKPVSLNTNTFIVPGARTLQI 3025
Chelonia_mydas   PPSVVGNTFENLTVVVNNFISLTCEVTGFPPPDLSWLKNGKPVSLNTNALIVPGGRTLQI 3033
Rattus_norvegicus PPSVIGPNHEHLSVVVNHFISLTCEVSGFPPPDLSWLKNEQPIKPNTNVLIVPGGRTLQI 3022
Mus_musculus     PPSVIGPNHEHLSVVVNHFISLTCEVSGFPPPDLSWLKNEQPIKPNTNVLIVPGGRTLQI 3021
Homo_sapiens     PPSVIGPKSENLTVVVNNFISLTCEVSGFPPPDLSWLKNEQPIKLNTNTLIVPGGRTLQI 3022
Pan_troglodytes  PPSVIGPKSENLTVVVNNFISLTCEVSGFPPPDLSWLKNEQPIKLNTNTLIVPGGRTLQI 3036
Macaca_mulatta   PPSVIGPKSENLTVVVNNFISLTCEVSGFPPPDLSWLKNEQPIKLNTNALIVPGGRTLQI 3022
Callithrix_jacchus PPSVIGPKTENLTVVVNSFISLTCEVSGFPPPDLSWLKNEQPIKLNTNALIVPGGRTLQI 3021
Canis_lupus_familiaris PPSVIGPNPENLTVVVNNFISLTCEVSGFPPPDLSWLKNEQPIKLNTNALIVPGGRTLQI 3024
Equus_caballus    PPSVLGNPENLTVVVNNFISLTCEVSGFPPPDLSWLKNEQPIKLNTNALIVPGGRTLQI 3022
Bos_taurus       PPSVIGPNPENLTVVVNNFISLTCEVSGFPPPDLSWLKNEQPIKPNTNALIVPGGRTLQI 3022
Rhinatrema_bivittatum PPNIVGNPNPENLTVVVNNFISLTCEVTGFPPPALSWLRNGKPINLNTNALIVPGGRTLQI 3032
Xenopus_tropicalis PPSVIGSNSENVTVVESNFISLTCEVTGFPPPAVSWLKDMLVNSDHLFIVPGGRTLQI 3023
.....3010.....3020.....3030.....3040.....3050.....3060

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONTepTue Feb 1 12:21:01 2022

Page 18 of 32

	..::**.*.*:***::*:*::**.*.*.:::.*	
Danio_rerio	LKAKMSDGGKYSCVAVNPAGEAOKLIYLTIVYVPPSIRHNSGDLPPVVLNVQVGKSVMLECE	3067
Callorhinchus_milii	LRAKLSDGGKYICIAINQAGQAEKQIFLTIYVPPTIKDHTGDSPEVISVRAGSTILTKECE	3082
Pavo_muticus	POAKLSDDGeyTCIARNOAGESQKKSFLLIVLVPPSIKDHSGISVTVFNVRVGTIPVMLECE	3087
Pavo_cristatus	POAKLSDDGeyTCIARNOAGESQKKSFLLIVLVPPSIKDHSGISVTVFNVRVGTIPVMLECE	3087
Gallus_gallus	POAKLSDDGeyTCIARNHAGESQKKSFLLIVLVPPGIKDHSGTSVTVFNVRVGTIPVMLECK	3085
Chelonia_mydas	SRARLSDGGEYICIAARNOAGESKKKSFLTIVYVPPNIKDHSGASLVVVTVRVGIPVTLECE	3093
Rattus_norvegicus	IRAKVSDGGEYTCVAINQAGESKKKVSLTVHVPPSIKDHGSESLSIVNVREGTSVSVLECE	3082
Mus_musculus	IRAKISDGGDYTCIAINQAGESKKKVSLTVHVPPSIKDHGSQSLSIVNVREGTSVSVLECE	3081
Homo_sapiens	IRAKVSDGGEYTCIAINQAGESKKKFSLTVYVPPSIKDHDESLSVNVREGTSVSVLECE	3082
Pan_troglodytes	IRAKVSDGGEYTCIAINQAGESKKKFSLTVYVPPSIKDHDESLSVNVREGTSVSVLECE	3096
Macaca_mulatta	IRAKVSDGGEYTCIAINQAGESKKKFSLTVYVPPSIKDHDESLSVNVREGTSVSVLECE	3082
Callithrix_jacchus	IRAKVSDGGEYTCIAINQAGESKKKISLTVYVPPSIKDRDESLSVNVREGTSVSVLECE	3081
Canis_lupus_familiaris	IRAKVSDGGEYTCIAINQAGESKKKVSLTVYVPPSIKDHGSESLSVNVREGTSASLECE	3084
Equus_caballus	IRAKVSDGGEYTCIAINQAGESKKKVFLTVYVPPSIKQDGSLSVNVREGTIPVSLACE	3082
Bos_taurus	IRAKVSDGGEYTCVAINQAGESKKKVSLTVYVPPSIKDHGSESLSVNVREGTSVSVLECG	3082
Rhinatrema_bivittatum	PRVKVSDGGEYTCIAINQAGESNKKIFLTVYVPPSIKDRGESLAVVTARVGTILVTLECE	3092
Xenopus_tropicalis	PQTRLSDVGEYS CIAINQAGEAKKTFFLDIYAPPSIVANVRDSSTEVNVKVNASTILECE	3083
	.....3070.....3080.....3090.....3100.....3110.....3120	

	:.*:*.***.* ** :	::	*.* ** :	:	.* ***:* * .*:.. :.*	
Danio_rerio	SNAVPPPVITWYKNGRIAE	TANLRILADGOMLQ	KETEVS	DTGOYVCKATNVAGQ	VDDKN	3127
Callorhinchus_milii	SNAVPPPVITWYKNGRTAS	AKLRILANGOMLEIS	GVEVSDTGOYVCKATNVAGQ	ADKS		3142
Pavo_muticus	ASAIPPPVITWYKNRRII	ESANMEILT	GTOLRIKGAEVSDTGOYVCKAINIAGQ	DDKN		3147
Pavo_cristatus	ASAIPPPVITWYKNRRII	ESANMEILT	GTOLRIKGAEVSDTGOYVCKAINIAGQ	DDKN		3147
Gallus_gallus	ASAIPPPVITWYKNRRMII	ESANVEILADGOTLIQIKGAEVSDTGOYVCKAINIAGR	DDKN			3145
Chelonia_mydas	SNAVPPPVITWYKNGRMITE	SANIKMLADGOMLQIKSAEVS	DTGOYVCKAINIAGR	DDKN		3153
Rattus_norvegicus	SNAVPPPVITWSKNGRMIPD	SSNVAILTGGOMLHIRRAE	VADTGOYVCRAINVAGR	DDKN		3142
Mus_musculus	SNAVPPPVITWSKNGRMIPD	STNVEILTGGOTLHIRRAE	VSDTGOYVCRAINVAGR	DDKN		3141
Homo_sapiens	SNAVPPPVITWYKNGRMITE	STHVEILADGOMLHIKKA	EVS	DTGOYVCRAINVAGR	DDKN	3142
Pan_troglodytes	SNAVPPPVITWYKNGRMITE	STHVEILADGOMLHIKKA	EVS	DTGOYVCRAINVAGR	DDKN	3156
Macaca_mulatta	SNAVPPPVITWYKNGRMITE	STHVEILADGOMLHIKKA	EVS	DTGOYVCRAINVAGR	DDKN	3142
Callithrix_jacchus	SNAVPPPVITWYKNGRMITE	STHVAILADGOMLHIKKA	EVS	DTGOYVCRAINVAGR	DDKN	3141
Canis_lupus_familiaris	SNAVPPPVITWYKNGOMITE	STHLEILADGOMLHIKKA	EVS	DTGOYVCRAINVAGR	DDKN	3144
Equus caballus	SNAVPPPVITWYKNGRMITE	STHSEILADGOMLYIQ	KA	EVS	DTGOYVCRAINVAGR	DDKN 3142
Bos_taurus	SNAVPPPVITWYKNGRMLTE	SARLEILADGOMLHITKA	EVS	DTGOYVCRAINVAGR	DDKN	3142
Rhinatrema_bivittatum	SNAVPPPVITWYKNGRPVTE	SANICILADGOMMQIKSAEVS	DTGOYVCKATNIAGE	DDKN		3152
Xenopus_tropicalis	SNAIPAPVINWYKNGPIRE	TSYOFLEGGORLNIRNAQ	VFDTG	YEYECIVTNVVG	QDNKK	3143
3130.....3140.....3150.....3160.....3170.....3180					

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Danio_rerio	FHLNIHVPPRLDGAEEVVETISNPVTFACDATGIPPPSLTLWLKNGRVIENSESLEMHI	3187
Callorhinchus_milii	FHLNIHVPPSIEGPAQETINEVISNPVIFACDATGIPPPTLTWLKSGRAIANAGSLEMHI	3202
Pavo_muticus	FHLNVYVPPNIEGPHEELISETVGNPVAFMCDATGIPPPTLVWLKNGKPLENSNSLEVHI	3207
Pavo_cristatus	FHLNVYVPPNIEGPHEELISETVGNPVAFMCDATGIPPPTLVWLKNGKPLENSNSLEVHI	3207
Gallus_gallus	FHLNVYVPPNIEGPHEELIVETISNPVAFICDATGIPPPTLVWLKNGKPLENSNSLDVHI	3205
Chelonia_mydas	FHLNVYVPPSIDEGPEQWINETISNPVTFACDATGIPPPTLIWLKNGKHLENSDSLEIHI	3213
Rattus_norvegicus	FHLNVYVPPTIEGPETEIVIVETMSNPVTILTCDATGIPPPTITWLKNHKPIENS DPLEAHI	3202
Mus_musculus	FHLNVYVPPTIEGPETEIVIVETISNPVTILTCDATGIPPPTITWLKNHKPIENS DPLEVHI	3201
Homo_sapiens	FHLNVYVPPSIEGPEREVIVETISNPVTILTCDATGIPPPTIAWLKNHKRIENS DSLEVRI	3202
Pan_troglodytes	FHLNVYVPPSIEGPEREVIVETISNPVTILTCDATGIPPPTIAWLKNHKRIENS DSLEVHI	3216
Macaca_mulatta	FHLNVYVPPSIEGPEKEVIVETISNPVMILTCDATGIPPPTIAWLKNHKHIENS DSLEVHI	3202
Callithrix_jacchus	FHLNVYVPPSIEGPEREVIVETISNPVTILTCDATGIPPPTIAWLKNHKRIENS DSLEVHI	3201
Canis_lupus_familiaris	FHLNVYVPPSIEGPENKVIVETISNPVTILTCDATGIPPPMIAWLKNHKPIENS DSLEVHI	3204
Equus caballus	FHLNVYVPPSIEGPEKEVVIVETISNPVTILTCDATGIPPPTIAWVKNHKPIENS DSLEVHI	3202
Bos_taurus	FHLNVYVPPSIEGPENEVIVETISNPVTILTCDATGIPPPSIAWLKNHRPIENS G SLEVHI	3202
Rhinatrema_bivittatum	FHLNVYVPPSIEGP EEES INEII SNPVTFSCDATGIPPPTLTWLKNGKPIENLESLEIHV	3212
Xenopus_tropicalis	FFLNIVYVHPSIOGLONEYHNGIIONSVTFSCDAYGIPVPVTLRWLKDGHPIGLTDSLEIQI	3203
	.....3190.....3200.....3210.....3220.....3230.....3240	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONTepTue Feb 1 12:21:01 2022

Page 19 of 32

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Danio_rerio      LSGGSKLQIISRSQSDSGTYTCVASNVEGKAQKNYHLVIHVPNNIGSELPSEMSVLLND 3247
Callorhinchus_milii LSGGSKLQIARSQQSDTGTYTCVASNVEGTARKNYLLTIQVPPNIGSEMPSEVSVAVGE 3262
Pavo_muticus     LSGRSLQIARSQLLDSGTYTCIASNVEGKAQKSFVLSIQVPPSIVGSELSSEVGVLFGE 3267
Pavo_cristatus   LSGRSLQIARSQLLDSGTYTCIASNVEGKAQKSFVLSIQVPPSIVGSELSSEVGVLFGE 3267
Gallus_gallus    FSGGSRQLIAHSQLLDSGTYTCIASNVEGKAQKRFVLSVQVPPSIVGSEMPREVGVLLE 3265
Chelonia_mydas   LSGGSKLQIARSQHSDSGNYTCIASNVEGKAQKSYILSIQVPPNIVGSEMPSEVSVLLGE 3273
Rattus_norvegicus LSGGSKLQIARLQSRNNGNYTCVASNMEGKAQKNYILSIQVPPSVAGAEVPSSEVSVLLGE 3262
Mus_musculus     LSGGSKLQIARQPQRNSGNYTCVASNMEGKAQKNFILFIQVPPSVAGAEVPSSEVSVLLGE 3261
Homo_sapiens     LSGGSKLQIARSQHSDSGNYTCIASNMEGKAQKYFVLSIQVPPSVAGAEIPSDVSVLLGE 3262
Pan_troglodytes  LSGGSKLQIARSQSDSGNYTCIASNMEGKAQKYFVLSIQVPPSVAGAEIPSDVSVLLGE 3276
Macaca_mulatta   LSGGSKLQIARSQSRSDSGNYTCIASNMEGRAQKYFVLSIQVPPSVAGAEIPSDVSVLLGE 3262
Callithrix_jacchus LSGGSKLQIARSQSRSDSGNYTCIASNMEGKAQKNYFVLSIQVPPSVAGAEIPSDVSVLLGE 3261
Canis_lupus_familiaris LSGGSKLQIARSQHSDSGNYTCIASNMEGKAQKNYILSIQVPPSVAGAEIPSEVSVLQGE 3264
Equus_caballus   LSGGRKLQIARSQSRSDSGNYTCIASNMEGKAQKSYLSILVPPSVAGAEIPSEVSVLLGE 3262
Bos_taurus       LSGGRKLQIARSQHSDSGNYTCIASNMEGKAQKHVILSIQVPPNVADAEIPSEVSVLLGE 3262
Rhinatrema_bivittatum LSGGSKLQIARSQVRSDSGTYTCIASNVEGKAQKSYILHIVPPSIVGSEMPSEVSVLLGE 3272
Xenopus_tropicalis LSGGSKMKIARAQLTDGGTYTCLASNVEGTAETKYILTIOVPPSIDGSGMTNELNVLPGE 3263
.....3250.....3260.....3270.....3280.....3290.....3300

