File: /media/morpheus/disk1/fst/pep_msa/KIAP4868Ipse Feb 1 12:31:18 2022 Page 1 of 11

	****** *******************	
Pavo muticus	MAAAAAAQDELNQLERVFLRLGHAETDEQLQNIISKFLPPVLLKLSSTQEGV	53
Pavo_cristatus	MAAAAAAQDELNQLERVFLRLGHAETDEQLQNIISKFLPPVLLKLSSTQEGV	53
Gallus_gallus	MAAAAAAQDELNQLERVFLRLGHAETDEQLQNIISKFLPPVLLKLSSTQEGV	53
Anas_platyrhynchos	MAAAAAAQDELNQLERVFLRLGHAETDEQLQNIISKFLPPVLLKLSSTQEGV	53
Chelonia mydas	MAAAASAAQDELNQLERVFLRLGHAETDEQLQNIISKFLPPVLLKLSSTQEGV	53
Homo_sapiens	MYHIDCRDQLERVFLRLGHAETDEQLQNIISKFLPPVLLKLSSTQEGV	48
Pan_troglodytes	MAAAAASASQDELNQLERVFLRLGHAETDEQLQNIISKFLPPVLLKLSSTQEGV	54
Macaca mulatta	MAAAAASASQDELNQLERVFLRLGHAETDEQLQNIISKFLPPVLLKLSSTQEGV	54
Callithrix jacchus	MTGNVRPSRLTPPWPRVPDDQLERVFLRLGHAETDEQLQNIISKFLPPVLLKLSSTQEGV	60
Bos taurus	MAAAAASASQDELNQLERVFLRLGHAETDEQLQNIISKFLPPVLLKLSSTQEGV	54
Equus_caballus	MAAAAASASQDELNQLERVFLRLGHAETDEQLQNIISKFLPPVLLKLSSTQEGV	54
Canis lupus familiaris	MAAAAASASQDELNQLERVFLRLGHAETDEQLQNIISKFLPPVLLKLSSTQEGV	54
Mus musculus	METGSDSDQLERVFLRLGHAETDEQLQNIISKFLPPVLLKLSSTQEGV	48
Heterocephalus_glaber	MIFGALSFHSHTPFTDQLERVFLRLGHAETDEQLQNIISKFLPPVLLKLSSTQEGV	56
Latimeria_chalumnae	MAAQDELNQLERVFLCLGHAETDEQLQNIISKFLPPVLLKLSSTQEGV	48
Rhinatrema bivittatum	MAAAAAAAAQDELNQLERVFLRLGHAETDEQLQDIISKFLPPVLLKLSSTQEGV	55
Xenopus_tropicalis	MAASCSAAAQDELNQLERVFLRLGHAETDEQLQSIISKFLPPVLLKLSSAQEGV	54
	1	

Pavo_muticus	RKKVMELLVHLNKRIKSRPKIQLPVETLLVQYQDPSAVSFVTNFTIIYVKMGYPRLPVER	113
Pavo_cristatus	RKKVMELLVHLNKRIKSRPKIQLPVETLLVQYQDPSAVSFVTNFTIIYVKMGYPRLPVER	113
Gallus_gallus	RKKVMELLVHLNKRIKSRPKIQLPVETLLVQYQDPSAVSFVTNFTIIYVKMGYPRLPVER	113
Anas_platyrhynchos	RKKVMELLVHLNKRIKSRPKIQLPVETLLVQYQDPSAVSFVTNFTIIYVKMGYPRLPVER	113
Chelonia_mydas	RKKVMELLVHLNKRIKSRPKIQLPVETLLVQYQDPAAVSFVTNFTIIYVKMGYPRLPVEK	113
Homo_sapiens	RKKVMELLVHLNKRIKSRPKIQLPVETLLVQYQDPAAVSFVTNFTIIYVKMGYPRLPVEK	108
Pan_troglodytes	RKKVMELLVHLNKRIKSRPKIQLPVETLLVQYQDPAAVSFVTNFTIIYVKMGYPRLPVEK	114
Macaca_mulatta	RKKVMELLVHLNKRIKSRPKIQLPVETLLVQYQDPAAVSFVTNFTIIYVKMGYPRLPVEK	114
Callithrix_jacchus	RKKVMELLVHLNKRIKSRPKIQLPVETLLVQYQDPAAVSFVTNFTIIYVKMGYPRLPVEK	120
Bos_taurus	RKKVMELLVHLNKRIKSRPKIQLPVETLLVQYQDPAAVSFVTNFTIIYVKMGYPRLPVEK	114
Equus_caballus	RKKVMELLVHLNKRIKSRPKIQLPVETLLVQYQDPAAVSFVTNFTIIYVKMGYPRLPVEK	114
Canis_lupus_familiaris	RKKVMELLVHLNKRIKSRPKIQLPVETLLVQYQDPAAVSFVTNFTIIYVKMGYPRLPVEK	114
Mus_musculus	RKKVMELLVHLNKRIKSRPKIQLPVETLLVQYQDPAAVSFVTNFTIIYVKMGYPRLPVEK	108
Heterocephalus_glaber	RKKVMELLVHLNKRIKSRPKIQLPVETLLVQYQDPAAVSFVTNFTIIYVKMGYPRLPVEK	116 108
Latimeria_chalumnae	RKKVMELLVHLNKRIKSRPKIQLPVETLLVQYQDPAAVSFVTNFTIIYIKMGFPRLPVNK	
Rhinatrema_bivittatum	RKKVMELLVHLNKRIKSRPKIQLPVETLLLQYQDPAAVSFVTNFTIIYIKMGYPRLTVEK RKKVMELLVHLNKRIKSRPKIQLPVETLLVQYQDPAAVSFVTNFTIIYIKMGYPRLPLEK	115 114
Xenopus_tropicalis	708090100110120	114
	**** :****** : * * : : *******::**	
Pavo muticus	QCELAPTLLTAMEGKPQPQQDSLMHLLIPTLFHMKYPAEPLKAAASPFNLAEKPKTVQLL	173
Pavo_cristatus	QCELAPTLLTAMEGKPQPQQDSLMHLLIPTLFHMKYPAEPLKAAASPFNLAEKPKTVQLL	173
Gallus_gallus	QCELAPTLLTAMEGKPQPQQDSLMHLLIPTLFHMKYPAEPLKAAASPFNLAEKPKTVQLL	173
Anas_platyrhynchos	QCELAPTLLTAMEGKPQPQQDSLMHLLIPTLFHMKYPAEPLKAAASPFNLAEKPKTVQLL	173
Chelonia_mydas	QCELAPTLLTAMEGKPQPQQDSLMHLLIPALFHMKYPVEPSKAAS-PFNLAEKPKTVQLL	172
Homo_sapiens	QCELAPTLLTAMEGKPQPQQDSLMHLLIPTLFHMKYPVESSKSAS-PFNLAEKPKTVQLL	167
Pan_troglodytes	QCELAPTLLTAMEGKPQPQQDSLMHLLIPTLFHMKYPVESSKSAS-PFNLAEKPKTVQLL	173
Macaca_mulatta	QCELAPTLLTAMEGKPQPQQDSLMHLLIPTLFHMKYPVESSKSAS-PFNLAEKPKTVQLL	173
Callithrix_jacchus	QCELAPTLLTAMEGKPQPQQDSLMHLLIPTLFHMKYPVESSKSAS-PFNLAEKPKTVQLL	179
Bos_taurus	QCELAPTLLTAMEGKPQPQQDSLMHLLIPTLFHMKYPVESSKSAS-PFNLAEKPKTVQLL	173
Equus_caballus	QCELAPTLLTAMEGKPQPQQDSLMHLLIPTLFHMKYPVESSKSAS-PFNLAEKPKTVQLL	173
Canis_lupus_familiaris		173
Mus_musculus	QCELAPTLLTAMEGKPQPQQDSLMHLLIPTLFHMKYPAESSKSAS-PFNLAEKPKTVQLL	167
Heterocephalus_glaber	QCELAPTLLTAMEGKPQPQQDSLMHLLIPTLFHMKYPVESSKSAS-PFNLAEKPKTVQLL	175
Latimeria_chalumnae	QCELAPTLLTAMEGKPQPQQDSLMHLLIPALYYPSKVTT-PFNLAEKPKTLQLL	161
Rhinatrema_bivittatum	QCELAPTLLTAMEGRPQPQQDSLMHLLIPALFHMKYPAEPTKATS-PFNLAEKPKTVQLL	174
Xenopus_tropicalis	QCELAQSLLTAMEGKPQPQQDSLIHLLIPTLYHMKYHTETSKSTS-LFNLAEKPKTVHLL	173
	130140150160170180	

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	:********************************	
Pavo_muticus	LDFMLDVLLMPYGYVLNESQSRQ-NMPSGQGSSSSTS-GGPGIPQPPPGMSFYAAKR	228
Pavo cristatus	LDFMLDVLLMPYGYVLNESQSRQ-NMPSGQGSSSSTT-GGPGIPQPPPGMSFYAAKR	228
Gallus gallus	LDFMLDVLLMPYGYVLNESOSRO-NMPSGOGSSSSTM-GGPGIPOPPPGMSFYAAKR	228
Anas platyrhynchos	LDFMLDVLLMPYGYVLNESQSRQ-NVPTAQGSSSSTV-GGPGIPQPPPGMSFYAAKR	228
Chelonia_mydas	I.DEMI.DVI.I.MPYGYVI.NESOSRO-NVPSAOGSSASSS-AGSSGIPOPPPGMSFYAAKR	228
Homo_sapiens	LDFMLDVLLMPYGYVLNESQSRQ-NVPSAQGSSASSS-AGSSGIPQPPPGMSFYAAKR LDFMLDVLLMPYGYVLNESQSRQ-NSSSAQGSSSNSG-GGSGIPQPPPGMSFYAAKR	222
Pan_troglodytes	LDFMLDVLLMPYGYVLNESQSRQ-NSSSAQGSSSNSG-GGSGIPQPPPGMSFYAAKR	228
	LDFMLDVLLMPYGYVLNESQSRQ-NSSSAQGSSSNSG-GGSGIPQPPPGMSFYAAKR	228
Macaca_mulatta	LDFMLDVLLMPIGIVLNESQSRQ-NSSSAQGSSNSG-GGSGIPQPPPGMSFIAAAR	234
Callithrix_jacchus	LDFMLDVLLMPYGYVLNESQSRQ-NSSSAQGSSSNSG-GVSGIPQPPPGMSFYAAKR	_
Bos_taurus	LDFMLDVLLMPYGYVLNESQSRQ-NSSSAQGSSSNSG-GGSGIPQPPPGMSFYAAKR	228
Equus_caballus	LDFMLDVLLMPYGYVLNESQSRQ-NSSSAQGSSSNSG-GGSGIPQPPPGMSFYAAKR	228
Canis_lupus_familiaris		228
Mus_musculus	LDFMLDVLLMPYGYVLNESQSRQNSSSSSQGSSSNSG-GGSGIPQPPPGMSFYAAKR	223
<pre>Heterocephalus_glaber</pre>	LDFMLDVLLMPYGYVLNESQSRQ-SSSSAQGSSSNSG-GSSGIPQPPPGMSFYAAKR	230
Latimeria_chalumnae	LDFMLDVLLMPYGFVLNEPONRP-NPPSPEGSTANGGSGGGVGVGIPOPPPGMSFYAAKR	220
Rhinatrema bivittatum	LDFMLDVLLMPYGFVLNEPPSRQSSSAQDSSASSSTGSTGIPQPPPGMSFYAAKR	229
Xenopus tropicalis	LDFFLDVLLMPYGFVLNEPQNRQ-STPSGQGSASPSGTSGVGIPQPPPGLSFYAAKR	229
	190200210220230240	
	..***********************************	
Dania muhilmum	VIGDSPWTPELLEQCKLGIVKFIEAEQVPELEAVVHLVVASSDTRHSVATAADLELKSKQ	200
Pavo_muticus		288
Pavo_cristatus	VIGDSPWTPELLEQCKLGIVKFIEAEQVPELEAVVHLVVASSDTRHSVATAADLELKSKQ	288
Gallus_gallus	VIGDSPWTPELLEQCKLGIVKFIEAEQVPELEAVVHLVVASSDTRHSVATAADLELKSKQ	288
Anas_platyrhynchos	VIGDSPWTPELLEQCKLGIVKFIEAEQVPELEAVVHLVVASSDTRHSVATAADLELKSKQ	288
Chelonia_mydas	VIGDSPWTPEQLEQCKLGIVKFIEAEQVPELEAVIHLVIASSDTRHSVATAADLELKSKQ	288
Homo_sapiens	VI <mark>GDNPWTPEQLEQCK</mark> LGIVKFIEAEQVPELEAVLHLVIASSDTRHSVATAADLELKSKQ	282
Pan_troglodytes	VI <mark>GDNPWTPEQLEQCK</mark> LGIVKFIEAEQVPELEAVLHLVIASSDTRHSVATAADLELKSKQ	288
Macaca mulatta	VIGDNPWTPEQLEQCKLGIVKFIEAEQVPELEAVLHLVIASSDTRHSVATAADLELKSKQ	288
Callithrix jacchus	VIGDNPWTPEQLEQCKLGIVKFIEAEQVPELEAVLHLVVASSDTRHSVATAADLELKSKQ	294
Bos taurus	VIGDNPWTPEQLEQCKLGIVKFIEAEQVPELEAVLHLVIASSDTRHSVATAADLELKSKQ	288
Equus_caballus	VIGDNPWTPEQLEQCKLGIVKFIEAEQVPELEAVLHLVIASSDTRHSVATAADLELKSKQ	288
Canis_lupus_familiaris		288
Mus_musculus	VIGDNPWTPEQLEQCKLGIVKFIEAEQVPELEAVLHLVIASSDTRHSVATAADLELKSKQ	283
Heterocephalus_glaber	VIGDNPWTPEQLEQCKLGIVKFIEAEQVPELEAVLHLVIASSDTRHSVATAADLELKSKQ	290
Latimeria_chalumnae	VIGETPWTPEQLEQCKLGIIKFIEAEQVPELETVIHLVVASSDTRHSVATSADLELKSKQ	280
Rhinatrema_bivittatum	VVGDSPWTAEQLEQCKLGIVKFLEAEQVPELEAVTHLVIASSDTRHSVATAADLELRSRQ	289
Xenopus_tropicalis	VV <mark>GDNP</mark> WTAEQLEQCKLGIVKFLEAEQVPELEVVIHLVIASSDTRHSVATAADLELKSKQ	289
	250260270280290300	
	*:***: *:.*::**************************	
Pavo_muticus	SLIDWNNPAIINKMYKVYLGDIPLKTKEGSVLKPEMKRESVSTRVKLKIVPHLLRSRQAA	348
Pavo cristatus	SLIDWNNPAIINKMYKVYLGDIPLKTKEGSVLKPEMKRESVSTRVKLKIVPHLLRSROAA	348
Gallus_gallus	SLIDWNNPAIINKMYKVYLGDIPLKTKEGSVLKPEMKRESVSTRVKLKIVPHLLRSROAA	348
Anas platyrhynchos	SLIDWNNPAIINKMYKVYLGDIPLKTKEGSVLKPEMKRESVSTRVKLKIVPHLLRSRQAA	348
Chelonia mydas	SLIDWNNPIIVNKMYKVYLGDIPLKTKEGVVLKPELKRDPVSTRVKLKIVPHLLRSRQAA	348
Homo sapiens	SLIDWNNPAIINKMYKVYLGDIPLKTKEGAVLKPELKRDPVSTRVKLKIVPHLLRSRQAA	342
Pan_troglodytes	SLIDWNNPAIINKMYKVYLGDIPLKTKEGAVLKPELKRDPVSTRVKLKIVPHLLRSRQAA	348
	SLIDWNNPAIINKMYKVYLGDIPLKTKEGAVLKPELKRDPVSTRVKLKIVPHLLRSRQAA	
