File: /media/morpheus/disk1/fst/pep\_msa/AGG TatepsTue Feb 1 10:59:45 2022 Page 1 of 6

Pavo muticus	<mark>MASPPH</mark>	6
Pavo_cristatus	MASPPH	6
Gallus_gallus	<mark>MA</mark> SPPH	6
Chelonia_mydas	<mark>maspplpeag</mark>	10
Mus_musculus	<mark>Maseapspp</mark> sp <mark>spppp</mark> as	18
Rattus_norvegicus	MASEAPSPPPAS	12 17
Homo_sapiens Pan_troglodytes	MASEAPSPPRSPPPPTS	17 17
Macaca mulatta	MASEAPSPPPPTS	13
Callithrix_jacchus	MASEAPFPPPPPSVSPPTS	19
Canis lupus familiaris	MASEAPPSPRSPPSPPS	17
Bos_taurus	MASEAPPPSLSPSPPPS	17
Equus_caballus	<mark>Mase</mark> a <mark>pspp</mark> l <mark>sp</mark> s <mark>ppps</mark>	17
Heterocephalus_glaber	MA <mark>SEAPSPPP</mark> S <mark>PSRS</mark> LS <mark>PPTS</mark>	21
Rhinatrema_bivittatum	<mark>MA</mark> R <mark>QG</mark> S <mark>P</mark> ERLRAE <mark>P</mark> TD <mark>S</mark> N	18
Xenopus_tropicalis	MVRHGELPTAESSDPAELSPLPTAPVTLQPDTLQVPSSWESPEGSPKASPLPQGPESALA	60
	1102030405060	
Pavo_muticus Pavo_cristatus Gallus_gallus Chelonia_mydas Mus_musculus Rattus_norvegicus Homo_sapiens Pan_troglodytes Macaca_mulatta Callithrix_jacchus Canis_lupus_familiaris Bos_taurus Equus_caballus Heterocephalus_glaber Rhinatrema_bivittatum Xenopus_tropicalis	: ** ** ** :: * :: ** ** :: * : ****: *** GEVRALR-DQVAALEADLAACRGQLERAQRRLRRTERLYREARDGSELLRRQVEELTK GEVRALR-DQVAALEADLAACRGQLERAQRRLRRTERLYREARDGSELLRRQVEELTK GEMRALR-DQVAALEADLAACRGQLERAQRRLRRTERLYREARDGSEALRRQVEELTK AELRALQ-GKVEVLEAELGCCRSQLEQVQRLLRHTERLYREAQESNGALQTQVEELSK  PEPELAQLR-RKVEKLERELRSCRRQVREVEKLLQHTERLYRNAESDNQELRTQVEELSK  PEPELAQLR-RKVEKLERELRSCKRQVREVEKLLHHTERLYQNAESNNQELRTQVEELSK  PEPELAQLR-RKVEKLERELRSCKRQVREIEKLLHHTERLYQNAESNNQELRTQVEELSK  PEPELAQLR-RKVEKLERELRSCKRQVREIEKLLHHTERLYQNAESNNQELRTQVEELSK  PEPELAQLR-RKVEKLERELRSCKRQVREIEKLLHHTERLYQNAESNNQELRTQVEELSK  PEPELAQLR-RKVEKLERELRSCKRQVREIEKLLHHTERLYQNAESNNQELRTQVEELSK  PEPELAQLR-RKVEKLERELRSCKRQVREIEKLLHHTERLYQSAESNNQELRTQVEELSK  PEPELAQLR-RKVEKLERELRSCKRQVREIEKLLHTERLYQSAESNNQELRTQVEELSK  PEPELAQLR-RKVEKLERELRSCKRQVREIEKLLHTERLYQSAESNNQELRTQVEELSK  PEPELAQLR-RKVEKLERELRSCKRQVREIEKLLHTERLYQSAESNNQELRTQVEELSK  PEPELAQLR-RKVEKLRERELRSCKRQVREIEKLLHTERLYQSAESNNQELRTQVEELSK  PEPELAQLR-	63 63 67 77 71 76 76 76 76 76 76 80 78 120
