

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/RUFY1a.ms Tue Feb 14:28:37 2022

Page 1 of 5

Pavo_muticus	MAEAERAPLLPPPAESSRDGDGVGAESP	PGMERRAE-----PGPEE---AAVTEEEDEA	51
Pavo_cristatus	MAEAERAPLLPPPAESSRDGDGVGAESP	PGMERRAE-----PGPEE---AAVTEEEDEA	51
Gallus_gallus	MAEAERAPLLPPPAESSRD--GMAAETPP	PGMERRAE-----PGPEE---AAVTEEEDEA	49
Chelonia_mydas	MAEAGSRRRTQLGGESCPD--GACAARPP	TMEQRAE-----RSPSAGGLEAADGEAAAA	52
Homo_sapiens	--MSALTPPTDMPPTPTTDKITQAAMET	-----IYLCKFR	32
Canis_lupus_familiaris	--MSALTPPTDMPPTPTTDKITQAAMET	-----IYLCKFR	32
Pan_troglodytes	--MAETPPPPPTAGAESCSEEPARGGEWR	PEEPRRAPAGGTDREGEAGPPPAS	PAGQSEPD
Macaca_mulatta	--MAETPPPPPTAGAESCSEEPARGGEWR	PEELRRAPAGGTDREGEVGGPPPAS	PAGQSEPD
Callithrix_jacchus	--MAETPPPPPTAGAESCSEEPARGGEWR	PEEPRRAPAGGTDRESEAGPPPAS	PTGQLEPD
Equus_caballus	--MAETSPPPAAGAESCSEEPARGG	QORPEE-----REGEAGPPLAS	PAGQSEPD
Mus_musculus	--MAES--PAPGAAAESCSEEGEER	GGERRPSEPLEP-----RGASARGADREDEAG	PSEPD
Rattus_norvegicus	--MAES--PPPAAAESCSEEGEER	GGERRPSEPLEP-----RGAAARGADPEDEAG	PSEPD
Bos_taurus	--MAETSPPPTAGAESCSEEPARGG	QORPEEPPRRAPAGGADREDEAGPPLAS	PAGQSEPD
Rhinatrema_bivittatum	--MSALTPQSDMPTPTTDKITQAAMET	-----IYLCKFR	32
Xenopus_tropicalis	--MEGNSQGGSSYTEGEEVLGNCG	SEEHEGTALGRN---QGKQSCHSVQPNTEELDS	PPA
Latimeria_chalumnae	--MAEPAAAAGVAGGRAQETREVAES	LQDAPGGGDRE---NWSVVYSRKPESSSVSSSSS	54

1.....10.....20.....30.....40.....50.....60

Pavo_muticus	RPASPPFFLLYPGHGGAAAP-----	HSARPPAPRGG--AALPVLLLSYPG	95
Pavo_cristatus	RPASPPFFLLYPGHGGAAAP-----	HSARPPAPRGG--AALPVLLLSYPG	95
Gallus_gallus	RPASPPFFLLYPGHGGAAAP-----	HGAWRPPAPRGG--AALPVLLLSYPG	93
Chelonia_mydas	PPESPPYFLLYPGHRGAAPPGLLPP	-----QSVWSPPGGGGGGGALEPVLLLSYPG	102
Homo_sapiens	VSM DGEWLCLRELDDIS--LTPDPEP	-----THED-----	60
Canis_lupus_familiaris	VSM DGEWLCLRELDDIS--LTPDPEP	-----THEDSWED-----LTDLVEQMRD	74
Pan_troglodytes	SPVAAPFFLLYPGDGGAGFGVRPPP	-----QQRSWRTPPSPGSPLPFLLLSYPS	108
Macaca_mulatta	SPVAAPFFLLYPGDGGAGFGVRPPP	-----QQRSWRTPPSPGSPLPFLLLSYPS	108
Callithrix_jacchus	SPVAAPFFLLYPGDGGAGFGARPPP	-----QQRSWRTPPSPGSPLPFLLLSYPS	108
Equus_caballus	SPVAAPFFLLYPSDGGAGFSARPPP	-----QQRAWRTPPSPGSPLPFLLLSYPG	98
Mus_musculus	SPVAAPFFLLYPGDGGAGFTARPPP	-----C--RAWRTPPSPGSPLPFLLLSYPS	100
Rattus_norvegicus	SPVAAPFFLLYPGDGGAGFAARPPP	-----C--RWRTPPSPGSPLPFLLLSYPS	100
Bos_taurus	SPVAAPFFLLYPGDGGAGFVARPPP	-----QQRSWRTPPSPGSPLPFLLLNYP	108
Rhinatrema_bivittatum	VSM DGEWLCLRELDDIS--LTPDPEP	-----THEDSWED-----LTDLVEQIRD	74
Xenopus_tropicalis	SPLPPPFIPLYGARKQKQAGSAPPKSL	GAAAGHPLQHYSGTS--SLSSSSPWQPSF	PDSPS
Latimeria_chalumnae	LPRSPS--FPCCPGEGSEEPKQVFR	-----APERSPPVSPTHSNNSKRSCRN--	101