Macaca_mulatta		348
Callithrix_jacchus	SLIDWNNPAIINKMYKVYLGDIPLKTKEGAVLKPELKRDPVSTRVKLKIVPHLLRSRQAA	354
Bos_taurus	SLIDWNNPAIINKMYKVYLGDIPLKTKEGAVLKPELKRDPVSTRVKLKIVPHLLRSRQAA	348
Equus_caballus	SLIDWNNPAIINKMYKVYLGDIPLKTKEGAVLKPELKRDPVSTRVKLKIVPHLLRSRQAA	348
Canis_lupus_familiaris	SLIDWNNPAIINKMYKVYLGDIPLKTKEGAVLKPELKRDPVSTRVKLKIVPHLLRSRQAA	348
Mus_musculus	SLIDWNNPAIINKMYKVYLGDIPLKTKEGAVLKPELKRDPVSTRVKLKIVPHLLRSRQAA	343
<pre>Heterocephalus_glaber</pre>	SLIDWNNPAIINKMYKVYLGDIPLKTKEGAVLKPELKRDPVSTRVKLKIVPHLLRSRQAA	350
Latimeria_chalumnae	SIIDWNNPAIINKMFKVYLGDIPLKTKEGTALKPELKREPVSTRVKMKIIPHLLRSRQAA	340
Rhinatrema bivittatum	SLIDWNNPVIVNKLYKVYLGDIPLKTKEGSTMKPELKRDPVSTRVKLKIVPHLLRSRQAA	349
Xenopus_tropicalis	SLIDWNDPTIISKMYKVYLGDIPLKTKEGSLLKPELKRDPVSTRVKLKIVPHLLRSRLAA	349
	310320330340350360	

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Pavo muticus	ETFPANIQVVYDGLFGANTNAKLRSLSLQFVHHICIICPESKIKPLGPMLLNGLTKLINE	408
Pavo_cristatus	ETFPANIQVVYDGLFGANTNAKLRSLSLQFVHHICIICPESKIKPLGPMLLNGLTKLINE	408
Gallus_gallus	ETFPANIQVVYDGLFGANTNAKLRSLSLQFVHHICIICPESKIKPLGPMLLNGLTKLINE	408
Anas_platyrhynchos	ETFPANIQVVYDGLFGANTNAKLRSLSLQFVHHICIICPESKIKPLGPMLLNGLTKLINE	408
Chelonia_mydas	ETFPANIQVVYDGLFGANTNTKLRTLSLQFVHHICISCPESKIKPLGPMLLNGLTKLINE	408
Homo_sapiens	ETFPANIQVVYDGLFGTNTNSKLRTLSLQFVHHICITCPEIKIKPLGPMLLNGLTKLINE	402
Pan_troglodytes	ETFPANIQVVYDGLFGTNTNSKLRTLSLQFVHHICITCPEIKIKPLGPMLLNGLTKLINE	408
Macaca_mulatta	ETFPANIQVVYDGLFGTNTNSKLRTLSLQFVHHICITCPEIKIKPLGPMLLNGLTKLINE	408
Callithrix_jacchus	ETFPANIQVVYDGLFGTNTNSKLRTLSLQFVHHICITCPEIKIKPLGPMLLNGLTKLINE	414
Bos_taurus	ETFPANIQVVYDGLFGTNTNSKLRTLSLQFVHHICVTCPEIKIKPLGPMLLNGLTKLINE	408
Equus_caballus	ETFPANIQVVYDGLFGTNTNSKLRTLSLQFVHHICITCPEIKIKPLGPMLLNGLTKLINE	408
Canis_lupus_familiaris	ETFPANIQVVYDGLFGTNTNSKLRTLSLQFVHHICITCPEIKIKPLGPMLLNGLTKLINE ETFPANIQVVYDGLFGTNTNSKLRTLSLQFVHHICLTCPEIKIKPLGPMLLNGLTKLINE	408 403
Mus_musculus Heterocephalus_glaber	EMFPANIQVVIDGLEGININSKLRTLSLOFVHHICITCPEIKIKPLGPMLLNGLTKLINE	410
Latimeria chalumnae	ETFPANIQVVYDGLFGANTNAKLKMLSMQFVHHICGTCSDTKIKPLGPMLLNGLIKLINE	400
Rhinatrema_bivittatum	ELFPSNIQVVYDGLFGGNTNAKLRMLALQFVHHICTVCPDSKIKPLGPMLLNGLTKLINE	409
Xenopus_tropicalis	ELFPANVQVVYDGLFGGNTNAKLRTLALQFVHHICSTCPDAKIKPLGPMLLNGLTKLINE	409
nonopub_oroprourib	370380390400410420	200
	*. *. *:::***.:***.***:**:**: *:.:.**:***	
Pavo_muticus	YKEDS-KLLSMAYSAVGKLSSRMPQLFTKDIALVQQFFEALCKEDADTRLAIQEALSMMV	467
Pavo_cristatus	YKEDS-KLLSMAYSAVGKLSSRMPQLFTKDIALVQQFFEALCKEDADTRLAIQEALSMMV	467
Gallus_gallus	YKEDS-KLLSMAYSAVGKLSSRMPQLFTKDIALVQQFFEALCKEDADTRLAIQEALSMMV	467
Anas_platyrhynchos	YKEDS-KLLSMAYSAVGKLSSRMPQLFTKDIALVQQFFEALCKEDADTRLAIQEALSMMV	467
Chelonia_mydas	YKEDP-KLLSMAYSAVGKLSSRMPQLFTKDIALVQQFFEALCKEEPDTRLAIQEALSMMV	467
Homo_sapiens	YKEDP-KLLSMAYSAVGKLSSRMPHLFTKDIALVQQLFEALCKEEPETRLAIQEALSMMV	461
Pan_troglodytes	YKEDP-KLLSMAYSAVGKLSSRMPHLFTKDIALVQQLFEALCKEEPETRLAIQEALSMMV	467
Macaca_mulatta Callithrix jacchus	YKEDP-KLLSMAYSAVGKLSSRMPHLFTKDIALVQQLFEALCKEEPETRLAIQEALSMMV YKEDP-KLLSMAYSAIGKLSSRMPHLFTKDIALVQQLFEALCKEEPETRLAIQEALSLMV	467 473
Bos_taurus	YKEDP-KLLSMAYSAVGKLSSRMPHLFTKDIALVQQLFEALCKEEPETRLAIQEALSMMV	467
Equus_caballus	YKEDP-KLLSMAYSAVGKLSSRMPHLFTKDIALVQQLFEALCKEEPETRLAIQEALSMMV	467
Canis lupus familiaris	YKEDP-KLLSMAYSAVGKLSSRMPHLFTKDIALVQQLFEALCKEEPETRLAIQEALSMMV	467
Mus musculus	YKEDP-KLLSMAYSAVGKLSSRMPHLFTKDIALVQQLFEALCKEEPETRLAIQEALSMMV	462
Heterocephalus_glaber	YKEDP-KLLSMAYSAVGKLSSRMPHLFTKDIALVQQLFEALCKEEPETRLAIQEALSMMV	469
Latimeria_chalumnae	YSGDPGPLLAMAYSGVGKLSSRMPQLFTKDIALVQQFFEAMCMEDPDTRLSIQEALSMMV	460
Rhinatrema_bivittatum	YKEDS-KLLSMAYSAVGKLSSRMPQLFTKDIALLQQFFEAMCKEDPDTRLSIQEALSMMV	468
Xenopus_tropicalis	YKEDP-KLMSLAYSAVGKLSGRMPQLFTKDLALVQQFFEAMRKEDTDVRLSIQEALSMMV	468
	430440450460470480	
P	*** *********.*** ***.*.*********.	F 2 7
Pavo_muticus Pavo cristatus	GAYSNLEGAQRTLMEALVASYLIKPEVQVRQVAVKFASTVFPPDHIPSRYLLLLAAGDPR GAYSNLEGAQRTLMEALVASYLIKPEVQVRQVAVKFASTVFPPDHIPSRYLLLLAAGDPR	527 527
Gallus_gallus	GAYSNLEGAQRTLMEALVASYLIKPEVQVRQVAVKFASTVFPPDHIPSRYLLLLAAGDPR GAYSNLEGAQRTLMEALVASYLIKPEVQVRQVAVKFASTVFPPDHIPSRYLLLLAAGDPR	527
Anas platyrhynchos	GAYSNLEGAQRTLMEALVASYLIKPEVQVRQVAVKFASTVFPPDHIPSRYLLLLAAGDPR	527
Chelonia_mydas	GAYSSLEGAQRTLMEALVASYLIKPEVQVRQVAVKFASTVFPSDHIPSRYLLLLAAGDPR	527
Homo sapiens	GAYSTLEGAQRTLMEALVASYLIKPEVQVRQVAVKFASTVFPSDHIPSRYLLLLAAGDPR	521
Pan_troglodytes	GAYSTLEGAQRTLMEALVASYLIKPEVQVRQVAVKFASTVFPSDHIPSRYLLLLAAGDPR	527
Macaca mulatta	GAYSTLEGAQRTLMEALVASYLIKPEVQVRQVAVKFASTVFPSDHIPSRYLLLLAAGDPR	527
Callithrix jacchus	GAYSTLEGAQRTLMEALVASYLIKPEVQVRQVAVKFASTVFPSDHIPSRYLLLLAAGDPR	533
Bos_taurus	GAYSTLEGAQRTLMEALVASYLIKPEVQVRQVAVKFASTVFPSDHIPSRYLLLLAAGDPR	527
Equus_caballus	GAYSTLEGAQRTLMEALVASYLIKPEVQVRQVAVKFASTVFPSDHIPSRYLLLLAAGDPR	527
Canis_lupus_familiaris	GAYSTLEGAQRTLMEALVASYLIKPEVQVRQVAVKFASTVFPSDHIPSRYLLLLAAGDPR	527
Mus_musculus	GAYSTLEGAQRTLMEALVASYLIKPEVQVRQVAVKFASTVFPSDHIPSRYLLLLAAGDPR	522
Heterocephalus_glaber	GAYSTLEGAQRTLMEALVASYLIKPEVQVRQVAVKFASTVFPSDHIPSRYLLLLAAGDPR	529
Latimeria_chalumnae	GAYSSLEGASLNLMEALVASYLEKPEAQARQVAVKFAGTVFSSDHVPSRYLLLLAAGDPR	520
Rhinatrema_bivittatum	GAYRHLEGAQLKLMEALVASYLGKPEVQVRQVAVKFVSTVFSPDHITSRYLLLLAAGDLR	528
Xenopus_tropicalis	GAYTNLEGAQLTLMEALVGSYLVKPEVQVRQVAVKFASNVFAPDHIPSRYLLLLSAGDPR 490500510520530540	528
	±50540	

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Pavo_muticus	EEVHGEAQRVLRTFPGKNEKESSGKQMPSFPEMVHYIQEKASHRMKTPAKYMTGTAALPF	587
Pavo_cristatus	EEVHGEAQRVLRTF <mark>PGKNEKESSGKQMP</mark> SF <mark>PEMVHYIQEKASHRMKTPAKYMTGTAALP</mark> F	587
Gallus_gallus	EEVHGEAQRVLRTFPGKNEKESSGKQMPSFPEMVHYIQEKASHRMKTPAKYMTGTAALPF	587
Anas_platyrhynchos	EEVHGEAQRVLRTFPGKNEKESSGKQMPSFPEMVHYIQDKASHRMKTPAKYMTGTAALPF	587
Chelonia_mydas	EEVHGEAQRVLRMFPGKNEKESAGKQMPSFPEMVHYIQDKASHRMKTPAKYMTGTAVLPF	587
Homo sapiens	EEVHGEAORVLRCLPGRNRKESTSEOMPSFPEMVYYIQEKASHRMKTPVKYMTGTTVLPF	581
Pan troglodytes	EEVHGEAQRVLRCLPGRNRKESTSEQMPSFPEMVYYIQEKASHRMKTPVKYMTGTTVLPF	587
Macaca_mulatta	EEVHGEAQRVLRCLPGRNRKESTSEQMPSFPEMVYYIQEKASHRMKTPVKYMTGTTVLPF	587
Callithrix_jacchus	EEVHGEAQRVLRCLPGRNRKESTSEQMPSFPEMVYYIQEKASHRMKTPVKYMTGTTVLPF	593
Bos taurus	EEVHGEAQRVLRCLPGRNRKDSASKQMPSFPEMVYYIQEKASHRMKTPAKYMTGTTVLPF	587
Equus caballus	EEVHGEAQRVLRCLPGRNRKESASKQMPSFPEMVYYIQEKASHRMKTPAKYMTGTTVLPF	587
Canis lupus familiaris	EEVHGEAQRVLRCLPGRNKKESASKQMPSFPEMVYYIQEKASHRMKTPAKYMTGTTVLPF	587
Mus musculus	EEVHGEAQRVLRCLPGRNKKESASKQMPSFPEMVYYIQEKASHRMKTPVKYMTGTTVLPF	582
		582 589
Heterocephalus_glaber	EEVHGEAQRVLRCL <mark>PGKNKNEGASKQMPSFPEMVYYIQEKASHRMKTP</mark> VKYMTGTTVLPF	
Latimeria_chalumnae	EEVHSEAQRILRAV <mark>PG</mark> HTEKESTSKRM <mark>P</mark> SF <mark>P</mark> DMVNYIQEKASQRIKTPAKYVTGNSTLPF	580
Rhinatrema_bivittatum	EEVHGEAQRALRAL <mark>PGNN</mark> EKESAARRLPAFPDMVQYVQEKASQRIKSPAKYVTGNAVLPF	588
Xenopus_tropicalis	EEVHGEAQRALRSYASSTDKEA <mark>PSP</mark> KL <mark>PSFP</mark> VMVSYVLEKASSRMKTPVKFVTATSELPF	588
	550560570580590600	
	*** : **::***:****** : * : : : * * :	
Pavo muticus	NPAMFGEIVLYLRMCLAHSAGVVPTSQSLADMQDHAPAIGRYIRNLMSGNHISFSSTSSS	647
Pavo_cristatus	NPAMFGEIVLYLRMCLAHSAGVVPTSQSLADMQDHAPAIGRYIRNLMSGNHISFSSTSSS	647
Gallus gallus	NPATFGEIVLYLRMCLAHSAGVVPTSQSLADMQDHAPAIGRYIRNLMSGNHISFSSTSSS	647
Anas platyrhynchos	NPATFGEIVLYLRMCLAHSAGVVPTSQSLADMQDHAPAIGRYIRNLMSGNHISFSSSSSS	647
	NPATFGEIVLYLRMCLAHSAGVVPASQSLADMQDHAPAIGRYIRNLLSGNFISSSSSSSS	647
Chelonia_mydas		638
Homo_sapiens	NPAAFGEIVLYLRMCLAHSAGVVPTSQSLADMQDHAPAIGRYIRTLMSSGQMAPSSS-	
Pan_troglodytes	NPAAFGEIVLYLRMCLAHSAGVVPTSQSLADMQDHAPAIGRYIRTLMSSGQTAPSSS-	644
Macaca_mulatta	NPAAFGEIVLYLRMCLAHSAGVVPTSQSLADMQDHAPAIGRYIRTLMSGGQTAPSSSS	645
Callithrix_jacchus	NPAAFGEIVLYLRMCLAHSAGVVPTSQSLADMQDHAPAIGRYIRTLMSGGQVAPSSSS	651
Bos_taurus	NPAAFGEIVLYLRMCLAHSAGVVPTSQSLADMQDHAPAIGHYIRTLMSGSQATPSSSS	645
Equus_caballus	NPAAFGEIVLYLRMCLAHSAGVVPTSQSLADMQDHAPAIGRYIRTLMSGGQATSSSSS	645