Pavo_muticus Pavo_cristatus Gallus_gallus Chelonia_mydas Mus_musculus Rattus_norvegicus Homo_sapiens Pan_troglodytes Macaca_mulatta Callithrix_jacchus Canis_lupus_familiaris Bos_taurus Equus_caballus Heterocephalus_glaber Rhinatrema_bivittatum Xenopus_tropicalis	EIHSRKEKDTSSVEVQTEDY-AWSQADYYYYENYYNHTDAQDYASELPVQNNHGTEGT EIHSRKEKDTSSVEVQTEDY-AWSQADYYYYENYYNHTDAQDYASELPVQNNHGTEGT EIHSRKEKDTSSVEVQTEDY-AWSQADYYYYENYYNHTDAQDYASELPAQNNHGTEGT EIHSRKQKDTSSVEVQTEDY-AWSQADYYYYENYYNHTDAQDYASELSVQNHHGTEGT EVHDRKKKERETSSVEVQTEDYDSWQQSDYYNYQNYCNNIDAQDNTSELSVQQNHENEGP ILHCGKNEDNPKSDVEVQTESQAPWAISDYY-YQTCYNDDSLPSKETELCVQQSQCAQAS ILRCGKNEDNQKSDVEVQTESHAAWSSDYY-YQTYYKDDNLPSKETELCAQQSPYVQAS ILQRGRNEDNKKSDVEVQTENHAPWSISDYF-YQTYYNDVSLPNKVTELSDQQDQAIETS ILQRGRNEDNKKSDVEVQTENHAPWSISDYY-YQTYYNDVSLPNKVTELSDQQDQAIETS ILQRGRNEDNKKSDVEVQTENHAPWSISDYY-YQTYYNDVSLPNKVTELSDQQDQGIETS ILYCGRNEDNKKSDVEVQTENHAPWSISDYY-YQTYYNDVSLPNKVTELSDQQDQGIKTS ILHCGRNEDNKKSDVEVQTENHAPWSISDYY-YQTYYNDVSLPNKVTELSVQQDQDIKAS ILHCGRNEDSKKSDVEVQTENHPPWSISDYY-YQTYYKDVSLPNKVTELSVQQDQDIKAS ILHCGRNEDNKKSDVEVQTENHPPWSISDYY-YQTYYKDVSLPNKVTELSVQQDQNIEPS ILHCGRNEDNKKSDVEVQTENHPPWSISDYY-YQTYYKDVSLPNKVTELSVQQDQNIEPS ILHCGRNEDNKKSDVEVQTENHPPWSISDYY-YQTYYKDVSLPNKVTELSVQQDQNIEPS ILHCGRSEDNKKSDVEVQTENHPPWSISDYY-YQTYYKDVSLPDKVTELSVQQQQNIEPS ILHCGRSEDNKKSDVEVQTENHPWSISDYY-YQTYYKDVSLPDKVTELSVQQQQNIEPS ILHCGRSEDNKKSDVEVQTENHPSSSDYY-HQTYYNDDCPPNKETEFSVQQSQYTEAP EIHERKQKEKNKTDAAVQTEDYTTWSHSVYDQPQNYYQNNDFSMKVTEGWADQGIERA ELHERKRAEQTAQEVQTDGYYGWAQSDYCSSGNDYSGFAPGMSEQVSVTEDSN	120 120 127 136 130 135 135 131 137 135 135 135 135

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Pavo muticus	EHDFTEESQMDANIPLRVNSTEVTEGGEEENLIQNSQEARDTSVPEGSLAESLR	174
Pavo_cristatus	EHDFTEESQMDANIPLRVNSTEVTEGGEEENLIQNSQEARDTSVPEGSLAESLR	174
Gallus_gallus	EHDFTEESQMDTNIPSRVNSTEVAEGGGEENLIQNSQEAEDASAPEGSLAESLR	174
Chelonia_mydas	NPNSTEQSQAGGGIHSHIGSTELAECGQGDNLIENLQEPEDTSLAEGTLAESLR	181
Mus_musculus	ALDPQDESHIDSGSYAGADATEGVSHRQEDAVTSDSQESVSALA-EGPALEGSSLAESLR	195
Rattus_norvegicus	ALDSKAESRIDSESYS-TEMAESVNHRHEDHFTSDSQESASALA-EGSALEGSSLAESLR	188
Homo_sapiens	ILNSKDHLQVENDAY <mark>PGTDRTEN</mark> VKYRQVDHFASNSQEPASALATEDTSLEGSSLAESLR	195
Pan_troglodytes	ILNSEDHLQIENDAY <mark>PGTDRTEN</mark> VKYRQVDNFASNSQEPASALATEDTSLEGSSLAESLR	195
Macaca_mulatta	TLNSKDHLQIENDAYPGTDKTENVKCRQVDHFASNSQEPASALATEDTSLEGSSLAESLR	191
Callithrix_jacchus	TLNSKDQLQIENDAYPGTDRTENVKGRQEDHFASNSQEPASALATEDSSLEGSSLAESLR	197
Canis_lupus_familiaris	TLNSEDQSQIDNDAYTGTDITEHAKCAEEDHFASNSQESASVLAAEDTSLEGSSLAESLR	195 193
Bos_taurus Equus_caballus	TFS <mark>SKDQSRIENDTYAGTDITENLGQEDHFASNSQEPAS</mark> ALATENASLEGSSLAESLR TLNSKDQSQIENDAYTGTDITENVKCGQEDHYASHSQEPASALATEDTSLEGASLAESLR	195
Heterocephalus_glaber	PFNSKDQSQIESDTCTSTDVTGNVKGEQEDHFMSDSQEPTSALATEGASSEGSSLAESLR	199
Rhinatrema bivittatum	PPKIADRSDADIDVHSGIICAVNAEHGQEQENNGLIQNSEELEGTSLAESLR	188