.....70.....80.....90.....100.....110.....120

Pavo_muticus	P-----	96
Pavo_cristatus	P-----	96
Gallus_gallus	P-----	94
Chelonia_mydas	PAPGQ-----	107
Homo_sapiens	-----	60
Canis_lupus_familiaris	D-----	75
Pan_troglodytes	GGGSG-----	113
Macaca_mulatta	GGGGGG-----	115
Callithrix_jacchus	GGGGGG-----	114
Equus_caballus	GGGGGG-----	104
Mus_musculus	GGSGGG-----	106
Rattus_norvegicus	GGSGGG-----	106
Bos_taurus	GGGGGGGKHLVALDFAPCALHLKRR	TLEGMLTKITQAAMETIYLCKFRVSM DGEWLCLR
Rhinatrema_bivittatum	DTED-----	78
Xenopus_tropicalis	PGSGGLSP-----	123
Latimeria_chalumnae	-----	101

.....130.....140.....150.....160.....170.....180

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/RUF12345 Tue Feb 1 14:28:37 2022

Page 2 of 5

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Pavo_muticus	-----	DGSAHPNYLMANERMNLMNAKLSIKGLIE				127
Pavo_cristatus	-----	DGSAHPNYLMANERMNLMNAKLSIKGLIE				127
Gallus_gallus	-----	DGSAHPNYLMANERMNLMNAKLSIKGLIE				125
Chelonia_mydas	-----	DRAGPHPNYLMANERMNLMNAKLSIKGLIE				138
Homo_sapiens	-----	PNYLMANERMNLMNAKLSIKGLIE				85
Canis_lupus_familiaris	-----TED-----	PNYLMANERMNLMNAKLSIKGLIE				103
Pan_troglodytes	-----SGKHH-----	PNYLMANERMNLMNAKLSIKGLIE				143
Macaca_mulatta	-----SGKHH-----	PNYLMANERMNLMNAKLSIKGLIE				145
Callithrix_jacchus	-----SGKHHSWEDLTDLVEQMRDDIEDP----	PNYLMANERMNLMNAKLSIKGLIE				162
Equus_caballus	-----GGKHQDI-----AFKFD-----	PNYLMANERMNLMNAKLSIKGLIE				141
Mus_musculus	-----GKHH-----	PNYLMANERMNLMNAKLSIKGLIE				135
Rattus_norvegicus	-----GKHHSWEDLTDLVEQVRADPEDP----	PNYLMANERMNLMNAKLSIKGLIE				153
Bos_taurus	ELDDISLTDPDPEPTHEDSWEDLTDLVEQMRDDIEDP----	PNYLMANERMNLMNAKLSIKGLIE				228
Rhinatrema_bivittatum	-----	PNYLMANERMNLMNAKLSIKGLIE				103
Xenopus_tropicalis	-----SSSLQLMMNNMTGVGGDHSNEKAQKNP----	PNYLMANERMNLMNAKLSIKGLIE				176
Latimeria_chalumnae	-----PKDPIATERLNLMNAKLSIKGLIE					126
190.....200.....210.....220.....230.....240					