Canis_lupus_familiaris	NPAAFGEIVLYLRMCLAHSAGVVPTSQSLADMQDHAPAIGRYIRTLMSGSQVTSSSSS	645
Mus musculus	NPAAFGEIVLYLRMCLAHSAGVVPTSQSLADMQDHAPAIGRYIRALMSSSQATASSS-	639
Heterocephalus glaber	NPAAFGEIVLYLRMCLAHSAGVVPTSQSLADMQDHAPAIGRYIRTLMSSSQATASSSS	647
Latimeria_chalumnae	NPAAYGEIIMYLRLCLAHSAGVAPTSQSLADMQDHAPAIGRYIRNLMADSLISSSSSS	638
Rhinatrema bivittatum	NPAAFGEIVLYLRMCLAHSAGAVPTSQNLADMQDHAPAIGRYIRNLMSGSFISSS	643
Xenopus_tropicalis	NPAAFLEIMLYLRMCLAHSAGVTPTSQSIADMQDQAPVLGRYIRELMSTDLTVSDESS	646
Nellopus_cropicaris	610620630640650660	010
	** :* .*****: .**: *****: ***: ** : ** :*: .*:	
Daniel model mod	-KSAETNPVQIYIGLLQQLLAGVGGLPVMYCLLEVVSVYPEKLATRFVDKMDWIRSLMNT	50
Pavo_muticus		706
Pavo_cristatus	-KSAETNPVQIYIGLLQQLLAGVGGLPVMYCLLEVVSVYPEKLATRFVDKMDWIRSLMNT	706
Gallus_gallus	-KSAETNPVQIYIGLLQQLLAGVGGLPVMYCLLEVVSVYPEKLAARFVDKMDWIRSLMNT	706
Anas_platyrhynchos	-KSVETNPVQIYIGLLQQLLAGVGGLPVMYCLLEVVSVYPEKLATRFVDKMDWIKSLMNT	706
Chelonia_mydas	S <mark>KSGETNP</mark> VQIYIGLLQQLLS <mark>GVGGLP</mark> VMYCLLEVVSVYPEKLATRFADKIDWIKSLMNT	707
Homo sapiens	NKSGETNPVQIYIGLLQQLLAGVGGLPVMYCLLEAVSVYPEKLATKFVDKTEWIKSLMNN	698
Pan_troglodytes	NKSGETNPVQIYIGLLQQLLAGVGGLPVMYCLLEAVSVYPEKLATKFVDKTEWIKSLMNS	704
Macaca_mulatta	NKSGETNPVQIYIGLLQQLLAGVGGLPVMYCLLEAVSVYPEKLATKFVDKTEWIKSLMNS	705
Callithrix_jacchus	NKSGETNPVQIYIGLLQQLLAGVGGLPVMYCLLEAVSVYPEKLATKFVDKAEWIKSLMNS	711
Bos taurus	SKSGETNPVQIYIGLLQQLLAGVGGLPVMYCLLEAVSVYPEKLATKFVDKTEWIKSLMNS	705
Equus caballus	SKSGETNPVQIYIGLLQQLLAGVGGLPVMYCLLEAVSVYPEKLATKFVDKTEWIKSLMNS	705
Canis_lupus_familiaris	SKSGETNPVQITIGLLQQLLAGVGGLPVMYCLLEAVSVYPEKLAAKFVDKTEWIKSLMNS	705
Mus_musculus	NKSGETNPVQIYTGLLQQLLAGVGGLPVMYCLLEAVSVYPEKLATKFVDKTEWIKSLMSS	699
Heterocephalus_glaber	NKSGETNPVQIYIGLLQQLLAGVGGLPVMYCLLEAVSVYPEKLATKFVDKTEWIKSLMNS	707
Latimeria_chalumnae	SKSGEASPVQIYIDLLQQLLSAVGGLPVMYCLLEVVSVYPQKLAFRFADKIDWIKGLMNT	698
Rhinatrema_bivittatum	AKSGETNPVLIYVGLLQQLLSAVGGVPVMYCLLEAVSVYPQKLAARFVDKTDWLKGLLNT	703
Xenopus_tropicalis	NGNEGMNPVEMYISLLQQLLSAVGGLQVMYCLLEVISVYPQKLAASLKDKTDWIKGLMTA	706
	670680690700710720	

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Pavo muticus	NKEEMRELAALFYSVVLSTMSGNELRASVEQLIKMTKDNHSPEVQHGSLLALGFTIGRYL	766
Pavo cristatus	NKEEMRELAALFYSVVLSTMSGNELRASVEQLIKMTKDNHSPEVOHGSLLALGFTIGRYL	766
Gallus_gallus	NKEEMRELAALFYSVVLSTMSGNELRASVEQLIKMTKDNHSPEVOHGSLLALGFTVGRYL	766
Anas_platyrhynchos	NKEEMRELAALFYSVVLSTMSGNELRASVEQLIKMTKDNHSPEVQHGSLLALGFTVGRYL	766
Chelonia mydas	NKEEMRELAALLYSVVLSTMSGNELKSSVQQLIKTAKDNHNPEIQHGSLLALGFTVGRYL	767
Homo_sapiens	SKEEMRELAALFYSVVVSTVSGNELKSMIEQLIKTTKDNHSPEIQHGSLLALGFTVGRYL	758
Pan_troglodytes	SKEEMRELAALFYSVVVSTVSGNELKSMIEQLIKTTKDNHSPEIQHGSLLALGFTVGRYL	764
Macaca mulatta	SKEEMRELAALFYSVVVSTVSGNELKSMIEQLIKTTKDNHSPEIQHGSLLALGFTVGRYL	765
Callithrix jacchus	SKEEMRELAALFYSVVVSTVSGSELKSMIEQLIKTTKDNHSPEIQHGSLLALGFTVGRYL	771
Bos_taurus	SKEEMRELAALFYSVVVSTVSGNELKSMIEQLIKTTKDNHSPEIQHGSLLALGFTVGRYL	765
Equus_caballus	SKEEMRELAALFYSVVVSTVSGNELKSMIEQLIKTTKDNHSPEIQHGSLLALGFTVGRYL	765
Canis_lupus_familiaris		765
Mus musculus	SKEEMRELAALFYSVVVSTVSGIELKSMIEQLIKATKDNHSPEVQHGSLLALGFTVGRYL	759
Heterocephalus glaber	SKEEMRELAALFYSVVVSTVSGNELKSMIEQLIKTTKDNHSPEIQHGSLLALGFTIGRYL	767
Latimeria chalumnae	NKEEMRELAAQLYAVVVSTMSGEELKSAIQNLVKAMKDDKSPETQHGALLALGYMVGRYM	758
Rhinatrema bivittatum	SKEEMRELAAQLYAVVVSTMSGEEMKSAIQSLLKTTKENHNPETQHGSLLALGYIVGRYL	763
Xenopus_tropicalis	NKEEMRELAAQLYAVVVSTVSGSELKPKLENLIKIAKDNHNPEAQHGALLALGYLIGRYL	766
kenopus_cropicaris	730740750760770780	700
	/30/40/30/60/////////////////////	
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D		000
Pavo_muticus	AKGKIRAMELHDIEQPNTAVMPEQEKLIKSTTETIGSFLDSTSPFLVVAACTALGEIGRN	826
Pavo_cristatus	AKGKIRAMELHDIEQPNTAVMPEQEKLIKSTTETIGSFLDSTSPFLVVAACTALGEIGRN	826
Gallus_gallus	AKGKIRAMELHDIEQPNTAVMPEQEQLIKSTTETIGSFLDSTSPFLVVAACTALGEIGRN	826
Anas_platyrhynchos	AKRKVRAMELHDIEQPNTAVMPEQEELIKLTTETIGSFLDSTSPFLVVAACTALGEIGRN	826
Chelonia_mydas	AKRKTRMMEMHDIEEPNIVVMPEQDQLIKTTTETIGSFLDSTSPLLAVAACTALGEIGRN	827
Homo_sapiens	AKKKMRMSEQQDL-ERNADTLPDQEELIQSATETIGSFLDSTSPLLAIAACTALGEIGRN	817
Pan_troglodytes	AKKKMRMSEQQDL-ERNADTLPDQEELIQSATETIGSFLDSTSPLLAIAACTALGEIGRN	823
Macaca_mulatta	AKKKMRMAEQQDL-ERNADTLPDQEELIQSATETIGSFLDSTSPLLAIAACTALGEIGRN	824
Callithrix_jacchus	AKKKIRMAEQQERNADLLPDQEELIQSATETIGSFLDSTSPLLAIAACTALGEIGRN	828
Bos_taurus	AKKKMKMAEQPNV-ETHADFLPEQEELIQSATETIGSFLDSTSPLLAIAACTALGEIGRN	824
Equus_caballus	A <mark>KKKMK</mark> MAEQQDV-ETNADFL <mark>PEQEELIQSATETIG</mark> SFLDSTSPLLAIAACTALGEIGRN	824
Canis_lupus_familiaris	AKKKMRMAEQQDL-ETDADFLPEQEALIQNATETIGSFLDSTSPLLAIAACTALGEIGRN	824
Mus_musculus	AKKRVRMAEQHDL-ETDADLLPEQEEIIRSATETIGSFLDSTSPLLAIAACTALGEIGRN	818
Heterocephalus_glaber	AKKKMRMAEQQDL-ETNSDFLPEQEELIQSATETIGSFLDSTSPLLAIAACTALGEIGRN	826
Latimeria_chalumnae	AKKKKTVVNIEDLEQPNTITMPEDDQLIQSATETIGSFLDSTAPLLSIAACTALGEIGRS	818
Rhinatrema_bivittatum	AKKKNRTVVLHDLEQPNTAMKPEQEKLIQTSTETIGSFLDGSSALLAIAACTALGEIGRN	823
Xenopus_tropicalis	EKFHRNPVELHMRGPTSLFEHDKIIQDCAETIGLFLDNTSPQLAIAAITALGEIGRN	823
	790800810820830840	
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Pavo_muticus	GPLPIPSEGTGFTKLQLVESLLARIPSSKETNKMKERAIQTLGYFPVGDGDFPHQKLLLQ	886
Pavo_cristatus	GPLPIPSEGTGFTKLQLVESLLARIPSSKETNKMKERAIQTLGYFPVGDGDFPHQKLLLQ	886
Gallus_gallus	GPLPIPSEGTGFTKLQLVESLLARIPSSKETNKMKERAIQTLGYFPVGDGDFPHQKLLLQ	886
Anas_platyrhynchos	GPLPIPSEGTGFTKLQLVESLLARIPSSKETNKMKERAIQTLGYFPVGDEDFPHQKLLLQ	886
Chelonia_mydas	GPLPIPSEGTGFTKLHLVESLLTRIPSGKETNKMKERAIQTLGYFPVGDGDFPHQKLLLQ	887
Homo_sapiens	GPLPIPSEGSGFTKLHLVESLLSRIPSSKETNKMKERAIQTLGYFPVGDGDFPHQKLLLQ	877
Pan_troglodytes	GPLPIPSEGSGFTKLHLVESLLSRIPSSKETNKMKERAIQTLGYFPVGDGDFPHQKLLLQ	883
Macaca_mulatta	GPLPIPSEGSGFTKLHLVESLLSRIPSSKETNKMKERAIQTLGYFPVGDGDFPHQKLLLQ	884
Callithrix_jacchus	GPLPIPSEGSGFTKLHLVESLLNRIPSSKETNKMKERAIQTLGYFPVGDGDFPHQKLLLQ	888
Bos_taurus	GPLPVPSEGSGFTKLHLVESLLNRIPSSKETNKMKERAIQTLGYFPVGDGDFPHQKLLLQ	884
Equus_caballus	GPLPIPSEGSGFTKLHLVESLLNRIPSSKETNKMKERAIQTLGYFPVGDGDFPHQKLLLQ	884
Canis_lupus_familiaris		884
Mus_musculus	GPLPIPSEGSGFTKLHLVESLLNRIPSSKETNKMKERAIQTLGYFPVGDGVFPHQKLLLQ	878
<pre>Heterocephalus_glaber</pre>	GPLPIPREGPGFTKLHLVESLLNRIPSGKETNKMKERAIQTLGYFPVGDGDFPQQKLLLQ	886
Latimeria_chalumnae	GVLPIPNEGTGFTKLRLVEILLAKIPSGKETNKMKERVIQTLGYLPVGDGDFPHQKTLLQ	878
Rhinatrema_bivittatum	GPLPIPSDGTGFTKLHLVEHLLARIPSGKETNKMKERAIQTLGSFAVGDGDFPHQKILLQ	883
Xenopus_tropicalis	GSLPIPDEGPGFAKKTLVENLLARIPSGKETNKAKERAIRTLGYFPVGDGNFPYQKMLLE	883
	850860870880890900	

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Pavo muticus	GLMDSVEAKQIELQFTVGEAITSAAVGTSSVAARDAWTVTEEEYIPAPDLKVNDVVPWVL	946
Pavo_cristatus	GLMDSVEAKQIELQFTVGEAITSAAVGTSSVAARDAWTVTEEEYIPAPDLKVNDVVPWVL	946
Gallus_gallus	GLMDSVEAKQIELQFTVGEAITSAAVGTSSVAARDAWTVTEEEYIPASDLKVNDVVPWVL	946
Anas_platyrhynchos	GLMDSVEAKQIELQFTVGEAITSAAVGTSSVAARDAWTVTEEEYIPPPDLKVNDVVPWVL	946
Chelonia mydas	GLMDSVEAKQIELOFTVGEAITSAAIGTSSVAARDAWMVTEEEYTPPADVKVNDVVPWVL	947
Homo_sapiens	GLMDSVEAKQIELQFTIGEAITSAAIGTSSVAARDAWQMTEEEYTPPAGAKVNDVVPWVL	937
Pan troglodytes	GLMDSVEAKQIELQFTIGEAITSAAIGTSSVAARDAWQVTEEEYTPPAGAKVNDVVPWVL	943
Macaca mulatta	GLMDSVEAKQIELQFTIGEAITSAAIGTSSVAARDAWLVTEEEYTPPAGAKVNDVVPWVL	944
Callithrix_jacchus	GLMDSVEAKQIELQFTIGEAITSAAVGTSSVAARDAWLVTEEEYTPPAGAKVNDVVPWVL	948
Bos_taurus	GLMDSVEAKQIELQFTIGEAITSAATGTSSVAARDAWLVTEEEYTPPAGAKVNDVVPWVL	944
Equus_caballus	GLMDSVEAKQIELQFTIGEAITSAAIGTSSVAARDAWLVTEDEYTPPAGAKVNDVVPWVL	944
Canis_lupus_familiaris	GLMDSVEAKQIELQFTIGEAITSAAIGTSSVAARDAWLVTEEEYTPPAGAKVNDVVPWVL	944
Mus_musculus	GLMDSVEAKQIELQFTIGEAITSAAIGTNSVAARDAWLVTEEEYIPPAGAKVNDVVPWVL	938
Heterocephalus_glaber	GLMDSVEAKQVELQFTIGEAITSAAIGTSSVAARDAWLVTEEEYTPPAGAKVNDVVPWVL	946
Latimeria_chalumnae	GLMDSVEAKQIELQFTIGEAITSAAVGTSSVTAREAWTVAEEEYSTLKDVKVNDVVPWIL	938
Rhinatrema_bivittatum Xenopus_tropicalis	GLMDSVEAKQIELQFTVGEAITSAAIGTSSAAARDIWMVAEEEYSPPADIKVNDVVPWVL GLMESVEAKQIELQFTVGEAITNAAVGTKSSAARDIWVITEDEHLPP-HAKVNDVVSWVL	943 942
