File: /media/morpheus/disk1/fst/pep_msa/BM**P2Kep**sTue Feb 111:26:12 2022 Page 1 of 7

	*******	: . * *	* :.*** ***	
Pavo muticus	MKKFSRMPKAEGSGGGG	GAGGGAGGA		44
Pavo cristatus		GAGGGAGGA		44
Gallus gallus		GAGGGAGGA		44
Chelonia mydas		TTCAGSGGA		44
Mus musculus		AAGGAAGGGLGGG		49
Rattus_norvegicus		AAGGAAGSGLGG		49
Homo_sapiens		AAGGGAGGAGAGAGCGS		52
Pan_troglodytes		AAGGGAGGAGAGAGCGS		54
Macaca_mulatta		AAGGGAGGAGAGCGS		50
Callithrix_jacchus		AAGGGAGGAVTSCGS		50
Canis_lupus_familiaris		AAGGAAGAAGPGSGS		53
Equus_caballus		AAGGGAGPGAGCGS		49
Bos_taurus		AAGGGAGGAGA		47
		GAGGGVGAGSGPAAAASGGT		57
Rhinatrema_bivittatum				48
Xenopus_tropicalis		GSSLGAGSSGT		48
	120	40		
		* * ******* .***:*		
Pavo_muticus		GIRCAL <mark>KRMYVNN</mark> V <mark>PDLN</mark> VCI		104
Pavo_cristatus		GIRCAL <mark>KRMYVNN</mark> V <mark>P</mark> DL <mark>N</mark> VC		104
Gallus_gallus		GIRCAL <mark>KRMYVNN</mark> VSDL <mark>N</mark> VC		104
Chelonia_mydas		GVRCALKRMYVNNVPDLNIC		104
Mus_musculus		GIRCALKRMYVNNTPDLNIC		109
Rattus_norvegicus		GIRCALKRMYVNNTPDLNIC		109
Homo_sapiens	L <mark>EES</mark> LA <mark>EGGFST</mark> VFLV <mark>RTH</mark> G	GIRCALKRMYV <mark>NNMPDLN</mark> VC	KREI <mark>T</mark> IM <mark>KEL<mark>SGHKN</mark>IV<mark>GY</mark>L</mark>	112
Pan_troglodytes	L <mark>EES</mark> LA <mark>EGGFST</mark> VFLV <mark>RTH</mark> G	GIRCAL <mark>KRMYVNN</mark> MPDL <mark>N</mark> VC	KREI <mark>T</mark> IM <mark>KEL<mark>SGHKN</mark>IV<mark>GY</mark>L</mark>	114
Macaca mulatta	L <mark>EES</mark> LA <mark>EGG</mark> FSTVFLVRTHG	GIRCALKRMYVNNVPDL <mark>N</mark> VCI	KREI <mark>T</mark> IMKEL <mark>SGHKN</mark> IV <mark>GY</mark> L	110
Callithrix_jacchus	L <mark>EES</mark> LA <mark>EGG</mark> FSTVFLVRTHG	GIRCALKRMYVNNMPDL <mark>N</mark> VCI	KREI <mark>T</mark> IMKEL <mark>SGHKN</mark> IV <mark>GY</mark> L	110
Canis_lupus_familiaris		GIRHALKRMYVNNMPDLNIC		113
Equus_caballus		GVRHALKRMYVNNMPDLNIC		109
Bos taurus		GHRYALKRMYVNNTTDLNIC		107
Rhinatrema_bivittatum		GVRCALKRMYVNNVPDLNIC		117
Xenopus_tropicalis		GIRCALKRMYVNNVSDLNIC		108
nenopub_croprearra		90100		
			••••••	
	** •* •******	*:*******	* * * * * * * * * * * * * * *	
Pavo muticus		CRAGOVVNOMNORLOTGFTE:		164
Pavo_muticus Pavo_cristatus		CRAGOVVNOMNORLOTGFTE:		164
Gallus_gallus		CRAGOVVNOMNORLOTGFTE:		164
Chelonia_mydas		CRAGQVVNQMNQRLQTGFTE		164
		CRAGQVVNQMNKKLQTGFTE		169
Mus_musculus Rattus norvegicus		CRAGQVVNQMNKKLQTGFTE:		169
		CRAGQVVNQMNKKLQTGFTE		
Homo_sapiens				172
Pan_troglodytes		CRAGQVVNQMNKKLQTGFTE		174
Macaca_mulatta		CRAGQVVNQMNKKLQTGFTE		170
Callithrix_jacchus		CRAGQVVNQMNKKLQTGFTE		170
Canis_lupus_familiaris		CRAGQVVNQMNKKLQTGFME		173
Equus_caballus		CRAGQVVNQMNKKLQTGFTE:		169
Bos_taurus		CRAGQVVNQMNKKLQTGFTE		167
Rhinatrema_bivittatum		CKAGQVVNQMNQRLQTGFTE		177
Xenopus_tropicalis		CRAGQVVNQMNQRLQSGFTE		168
	130140	150160	170180	

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	****:********* **************** **:::******	