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Danio_rerio      SVQLVCRAEGTPTPEIQWLKDGMTISRTAQKNIKISPDGSLTITVAVHTSDSGKYTCVAT 3307
Callorhinchus_milii NVKLICAAQGTIPKQVQWLKDGKPFNTSDEGRRLRLTSDGSLTISITSAVTADIGKYTCMAT 3322
Pavo_muticus     GIQLVCNATGVPPTPVVQWLKDGKTVASDDLQIRIVAPDGSTLNIFRALTSDTGKYTCVAT 3327
Pavo_cristatus   GIQLVCNATGVPPTPVVQWLKDGKTVASDDLQIRIVAPDGSTLNIFRALTSDTGKYTCVAT 3327
Gallus_gallus    GIQLVCNATGVPMPVVQWLKDGKTVASDNLERIRIVAPDGSTLNIFRALTSDTGKYTCVAT 3325
Chelonia_mydas   SIQLVCNAKGIPRPAIQWLKDGNPVTSNDQIRIVTPDGSTLNIFGVLSIDMGKYTCVAT 3333
Rattus_norvegicus NVELVCDADGIPRPLQWLKDGKPIVSGETERVRVTIDGSTLNIRALTSIDMGKYTCVAT 3322
Mus_musculus     NVELVCNADGIPTPHLQWLKDGKPIVNGETERVRVTIDGSTLNIRALTSIDMGKYTCVAT 3321
Homo_sapiens     NVELVCNANGIPTPLIQWLKDGKPIASGETERIRVSANGSTLNIRYALTSIDTGKYTCVAT 3322
Pan_troglodytes  NVELVCNANGIPTPLIQWLKDGKPIASGETERIRVSANGSTLNIRYALTSIDTGKYTCVAT 3336
Macaca_mulatta   NVELVCNANGIPTPVIQWLKDGKPVASGETERIRVSANGSTLNIRYALTSIDTGKYTCVAT 3322
Callithrix_jacchus NVELVCNANGIPTPLIQWLKDGKPIASGETERIRVSANGSTLNIRYALTSIDTGKYTCVAT 3321
Canis_lupus_familiaris NVELACNANGIPTPLIQWLKDGKPIVNTSETERIRVTADGSTLTIRYALPSNMGKYTCVAT 3324
Equus_caballus   NVELVCNANGIPTPLIQWLKDGKPIVNTSETERIRVTANGSTLNIRYALPSIDMGKYTCVAT 3322
Bos_taurus       NVELVCSANGIPTPLIQWLKDGKPIVNTSETERIRVAADSTLNIRYALPSIDMGKYTCVAT 3322
Rhinatrema_bivittatum DFQLICRADGFPSPTIQWLKDGKSITSSESIRKVKVTPDGYALSVFGALTSIDMGKYTCVAS 3332
Xenopus_tropicalis IIQLICNAKGIPTPVIHWLKDGKHITSEDYLGINITSDGEILTISKITQTSIDMGKYTCVAT 3323
.....3310.....3320.....3330.....3340.....3350.....3360

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* ***:***:***:***:***:***:***:***:***:***:***:***:***:***:***:***:
Danio_rerio      NQAGEEDRIFNLNVYVPPLIQNGPAAKELTTLVDSSINIECVASGSPPPQINWLKNGLP 3367
Callorhinchus_milii NSAGEEDRIFNLNIYVPTIHESAEGNRELTTILDSSINIECKAIGSPPPQINWLRNGLP 3382
Pavo_muticus     NPAGEEDQIFSLSVYVPPITITNNKSEPEDLAALLDTSINIGCTATGTPSPQINWLKNGLP 3387
Pavo_cristatus   NPAGEEDQIFSLSVYVPPITITNNKSEPEDLAALLDTSINIGCTATGTPSPQINWLKNGLP 3387
Gallus_gallus    NPAGEEDQIFNLNVYVPPITITNNKSEPEDLAALLDTSINIGCAATGMPPSPQINWLKNGLP 3385
Chelonia_mydas   NPAGEEDRIFNLNVYVPPAIAANNKDEAEKLTAIQDASINIECTAVGTPPPQINWLKNGLP 3393
Rattus_norvegicus NPAGEEDRIFNLNVYVPPKIRGNKEEAELMALVDTSLNIECKATGTPPPQISWLKNGLP 3382
Mus_musculus     NPAGEEDRIFNLNVYVPPKIRGNKEEAELMALVDTSLNIECKATGTPPPQINWLKNGLP 3381
Homo_sapiens     NPAGEEDRIFNLNVYVPTPIRGNKDEAEKLMTLVDTSLNIECRATGTPPPQINWLKNGLP 3382
Pan_troglodytes  NPAGEEDRIFNLNVYVPTPIGGNKDEAEKLMTLVDTSLNIECRATGTPPPQINWLKNGLP 3396
Macaca_mulatta   NPAGEEDRIFNLNVFVTPPIRGNKDEAEKLMTLVDTSLNIECRATGTPPPQINWLKNGLP 3382
Callithrix_jacchus NPAGEEDRIFNLNVYVTPPIRGNKDEAEKLMTLVDTSVNIECRATGTPPPQINWLKNGLP 3381
Canis_lupus_familiaris NSAGEEDRIFNLNVYVPPAIRGNKKEEAELMALVDTSLNIECRATGTPPPQINWLKNGLP 3384
Equus_caballus   NPAGEEDRIFNLNVYVPPAIRGNKKEEAELMALVDTSLNIECRATGTPPPQINWLKNGLP 3382
Bos_taurus       NPAGEEDRIFNLNVYVPPAIRGNKKEEAELMALVDTSLNIECRATGMPPQINWLKNGLP 3382
Rhinatrema_bivittatum NPAGEEDRIFNVNVYVPPIIDKNKDGAIQLTAILDTSINIECMATGTPPPQINWLKNGLP 3392
Xenopus_tropicalis NPAGEDDRIYNVNVFVAPKIDDKGTFFVLTAVLDTSLNIECHASGFETPQINWLKNGLP 3383
.....3370.....3380.....3390.....3400.....3410.....3420

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONtepTue Feb 1 12:21:01 2022

Page 20 of 32

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*.:***:*** :.*. :*: *. * * . ***:*.***:*. : * : : ..*: * . *
Danio_rerio          LPVSSQIRLLSAGQVLRIRARAQVSDGGSYTCVASNRAGVDNRHYTLQVYVPPSLDGAGST 3427
Callorhinchus_milii LPISSQIRLLSAGQVLRIVRVQVSDAGTYTCVASNRAGVDNKNYNLIVYVPPNLDNAGGT 3442
Pavo_muticus         LSVSSRIRLLSAGQILRLVRVQISDAGVYTCVASSRAGVDNKHYNLQIFVPPSLDNARGT 3447
Pavo_cristatus       LSVSSRIRLLSAGQILRLVRVQISDAGVYTCVASSRAGVDNKHYNLQIFVPPSLDNARGT 3447
Gallus_gallus        LSVSSRIRLLSAGQILRLVRVQISDAGVYTCVASSRAGVDNKHYNLQIFVPPSLDNARGT 3445
Chelonia_mydas       LSISSQIRLLSAGQILRIVRAQVSDVGVTTCVASNRAGVDNKHYNLQVYVPPSMDKAGET 3453
Rattus_norvegicus    LPISSHIRLLSAGQAIRIVRAQVSDVAVYTCVASNRAGIDSKRYSLOVFVPPNMDNAMGT 3442
Mus_musculus         LPISSHIRLLSAGQVVRIVRAQVSDIAVYTCVASNRAGVDSKHYSLQVFVPPNMDNAMGT 3441
Homo_sapiens         LPLSSHIRLLAAGQVIRIVRAQVSDVAVYTCVASNRAGVDNKHYNLQVFAPPNMDNSMGT 3442
Pan_troglodytes     LPLSSHIRLLAAGQVIRIVRAQVSDVAVYTCVASNRAGVDNKHYNLQVFAPPNMDNSMRT 3456
Macaca_mulatta      LPLSSHIRLLAAGQVIRIVRAQVSDAAVYTCVAANRAGVDNKHYSLOVFAPPNMDNSMGT 3442
Callithrix_jacchus   LPVSSHIRLLAAGQVIRIVRAQVSDVAVYTCVASNRAGVDNKHYNLQVFAPPNMDNAMGT 3441
Canis_lupus_familiaris LPLSSHIRLLSGGQVIRIVRAQVSDVAMYTCVASNRAGVDNKHYSLOVFVPPNLDNAMGT 3444
Equus_caballus       LPLSSHIRLLSGGQVIRIVRAQVSDVAMYTCVASNRAGVDNKHYNLQVFVPPNLDNAMGT 3442
Bos_taurus          LPLSSHIRLLSGGQVIRIVRAQASDVAVYTCVASNRAGVDNKHYSLOVLVPPSLDNMGMT 3442
Rhinatrema_bivittatum LPISSHIRLLSAGQVLRIVRAQVSDVGTYTCVASSRAGVDNKLHYLQVFVPPSMDNAGGT 3452
Xenopus_tropicalis   LPVSSQVRLQSGGQVLRISRVQKSDGATYTCIASNRAGVDKKDYNLQVYVPSPLDEADVT 3443
.....3430.....3440.....3450.....3460.....3470.....3480

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Danio_rerio          EEVTIVKGSSTASFCIADGTPSPVITWLRTGASVSKDAHISLLNQNSTMQIVNVLVNHTG 3487
Callorhinchus_milii EDVTVIKGSSASMSCIMDGTTPAPTLAWLKAEPVLVGRHMTVSNRGMALQITRAELGDTG 3502
Pavo_muticus         EEVTIVKGSSTASLKCFTDGTTPAPAMSWFKNGHPLSLGAHQITISNOGMVLHVFVKAIGDIG 3507
Pavo_cristatus       EEVTIVKGSSTASLKCFTDGTTPAPAMSWFKNGHPLSLGAHQITISNOGMVLHVFVKAIGDIG 3507
Gallus_gallus        EEVTIVKGSSTASLKCFTDGTTPAPAMSWFKNGHPLSLGAHQITISNOGMVLHVFVKAIGDIG 3505
Chelonia_mydas       EEVTIVKGNPTSMCFTDGTTPIPNMLWLKNGQSLNLGTHLTISNOGMVLHISATETDDTG 3513
Rattus_norvegicus    EEITLVKGSSTSMTCFTDGTTPSMSWLRDGOPLALDAHLTIGTQGMVLQLIKADTEDTG 3502
Mus_musculus         EEITIVKGSSTSMTCFTDGTTPAPSMWLRDGOPLAPDAHLTVSTQGMVLQLIKAETEDTG 3501
Homo_sapiens         EEITVLKGSSTSMACITDGTTPAPSMWLRDGOPLGLDAHLTVSTHGMVLQLLKAETEDSG 3502
Pan_troglodytes     EEITVLKGSSTSMACITDGTTPAPSMWLRDGOPLGLDAHLTVSTHGMVLQLLKAETEDSG 3516
Macaca_mulatta      EEITILKGSSTSMACITHGTTPAPSMWLRDGOPLGLDAHLTVSTHGMVLQLLKAETEDSG 3502
Callithrix_jacchus   EEITILKGSSTSMTCITNGTTPAPSMWLRDGOPLGLDAHLTVSSHGMVLQLLKAETEDSG 3501
Canis_lupus_familiaris EEITIVKGSSTSMRCFTDGTTPRMSWLKDGQPLGNTRLTISTQGMVLQLLNAETEDSG 3504
Equus_caballus       EEITIVKGSSTSMTCFTDGTTPRMSWLKDGQPLGLDAHLTVSTQGMVLQLVKAETEDSG 3502
Bos_taurus          EEITIVKGSSTSMTCFTDGTTPRMSWLKDGGRPLGLDAHLSSISSQGMVLQLIKAETEDSG 3502
Rhinatrema_bivittatum EEVITVKGNTSLLCFTDGTTPNPNMSWLKDGQSLKLGAHLTVINQGMVLQISKAKMEDVG 3512
Xenopus_tropicalis   QQITVIRDDPVVMRCIANGVPAPRISWLKDGRLGDEYLPYIQSQGMVLHIVKAKMDDIA 3503
.....3490.....3500.....3510.....3520.....3530.....3540

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Danio_rerio          RYTCTAHNQAGDASRHFSLKVLDPPIRINGSVPAEVSVVVNHVLELLCEADGIPPLTLTW 3547
Callorhinchus_milii VYTCVASNEAGEVSKHFNKVLDPPIRINGSDLPEETSVVVNNPLELLCIATGIPAPVLTW 3562
Pavo_muticus         KYTCIASNKAGDVSKRFSKVLERPQINGSQKPEELSVIVNNPLELLCTSTGIPKISW 3567
Pavo_cristatus       KYTCIASNKAGDVSKRFSKVLERPQINGSQKPEELSVIVNNPLELLCTSTGIPKISW 3567
Gallus_gallus        KYTCVAANKAGDVSKHFSKVLLEPPQINGSQKPEELSVIVNNPLELLCTSTGIPKISW 3565
Chelonia_mydas       RFTCIASNEAGEVSKHFTLKVLEPPHINGSQKPEEISVVVNHLELFCMSIGIPAPKITW 3573
Rattus_norvegicus    KYTCVASNEAGEVSKHFVLKVLLEPPHINGSQKPEEISVVVNNPLELSCIASGIPAPKISW 3562
Mus_musculus         KYTCVATNEAGEVSKHFVLKVLLEPPHINGSQKPEEISVVVNNPLELSCIASGIPAPKISW 3561
Homo_sapiens         KYTCIASNEAGEVSKHFILKVLLEPPHINGSQKPEEISVVVNNPLELTCIASGIPAPKMTW 3562
Pan_troglodytes     KYTCIASNEAGEVSKHFILKVLLEPPHINGSQKPEEISVVVNNPLELTCIASGIPAPKMTW 3576
Macaca_mulatta      KYTCIASNEAGEVSKHFILKVLLEPPHINGSQKPEEISVVVNNPLELACIASGIPAPKMTW 3562
Callithrix_jacchus   KYTCIASNEAGEVSKHFILKVLLEPPHINGSQKPEEISVVVNNPLELACIASGIPAPKMTW 3561
Canis_lupus_familiaris RYTCIASNEAGEVNKHFIKVLLEPPHINGSQKPEEISVVVNNPLELTCLASGIPKMTW 3564
Equus_caballus       RYTCIASNEAGEVSKHFILKVLLEPPHINGSQKPEEISVVVNNPLELTCLASGIPAPKITW 3562
Bos_taurus          RYTCIASNEAGEVSKHFILKILEPPHINGSQKPEEISVVVNNPLELTCLASGIPAPKITW 3562
Rhinatrema_bivittatum RYTCIASNEAGEVSKHFILKVLLEPPHINGSQKPEEISVVVNNPLELFCNASGIPKILAW 3572
Xenopus_tropicalis   RYTCVASNAAGRVSKHFILNVMEPPHINGSQKPEEISVVVNNPLELFCNASGIPKILAW 3563
.....3550.....3560.....3570.....3580.....3590.....3600

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONtepTue Feb 1 12:21:01 2022

Page 21 of 32

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Danio_rerio          LKDGRLPQTENIRLLRDGQMLRVASAOVENTGRYTCLASSPAGDDDDKEFLVRVHVPPNI 3607
Callorhinchus_milii MKDGRPLPQTETIRVLRGGEVLRVANAQVEDTGRYTCLASTTAGDDDDKEYLVRVHVPPNI 3622
Pavo_muticus         VKDGRPLLQNDNIRVIREG--LRITSAQVEDAGRYTCLAFSPAGDDDDKEYLVRVHVPPNI 3625
Pavo_cristatus       VKDGRPLLQNDNIRVIREG--LRITSAQVEDAGRYTCLAFSPAGDDDDKEYLVRVHVPPNI 3625
Gallus_gallus        MKDGRPLLQNDNIHVIREG--LRITSAQVKDAGRYTCLAFSPAGDDDDKEYLVRVHVPPNI 3623
Chelonia_mydas       MKDGRPLPQNDNVHVLRGGEVLRISAQVEDTGRYTCFASSPAGDDDDKEYLVRVHVPPNI 3633
Rattus_norvegicus    MKDGRPLPQTDQVQVTLGGGAILRVSSAQVEDTGRYTCLASSPAGDDDDKEYLVRVHVPPNI 3622
Mus_musculus         MKDGRPFLQTEQVQVTLGGGAILRVSSAQVEDTGRYTCLASSPAGDDDDKEYLVRVHVPPNI 3621
Homo_sapiens         MKDGRPLPQTDQVQVTLGGGAILRVSSAQVEDTGRYTCLASSPAGDDDDKEYLVRVHVPPNI 3622
Pan_troglodytes      MKDGRPLPQTDQVQVTLGGGAILRVSSAQVEDTGRYTCLASSPAGDDDDKEYLVRVHVPPNI 3636
Macaca_mulatta       MKDGRPLPQTDQVQVTLGGGAILRVSSAQVEDTGRYTCLASSPAGDDDDKEYLVRVHVPPNI 3622
Callithrix_jacchus   MKDGRPLPQTDQVQVTLGGGAILRVSSAQVEDTGRYTCLASSPAGDDDDKEYLVRVHVPPNI 3621
Canis_lupus_familiaris MKDGRPLPQTDQVQVTLGGGAILRVSSAQVEDTGRYTCLASSPAGDDDDKEYLVRVHVPPNI 3624
Equus_caballus       MKDGRPLPQMDQVQVTLGGGAILRVSSAQVEDTGRYTCLASSPAGDDDDKEYLVRVHVPPNI 3622
Bos_taurus          MKDGRPLPQMDQVQVTLGGGAILRVSSAQVEDTGRYTCLASSPAGDDDDKEYLVRVHVPPNI 3622
Rhinatrema_bivittatum LKDGRIPIQSDAIHVLRGGGEMLRISAQVEDTGRYTCLASSPAGDDDDKEYLVRVHVPPNI 3632
Xenopus_tropicalis   LKDGQPLSQNDNMHMLMKAGQVLRITSAQVEENVGRFVCLASNHAGDTKKEFLVKVHIPPNI 3623
.....3610.....3620.....3630.....3640.....3650.....3660

