File: /media/morpheus/disk1/fst/pep_msa/SPI**CEatep**sTue Feb 1 14:40:00 2022 Page 1 of 6

	. :*	
Pavo_muticus	-KTTFRRRSPRLKALP-GEPAKARGGASSRHVPPLGARRTAPSLWQRREGVRARPARAAG	58
Pavo cristatus	-KTTFRRRSPRLKALP-GEPAKARGGASSRHVPPLGARRTAPSLWORREGVRARPARAAG	58
Gallus_gallus	MKTTFSRRSPIFKALPLGKPEVARGGASRRHVPPLGARRTDPSPWQRREYVRARPAQAAG	60
Mus_musculus	MSLIRVNR	8
Rattus_norvegicus	MSLIRVNR	8
Homo_sapiens	MSFVRVNR	8
Pan_troglodytes	MSFVRVNH	8
Macaca_mulatta	MSFVRVNR	8
Callithrix_jacchus	mnemsfvrvnr	11
Canis_lupus_familiaris	MSLVRVNR	8
Bos_taurus	MSFVRVNR	8
Equus_caballus	m <mark>s</mark> fv <mark>r</mark> vnr	8
Heterocephalus_glaber	MSLVRVNR	8
Rhinatrema_bivittatum	MHAYRALSQ <mark>P</mark> LRRRGLPGSGVCGCWGNGTEAASGCDMSFLRTTRP	45
Xenopus_tropicalis	MDHS <mark>SG</mark> SLSMSYLRAGR	17
Danio_rerio	M <mark>SLVR</mark> INR	8
	1102030405060	
	: * :: *	
Pavo_muticus	GAAMSLLSGPRPRLRGAARKGPRKATAAKRDWDS	92
Pavo_cristatus	GAAMSLLSGPRPRLRGAARKGPRKATAAKRDWDS	92
Gallus_gallus	GAAMSLLSGPRPRLRGAARKGPRKATAAKRDWDS	94
Mus_musculus	FGPRGGGR-KTLKVKKK-AAVRQEWDN	33
Rattus_norvegicus	<mark>FGPRGGAR-KTLKVKKK</mark> -AAV <mark>RQEWDN</mark>	33
Homo_sapiens	C <mark>GPRVGVR-KTPKVKKKKT</mark> SV <mark>KQEWDN</mark>	34
Pan_troglodytes	C <mark>GPR</mark> VGVR-KTPKVKKKKTSVKQEWDKGHLFLQN	41
Macaca_mulatta	C <mark>GPR</mark> VGVR-KTPKVKKKKTSVKQEWDN	34
Callithrix_jacchus	C <mark>GPRVGVR-KTLKVKKKKA</mark> SV <mark>KQEWDN</mark>	37
	<mark>ygprgggr-kvlkvrkkkt</mark> sl <mark>kqewdn</mark>	34
Bos_taurus	<mark>ygprgggr</mark> -k <mark>t</mark> lkvkkk-tsvk <mark>qewdn</mark>	33
Equus_caballus	<mark>ygprgggk-kt</mark> lkvkkkktpvk <mark>Qewdn</mark>	34
Heterocephalus_glaber	YCPRGGGK-KALKVKKKKTAVKQEWDVSTCGEMVNCMTLLWVIGVMMGPYDQP	60
Rhinatrema_bivittatum	<mark>HG</mark> SY <mark>G</mark> RGR-KMMKAGKKNLQGKQAWD <mark>N</mark>	71
Xenopus_tropicalis	<mark>T</mark> STNVSLTK <mark>KP</mark> SK-GKKKPQARKEWDS	43
Danio_rerio	<mark>P</mark> FYCAGKRPIRTRKV <mark>S</mark> APKKEWVS	32
	708090100110120	
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Pavo_muticus	TVHDLTVHRATPEDILRRHEIHKSKNKALAHLELQEKALRRKWKKQKQLAPDSLEKRKLA	152
Pavo_cristatus	TVHDLTVHRATPEDILRRHEIHKSKNKALAHLELQEKALRRKWKKQKQLAPDSLEKRKLA	152
Gallus_gallus	TVHDLTVHRATPEDILRRHEIHKSKNKALALLELQEKAQRRKWKKQKQLAPDSLEKRKLA	154
Mus_musculus	TVNDLTVHRATPEDLVRRHEMHKSKNRALVHWELQEKALKRKWKKQKPETSS-LEKRKLS	92
Rattus_norvegicus	TVNDLTVHRATPEDLVRRHEMHKSKNRALVHWELQEKALKRKWKKQKPETSS-IEKRKLS	92
Homo_sapiens	TVTDLTVHRATPEDLVRRHEIHKSKNRALVHWELQEKALKRKWRKQKPETLN-LEKRRLS	93
Pan_troglodytes	TVSDLTIHRATPEDLVRRHEIHKSKNRALVHWELQEKALKRKWRKQKPETLN-LEKRRLS	100
Macaca_mulatta	TVTDLTVHRATPEDLVRRHEIHKSKNRALVHWELQEKALKRKWRKQKPETLN-LEKRRLS	93
Callithrix_jacchus	TVTDLTVHRSTPEDLVRRHEIHKSKNRALVHWELQEKALKRKLRKQKPETSN-LEKRRLS	96
Canis_lupus_familiaris		93
Bos_taurus	TVTDLTVHRATPEDLIRRHEIHKSKNRALVHWELQEKALKRRWKKQKPEISN-LEKRRLS TVNDLTAHRATPEDLIRRHEIHKSKNRALVHWELQEKALRRKWKKQKPEVSN-LEKRRLS	92 93
Equus_caballus Heterocephalus glaber	PLLDIFSKLTTSGSGVRRHEIHKSKNRALVHWELQEKALRRKCRKOKPETWN-LEKTRLS	
Rhinatrema bivittatum	TVSDLTVHRATPEELIRRHELHKSKNOMLAQWELREKTLKKKWRKQRHGTPDPLEKRRLA	119 131
Xenopus tropicalis	TVSDLTVHRATPEELIRRHELHKSKNOMLAQWELREKTLKKWRKQRHGTPDPLEKRRLA TVSDLTVLRATNEELEHRREIHRSKNOWLARWELONKATNKKSEKENGGYSALLENSRLA	103
Danio rerio	TVDDLTVLRATNEELEHRREIHRSKNQWLARWELQNKATNKKSEKENGGISALLENSKLA TVNDLSVHKATPEELARRHEMHRSQNRVVAQWELKEKTLTRRRRKNQPLSPPGLDRARRD	92
Dalito_terio	130140150160170180	94
	190140130160170180	