Pavo_muticus	KTPIVHRDLKVENILLNDSGNYVLCDFGSATNKFLNPQKDGVNVVEEEIKKYTTLSYRAP	224
Pavo_cristatus	KTPIVHRDLKVENILLNDSGNYVLCDFGSATNKFLNPQKDGVNVVEEEIKKYTTLSYRAP	224
Gallus_gallus	KTPIVHRDLKVENILLNDSGNYVLCDFGSATNKFLNPQKDGVNVVEEEIKKYTTLSYRAP	224
Chelonia mydas	KTPIVHRDLKVENILLNDNGNYVLCDFGSATNKFLNPQKDGVNVVEEEIKKYTTLSYRAP	224
Mus musculus	KTPIIHRDLKVENILLNDAGNYVLCDFGSATNKFLNPQKDGVNVVEEEIKKYTTLSYRAP	229
Rattus_norvegicus	KTPIIHRDLKVENILLNDAGNYVLCDFGSATNKFLNPQKDGVNVVEEEIKKYTTLSYRAP	229
Homo_sapiens	KTPIIHRDLKVENILLNDGGNYVLCDFGSATNKFLNPOKDGVNVVEEEIKKYTTLSYRAP	232
Pan_troglodytes	KTPIIHRDLKVENILLNDGGNYVLCDFGSATNKFLNPQKDGVNVVEEEIKKYTTLSYRAP	234
Macaca mulatta	KTPIIHRDLKVENILLNDGGNYVLCDFGSATNKFLNPQKDGVNIVEEEIKKYTTLSYRAP	230
Callithrix_jacchus	KTPIIHRDLKVENILLNDGGNYVLCDFGSATNKFLNPQKDGVNIVEDEIKKYTTLSYRAP	230
Canis lupus familiaris		233
Equus_caballus	KTPIIHRDLKVENILLINDSGNYVLCDFGSATNKFLNPOKDGVNVVEEEIKKYTTLSYRAP	229
Bos_taurus	KTPIIHRDLKVENILLINDGGNYVLCDFGSATNKFLNPQKDGVNTVEEEIKKYTTLSYRAP	227
Rhinatrema bivittatum		237
-	KTPIVHRDLKVENILLNDNGNYVLCDFGSATNKFLNPQKDGVNSVEEDVKKYTTLSYRAP	_
Xenopus_tropicalis	KTPIVHRDLKVENILLNDNGNYVLCDFGSSTNRILNPQKDGVNIVEEEIKKYTTLSYRAL	228
	190200210220230240	
	******** :*****************************	
Pavo_muticus	EMINLYGGKSITTKADIWALGCLLYKLCFFSLPFGESQVAICDGSFTIPDNSRYTHSIHC	284
Pavo_cristatus	EMINLYGGKSITTKADIWALGCLLYKLCFFSLPFGESQVAICDGSFTIPDNSRYTHSIHC	284
Gallus_gallus	EMINLYGGKSITTKADIWALGCLLYKLCFFSLPFGESQVAICDGSFTIPDNSRYTQSIHC	284
Chelonia_mydas	EMINLYGGKPVTTKADIWALGCLLYKLCFFTLPFGESOVAICDGNFTIPDNSRYTHNVHC	284
Mus musculus	EMINLYGGKPITTKADIWALGCLLYKLCFFTLPFGESOVAICDGSFTIPDNSRYSHNVHC	289
Rattus_norvegicus	EMINLYGGKPITTKADIWALGCLLYKLCFFALPFGESQVAICDGSFTIPDNSRYSHNVHC	289
Homo_sapiens	EMINLYGGKPITTKADIWALGCLLYKLCFFTLPFGESQVAICDGNFTIPDNSRYSRNIHC	292
Pan_troglodytes	EMINLYGGKPITTKADIWALGCLLYKLCFFTLPFGESQVAICDGNFTIPDNSRYSRNIHC	294
Macaca mulatta	EMINLYGGKPITTKADIWALGCLLYKLCFFTLPFGESQVAICDGNFTIPDNSRYSYNIHC	290
Callithrix_jacchus	EMINLYGGKPITTKADIWALGCLLYKLCFFTLPFGESQVAICDGSFTIPDNSRYSHNIHC	290
Canis_lupus_familiaris		293
	EMINLYGGKPITTKADIWALGCLLYKLCFFTLPFGESQVAICDGSFTIPDNSRYSHNIHC	289
Equus_caballus		
Bos_taurus	EMINLYGGKPITTKADIWALGCLLYKLCFFTLPFGESQVAICDGSFTIPDNSRYSHNIHC	287
Rhinatrema_bivittatum	EMINLYGGKLITTKADIWALGCLLYKLCFFTLPFGDSQVAICDGNFTIPDNSRYPHKVHC	297
Xenopus_tropicalis	EMINLYGGKPITTKADIWALGCLLYKLCFFTLPFGESQVAICDGNFTIPDNSRYNHKLHC	288
	250260270280290300	
	:* : ***:******::::::**:** ** :* .******:***	
Pavo_muticus	LIRYMLEPDQEQRPDIFQVSYFAFKLAKKDCPVSNINNSPVPSTLPEPMTASEAAARKSQ	344
Pavo_cristatus	LIRYMLEPDQEQRPDIFQVSYFAFKLAKKDCPVSNINNSPVPSTLPEPMTASEAAARKSQ	344
Gallus_gallus	LIRYMLEPDQEQRPDIFQVSYFAFKLAKKDCPVSNINNSPVPSTLPEPMTASEAAARKSQ	344
Chelonia_mydas	LIRYMLEPDQERRPDIFQVSYFAFKLTRKECPLSNINNSPVPSTLPEPMTASEAAARKSQ	344
Mus_musculus	LIRFMLEPDPECRPDIFQVSYFAFKFAKKDCPVSNINNSFLPSTLPEPMTATEAAARKSQ	349