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Pavo_muticus	SALNLGRTLDSDYAPLQOQFFVMEHCLKHGLKAKKTFILGONKSFWGPLELVEKLVPEAAE	187
Pavo_cristatus	SALNLGRTLDSDYAPLQOQFFVMEHCLKHGLKAKKTFILGONKSFWGPLELVEKLVPEAAE	187
Gallus_gallus	SALNLGRTLDSDYAPLQOQFFVMEHCLKHGLKAKKTFILGONKSFWGPLELVEKLVPEAAE	185
Chelonia_mydas	SALNLGRTLDSDYAPLQOQFFVMEHCLKHGLKAKKTFILGONKSFWGPLELVEKLVPEAGE	198
Homo_sapiens	SALNLGRTLDSDYAPLQOQFFVMEHCLKHGLKAKKTFILGONKSFWGPLELVEKLVPEAAE	145
Canis_lupus_familiaris	SALNLGRTLDSDYAPLQOQFFVMEHCLKHGLKAKKTFILGONKSFWGPLELVEKLVPEAAE	163
Pan_troglodytes	SALNLGRTLDSDYAPLQOQFFVMEHCLKHGLKAKKTFILGONKSFWGPLELVEKLVPEAAE	203
Macaca_mulatta	SALNLGRTLDSDYAPLQOQFFVMEHCLKHGLKAKKTFILGONKSFWGPLELVEKLVPEAAE	205
Callithrix_jacchus	SALNLGRTLDSDYAPLQOQFFVMEHCLKHGLKAKKTFILGONKSFWGPLELVEKLVPEAAE	222
Equus_caballus	SALNLGRTLDSDYAPLQOQFFVMEHCLKHGLKAKKTFILGONKSFWGPLELVEKLVPEAAE	201
Mus_musculus	SALNLGRTLDSDYAPLQOQFFVMEHCLKHGLKAKKTFILGONKSFWGPLELVEKLVPEAAE	195
Rattus_norvegicus	SALNLGRTLDSDYAPLQOQFFVMEHCLKHGLKAKKTFILGONKSFWGPLELVEKLVPEAAE	213
Bos_taurus	SALNLGRTLDSDYAPLQOQFFVMEHCLKHGLKAKKTFILGONKSFWGPLELVEKLVPEAAE	288
Rhinatrema_bivittatum	SALNLGRTLDSDYAPLQOQFFVMEHCLKHGLKGGKTFILGONKSFWGPLELVEKLVPEASE	163
Xenopus_tropicalis	SALNLGRTLDSDYAPLQOQFFVMEHCLKHGLKAKKTFILGONKSFWGPLELVEKLVPEAAE	236
Latimeria_chalumnae	SALNLGRTLDSDYPPLOQFFVMEHCLKHGLKTKKTFILVONKSFWGPLELVEKLTPAGE	186
250.....260.....270.....280.....290.....300	

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Pavo_muticus	ITASVKDLPGLKTPVGRGRAWLRLALMOKKLSEYMKALINRKDLLSEFYEPNALMMEEEG	247
Pavo_cristatus	ITASVKDLPGLKTPVGRGRAWLRLALMOKKLSEYMKALINRKDLLSEFYEPNALMMEEEG	247
Gallus_gallus	ITASVKDLPGLKTPVGRGRAWLRLALMOKKLSEYMKALINRKDLLSEFYEPNALMMEEEG	245
Chelonia_mydas	ITASVKDLPGLKTPAGRRAWLRLALMOKKLSEYMKALINRKDLLSEFYEPNALIMEEEG	258
Homo_sapiens	ITASVKDLPGLKTPVGRGRAWLRLALMOKKLSEYMKALINKKELLSEFYEPNALMMEEEG	205
Canis_lupus_familiaris	ITASVKDLPGLKTPVGRGRAWLRLALMOKKLSEYMKALINKKELLSEFYEPNALMMEEEG	223
Pan_troglodytes	ITASVKDLPGLKTPVGRGRAWLRLALMOKKLSEYMKALINKKELLSEFYEPNALMMEEEG	263
Macaca_mulatta	ITASVKDLPGLKTPVGRGRAWLRLALMOKKLSEYMKALINKKELLSEFYEPNALMMEEEG	265
Callithrix_jacchus	ITASVKDLPGLKTPVGRGRAWLRLALMOKKLSEYMKALINKKELLSEFYEPNALMMEEEG	282
Equus_caballus	ITASVKDLPGLKTPVGRGRAWLRLALMOKKLSEYMKALINKKELLSEFYEPNALMMEEEG	261
Mus_musculus	ITASVKDLPGLKTPVGRGRAWLRLALMOKKLSEYMKALINKKELLSEFYEVNALMMEEEG	255
Rattus_norvegicus	ITASVKDLPGLKTPVGRGRAWLRLALMOKKLSEYMKALINKKELLSEFYEPNALMMEEEG	273
Bos_taurus	ITASVKDLPGLKTPVGRGRAWLRLALMOKKLSEYMKALINKKELLSEFYEPNALMMEEEG	348
Rhinatrema_bivittatum	ITASVKDLPGLKTPVGRGRAWLRLALMOKKLSEYMKALINRKDLLSEFYETNALMMEEEG	223
Xenopus_tropicalis	ITASVKDLPGLRTPVGRGRAWLRLALMOKKLSEYMKALINRKDLLSEFYEPNALMMEEEG	296
Latimeria_chalumnae	ITASVKDLPGLKTPSGRRAWLRLALMOKKLSDYMKALINRKDLLSEFYEPNALMMEEEG	246
310.....320.....330.....340.....350.....360	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/RUFIN2.pdb