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	*: :**: :* *	
Pavo muticus	LMHEILSDQYDLQDVLKRSDQVMAVVKDLFG	183
Pavo_cristatus	LMHEILSDQYDLQDVLKRSDQVMAVVKDLFG	183
Gallus_gallus	LMHEILSDQYDLQDVLKRSDQVMAVVKDLVG	185
Mus musculus	IMKEILSDQYLTQDVLEKSDHLMAAAKGLFA	123
Rattus norvegicus	IMKEILSDQYQTQDVLEKSDHLLTAAKGLFV	123
Homo_sapiens	IMKEILSDQYQMQDVLEKSDHLIAAAKEL	122
Pan_troglodytes	IMKEILSDQYQMQDVLEKSDHLIAAAKEL	129
Macaca mulatta	IMKEILSDQYQMQDVLEKSDHLIAAAKEL	122
Callithrix_jacchus	IMKEVRLNCRELEKGDKQGFVFPLNLIHIGVTLILSDQYQTQDVLEKSDHRISAAKEL	154
Canis lupus familiaris		124
Bos taurus	IMKEILSDQYQLQDVLEKSDHLMATAKGLFV	123
Equus_caballus	LMKEILSDQYQMQDVLEKSDHLMAAAKDLFV	124
Heterocephalus_glaber	IMKEILSDQYQMQDVLEKSDHLMAAAKKLFV	150
Rhinatrema bivittatum	IVKEILFDQYQLQDVLERSDRALAVVKDLFG	162
Xenopus_tropicalis	LMKEILSDOYLMNDVLERSDRALAVVKDLFG	134
Danio rerio	IIREVSSDHCQLQDVIARSDRALAVVKDLFG	123
	190200210220230240	
	***.:* **	
Pavo muticus	NAPRTRTGFPNVTMAPNCDLESSQGPIVQKWEPPIQLSILNESVMDSQAPNEGEEEEA	241
Pavo cristatus	NAPRTRTGFPNVTMAPNCDLESSQGPIVQKWEPPIQLSILNESVMDSQAPNEGEEEEA	241
Gallus gallus	NAPRTRTGFPNVTMAPNCDLESSQGPIVQKWEPPTQLSILSESVMDSQALNEGGEEEA	243
Mus_musculus	DVPRKRTGFPNVTRAPDSSQSHTGINQDPVTQS-ILNESIIEPQALNEVDDAGEQS	178
Rattus norvegicus	DVPRKRTGFPNVTMAPGSSRSPAGINQDPGTQS-ILNESIIEPQALNEVDDGGAES	178
Homo_sapiens	-FPRRRTGFPNVTVAPDSSQGPIVVNQDPITQS-IFNESVIEPQALNDVDGEEE-G	175
Pan troglodytes	-FPRRRTGFPNVTVAPDSSQGPIVVNQDPITQS-IFNESVIEPQALNDVDGEEE-G	182
Macaca mulatta	-FPRRRTGFPNITVAPDSSQGPIVVNQDPVTQS-VFNESVIEPQALNDVDGEEE-G	175
Callithrix_jacchus	-FPRRCTGFPNITVAPDSSQSPTVVNQDPITQS-IFNEPVREPQALNDVDGEEE-G	207
Canis_lupus_familiaris		178
Bos_taurus	DFPRRTGFPNVTMAPESSQSPTVVSKDPVTQA-IRSESVIEPQALNEVDDDEQEG	178
Equus_caballus	DFPRRTAFPNVTVAPDSSQGPILVNQDPVTQA-ILSESVVEPQALNEVDNEEE-G	178
Heterocephalus_glaber	YAPYRRTGFPNVTMAPDSSQGPSMVNQDPITQS-FPNESVLEPQALNEVDDEGEEG	205
Rhinatrema bivittatum	DAPHRHPGFPNVTMAPYCDPDSSQAPIVQKSDPATQLSILSESVMDRQALNEVERDES	220
Xenopus_tropicalis	DAPRRHTGFPSVTMAPSCDLDTSRAPIVQKKDPPTQLSILSESIMDSQAINEVDKSLS	192
Danio rerio	DAPRRTGFPSITVAPDCD-SDSELPVHQKPDPPTQLSLLSQSMMDQQALNELEEHEE	180
2420_20220	250260270280290300	
	: .: :: ::	
Pavo muticus	LSISQSEHGQHESLNFKSSINCDRLLRILREENSPANSELWAERDLRKTTVSQEI	296
Pavo_cristatus	LSISQSEHGQHESLNFKSSINCDRLLRILREENSPANSELWAERDLRKTTVSQEI	296
Gallus_gallus	LSIFQSENGQHESLNFKSSISCDRLLHILREENSSANSELWAERDLRKTTVSQEI	298
Mus musculus	TAHSQSEDSENELPNSLSQHSNRSTERFLHQLKEENSELINQLWTDIQQKIATQSQRT	236
Rattus_norvegicus	TAHSQSEDSESELPNSLSPHSNRNTERFLHQLKEENSELINQLWTDIQQKIAAQSQRT	236
Homo sapiens	TVNSQSGESENENELDNSLNSQSNTNTDRFLQQLTEENFELISKLWTDIQQKIATQSQIT	235
Pan troglodytes	TVNSQSGESENENELDNSLNSQSNTNTDRFLQQLTEENSELISKLWTDIQQKIATESQIT	242
Macaca mulatta	TINSQSGESENENELDNSLNSQSNTNTDRFLQQLTEENSELISKLWTDIQQKIATQSQVT	235
Callithrix_jacchus	TVNSQSGESEDENELDNSLNSQSNTNTNRFLQQLTEENSELINKLWTDTQQKIATQSQIT	267
Canis lupus familiaris		235
Bos taurus	TVNSQSEESENELDNSLSSQSNANAGTFLHQIKEENSELINKLWTDIQQKVATQSQMT	236
Equus_caballus	TVNSQSEDSENELDNSVDSQSNMNTDRFLHQLKEDNSELINKLWTEMQQKIATQSQIT	236
Heterocephalus_glaber	TINSOSEESENELDNSLNPOSNMNTDRFLHOLKEDNSELINKLWTDIOOKIATOSOIT	263
Rhinatrema bivittatum	-FINOLEDSEDEQDVSVNFQSNTNTNRVLHHLKQEE-ESASKLWAPERFKTPGRMQAV	276
Xenopus tropicalis	PAEYSDSEAEVTISTOPNRKAERGOOLLSGEGPKNEAFITPCKSG	237
Danio rerio	ECDEVODASVHLKSVMHRKRNKCRPKSFPRGSDNHEO	217
	310320340350360	