Rattus_norvegicus	LIRFMLEPDPEHRPDIFQVSYFAFKFAKKDCPVSNINNSILPSTLPEPMTATEAAARKSQ	349
Homo sapiens	LIRFMLEPDPEHRPDIFQVSYFAFKFAKKDCPVSNINNSSIPSALPEPMTASEAAARKSQ	352
Pan troglodytes	LIRFMLEPDPEHRPDIFQVSYFAFKFAKKDCPVSNINNSSIPSALPEPMTASEAAARKSQ	354
Macaca mulatta	LIRFMLEPDPEHRPDIFQVSYFAFKFAKKDCPVSNINNSSIPSALPEPMTASEAAARKSQ	350
Callithrix_jacchus	LIRFMLEPDPEHRPDIFQVSYFAFKFAKKDCPVSNINNSSIPSALPEPMTASEAAARKSQ	350
	LIRFMLEPDPERRPDIFQVSYFAFKFAKKDCPVSNINNSSIPSALPEPMTASEAASRKSQ	353
Equus caballus	LIRFMLEPDPDHRPDIFQVSYFAFKFAKKDCPVSNINNSCIPSALPEPMTASEAASRKSQ	349
Bos taurus	LIRFMLEPDPERRPDIFOVSYFAFKFAKKDCPVSNINNSPIPSTLPEPMTASEAASRKSO	347
Rhinatrema bivittatum	LIRYMLEPDQERRPDIFQVSYFAFQLAKKDCPVSNIFNSPIPSVLPEPMTASEAAARKSQ	357
Xenopus tropicalis	LIRYMLEPDODKRPDIYOVSYFAFKLAKRDCPLPNIYNSPIPHVLPEPMTASEAASKKSO	348
venobra_crobicatia	310320330340350360	346
	3±0320350340350	

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	:*:***: *********** : : : : : : : : : :	
Pavo muticus	IKARITDPTGPTETSIAPRQRPKAN-SSTAASSVLTIQSSATPVKVQVPGVFGNRGQK	401
Pavo cristatus	IKARITDPTGPTETSIAPRQRPKAN-SSTAASSVLTIQSSATPVKVQVPGVFGNRGQK	401
Gallus_gallus	IKARITDPTGPTETSIAPRQRPKAN-SSTAASSVLTIQSSATPVKVQVPGVFGNRGQK	401
Chelonia mydas	IKARITDAVGPTETSIAPRORPKGN-SSTATSNVLTIOSSATPVKVSVPGEFGNCVQK	401
Mus musculus	MKARITDTIGPTETSIAPRORPKAN-STAATSSVLTIQSSATPVKVPAPGEFSNHKPK	406
Rattus norvegicus	MKARITDTIGPTETSIAPRORPKAN-STAAISSVLTIOSSATPVKVPAPGEFSNHKPK	406
Homo_sapiens	IKARITDTIGPTETSIAPRORPKANSATTATPSVLTIOSSATPVKVLAPGEFGNHRPK	410
Pan_troglodytes	IKARITDTIGPTETSIAPRORPKANSATTATPSVLTIOSSATPVKVLAPGEFGNHRPK	412
Macaca_mulatta	IKARITDTIGPTETSIAPRORPKANSTTTATPSVLTIOSSATPVKVLAPGEFGNHRPK	408
Callithrix_jacchus	IKARITDTIGPTETSIAPRORPKANSTTTATPSVLTIOSSATPVKVPTPGEFGNHRPK	408
Canis_lupus_familiaris	IKARITDTIGPTETSIAPRORPKAN-STTATPSVLTIOSSATPVKVPAPGEFGNHRPK	410
Equus_caballus	IKTRITDTIGPTETSIAPRORPKAN-STTATPSVLTIQSSTTPVKVPAPAELGNHRAK	406
Bos taurus	IKARITDTIGPTETSIAPRORPKAN-STTATPSVLTIQSSATPVKVPAPDEFGNHRPK	404
Rhinatrema bivittatum	IKARITEAAGPTETSIAPRORPKAS-SSTSASSVLTIOSTATPVKVPVTCEQISHGQI	414
Xenopus_tropicalis	VKARITDALGPTETSIAPRORPKAN-ANTASATMLTIHSSATPAKMPGQGVQAHHNQNLT	407
momopus_croprodrib	370380390400410420	-0,
	** : :: ** *: *:********** : ::	
Pavo muticus	GTPRPGNGQEMLLSQGTNQHHPQQNRVLQQLQQGDWRLQQLHHLHHQ	448
Pavo cristatus	GTPRPGNGQEMLLSQGTNQHHPQQNRVLQQLQQGDWRLQQLHHLHHQ	448
Gallus_gallus	GTPRPGNGQEMLLSQGTNQHHPQQNRVLQQLQQGDWRLQQLHHLHHQ	448
Chelonia mydas	GTLRPGNGQE-ILSQGTNQHPPQQNRVLQQLQQGDWRLQQLHHLHHQ	447
Mus_musculus	GALRPGNGSEVLMVQGPPQQPPQQHRVLQQLQQGDWRLQQLHLHRHPHHHHQQQQQQQQQ	466
Rattus_norvegicus	GALRPGNGSDILMVQGPTQQPPQQHRVLQQLQQGDWRLQQLHLHRHPQQQQQQQQ	460
Homo_sapiens	GALRPGNGPEILLGQGPPQQPPQQHRVLQQLQQGDWRLQQLHLQHRHPHQQQQQ	464
Pan troglodytes	GALRPGNGPEILLGQGPPQQPPQQHRVLQQLQQGDWRLQQLHLQHRHPHQQQQQ	466
Macaca mulatta	GALRPGNGPEILLGQGLPQQPPQQHRVLQQLQQGDWRLQQLHLQHRHPHQQQQQ	462
Callithrix_jacchus	GALRPGNGPEILLGQGPPQQPPQQHRVLQQLQQGDWRLQQLHLQHRHPHQQQQQ	462