Page 3 of 5

	<pre> :*.*****:*****:*. :*.***** </pre>	
Pavo_muticus	<pre> AIIAGLLVGLNVIDANFCMKGEDLDSQVGVIDFSMYLKDG-NSTKGSEGDGQITAILDQK </pre>	306
Pavo_cristatus	<pre> AIIAGLLVGLNVIDANFCMKGEDLDSQVGVIDFSMYLKDG-NSTKGSEGDGQITAILDQK </pre>	306
Gallus_gallus	<pre> AIIAGLLVGLNVIDANFCMKGEDLDSQVGVIDFSMYLKDG-NSTKGSEGDGQITAILDQK </pre>	304
Chelonia_mydas	<pre> HIIAGLLVGLNVIDANFCMKGEDLDSQVGVIDFSMYLKDG-NSSKGTEGDGQITAILDQK </pre>	317
Homo_sapiens	<pre> AIIAGLLVGLNVIDANFCMKGEDLDSQVGVIDFSMYLKDG-NSSKGTEGDGQITAILDQK </pre>	264
Canis_lupus_familiaris	<pre> AIIAGLLVGLNVIDANFCMKGEDLDSQVGVIDFSMYLKDG-NSSKGSEGDGQITAILDQK </pre>	282
Pan_troglodytes	<pre> AIIAGLLVGLNVIDANFCMKGEDLDSQVGVIDFSMYLKDG-NSSKGTEGDGQITAILDQK </pre>	322
Macaca_mulatta	<pre> AIIAGLLVGLNVIDANFCMKGEDLDSQVGVIDFSMYLKDG-NSSKGTEGDGQITAILDQK </pre>	324
Callithrix_jacchus	<pre> AIIAGLLVGLNVIDANFCMKGEDLDSQVGVIDFSMYLKDG-NSSKGSEGDGQITAILDQK </pre>	341
Equus_caballus	<pre> AIIAGLLVGLNVIDANFCMKGEDLDSQVGVIDFSMYLKDG-NSSKGSEGDGQITAILDQK </pre>	320
Mus_musculus	<pre> AIIAGLLVGLNVIDANFCMKGEDLDSQVGVIDFSMYLKDG-NSSKGSEGDGQITAILDQK </pre>	314
Rattus_norvegicus	<pre> AIIAGLLVGLNVIDANFCMKGEDLDSQVGVIDFSMYLKDG-NSSKGSEGDGQITAILDQK </pre>	332
Bos_taurus	<pre> AIIAGLLVGLNVIDANFCMKGEDLDSQVGVIDFSMYLKDG-NSSKGSEGDGQITAILDQK </pre>	407
Rhinatrema_bivittatum	<pre> AIIAGLLVGLNVIDANFCMKGEDLDSQVGVIDFSMYLKDG-NISKCEGDGQITAILDQK </pre>	282
Xenopus_tropicalis	<pre> AIIAGLLVGLNVIDANFCMKGEDLDSQVGVIDFSMYLKDG-PIAKCSEGDGQITAILDQK </pre>	355
Latimeria_chalumnae	<pre> AVIAGLLVGLNVIDANLCKMGEDLDSQVGVIDFSMYLKDGHSKNSKSEGDGQITAILDQK </pre>	306
	<pre>370.....380.....390.....400.....410.....420 </pre>	