xellopus_cropicalis	910920930940950960	344
	910920930940930900	
	* :*:*::: :* :**: **: ** :: * :: **: **	
Pavo muticus	DLILNKHIISPNPHVRQAACIWLLSMVKKLSTHKAIKSHLKDIQSAFVSILSDSDELSQD	1006
Pavo cristatus	DLILNKHIISPNPHVRQAACIWLLSMVKKLSTHKAIKSHLKDIQSAFVSILSDSDELSQD	1006
Gallus_gallus	DLILNKHIISPNPHVRQAACIWLLSMVKKLSTHKAIKSHLKDIQSAFVSILSDSDELSQD	1006
Anas_platyrhynchos	DLILNKHIISPNPHVRQAACIWLLSMVKKLSTHKAIKSHLKDIQSAFVSILSDSDELSQD	1006
Chelonia_mydas	DLVLNKHIV <mark>SPNP</mark> HVRQAACIWLL <mark>S</mark> LVKKL <mark>STHKEIKSHLKE</mark> IQSAFVSVLSDNDELSQD	1007
Homo_sapiens	DVILNKHIISPNPHVRQAACIWLLSLVRKLSTHKEVKSHLKEIQSAFVSVLSENDELSQD	997
Pan_troglodytes	DVILNKHIISPNPHVRQAACIWLLSLVRKLSTHKEVKSHLKEIQSAFVSVLSENDELSQD	1003
Macaca_mulatta	DVILNKHIISPNPHVRQAACIWLLSLVRKLSTHKEVKSHLKEIQSAFVSVLSENDELSQD	1004
Callithrix_jacchus	DVILNKHIISPNPHVRQAACIWLLSLVRKLNTHKEVKSHLKEIQSAFVSVLSENDELSQD	1008
Bos_taurus	DVILNKHIISPNPHVRQAACIWLLSLVRKLSTHSEVKSHLKEIQSAFVSVLSENDELSQD DVILNKHIISPNPHVRQAACIWLLSLVRKLSNHDEVKSHLKEIQSAFVSVLSENDELSQD	1004 1004
Equus_caballus		1004
Canis_lupus_familiaris Mus musculus	DVILNKHIISPNPHVRQAACIWLLSLVRKLSTHREVKSHLKEIQSAFVSVLSENDELSQD	998
Heterocephalus glaber	DVILNKHIISPNPHVRQAACIWLLSLVRKLSTHKEVKSHLKEIQSAFVSVLSESDELGQD	1006
Latimeria chalumnae	DIILKKHIISPKPHVRQASCIWLLSLVKKLSHHKEIKSHLKDIQIAFTSVLSENDELSQD	998
Rhinatrema bivittatum	DVILNKQIVSPNPHIRQAACIWLLSLVKKLSTHKEIKSHLKEIQSAFVSILSENDELTQD	1003
Xenopus_tropicalis	DQILNKRVVSVNPHIRQAACIWLLSLVKKLSDHQEIRSKLKEIQSAFISVLSDNDELSQD	1002
	970980990100010101020	
_	**************************************	
Pavo_muticus	VASKGLGLIYELGSEQDQQELVTTLVDTLMTGKRAKHEMTGDTVVFQGG-LSKTPDGQGL	1065
Pavo_cristatus	VASKGLGLIYELGSEQDQQELVTTLVDTLMTGKRAKHEMTGDTVVFQGG-LSKTPDGQGL	1065
Gallus_gallus	VASKGLGLIYELGSEQDQQELVTTLVDTLMTGKRAKHEMTGETVVFQGG-LSKTPDGQGL	1065
Anas_platyrhynchos	VA <mark>SKGLG</mark> LIYELGSEQDQQELVTTLVDTLMTGKRAKHEMTGETVVFQGG-LSKTPDGQGL VASKGLGLVYELGSEQDQQELVTTLVDTLMTGKRVKHEVTGETVVFQGA-LGKTPDGQGL	1065 1066
Chelonia_mydas Homo sapiens	VASKGLGLVIELGSEQDQQELVIILVDILMIGARVKHEVIGETVVFQGA-LGKIPDGQGL VASKGLGLVYELGNEQDQQELVSTLVETLMIGKRVKHEVSGETVVFQGGALGKTPDGQGL	1057
Pan_troglodytes	VASKGLGLVYELGNEQDQQELVSTLVETLMTGKRVKHEVSGETVVFQGGALGKTPDGQGL	1063
Macaca mulatta	VASKGLGLVYELGNEQDQQELVSTLVETLMTGKRVKHEVSGETVVFQGGALGKTPDGQGL	1064
Callithrix_jacchus	VASKGLGLVYELGNEODOOELVSTLVETLMTGKRVKHEVSGETVVFOGGALGKTPDGOGL	1068
Bos taurus	VASKGLGLVYELGNEQDQQELVSTLVETLMTGKRAKHEVSGETVVFQGGSLGKTPDGQGL	1064
Equus_caballus	VASKGLGLVYELGNEQDQQELVSTLVETLMTGKRAKHEVSGETVVFQGGSLGKTPDGQGL	1064
Canis_lupus_familiaris	VA <mark>SKGLGLVYELGNEQDQQELVSTLVETLMTGKRAKHEVSGETVVFQGGSLGKTPDGQG</mark> L	1064
Mus_musculus	VASKGLGLVYELGNEQDQQELVSTLVETLMTGKRVKHEVSGETVVFQGGGLGKTPDGQGL	1058
Heterocephalus_glaber	VASKGLGLVYELGNEQDQQELVSTLVETLMTGKRAKHEVSGDTVVFQGGSLGKTPDGQGL	1066
Latimeria_chalumnae	VA <mark>SKGLGLVYELGSEQDQQELVSALVDTLMTGKRIKHSISGDTEVFQSGS</mark> LGTTPDGQGL	1058
Rhinatrema_bivittatum	VASKGLGLVYELGSEQDQQELVSTLVDTLMTGKRIKHEVSGETEVFQGSLLGKTPDGQGL	1063
Xenopus_tropicalis	VASKGLGLVYELGSDQDQQELVSILVDTLMTGKRAKHEVSSETEVFQGTSLGKTPDGQSL	1062
	103010401050106010701080	

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Pavo muticus	STYKELCSLASDLNOPDLVYKFMNLANHHAMWNSRKGAAFGFNVIAAKAGEQLAPFLPQL	1125
Pavo_cristatus	STYKELCSLASDLNOPDLVYKFMNLANHHAMWNSRKGAAFGFNVIAAKAGEQLAPFLPQL	1125
Gallus_gallus	STYKELCSLASDLNQPDLVYKFMNLANHHAMWNSRKGAAFGFNVIAAKAGEQLAPFLPQL	1125
Anas_platyrhynchos	STYKELCSLASDLNOPDLVYKFMNLANHHAMWNSRKGAAFGFNVIAAKAGEQLAPFLPQL	1125
Chelonia mydas	STYKELCSLASDLSQPDLVYKFMNLANHHAMWNSRKGAAFGFNVIATKAGEQLAPFLPQL	1126
Homo_sapiens	STYKELCSLASDLSQPDLVYKFMNLANHHAMWNSRKGAAFGFNVIATRAGEQLAPFLPQL	1117
Pan troglodytes	STYKELCSLASDLSQPDLVYKFMNLANHHAMWNSRKGAAFGFNVIATRAGEQLAPFLPQL	1123
Macaca mulatta	STYKELCSLASDLSOPDLVYKFMNLANHHAMWNSRKGAAFGFNVIATRAGEQLAPFLPQL	1124
Callithrix jacchus	STYKELCSLASDLSQPDLVYKFMNLANHHAMWNSRKGAAFGFNVIATRAGEQLAPFLPQL	1124
Bos taurus	STYKELCSLASDLSOPDLVYKFMNLANHHAMWNSRKGAAFGFNVIATRAGEOLAPFLPOL	1124
Equus_caballus	STYKELCSLASDLSQPDLVYKFMNLANHHAMWNSRKGAAFGFNVIATRAGEQLAPFLPQL	1124
Canis lupus familiaris	STYKELCSLASDLSQPDLVYKFMNLANHAMWNSRKGAAFGFNVIATRAGEQLAPFLPQL	1124
Mus musculus	STYKELCSLASDLSQPDLVYKFMNLANHAMWNSRKGAAFGFNVIATRAGEQLAPFLPQL	1118
Heterocephalus_glaber	STYKELCSLASDLSOPDLVYKFMNLANHHAMWNSRKGAAFGFNVIATRAGEQLAPFLPQL	1126
Latimeria_chalumnae	STYKELCALASELNOPDLIYKFMNLANHHAMWNSRKGAAFGFNVIAAKAGEQLAPFLPQL	1118
Rhinatrema bivittatum	STYKELCALASELNOPDLITKFMNLANHAMWNSRKGAAFGFNVIATKAGEQLAPFLPQL	1123
_	STYKELCALASDLSQPDLIYKFMNLANHHAMWTSRKGAAFGFNVIATKAGEQLAPFLPQL STYKELCALASDLSQPDLIYKFMNLANHHAMWTSRKGAAFGFNVIATKAGEQLAPFLPQL	1123
Xenopus_tropicalis		1122
	109011001110112011301140	
	:****** ****** ************************	
Pavo_muticus	L <mark>PR</mark> LYRYQFDPNLGIRQAMTSIWNALVTDKSMVDKYMKEILDDLISNLTSSLWRIRESSC	1185
Pavo_cristatus	LPRLYRYQFDPNLGIRQAMTSIWNALVTDKSMVDKYMKEILDDLISNLTSSLWRIRESSC	1185
Gallus gallus	LPRLYRYOFDPNLGIROAMTSIWNALVTDKSMVDKYMKEILDDLISNLTSSLWRIRESSC	1185
Anas_platyrhynchos	LPRLYRYQFDPNLGIRQAMTSIWNALVTDKSMVDKYMKEILEDLISNLTSSLWRIRESSC	1185
Chelonia mydas	VPRLYRYQFDPNMGIRQAMTSIWNALVTDKSAVDKYMKEILDDLINNLTSNMWRIRESSC	1186
Homo sapiens	VPRLYRYQFDPNLGIRQAMTSIWNALVTDKSMVDKYLKEILQDLVKNLTSNMWRVRESSC	1177
Pan troglodytes	VPRLYRYQFDPNLGIRQAMTSIWNALVTDKSMVDKYLKEILQDLVKNLTSNMWRVRESSC	1183
Macaca mulatta	VPRLYRYOFDPNLGIROAMTSIWNALVTDKSMVDKYLKEILODLVKNLTSNMWRVRESSC	1184
Callithrix jacchus	VPRLYRYQFDPNLGIRQAMTSIWNALVTDKSMVDKYLKEILQDLVKNLTSNMWRVRESSC	1188
Bos taurus	VPRLYRYOFDPNLGIROAMTSIWNALVTDKSMVDKYLKEILODLVKNLTSNMWRVRESSC	1184
Equus_caballus	VPRLYRYQFDPNLGIRQAMTSIWNALVTDKSTVDKYLKEILQDLVKNLTSNMWRVRESSC	1184
Canis_lupus_familiaris	VPRLYRYQFDPNLGIRQAMTSIWNALVTDKSTVDKYLKEILQDLVKNLTSNMWRVRESSC	1184
Mus musculus	VPRLYRYOFDPNLGIROAMTSIWNALVTDKSMVDKYLKEILODLIKNLTSNMWRVRESSC	1178
Heterocephalus glaber	VPRLYRYQFDPNLGIRQAMTSIWNALVTDKSTVDKYLKEILQDLIKNLTSSMWRVRESSC	1186
Latimeria chalumnae	VPRLYRYOFDPNSGIROAMTSIWNALVTDKAAVDTYLKEILOELLGNLTSNMWRVRESSC	1178
Rhinatrema bivittatum	LPRLYRYOFDPNIGIROAMTSIWNAMVKDKTVVDKYMAEILODLIINLTSNVWRIRESSC	1183
Xenopus_tropicalis	IPRLYRYQFDPNTGIRQAMTSIWNALVTNKNMVDKYLVEILQDLINNLTSNLWRVRESSC	1182
nonopub_oroprourib	115011601170118011901200	
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Pavo_muticus	LALNOLLRGRPLDDIIDKLPEIWEVLFRVQDDIKESVRKAAELALKTLSKVCVKMCDPSK	1245
Pavo_cristatus	LALNDLLRGRPLDDIIDKLPEIWEVLFRVQDDIKESVRKAAELALKTLSKVCVKMCDPSK	1245
Gallus_gallus	LALNDLLRGRPLDDIIDKLPEIWEVLFRVQDDIKESVRKAAELALKTLSKVCVKMCDPSK	1245
Anas_platyrhynchos	LALNDLLRGRPLDDIIDKLPEIWEILFRVQDDIKESVRKAAELALKTLSKVCVKMCDPSK	1245
Chelonia_mydas	LALNDLLRGRPLDDIIDKLPEIWETLFRVQDDIKESVRKAAELALKTLSKVCVKMCDPSK	1246
Homo_sapiens	LALNDLLRGRPLDDIIDKLPEIWETLFRVQDDIKESVRKAAELALKTLSKVCVKMCDPAK	1237
Pan_troglodytes	LALNDLLRGRPLDDIIDKLPEIWETLFRVQDDIKESVRKAAELALKTLSKVCVKMCDPAK	1243
Macaca_mulatta	LALNDLLRGRPLDDIIDKLPEIWETLFRVQDDIKESVRKAAELALKTLSKVCVKMCDPAK	1244
Callithrix_jacchus	LALNDLLRGRPLDDIIDKLPEIWETLFRVQDDIKESVRKAAELALKTLSKVCVKMCDPAK	1248
Bos_taurus	LALNOLLRGRPLDDIIDKLPEIWETLFRVQDDIKESVRKAAELALKTLSKVCVKMCDPAK	1244
Equus_caballus	LALNDLLRGRPLDDIIDKLPEIWETLFRVODDIKESVRKAAELALKTLSKVCVKMCDPAK	1244
Canis_lupus_familiaris		1244
Mus_musculus	LALNDLLRGRPLDDVIDKLPEMWETLFRVQDDIKESVRKAAELALKTLSKVCVKMCDPAK	1238
Heterocephalus_glaber	LALNDLLRGRPLDDIIDKLPEIWETLFRVQDDIKESVRKAAELALKTLSKVCVKMCDPTK	1246
Latimeria_chalumnae	LAVNDLIRGRQLDTILDKLPELLETLFRVRDDIKESVRKAADQALNTLSKVCVRLCDSSN	1238
Rhinatrema_bivittatum	LALNDLLRGRQLDDIIDKIPEIWETLFRVQDDIKESVRKAAELALKTLSKVCVRMCEPSK	1243
Xenopus_tropicalis	LALNDLLRGRQLDDVVDKLPEIWETLFRVQDDIKESVRKAAELALKTLSKVCIKMCEPCK	1242
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Pavo muticus	GAAGQKTIAVLLPCLLDKGIVSTVAEVRSLSINTLVKISKSAGSMLKPHAPKLIPALLEA	1305
Pavo cristatus	GAAGOKTIAVLLPCLLDKGIVSTVAEVRSLSINTLVKISKSAGSMLKPHAPKLIPALLEA	1305