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	<u>* : ****: .:.: : :.**</u>	
Pavo_muticus	<mark>P</mark> LTPTIASSSL <mark>E</mark> HSALNASSVVKRIH <mark>SRHQ</mark> NQDEE <mark>ETVD-SAYTVRQVLNPNSRKE</mark>	351
Pavo_cristatus	<mark>PLTPTITSS</mark> SL <mark>E</mark> HSALNASSVVKRIHSRHQNQDEEETVD-SAYTVRQVLNPNSRKE	351
Gallus_gallus	<mark>PLTP</mark> TIASSSLEHSALNASSVVKRIH <mark>SGHQ</mark> NQDEEETVD-SAYTVRQVLNPNSRKE	353
Mus_musculus	- <mark>ppgsp-sselsaedokaalnat</mark> davkriqa <mark>gpopeeaaep</mark> vdfsssyl <mark>go</mark> vlntrko	292
Rattus_norvegicus	- <mark>ppgsp-sselsaedqkgalnat</mark> davkriqa <mark>glqpeesaepvdssyvgqvlntrkp</mark>	290
Homo_sapiens	- <mark>ppgtp-ssalssgeqraalnat</mark> navkrlqtrl <mark>qpeestetld-ssyvvg</mark> hvln <mark>srkq</mark>	290
Pan_troglodytes	- <mark>ppgtp-ssalssgeqr</mark> aalnatnavkrlqtrl <mark>qpeestetld-ssyvvg</mark> hvlnsrkq	297
Macaca_mulatta	- <mark>ppgtp-sp</mark> alssgeoraalnatnavkrlotrlopeestetld-ssyvvghvlnsrko	290
Callithrix_jacchus	- <mark>ppgtp-psalasgeqraalnat</mark> savrrlqsrl <mark>qpqeatetld-sssvvg</mark> hmlnsrkp	322
Canis lupus familiaris	- <mark>PSGTP-SPAPPSGEQKAALNATGAVKRIHTRVQSEESTAALD-SSYVVGQ</mark> VLN <mark>SRKQ</mark>	290
Bos taurus	ASSGTP-SSASPSGEOKAALNATNAVKRIHTRLOPEESTETLD-SSYVVGOVLNSRKO	292
Equus_caballus	TPPRAP-SPAPPSGEOKAALNATNAVKRIHSRLOPEESTETLD-SSYVVGOVLNSRKO	292
Heterocephalus_glaber	TPPATP-SSPLASEEQRAALNATGAIKRIQSRLQPEESSGTLD-SSYIVGQVLNSRKQ	319
Rhinatrema_bivittatum	TPPLTPYTPAASHSLDQTALNATTAVRRTMSRLLTEDERSD-ESTVIGQVLNPLLRKQ	333
Xenopus_tropicalis	GDPSQTHCALNATTAVNRVKVRRTEEESPKPEE-SESIIGRVLNPQGKAN	286
Danio rerio	DLPQKPCTTGVRKDHAALNATVAVEQLKSRQTHPGVNQSTSFVNQFLNPE	267
Dai:10_10110	370380390400410420	20,
	: :	
Pavo_muticus	KQITAKMKRKQTAQNSARLRRDDCPAYSIPMDLQRDNKSSLDVLSCMIHEVEHELEEYER	411
Pavo cristatus	KQITAKMKRKQTAQNSARLRRDDSPAYSIPMDLQRDNKSSLDVLSCMIHEVEHELEEYER	411
_	KQISAKMKRKQTAQNSARQRRDDSPAYSIPVDLQRDNKSSLDVLSCMIHEVEHELEEYER	413
Gallus_gallus Mus_musculus		
	KPLLAKVKRKQDMHAASKQKTNMLSSSTASADRPSSTGSSLDVLKHVIHEVEHEMEEYER	352
Rattus_norvegicus	KPLLSKVKRKQDMRALSKQKKNMLSSSTTSADLASSNNSSLDVLKHMIHEVEHEMEEYER	350