	*****.*.*****.*** *****:***:***:** :*	
Pavo_muticus	NYVEELNRHLSATVNNLQAKVDALEKSNTKLTEELAVANNRIITLQEEMERVKEESSYIL	366
Pavo_cristatus	NYVEELNRHLSATVNNLQAKVDALEKSNTKLTEELAVANNRIITLQEEMERVKEESSYIL	366
Gallus_gallus	NYVEELNRHLSATVNNLQAKVDALEKSNTKLTEELAVANNRIITLQEEMERVKEESSYIL	364
Chelonia_mydas	NYVEELNRHLSATVNNLQAKVDALEKSNTKLTEELAVANNRIITLQEEMERVKEESSYIL	377
Homo_sapiens	NYVEELNRHLNATVNNLQAKVDALEKSNTKLTEELAVANNRIITLQEEMERVKEESSYIL	324
Canis_lupus_familiaris	NYVEELNRHLNATVNNLQAKVDALEKSNTKLTEELAVANNRIITLQEEMERVKEESSYIL	342
Pan_troglodytes	NYVEELNRHLNATVNNLQAKVDALEKSNTKLTEELAVANNRIITLQEEMERVKEESSYIL	382
Macaca_mulatta	NYVEELNRHLNATVNNLQAKVDALEKSNTKLTEELAVANNRIITLQEEMERVKEESSYIL	384
Callithrix_jacchus	NYVEELNRHLNATVNNLQAKVDALEKSNTKLTEELAVANNRIITLQEEMERVKEESSYIL	401
Equus_caballus	NYVEELNRHLNATVNNLQAKVDALEKSNTKLTEELAVANNRIITLQEEMERVKEESSYIL	380
Mus_musculus	NYVEELNRHLNATVNNLQTKVDLLEKSNTKLTEELAVANNRIITLQEEMERVKEESSYIL	374
Rattus_norvegicus	NYVEELNRHLNATVNNLQAKVDALEKSNTKLTEELAVANNRIITLQEEMERVKEESSYIL	392
Bos_taurus	NYVEELNRHLNATVNNLQAKVDALEKSNTKLTEELAVANNRIITLQEEMERVKEESSYIL	467
Rhinatrema_bivittatum	NYVEELNRQLSATVNNLQSKVDALEKSNTKLTEELAVANNRIITLQEEMERVKEESSYIL	342
Xenopus_tropicalis	NYVEELNRQLSATVNNLQAKVDALEKSNTKLTEELAVANNRIITLQEEMERIKEETSYS	415
Latimeria_chalumnae	NYVEELNRHLNATVNNLQAKVDALEKSNTKLTEELAVANNRIITLQEEVERVKEASSYIL	366
430.....440.....450.....460.....470.....480	

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Pavo_muticus	ESNRKVTK-DRTADGQALTEARKQLKEETQLRLDVEKELEAQIGMROEMELAMKMLEKDV	425
Pavo_cristatus	ESNRKVTK-DRTADGQALTEARKQLKEETQLRLDVEKELEAQIGMROEMELAMKMLEKDV	425
Gallus_gallus	ESNRKVTK-DRTADGQALTEARKQLKEETQLRLDVEKELEAQIGMROEMELAMKMLEKDV	423
Chelonia_mydas	ESNRKVTKDRTADGLALNEARKQLKEETQLRLDVEKELEVOIGMROEMELAMKMLEKDV	437
Homo_sapiens	ESNRKGPKDRTAEGQALSEARKHLKEETQLRLDVEKELEMOISMROEMELAMKMLEKDV	384
Canis_lupus_familiaris	ESNRKGPKDRTSEGOALSEARKHLKEETQLRLDVEKELEIQISMROEMELAMKMLEKDV	402
Pan_troglodytes	ESNRKGPKDRTAEGQALSEARKHLKEETQLRLDVEKELEMOISMROEMELAMKMLEKDV	442
Macaca_mulatta	ESNRKGPKDRTAEGQALSEARKHLKEETQLRLDVEKELEMOISMROEMELAMKMLEKDV	444
Callithrix_jacchus	ESNRKGPKDRTAEGQALSEARKHLKEETQLRLDVEKELEMOISMROEMELAMKMLEKDV	461
Equus_caballus	ESNRKGPKDRTSEGOALSEARKHLKEETQLRLDVEKELEIQISMROEMELAMKMLEKDV	440
Mus_musculus	ESNRKGPKDRTAEGQALSEARKHLKEETQLRLDVEKELEIQISMROEMELAMKMLEKDV	434
Rattus_norvegicus	ESNRKGPKDRTAEGQALSEARKHLKEETQLRLDVEKELEIQISMROEMELAMKMLEKDV	452
Bos_taurus	ESNRKGPKDRTSEGOALSEARKHLKEETQLRLDVEKELEIQISMROEMELAMKMLEKDV	527
Rhinatrema_bivittatum	ESNRKGSKDRTADGQSLSEARKHLKEETQLRLDVEKELEVOIGMROEMELAMKMLEKDV	402
Xenopus_tropicalis	EASKKVNKQERTADGQALSEVKKHLKEETQLRLDIEKELEVOIGMROEMELAMKMLDKDV	475
Latimeria_chalumnae	ESNRKVTKDGTADGNMFSEARKQLKEETQLRLDVEKELEVOIGMROEMELAMKMLDKDV	426
490.....500.....510.....520.....530.....540	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/RUFY1a.ms Tue Feb 14:28:37 2022