Xenopus_tropicalis	SSQVVAEAVLNKAGASSGQFVEEVQEDTVYAQQAEEQGCSLADSLR	220
nenopub_cropredir	190200210220230240	220
	*:*****:*** ***:*:*********************	
Pavo_muticus	AAAEAAV <mark>SQTG</mark> FIYDENTGLYYDHSTGFYYN <mark>SENQ</mark> LYYDPA <mark>TG</mark> IYYYCDVESGRYQFHSR	234
Pavo_cristatus	AAAEAAVSQTGFIYDENTGLYYDHSTGFYYNSENQLYYDPATGIYYYCDVESGRYQFHSR	234
Gallus_gallus	AAAEAAVSQTGFIYDENTGLYYDHSTGFYYNSENQLYYDPATGIYYYCDVESGRYQFHSR	234
Chelonia_mydas	AAAEAAVSQTGFIYDENTGLYYDHSTGFYYNSENQLYYDPTTGIYYYCDVESGRYQFHSR	241
Mus_musculus	AAAEAAV <mark>SQTG</mark> FTYDESTGLYFDHSTGFYYDSENQLYYDPSTGIYYYCDVESGRYQFHSR	255
Rattus_norvegicus	AAAEAAVSQTSFTYDESTGLYFDHSTGFYYDSENQLYYDASTGIYYYCDVESGRYQFHSR	248
Homo_sapiens	AAAEAAVSQTGFSYDENTGLYFDHSTGFYYDSENQLYYDPSTGIYYYCDVESGRYQFHSR	255
Pan_troglodytes	AAAEAAVSQTGFSYDENTGLYFDHSTGFYYDSENQLYYDPSTGIYYYCDVESGRYQFHSR	255
Macaca_mulatta	AAAEAAVSQTGFSYDENTGLYFDHSTGFYYDSENQLYYDPSTGIYYYCDVESGRYQFHSR	251
Callithrix_jacchus	AAAEAAVSQTGFSYDENTGLYFDHSTGFYYDSENQLYYDPSTGIYYYCDVESGRYQFHSR	257 255
Canis_lupus_familiaris	AAAEAAVSQTGFSYDENTGLYFDHSTGFYYDSENQLYYDPSTGIYYYCDVESGRYQFHSR AAAEAAVSQTGFSYDENTGLYFDHSTGFYYDSENQLYYDPSTGIYYYCDVESGRYQFHSR	253
Bos_taurus Equus_caballus	AAAEAAVSQTGFSIDENTGLIFDHSTGFIIDSENQLIIDPSTGIIIICDVESGRIQFHSR AAAEAAVSQTGFSYDESTGLYFDHSTGFYYDSENQLYYDPSTGIYYYCDVESGRYQFHSR	255
Heterocephalus_glaber	AAAEAAVSQTGFSYDESTGLYFDHSTGFYYDSENQLYYDPSTGIYYYCDVESGRYQFHSR	259
Rhinatrema_bivittatum	ATAEAAVSQTGFTYDESSGLYYDHSTGFYYDSENQLYYDPSTGIYYYCDVESGRYQFHSR	248
Xenopus tropicalis	ATAEAAVTQTGFVYDENTGMYYDHSTGFYYDSESQLYYDGTTGIYYYCDVDSGRYLYHSR	280
momopub_oroprouring	250260270280290300	
	<u>:.**</u>	
Pavo_muticus	VDLQSYQASGSQHVKDKKGKKKRKEPEWSTANEY	268
Pavo_cristatus	VDLQSYQASGSQHVKDKKGKKKRKEPEWSTANEY	268
Gallus_gallus	VDLQSYQASGSQHAKDKKGKKKRKDPEWSTANEY	268
Chelonia_mydas	VDLQSYQAS-TTQTKDKKGKKKRKDPEWITANEYKVHQLTETMANLKISSFELAASGE	298
Mus_musculus	VDLQPYQTSSTKPNRERRLKKRRKEPGFYTANEEVHLQPYQTSSTKPSKDKKLKKRRKEPGFWTATEE	289
Rattus_norvegicus Homo sapiens	VDLQPYPTSSTKQSKDKKLKKKRKDPDSSATNEE	282 289
Pan_troglodytes	VDLQPYQTSSTKQSKDKKLKKKRKDPDSSATNEE	289
Macaca_mulatta	VDLQPYQTSSTKQSKDKKLKKKRKDPDSSATNEE	285
Callithrix_jacchus	VDLQPYQTSATKQSKDKKLKKKRKDPDSSATNEE	291
Canis lupus familiaris		289
Bos taurus	VDLOPYOTSGTKOSKDKKLKKKRKDPASSTTNEE	287
Equus caballus	VDLOPYOTSGAKOSRDKKSKKKRKDPDSSTTNEE	289
Heterocephalus_glaber	IDLOPYOSATTKOSKNKKLKKKRKDPDCSSTNEE	293
Rhinatrema_bivittatum	VDLQCYHTETSGAPQGKEKKGKKKRREPCNEE	280
Xenopus_tropicalis	VDLQSFTDTNPQPTKDKRSKKKRRDPASMEKEEE	314
	310320340350360	

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Pavo muticus	KDMDIEEOKSSNSL	282