Canis_lupus_familiaris		464
Equus_caballus	GALRSGNGPEILLGQGTPQQPPQQHRVLQQLQQGDWRLQQLHLQHRHPHQQQQQ	460
Bos taurus	GPLKPGNGPEILLGQGPTQQPPQQHRVLQQLQQGDWRLQQLHLQHRHPHQ	454
Rhinatrema bivittatum	AAQNQGNGQDILLAQGINQQPLQQQRVLQQLQQGDWRLQQLQQQQQQ	461
Xenopus_tropicalis	TAVQPDNGYETMLAQGGNQQPPQQHRVLQQLQQGDWRLQQQHQLQQQ	454
xellopus_cropicalis	430440450460470480	434
	*.**** * * * * * * * * * * * * * * *	
Pavo muticus	QKQPTIQEAYIQQYQQAVH-QQVIQQQLLMQSVY	481
Pavo cristatus	QKQPTIQEAYIQQYQQAVH-QQVIQQQLLMQSVY	481
Gallus_gallus	QKQPTIQEAYIQQYQQAVH-QQVIQQQLLMQSVY	481
Chelonia mydas	QQQQLLQDAYMQQYQQAMH-QQMVQQQLMMQSMY	480
Mus musculus	QQQQQLQQQQQQQQQLLQNAYLQQYQHAMHQQHILQQQFLMHSVY	511
Rattus_norvegicus	QQQQQQQQQQQQQQLLQNAYLQQYQHAMHQQQILQQQFLMHSVY	505
Homo_sapiens	QQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ	524
Pan troglodytes	QQQQQQQQQQQQQQQQQQQQ—HHHHHHLLQDAYMQQYQHATQQQQMLQQQFLMHSVY	525
Macaca mulatta	QQQQQQQQHHHHHHLLHDAYMQQYQHATQQQQMLQQQFLMHSVY	507
Callithrix jacchus	HHHHHHLLQDAYMQQYQHATQQQQMLQQQFLMHSVY	498
	QQQQQLLQDAYMQQQQLHAMQQQQILHQQFLMHSVY	499
Equus_caballus	HQLHQLHQDAYMQQYQHAMQQQQILQQQFLMNSVY	495
Bos taurus	QQQLLQDAYMQQQYQHAVQQQQMLQQQLLVHSVY	487
Rhinatrema_bivittatum	LQDTYLQQYQQAIQ-QQLIQQQLYMQSMY	489
Xenopus_tropicalis	QQQQLLQEAYMQQYQQALQ-QQILQQQFLMHSIY	487
venobra_crobicatia	490500510520530540	40/

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Pavo muticus	OODPSOS		OOYOOALIOO		ORSOOVOSI			
Pavo cristatus			OOYOOALIOO					
Gallus_gallus			QQYQQALIQQ					
Chelonia mydas			OOYOOALLHO					
Mus musculus			OOYOOAFLOO			EYLTSPQEF		
Rattus_norvegicus			OOYOOALLOO			EYLTSPQEF		
Homo_sapiens			PQYQQALLQQ PQYQQAFFQQ			EYLTSPQEF		
						PEYLTSPOEF		
Pan_troglodytes			PQYQQAFFQQ					
Macaca_mulatta			QQYQQAFFQQ			PEYLTSPQEF		
Callithrix_jacchus			QQYQQAFFQQ			PEYLTSPQEF		
Canis_lupus_familiaris			QQYQQAFLQQ			PEYLTSPQEF		
Equus_caballus			QQYQQAFLQQ					
Bos_taurus			QQYQQAFLQQ					
Rhinatrema_bivittatum			QQ <mark>Y</mark> QQALVQQ					
Xenopus_tropicalis			H <mark>QY</mark> QQT <mark>H</mark> IQH					
	• • • • • •	550	560	570	580	590)6	00
	*. : *		:			** *****		
Pavo_muticus			A <mark>ASR</mark> S <mark>GILD</mark> A					
Pavo_cristatus			A <mark>asr</mark> s <mark>gild</mark> a					
Gallus_gallus			A <mark>asr</mark> s <mark>gild</mark> a					
Chelonia_mydas	L <mark>P</mark> AHVG	VM <mark>DSPY</mark>	<mark>TANR</mark> SAVPD	A <mark>EAV</mark> SS <mark>YP</mark> KQ	-NISN <mark>PP</mark> DI	1 <mark>SGWNP</mark> FGED	NFSKLTEE	EL 594
Mus_musculus	L <mark>P</mark> AQVG1	'IV <mark>D</mark> SSY	GAN-RSVAEK	EAVANFTNQ	KTISH <mark>PP</mark> DI	1 <mark>SGWNP</mark> FGED	NFSKLTEE	EL 627
Rattus_norvegicus	L <mark>P</mark> AQVG1	IVDSSY	GATS <mark>RS</mark> VAEK	E AVA <mark>N</mark> FTNQ	KTISHPPDI	1 <mark>SGWNP</mark> FGED	NFSKLTEE	EL 622
Homo_sapiens	L <mark>P</mark> AQVGI	IMDSSY	SAN-RSVADE	EAIANFTNO	KNISNPPDI	<mark>ISGWNP</mark> FGED	NFSKLTEE	EL 640
Pan_troglodytes			SAN-RSVADE					