Gallus gallus	GAAGOKTIAVLLPCLLDKGIISTVAEVRSLSINTLVKISKSAGSMLKPHAPKLIPALLEA	1305
Anas_platyrhynchos	GAAGQKTVAVLLPCLLDKGIVSTVAEVRSLSINTLVKISKSAGSMLKPHAPKLIPALLES	1305
Chelonia_mydas	GAAGQRTIAVLLPCLLDKGMMSTVTEVRALSINTLVKISKSAGVMLKPHAPKLIPALLES	1306
Homo_sapiens	GAAGQRTIAALLPCLLDKGMMSTVTEVRALSINTLVKISKSAGAMLKPHAPKLIPALLES	1297
Pan_troglodytes	GAAGQRTIAALLPCLLDKGMMSPVTEVRALSINTLVKISKSAGAMLKPHAPKLIPALLES	1303
Macaca_mulatta	GAAGORTIAALLPCLLDKGMMSPVTEVRALSINTLVKISKSAGAMLKPHAPKLIPALLES	1304
Callithrix_jacchus	GAAGORTIAALLPCLLDKGMMSPVTEVRALSINTLVKISKSAGAMLKPHAPKLIPALLES	1308
Bos taurus	GAAGORTIAVLLPCLLDKGMMSPVTEVRALSINTLVKISKSAGAMLKPHAPKLIPALLES	1304
Equus_caballus	GAAGORTIAVLLPCLLDKGMMSPVTEVRALSINTLVKISKSAGAMLKPHAPKLIPALLES	1304
Canis_lupus_familiaris	GAAGORTIAVLLPCLLDKGMMSPVTEVRALSINTLVKISKSAGAMLKPHAPKLIPALLES	1304
Mus musculus		1298
	GAAGQRTIAVLLPCLLDKGMMSPVTEVRALSINTLVKISKSAGAMLKPHAPKLIPALLES	
Heterocephalus_glaber	GAAGQRTIAVLLPCLLDKGMMSPVTEVRALSINTLVKISKSAGAMLKPHAPKLIPALLES	1306
Latimeria_chalumnae	GAAGQKTVSVLLPCLLDKGIMSTVTEVRALSINTLVKISKSAGAMLKPHAPKLIPALLES	1298
Rhinatrema_bivittatum	GASGQRTIAVLLPCLLDKGIMSTVTEVRALSINTLVKISKSAGAMLKPHAPKLIPALLES	1303
Xenopus_tropicalis	GASGORTIAVLLPCLLDKGMMSTVTEVRALSINTLVKISKSAGEMLKPHTSKLIPALLES	1302
	$\dots 1270 \dots 1280 \dots 1290 \dots 1300 \dots 1310 \dots 1320$	
	.*::**** **:*** .**.************.:*:***	
Pavo muticus	LSALEPOVLNYLSLCATDOEKTAMDSARLSAVKSSPMMETINMSLOYLDVSVLSELVPRL	1365
Pavo_cristatus	LSALEPQVLNYLSLCATDQEKTAMDSARLSAVKSSPMMETINMSLQYLDVSVLSELVPRL	1365
Gallus_gallus	LSALEPQVLNYLSLCATDQEKTAMDSARLSAVKSSPMMETINMSLQYLDVSVLGELVPRL	1365
Anas_platyrhynchos	L <mark>S</mark> VLEPQVLNYLSLCATDQEKTAMDSARLSAV <mark>KSSPMMETIN</mark> MSLQYLDVSILGELVPRL	1365
Chelonia_mydas	L <mark>S</mark> VLEPQVLNYLSLRATDQEKAAMDSARLSAAKSSPMMETINMCLQYLDVSVLGELVPRL	1366
Homo_sapiens	LSVLEPOVLNYLSLRATEOEKAAMDSARLSAAKSSPMMETINMCLOYLDVSVLGELVPRL	1357
Pan_troglodytes	LSVLEPQVLNYLSLRATEQEKAAMDSARLSAAKSSPMMETINMCLQYLDVSVLSELVPRL	1363
Macaca mulatta	LSVLEPOVLNYLSLRATEOEKAAMDSARLSAAKSSPMMETINMCLOYLDVSVLGELVPRL	1364
Callithrix jacchus	LSVLEPOVLNYLSLRATEOEKAAMDSARLSAAKSSPMMETINMCLOYLDVSVLGELVPRL	1368
Bos_taurus	LSVLEPOVLNYLSLRATDOEKAAMDSARLSAAKSSPMMETINMCLOYLDVSVLGELVPRL	1364
Equus_caballus	LSVLEPQVLNYLSLRATDQEKAAMDSARLSAAKSSPMMETINMCLQYLDVSVLGELVPRL	1364
Canis_lupus_familiaris	LSVLEPQVLNYLSLRATDQEKAAMDSARLSAAKSSPMMETINMCLQYLDVSVLGELVPRL	1364
Mus_musculus	LSVLEPQVLNYLSLRATEQEKDVMDSARLSAAKSSPMMETINMCLQYLDVSVLGELVPRL	1358
Heterocephalus_glaber	LSVLEPQVLNYLSLRATDQEKAAMDSARLSAAKSSPMMETINMCLQYLDVSVLGELVPRL	1366
Latimeria_chalumnae	L <mark>S</mark> VLEPQLLNYLSLRATEQEKATMDNARLSAAKSSPMMETINMCLQHLDVSVLGELVPRL	1358
Rhinatrema_bivittatum	L <mark>S</mark> VLEPQVFNYLSLRATEQEKAAMDNA <mark>R</mark> LSAAKSSPMMETINMCLQHLDVSVLGQLVPRL	1363
Xenopus_tropicalis	LSVLEPQVLNYLSLRATDQEKAAMDSARLSAAKSSPMMETINMCIQHLDVPVLGELVPRL	1362
	133013401350136013701380	
	*.******* ***** **.*** **.**********	
Pavo muticus	CELIKSGVGLGTKGGCASVIVSLTTQCPQDLTPYSGKLMSALLTGLTDRNSVIQKSFAFA	1425
<u> </u>		_
Pavo_cristatus	CELIKSGVGLGTKGGCASVIVSLTTQCPQDLTPYSGKLMSALLTGLTDRNSVIQKSFAFA	1425
Gallus_gallus	CELVKSGVGLGTKGGCASVIVSLTTQCPQDLTPYSGKLMSALLTGLTDRNSVIQKSFAFA	1425
Anas_platyrhynchos	CELIKSGVGLGTKGGCASVIVSLTTQCPQDLTPYSGKLMSALLSGLTDRNSVVQKSFAFA	1425
Chelonia_mydas	CELIRSGIGLGTKGGCASVIVSLTTQCPQDLTPYSGKLMSALLSGLTDRNSVVQKSFAFA	1426
Homo sapiens	CELIRSGVGLGTKGGCASVIVSLTTQCPQDLTPYSGKLMSALLSGLTDRNSVIQKSCAFA	1417
Pan troglodytes	CELIRSGVGLGTKGGCASVIVSLTTQCPQDLTPYSGKLMSALLSGLTDRNSVIQKSCAFA	1423
Macaca_mulatta	CELIRSGVGLGTKGGCASVIVSLTTQCPQDLTPYSGKLMSALLSGLTDRNSVIQKSCAFA	1424
Callithrix jacchus	CELIRSGVGLGTKGGCASVIVSLTTQCPQDLTPYSGKLMSALLSGLTDRNSVIQKSCAFA	1428
Bos taurus	CELIRSGVGLGTKGGCASVIVSLTTQCPQDLTPYSGKLMSALLSGLTDRNSVIQKSCAFA	1424
_	CELIRSGVGLGTKGGCASVIVSLTTQCPQDLTPYSGKLMSALLSGLTDRNSVIQKSCAFA	
Equus_caballus		1424
Canis_lupus_familiaris	CELIRSGVGLGTKGGCASVIVSLTTQCPQDLTPYSGKLMSALLSGLTDRNSVIQKSCAFA	1424
Mus_musculus	CELIRSGVGLGTKGGCASVIVSLTTQCPQDLTPYSGKLMSALLSGLTDRNSVIQKSCAFA	1418
Heterocephalus_glaber	CELIRSGVGLGTKGGCASVIVSLTTQCPQDLTPYSGKLMSALLSGLTDRNSVIQKSCAFA	1426
Latimeria_chalumnae	CELIKSGVGLGTKGACASVIVSLTTQCPRDLTPYAGKLMSAILTGITDRNTVLQKSFAVA	1418
Rhinatrema_bivittatum	CDLIKSALGLGTKGGCASVIVLLTSQCPQDLTPYSGKLMSALLTGLNDRNSVVQKSYAFA	1423
Xenopus_tropicalis	CELIRGGLGLGTKGGCASVIVSLTTQCPRDLMPYSGKLMSALLNGLNDRNSVVQKSYAFA	1422
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M<mark>GHLVRTSRDSSTEK</mark>LLH<mark>K</mark>LSSWYMEKEEPVYRTGCALTVHAMGRYSPDVVKNHAKOVLP
Pavo_muticus
                                                                                                                         1485
                                 MGHLVRTSRDSSTEKLLHKLSSWYMEKEEPVYRTGCALTVHAMGRYSPDVVKNHAKQVLP
                                                                                                                         1485
Pavo_cristatus
Gallus_gallus
                                 MGHLVRTSRDSSTEKLLHKLSSWYMEKEEPVYRTGCALTVHAMGRYSPDVVKNHAKQVLP
                                                                                                                         1485
Anas_platyrhynchos
                                 M<mark>GHLVRTSRDSSTEK</mark>LLH<mark>K</mark>LSSWYMEKEEPVYRTGCALTVHAMGRYSPDVVKNHAKQVLP
                                                                                                                         1485
Chelonia mydas
                                 MGHLVRTSRDSSTEKLLQKLNSWYMEKEEPIYRIGCALTVHAIGRYSPDVLKNHAKQVLP
                                                                                                                         1486
                                 MGHLVRTSRDSSTEKLLQKLNGWYMEKEEPIYKTSCALTIHAIGRYSPDVLKNHAKEVLP
Homo_sapiens
                                                                                                                         1477
Pan_troglodytes
                                 MGHLVRTSRDSSTEKLLQKLNGWYMEKEEPIYKTSCALTIHAIGRYSPDVLKNHAKEVLP
                                                                                                                         1483
                                 MGHLVRTSRDSSTEKLLQKLSGWYMEKEEPIYKTSCALTIHAIGRYSPDVLKNHAKEVLP
Macaca_mulatta
                                                                                                                         1484
Callithrix_jacchus
                                 MGHLVRTSRDSSTEKLLQKLNGWYMEKEEPIYKTSCALTIHAIGRYSPDVLKNHAKEVLP
                                                                                                                         1488
                                 MGHLVRTSRDSSTEKLLQKLNGWYMEKEEPIYKTSCALTIHAIGRYSPDVLKNHAKEVLP
                                                                                                                         1484
Bos_taurus
                                 M<mark>GHLVRTSRDSSTEK</mark>LL<mark>QKLNGWYMEKEEPIYKTSC</mark>ALTIHAIGRYSPDVLKNHAKEVLP
Equus_caballus
                                                                                                                         1484
Canis_lupus_familiaris MGHLVRTSRDSSTEKLLOKLNGWYMEKEEPVYKTSCALTVHAIGRYSPDVLKNHAKEVLP
                                                                                                                         1484
Mus musculus
                                 MGHLVRTSRDSSTEKLLQKLNGWYMEKDEPVYKTSCALTIHAIGRYSPDVLKNHAKEVLP
                                                                                                                         1478
                                 MGHLVRTSRDSSIEKLVQKLNGWYMEKEEPIYKTSCALTVHAIGRYSPEVLKNHAKEVLP
                                                                                                                         1486
Heterocephalus glaber
Latimeria_chalumnae
                                 M<mark>GHLVRAAKDNSTEK</mark>LF<mark>QKLN</mark>NWYLEKEEPIYRSACAQTVNAIGRYSADVLKNHAELALP