Pavo cristatus	KDMDIEEOKSSNSL	282
Gallus_gallus	KDMDTEEQKSSNNL	282
Chelonia mydas	GRVETPNICHKMPLYFKNELKSVSRFNITEHQSMKEGTKFIPFKNEKDLDTEEQKSPRSL	358
Mus musculus	KDLSEDOK	298
Rattus_norvegicus	KDLSSEDQK	291
Homo_sapiens	KDLNSEDQK	298
Pan_troglodytes	KDLNSEDQK	298
Macaca_mulatta	KDLNSEDQK	294
Callithrix_jacchus	KDLNSEDQK	300
Canis_lupus_familiaris	<mark>KDLNSEDQK</mark>	298
Bos_taurus	<mark>KNLNSEDQK</mark>	296
Equus_caballus	KDLTSEDQK	298
Heterocephalus_glaber	<mark>KDL</mark> NSENQK	302
Rhinatrema_bivittatum	<mark>kdln</mark> k <mark>edqkss</mark> k <mark>ss</mark>	294
Xenopus_tropicalis	<mark>KEKDTE</mark> KME	323
	370380390400410420	
	<u> </u>	
Pavo_muticus	NCFSTTE-QVSSTEEEESP-NARKKTKMDTKIRNN-LTAKESISTDSMNSQSHKSTPDTA	339
Pavo_cristatus	NCFSTTE-QVSSTEEEESP-NARKKTKMDTKIRNN-LTAKESISTDSMNSQSHKSTPDTA	339
Gallus_gallus	NCFSTTE-QVSSTEEEESL-NARKKTKMDAKIRNN-LTAKESIATDSMNSHSHKSTPDTA	339
Chelonia_mydas	NCLSTTE-QISSTEEEESP-NARKKAKVDIDVRNR-LTAKESVITDGINSHLNRKTQDTA	415
Mus_musculus	VCSVE-YINCSEDEHSG-NVKKKARTDTSHKSSPLQLTVAVSGDTVESPGDDNSA	351
Rattus_norvegicus	VCSIE-YINCSEDENSG-NVKKKARTDTSHKSSPLPLAGAVSGDMVESPGDEASA	344
Homo_sapiens	AFSVE-HTSCNEEENFA-NMKKKAKIGIHHKNSPPKVTVPTSGNTIESPLHENISNST AFSVE-HTSCNEEENFA-NMKKKAKIGIHHKNSPPKVTVPTSGNTIESPLHENISNST	354 354
Pan_troglodytes	AFSVE-HTSCNEEENFA-NMKKKAKIGIHHKNSPPKVTVPTSGNTIESPLHENISNST AFSVE-HTSCNEEENIA-NMKKKAKIGIHHKNSLPKFTVPASGNTIESPLHEDISNST	
Macaca_mulatta Callithrix_jacchus	AFSVE-HISCNEEENIA-NMKKAKIGIHHKNSLPKFTVPASGNTIESPLHEDISNST AFSVE-HISCNEEENFS-HMKKKAKIGIHHKNSPPKFTVPASGNTVESPLHENISYST	350 356
Canis_lupus_familiaris	AFSVE-HISCNEEENFS-HMKKKAKIGIHHKNSPPKFIVPASGNIVESPIHENISISI ASSVE-HISCNEGEDFA-MMKKKAKIDVHYKNSPPKFIVSVSGKTTESSLNESIYNST	354
Bos taurus	TSSIE-HISCSEGEDFA-NVKKKAKVDIHYKNSPPKYTVPVSAKTVESPLNENIYNSA	354
Equus_caballus	ASSVE-HINCKEGEDFA-TVKKKAKIDIHYKNSPPKFTVPVSGKTVES-LNENTYNLT	352
Heterocephalus glaber	ASSVE-HINCKEGEDFA-IVKKKAKIDIHINDFFKFIVFVSGAIVES-HINIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	341
Rhinatrema bivittatum	SVONTUNGOVSCTEWERS ANTEREMENT THAT FROM A TENTOS OSDITE - FTV	352
Xenopus_tropicalis	S <mark>Y</mark> QNIVN <mark>G</mark> QVSCTKWKESAYNTKKKAKVAMEIE <mark>NG</mark> LLHAERQ <mark>T</mark> AIKNID <mark>S</mark> QSDTKE <mark>T</mark> V HEPVSPPEREELA-AE <mark>RKKARMG</mark> SLVE	349
xenopus_cropicaris	430440450460470480	343
Pavo muticus	AYTDDSRTVDTESEPEGEITDSEREPYSSTDEVTSEETNDSEDSENE	387
Pavo cristatus	AYTDDSRTVDTESEPEEGEITDSEREPYSSTDEVTSEETNDSEDSENE	387
Gallus_gallus	AYTDDNRIVDTESEPEGEITDSEREPYSSTDEVTSEETNDSEDSENE	387