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Danio_rerio          AGDRGVQDVSVLQNRQVITLECKSDAVPPPTLTWLKDDAPLKMSPRVRVLSGGRYLQINNA 3667
Callorhinchus_milii AGQSGPOYLTVVRNGQAILECKSDAVPPPTLTWLKDNKLLQATPRIRILSSGRYLQINNA 3682
Pavo_muticus         AGTSGLDLTLVLRNRQVILECKSDAVPPPTIAWLKNGELLEGTPRIRILSNGRYMQINNA 3685
Pavo_cristatus       AGTSGLDLTLVLRNRQVILECKSDAVPPPTIAWLKNGELLEGTPRIRILSNGRYMQINNA 3685
Gallus_gallus        AGTSGVQDLTLVLRNRQVILECKSDAVPPPTIISWLKNGELLEGTPRIRILSNGRYMQINNA 3683
Chelonia_mydas       AGTSGPQDLTLVLRNRQVILECKSDAVPPPTITWLKGDPLQVTPRVRILSSGRYLQINNA 3693
Rattus_norvegicus    AGVDEAQDFTVLRNRQVITLECKSDAVPPPVIMWLKNGEQLQATPRVRILSSGRYLQINNA 3682
Mus_musculus         AGMDEAQDFTVLRNRQVITLECKSDAVPPPVIMWLKNGEQLQATPRVRILSSGRYLQINNA 3681
Homo_sapiens         AGTDEPRDITVLRNRQVITLECKSDAVPPPVITWLKNGERLQATPRVRILSSGRYLQINNA 3682
Pan_troglodytes      AGTDEPQDITVLRNRQVITLECKSDAVPPPVITWLKNGERLQATPRVRILSSGRYLQINNA 3696
Macaca_mulatta       AGTDEPQDITVLRNRQVITLECKSDAVPPPVITWLKNGERLQATPRVRILSSGRYLQINNA 3682
Callithrix_jacchus   AGTDEPQDITVLRNRQVITLECKSDAVPPPVITWLKNGEQLQATPRVRILSSGRYLQINNA 3681
Canis_lupus_familiaris AGMDESQDFTVLRNRQVITLECKSDAVPPPVITWLKNGERLQATPRVRILSSGRYLQINNA 3684
Equus_caballus       AGTDESQDFTVLRNRQVITLECKSDAVPPPVITWLKNGERLQATPRVRILSSGRYLQINNA 3682
Bos_taurus          AGTGEFQDFTVLRNRQVITLECKSDAVPPPVITWLKNGERLQATPRIRILSSGRYLQINNA 3682
Rhinatrema_bivittatum AGRSGSQDVTVMKNGQAILECKSDAVPPPTITWLKNGERLQATPRIRILSSGRYLQINNA 3692
Xenopus_tropicalis   AGVSGTQNTITVLQKKQITMECKSDALPPPRITWLKNGQPLQSPMVHILSNQGFVQIDNT 3683
.....3670.....3680.....3690.....3700.....3710.....3720

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Danio_rerio          VLGDGAQYSCVASNVAGETRRHFKLSVNVPPTIKDGPOSVSVHINQPVVLECVVNGVPAP 3727
Callorhinchus_milii DLGDTARYTCVASNIAGTMTREFTLAVNVPPMIEESPQAVAVHINQPAVLTCVAVSGLPSP 3742
Pavo_muticus         DLGDTANYTCVASNIAGKMTREFMLAVHVAPTIQSSPQTTVVHLNSSAVLECTAEGVPTP 3745
Pavo_cristatus       DLGDTANYTCVASNIAGKMTREFMLAVHVAPTIQSSPQTTVVHLNSSAVLECTAEGVPTP 3745
Gallus_gallus        DLGDTANYTCVASNIAGKMTREFMLAVHVAPTIQSSPQTTVVHLNSSAVLECTAEGVPTP 3743
Chelonia_mydas       DLGDTASYTCVASNIAGKMTREFVLTNVVAPTIKGGPQTTVVVNINKSAVLECVAVGPIPTP 3753
Rattus_norvegicus    DLGDTANYTCVASNIAGKMTREFILTVNVPPSISGGPQSLVTLNKSIALECLAEVGPSP 3742
Mus_musculus         DLGDTANYTCVASNIAGKMTREFNLTVNVPPSISGGPQSLVTLNKSIALECLAEVGPSP 3741
Homo_sapiens         DLGDTANYTCVASNIAGKMTREFILTVNVPPNIKGGPQSLVILLNKSTVLECIAGVPTP 3742
Pan_troglodytes      DLGDTANYTCVASNIAGKMTREFILTVNVPPNIKGGPQSLVILLNKSTVLECIAGVPTP 3756
Macaca_mulatta       DLGDTANYTCVASNIAGKMTREFILTVNVPPNIKGGPQSLVILLNKSAVLECIAGVPTP 3742
Callithrix_jacchus   DLGDTANYTCVASNIAGKMTREFILTVNVPPNINGGPQSLVILLNKSAVLECIAGVPTP 3741
Canis_lupus_familiaris DLNDTANYTCVASNIAGKMTREFILTVNVPPNIKSGPQSVVIHLNMSAVLECLAEVGPAP 3744
Equus_caballus       DLGDTANYTCVASNIAGKMTREFILTVNVPPNIRSGPQSVVIHLNMSAVLECFAGVPTP 3742
Bos_taurus          DLGDTANYTCVASNIAGKMTREFILTVNVPPSISGGPQSLVILLNKSTLLECFAGVPTP 3742
Rhinatrema_bivittatum ELADTASYTCVARNIAGMTTREFILTVNVAPTIEDGPQVTAHINESVLECIIVKGVNP 3752
Xenopus_tropicalis   EVTDTGRYTCIATNIAGKMTKEFILNIQVPPSIQEGPQSLVIAFVNEPITILECISSGVPLP 3743
.....3730.....3740.....3750.....3760.....3770.....3780

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONTepTue Feb 1 12:21:01 2022

Page 22 of 32

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:****: : : * : * * : : : * * : : : : : : : : : : : : : : : : :
Danio_rerio      RITWRKQGSILAGNNPRYKFGEDGSLRILSAQVTDTGRYLCMATNQAGTERKRVLDQVYV 3787
Callorhinchus_milii QVTWRKDGTVLSTNSLRYSLSGDSLHIDSAQVTDTGRYLCMATNPAGTARKRIDVQVYV 3802
Pavo_muticus      RIAWRKDGAVFNGNNTTRYSILEDGSLQIHSAHVTDTGRYMCIASNAAGTERKQIDLVLV 3805
Pavo_cristatus    RIAWRKDGAVFNGNNTTRYSILEDGSLQIHSAHVTDTGRYMCIASNAAGTERKQIDLVLV 3805
Gallus_gallus     RIAWRKDGAVFNGNNTTRYSILEDGSLQIHSAHVTDTGRYLCMATNAAGTERKQIDLVLV 3803
Chelonia_mydas    RITWRKDGAI FAGNNARYSVLEDGSLYIHTAHVTDTGRYLCMATNAAGTERKRIDLQIQV 3813
Rattus_norvegicus RITWRKDGAVLAESHARYSILENGFLHIQSAHIIDTGRYLCMATNVAGTDRRRIDLQVHV 3802
Mus_musculus      RITWRKDGAVLAESHARYSILENGFLHIQSAHVTDTGRYLCMATNVAGTDRRRIDLQVHV 3801
Homo_sapiens      RITWRKDGAVLAGNHARYSILENGFLHIQSAHVTDTGRYLCMATNAAGTDRRRIDLQVHV 3802
Pan_troglodytes   RITWRKDGAVLAGNHARYSILENGFLHIQSAHVTDTGRYLCMATNAAGTDRRRIDLQVHV 3816
Macaca_mulatta    RITWRKDGAVLAGNHARYSILENGFLHIQSAHVTDTGRYLCMATNAAGTDRRRIDLQVHV 3802
Callithrix_jacchus RITWRKDGAVLAGNHARYSILENGFLHIQSAHVTDTGRYLCMASNAAGTDRRRIDLQVHV 3801
Canis_lupus_familiaris RITWRKDGAVLSASHARYSILENGFLHIQSAHVTDTGRYLCMATNAAGTDRRRIDLQVHV 3804
Equus_caballus    RITWRKDGAVLSGSHVRYSIENGFLHIQSAHVTDTGRYLCMATNAAGTDRKRIDLQVHV 3802
Bos_taurus        RITWRKDGAVLSGSHARYSVLENGFLRIQSAQVTDGGRYLCMATSAAGTDRRRIDLQVHV 3802
Rhinatrema_bivittatum RITWRKDGAVILAGNNARYKISENGSLHIHSTHVTDTGRYLCMATNAAGSERRRVLDQVYV 3812
Xenopus_tropicalis KTAWRKDGSLLSQHNARFLVSONGSLYISAVEVADSGQYFCLATNAAGSSQRHIDLLVYD 3803
.....3790.....3800.....3810.....3820.....3830.....3840

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* * : : : : * * * * : * * : * * : : : : : * * * * * :
Danio_rerio      PPSIAEGPTNITVTNVVQTTLSCATGIPKPSVSWTKNTQALNTDQNNMYRLSSGSLV 3847
Callorhinchus_milii PPSIALGPTDITITVTNVVQTTLACEATGIPRPVVTWKKNGRLLNTDQ--MYRLSSASLV 3860
Pavo_muticus      PPTIASGCTNITVTNVVQTTLPCATGIPRPAVSWKKNGRLLSLDQNTYSLLSSGSLV 3865
Pavo_cristatus    PPTIASGCTNITVTNVVQTTLPCATGIPRPAVSWKKNGRLLSLDQNTYSLLSSGSLV 3865
Gallus_gallus     PPTIASGHTNITVTNVVQTTLPCATGIPRPAVSWKKNGHLLSLDQNTYRLLSSGSLV 3863
Chelonia_mydas    PPSIAPGPTNITVTNVVQTTLPCETTIPRPAISWKKNGHVLNVQDQNTYRLLSSGSLV 3873
Rattus_norvegicus PPSIAAGPTNVTVTNVVQTTLACEATGIPKPSINWRKDGHLLNVQDQNSYRLLSSGSLI 3862
Mus_musculus      PPSIAMGPTNVTVTNVVQTTLACEATGIPKPSVTVWRKNGHLLNVQDQNSYRLLSSGSLV 3861
Homo_sapiens      PPSIAPGPTNMTVTNVVQTTLACEATGIPKPSINWRKNGHLLNVQDQNSYRLLSSGSLV 3862
Pan_troglodytes   PPSIAPGPTNMTVTNVVQTTLACEATGIPKPSINWRKNGHLLNVQDQNSYRLLSSGSLV 3876
Macaca_mulatta    PPSIAPGPTNMTVTNVVQTTLACEATGIPKPSINWRKNGHLLNVQDQNSYRLLSSGSLV 3862
Callithrix_jacchus PPSIAPGPTNMTVTNVVQTTLACEATGIPKPLINWRKNGHLLNVQDQNSYRLLSSGSLV 3861
Canis_lupus_familiaris PPSIALGPTNITVTNVVQTTLACEAAGIPKPSIKWKKNGHLLNVQDQNSYRLLSSGSLV 3864
Equus_caballus    PPSIALGPTNITVTNVVQTTLACEATGIPKPSINWRKNGHLLNVQDQNSYRLLSSGSLV 3862
Bos_taurus        PPSIAPGPTNISVTNVVQTTLACEATGIPKPSVNRKNGHLLNVQDQNSYRLLSSGSLV 3862
Rhinatrema_bivittatum SPSIAPGPKNITVTNVVQTTLSCESTGIPRPVSVWKKNGQLLGTGPHQNNMYRLSSGSLV 3872
Xenopus_tropicalis PPRIKSEPTNITAKINIQTTLPCVETGTPKPKIQWKKNGHPINTDLNQNMYRLSSGSLV 3863
.....3850.....3860.....3870.....3880.....3890.....3900

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: : : : : * * . . * * . : : * : * * : * * . : : : : : : : : : : :
Danio_rerio      VIAPSVEDTALYECVVSNEAGQESRAIQLTVHVPPSIADAEATELVVSRISPVVIGCTASG 3907
Callorhinchus_milii ILSPTVEDTGLYECVNSNDAGSDQRTIRLTVOVPPSIADAEATDLLVTKLSPAVLTCTASG 3920
Pavo_muticus      IISPTVDDTAVYECVSNDAAGEDQRAIELTVQVPPSIADAEATDLLVTKLSPVVISCTASG 3925
Pavo_cristatus    IISPTVDDTAVYECVSNDAAGEDQRAIELTVQVPPSIADAEATDLLVTKLSPVVISCTASG 3925
Gallus_gallus     IISPTVDDTAVYECVSNDAAGEDQRAVELTVQVPPSIADAEATDLLVTKLSPVVISCTASG 3923
Chelonia_mydas    IISPTVDDTAVYACTVLNDAGEDQRTIDFIVQVPPSIADAEATDLLVTKLSPAVISCTASG 3933
Rattus_norvegicus IISPSVDDTASYECTVTS DAGEDKRTVDLTVOVPPSIADAEPMDFLVTRQAPAVMTCSASG 3922
Mus_musculus      IISPSVDDTASYECTVTS DAGEDKRAVDLTVOVPPSIADAEPMDFLVTRQAPAVMTCSASG 3921
Homo_sapiens      IISPSVDDTATYECTVTNGAGDDKRTVDLTVOVPPSIADAEPTDFLVTKHAPAVITCTASG 3922
Pan_troglodytes   IISPSVDDTATYECTVTNGAGDDKRTVDLTVOVPPSIADAEPTDFLVTKHAPAVITCTASG 3936
Macaca_mulatta    IISPSVDDTATYECTVANGAGDDKRTVDLTVOVPPSIADAEPTDFLVTKHAPAVITCTASG 3922
Callithrix_jacchus IISPSVDDTATYECTVTNGAGDDKRTVDLTVOVPPSIADAEPTDFLVTKHAPAVITCTASG 3921
Canis_lupus_familiaris IISPSVDDTATYECTVTNDAGEDQRTVDLTVOVPPSIADAEPTDLLVTKHAPTIIITCTASG 3924
Equus_caballus    IISPSVDDTATYECTVTNDAGEDKRTVDLTVOVPPSIADAEPTDFLVTKHAPTIVISCTASG 3922
Bos_taurus        IISPSVDDTATYECTVTNDAGEDKRAVDLTVOVPPSIADAEPTDFLVTKHTPTVITCTASG 3922
Rhinatrema_bivittatum IISPTVDDTGIYDCIASNEAGEDKRRIDLTVOVPPSIADAEATDLLVTKLSPAVITCTASG 3932
Xenopus_tropicalis IISPSVDDTGIYVCSALS DAGDDEIDMYLSHVPPSIADAEANIFVTKLSPAVIPCTVSG 3923
.....3910.....3920.....3930.....3940.....3950.....3960