                                                                                                                         1478
                                 L<mark>GHLVRTARGSSTEKLLQKLN</mark>SWYMEKEDPVYRTA<mark>CALTVHAIGRYSPDVLKNHAEG</mark>VLP
Rhinatrema bivittatum
                                                                                                                         1483
Xenopus_tropicalis
                                 LGHLVRTARDSSTDKLLQKLSVWYMEKEEPTYRSACTLTVHAISRYSPDVLKNHADLVLP
                                                                                                                         1482
                                 \dots 1450 \dots 1460 \dots 1470 \dots 1480 \dots 1490 \dots 1500
                                                          : :* ******* .* ****: *** * ***** ***
                                 ****.***
                                 LAFLGMHEVPDEEKGEKDDSTLWAEVWQENVPGTQGG-IRLYMQELIAITQKALQSQSWK
LAFLGMHEVPDEEKGEKDDSTLWAEVWQENVPGTQGG-IRLYMQELIAITQKALQSQSWK
Pavo muticus
                                                                                                                         1544
                                                                                                                         1544
Pavo cristatus
                                 LAFLGMHEVPGEEKGEKDDSTLWAEVWQENVPGTQGG-IRLYMQELIAITQKALQSQSWK
Gallus gallus
                                                                                                                         1544
                                 LAFL<mark>GMHEVPDEEKGEKE</mark>DS<mark>N</mark>LWAEVWQENVPGTQGG-IRLYMQELIAITQKALQSQSWK
Anas_platyrhynchos
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                                 LAFL<mark>GMHEVPDEEKGEK</mark>DDSNLWTEVWQENVPGTYGG-IRLYMQELIAITQKALQSPSWK
LAFL<mark>GMHEIADEEKSEKEECN</mark>LWTEVWQENVPGSFGG-IRLYLQELITITQKALQSQSWK
Chelonia_mydas
                                                                                                                         1545
Homo_sapiens
                                                                                                                         1536
                                 LAFL<mark>G</mark>MHEIADEEKSEKEECNLWTEVWQENVPGSFGG-IRLYLQELITITQKALQSQSWK
Pan_troglodytes
                                                                                                                         1542
                                 LAFL<mark>G</mark>MHEIADEEKSEKEECNLWTEVWQENVPGSFGG-IRLYLQELITITQKALQSQSWK
Macaca_mulatta
                                                                                                                         1543
                                 LAFL<mark>GMHEIADEEKSEKEECNLWTEVWQENVPGSFGG-IRLYLQE</mark>LITITQKALQSQSWK
LAFL<mark>GMHEIADEEKAEKEECNLWTEVWQENVPGSFGG-IRLYLQE</mark>LITITQKALQSQSWK
Callithrix_jacchus
                                                                                                                         1547
                                                                                                                         1543
Bos_taurus
                                 LAFLGMHEIADEEKSE--ECNLWTEVWQENVPGSFGG-IRLYLQELITISQKALQSQSWK
Equus caballus
                                                                                                                         1541
Canis_lupus_familiaris LAFLGMHEIADEEKSEKEECDLWTEVWQENVPGSFGG-IRLYLQELIAITQKALQSQSWK
                                                                                                                         1543
                                LAFL<mark>GMHEIADEEKSEKEECNMWTEVWQENVPGSFGG-IRLYLQE</mark>LITI<mark>TOKALQSQSWK</mark>
LAFL<mark>GMHEIADEEKSEKEECNLWTEVWQENVPGSFGG-IRLYLPE</mark>LITIM<mark>OK</mark>ALQSQSWK
Mus musculus
                                                                                                                         1537
Heterocephalus_glaber
                                                                                                                         1545
Latimeria chalumnae
                                 LAFLGMHEVPDEEKGEADNSSLWKEVWQENVPGSFGG-IRLYMQELIAITQKALQSQSWK
                                                                                                                         1537
                                 LAFL<mark>GMHEVPDEEKGEKEEFN</mark>LWAEVW<mark>QENVPGSFGG-IRLYMQE</mark>LIAI<mark>TQK</mark>ALQSQSWK
Rhinatrema_bivittatum
                                                                                                                         1542
Xenopus tropicalis
                                 LAFLAMHEV<mark>SDEEIVEKEDSNLWKEVWQENVPGS</mark>IS<mark>GGIRLYMKE</mark>LIDI<mark>TQK</mark>ALQSP<mark>S</mark>WK
                                 \dots \dots 1510 \dots \dots 1520 \dots \dots 1530 \dots \dots 1540 \dots \dots 1550 \dots \dots 1560
                                 ***** **:*::**
                                                          ***** :: **::** **** ******
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Pavo_muticus
                                                                                                                         1603
                                 MKAQGAAAMASIAKQTG-SLVPPHLGTVLSALLQGLPGRTWIGKEELLKAITSVVSACNT
Pavo_cristatus
                                                                                                                         1603
                                 M<mark>KAQG</mark>AAAMASIAKQTG-SLV<mark>PPHLG</mark>IVLSALLQGL<mark>PGRT</mark>WI<mark>GKEE</mark>LLKAITSVVSACNA
                                                                                                                         1603
Gallus_gallus
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MKAQGAAAMASIAKQTG-SLVPPHLGIVLSALLQGLPGRTWTGKEELLKAIASVVSACSA
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MKAQGAIAMASIAKQTS-SLVPPYLGMILTALLQGLAGRTWAGKEELLKAIACVVTACSA
Anas platyrhynchos
                                                                                                                         1603
                                                                                                                         1604
Chelonia_mydas
Homo sapiens
                                                                                                                         1595
Pan_troglodytes
                                                                                                                         1601
Macaca mulatta
                                                                                                                         1602
Callithrix_jacchus
                                                                                                                         1606
                                                                                                                         1602
Bos taurus
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Equus_caballus
                                                                                                                         1600
                                                                                                                         1602
Canis_lupus_familiaris
Mus_musculus
                                                                                                                         1596
                                                                                                                         1604
Heterocephalus_glaber
                                                                                                                         1597
Latimeria_chalumnae