Chelonia_mydas	AFMDDSKIIETESEPEEGEITDSECEEYSSEDEVTSEESVNSEDSENE	463
Mus_musculus	SSKDE-RIGESESEPEEGEITDSQSE-KSYDGDSSSGDRETSEESDDED	398
Rattus norvegicus	SLKDE-RERASESEPEEGEITDSQSE-CSYDGDPSSGDRQSSEESDDED	391
Homo_sapiens	SFKDE-KIMETDSEPEEGEITDSQTE-DSYDEAITSEGNVTAEDSEDE	400
Pan_troglodytes	SFKDE-KIMETDSEPEEGEITDSQTE-DSFDEDITSEGNVTAEDSEDE	400
Macaca_mulatta	SFKDE-KIMETDSEPEEGEITDSQTE-DSYDEDITSEGNVTAEDSEDE	396
Callithrix_jacchus	SFKDE-KIMETDSEPEEGEITDSQTE-DSYDEDITSEGNVTAEDSEDE	402
Canis_lupus_familiaris	SFKDE-KIMETDSEPEEGEITDSQTE-DSFDEDITSEDNVTAEDSEDEA	401
Bos_taurus	SFKDE-KIIDTDSEPEEGEITDSQTE-DSSDEDLTSEDNATAEDTEDE	398
Equus_caballus	SFKEE-KIVETDSEPEEGEITDSQTE-DSYDEDMTSEDSVTAEDTEDE	399
Heterocephalus_glaber	SFKDE-IIIESDSEPEEGEITDSQTE-GSYDEDITSEDNRTEEETEDE	387
Rhinatrema_bivittatum	PLEAESDVIEMESEPEEGEITDSENK-DYSDEDESCTDTSTSGDSEQEDSEMIWPPSMRV	411
Xenopus_tropicalis	SYERE-SSSSDESEPEEGEITDSDNEKTSSDDDRSSGLSVTSHTSEPE	396
	$\dots \dots 490 \dots \dots 500 \dots \dots 510 \dots \dots 520 \dots \dots 530 \dots \dots 540$	

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Pavo_muticus Pavo_cristatus Gallus_gallus Chelonia_mydas Mus_musculus Rattus_norvegicus Homo_sapiens Pan_troglodytes Macaca_mulatta Callithrix_jacchus Canis_lupus_familiaris Bos_taurus Equus_caballus Heterocephalus_glaber Rhinatrema_bivittatum Xenopus_tropicalis		387 387 463 398 391 400 400 396 402 401
	IVIRSPVLQTGSLYMITATEHSTIGRKKGLEHTIVIPEAAVSKFHAEVFFSHDLQSYVIV550560570580590600	398 399 387 471 396
Pavo_muticus Pavo_cristatus Gallus_gallus Chelonia_mydas Mus_musculus Rattus_norvegicus Homo_sapiens Pan_troglodytes Macaca_mulatta Callithrix_jacchus Canis_lupus_familiaris Bos_taurus Equus_caballus Heterocephalus_glaber Rhinatrema_bivittatum Xenopus_tropicalis		387 387 463 398 391 400 400 396 401 398 399 387 531 396
Pavo_muticus Pavo_cristatus Gallus_gallus Chelonia_mydas Mus_musculus Rattus_norvegicus Homo_sapiens Pan_troglodytes Macaca_mulatta Callithrix_jacchus Canis_lupus_familiaris Bos_taurus Equus_caballus Heterocephalus_glaber Rhinatrema_bivittatum Xenopus_tropicalis	DEEKIWPPCIRVIVIRSPVLQTGSLYIITAVKPATIGREKDVGHTLQDEEKIWPPCIRVIVIRSPVLQTGSLYIITAVKPATIGREKDVGHTLQDEEKIWPPCIRVIVIRSPVLQTGSLYIITAVKPATIGREKDVGHTLQ	434 434 510 444 438 447 447 443 449 448 445 446 434 591 443

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	*** .:*****:.**:.**:*** **::**: **** .:* :*:*****::	
Pavo muticus	IPEVGVSKFHAEVYFDHDLQNYVLVDQGSQNGTVVNGNQILQPKTKCDPYILEHGDEVKI	494
Pavo cristatus	IPEVGVSKFHAEVYFDHDLQNYVLVDQGSQNGTVVNGNQILQPKTKCDPYILEHGDEVKI	494