Page 4 of 5

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*****.:****:****:..:*** * *.: . ***.: *****.***.:****
Pavo_muticus      CEKQDALVALRQQLDDDLRALKHELSEFKLQSSDMGVKQKSELNSRLEEKTNQMAATIKOLE 485
Pavo_cristatus    CEKQDALVALRQQLDDDLRALKHELSEFKLQSSDMGVKQKSELNSRLEEKTNQMAATIKOLE 485
Gallus_gallus     CEKQDALVALRQQLDDDLRALKHELSEFKLQSSDMGVKQKSELNSRLEEKTNQMAATIKOLE 483
Chelonia_mydas    CEKQDALVALRQQLDDDLRALKHELSEFKLQSSDLGVKQKSELNSRLEEKTNQMAATIKOLE 497
Homo_sapiens      CEKQDALVSLRQQLDDDLRALKHELAFKLQSSDLGVKQKSELNSRLEEKTNQMAATIKOLE 444
Canis_lupus_familiaris CEKQDALVSLRQQLDDDLRALKHELAFKLQSSDLGVKQKSELNSRLEEKTNQMAATIKOLE 462
Pan_troglodytes   CEKQDALVSLRQQLDDDLRALKHELAFKLQSSDLGVKQKSELNSRLEEKTNQMAATIKOLE 502
Macaca_mulatta    CEKQDALVSLRQQLDDDLRALKHELAFKLQSSDLGVKQKSELNSRLEEKTNQMAATIKOLE 504
Callithrix_jacchus CEKQDALVSLRQQLDDDLRALKHELAFKLQSSDLGVKQKSELNSRLEEKTNQMAATIKOLE 521
Equus_caballus    CEKQDALVSLRQQLDDDLRALKHELAFKLQSSDLGVKQKSELNSRLEEKTNQMAATIKOLE 500
Mus_musculus      CEKQDALVSLRQQLDDDLRALKHELAFKLQSSDLGVKQKSELNSRLEEKTNQMAATIKOLE 494
Rattus_norvegicus CEKQDALVSLRQQLDDDLRALKHELAFKLQSSDLGVKQKSELNSRLEEKTNQMAATIKOLE 512
Bos_taurus        CEKQDALVSLRQQLDDDLRALKHELAFKLQSSDLGVKQKSELNSRLEEKTNQMAATIKOLE 587
Rhinatrema_bivittatum CEKQDALVALRQQLDDDLRLTLKHELALKLQSSDISGKQKSDLSRLEEKTNQMAATIKOLE 462
Xenopus_tropicalis CEKQDALAALRQQLDDDLRALKHELSEFKLQSSDLALKQKSELNSRLEEKTNQMAATIKOLE 535
Latimeria_chalumnae CEKQDALVALRQQLDDDLRAFNYELVHKEQSGSETAMKQKNEIISRLEEKTNQMAATIKOLE 486
.....550.....560.....570.....580.....590.....600
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*          **          .          .:*          .:          *          .          :
Pavo_muticus      QR-----LRQAEKDRQLAQDNRLFKQEFQDKINSIQLEVEELSQRSH 529
Pavo_cristatus    QR-----LRQAEKDRQLAQDNRLFKQEFQDKINSIQLEVEELSQRSH 529
Gallus_gallus     QR-----LRQAEKDRQLAQDNRLFKQEFQDKINSIQLEVEELSQRSH 527
Chelonia_mydas    QR-----LRQAERERSAKEDNRLFKLEFGDKINSIQLEVEQLTKORGO 541
Homo_sapiens      QR-----LRQAERSRQSAELDNRLFKQDFGDKINSIQLEVEELTRRNO 488
Canis_lupus_familiaris QR-----LRQAERGRQSAELDNRLFKQDFGDKINSIQLEVEELTRRHO 506
Pan_troglodytes   QR-----LRQAERSRQSAELDNRLFKQDFGDKINSIQLEVEELTRRNO 546
Macaca_mulatta    QR-----LRQAERSRQSAELDNRLFKQDFGDKINSIQLEVEELTRRNO 548