                                 MKA<mark>QGAAAMASIAKQQTGS</mark>LV<mark>PPHLGMVLSALLEGLPGRTWTGKEELLK</mark>AIATVVSA<mark>CS</mark>E
Rhinatrema_bivittatum
                                                                                                                         1602
                                 MKAQGAAAMTSIAKQQTGSLV<mark>PPHLG</mark>MVLSALLQGLPGRTWAGKEELLKAIGTVVSECSN
                                                                                                                         1602
Xenopus_tropicalis
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 $\dots \dots 1570 \dots 1580 \dots 1590 \dots 1600 \dots 1610 \dots 1620$

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:*. .:..**: ::: ***** :** :*: * : ::: *:*****::::*::
                          ELOKSVPGOPSVSDVIOAVLKECRKENLKYKMVALRCMAAVLOATKEDRFOELADIIFPM
Pavo_muticus
                                                                                                1663
Pavo_cristatus
                          EL<mark>QKSVPGQPS</mark>VSDVIQAVLKECRKENLKYKMVALRCMAAVLQA<mark>TKEDRFQ</mark>ELADIIF<mark>P</mark>M
                                                                                                1663
Gallus_gallus
                          ELQKSVPGQPSVSDVVQAVLKECRKENLKYKMVALRCMAAVLQATKEDRFQELADIIFPM
                                                                                                1663
Anas_platyrhynchos
                          ELREAVPGQPSVGDVVQAVLKECRKENPRYKVVALRCAAGVLQATREDRFQELADIVFPM
                                                                                                1663
Chelonia mydas
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                                                                                                1664
                          ELEKSV<mark>PNQPSTNE</mark>ILQAVL<mark>KECSKENVKYK</mark>IVAI<mark>SC</mark>AADILKA<mark>TKEDR</mark>FQEFSNIVI<mark>P</mark>L
                                                                                                1655
Homo_sapiens
Pan_troglodytes
                          ELEKSVPSQPSTNEILQAVLKECSKENLKYKIVAI<mark>S</mark>CAADILKA<mark>TKEDR</mark>FQEFSDIVI<mark>P</mark>L
                                                                                                1661
                          ELEKSVPNQPSTNEILQAVLKECSKENLKYKIVAISCAADVLKATKEDRFQEFSDIVIPL
Macaca_mulatta
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Callithrix_jacchus
                          <u>ELEKSVPSQPSTNEILQAVLKECSKENLKYKIVAISCAADVLKATKEDRFQEFSDIVIPL</u>
                                                                                                1666
                          ELEKPVPGQPSTNEILQAVLKECGRENPKYKMVAISCAGDVLKATKEDRFQEFADIVIPL
Bos_taurus
                                                                                                1662
Equus_caballus
                          ELEKPVPSQPSTNEILQAVLKECGRENLKYKIVAISCAGDVLKATKEDRFQEFSDIVIPL
                                                                                                1660
                         ELEKPVPNQPSTNEILQAVLKECCKENLKYKIVAISCAADVLKATKEDRFQEFSDIVIPL
Canis_lupus_familiaris
                                                                                                1662
                          ELEKSVPNQPTTNEILQAVLKECCKENLKYKIVAISCAADVLKATKEDRFQEFSDIVIPL
Mus musculus
                                                                                                1656
                          ELEKSVPNQPSTNEILQAVLKECCRENLKYKIVAISCAADVLKATKEDRFQEFSNIVIPL
                                                                                                1664
Heterocephalus glaber
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Latimeria_chalumnae
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Rhinatrema bivittatum
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                                                                                                1662
Xenopus_tropicalis
                          QLQKSVPDQPSVDDIVQAVLKECRKENVRYKISALKCAADVLQSTKEDRFQDLTDILFPL
                                                                                                1662
                          \dots 1630 \dots 1640 \dots 1650 \dots 1660 \dots 1670 \dots 1680
                                                :*: : :*:* * *: ** :**: ***. :**
Pavo_muticus
                          IKKNSVENVGANLPKL-NEEDEDAREREVOMESLLCAFETLGKAWPRSPETORCYROEFC
                                                                                                1722
                          IKKNSVENVGANLPKL-NEEDEDAREREVOMESLLCAFETLGKAWPRSPETORCYROEFC
                                                                                                1722
Pavo cristatus
                          IKKNTVENAGASLPKL-DEEDEDAREREVOMESLLCAFETLGKAWPRSPETORCFROEFC
Gallus gallus
                                                                                                1722
Anas_platyrhynchos
                          IKKNSLESTGAGLPKH-DEEDEDMREKEVQMESLICAFETLGKAWPRSPETQRCYRQEFC
                                                                                                1722
                          IKKNSHESVGAGSPKN-DD-DENEKEKELOMESLLCAFESLGKAWPRNLETORCYWOELC
IKKNSLESSGVRTT---KNEEENEKEKELOLEYLLGAFESLGKAWPRNAETORCYROELC
Chelonia_mydas
                                                                                                1722
Homo_sapiens
                                                                                                1712
                          IKKNSLESSGVRTT---KNEEENEKEKELQLEYLLGAFESLGKAWPRNAETQRCYRQELC
Pan_troglodytes
                                                                                                1718
                          IKKNSLESSGVQTT---KNEDENEKEKELQLEYLLGAFESLGKAWPRNAETQRCYRQELC
Macaca_mulatta
                                                                                                1719
                          IKKNSLESSGVRTT---KNEDENEKEKELQLEYLLGAFESLGKAWPRNAETQRCYCQELC
IKKNSPESIGVRTT---KNEDENEKEKELQLESLLGAFESLGKAWPRSVETQRCYRQELC
Callithrix_jacchus
                                                                                                1723
                                                                                                1719
Bos_taurus
                          IKKNSPESTGVRTT---KNEDENEKEKELQLESLLGAFESLGKAWPRNAETORCYRQELC
Equus caballus
                                                                                                1717
Canis lupus familiaris IKKNSPESTGVRTT---KNEDENEKEKELQLECLLGAFESLGKAWPRNVETQRCYRRELC
                                                                                                1719
                          IKKNSLESMGVRTT---KAEDENEKERELQLESLLGAFESLGKAWPRNPDTQRCYRQELC
IKKNSLESMGVRSP---KTEDENEKEQELQLESLLGAFESLGKAWPRSEETQRCYRQELC
Mus musculus
                                                                                                1713
                                                                                                1721
Heterocephalus_glaber
                          IKKNSPQNVKGRLSKQEEEEDENEKERELQMECLLCAFETLGKAWPRSLDTQGRFQLELC
Latimeria chalumnae
                                                                                                1717
                          IKKSSPONTGARSPKD-DEEDENEKGKELQVESLLCAFESLGKIWPRNPETQRCYRLEVC
IQKTSLGTVGARSPKODDDEDENVKAKELQTECLICAFLTLGRAWPRNPDTQRCYRFEVC
Rhinatrema_bivittatum
                                                                                                1721
Xenopus tropicalis
                            \dots 1690 \dots 1700 \dots 1710 \dots 1720 \dots 1730 \dots 1740
                          .**..**.***.** .***.** .**.** ... .. ** .** *.* .....***.