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONTepTue Feb 1 12:21:01 2022

Page 23 of 32

** * ::* :::* * :: :*::*::* * *::* * * * *
 VPHFVLYWSKDGLRLAKDGEFGFTILPSGPLEITAADLSHSGRYS CVAKNAAGTAHRHVQL
 VPIPAIHWTKDGINLPLQGEDYRVLP TGTIEISAAQLRHTGKYICTATNAAGSAHRHVNL
 VPIPSVHWTKNGIKLLPRGDDYRILPSGAVQIPAAQLAHAGQYTCVARNAAGSAHRHTTL
 VPVPSVHWTKNGIKLLPRGDDYRILPSGAVQIPAAQLAHAGQYTCVARNAAGSAHRHTTL
 VPVPSVHWTKNGIKLLPRGDGYRILPSGAVEIPAVQLAHAGQYTCVARNAAGSAHRHTTL
 VPVPSIHWTKNGIQLLPRGDGYRILSSGTIEITAAQLDHAGRYTCVAQNAAGTAHRHVTL
 VPLPSIHWTKNGIRLLPRGDGYRILSSGAIEISAAQLNHAGRYTCIARNAAGSVHRHVTL
 VPVPSIHWTKNGLRLLPRGDGYRILSSGAIEIPTTQLNHAGRYTCVARNAAGSAHRHVTL
 VPFPSIHWTKNGIRLLPRGDGYRILSSGAIEILATQLNHAGRYTCVARNAAGSAHRHVTL
 VPFPSIHWTKNGIRLLPRGDGYRILSSGAIEILATQLNHAGRYTCVARNAAGSAHRHVTL
 VPFPSIHWTKNGIRLLPRGDGYRILSSGAIEILATQLNHAGRYTCVARNAAGSAHRHVTL
 VPFPSIHWTKNGIRLLPRGDGYRILSSGAIEIFATQLNHAGRYTCIARNAAGSAHRHVTL
 VPFPSIHWTKNGIRLLPRGDGYRILSSGAIEIFATQLNHAGRYTCVARNAAGSAHRHVTL
 VPFPSIHWTKNGIRLLPRGDGYRILSSGAIEIFATQLNHAGRYTCVARNAAGSAHRHVTL
 VPFPSIHWTKNGIRLLPRGDGYRILSSGAIEILDQLSHAGRYTCVARNSAGSAHRHVSL
 VPAPSIHWLVNGLRLLPRGDGYTILSSGTIEIPSAQLDHAGRYTCVARNAAGSAHRHVTL
 VPFPSVHWLKDSTQLPLAISDSYRILPSGSLEIPSSRLSHAGKYTCRAVNQVGS AHIHVNL
3970.....3980.....3990.....4000.....4010.....4020

*. * * *: . . *. *: . * : *. * . * * * * * *: . : * . * . * .
 TVHESPVIIQSHPSLTLDVILNNHVLTLPCKRATGSPRPPTITWQKEGINIFTTGGGFTVLPNGG
 RVQELPPIIQTOPSKLDVILNNSVTLPCKATGTPNPPTISWQKEGISISTAGGNFIVLPSSGG
 HVQEIPIIIQIQPGMLDVIVNNPILLPCEAVGTTPRPIIMWQKEGINIMTTGNSYMLVLPNG
 HVQEIPIIIQIQPGMLDVIVNNPILLPCEAVGTTPRPIIMWQKEGINIMTTGNSYMLVLPNGS
 HVQERPIIIQIQPGMLDVIVNNSILLPCEAVGTTPRPIIITWQKEGINIMTTGNSYMALPNGS
 HVQELPAIQVQPGTLDVILNNPILLPCEATGTPRPIITWQKEGINVNTTGNSTYVLPSSGS
 RVQEPFPIIQPPSELQDVILNNPILLPCEATGTPFITWQKEGINVITSGKSLAVLPSSGS
 RVQEPFPIIQPPSELQDVILNNPILLPCEATGTPFITWQKEGINVITSGKSLAILPSSGS
 HVHEPPVPIQPPSELHVILNNPILLPCEATGTPSPFITWQKEGINVNTSGRNHAVLPSSGG
 HVHEPPVPIQPPSELHVILNNPILLPCEATGTPSPFITWQKEGINVNTSGRNHAVLPSSG
 HVHEPPVPIQPPSELQVILNNPILLPCEATGTPSPFITWQKEGINVITSGKNHAVLPSSGS
 HVHEPPVPIQPPSELHVILNNPVLLPCEATGTPSPFITWQKEGINVITSGKNHAVLPSSG
 YVQEPFPIIQPPSELQDVIVNNPILLPCEATGTPSPFITWQKEGINVITSGKSHAVLPNGG
 HVQEPPIAQPPSELQDVILNNPILLPQATGTPSPFITWQKEGINVIASGKSHAVLPSSGG
 HVQEPFPIQPPSELQDVILNNPILLPCEATGTPSPFIITWQKEGISIVISSGRSHAVLPGRGG
 RVQEPFPIAQPGTLDVILNNPINLPQCDVLGTPSPFITWQKEGINIITQGGNYITVLPDGS
 HVQEPFPIKEQNDYLEVVLNSVTLACEASGTPITISWQKEGVGIKSGSSYTLISNGN
4030.....4040.....4050.....4060.....4070.....4080

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LQISKAKVEDSGTYMCVAQNPGALTALGKTKLRVQVPPVITSDIRAYTVALDVSVTLQCN

LQITRATVKDTGTTCVAQNPGALTALGKIKLQVQVPPPEIKPHPKNYVVALDRSLTLLCEA

LQITESTVEDAGTYTCVAQNPGALTALGKIKLKVQVPPVIKSLLKEYVVPVDQSVTLQCEA

LQITESTVEDAGTYTCVAQNPGALTALGKIKLKVQVPPVIKSLLKEYVVPVDQSVTLQCEA

LWITESTVEDAGTYTCVAQNLAGTALGKIKLKVQVPPVIKSHLKEYVVPVDQSVTLQCEA

LQIARIAVEDAGTYMCVAQNPGALTALGKIKLKVQVPPVIKPHSKEYIVAVDKSATLQCEV

LQISRAVQGDAGTYMCVAQNPGALTALGKIKLNVQVPPAISHQKEYVVTMDKPVSLLCET

LQISRAVRGDAGTYMCVAQNPGALTALGKVKLNVQVPPVISSHQKEYVVTMDKPVSLLCET

LQISRAVREDAGTYMCVAQNPGALTALGKIKLNVQVPPVISPHLKEYVIAVDKPIITLSCEA

LQISRAVREDAGTYMCVAQNPGALTALGKIKLNVQVPPVINPHLKEYVIAVDKPIITLSCEA

LQISRAVREDAGTYMCVAQNPGALTALGKVKLNVQVPPVISPHLKEYVIAVDKPIITLPCKA

LQISRAVGEDAGTYMCVAQNPGATDLGKIKLHVQVPPVISPHLKEYVTAVDKPIITLPCEA

LQISRAVREDAGTYMCVAQNPGALTALGKIKLNVQVPPVISPHPKKEYITAVDKPISLPCFA

LQISRAVREDAGTYMCVAQNPGALTALGKIKLNVQVPPVISPHPKKEYIIVVDKPIIMLPCEA

LQISRAVREDAGTYMCVAQNPGALTALGKIKLNVQVPPVISPHPKKEYIITVVDKPIIMLPCKA

LQIARATMEDAGTYICVAQNAAGTAIGKIKLKVQVPPVISPPKEYIVVVDKSVTLVCEA

LNIASATQEDAGTYTTCIAQNPGALTALKIRLKVHVPPVIVPHQKEYVISMDSKIMIVCEA

.....4090.....4100.....4110.....4120.....4130.....4140

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONtepTue Feb 1 12:21:01 2022

Page 24 of 32

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Danio_rerio      EGFPTPSVSWHKDQQLSESVRQVLTSTGALQIAFAQPGDTGRYTCTVANVAGSSSLDIS 4147
Callorhinchus_milii KGFPAPEITWNKDGHQVTETIRQRLSTGALQIAFAQPGDTGRYTCTASNLAGSSSSSML 4160
Pavo_muticus      EGNPGPEFSWHKDQQQVTESMRRRILSTGALQIVFVQPGDTGRYTCTIAANVAGSSSSSME 4165
Pavo_cristatus    EGNPGPEFSWHKDQQQVTESMRRRILSTGALQIVFVQPGDTGRYTCTIAANVAGSSSSSME 4165
Gallus_gallus     EGNPGPEISWHKDQQQVAESMRRRILSTGALQIVFVQPGDTGHYTCTIAANVAGSSSSSME 4163
Chelonia_mydas    EGYVPVEIIWYKEGQQVTESFRQRLSTGALQIAFVQPGDTGHYTCTMAANVAGSSSSSME 4173
Rattus_norvegicus EGSPPPDITWHKDGHALTESIRQRLNLSGALQIAFAQPDAGQYTCMAANMAGSSSSMSTT 4162
Mus_musculus      EGSPPPDITWHKDGHALTESIRQRLNLSGALQIAFAQPDAGQYTCMAANMAGSSSSVSST 4161
Homo_sapiens      DGLPPPDITWHKDGRAIVESIRQVLSGSLQIAFVQPGDAGHYTCMAANVAGSSSSTSTK 4162
Pan_troglodytes   DGLPPPDITWHKDGRAIVESIRQVLSGSLQIAFVQPGDAGHYTCMAANVAGSSSSTSTK 4176
Macaca_mulatta    DGVPPPDITWHKDGRAIVESIRQVLSGSLQIAFAQSGDAGHYTCMAANVAGSSSSTSTK 4162
Callithrix_jacchus DGLPPPDITWHKDGHAIVESIRQVLSGSLQIAFAQPDAGQYTCMAANVAGSSSSTSTK 4161
Canis_lupus_familiaris DGLPAPDITWHKDGHAIVESIRQRLSSGALQIAFAQPDAGQYTCMAANVAGSSSSMSTK 4164
Equus_caballus     DGLPPPDITWHKDGHAIVESIRQRLSSGALQIAFAQPDAGQYTCMAANVAGSSSSTSTR 4162
Bos_taurus        DGLPPPDIMWVKDGHVIVESVRQRLSSGALQIAFAQPDAGQYTCMAANVAGSSSSTSTK 4162
Rhinatrema_bivittatum NGYPAPDINWYKDGQQITESMRRRILSTGALQIAFVQLDDSGRYTCTAANVAGSSSATMD 4172
Xenopus_tropicalis HGSPTPEIIWVKDGVPLAKLAGORMSATGGLHIAVQPDAGEYTCTAENIAGSVNSSMN 4162
.....4150.....4160.....4170.....4180.....4190.....4200

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Danio_rerio      LTVQIPPSIRVGESEVSVENTQALLTCVADGVPQPTITWEKDD-IPLTDTTAEYITILPT 4206
Callorhinchus_milii LIVHVPPPTIRGAETELTVIEGSRVTLQCVADGVPRLVSWORDG-VALRDTIPGKFTLLRS 4219
Pavo_muticus      LVVQTPPKIHNMETHYMTEDSRVLAACVADGIPPTIINWKKDN-TLLTEIVGKYKAVPG 4224
Pavo_cristatus    LVVQTPPKIHNMETHYMTEDSRVLAACVADGIPPTIINWKKDN-TLLTEIVGKYKAVPG 4224
Gallus_gallus     LVVQTPPKIHNTAEHYTVTEDSRVLAACVADGIPPTIINWKKDN-TLLTEIVGKYKAVPG 4222
Chelonia_mydas    LIVHIPPKIRSSSEVQHTVIENSQAVLSCVADGIPPTIINWKKDN-IPLTDTIVGKYRAMQY 4232
Rattus_norvegicus LTVHVPPRIQSTEVHYTVNENSQAVLPCVADGIPPTAIHWERDS-VLLANLLGKYTAOPY 4221
Mus_musculus      LTVHVPPRIQSTEVHYTVNENSQAVLPCVADGIPPTAIHWERDS-VLLANLLGKYTAOPY 4220
Homo_sapiens      LTVHVPPRIQSTEGHYTVNENSQAILPCVADGIPPTAINWKKDN-VLLANLLGKYTAOPY 4221
Pan_troglodytes   LTVHVPPRIQSTEGHYTVNENSQAILPCVADGIPPTAINWKKDN-VLLANLLGKYTAOPY 4235
Macaca_mulatta    LTVHVPPRIQSTEGHYTVNENSQAILPCVADGIPPTAINWKKDN-VLLANLLGKYTAOPY 4221
Callithrix_jacchus LTVHVPPRIQSTEGHYTVNENSQAILPCVADGIPPTAINWKKDN-VLLANLLGKYTAOPY 4220
Canis_lupus_familiaris LTVHVPPRIQSTEVHYTVNENSQAILPCVADGIPPTVINWKKDN-VLLANLLGKYTIEPY 4223
Equus_caballus     LTVHVPPRIQSTEVHYTVNENSQAVLSCVADGIPPTPSINWKKDN-VLLANLLGKYTIEPY 4221
Bos_taurus        LTVHVPPRIQSTEVHYTVNENSQAVLPCVADGIPPTAINWKKDN-VPLANLLGKYTIEPY 4221
Rhinatrema_bivittatum LTVHTPPRIQSTETETATONSQVIVPCVADGVPSPAITWQKKTGERLTDTPAKYKVLQH 4232
Xenopus_tropicalis LSVLVPPRIQSTEVHYTVNENSQAVLPCVADGIPPTITWAKNN-LPITVKAGKYSVLAS 4221
.....4210.....4220.....4230.....4240.....4250.....4260

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Danio_rerio      GDLLIDTAQPEDSGSYTCVGTNSMGQDSRTISLSIHTHPAFTELLGDVALNKRERILMVC 4266
Callorhinchus_milii GELAVENAKPGDAGSYTCTATNPIGRESMTIDLTVHIHPTFSELPGDISLNKGERLALTC 4279
Pavo_muticus      GDLILDNVVPEDSGTYTCTAKNAAGEDTHNVTLVHVLPFAFTELPGDVTLTKGEQLRLTC 4284
Pavo_cristatus    GDLILDNVVPEDSGTYTCTAKNAAGEDTHNVTLVHVLPFAFTELPGDVTLTKGEQLRLTC 4284
Gallus_gallus     GDLILDNVVPEDSGTYTCTAMNAAGEDTHAVTLVHVLPFAFTELPGDVTLTKGEQLRLAC 4282
Chelonia_mydas    GDLILENAVPEDESGSYTCVANSVAGEDITHVSLMVHVLPFAFTELPGDIALNKGQLRLTC 4292
Rattus_norvegicus GELVLENNVLEDAAGTYTCVANNAAGEDTHVTTLVHALPTFTELPGDLSLNKGEQLRLSC 4281
Mus_musculus      GELILENNVLEDSGYTCVANNAAGEDTRIVTLAVHTLPTFTELPGDLSLNKGEQLRLSC 4280
Homo_sapiens      GELILENNVLEDSGYTCVANNAAGEDTHVSLTVHVLPPTFTELPGDVSLNKGEQLRLSC 4281
Pan_troglodytes   GELILENNVLEDSGYTCVANNAAGEDTHVSLTVHVLPPTFTELPGDVSLNKGEQLRLSC 4295
Macaca_mulatta    GELILENNVLEDSGYTCVANNAAGEDTHVSLTVHVLPPTFTELPGDVSLNKGEQLRLSC 4281
Callithrix_jacchus GELILENNVLEDSGYTCVANNAAGEDTHVSLTVHVLPPTFTELPGDVSLNKGEQLRLSC 4280
Canis_lupus_familiaris GELILENNVLEDAAGTYTCVANNAAGEDTHMVSLTVHVLPPTFTELPGDVSLNKGEQLRLSC 4283
Equus_caballus     GELILESVVPEDSGTYTCVANNAAGEDAHTVSLTVHVLPPTFTELPGDASLNKGEQLRLNC 4281
Bos_taurus        GELILENNVLEDSGYTCIANNAAGEDTHTISLTVHVLPPTFTELPGDVSLNKGEQLRLNC 4281
Rhinatrema_bivittatum GELVLDNISPKDSGYTCIASNVAGEDMHTVNLLVHVPPAFTELPGDISLNKGEQLRLTC 4292
Xenopus_tropicalis GELILYNAQHKDVGTYTCTASNAAGEDTHVRLTVHFPPSFTTEMTIVSLNEGERLSLLC 4281
.....4270.....4280.....4290.....4300.....4310.....4320