Callithrix_jacchus QR-----LRQAERSRQSAELDNRLFKQDFGDKINSIQLEVEELTRRNO 565
Equus_caballus    QR-----LRQAERGRQSAELDNRLFKQDFGDKINSIQLEVEELTRRNO 544
Mus_musculus      QR-----LRQAERGRQSAELDNRLFKQDFGDKINSIQLEVEELTRRTO 538
Rattus_norvegicus QR-----LRQAERGRQSAELDNRLFKQDFGDKINSIQLEVEELTRRTO 556
Bos_taurus        QR-----LRQAERGRQSAELDNRLFKQDFGDKINSIQLEVEELTRRNO 631
Rhinatrema_bivittatum QSSCGSNPDCSRQSETASLRRTTGTSSRTLETRLPAQSW--KRS--SGSSGEEIHYLRSG 520
Xenopus_tropicalis QR-----LRVSEDRQSAEEANKLFQEFQDKIESIQLEVDRLRKHCSSQ 579
Latimeria_chalumnae QR-----LRQVEKDRQSAEDANRLFKQDFGDKIDSQLEVDHLAKORVO 530
.....610.....620.....630.....640.....650.....660
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*   ***   ::::   ..          :
Pavo_muticus      LELELKRRERER-WSHSHQSSQGN-----KKGPKNW-----LKPDKGLKIQDENAKL 574
Pavo_cristatus    LELELKWERER-WSHSHQSSQGN-----KKGPKNW-----LKPDKGLKIQDENAKL 574
Gallus_gallus     LELELKRRERER-WSHSHQSSQGN-----KKGPKNW-----LKPDKGLRIQDENAKL 572
Chelonia_mydas    LEQELKRERDR-WSPIHQGIQENKITVAQKGCKQKMC-----LKKDGKQKIQEENARL 593
Homo_sapiens      LELELKQEKER-RLQNDRSIPGR-----GSQKPE-----SKMDGKHKMQEENVKL 532
Canis_lupus_familiaris LELELKQEKER-RLQNDRSIPGR-----GSQKPE-----PKTDGKHKIQEENVKL 550
Pan_troglodytes   LELELKQEKER-RLQNDRSIPGR-----GSQKPE-----SKMDGKHKMQEENVKL 590
Macaca_mulatta    LELELKQEKER-RLQNDRSIPGR-----GSQKPE-----SKMDGKHKMQEENVKL 592
Callithrix_jacchus LELELKQEKER-RLQNDRSIPGR-----GSQKPE-----SKMDGKHKMQEENVKL 609
Equus_caballus    LELELKQEKER-RLQSNRSIPGR-----GSQKPE-----PKTDGKHKIQEENVKL 588
Mus_musculus      LELELKQEKER-KSQN-RGTPGK-----GAQKPE-----LRMDGKHRIQEENVKL 581
Rattus_norvegicus LELELKQEKER-KSQN-RAAPGK-----VTQKPE-----PRMDGKHRIQEDSVTL 599
Bos_taurus        LELELKQEKER-RLQNSRSIPGK-----GSQKPE-----PKMDGKHKIQEENVKL 676
Rhinatrema_bivittatum IELELKVERDK-RSQIHRRGIPERKRTAPHRGNQEKQENGMPVLLSSDRPQNTGEGSANM 579
Xenopus_tropicalis YEAELEKKDRNKHISNNHKGSPETKTSMPGGLLQNRNKK-----MVNEDIHQYREVDTGTE 633
Latimeria_chalumnae LEVELKRRER-RSILQNGNQDQKTPPTHLKNYQCELA-----ELRKEFQKIETENLRL 583
.....670.....680.....690.....700.....710.....720
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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/RUFY1a.ms Tue Feb 1 14:28:37 2022