Homo_sapiens	KQLLNKVKRKPNLHALSKPKKNISSGSTTSADLPNRTNSNLDVLKHMIHEVEHEMEEYER	350
Pan_troglodytes	KQLLNKVKRKPNLHALSKPKKNMLSGSTTSADLPNRTNSNLDVLKHMIHEVEHEMEEYER	357
Macaca_mulatta	KQLLNKVKRKPNLHALSKPKKNMLSGSTTSADLPNRTNSNLDVLKHMIHEVEHEMEEYER	350
Callithrix_jacchus	KQLLNKVKRKPNLHALSKPKKNTLSGSTSSADLPKRTNSTLDVLQHMIHEVEHEVEEYER	382
Canis_lupus_familiaris		350
Bos_taurus	KQLLNKVKRKPDSRAPSKQKSSMLSASTASTDLPSSSNPSLDVLKHMIHEVEHEIEEYER	352
Equus_caballus	KQLFNKVKRKPDLHA <mark>P</mark> SKQKKNIL <mark>SANTASTDLP</mark> NSSNPSLDVLKHLIRDVEHEVEEYER	352
Heterocephalus_glaber	KQLLSKVKRRPDLRA <mark>PSKKKKNMLSAST</mark> ASADLQSSNNSSLDILKHMIHEVEQEMEEYER	379
Rhinatrema_bivittatum	KQAGTKVKKKPSSYTPPHQKTDY-SLSDTTFHFQNSNQSSLDVLNNMIKDVEHELEEYER	392
Xenopus_tropicalis	KRISSKGKKTRSATPSHTKDLSACRESQHELTASNQSSLGLLNSMIQEVEQDLAEYER	344
Danio_rerio	PASSQHGVKNRSVQASRGRSAHTSAMNSSGLHSLAGNQSSLELLQSMLEQVETELDSLDK	327
	430440450460470480	
	. : *.	
Pavo_muticus	CTGREVKKMQKSEGLTGFTLSLVNALCRLMRYLKESEMQLHEKEMMRQHHEEMLNEHR	469
Pavo_cristatus	CTGREVKKMQKSEGLTGFTLSLVNALCRLMRYLKESEMQLHEKEMMRQHHEEMLNEHR	469
Gallus_gallus	CTGREVKKMQKSEGLTGFTLSLVNALCRLMRYLKESEVQLHEKEMMRQHHEEMLNEHR	471
Mus musculus	CTGREVTGLQGGQGLTGFTLSLVSSLCRLVRYLKESEIQLRKEVETRQQLEQMLGDHR	410
Rattus_norvegicus	wtgrevkgloggogltgftlslvsslcrlvrylkesetolrkevetrooleomlgdhr	408
Homo sapiens	wtgrevkglossogltgftlslvsslcrlvrylkesetolrkevetroolegvlgdhr	408
Pan troglodytes	WTGREVKGLQSSQGLTGFTLSLVSSLCRLVRYLKESEIQLRKEVETRQQLEQVLGDHR	415
Macaca mulatta	WTGREVKGLOSSOGLTGFTLSLVSSLCRLVRYLKESEIQLRKEVETROOLEQVLGDHR	408
Callithrix jacchus	CTGREVKGLGSSQGLSGFTLSLVSSLCRLVRYLKESEIQLRKEVETRQQLEQVLGDHR	440
Canis_lupus_familiaris		408
Bos taurus	WTGREVQGLQNSQGLTGFTLSLVSSLCRLVRYLKESELQLRKEVETRQRLEEALGDHR	410
Equus_caballus	WTGREVKGPQSSQGLTGFTLSLVSSLCRLTRYLKESELQLRKEVETRQQLEQVLGDHR	410
Heterocephalus_glaber	CTGREVTGLQGGQGLTGFTLSLVSSLCRLVRYLKESEVQLRKEVETRQHLEQVLGDHR	437
Rhinatrema bivittatum	HTGREVTSLQKGYGLTGFSLTLVSSLSRLVRYVKEGEIQLLQEMSKRQRLEVELSEHR	450
Xenopus_tropicalis	QTGREVISAPPAHGLTGFTLSLVSSLKRVVSYLKESDLLLQREVKERQHLQGELVEQR	402
Danio rerio	QNPQSSETRPQQQRPGLTGFSVALLTTLRRLTSHIKKRDEETLRETRERRRLEDEVKEQR	387
2410_10110	490500510520530540	50,