Macaca_mulatta			SAN-RSVADE					
Callithrix_jacchus			SAN-RSIADE					
Canis lupus familiaris	LPAOVGI	LVDSSY	SAN-RPVADE	EAVANITSO	KNISNPPDI	SGWNPFGED	NESKLTEE	
Equus_caballus	LPAOVG	IMDSSY	SAN-R <mark>S</mark> VADE	EAVANITTO	KNVSNPPDI	SGWNPFGED	NESKLTEE	EL 611
Bos taurus			SAN-RSIAGE					
Rhinatrema_bivittatum			SANRSVIPDI					
Xenopus_tropicalis			TRS-TNISEN					
kellopus_clopicalis			620					
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	*****	*****	:	** .	. • • . * . 3	·:.*:**		
Pavo_muticus		•	VD <mark>RRTTSDKI</mark>					AS 658
Pavo_cristatus			VDRRTTSDKI					
Gallus_gallus			VDRRTTSDKI					
Chelonia_mydas			VERRASSDKI					
Mus musculus			GAS- <mark>TPSDK</mark> I					
Rattus norvegicus			GES-TPSDKI					
Homo_sapiens			GES-TPSDKI EER-ASSDKI					
Pan_troglodytes			KER-ASSDKI					
Macaca_mulatta			EER-ASSDKN					
Callithrix_jacchus			KER-ASSDKI					
Canis_lupus_familiaris			e <mark>er-assdki</mark>					
Equus_caballus			e <mark>ek-a</mark> ssdki					
Bos_taurus			e <mark>er-aasdki</mark>					
Rhinatrema_bivittatum	LDREFDI	LRSNRL	E <mark>ER-TSSD</mark> M	NI <mark>EPLSAP</mark> QS	QL <mark>PEDPFG</mark>	SIPFISGSGS	ILGKIAENS	VN 660
Xenopus_tropicalis	LDREFDI	L <mark>RSNK</mark> L	E <mark>E</mark> C <mark>RPTTG</mark> IS	SA <mark>EP</mark> VTAPHD	QFT <mark>QD</mark> AF <mark>G</mark> \$	SV <mark>P</mark> FLSESGS	LERIAEKV	'AC 657
	• • • • • •	670	680	690	700	710) 7	20

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Pavo muticus		•	•		<mark>EGO</mark> V	TKGGT	DESESDFESDPPSPKSS	
Pavo cristatus							DESESDFESDPPSPKSS	
Gallus gallus							DESESDFESDPPSPKSS	
Chelonia mydas							DESESDFESDPPSPKSS	
Mus musculus							DSESDFESDFFSFKSS	
Rattus_norvegicus							DESESEFESDPPSPKSS	
							DESESDFESDPPSPKSS	
Homo_sapiens								
Pan_troglodytes							DESESDFESDPPSPKSS	
Macaca_mulatta							DESESDFESDPPSPKSS	
Callithrix_jacchus							DESESDFESDPPSPKSS	
Canis_lupus_familiaris							DESESDFESD <mark>PPSP</mark> KSS	
Equus_caballus							DESESDFESD <mark>PPSP</mark> KSS	
Bos_taurus							DESESDFESD <mark>PPSP</mark> KSS	
Rhinatrema_bivittatum							IESESDFESD <mark>PP</mark> SPKSS	
Xenopus_tropicalis							ESESDFESD <mark>PP</mark> SPKSS	
	• • • • • • • '	730	740	750)76	60	77078	0
	: *: ::				*******		::*: *:****: ::	
Pavo_muticus							EEEEEK <mark>QSSDS</mark> ESDR <mark>T</mark>	
Pavo_cristatus	EEEE <mark>Q</mark> ED!	EEVL <mark>Q</mark> GEN	GDF <mark>N</mark> DD <mark>N</mark>	DTEPENLO	HRPLLMDSI	EEELE	EEEEEK <mark>QSSD</mark> SESDR <mark>T</mark>	K 773
Gallus_gallus	EEEE <mark>Q</mark> EDI	EEVL <mark>Q</mark> GEN	GDF <mark>N</mark> DDN	DTEPENLO	HRPLLMDSI	EEELE	EEEEEK <mark>QSSDSE</mark> SDR <mark>T</mark>	K 773
Chelonia_mydas	EDEEQED:	EDVL <mark>Q</mark> GEH	GDF <mark>N</mark> DDN	DTEPENLO	HRPLLMDSI	EDE <mark>A</mark> E	EEEEEK <mark>QSSDSD</mark> SDH <mark>T</mark>	K 769
Mus_musculus	E-EQEDE	DAQGEH	GDFNDD-	DTEPENLO	HRPLLMDSI	ED	EEEDDKHSSDSECEQA	K 799