Gallus_gallus	IPEVGVSKFHAEVYFDHDLQNYVLVDQGSQNGTVVNGNQILQPKTKCDPYILEHGDEVKI	494
Chelonia_mydas	IPEVGVSKFHAEVYFDHELQNYVLVDQGSQNGTVVNGNQILQPKTKCDPYVLEHGDEVKI	570
Mus musculus	IPEVAVSKFHAEVYFDHDLQSYVLVDQGSQNGTIVNGKQILQPKTKCDPYVLEHGDEVKI	504
Rattus_norvegicus	IPEVAVSKFHAEVYFDHDLQSYVLVDQGSQNGTIVNGKQILQPKTKCDPYILEHGDEVKI	498
Homo_sapiens	IPEVGVSKFHAEIYFDHDLQSYVLVDQGSQNGTIVNGKQILQPKTKCDPYVLEHGDEVKI	507
Pan_troglodytes	IPEVGVSKFHAEIYFDHDLQSYVLVDQGSQNGTIVNGKQILQPKTKCDPYVLEHGDEVKI	507
Macaca mulatta		507
<del>_</del>	IPEVGVSKFHAEIYFDHDLQSYVLVDQGSQNGTVVNGKQILQPKTKCDPYVLEHGDEVKI	
Callithrix_jacchus	IPEVGVSKFHAEIHFDHDLQSYVLVDQGSQNGTIVNGKQILQPKTKCDPYVLEHGDEVKI	509
Canis_lupus_familiaris	I <mark>P</mark> EVGVSKFHAEIYFDHELQSYVLVDQGSQNGTIVNGKQILQPKTKCDPYVLEHGDEVKI	508
Bos_taurus_	I <mark>P</mark> EVGVSKFHAEIYFDHDLQSYVLVDQGSQNGTVVNGKQILQPKTKCDPYVLEHGDEVKI	505
Equus_caballus	IPEVGVSKFHAEIHFDHDLQSYVLVDQGSQNGTIVNGKQILQPKTKCDPYVLEHGDEVKI	506
Heterocephalus_glaber	IPEVGVSKFHAEIYFDHELQSYVLVDQGSQNGTIVNGKHILQPKTKCDPYVLEHGDEVKI	494
Rhinatrema_bivittatum	I <mark>PEAAVSKFHAEVFFDHELESYVIVDQGSQIGTVINGNLILQPG</mark> VISE <mark>P</mark> CVLEHGDEV <mark>R</mark> F	651
Xenopus_tropicalis	I <mark>PELGISKFHAEVYFDH</mark> NL <mark>QSYVLVDQGSQNGTVING</mark> NHIL <mark>QPK</mark> EVSQ <mark>P</mark> CVL <mark>QHGDE</mark> VKF	503
	730740750760770780	
	************************	
Pavo muticus	GETVLSFHIHPGSDTCDGCEPGQVRAHLRLDKKK-ESSVCPALSKEERELVRRKALKQIR	553
Pavo cristatus	GETVLSFHIHPGSDTCDGCEPGQVRAHLRLDKKK-ESSVCPALSKEERELVRRKALKQIR	553
Gallus_gallus	GETVLSFHIHPGSDTCDGCEPGQVRAHLRLDKKK-ESSVCPALSKEERELVRRKALKQIR	553
Chelonia_mydas	GETVLSFHIHPGSDTCDGCEPGQVRAHLRLDKKK-EFSG-PALSKEERELVRRKALKKIR	628
Mus_musculus	GETVLSFHIHPGSETCDGCEPGQVRAHLRLDRKD-EPLVGPALSKEEKELERRKALKKIR	563
Rattus_norvegicus	GETVLSFHIHPGSETCDGCEPGQVRAHLRLDKKD-EPLVGPALSKEEKELERRKALKKIR	557
Homo_sapiens	GETVLSFHIHPGSDTCDGCEPGQVRAHLRLDKKD-ESFVGPTLSKEEKELERRKELKKIR	566
Pan_troglodytes	GETVLSFHIHPGSDTCDGCEPGQVRAHLRLDKKD-ESFVGPTLSKEEKELERRKELKKIR	566
Macaca_mulatta	GETVLSFHIHPGSDTCDGCEPGQVRAHLRLDKKD-ESFVGPTLSKEEKELERRKELKKIR	562
Callithrix_jacchus	GETVLSFHIHPGSDTCDGCEPGQVRAHLRLDKKD-ESFVGPTLSKEEKELERRKELKKIR	568
Canis_lupus_familiaris	GETVLSFHIHPGSDTCDGCEPGQVRAHLRLDKKD-ECFVGPALSKEEKELERRKELKKIR	567
Bos_taurus	GETVLSFHIHPGSDTCDGCEPGQVRAHLRLDKKD-ELFVGPALSKEEKELERRKELKKIR	564
Equus_caballus	GETVLSFHIHPGSETCDGCEPGQVRAHLRLDKKD-ESFVGPTLSKEEKELERRKELKKIR	565
Heterocephalus_glaber	GETVLSFHIHPGSDTCDGCEPGQVRAHLRLDKKD-ESFVGPALSKEEKELERRKELKKIR	553
Rhinatrema bivittatum	GETVLSFHVHPGCETCNGCEPGQIRAHLRLNKESPTSSAGPILSKEEKELIRRKELKHIR	711