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Page 25 of 32

4330.....4340.....4350.....4360.....4370.....4380
Danio_rerio	GVTGIPPPKIIWTTFNNNIIVPAQYDHYNG-HSELVIERVSKDDSGTYTCMAENSVGSIKSL 4325
Callorhinchus_milii	ATNGIIPPHITWTFNNNIIPARYDNVNG-HSELIIERASKDDSGTYICTAENRVGSIKAI 4338
Pavo_muticus	KATGIPVPKIIWTTFNNNIIPAQYDDVSG-HSELVIERVSKDDSGTYACTAENAVGSIRAI 4343
Pavo_cristatus	KATGIPVPKIIWTTFNNNIIPAQYDDVSG-HSELVIERVSKDDSGTYACTAENAVGSIRAI 4343
Gallus_gallus	RASGIPVPKIIWTTFNNNIIPAHDDVSG-HSELVIERVSKDDSGTYACTAENAVGSIRAI 4341
Chelonia_mydas	KATGTPLPKIITWTFNNNIIVPAKLDNANG-HSELVIERVSKDDSGTYVCTAENTVGSIKAI 4351
Rattus_norvegicus	KAVGIPLPKLTWTFNNNIIPAHFDSVNG-HSELVIEKVSKEGSGTYVCTAENSVGFVKAI 4340
Mus_musculus	KAVGIPLPKLTWTFNNNIIPAHFDSING-HSELVIEKVSKEGSGTYVCTAENSVGFVKAI 4339
Homo_sapiens	KATGIPLPKLTWTFNNNIIPAHFDSVNG-HSELVIERVSKEDSGTYVCTAENSVGFVKAI 4340
Pan_troglodytes	KATGIPLPKLTWTFNNNIIPAHFDSVNG-HSELVIERVSKEDSGTYVCTAENSVGFVKAI 4354
Macaca_mulatta	KATGIPLPKLTWTFNNNIIPAHFDSVNG-HSELVIERVSKEDSGTYVCTAENSVGFVKAI 4340
Callithrix_jacchus	KATGIPLPKLTWTFNNNIIPARFDSVNG-HSELVIERVSKEDSGTYVCTAENSVGFVKAI 4339
Canis_lupus_familiaris	KATGIPLPKLTWTFNNNIIPAHFDSVNG-HSELVIERVSKEDSGTYVCTAENSVGFVKAI 4342
Equus_caballus	KATGIPLPKLTWTFNNNIIPAHFDSVNG-HSELVIERVSKEDSGTYVCTAENTVGFVKAI 4340
Bos_taurus	KATGIPLPKLTWTFNNNIIPAHFDSVNG-HSELVIERISKEDSGTYVCTAENSVGFVKAI 4340
Rhinatrema_bivittatum	QATGIPLPQITWTFNNNIIPAKFDSVNG-HSELIIERASKDDSGTYVCMCAENSVGSIKAI 4351
Xenopus_tropicalis	KATGNPLPHITWTFKDKLLPVLQDRRSKQNELVIDKVSRENSGAYMCAENIVASINTT 4341

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Danio_rerio	GFVYVKEPPPIIDGDVHSNRIEPLGGNAILNCEVRGDPPLPTIOWSKKGINVOISNRIOLD		4385
Callorhinchus_milii	GFVYVKEPPPIFDGDFNPNRIEPLGGNAILNCEVRGDPPTTIOWSKKGISIHIINRIOLH		4398
Pavo_muticus	GFVYVKEPPVFRGDYHPSRIEPLGGNAMLNCEVRGDPPTTIOWSKEGVGVEISKRIROLN		4403
Pavo_cristatus	GFVYVKEPPVFRGDYHPSRIEPLGGNAMLNCEVRGDPPTTIOWSKEGVGVEISKRIROLN		4403
Gallus_gallus	GFVYVKEPPVFRGNYPHSRIEPLGGNAMLNCEVRGDPPTTIOWSKEGVGVOTSKRIQOLN		4401
Chelonia_mydas	GFVYVKEPPVFGDYYSSWIEPLGGNAILNCEVRGDPPTTIOWSKKGVGIQISNRIROLS		4411
Rattus_norvegicus	GFVYVKEPPVFKGDYPSNWIEPLGGNAILNCEVKGDPAPTIIOWSRKGADVEISHRIOLG		4400
Mus_musculus	GFVYVKEPPVFKGDYPSNWIEPLGGNAILNCEVKGDPAPTIIOWSRKGADIEISHRIOLG		4399
Homo_sapiens	GFVYVKEPPVFKGDYPSNWIEPLGGNAILNCEVKGDPPTTIQWNRRKGVDIEISHRIOLG		4400
Pan_troglodytes	GFVYVKEPPVFKGDYPSNWIEPLGGNAILNCEVKGDPPTTIQWNRRKGVDIEISHRIOLG		4414
Macaca_mulatta	GFVYVKEPPVFKGDYPSNWIEPLGGNAILNCEVKGDPPTTIQWNRRKGVDIEISHRIOLG		4400
Callithrix_jacchus	GFVYVKEPPVFKGDYPSNWIEPLGGNAILNCEVKGDPPTTIQWNRRKGVDIEISHRIOLG		4399
Canis_lupus_familiaris	GFVYVKEPPVFXGDYPSNWIEPLGGNAILNCEVKGDPAPTIIOWSRKGMDIEINHRIOLV		4402
Equus_caballus	GFVYVKEPPVFKGDYPSNWIEPLGGNAILNCEVKGDPAPTIIOWSRRGMDIEISHRIOLG		4400
Bos_taurus	GFVYVKEPPVFKGDYPSNWIEPLGGNAILNCEVKGDPAPTIIOWSRRGMDIEISHRIOLG		4400
Rhinatrema_bivittatum	GFVYVKEPPVFNGDLNANRIEPLGGNAILNCEVGDPPPMIOWSKKGVGIQISNRIROLN		4411
Xenopus_tropicalis	IHFVFKKEPVLNGVHNKHTVPLGGNIILNCEVKGDPFKIOWHKKAKVISNKHKEFS		4401
4390.....4400.....4410.....4420.....4430.....4440		

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Danio_rerio	NGSLAIYGTVSEDAAGNYMCVAATNDAGVVERTVTILTQRSPIITIVPEPVETVVDAGSTVVILN	4445
Callorhinchus_milii	NGSLAIYGTVNEDAGDYKCIATNEAGVVERSVTILTLOSPVFIVEPMDTVADAGSTVILS	4458
Pavo_muticus	NGSLAIYGTVNEDAGDYKCVAATNDAGVVERSLTTLTQSPPVITIIEPAGTTVEAGATAMLN	4463
Pavo_cristatus	NGSLAIYGTVNEDAGDYKCVAATNDAGVVERSLTTLTQSPPVITIIEPAGTTVEAGATAMLN	4463
Gallus_gallus	NGSLAIYGTVNEDAGDYGCVATNDAGVVERSLTTLTQSPPVITIIEPAGTTVEAGATMVLN	4461
Chelonia_mydas	NGSLAIYGTVNEDAGDYTCAATNDAGVVERSLTTLTQSPPVITAEPVMVVDAGTTAILN	4471
Rattus_norvegicus	NGSLAIYGTVNEDAGDYTCAANEAGVVERSMSLTLQSSPMITLEPVIIVDAGGRVILD	4460
Mus_musculus	NGSLAIYGTVNEDAGDYTCAANEAGMVERSMSLTLQSSPIITILEPVIIVDAGGRVILD	4459
Homo_sapiens	NGSLAIYGTVNEDAGDYTCAATNEAGVVERSMSLTLQSPPIITILEPVIIVINAGGKIILN	4460
Pan_troglodytes	NGSLAIYGTVNEDAGDYTCAATNEAGVVERSMSLTLQSPPIITILEPVIIVINAGGKIILN	4474
Macaca_mulatta	NGSLAIYGTVNEDAGDYTCAATNEAGVVERSMSLTLQSPPIITILEPVIIVINAGGKVILN	4460
Callithrix_jacchus	NGSLAIYGTVNEDAGDYTCAATNEAGVVERSMSLTLQSPPIITILEPVIIVINAGGKVILN	4459
Canis_lupus_familiaris	NGSLAIYGTVNEDAGDYTCAATNDAGVVERSMSLTLQSPPIITILEPVIIVINAGGKVILN	4462
Equus caballus	NGSLAIYGTVNEDAGDYTCAANEAGVVERSMSLTLQSPPIITILEPVIIVINVGGKVITLN	4460
Bos_taurus	NGSLAIYGTVNEDAGDYTCAATNEAGVVERSMSLTLQSPPIITILEPVIIVINAGSKVILN	4460
Rhinatrema_bivittatum	NGSLAIYGTVNEDAGDYKCIAANEAGVVERSVTILTLOSPPIITIVPEVBEIIDAGTTVIIH	4471
Xenopus_tropicalis	NGSLAIYDAGLEDVGDTYCIAANDAGVLEHTVTILTQRPPTIKVPLDITVDAGATVALN	4461
	.....4450.....4460.....4470.....4480.....4490.....4500	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONtepTue Feb 1 12:21:01 2022

Page 26 of 32

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Danio_rerio      CQAEGEPPVVIEWSRQGRPLLGNHITALNNGSLRLRSAQKEDTAEYECVARNLLGSLVLV 4505
Callorhinchus_milii CQAGGEPPPTVEWSRQGRPLLSNDRVTILSDSSLRLTALQKEDTSDYECVARNLMGSLV 4518
Pavo_muticus     CQASGEPPPAIRWSRQGHPLVSDDRVTVLNNGSLRIIAAQKEDTSEYECVARNLMGSLV 4523
Pavo_cristatus   CQASGEPPPAIRWSRQGHPLVSDDRVTVLNNGSLRIIAAQKEDTSEYECVARNLMGSLV 4523
Gallus_gallus    CQASGEPPPAIRWSRQGHPLVSDDRMTVLNNGSLHIIAAQKEDTSEYECVARNLMGSLV 4521
Chelonia_mydas   CQANGEPTPTIIEWSRQGHPLSNDRVTVLNNGSLRIVAAQKEDTSEYECVARNLMGSLV 4531
Rattus_norvegicus CQAAGEPQPTITWSRQGRPIPDNRILTMLPNSSLYIAAARKEDTSEYECVARNLMGSLV 4520
Mus_musculus     CQAAGEPQPTITWSRQGPISWDNRLSMLPNSSLYIAAARKEDTSEYECVARNLMGSLV 4519
Homo_sapiens     CQATGEPQPTITWSRQGHSISWDDRVNVLNNSLYIADAQKEDTSEFECVARNLMGSLV 4520
Pan_troglodytes  CQATGEPQPTITWSRQGHSISWDDRVNVLNNSLYIADAQKEDTSEFECVARNLMGSLV 4534
Macaca_mulatta   CQATGEPQPTITWSRQGHSISWDDRVNMLNNSLYIADAQKDDTSEFECVARNLMGSLV 4520
Callithrix_jacchus CQATGEPQPTITWSRQGHSISWDDRVNVLNNSLYIADAQKEDTSEFECVARNLMGSLV 4519
Canis_lupus_familiaris CQATGEPYPTITWSRQGHSIPWDDRVNVLNNSLHIAAARKEDTSEYECVARNLMGSLV 4522
Equus_caballus   CQATGEPHPTITWSRQGHSIPWDDRVMLNNSLYITIAAQKEDTSEYECVARNLMGSLV 4520
Bos_taurus       CQATGEPRTITWSRQGHSILWDERINVLSNNSLHIAAARKEDTSEYECVARNLMGSLV 4520
Rhinatrema_bivittatum CQAEGEPPPTIIEWSRQGRPIFSSDRITILSNNSLRITASVQKEDTSEYECVARNLMGSLV 4531
Xenopus_tropicalis CQSEGEPPVPTITWYRRNPNISSEDRITILPNNSLQIVSAQKEDTSVYEKATNIMGTDVV 4521
.....4510.....4520.....4530.....4540.....4550.....4560

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Danio_rerio      RVTLTIVRVHGGFSEWMEWGACSVSCGTGVQRRLRQCNKPFPPANGGRHCVGSASETRRCQG 4565
Callorhinchus_milii KVSALTIQVHGGFSKWLAWGPCSVTCGQGVQKRRRLCTNPLPANGGRPCCGASEEGRGCOA 4578
Pavo_muticus     RVPLTVQVHGGFSDWLEWQPCSVTCGQGVQERTTRCNKPLPANGGRPCEGPDIDVRSCRN 4583
Pavo_cristatus   RVPLTVQVHGGFSDWLEWQPCSVTCGQGVQERTTRCNKPLPANGGRPCEGPDIDVRSCRN 4583
Gallus_gallus    RVPLTVQVHGGFSDWLEWQPCSVTCGQGVQKRARWCNNPLPANGGRPCEGPDIDVRSCRN 4581
Chelonia_mydas   RVPFTIVQVHGGFSEWFEWRPCSVTCGQGVQKRIROCNNPLPANGGRHCQGRDIDIRSCRN 4591
Rattus_norvegicus RVPVIVQVHGGFSLWSAWRSCSVTCGKGIQKRSRLCNPFPANGGRPCCGSESEARQCN 4580
Mus_musculus     RVPVIVQVHGGFSLWSAWRSCSVTCGKGIQKRSRLCNPFPANGGRPCCGADSEARHCN 4579
Homo_sapiens     RVPVIVQVHGGFSQWSAWRACSVTCGKGIQKRSRLCNPFPANGGKPCQGSLEMRNCON 4580
Pan_troglodytes  RVPVIVQVHGGFSQWSAWRACSVTCGKGIQKRSRLCNPFPANGGKPCQGSLEMRNCON 4594
Macaca_mulatta   RVPVIVQVHGGFSQWSAWRACSVTCGKGIQKRSRLCNPFPANGGKPCQGSLEMRNCON 4580
Callithrix_jacchus RVPVIVQVHGGFSQWSAWRACSVTCGKGIQKRSRLCNPFPANGGKPCQGSLEMRNCON 4579
Canis_lupus_familiaris RVPVTVQVHGGFSQWSAWRSCSVTCGKGIQKRSRLCNPFPANGGKPCQGSSETRNCOR 4582
Equus_caballus   RVPVTVQVHGGFSQWSAWRSCSVTCGKGIQKRSRLCNPFPANGGKPCQGLDSEMRNCH 4580
Bos_taurus       RVPVIVQVHGGFSQWSAWRSCSATCGKGIQKRSRLCNPFPANGGKPCQGSSEMRNCHQ 4580
Rhinatrema_bivittatum KVPVTVQVHGGFSEWLEWRPCSVTCGQGVQKRIROCNNPLPANGGRHCQGPDAETRSCON 4591
Xenopus_tropicalis KVTFTIVQVHGGFSEWLFWQSCSVTCGQGIQKRIRLCNPFPANGGNYCQGAETETRSCON 4581
.....4570.....4580.....4590.....4600.....4610.....4620