Rattus_norvegicus	E-EQEDE	OAQGEH	GDFNDE-	DTEPENLO	HRPLLMDSI	ED	EEEDDKHSSDSECEQA	K 790
Homo_sapiens							EEEEKHSSDSDYEOA	
Pan troglodytes	E-EEODD	EEVLOGEO	GDFNDD-	DTEPENLO	HRPLLMDSI	ED	EEEEKHSSDSDYEQA	
Macaca_mulatta							EEEEEKHSSDSDYEOA	
Callithrix_jacchus							EEEEKHSSDSDYEQA	
Canis lupus familiaris							EDEE-KHSSDSDYEQA	
Equus_caballus							EEEEKHSSDSDYEQA	
Bos taurus							EEEEKHSSDSDYEQA	
Rhinatrema_bivittatum							EEEEEKHSSDSDCDHR	
Xenopus_tropicalis							DNEEEKHSSDSDYEHT	
kellopus_clopicalis							83084	
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Pavo muticus	OKEVECT	PSSRFFNV	MS <mark>S</mark> SEVK	EPST.M-	KTPEVPTT	WKW.	 <mark>PGQE</mark> FDVF <mark>G</mark> AVPFFSL	Q 830
Pavo_cristatus							PGQEFDVFGAVPFFSL	
Gallus_gallus							PGQEFDVFGAVPFFSL	
Chelonia_mydas							AGQEFDVFGAVPFFAL	
Mus_musculus	TEPCD	regi pppk	DGVADD-	TALL	TDADEDA	-DAT.	PSQEFDVFGAVPFFAA	P 850
Rattus norvegicus							PSOEFDVFGAVPFFAV	
Homo_sapiens							PKQEFDVFGAVPFFAV	
	ANISD	MEGUVEDE	CCCCDTO	DINTTI	TGAOL CODY	VAVE	PKQEFDVFGAVPFFAV	R 007
Pan_troglodytes Macaca mulatta	ANYSD	MSSVIRDR	COCCE		TSAQLSSD	VAVE	PKOEFDVEGAVPFFAV	R 868
	AKISD	MODVEDOV	COCOT NO	DI MITTE-	TEACLSSD	VEVE	PKQEFDVFGAVPFFAV PKQEFDVFGAVP-FAV	R 850
Callithrix_jacchus								
Canis_lupus_familiaris								
Equus_caballus	AKYSD	VSPVCRDK	PGSGPIQ	EPNITLL-	TPTQLPSD	VALE	' <mark>P</mark> KQEFDVFGAV <mark>P</mark> FFAV	R 842
Bos_taurus							<mark>'PRPE</mark> FDVFGAVPFFAA	
Rhinatrema_bivittatum							SN <mark>QQ</mark> FDVF <mark>G</mark> AV <mark>P</mark> FFAL	
Xenopus_tropicalis							SN <mark>QQ</mark> L <mark>D</mark> VF <mark>G</mark> AV <mark>P</mark> FSSV	
	• • • • • • •	350	860	870)88	80	89090	0

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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 Equus_caballus Bos_taurus Rhinatrema_bivittatum Xenopus_tropicalis	PQAREKGDQDVSSQTAFPSLS-QEQDDFDVFTKAPFSKKVSQQDDQVVGTKTQLSPTPQAREKGDQDVSSQTAFPSLS-QEQDDFDVFTKAPFSKKVSQQDDQVVGTKTQLSPTPQAREKGNQDVSSQTAFPSLS-QEQDDFDVFTKAPFSKKVSQQDDHVLGSKNQLSPT TQQPQPREESDTDFSPQPAFLSLR-QEQDDFDVFTKAPFSKKVSQQDDHVLGSKNQLSPT TQQPQPREESDTDFSPQPAFLSLR-QEQDDFDVFTKAPFSKKVAQPDGLVVGAETQTSPT APQSLQHRG-DGKNLSQHAFPEQEDFDVFTKAPFSKKVTQDWPAVGPDARPLPA AP-ELQHRG-SGKSVSQQMFPEQEEYDVFTKAPFSKKVTVQDWPAVRPDTRPLPA AQQPQQEKN-EKNLPQHR-FPAAG-LEQEEFDVFTKAPFSKKVNVQECHAVGPEAHTIPG AQQPQQEKN-EKNLPQHR-FPAAG-LEQEEFDVFTKAPFSKKVNVQECHAVGPEAHTIPG AQQPQQEKH-EKSLPQHR-FPAAG-LEQEEFDVFTKAPFSKKVNVQECHAVGPEAHTIPG AQQPQQEKH-EKSLPQHR-FPAVG-LEQEEFDVFTKAPFSKKVNVQECHAVGPESHTLPG AQQPQGEKN-EKNLSQQIHFPTVG-LEQEEFDVFTKAPFSKKVNVDQCRAVGPEAHTSPG AQQPQGEN-EKNLSQQIHFPTVG-PEQEEFDVFTKAPFSKKVNIHDCRAVGPEAHTLPG AQLPRQGE-QKDLSPHSRLPATG-LEPEEFDVFTKAPFSKKVNIHDCRAVGPEAHTLPG AQLPRQGE-QKDLSPHSRLPATG-LEPEEFDVFTKAPFSKKVNCMARDAHAAPA SEQSQPKKG-EKDFSQIVFKDTGREQEQEDEFDVFTKAPFSKKVDQLDCQVTSPVS SDQPQTNNDFNLQTLNDSLQREGVQEEFDVFSKAPFSKKVEQLDCQVTPSIS SDQPQTNNDFNLQTLNDSLQREGVQEEFDVFSKAPFSKKVEQLDCQVTPSIS SDQPQTNNDFNLQTLNDSLQREGVQEEFDVFSKAPFSKKVEQLDCQVTPSIS SDQPQTNNDFNLQTLNDSLQREGVQEEFDVFSKAPFSKKVEQLDCQVTPSIS SDQPQTNNDFNLQTLNDSLQREGVQEEFDVFSKAPFSKKVEQLDCQVTPSIS	886 886 887 904 887 924 925 907 897 902 900 883 887 883