Xenopus tropicalis	GETVLSFHVHPGSETCDGCEPGQVRAHLRLNKKE-EHSAGPVLTKEGKELLRKQGLKKIR	562
	790800810820830840	
	.****.: ** ***:*** :**: .**: :**:* **.*.**:**	
Pavo muticus	VKYGLQNTEYEDNKAVKNPKYKDRAGKRRETIGSEGTFQRGDTPASVHIEISDSNKGHKM	613
	VKYGLONTEYEDNKAVKNPKYKDRAGKRRETIGSEGTFORGDTPASVHIEISDSNKGHKM	613
Pavo_cristatus		
Gallus_gallus	VKYGLQNTEYEDNKAVKNPKYKDRAGKRRETIGSEGTFQRGDTPASVHIEISDSNKGHKM	613
Chelonia_mydas	VKYGLQNTDYEDNKAVKNPNYKDRAGKRRETIGSEGTFQRDDTPASVHVEISDSNKGRKM	688
Mus_musculus	VKYGLQNTDYEAEKALKNPKYKDRAGKRREQVGSEGTFQRDDA <mark>P</mark> ASVHSEITDSNKGRKM	623
Rattus_norvegicus	VKYGLQNTDYEDEKALKNPKYKDRAGKRREQVGSEGTFQRDDAPASVHSEITDSNKGRKM	617
Homo_sapiens	VKYGLQNTEYEDEKTLKNPKYKDRAGKRREQVGSEGTFQRDDAPASVHSEITDSNKGRKM	626
Pan_troglodytes	VKYGLQNTEYEDEKTLKNPKYKDRAGKRREQVGSEGTFQRDDAPASVHSEITDSNKGRKM	626
Macaca_mulatta	VKYGLQNTEYEDEKTLKNPKYKDRAGKRREQIGSEGTFQRDDAPASVHSEITDSNKGRKM	622
Callithrix_jacchus	VKYGLQNTVYEDEKTLKNPKYKDRAGKRREQIGSEGTFQRDDAPASVHSEITDSNKGRKM	628
Canis_lupus_familiaris		627
Bos taurus	VKYGLQNTDYEDEKTLKNPKYKDRAGKRREQIGSEGTFQRDDAPASVHSEITDSNKGRKM	624
Equus_caballus	VKYGL <mark>ONTEYEDEKALKNPKYKDRAGKRREQIGSEGTFORDDAPASVHSEITDSNKGRKM</mark>	625
Heterocephalus_glaber	VKYGLONTDYEDEKALKNPKYKDRAGKRREQVGSEGTFORDDAPASIHSEITDSNKGRKM	613
Rhinatrema bivittatum	VKYGLQNTDYEDCKALKNPKYRDRAEKRRKRVGSEAPFQRECAPASVHVEINDSNKGRKM	771
Xenopus_tropicalis	AKYGLOSADYEDNKVLTNPKYKDRAGRRROVVGSDGTFOKEEAPASVHVEINDNNKGRKM	622
	850860870880890900	722

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	**:****:***	***	*:: **	. * *	::::	****	: *	* : *	.:.*::*:*	*
Pavo_muticus	LEKMGWKKGEG	LGKDGG	GMKD <mark>P</mark> I	HLQ	LHKME	[AGLG]	SRPTS	IEDI	QII <mark>PSKNKKN</mark> WDKA	R 673
Pavo_cristatus	LEKMGWKKGEG	L <mark>GKD</mark> GG	GMKD <mark>P</mark> I	HLQ	LHKME	IAGLG <mark>T</mark>	SRPTS	IEDI	QII <mark>PSKNKKN</mark> WDKA	R 673
Gallus_gallus	LEKMGWKKGEG	L <mark>GKD</mark> GG	GMKD <mark>P</mark> I	HLQ	LHKME	IAGLG <mark>T</mark>	SRPTS	IEDI	QIV <mark>PSKNKKN</mark> WEKA	R 673
Chelonia_mydas	LEKMGWKKGEG	L <mark>GKD</mark> GG	GMKN <mark>P</mark> I	QLQ	IHKME	IAGLG <mark>T</mark>	SRPAS	VEDV	QIIK <mark>SKNKKNWDK</mark> A	R 748
Mus_musculus	LEKMGWKRGEG	L <mark>GKD</mark> GG	GMK <mark>T</mark> PI	QLQ	LRRTH	IAGLG <mark>T</mark>	GKLSS	IDDV.	HLI <mark>Q</mark> NKSKKHW <mark>DK</mark> A	R 683
Rattus_norvegicus	LEKMGWKKGEG	L <mark>GKD</mark> GG	GMK <mark>T</mark> PI	QLQ	L <mark>RR</mark> TI	IAGLG <mark>T</mark>	GKPSS	IDDV.	HFL <mark>Q</mark> NKSKK <mark>N</mark> WDKA	R 677