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Danio_rerio      KPCPVDGWSWSEWSWEECSRTCGQGNRTTRVTRCSNPPAQHGGRACEGKAVEAIMCSIRPC 4625
Callorhinchus_milii KPCPVDGNWSEWGWEECSRTCGQGNRMTRVCSNPPMQYGGKPCGKTVETIMCNRPC 4638
Pavo_muticus     K-----PC 4586
Pavo_cristatus   K-----PC 4586
Gallus_gallus    K-----PC 4584
Chelonia_mydas   KPCAVDGNWSEWGSWEECSRTCGQGNKTRTRTCSNPTTQHGGRPCDGNAVEIIMCNRPC 4651
Rattus_norvegicus KLCPPVDGHWSEWSFWEECSSRSCGHGNQTRTRTCSNPPAQHGGRPCGAYAVETIMCNRPC 4640
Mus_musculus     KLCPPVDGHWSEWSFWEDCSSRSCGHGNQTRTRTCSNPPAQHGGRPCGHAETIMCNRPC 4639
Homo_sapiens     KPCPVDGWSWSEWSLWEECTSCGRGNQTRTRTCSNPPSVQHGGRPCGNAVEIIMCNRPC 4640
Pan_troglodytes  KPCPVDGWSWSEWSLWEECTSCGRGNRTTRTRTCSNPPSVQHGGRPCGNAVEIIMCNRPC 4654
Macaca_mulatta   KPCPVDGWSWSEWSPWEECTSCGRGNRTTRTRTCSNPPSAQHGGRPCGNAVEIIMCNRPC 4640
Callithrix_jacchus KPCPVDGWSWSEWSPWEECTSCGRGNQTRTRTCSNPPSAQHGGRPCGNAVEIIMCNRPC 4639
Canis_lupus_familiaris KLCPPVDGWSWSEWNPWEECTSCGRGNRTTRTRTCSNPPSAQYGGRPCEGNAVEIIMCNRPC 4642
Equus_caballus   KLCPPVDGWSWSEWSPWEECTSCGRGNRTTRTRTCSNPPSAQNGGRPCEGNAVEIIMCNRPC 4640
Bos_taurus       KPCPVDGNWSEWSPWEECTSCGRGNRTTRTRTCSNPPSAQHGGRPCGTAVEIIMCNRPC 4640
Rhinatrema_bivittatum KPCPVDGNWSEWSAWEECSSRTCGQGNRTTRTRTCSNPPSAQYGGRACDGNAVEVVMCSVRPC 4651
Xenopus_tropicalis KLCPPVDGNWSEWSTWEECSRSCGSGKRTTRVTRTCDPPAQEGGKPCIGKAVDVAVCNVVKPC 4641
.....4630.....4640.....4650.....4660.....4670.....4680

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File: /media/morpheus/disk1/fst/pep_msa/HMONtep1 Tue Feb 1 12:21:01 2022
Page 27 of 32

	** * * . . * . * : : **** : * * * . . * * * * : * * : * : * : * : * : * : * : * : *	
Danio_rerio	PVAGNNGAWLPWSPCSETCGKGMOTRLRLCNPSPFEGPSCGEPDQTQVQVNCERNCPVD	4685
Callorhinchus_milii	PVGGGWWGAWMPWGTCSETCGKGQTQTRQLCNPSPFDGAHCEGQEVQVQVNCNRRLCPVD	4698
Pavo_muticus	PVDGEWSSWLPWGPSCSESCGKGQTQTRLRLCSPSPSHGGSHCNGPDVQROVCSKRHCPVD	4646
Pavo_cristatus	PVDGEWSSWLPWGPSCSESCGKGQTQTRLRLCSPSPSHGGSHCNGPDVQROVCSKRHCPVD	4646
Gallus_gallus	PVDGEWSSWLPWGPSCSESCGKGQTQTRLRLCSPSPSHGGSHCRGPDVQROVCSKRRCPPVD	4644
Chelonia_mydas	PVEGAWGSWLPWGPSCSDTCGKGQTQTRLRLCNSPPSPFDGSYCEGPNTQMOVCNKRHCPVD	4711
Rattus_norvegicus	PVHGVVNAWQPWGSCSKSCGKGSQTRTRLNCNSPPSPFGGAYCNGAETQMOVCNERHCPVD	4700
Mus_musculus	PVHGVVNAWQPWSACSKSCGKGSQTRMRLCNPSPFGGAHCSGAETQMOVCNERHCPVD	4699
Homo_sapiens	PVHGAWSAWQPWGTCSESCGKGQTQTRARLNCNPSPAFGGSYCDGAETQMOVCNERNCPPIH	4700
Pan_troglodytes	PVHGAWSAWQPWGTCSESCGKGQTQTRARLNCNPSPAFGGSYCDGAETQMOVCNERNCPPIH	4714
Macaca_mulatta	PVHGAWSTWQPWGTCSGSGCKGAQTRARLNCNPSPALGGSYCDGAETQMOVCNERHCPID	4700
Callithrix_jacchus	PVHGAWSAWQPWGTCASACGKGAQTRARLNCNPPEFGGSYCDGAETQMOVCNERQCPID	4699
Canis_lupus_familiaris	PVHGVVSTWQPWSACSESCGKGAQIRTRLNCNPSPFDGSYCDGAETQMOVCNERHCPVD	4702
Equus_caballus	PVHGAWNITWQPWGICSKSCGKGQTQTRIRLNCNPSPFDGSYCEGAETQMOVCNERHCPVD	4700
Bos_taurus	PVHGAWSTWQPWGTCVSCGKGQTQTRARLNCNPSPFAGSYCDGAETQIQVNCNERHCPID	4700
Rhinatrema_bivittatum	PVHGTVWGPSSWGSCTSETCGKGQTQARLRLCNPSPFNGLHCDGPDQTQIQVNCNEKNCPVD	4711
Xenopus_tropicalis	PVHGMWGPWWSWGGACTIKTCGKGTKMRVRLCNPSPFDGLPCGQDQTMQICGDRCQCPVD	4701
4690.....4700.....4710.....4720.....4730.....4740	

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Danio_rerio	GKWS ^{SS} W ^{SW} GAC ^{SV} SCGGGTR ^{OR} TRICAN ^{PT} POHGGRO ^{CE} GNDI ^{HI} DFC ^{NE} PCPI ^{HG} NW	4745
Callorhinchus_milii	GRWK ^{SW} SWI ^{AC} SMSCGGGTR ^{OR} TRACSD ^{PP} PO ^{NG} GGRO ^{CE} GNDV ^{QI} DFC ^{NS} DRCP ^{IH} GNW	4758
Pavo_muticus	GKWAP ^{WG} SW ^S ACT ^{VS} SCGGGSS ^{OR} TRQ ^{CS} DPAP ^{QF} GGHRC ^{EG} NDI ^{QV} DFC ^{NS} DP ^{CP} VHGSW	4706
Pavo_cristatus	GKWAP ^{WG} SW ^S ACT ^{VS} SCGGGSS ^{OR} TRQ ^{CS} DPAP ^{QF} GGHRC ^{EG} NDI ^{QV} DFC ^{NS} DP ^{CP} VHGSW	4706
Gallus_gallus	GKWAP ^{WG} SW ^S ACT ^{VS} SCGGGSS ^{OR} TRQ ^{CS} DPAP ^{QF} GGHRC ^{EG} NNI ^{QV} DFC ^{NS} DP ^{CP} VHGSW	4704
Chelonia_mydas	GNWAI ^{TW} AG ^{WS} ACT ^{VS} SCGGGTR ^{OR} TKDCSD ^{PA} PQ ^{FG} GHKCE ^{GN} DV ^{QI} DFC ^{NS} DP ^{CP} IGHNW	4771
Rattus_norvegicus	GKWA ^{AW} T ^{SW} ST ^{CT} VS ^{CG} GGTR ^{KR} TRDCSD ^{PV} PQ ^{YG} GNKCE ^{GT} GV ^{QS} DFC ^{NS} DP ^{CP} THGNW	4760
Mus_musculus	GRWAI ^{TW} SW ^S ACT ^{VS} SCGGGARK ^{RT} RD ^{CS} DPV ^{PQ} YG ^{GN} KCE ^{GT} GV ^{QS} DFC ^{NS} DP ^{CP} THGNW	4759
Homo_sapiens	GKWAI ^{TW} AS ^{WS} AC ^{SV} SCGGGAR ^{QRT} RCSD ^{PV} PQ ^{YG} GRKCE ^{GS} DV ^{QS} DFC ^{NS} DP ^{CP} THGNW	4760
Pan_troglodytes	GKWAI ^{TW} AS ^{WS} AC ^{SV} SCGGGAR ^{QRT} RD ^{CS} DPV ^{PQ} YGRKCE ^{GS} DV ^{QS} DFC ^{NS} DP ^{CP} THGNW	4774
Macaca_mulatta	GKWAI ^{TW} AS ^{WS} AC ^{SV} SCGGGAR ^{QRT} RD ^{CS} DPV ^{PQ} YGRKCE ^{GS} DV ^{QS} DFC ^{NS} DP ^{CP} THGNW	4760
Callithrix_jacchus	GKWAI ^{TW} AS ^{WS} AC ^{SV} SCGGGAR ^{QRT} RECSD ^{PV} PQ ^{YG} GRKCE ^{GS} DI ^Q SDFC ^{NS} DP ^{CP} THGNW	4759
Canis_lupus_familiaris	GKWAI ^{TW} T ^{SW} SS ^{CS} SVSCGGGAR ^{QRT} RECSD ^{PV} PQ ^{YG} GRKCE ^{GS} DV ^{QS} DFC ^{NS} DP ^{CP} THGNW	4762
Equus_caballus	GRWAI ^{TW} AS ^{WS} ACT ^{VS} SCGGGAR ^{QRT} RD ^{CS} DPV ^{PQ} YGNRC ^{EG} SDV ^{QS} DFC ^{NS} DP ^{CP} THGNW	4760
Bos_taurus	GKWAI ^{TW} T ^{SW} SAC ^{SV} SCGGGAR ^{QRT} RD ^{CS} DPAP ^{QY} GNKCE ^{GS} DV ^{QS} DFC ^{NS} DP ^{SC} PTHGNW	4760
Rhinatrema_bivittatum	GRWAG ^{WG} SW ^T AC ^{SV} SCGGGTR ^{OR} TRECAN ^{PA} PH ^{FG} GGHRC ^{EG} N ^{DL} Q ^T DFC ^{NS} DL ^{CP} VHGNW	4771
Xenopus_tropicalis	GKWS ^{AW} G ^{SW} T ^{SC} SLSCGGGL ^{RQ} TRAC ^{SN} AP ^{QY} GGHKCE ^{GN} E ^{HE} N ^{EM} C ^N ADL ^{CP} VHGNW	4761
4750.....4760.....4770.....4780.....4790.....4800	

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Danio_rerio	GPWNSWGSCSRTCNGGQMRRYRTCDNPRPANGGRACTGSDSQIQKCNLANCPVDGKWSSW	4805	
Callorhinchus_milii	GPWSWGTCSTRTCNGGQMRRYRTCDNPRPASGGACAGADTQIQRCSNITCPVDGNWGPW	4818	
Pavo_muticus	GPWGSWGTCSTRCNGGQARRYRGCDSPRPSGGGRACAGADMQIQRCTDLCPVNGNWGPW	4766	
Pavo_cristatus	GPWGSWGTCSTRCNGGQARRYRGCDSPRPSGGGRACAGADMQIQRCTDLCPVNGNWGPW	4766	
Gallus_gallus	GPWGSWGTCSTRCNGGVRRYRGCDSPRPSGGGRACAGADMQIQRCTGLCPVNGNWGPW	4764	
Chelonia_mydas	GPWSWGTCSTRTCNGGQMRRYRTCDNPRPVNGGRACGGADTQIQRCTNDLCPVDGNWGTW	4831	
Rattus_norvegicus	SPWSGWGMCSTRTCNGGQMRRYRTCDNPRPSNGGRACGGPDQTQIQRCNTDMCPVDGSGWTW	4820	
Mus_musculus	SPWSGWGTCSTRTCNGGQMRRYRTCDNPRPSNGGRACGGPDQTQIQRCNTDMCPVDGSGWTW	4819	
Homo_sapiens	SPWSGWGTCSTRTCNGGQMRRYRTCDNPPPSNGGRACGGPDSQIQRCNTDMCPVDGSGWSW	4820	
Pan_troglodytes	SPWSGWGTCSTRTCNGGQMRRYRTCDNPPPSNGGRACGGPDSQIQRCNTDMCPVDGSGWSW	4834	
Macaca_mulatta	SPWSGWGICSTRTCNGGQMRRYRTCDNPRPSNGGRCTGGPDSQIQRCNTDMCPVDGSGWSW	4820	
Callithrix_jacchus	SPWSGWGMCSTRTCNGGQMRRYRTCDNPRPSNGGRACGGPDSQLQRNTDMCPVDGSGWSW	4819	
Canis_lupus_familiaris	SPWSGWGMCSTRTCNGGQMRRYRTCDNPHPSNGGRACGGPDSQIQRCNTDMCPVDGSGWNW	4822	
Equus_caballus	SPWSGWGICSTRTCNGGQMRRYRTCDNPRPSNGGRACGGPDSQMORCNTMCPVDGSGWNW	4820	
Bos_taurus	SPWSGWGICSTRTCNGGQMRRYRTCDNPRPSNGGRACGGPDSQIQRCNTDMCPVDGSGWNW	4820	
Rhinatrema_bivittatum	GPWSSWGTCSTRTCNGGQMRHRTCDNPRPASGGACAGADTQIQRNADICPVGGNWGPW	4831	
Xenopus_tropicalis	GPWSHWGSCSTRTCNGGQMRRYRACDNPAHSGRACGTGDIENKCNLDLCPAHGNWQOW	4821	
	.....4810.....4820.....4830.....4840.....4850.....4860	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONtepTue Feb 1 12:21:01 2022

Page 28 of 32

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      *  **.***** : * * * * *:*****: *: ** : * ***** . *:
Danio_rerio      ESWGECSASC GGG-ERTRVRLCNSPSPNSGRPCPGDSTQLSRCNLQPCPGGPQKARGSI 4864
Callorhinchus_milii LAWSDCSASC GGG-EQRRVRLCNKPLPS SGRSCPGDASQVSRCKGQPCPGGPORARGSV 4877
Pavo_muticus      HTWSQCSASC GGG-EQTRTRLCSNPAPLYDGHPCPGDSSQISRCNSQACPGGPSRAQGSI 4825
Pavo_cristatus    HTWSQCSASC GGG-EQTRTRLCSNPAPLYDGHPCPGDSSQISRCNSQACPGGPSRAQGSI 4825
Gallus_gallus     QTWSQCSASC GGG-EQTRTRLCSNPAPLYNGHPCPGDSSQISRCNSQACPGGPSRALGSI 4823
Chelonia_mydas    QAWIGCSASC GGG-EQTRTRLCTNPAPSNNGRPPCPGDSSQLSRCNIQACPGGPPRARGSV 4890
Rattus_norvegicus HSWSHCSVSC GGG-ERTRKRLCDNPVPSKSGRSCPGDATQVSRCNMQACPGGPORARGSV 4879
Mus_musculus      HSWSHCSVSC GGG-ERTRKRLCDNPVPTKGGRSCPGDATQVSRCNMQACPGGPORARGSV 4878
Homo_sapiens      HSWSQCSASC GGG-EKTRKRLCDHPVPVKGGRPCPGD TTQVTRCNVQACPGGPORARGSV 4879
Pan_troglodytes   HSWSQCSASC GGG-EKTRKRLCDHPVPIKGGRPCPGD TTQVTRCNVQACPGGPORARGSV 4893
Macaca_mulatta    HSWSQCSASC GGG-EKTRKRLCDHPVPAKGGRPCPGD TTQVTRCNVQACPGGPORARGSV 4879
Callithrix_jacchus HHWSQCSASC GGG-GKTRKRLCDHPVPAKGGRPCPGD TTQVTRCNVQACPGGPORARGSV 4878
Canis_lupus_familiaris HSWGQCSASC GGG-EKTRKRLCNPVPSISGRPCPGDATQVSRCNMQACPGGPORARGSV 4881
Equus_caballus    HSWSRCSASC GGG-EKTRKRLCNTPVPSKSGRPCPGDATQVSRCNMQACPGGPORAKGSV 4879
Bos_taurus        HSWSWCSTSC GGG-EKTRERLCNNPIPSKSGRPCPGDATQVSRCNMQACPGGPORARGSV 4879
Rhinatrema_bivittatum QAWSECSASC GGGGEQTRSRSCNPPAPSNNGRPPCPGDSSQISRCNIQACPGGPQLARGSV 4891
Xenopus_tropicalis EAWSKCSVSC GGG-EQIRTRVCHHPARSYTRGPCPGDSTQLLRCNVQACPGGPORVKGNL 4880
.....4870.....4880.....4890.....4900.....4910.....4920