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Pavo muticus	ELIDALTAEILLVREENIAIQKKLQQYMIETDEKMTSLTQALKGLPLGEP-RREESPS	526
Pavo cristatus	ELIDALTAEILLVREENIAIQKKLQQYMIETDEKMTSLTQALKGLPLGEP-RREESPS	526
Gallus_gallus	ELIDALTAEILLVREENIAIQKKLQQYVVETDEKMTFLTQAFKGLPLVEP-RREESPC	528
Mus musculus	ELIDALTAEILSLREENSTMOARLOOYMVTTDEOLISLTHAIKNCPVINNSROESOAP	468
Rattus_norvegicus	ELIDALTAEILLLREENGAVOARLO - OYMVTTDEOLISLTHAIKSCPVINNSROESOAP	466
Homo_sapiens	ELIDALTAEILRLREENAATQARLQQYMVTTDEQLISLTHAIKNCPVINN-RQEIQAS	465
Pan_troglodytes	ELIDALTAEILRLREENAATQARLQQYMVTTDEQLISLTHAIKNCPVINN-RQEIQAS	472
Macaca mulatta	ELIDALTAEILRLREENATTQARLQQYMVTTDEQLISLTHAIKNCPVINN-RQEIQAS	465
Callithrix_jacchus	ELIDALTAEILLLREENAATQARLQQYMVTTDEHLLSLTHAVKNCPVINN-RQEIQAS	497
Canis_lupus_familiaris		465
Bos_taurus	ELIDALTAEVLFLREENTATQARLQQYMITTDEQLISLTHAIKNCPVISNKESQAL	466
Equus_caballus	ELIDALTAEILLLREENTATQARLQQYMVTTDEQLISLTHAIKSCPVINY-NKEIQAS	467
Heterocephalus glaber	ELIDALTAEILLLREENSTIQARLQQYMVTTDEQLISLTHAIKNCPVINNSRQETQAS	495
Rhinatrema_bivittatum	ALIDALTAEILSLKEENVATOKRLOQYIVATDEOLSSFIRVLELNKTFSATD	502
Xenopus tropicalis	LMLDALTAEILTLKEGNNIHENHLQTKQRPEVGGDKMAAIPQEMEELPVVSEEPCRTSAE	462
Danio rerio	ALIDALTVETLTLREESAALQARLQLQISDLEQRLNAVNLIAERPDSAEPHRTVQII	444
_	550560570580590600	
Paus mutiaus		E04
Pavo_muticus Pavo cristatus	HFGIARKSPSHTQEKPDLSYFESRTDE <mark>GK</mark> RKNMLKFPQEEHPVKSPQRPRAPDDAAAG HFGIARKSPSHTQEKPDLSYFESRTDE <mark>GK</mark> RKNMLKFPQEEHPVKSPQRPRAPDDAAAG	584 584
_	HFGTAHKSPSYTQEKPDLSYFESRTDEGKRKNMLKFPQEEHPVKSPQRPKAPDDAAAG HFGTAHKSPSYTQEKPDLSYFESRTDEGKRKNMLKFPQEEHPVKFPQRPCAPGDAAAG	584 586
Gallus_gallus	ERAAMGRRLVDNVEGPVISSNGSMPLMFRGEEVVEFPQEELPVKLSQGPTPTENLNLA	526
Mus_musculus Rattus norvegicus	ERAAMGRRLVDNVGAPVVNSNVSMPLMLKGEEMVDFPQEELPVKLSQGPPPTENLNLA	524
	ESGATGRRVMDSPERPVVNANVSVPLMFREEVAEFPQEELPVKLSQVPDPPDNMNLA	524
Homo_sapiens Pan troglodytes	ESGATGRRVMDSPERPVVNANVSVPLMFREEVAEFPOEELPVKLSQVPDPPDNMNLA	522
Macaca mulatta	ERGATGRRNMDSSEGPAVNANVSVPLMFREEEVVEFPQEELPVKLSQVPDPPDNMTLA	523