Homo_sapiens	LEKMGWKKGEG	L <mark>GKD</mark> GG	GMK <mark>T</mark> PI	QLQ	L <mark>RR</mark> TI	IAGLG <mark>T</mark>	GKPSS	FEDV.	HLL <mark>Q</mark> NK <mark>N</mark> KK <mark>N</mark> WDKA	R 686
Pan_troglodytes	LEKMGWKKGEG	L <mark>GKD</mark> GG	GMK <mark>T</mark> PI	QLQ	L <mark>RR</mark> TI	IAGLG <mark>T</mark>	GKPSS	IEDV.	HLL <mark>Q</mark> N <mark>KN</mark> KK <mark>N</mark> WDKA	R 686
Macaca_mulatta	LEKMGWKKGEG	L <mark>GKD</mark> GG	GMK <mark>T</mark> PI	QLQ:	L <mark>RRTI</mark>	IAGLG <mark>T</mark>	GKPSS	IEDV.	HLL <mark>Q</mark> N <mark>KN</mark> KK <mark>N</mark> WDKA	R 682
Callithrix_jacchus	LEKMGWKKGEG	L <mark>GKD</mark> GG	GMK <mark>T</mark> PI	QLQ:	L <mark>RRTI</mark>	IAGLG <mark>T</mark>	GKPSS	IEDV.	HLL <mark>Q</mark> N <mark>KN</mark> KK <mark>N</mark> WDKA	<b>R</b> 688
Canis_lupus_familiaris	LEKMGWKKGEG	L <mark>GKD</mark> GG	GMKI <mark>P</mark> I	QLQ	L <mark>RR</mark> TI	IAGLG <mark>T</mark>	GKPSS	IEDV.	HLL <mark>Q</mark> NKSKK <mark>N</mark> WEKA	R 687
Bos_taurus	LEKMGWKKGEG	L <mark>GKD</mark> GG	GMK <mark>T</mark> PI	QLQ	L <mark>RR</mark> TI	IAGLG <mark>T</mark>	GKPSS	IEDV	QLL <mark>Q</mark> NKSKK <mark>NWEK</mark> A	R 684
Equus_caballus	LEKMGWKKGEG	L <mark>GKD</mark> GG	GMK <mark>T</mark> PI	ELQ	L <mark>RR</mark> TI	IAGLG <mark>T</mark>	GKPSS	V <mark>ED</mark> A	HLL <mark>QSK</mark> SKK <mark>NWEK</mark> A	R 685
<pre>Heterocephalus_glaber</pre>	LEKMGWKKGEG	L <mark>GKD</mark> GG	GMK <mark>T</mark> PI	QLQ	L <mark>RR</mark> TI	[AGLG]	GKTSS	IEDV.	<mark>PLLQSK</mark> SKK <mark>NWDK</mark> A	R 673
Rhinatrema_bivittatum	LERMGWKKGEG	L <mark>GKD</mark> GG	GMRD <mark>P</mark> I	QLQ:	L <mark>RK</mark> KÇ	AGLG	SM <mark>PS</mark>	IEDA	PVR- <mark>SKNKQNWEK</mark> A	<b>R</b> 830
Xenopus_tropicalis	LEKMGWKKGEG	LGKSSD	GIRD <mark>P</mark> I	QLQ	LRKKK	AGLG?	QN <mark>P</mark> TS	IEDI	Q <mark>PT-TQNKKN</mark> WEKA	R 681
	910.	• • • • •	920	• • •	.930.		.940.	• • • •	95096	0

Pavo\_muticus Pavo\_cristatus Gallus\_gallus Chelonia\_mydas Mus\_musculus Rattus\_norvegicus Homo\_sapiens Pan\_troglodytes Macaca\_mulatta Callithrix\_jacchus Bos taurus Equus\_caballus Xenopus\_tropicalis

ERFAENFQEPKSQRDTPKNTPWVRGTVE 701 ERFAENFQEPKSQRDTPKNTPWVRGTVE 701 ERFAENFQEPKSQKDTPKSTPWVRGTVE 701 ERFAESFQEAKTQKDAPKVMPWVRGTAE 776 ERFAETFTENKPRKETPGAVPWVTGTAE 711 ERFAENFTEKKACKEAPGPIPWVTGTAE 705 ERFTENFPETKPQKDDPGTMPWVKGTLE 714 ERFTENFPETKPQKDDPGTMPWVKGTLE 714 ERFTENFPETKPQKDDPGTMPWVKGTLE 710 ERFTENFAETKPQKDDPVTIPWVKGTLE 716 715 ERFAENFPEAKSQKDAPGTVPWVKGAVE 712 ERFAENFPETKPQKDAPGSAPWVKGTTE 713 701 858 ERYAEAFPDAKTKNETKTSVTWIKGSIE ......970......980......