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      *: *****: *****: .. : :*: *****: *****: *****:
Danio_rerio      IGNINDVEFGISILNATITSSS-TGGKVIQATITNIPRSLGPAMRKLISILNPIYWTTAH 4923
Callorhinchus_milii IGNINDVEFGIALLNATIFD SPETEARIIQACISNIPRSLGPAMRKLISILNPIYWATAK 4937
Pavo_muticus      IGNINNIEFGIAFLNATVTDSPNSES RVIAKITSI PRSLGPALRKLVSILSPVYWTAK 4885
Pavo_cristatus    IGNINNIEFGIAFLNATVTDSPNSES RVIAKITSI PRSLGPALRKLVSILSPVYWTAK 4885
Gallus_gallus     IGNINDIEFGIASLNATVTDSPNSES RVIAKITSI PRSLGPALRKLVSILSPVYWTAK 4883
Chelonia_mydas    IGNINDVEFGIAFLNSTVTDSPDSDTRIIQAKITNVPRSLGTAMRKLVSILNPIYWAAAK 4950
Rattus_norvegicus IGNINDIEFGIAFLNATITD SPNSDTRIIQATITNVPRSLGPAMRKIISILNPIYWTTAK 4939
Mus_musculus      IGNINDIEFGIAFLNATITD SPNTDTRVIAKITNVPRSLGPAMRKIISILNPIYWTTAK 4938
Homo_sapiens      IGNINDVEFGIAFLNATITD SPNSDTRIIIRAKITNVPRSLGSAMRKIVSILNPIYWTTAK 4939
Pan_troglodytes   IGNINDVEFGIAFLNATITD SPNSDTRIIIRAKITNVPHSLGSAMRKIVSILNPIYWTTAK 4953
Macaca_mulatta    IGNINDVEFGIAFLNATITD SPNSDTRIIIRAKITNVPRSLGSAMRKIVSILNPIYWATAK 4939
Callithrix_jacchus IGNINDVEFGIAFLNATIAD SPNSDARIHAKITNVPRSLGSAMRKIVSILNPIYWTTAK 4938
Canis_lupus_familiaris IGNINDVEFGIAFLNATVTDSPASDTRIIHAKITNVPRSLGPAMRKIVSILNPIYWTAAK 4941
Equus_caballus    IGNINDVEFGIAFLNATVTDSPSDTRIIHAKITNVPRSLGTAMRKIVSILNPIYWTTAK 4939
Bos_taurus        IGSINDVEFGIAFLNATVTDSPNSDTRIIHAKITNVPRSLGPAMRKIVSILNPIYWTTAK 4939
Rhinatrema_bivittatum IGNINDVEFGISFLNATIADGFDSNTRIIQAFITNVPRTLGPAMRKLVSILNPVYWTAM 4951
Xenopus_tropicalis FGRINDLDFGMAPLNATITDDPNSGSRILQAKFTNIPKSLGPSMRNLVSLNPIYWTTAK 4940
.....4930.....4940.....4950.....4960.....4970.....4980

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      *:*****:*****: ..*:*****:*****:*****:*****:*****:
Danio_rerio      ELGEAVNGFTLTGIFRRETQVEFATGEILRMTHVARGLSDGALLLDIVVNGHILQLPS 4983
Callorhinchus_milii EIGEAVNGYSLTEGVFRRETQVEFATGEILRMTHIARGLSDGALLLDIVVNGYALQLPS 4997
Pavo_muticus      EIGEAMNGFTLTDAIFKRETQVEFATGEVLRMTHIARGLSDGALLLDVVVNGHVLQLQP 4945
Pavo_cristatus    EIGEAMNGFTLTDAIFKRETQVEFATGEVLRMTHIARGLSDGALLLDVVVNGHVLQLQP 4945
Gallus_gallus     EVGEAMNGFTLTDAIFKRETQVEFATGEVLRMTHIARGLSDGALLLDVVVNGHVLQLQP 4943
Chelonia_mydas    EIGEAVNGFTLTNAIFKRETQVEFATGEILRMTHIARGLSDGALLLDVVVSGYVLQLQS 5010
Rattus_norvegicus EIGEAVNGFTLTNAVFKRETQVEFATGEVLRMTHVARGLSDGALLLDVIVSGHVLQLHS 4999
Mus_musculus      EIGEAVNGFTLTNAVFKRETQVEFATGEVLRMTHVARGLSDGALLLDVIVSGQVLQLHS 4998
Homo_sapiens      EIGEAVNGFTLTNAVFKRETQVEFATGEILQMSHIARGLSDGSILLDDIVVSGYVLQLQS 4999
Pan_troglodytes   EIGEAVNGFTLTNAVFKRETQVEFATGEILQMSHIARGLSDGALLLDIVVSGYVLQLQS 5013
Macaca_mulatta    EIGEAVNGFTLTNAVFKRETQVEFATGEILRMTHIARGLSDGALLLDIVVSGYVLQLQS 4999
Callithrix_jacchus EIGEAVNGFTLTNAVFKRETQVEFATGEILRMTHIARGLSDGALLLDVVVSGYVLQLQT 4998
Canis_lupus_familiaris EIGEAVNGFTLTNAVFKRETQVEFATGEILRMTHIARGLSDGALLLDIVVSGYVLQLQS 5001
Equus_caballus    EIGEAVNGFTLTNAVFKRETQVEFATGEILRMTHIARGLSDGSILLDDIVVSGYVLQLQS 4999
Bos_taurus        EIGEAVNGFTLTNAVFKRETQVEFATGEILRMTHVARGLSDGALLVDIIVSGYVLQLQS 4999
Rhinatrema_bivittatum EIGEAVNGFTLTNGFFKRESQVEFATGEILRMTHIARGLDPDGALLLDIIVNGYVLQLQS 5011
Xenopus_tropicalis EIGEAVNGFSLTGGIFKRESQVEFATGEILKITHIARGVESDGSILLDDIVVKG NVLQLQT 5000
.....4990.....5000.....5010.....5020.....5030.....5040

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONtepTue Feb 1 12:21:01 2022

Page 29 of 32

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      .: :***:***:* * **::* ***:* : : ** *.**: *. * **:* :*:
Danio_rerio      NADISLKDYTEDYIQTGPGQLYALSTRMFSIDRVSVPYSWNHTITYGPSRGKMPYLVOTL 5043
Callorhinchus_milii AVNLNVKDYTEDYVQIGGGQIYAYSTRMFTVDGASVPYSWNHTITYNHNRRGMPFLVETL 5057
Pavo_muticus      LANVNMKDYTEDYIQTGPGQLYAHSTRLFAVDGVSVPYTNWHTITYDHTKGKMPFLMETL 5005
Pavo_cristatus    LASVNMKDYTEDYIQTGPGQLYAHSTRLFAVDGVSVPYTNWHTITYDHTKGKMPFLMETL 5005
Gallus_gallus     LANVNMKDYTEDYIQTGPGQLYAYSTRLFAVDGVSVPYMNWHTITYDHTKGKMPFLVETL 5003
Chelonia_mydas    SSDVNVKDYTEDYIQTGPGQLYAYSTRLFTIDGVSVPYTNWHTITYDHTRGKMPFLLETL 5070
Rattus_norvegicus PAEVSVKDYTEDYIQTGPGQLYAYSTRLFTIDGISVPYTNWHTIFYDQAWGKMPFLVETL 5059
Mus_musculus      PAEVGVKDYTEDYIQTGPGQLYAYSTRLFTIDGISIPYTNWHTIFYDQAWGKMPFLVETL 5058
Homo_sapiens      PAEVTVKDYTEDYIQTGPGQLYAYSTRLFTIDGISIPYTNWHTVIFYDQAGRMPFLVETL 5059
Pan_troglodytes   PAEVTVKDYTEDYIQTGPGQLYAYSTRLFTIDGISIPYTNWHTVIFYDQAGRMPFLVETL 5073
Macaca_mulatta    PAEVTVKDYTEDYIQTGPGQLYAYSTRLFTIDGISIPYTNWHTVIFYDQARGRMPFLVETL 5059
Callithrix_jacchus PAEVTVKDYTEDYIQTGPGQLYACSTRLFTTNGVSIPYTWSHTILYDQARGRMPFLVETL 5058
Canis_lupus_familiaris PAEVTVKDYTEDYIQTGPGQLYAYSTRLFTIDGVSVPYTNWHTVIFYDQAGRMPFLVETL 5061
Equus_caballus     PTEVTVKDYTEDYVQTGPGQLYAYSTRLFTIDGISVPYTNWHTVLYDQARGRMPFLVETL 5059
Bos_taurus        PAEVTVKDYTEDYVQTGPGQLYAYSTRLFTIDGVSVPYTNWHTVLYDQAGRMPFLVETL 5059
Rhinatrema_bivittatum FADIGVKDYSEDYIQTGPGQLYAHSTRLFTIDGVSVPYTNWHTITYDQAGRMPFLVETM 5071
Xenopus_tropicalis SVDIHLKDYTEDYIQTGPGQVHAYSTRMFSVDGVYVPYTNWHTINYDAGQGTMPFLTETL 5060
.....5050.....5060.....5070.....5080.....5090.....5100

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      :.: : * : * * : : * *::* . *** ** *:. * :*:***:*. .***:
Danio_rerio      HASAINALYHPLEEMLEFAIQATIAKGRSNQCPSGFQLDPTGPYCSDENECEVEGNPCSH 5103
Callorhinchus_milii HATSISAEYNPLDETLDYRIHAITKGRSNQCPSGFTLDSAGPYCSEDECTIRNPCSN 5117
Pavo_muticus      HASSIMTEYNPLEETLAFKIHASISKGDHSQCPAGFELNSGPGYCTDEDECAVRNPCSH 5065
Pavo_cristatus    HASSIMTEYNPLEETLAFKIHASISKGDHSQCPAGFELNSGPGYCTDEDECAVRNPCSH 5065
Gallus_gallus     HASSITTEYNPLEETLAFKIHASISKGDHNNQCPAGFELNSGPGYCTDEDECAVRNPCSH 5063
Chelonia_mydas    RASSIATEYNPLEETLAFRIHASIAKGDHSNQCPTGFGLNSTGPFCSDEDECAVRNPCSH 5130
Rattus_norvegicus HASSVESDYNQLEETLGFKIHASISKGRSNQCPSGFILDSAGPFCADEDECTAGNPCSH 5119
Mus_musculus      HASSIESDYNQLEETLGFKIHASISKGRSNQCPSGFILDSVGPFCADDECTAGNPCSH 5118
Homo_sapiens      HASSVESDYNQIEETLGFKIHASISKGRSNQCPSGFTLDSVGPFCADDECAAGNPCSH 5119
Pan_troglodytes   HASSVESDYNQIEETLGFKIHASISKGRSNQCPSGFTLDSVGPFCADDECAAGNPCSH 5133
Macaca_mulatta    HASSVESDYNQLEETLSFKIHASISKGRSNQCPSGFILDSVGPFCADDECAAGNPCSH 5119
Callithrix_jacchus HASSVESDYNQLEETLGFKIHASISKGRSNQCPSGFTLPLGPFCTDEDECAAGNPCSH 5118
Canis_lupus_familiaris HASSVESDYNQLEETLGFKIHASISKGRSNQCPSGFALDSIGPFCADEDECAAGSPCSQ 5121
Equus_caballus     HASSVESDYNQLEETLGFKIHASISKGRSNQCPSGFALDSVGPFCADDECAAGSPCSH 5119
Bos_taurus        HASSVESDYNQLEETLGFKIHASISKGRSNQCPPGFALDSVGPFCADENCAAGNPCSH 5119
Rhinatrema_bivittatum HVSSIGSEYNQLEETLDFMRASISKGRSNQCPNGFGLDSTGPYCADEDECAIRNPCSH 5131
Xenopus_tropicalis QVNSIETDYNPQESLSFQVHASISRGDLSIQCPSGFSLDSTGLYCTDEDECASSPCSH 5120
.....5110.....5120.....5130.....5140.....5150.....5160

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      *** :*:***:***.* * * : * : *::* * * * * : * : *.* * * * :*:
Danio_rerio      ACHNAIGTYTCSPRGLTISADGRTCQDIDECALGGHCHDGDQCENTIGSYRCVMRCGR 5163
Callorhinchus_milii TCHNAMGTYTCSPKGLTISADGRTCQDINECALGGHTCHAGQDCENTIGSYRCVVRCGL 5177
Pavo_muticus      TCHNTMGTYTCHSCPKGLTIAADGRVCDVDECALGRHTCHTKQDCKNSAGLYHCVLRCRT 5125
Pavo_cristatus    TCHNTMGTYTCHSCPKGLTIAADGRVCDVDECALGRHTCHTKQDCKNSAGLYHCVLRCRT 5125
Gallus_gallus     TCHNAVGTYYTCHSCPKGLTIAADGRMCQDVDECVLGRHACHTDQDCENSAGSYHCVLRCRT 5123
Chelonia_mydas    ACHNAIGTYTCSPRGLTISADGRTCQDIDECALGGHTCHAAQECENVIGSYRCVVRCRI 5190
Rattus_norvegicus TCHNAIGAYTCSPKGLTIAADGRTCQDIDECALGGHTCHAGQDCDNTIGSYRCVVHCGT 5179
Mus_musculus      TCHNAIGAYTCSPKGLTIAADGRTCQDIDECALGGHTCHAGQDCDNTIGSYRCVVHCGT 5178
Homo_sapiens      SCHNAMGTYTCSPKGLTIAADGRTCQDIDECALGRHTCHAGQDCDNTIGSYRCVVRCGS 5179
Pan_troglodytes   TCHNAMGTYTCSPKGLTIAADGRTCQDIDECALGRHTCHAGQDCDNTIGSYRCVVRCGS 5193
Macaca_mulatta    TCHNAMGTYTCSPKGLTIAADGRTCQDIDECALGRHTCHAGQDCDNTIGSYRCVVHCGT 5179
Callithrix_jacchus TCHNAMGTYTCSPQGLTIAADGRNCQDIDECALGRHTCHAGQDCDNTIGSYRCVVHCGI 5178
Canis_lupus_familiaris ICHNTVGTYYTCSP EGLTIAADGKTCQDIDECALGGHTCHAGQDCDNTIGSYRCVVHCGI 5181
Equus_caballus     TCHNAVGTYYTCSPKGLTIAADGRTCQDIDECALGGHTCHAGQDCDNTIGSYRCVVRCGI 5179
Bos_taurus        SCHNAMGTYTCSPKGLTIAADGRTCQDIDECALGGYTCHAGQDCDNTIGSYRCVVHCGT 5179
Rhinatrema_bivittatum ACHNAMGTYTCSPRGLTISADGRACQDIDECALGGHACHAGQDCENIIGSYRCVVRCGL 5191
Xenopus_tropicalis SCHNNIGSYTCSPRGLMISDDGRTHCHDIDECTLEDSCRNQECKNTVGSYICGVKCGV 5180
.....5170.....5180.....5190.....5200.....5210.....5220

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONTepTue Feb 1 12:21:01 2022