Callithrix_jacchus	ERGATGRRVADSPEGPAVNASVSVPLVFGEEEVAGFPQEELPVRLSQVPNAPESMVLA	555
Canis_lupus_familiaris	ERGSTSRKIIDNLEGPIVNANVSMPLVFRGEEVAEFAQEDLPVKLSQVPAPPDNVTLT	523
Bos taurus	ERGATSQRHIDNPEDPAVNASVSMPLMFRGEDVVEFPQEDLPVKLSQVPNPPESGDLA	524
Equus caballus	EAGTTSRRIVDNPEGPAVNANVSMPLTFRGEEVVGFPQEDLPVKLSQVPNQPDGMNLA	525
Heterocephalus_glaber	ERGATDGRVGDSPEGPVLSTNVSVPLMFRGEEVVDFLQEELPVKLSQMPNPADSTHLA	553
Rhinatrema bivittatum	SKAVLVRSTSTSQESATSNVKFCRPATFRKEDNEQLKVSQEDLPTKLHQWPSPSQAGKKG	562
Xenopus_tropicalis	CNLSKVNQFLDSQDGPDTDDKHGRLGVSKEECGPCLYPQGRAAEEPRLA	511
Danio_rerio	DNTTQRSRHLESEKDLQRQ	463
241110_10110	610620630640650660	103
	:*:*:	
Pavo_muticus	RSLPAQVFQPAVLLSPPRQKNSPELSPLQNIFTTISQSTENTEREPCKER	634
Pavo_cristatus	RSL <mark>PAQVFQPAVLLSPPRQK</mark> NS <mark>PELSPLQ</mark> NIFTTISQSTENTERE <mark>P</mark> CKER	634
Gallus_gallus	RSLPAQVFQPAVLLSPPRQKNSPELSPLQNIYTTISQSTENAERELCKER	636
Mus_musculus	NNFPTHIFEPAVMLTPPRQKSNSEFSPLQDVLRRTVQTRPAPRIPPTVEVIEKEQNWEKK	586
Rattus_norvegicus	SNFPTHIFEPAVMLTPPRQKSNSEFSPLQDVLRRTVQTRPAPRIPPTVEVIEKEQTWEKK	584
Homo_sapiens	KNF <mark>PAHIFEP</mark> AVLL <mark>TPPRQKSN</mark> LKFSPLQDVLRRTVQTRPAPRLPPTVEIIEKEQNWEEK	582
Pan_troglodytes	KNFPAHIFEPAVLLTPPRQKSNLKFSPLQDVLRRTVQTRPAPRLPPTVEIIEKEQNWEEK	589
Macaca_mulatta	KNFPAHIFEPAVLLTPPRQKSNLKFSPLQDVLRRTVQTRPAPRLPPTVEIIEKEQNWEEK	583
Callithrix_jacchus	KNFPAHVFEPAVLLTPPRQKSNSEFSPLQDVLRRTVQTRPAPRIPPTVEIIEKEQNWEKK	615
	NSFPAHVFEPAVLLTPPRQKSSSGFSPLQDVLRRTVQTRPAPQIPPTVEIIEKEQNWEKN	583
Bos_taurus	SSLPGHIFEPAVLLTPPRQKSNSEFSPLQDVLRRTVQTRPAPRIPPTVEIIEKEQNWEKK	584
Equus_caballus	NGFSAHIFEPAVLLTPPRQKSNSEFSPLQDALRRTVQTRPASRIPPTVEMIEKEQNWEKK	585
Heterocephalus_glaber	SSFPAHVFEPAVLLTPPRQKSNSEFSPLQDVLRRTVQTCPAPRILPTVEIIEKEQNWEKK	613
Rhinatrema_bivittatum	IDL <mark>PAHVFQPAVLLSPPRQKS</mark> HQEFSSEALKM <mark>TVPSRPT</mark> FQDLFPLEKE <mark>QGE</mark> HQN-TA SSV <mark>P</mark> SRMFQQAVLLSPPRQKTVSELSSQSAV <mark>PK</mark> SYKHSNRPAQ	619 554
Xenopus_tropicalis Danio_rerio	SSVPSRMFQQAVLLSPPRQRTVSELSSQSAVPRSYKHSNRPAQ	507
Damio_rerio	670680690710720	307