Pavo_muticus	***:**:* SPRSVDIFGCTPFQPSLLPKM-SGSKEDLFGLVPFEEITGSQQQQKVKQQRNLQKLSSRQ	945
Pavo_muticus Pavo_cristatus	SPRSVDIFGCTPFQPSLLPKM-SGSKEDLFGLVPFEEITGSQQQQKVKQQRNLQKLSSRQ	945
Gallus_gallus	SPRSVDIFGCTPFQPSLLPKM-SGSKEDLFGLVPFEEITGSQQQ-KVKQQRNLQKLSSRQ	944
Chelonia_mydas	SPRSVDIFGCTPFQPLPTPKS-SESREDLFGLVPFEEITGSQQQQKVKQQRNLQKLSSRQ	946
Mus_musculus	RPRSVDIFGSTPFQPFSVSASKSESKEDVFGLVPFEEITGSQQQQ-KVKQRSLQKLSSRQ	963
Rattus_norvegicus	RPRSVDIFGSTPFQPFSTAASKSESKEDVFGLVPFEEITGSQQQQQQKVKQRSLQKLSSRQ	947
Homo_sapiens Pan_troglodytes	YPKSVDVFGSTPFQPFLTSTSKSESNEDLFGLVPFDEITGSQQQKVKQRSLQKLSSRQ YPKSVDVFGSTPFQPFLTSTSKSESNEDLFGLVPFDEITGSQQQKVKQRSLQKLSSRQ	982 983
Macaca_mulatta	YPKSVDVFGSTPFQPFLTSTSKSESNEDLFGLVPFDEITGSQQQKVKQRSLQKLSSRQ	965
Callithrix_jacchus	YPKSVDVFGSTPFQPFLTSTSKSESNEDLFGLVPFEEITGSQQQKVKQRSLQKLSSRQ	955
Canis_lupus_familiaris		960
Equus_caballus	CPKSVDIFGSTPFQPFATSTGKSGSNEDLFGLVPFEEITGSQQQKVKQRSLQKLSSRQ	958
Bos_taurus	GPPSVDVFGSTPFQPFPPSASKSDSGEDLFGLVPFEEITGSPQQKVKQRSLQKLSSRQ	941
Rhinatrema_bivittatum	-LESVDIFGCTPFQPHPTPKDKTENKEDVFGLVPFEEIAGNQQQQQKVKQQRNLQKLSSRQ	946
Xenopus_tropicalis	-PTSVDIFGCSPFEPAPSEGEKSCSREDIFGLVPFEEITGNOTOHKVKHORNLOKLSSRO 970980990100010101020	942
	** * :*******: :**. ** :****:: ********	
Pavo_muticus	RRMKQEVPKNNGKRHHGTPTTTKKTLKPNYRTPERARRHKKAGRRDSQSSNEFLTISDSK	1005
Pavo_cristatus	RRMKQEV <mark>PKNNGKRHHGTPTTTKKTLKP</mark> NYRTPERARRHKKAGRRDSQSSNEFLTISDSK	1005
Gallus_gallus	RRMKQEVPKNNGKRHHGTPTTTKKTLKPNYRTPERARRHKKAGRRDSQSSNEFLTISDSK	1004
Chelonia_mydas Mus_musculus	RRMKQEVPKSNGKRHHGTPTSTKKALKPSYRTPERARRHKKTGRRDSQSSNEFLTISDSK RRTKQDVSKSNGKRHHGTPTSAKKTLKPPYRTPERARRHKKVGRRDSQSSNEFLTISDSK	1006 1023
Rattus norvegicus	RTKQDVSKSNGKRHHGTPTSAKKPLKPPYRTPERARRHKRVGRRDSQSSNEFLTISDSK	1023
Homo_sapiens	RRTKQDMSKSNGKRHHGTPTSTKKTLKPTYRTPERARRHKKVGRRDSQSSNEFLTISDSK	1042
Pan_troglodytes	RRTKQDMSKSNGKRHHGTPTSTKKTLKPTYRTPERARRHKKVGRRDSQSSNEFLTISDSK	1043
Macaca_mulatta	RRTKQDMSKSNGKRHHGTPTSTKKTLKPTYRTPERARRHKKVGRRDSQSSNEFLTISDSK	1025
Callithrix_jacchus	RRTKQDMSKSNGKRHHGTPTSTKKTLKPTYRTPERARRHKKVGRRDSQSSNEFLTISDSK	1015
Canis_lupus_familiaris	RRTKODLSKSNGKRHHGTPTSTKKTVKPTYRTPERARRHKKVGRRDSQSSNEFLTISDSK RRTKODMSKSNGKRHHGTPTSTKKTVKPTYRTPERARRHKKVGRRDSQSSNEFLTISDSK	1020 1018
Equus_caballus Bos_taurus	RRTKQDMSKSNGKRHHGTPTSTKKTVKPTYRTPERARRHKKVGRRDSQSSNEFLTISDSK RRTKQDAAKSNGKRHHGTPTGAKKPAKPAFRTPERARRHRRVGRRDSQSSNEFLTISDSK	1018
Rhinatrema_bivittatum	RRSKQEGCSGNGKRHHGTPTSTKKTPKPSYRTPERTRRHKKVGRRDSQSSNEFLTISDSK	1001
Xenopus_tropicalis	RRTKPETASSNGKRHHGTPSSTKKAPKPSYRTPEKVRRHKKGGRRDSQSSNEFFIMSDSK	1002
-	103010401050106010701080	

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D		1005