Page 5 of 5

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      .      :      :      *:*:*  :  *      ::
Pavo_muticus      KOPLREENSVLSHKY--GRKLOSSTQEEQEPSGPGNA-QICQLCQEESSRSKKNICKN 631
Pavo_cristatus    KOPLREENSVLSHKY--GRKLOSSTQEEQEPSGPGNA-QICQLCQEESSRSKKNICKN 631
Gallus_gallus     KOAPREENSVLPHKY--GRKLOSSTQEEQEPSGPGNA-QICQLCQEESSRSKKNICKN 629
Chelonia_mydas    REPGRGENAVLPN-----KIQSVMQEEQELPPGPGKS-QLCQLCQEEGSLTKTKNICKN 646
Homo_sapiens      KKP--LEES-----HRLQPHPMDEQDQLLLSEKP-QLCQLCQEDGSLTKN--VCKN 578
Canis_lupus_familiaris KKP--LDES-----HRLPSRPVDGQDQPPPSEKP-QICQLCQEDGSLTKN--VCKN 596
Pan_troglodytes   KKP--LEES-----HRLQPHPMDEQDQLLLSEKP-QVCQLCQEDGSLTKN--VCKN 636
Macaca_mulatta    KKP--LEES-----HRLQPHPTDEQDQLLLSGKP-QVCQLCQEDGSLTKVT-VVRN 639
Callithrix_jacchus KKS--LEES-----HRLQPHPVDEQDQLLLSEKP-QVCQLCQEDDSLTKN--VCKN 655
Equus_caballus    KRP--LEES-----HRLQSHPVDEQDQPLLSEKP-QMCQLCQEDGSLPKVP-VVRN 635
Mus_musculus      KKP--LEES-----HRLLTHPAEEQGQPSLSEKP-QVCQLCQEDDSLTKN--TCRN 627
Rattus_norvegicus KKP--LEEGPGYLMF--LLWLLTHPAEEQGQPSGSEKA-QVCQLCREDESLTKN--TCKH 652
Bos_taurus        NKP--LEESHR--CL--LIKLOSHPVDDQDQPLPSEKPPKYCQLCQEDCSLTKN--VCRN 728
Rhinatrema_bivittatum KKA--VEDQN--ALL--QSKATSCGTGEGNQLSGIGVP-QMCQLCQAEGLLLRKNRCKN 632
Xenopus_tropicalis RPQSAVNEKNESQMSNSLSSSSSVVSESEDSVLEIGHS-QVCQLCQSEFNNLLSKNVCKN 692
Latimeria_chalumnae RKALEERDQVVPD----RSSSQQEDQCMDQPSKPKEP-VLCKLCQVEASLTKRKNLCKN 637
      .....730.....740.....750.....760.....770.....780

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      .      * *      . . : . * . *      :: . :
Pavo_muticus      CG-----GIFCEACSANELPLP-----SSINPERVCNPCHKQLIQOYSTSPL----- 673
Pavo_cristatus    CG-----GIFCEACSANELPLP-----SSINPERVCNPCHKQLIQOYSTSPL----- 673
Gallus_gallus     CG-----GIFCEACSANELPLP-----SSINPERVCNPCHKQLIQOYSTSPL----- 671
Chelonia_mydas    CD-----GIFCKACSANELPLP-----SSINPEVCNNTCHKQLIQOYSTSPL----- 688
Homo_sapiens      CS-----GTFCDACSTNELPLP-----SSIKLERVCNPCHKHLMKOYSTSPS----- 620
Canis_lupus_familiaris CR-----GTFCNACSTNELPLP-----SSIKPERVCNPCHHELMKOYSSSPS----- 638
Pan_troglodytes   CS-----GTFCDACSTNELPLP-----SSIKLERVCNPCHKHLMKOYSTSPS----- 678
Macaca_mulatta    GQ-----VFHRNVYSTPPSPSPGVGTGLPHRVQSACSQCWGWGEKQKQGAFTGYLLFF 692
Callithrix_jacchus CR-----GTFCDACSTNELPLP-----SSIKPERVCNPCHKHLIKOYSTSPS----- 697
Equus_caballus    EQNVCKNCRGIFCDACSTNELPLP-----SSIKPERVCNPCHHELMKOYSTSPS----- 684
Mus_musculus      CR-----GTFCNACTTNELPLP-----SSIKPERVCNPCHHELMKOYSSSPP----- 669
Rattus_norvegicus CR-----GTFCNACMTNELPLP-----SSIKPERVCNPCHHELMKOYSTSPS----- 694
Bos_taurus        CR-----GTFCNICSTNELPLP-----SSIKPERVCNPCHHELMKOYSTSPS----- 770
Rhinatrema_bivittatum CG-----GLFCAACSAANKLPLP-----SSINPERVCNLCHKQLIEQYASPS----- 674
Xenopus_tropicalis CG-----GIFCPSCSANELPLP-----SSINPERVCNPCHKHLIEQYYSYSPS----- 734
Latimeria_chalumnae CG-----EMVCETCSVNELPLP-----SSIQPERVCNLCHAQLLQRYSTSPS----- 679
      .....790.....800.....810.....820.....830.....840

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Pavo_muticus      -- 673
Pavo_cristatus    -- 673
Gallus_gallus     -- 671
Chelonia_mydas    -- 688
Homo_sapiens      -- 620
Canis_lupus_familiaris -- 638
Pan_troglodytes   -- 678
Macaca_mulatta    QS 694
Callithrix_jacchus -- 697
Equus_caballus    -- 684
Mus_musculus      -- 669
Rattus_norvegicus -- 694
Bos_taurus        -- 770
Rhinatrema_bivittatum -- 674
Xenopus_tropicalis -- 734
Latimeria_chalumnae -- 679
..

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