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Pavo muticus	.: SSPSPLRTWSVTDENCLMSQRQPVPPADKDLQSSQEKISLSCPG	678
Pavo cristatus	SSPSPLRTWSVTDENCLMSQRQPVPPADKDLQSSQEKISLSCPG	678
Gallus_gallus	SSPSPLRTWSVAEENCLMSQRQPVPPADKDLQSSREKISFSCPG	680
Mus musculus	ALPIDPDIQNSSEENRLFTQRWRVSHMGEDLENKGQPA-FVSLSQPPCSSL	636
Rattus norvegicus	NLPIDPDIQNSSEESRLFTQRWRVSHMGDDLENKSQPQ-FVSLSQPPQFVSLSQPPCSSP	643
	TLPIDTDIQNSSEENRLFTQRWRVSHMGEDLENKTQAP-FVNLSQPLCNSH	632
Homo_sapiens	TLPIDTDIQNSGEENRLFTQRWRVSHMGEDLENKTQAP-FVNLSQPLCNSH TLPIDTDIQNSGEENRLFTQRWRVSHMGEDLENKTQAP-FVNLSQPLCNSH	
Pan_troglodytes		639
Macaca_mulatta	TLPVDTDIQNSSEENRLFTQRWRVSHMGEDLENKTQAP-FVNLSQPLCNSH	633
Callithrix_jacchus	TLPIDTDVQNSREESRLFTQRWRVSHMGEDLE-KTQSP-LVNLSQPFCNSH	664
Canis_lupus_familiaris		633
Bos_taurus_	TLPVGADIQNSSDESHLFTQRWRASHMGEDSQSKTQAP-FVSLSQPLCSSQ	634
Equus_caballus	TLPIGTDIQNSSEESRLFTLRWRVSHMGEDLENKTQAP-FVNLAQPLCSSH	635
Heterocephalus_glaber	TL <mark>P</mark> TDTDIQNSSEENGLFTQRWTVSHMGEDAENKTQAP-FINLSQPLCNSH	663
Rhinatrema_bivittatum	SSPRSLNTQNSSEEKQLFNQKWKAAVLEEDLENLSQASSFLSLPRTQYTTQ	670
Xenopus_tropicalis	GGQQVSHHPTASTEKEPPSQGLEMGQNQINRLQNE	589
Danio_rerio	GSLEDFDISISPSSFASLPRPAHLLDDLS	536
	730740750760770780	
Pavo_muticus	DT <mark>TRN</mark> DTV <mark>GE</mark> FSLKAQL	713
Pavo_cristatus	DTTRNDTVGEFSQSSDLLGQIAELTRQNSLIKAQL	713
Gallus_gallus	DTTKNDTVGELSQSSDLLGQIAELTRQNSIIKAQL	715
Mus_musculus	PSTQQPRNPVLSEEPTVLGDGQQLRTSEALVQRKDIMARIAELTLQNSAIKAHL	690
Rattus_norvegicus	PSTQQSRNPVFSEEPTVLGDGQQLGTADALMHRKDIMARIAELTLQNSAMKAHL	697
Homo_sapiens	SNTQQSRSPTFSEELPVLGDGQQLRTNESLIQRKDIMTRIADLTLQNSAIKAHM	686
Pan_troglodytes	SNTOOSRSPTFSEELPVLGDGOOLRTNESLIORKDIMTRIADLTLONSAIKAHM	693
Macaca mulatta	SNTOOSRSPTFSEELPVVGDGHOLRTNEALIORKDIMARIADLTLONSAMKAHT	687
Callithrix_jacchus	SNRQHSRNPPFSEEPPALGDGQQLRTNEMNALIQRKDIVARIAELTLQNPGIKAHM	720
Canis_lupus_familiaris		687
Bos taurus	SSMQQSRNPTLSEEPLVLGDGQQLRTNETLIQRKDIMARIAELTLQNSDIRAHL	688
Equus_caballus	SVSQQLRNPAFSDEPPVLGDGQQLRTNEALTQRKDIMARIAELTLQNSAIKAHL	689
Heterocephalus_glaber	PNVQQSRNPAFSEELPVLGDGQQLRTSEASVQGKDIMARIAELTLQNLVIKAHL	717
Rhinatrema bivittatum	SDIHQLRNPVCAEGPKMVGEDAGKGDGQCSHAADETGLNENLVARIAQLTKQNIVIRSQL	730
Xenopus_tropicalis	TO THE PROPERTY OF THE PROPERT	609
Danio_rerio	ODAMLEETAELTRONAAIRAOL	558
	790800810820830840	
	. :* :: *	
Pavo muticus	SKFRSF-SE <mark>G</mark> ISDCLPQPDPMQNSDSCPDSSQGQTHLVVPKSLEERIAE	761
Pavo cristatus	SKFRSF-SE <mark>G</mark> IS <mark>DCLPQPDPMQNS</mark> DSC <mark>PDSSQG</mark> QTHLVA <mark>PKSLEERIAE</mark>	761
Gallus gallus	SKFRSF-SEDVSDCLPOPDPMONSNSCPDSSOGQAHRVVPKSLEERIAE	763
Mus_musculus	NNITSS-GGEQGDGLREPRKQGSASEVSTNFPAVQSLTPSSMEERIAE	737
Rattus norvegicus	NNITSS-GGEHGDGLREPSRQGNASEVPANFPAVQSLMPSSMEERIAE	744
Homo sapiens	NNIIEP-RGEQGDGLRELNKQESASDMTSTFPVAQSLTPGSMEERIAE	733
Pan troglodytes	NNIIEP-RGEQGDGLRELNKQESASDMTSTFPVAQSLTPGSMEERIAE	740
Macaca mulatta	NSIIEP-RGEQGDGLRELNKQESASDMTSTFPVAQSLAPGSMEERIAE	734
Callithrix jacchus	NNTVEP-GGEQGDRLREAKKQESASGMTSTFPVAQSLASGSMEERIAE	767
Canis_lupus_familiaris		736
Bos taurus	NNIIGP-GGEQGDGLREFNRQETSHASDTMATFPAVQPLTPSSMEERIAE	737
Equus caballus	NNNIGP-GGEQGDGLLELNKQEMNHAGDMTATFAAAQPPVPGSMEERIAE	738
Heterocephalus_glaber	SNINGS-GGEOGDGLOELSKOERASDMTATFPVAOSVAPSSVEERIAE	764
Rhinatrema bivittatum	SKSRTR-ALEVVEGEQAIKTONGPSETSLNGGSPGLDHKMQIASPPTIQTRLEERIAE	787
Xenopus_tropicalis	GOIHFPPAGNAPEGGKSVPAEENRNPEPATDPPQNKAAQVPGSLEMRIAE	659
Danio rerio	VQQRPSPAGASVSRELSAETFSTTSSVCRQTPHCTELQQTLQPVSAERPSAMEIEQKLQE	618
24110_16110	850860870880890900	010