Pavo_muticus Pavo cristatus	ENISVSLTDSKDSKNPLQTDESLLDPFGAKPFHPPELIRHPQHQGFGDSRGDHGAVVVAS ENISVSLTDSKDSKNPLQTDESLLDPFGAKPFHPPELMRHPQHQGFGDSRGDHGAVVVAS	1065 1065
Gallus_gallus	ENISVSLTDSKDRTNPLQTDESLLDPFGAKPFHPPELMRHPQHQGFGDSRGDHGAVVVAS	1064
Chelonia_mydas	ENISVALTDSKDRGNPLQADENLLDPFGAKPFHPPDLMRNPQHQGLGDNRGDH-NIVVPG	1065
Mus_musculus	ENISVALTDGKDRASVLPSDESLLDPFGAKPFHPPDL-WHQPHQGLSDICVDHTTILP-G	1081
Rattus_norvegicus	ENISVALTDGKDRASVLPPDESLLDPFGAKPFHPPDL-WHQTHQGLSDICVDHTAILP-G	1065
Homo_sapiens	ENISVALTDGKDRGNVLQPEESLLDPFGAKPFHSPDLSWHPPHQGLSDIRADHNTVLP-G	1101
Pan_troglodytes	ENISVALTDGKDRGNVLQPEESLLDPFGAKPFHSPDLSWHPPHQGLSDIRADHNTVLP-G	1102
Macaca_mulatta	ENISVALTOGKORGNVLQPEESLLDPFGAKPFHSADLSWHPPHQGLSDIRADHNTVLP-G	1084
Callithrix_jacchus	ENISVALTOGKORGTVLQPEESLLDPFGAKPFHSPDLSWHPPHQGLSDIRADHNTVLP-G	1074
Canis lupus familiaris	ENISVALTOGKORGNGLOPEESLLDPFGAKPFHPPDLPWHPPHOGLSDIRADHNPVLP-G	1079
Equus caballus	ENISVALTDGKDRGNVLOPEESLLDPFGAKPFHPPDLPWHPSHOGLSDIRAEHNPVLP-G	1077
Bos taurus	ENISVALTDGKDRGHVLQAEEGLLDPFGAKPFHPPDLPWHSPHQGLSTDHNPVLP-G	1057
Rhinatrema bivittatum	ENISIALTEGKORSNPLPPDENILDPFGAKPFHPQDL-RHPQYHGLSDNRGEHNAAVP-S	1064
Xenopus_tropicalis	ENISISLSDGKDCGHLLQTDESLIDPFGAKPFHPQDL-RLPQHQGLTDNHGDHQTAMS-G	1060
nonopub_oroprouring	109011001110112011301140	
	..*.*. *. *. ************************	
Pavo muticus	RPRQSSLHGPVHAGDGLKIDDFGAVPFTELVVQSAQSQQQQ-ALELDPFGAAPFPSK	1121
Pavo cristatus	RPRQSSLHGPVHAGDGLKIDDFGAVPFTELVVQSAQSQQQQ-ALELDPFGAAPFPSK	1121
<u> </u>		1121
Gallus_gallus	RPRQSSLHGPVHAGDGLKTDDFGAVPFTELVVQGAQSQQQQ-ALELDPFGAAPFPSK	_
Chelonia_mydas	RPRQSSLHGAVHSGDGLKTDDFGAVPFTELVVQSVTPQQAQQQQ-ALELDPFGAAPFPSK	1124
Mus_musculus	RPRQNSVHGSFHSAETLRMDDFGAVPFTELVVQSVTPQQSQ-PVELDPFGAAPFPSK	1137
Rattus_norvegicus	RPRQNSVHGSFHSADALRMDDFGAVPFTELVVQSVSPQQSQ-PVELDPFGAAPFPSK	1121
Homo_sapiens	RPRQNSLHGSFHSADVLKMDDFGAVPFTELVVQSITPHQSQQSQ-PVELDPFGAAPFPSK	1160
Pan_troglodytes	RPRQNSLHGSFHSADVLKMDDFGAVPFTELVVQSITPHQSQQSQ-PVELDPFGAAPFPSK	1161
Macaca_mulatta	RPRQNSLHGSFHSADVLKMDDFGAVPFTELVVQSITPHQSQQSQ-PVELDPFGAAPFPSK	1143
Callithrix_jacchus	RPRQNSLHGSFHSADVLKMDDFGAVPFTELVVQSITPHQSQQSQ-PVELDPFGAAPFPSK	1133
Canis_lupus_familiaris	RPRPNSLHSSFHSTDALKMDDFGAVPFTELVVQSITSHQSQQSQ-SVELDPFGAAPFPSK	1138
Equus_caballus	RPRPNSLHGSFHSADALKMDDFGAVPFTELVVQSTTSHQSQQSQ-SVELDPFGAAPFPSK	1136
Bos_taurus	RPRPNSLHGSFHGAEALKMDDFGAVPFTELVVQSITSHQPQQPQ-PVELDPFGAAPFPSK	1116
Rhinatrema_bivittatum	RSRHSSLHGVFHSSEGLNTDDFGAVPFTELVVHSVTQQQQQQ-PIELDPFGAAPFPSK	1121
Xenopus_tropicalis	RPRQSSLHGGYHSNDNLNMDDFGAVPFTELVLQSVTQQNSQQTQQPLEFDPFGAAPFPSK	1120
	115011601170118011901200	
	*	
Pavo muticus	Q 1122	
Pavo cristatus	0 1122	
Gallus_gallus	Q 1122 Q 1121	
Chelonia mydas	Q 1125	
Mus musculus	0 1138	
Rattus_norvegicus	Q 1122	
Homo_sapiens	0 1161	
Pan_troglodytes	1162	
Macaca_mulatta	2 1144	
Callithrix_jacchus	2 1134	
Canis_lupus_familiaris		
Equus_caballus	Q 1137	
Bos_taurus	Q 1117	
Rhinatrema_bivittatum	Q 1122	
Xenopus_tropicalis	Q 1121	
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