Page 30 of 32

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****:*:*:*
CPRGYRSQGVGRP-----CLDINECELVPVPKAYQCVNSPGSYKCLCPPGL
CPRGYRSQGVGRP-----CVDIDECERVPKPKAYQCINTPGSFKKCLCPPGQ
CPRGYRSQGVGRP CVELHVPALVLR IYCLDINECEQVPRP CAFRCTSTPGSFKKVCPPGQ
CPRGYRSQGVGRP CVELHVPALVLR IYCLDINECEQVPRP CAFRCTSTPGSFKKVCPPGQ
CPRGYRSQGLGRP CVELHVPALVLR IYCLDINECEQVPKPKAFQCTINTPGSFKKICPPGQ
CPRGYRSQGVGRP-----CLDINECEQVPKPKAFQCANIPGSFKKICPPGQ
CPRGYRSQGVGRP-----CVDINECDQVPKPKAHQCSNSPGSFKKICLPGQ
CPRGYRSQGVGRP-----CIDINECEQVPKPKAHQCSNSPGSFKKICLPGQ
CPRGYRSQGVGRP-----CMDINECEQVPKPKAHQCSNTPGSFKKICPPGQ
CPRGYRSQGVGRP-----CMDINECEQVPKPKAHQCSNTPGSFKKICPPGQ
CPRGYRSQGVGRP-----CMDINECEQVPKPKAHQCSNTPGSFKKICPPGQ
CPRGYRSQGVGRP-----CMDINECEQVPKPKAHQCFNTPGSFKKICPPGQ
CPRGFRSQGVGRP-----CMDINECEQVPKPKAYQCSNTPGSFKKICPPGQ
CPRGYRSQGVGRP-----CLDINECEQVHKPKAYQCSNTPGSFKKICPPGQ
CPRGYRSQGLGRP-----CLDINECEQVPKPKAYQCFNTPGSFKKICPPGQ
CPRGYRSQGVGRP-----CLDINECEQVPSPCAYQCVNTPGSFKKICPPGQ
CPRGYKSEGAGSP-----
          5350.....5360.....5370.....5380.....5390.....5400

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMONtep Tue Feb 1 12:21:01 2022

Page 31 of 32

Danio_rerio	HLLGDGKSCAGLERLP	SYETFSY-GYRTSQSSDRSSY-LQRYHSLTSQSYHSYV	PNNGGR	5387
Callorhinchus_milii	HLLGDGKSCAGLERLP	NYESNYY-TYNFAQFPNVGYFN-RHOYISQSSQ-YRSHVGYGSR		5400
Pavo_muticus	HLLGDGKSCSGLERLP	HSGAYYN-TYNYAQFSPMRDNYQPQOFYRHSSNLYSSFS	EYRNS	5364
Pavo_cristatus	HLLGDGKSCAGLERLP	HSGAYYN-TYNYAQFSPMRDNYQPQOFYRHSSNLYSSFS	EYRNS	5364
Gallus_gallus	HLLGDGKSCAGLERLL	HSGAYYN-IYNYAQFSPIRDNYQPRSYRHSSNLYSSFS	EYRNS	5362
Chelonia_mydas	HLLGDGTS	CAGLERLPNYGTYYN-NYNYAQFSPVRDNYQPQOFYRHASDLYSSSY	EYRNS	5415
Rattus_norvegicus	HLLGDGKSCAGLERLSS	YGTQYS-SYDLERFSPVRSGYQPROHTRQSSQLYSSSY	EYRNS	5404
Mus_musculus	QLLDGKSCAGLERLS	NYGTQYS-SYTLERFSPVRSDYQPSQHYROYSQLYSSSY	EYRNS	5403
Homo_sapiens	HLLGDGKSCAGLERLP	NYGTQYS-SYNLARFSPVRNNYQPQOHYROYSHLYSSSY	EYRNS	5404
Pan_troglodytes	HLLGDGKSCAGLERLP	NYGTQYS-SYNLARFSPVRNNYQPQOHYROYSHLYSSSY	EYRNS	5418
Macaca_mulatta	HLLGDGKSCAGLERLP	NYGTQYS-SYNLARFSPVRNNYQPQOHYROYSHLYSSSY	EYRNS	5404
Callithrix_jacchus	HLLGDGKSCAGLERLP	HSGTQYS-SYNIARFSPVRNNYQPOPHYROYSHLYSSSY	EYRNS	5403
Canis_lupus_familiaris	HLLGDGKSCAGLERLP	NYGSQHN-SYNLAWFSPVRNSYQPOQHYROYSHLYSSSY	EYRNS	5406
Equus_caballus	HLLGDGKSCAGLERLP	NYGTQYH-SYNLARFSPVRNNYQPQOHYROYSHLYSAY	EYRNS	5404
Bos_taurus	HLLGDGKSCAGLERLP	NYGNQYS-SYNLARFSPMRNNYQPQOHYROYSHLYSSSY	EYRNS	5404
Rhinatrema_bivittatum	HVLGDGKSCAGLQRL	PNYGTYEANSYSTAQFLPRNDYYQLQHYRQ-SNLYSAY	EYRNS	5416
Xenopus_tropicalis				5313

.....5410.....5420.....5430.....5440.....5450.....5460

Danio_rerio	HVANRPNSAPSRNRRS	TYICPHGFKTKNGHCLDINECEQRDTCQHECMNTPGSHRCLCP	S	5447
Callorhinchus_milii	YRS--ASSRTGRNVRKT	--CPEGYEAKNGKCIDINECENKEICQHDCKNTPGSYQCLCP	S	5456
Pavo_muticus	RIP---VSTTKRNIRKT	--CPEGYEARN-----		5387
Pavo_cristatus	RIP---VSTTKRNIRKT	--CPEGYEARN-----		5387
Gallus_gallus	RIP---VSRTKRSIRET	--CPEGYEARNDRCDVIDECEARDTCQHECRNTLGSYQCAC	PS	5417
Chelonia_mydas	RIP---LSRTKRNIRET	--CPGGYEARNDRCDVIDECEARNDRCDQHECRNTLGSYQCV	CPT	5470
Rattus_norvegicus	RAS---FSRSRRTIRKT	--CPEGSEANHETCVDIDECONRDTQCHECKNTIGSYQCV	CPP	5459
Mus_musculus	RAS---FSRNRRRTIRKT	--CPEGSEANHETCVDIDECONRDTQCHECKNTIGSYQCV	CPP	5458
Homo_sapiens	RTS---LSRTRRTIRKT	--CPEGSEASHDTCVDIDECENTDACQHECKNTFGSYQCIC	PP	5459
Pan_troglodytes	RTS---LSRTRRTIRKT	--CPEGSEASHDTCVDIDECENTDACQHECKNTFGSYQCIC	PP	5473
Macaca_mulatta	RTS---LSRTRRTIRKT	--CPEGSEASHDTCVDIDECENTDACQHECKNTFGSYQCIC	PP	5459
Callithrix_jacchus	RTS---LSRTRRTIRKP	--CPEGSEASHDTCVDIDECENTDACQHECKNTFGSYQCIC	PP	5458
Canis_lupus_familiaris	RTS---LSRTRRTIRKT	--CPEGSEASRDTCDVIDECENRDICQHECKNTFGSYHCIC	PP	5461
Equus_caballus	RTS---LSRTRRTIRKT	--CPEGSEASHDRCDVIDECENRDTQCHECKNTFGSYQCIC	PP	5459
Bos_taurus	RTS---LSRTRRTIRKT	--CPEGSEASLDTCDVINECENTDTQCHECKNTFGSYQCIC	PP	5459
Rhinatrema_bivittatum	RSS---VSRTKRNKSDT	--CPEGYEARDGKCIDLDECENRDACQHECRNVPGSYQCLC	P	5471
Xenopus_tropicalis				5343

.....5470.....5480.....5490.....5500.....5510.....5520

Danio_rerio	GYRLMTNGKTCQDIDE	CLEQNIQCGANRMCFNMGRSYQCIDTPCPPNYQRDPATGFCL	KN	5507
Callorhinchus_milii	GYRLMTNGKACHDVDE	CLEQNIHCGANRMCFNMGRSYQCIDTPCPPNYLRDPITGFCL	KN	5516
Pavo_muticus				5387
Pavo_cristatus				5387
Gallus_gallus	GYHLMPNGKTCQDIDE	CLKQDTGCGASQMCNFMGRSYQCIETSCPPNYQREPHSGFCL	KN	5477
Chelonia_mydas	GYRLMPNGKACQDVDE	CLEQNIHCGPNRMCFNMGRSYQCIDTPCPPNYQRDPLSGFCL	KT	5530
Rattus_norvegicus	GYRLMLNGKTCQDVDE	CLEQNVRCGPNRMCFNMGRSYQCIDTPCPPNYQRDPVLGFCL	KN	5519
Mus_musculus	GYRLMLNGKTCQDVDE	CLEQNVRCGPNRMCFNMGRSYQCIDTPCPPNYQRDPVLGFCL	KN	5518
Homo_sapiens	GYQLTHNGKTCQDIDE	CLEQNVHCGPNRMCFNMGRSYQCIDTPCPPNYQRDPVSGFCL	KN	5519
Pan_troglodytes	GYQLTHNGKTCQDIDE	CLEQNVHCGPNRMCFNMGRSYQCIDTPCPPNYQRDPVSGFCL	KN	5533
Macaca_mulatta	GYQLTLNGKTCQDIDE	CLEQNVHCGPNRMCFNMGRSYQCIDTPCPPNYQRDPVSGFCL	KN	5519
Callithrix_jacchus	GYQLALNGKTCQDIDE	CLEQSVRCGPNRMCFNMGRSYQCIDTPCPPNYQRDPVSGFCL	KN	5518
Canis_lupus_familiaris	GYQLMLNGKTCQDVDE	CLEQSVRCGPNRMCFNMGRSYQCIDTPCPPNYQRDPVSGFCL	KN	5521
Equus_caballus	GYQLMLNGKTCQDVDE	CLEQNVRCGPNHMCNFMGRSYQCIDTPCPPNYQRDPVSGFCL	KN	5519
Bos_taurus	GYQLMLNGKTCQDIDE	CLEQNVRCGPNRMCFNMGRSYRCIETPCPPDYQRDPVSGFCL	KN	5519
Rhinatrema_bivittatum	GYRLMPNGKTCQDIDE	CLEQNILCGANRMCFNMGRGYQCIDTPCPPNYQRDPLSGFCL	KN	5531
Xenopus_tropicalis	GYQLMANGKTCQDIDE	CLEQNIQCGMNMCFNMGRSHQCIDTPCPPNYIRDTISGYCL	KN	5403

.....5530.....5540.....5550.....5560.....5570.....5580

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/HMON1ep Tue Feb 1 12:21:01 2022

Page 32 of 32

Danio_rerio	CPPNDLECALSPYALEYKLLSLPFGIAANQDLIRLVAYTQDGVVHPRTSFLVVDEDTLP	5567
Callorhinchus_milii	CPSNDLECALSPYALEYKLVSLPFGIAANQDLIRLVAYTQDGVVHPRTIFQVVDDEPGVP	5576
Pavo_muticus	-----	5387
Pavo_cristatus	-----	5387
Gallus_gallus	CPANDLECALSTYALEYKFVSLPFGIAAGQDLIRLVAYTQDQVMHPRTTFLMADEEPTVP	5537
Chelonia_mydas	CPSNDLECALSPYALEYKLVSLPFGIAANQDLIRLVVYTQDRVMHPRTTFLMVDDDTIP	5590
Rattus_norvegicus	CPPNDLECTLSPYALEYKLVSLPFGIAANQDLIRLVAYTQDGVVHPRTTFLMVDEEPAVP	5579
Mus_musculus	CPPNDLECTLSPYALEYKLVSLPFGIAANQDLIRLVAYTQDGVVHPRTTFLMIDEEPAVP	5578
Homo_sapiens	CPPNDLECALSPYALEYKLVSLPFGIATNQDLIRLVAYTQDGVVHPRTTFLMVDEEQTVP	5579
Pan_troglodytes	CPPNDLECALSPYALEYKLVSLPFGIATNQDLIRLVAYTQDGVVHPRTTFLMVDEEQTVP	5593
Macaca_mulatta	CPPNDLECALSPYALEYKLVSLPFGIATNQDLIRLVAYTQDGVVHPRTTFLMIDEEQTVP	5579
Callithrix_jacchus	CPPNDLECALSPYALEYKLISLPFGIATNQDLIRLVAYTQDGVVHPRTTFLMVDEEQTVP	5578
Canis_lupus_familiaris	CPPNDLECALSPYALEYKLVSLPFGIAANQDLIRLVAYTQDGVVHPRTTFLMVDEEQNVP	5581
Equus_caballus	CPPNDLECALSPYALEYKLVSLPFGIAANQDLIRLVAYTQDGVVHPRTTFLMVHEEQTVP	5579
Bos_taurus	CPPNDLECALSPYALEYKLVSLPFGIAANQDLIRLVAYTQDGVVHPRTTFLMIDEEQTVP	5579
Rhinatrema_bivittatum	CPANDLDCALSPYALEYKLVSLPFGIAANQDLIRLVAYTQDGVVHPRTTFLVVDEDTIP	5591
Xenopus_tropicalis	CAPNDLECALSPYALQYKLVSLPFGIAANQDLIRLVAYTEDGILHPRTTFLITDDYASLP	5463
	.....5590.....5600.....5610.....5620.....5630.....5640	

Danio_rerio	FALRDENLKGVLFTTRPLREPHTYRMKVRALSYSADGGIEYQTTFIVYIAVSAYPY	5623
Callorhinchus_milii	FAIRDEKLKGVVFTTRPLREPQTYRMKVRALSYSADGNIEYQTTFIVYIAVSAYPY	5632
Pavo_muticus	-----	5387
Pavo_cristatus	-----	5387
Gallus_gallus	FALRDENLKGVVFTTRPLQEPKTYHMRVRALSYSVDGNIEYQTTFIVYIAVSAYPY	5593
Chelonia_mydas	FALRDENLKGVVFTTRPLQVPETYRMVRALSYSADGNIEYQMTFIVYIAVSAYPY	5646
Rattus_norvegicus	FALRDENLKGVVYTTTRPLREAETTYRMKVRALSYSANGTIEYQTTFIVYIAVSAYPY	5635
Mus_musculus	FALRDENLKGVVYTTTRPLREAETTYRMKVGALSYSANGTIEYQTTFIVYIAVSAYPY	5634
Homo_sapiens	FALRDENLKGVVYTTTRPLREAETTYRMVRASSYSANGTIEYQTTFIVYIAVSAYPY	5635
Pan_troglodytes	FALRDENLKGVVYTTTRPLREAETTYRMVRASSYSANGTIEYQTTFIVYIAVSAYPY	5649
Macaca_mulatta	FALRDENLKGVVYTTTRPLREAETTYRMVRASSYSANGTIEYQTTFIVYIAVSAYPY	5635
Callithrix_jacchus	FALRDENLKGVVYTTTRPLREAETTYRMVRASSYSANGTIEYQTTFIVYIAVSAYPY	5634
Canis_lupus_familiaris	FALRDENLKGVVYTTTRPLREPDTYRMVRASSYSANGTIEYQTTFIVYIAVSAYPY	5637
Equus_caballus	FALRDENLKGVVYTTTRPLREPETYRMVRALSYSANGTIDYQTTFIVYIAVSAYPY	5635
Bos_taurus	FALRDENLKGVVYTTIRPLQEPETYRMVRALSYSANGTVEYQTTFIVYIAVSAYPY	5635
Rhinatrema_bivittatum	FAIRDENLKGVLFTTKALREPQTYRMKVRSLSYSDRTIEYQTTFIVYIAVSAYPY	5647
Xenopus_tropicalis	FSIREENMKGVVFTNRPLQKPEYRMKVKALSYSIDRTIEYQTAFIVYIAVSPYPY	5519
	.....5650.....5660.....5670.....5680.....5690.....	