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	**** ** :**::::	
Pavo muticus	LNRQSTEARDKLLQLIDQQKLAAAERVSQRISPVLPLSRNYTGSSRKTIEVSVPVAASVD	821
Pavo cristatus	LNRQSTEARDKLLQLIDQQKLAAAETVSQRISPVLPLSRNYTGSSRKTIEVSVPVAASVD	821
Gallus gallus	LNRQSTEARDKLLQLIDQQKLAAADTVSQRIPPVLSPARSYTEDARRTIEVSVPVAASVD	823
Mus musculus	LNROSMEARSKLLOLIEOOKLVGLNLSSSPVSPVESPLRAWAEEGKRTIEVSVPGMEASE	797
_	LNRQSMEARSKLLQLIEQQKLVGLTLSSSPVSPVESPLRAWTEEGKRTIEVSVPGVEASE LNRQSMEARSKLLQLIEQQKLVGLTLSSSPVSPVESPLRAWTEEGKRTIEVSVPGVEASE	804
Rattus_norvegicus		
Homo_sapiens	LNRQSMEARGKLLQLIEQQKLVGLNLS-PPMSPVQLPLRAWTEGAKRTIEVSIPGAEAPE	792
Pan_troglodytes	L <mark>nrqsmeargkllqlieqqklvglnls-ppmsp</mark> vqlplrawtegakrtieisl <mark>pg</mark> aea <mark>p</mark> e	799
Macaca_mulatta	L <mark>NRQSMEARGKLLQLIEQQKLVGLNLS-PPMLP</mark> IQLPLRAWTEGAKRTIEVSIPGAEASE	793
Callithrix_jacchus	LNRQSLEARGKLLQLIEQQKLVGLNPS-PPTSPVQLPLRAWTEGGKRTIEVSIPGAEA <mark>P</mark> E	826
Canis_lupus_familiaris		796
Bos_taurus	L <mark>NRQSMEARGKLLQLIEQQK</mark> LL <mark>GLNPSSPPVSPVQSPLR</mark> AWA <mark>EGGKR</mark> TIEVSIPGAEAPE	797
Equus_caballus	L <mark>NRQSMEARGR</mark> LLQLIEQQKLVGL <mark>NPSSPPASPIQSPLGAWTEGGKRT</mark> IEVSI <mark>PG</mark> VEAPE	798
<pre>Heterocephalus_glaber</pre>	LNRQSMEAREKLLQLLEQQKLVGLNLSSPPVSPVQSPLRAWTEGGKRTIDVCIPGAEAPE	824
Rhinatrema bivittatum	LNROSAEARVKLLOMIEOOKOPTAASPPISPIPLOP-VWTENEGKRTEVSIPOSEPVD	844
Xenopus tropicalis	LNRQSAEARNKLLKLIEQQKQSIVVSPTLSPITPQDRRTDSSLDTTPPSSCRTS	713
Danio rerio	LNRQSAEARAKLLELIEQQKQSTSIRVSPAISPVPPPSSSTLTVKGFNPEPFLTLPERSH	678
	910920930940950960	
Pavo muticus	SSK-EDGVSPGSVTSMRRSVGGSSKPSSPISTTSESVTLNPVSQRPK-AEKQKEEG	875
_	SA-EDGVAFGAVISMRAVGGSAFASFISIISEVILINEVSQRFA-AERQREEG	
Pavo_cristatus	SSK-EDGVSPGSVTSMRRSVGGSSKPSSPISTTSESVILNPVSQRPK-AEKQKEEG	875
Gallus_gallus	SSK-EDSVSPGSVTSMRRSVGGSSKPSSPLSTTSESVTLNPVSQRPK-AEKQKEEG	877
Mus_musculus	SSK-CNTVSPVSGNSSRRSSGAISNSCSPLNATSGSGKFTPVNPRTK-TEKKNEEG	851
Rattus_norvegicus	SSK-CNTVSPVSGVSSRRSSGAISNSCSPLNATSGSGKFTPVNPRTKQTEKQSEEG	859
Homo_sapiens	SSK-CSTV <mark>SPVSGINTRRSSGATG</mark> NSCSPLNATSGSGRFTPLNPRAK-IEKQNEEG	846
Pan_troglodytes	SSK-CSTVSPVSGINTRRSSGATGNSCSPLNATSGSGRFTPLNPRAK-IEKQNEEG	853
Macaca_mulatta	SSK-CSTVSPVSGINTRRSSGATSNSCSPLNATSGSGRFTPLNPRAK-MEKQNEEG	847
Callithrix_jacchus	SSK-CSTISPVSGINTRRSSGATSNSCSPLNATSGSGRLTPLNPRAK-IEKQNEEG	880
Canis_lupus_familiaris	SSK-CSTISPTSGINTRRSSGATSNSCSPLNATTGSGRFTPVNPRAK-IEKQNEEG	850
Bos taurus	SSK-CSTDSPTSGLNSRRSSGAASNSCSPLNATSGSGRLTPLNPRAK-IEKONEEG	851
Equus caballus	SSK-CSTISPTSGINTRRSSGATSHSCSPLNATSGSGRFTPLNPRAK-IEKONEEG	852
Heterocephalus glaber	SSKGNNIVSPVGGANTRRSSGATSNSCSPLNATSRSGRFTAVNPRTK-TEKONE-G	878
Rhinatrema bivittatum	RLM-DDTPSPASKVSEKSFSRIAWGVNNKICSPLSITSESGRVIPVAQKAK-TEKRREEG	902
Xenopus tropicalis	GTRFSSASNKSTSSINSSFGSVRSASAGRRSQVRYKPVLLSCSTVSALG	762
Danio rerio	SPHLSASMQRSAGKVSPHNSENGEIPENQVEKLKRDG	715
Dalito_Telio	970980990100010101020	713
	970980	
Pavo muticus	WFALSMHIM 884	
-		
Pavo_cristatus	WFALSMHIM 884	
Gallus_gallus	WFALSMHIM 886	
Mus_musculus	WFAL <mark>S</mark> AHIP 860	
Rattus_norvegicus	wfal <mark>s</mark> ahl <mark>p</mark> 868	
Homo_sapiens	WFAL <mark>STHVS</mark> 855	
Pan_troglodytes	WFAL <mark>STH</mark> VS 862	
Macaca_mulatta	WFAL <mark>STHVS</mark> 856	
Callithrix_jacchus	WFALSTHVS 889	
Conia lunua fomiliaria		

859

860

861

887 911

767

WFAL<mark>STH</mark>V<mark>S</mark>

WFAL<mark>STH</mark>V<mark>S</mark>

QNQAE----

WFAL<mark>S</mark>AHVK

Canis_lupus_familiaris WFALSTHVS

Heterocephalus_glaber WFALSTHMS Rhinatrema_bivittatum WFALSTHVK

Bos_taurus

Danio_rerio

Equus caballus

Xenopus_tropicalis