                          RLMCDRLKLSTWKVQLGVLQAMNAYFQRLVLFEKEHADAEALTEILLETCSSITHSLENK
Pavo_muticus
                                                                                                1782
                          RLMCDRLKLSTWKVQLGVLQAMNAYFQRLVLFEKEHADAEALTEILLETCSSITHSLENK
                                                                                                1782
Pavo_cristatus
                          KLMCDRLKLSTWKVQLGVLQAMNTYFERLVLFEEEHADPEALTEILLETCSSITHSLENK
                                                                                                1782
Gallus_gallus
Anas platyrhynchos
                          KLMCDRLKLSTWKVQLGVLQAMNAYFQGLVLFEEEHSDPGALREILLETCSSITHSLENK
                                                                                                1782
                          KLM<mark>CER</mark>LKLSTWKVQLGVLQAMNAYFQGLMLFEEAHSDPGALTEILLETCSSITHSLENR
                                                                                                1782
Chelonia_mydas
                          KLMCERLKLSTWKVQLGVLQSMNAFFQGLMLLEEEHADPEALAEILLETCKSITYSLENK
Homo sapiens
                                                                                                1772
Pan_troglodytes
                          KLMCERLKLSTWKVQLGVLQSMNAFFQGLMLLEEEHADPEALAEILLETCKSITYSLENK
                                                                                                1778
                          KLMCERLKLSTWKVQLGVLQSMNAFFQGLMLLEEEYADPEALAEILLETCKSITYSLENK
Macaca mulatta
                                                                                                1779
                          KLMCERLKLSTWKVQLGVLQSMNAFFQGLMLLEEEHADPEALAEILLETCKSITYSLENK
Callithrix_jacchus
                                                                                                1783
                          KLMCERLKLSTWKVQLGVLQAMNAFFQGLMLLEEEHADPEALAEILLETCKSITYSLENK
                                                                                                1779
Bos taurus
                          KLMCERLKLSTWKVQLGVLQSMNAFFQGLMLLEEEHADAEALAEILLETCKSITYSLENK
Equus_caballus
                                                                                                1777
                          KLMCERLKLSTWQVQLGVLQSMNAFFQGLMLLEEEHADPEALAEILLETCKSITYSLENK
                                                                                                1779
Canis_lupus_familiaris
                          KLMCERLRLSTWKVQLGVLQSMNAFFQGLMLLEEEHADPEALAEILLETCKSITYSLENK
                                                                                                1773
Mus_musculus
                          KLMCERLKLSTWKVQLGVLQSMNAFFQGLMLLEEEHADPEALAEILLETCKSITYSLENK
                                                                                                1781
Heterocephalus_glaber
                          QLMCERLKLSTWRVQLGVLQSMNAYFQGLMLLEKENTNVTALTEILTETCSAITFPLENK
Latimeria_chalumnae
                                                                                                1777
                          klmserlklstwkvolgvlosmnayfoglmllekefsdpsalæilleacpaithslenk
Rhinatrema_bivittatum
                                                                                                1781
```

KLMCERLKLSTWKVQHAVLQSMNAYFQGLLLLEKEYSDSAALMNILTETCPALAHSLENK

 $\dots \dots 1750 \dots 1760 \dots 1770 \dots 1780 \dots 1790 \dots 1800$

1782

Xenopus_tropicalis

File: /media/morpheus/disk1/fst/pep_msa/KIAPAR68Ipse Feb $\,1\,12{:}31{:}18\,2022$ Page 11 of 11

	:	^	:	^ :	•	• •	^	. :	^	^
Pavo_muticus	S	Y	T	S٦	<i>7</i> E	RI	Έ	AL	S	V
Pavo_cristatus	s	Y	T	S٦	7 E	21	Ε	ΑL	S	V
Gallus_gallus	s	Y	T	S٦	7 E	21	Έ	ΑL	S	V
Anas_platyrhynchos	s	Y	T	S:	CE	21	Ε	ΑL	S	V
Chelonia_mydas	s	Y	T	S	E	21	Έ	ΑL	S	V
Homo_sapiens	Т	Y	S	S٦	7 E	Z I	Έ	ΑL	S	V
Pan_troglodytes	Т	Y	S	S٦	7 E	RI	Ε	AL	S	V
Macaca_mulatta	Т	Y	S	S٦	7 E	21	Έ	AL	S	V
Callithrix_jacchus	Т	Y	S	Sī	7 E	21	Έ	AL	S	V
Bos_taurus	Т	Y	S	S٦	7 E	21	Έ	AL	S	V
Equus_caballus	Т	Y	S	Sī	7 E	21	Έ	AL	S	V
Canis_lupus_familiaris	Т	Y	S	S٦	7 E	21	Έ	AL	S	V
Mus_musculus	Т	Y	S	Sī	7 E	21	Έ	ΑL	S	V
Heterocephalus_glaber	_			- 1		8-		\mathbf{AL}	_	100
Latimeria_chalumnae								GL		
Rhinatrema_bivittatum				- 1	1	87		ΑL		ı
Xenopus_tropicalis	S	Y	S	Sī	<i>7</i> I	_		ΑV		V
						- 1	0	1 0		

:*:*:***::	**:::*:	:*.::.**	.* * *	* **	* *.****:	*:
SYTSVRTEALS	VI <mark>Q</mark> LLLT	RLQESKQWE	<mark>S</mark> LK <mark>PE</mark> SRE	HLIH <mark>S</mark> LS	MA <mark>SDSRPELQEK</mark> AF	TILK 1842
SYTSVRTEALS	VI <mark>Q</mark> LLLT	RLQESKQWE	SLK <mark>PE</mark> SRE	HLIH <mark>S</mark> LS <mark>1</mark>	MA <mark>SDSRPELQEK</mark> AF	TILK 1842
SYTSVRTEALS	VI <mark>Q</mark> LLLT	RLQESKQWE	SLK <mark>PE</mark> SRE	HLIH <mark>S</mark> LS <mark>1</mark>	MA <mark>SDSRPELQEK</mark> AF	TILK 1842
SYTSIRTEALS	VI <mark>Q</mark> LLFT	KLEEAKQWE	SL <mark>T</mark> AESRE	HLIH <mark>s</mark> LS <mark>1</mark>	MA <mark>SDSRPELQEK</mark> AF	F <mark>ILK</mark> 1842
SYTSIRTEALS	VIELLLT	RLK <mark>ESKQ</mark> WI	SLPLESRE	LLI <mark>GS</mark> LT <mark>1</mark>	MVL <mark>dsrpelqek</mark> as	FLK 1842
TYSS <mark>VRTE</mark> ALS	VIELLLK	KLEESKQWE	C <mark>LT</mark> SECRV	LLI <mark>ES</mark> LA <mark>1</mark>	MEPDSRPELQEKA <i>A</i>	LLK 1832
TYSSVRTEALS	VI <mark>E</mark> LLLK	KLEESKQWE	C <mark>LT</mark> SECRV	LLI <mark>ES</mark> LA <mark>1</mark>	ME <mark>PDSRPELQEK</mark> AA	LLK 1838
TYSSVRTEALS	VI <mark>E</mark> LLLK	KLEESKQWE	C <mark>LT</mark> SECRV	LLI <mark>ES</mark> LA <mark>1</mark>	ME <mark>PDSRPELQEK</mark> AA	LLK 1839
TYSSVRTEALS	VI <mark>E</mark> LLLK	KLEESKQWE	C <mark>LT</mark> SECRV	LLI <mark>ES</mark> LA <mark>1</mark>	ME <mark>PDSRPELQEK</mark> AA	LLK 1843
TYSSVRTEALS	VI <mark>E</mark> LLLK	KLEE <mark>SKQW</mark> A	A <mark>SLTPE</mark> CRV	VLI <mark>ES</mark> L <mark>G</mark> A	M <mark>etdsrpelqek</mark> as	ELLK 1839
TYSSVRTEALS	VI <mark>E</mark> LLLK	KLEESKQWE	<mark>sl</mark> tsecrv	LLI <mark>ES</mark> LA <mark>1</mark>	M <mark>etdsrpelqek</mark> as	S <mark>LLK</mark> 1837
TYSSVRTEALS	VI <mark>E</mark> LLLK	KLEESKQWE	<mark>SLT</mark> SECRV	LLI <mark>ES</mark> LA <mark>1</mark>	M <mark>etdsrpelqek</mark> as	ELLK 1839
TYSSVRTEALS	VV <mark>E</mark> LLL <mark>K</mark>	KLEEAKQWE	<mark>SLT</mark> AECRO	LLI <mark>ES</mark> LA <mark>1</mark>	METDNRPELQEKAS	VLK 1833
					M <mark>ETDSRPELQEK</mark> AS	
SYSSVRTEGLS	VV <mark>E</mark> LLL <mark>K</mark>	KL <mark>EES</mark> SQWO	<mark>SLT</mark> VESRN	IQLIS <mark>S</mark> L <mark>G</mark>]	MESDSRPELREKAS	
					M <mark>esdsrpe</mark> lreras	
SYSSV <mark>RTE</mark> AVS	VL <mark>E</mark> LLL <mark>R</mark>	KLEDS EQWI	R <mark>SLT</mark> IENRS	TLLA <mark>s</mark> LS]	MEQD <mark>TRPE</mark> LREKGA	LLK 1842
1810 .	18	20	830	.1840	18501	860

	" : .	
Pavo_muticus	KTLENLN	1849
Pavo_cristatus	KTLENLN	1849
Gallus_gallus	KTLENLN	1849
Anas_platyrhynchos	KTLENLN	1849
Chelonia_mydas	KTLENLD	1849
Homo_sapiens	K <mark>T</mark> LENLE	1839
Pan_troglodytes	K <mark>T</mark> LENLE	1845
Macaca_mulatta	K <mark>T</mark> LENLE	1846
Callithrix_jacchus	K <mark>T</mark> LENLE	1850
Bos_taurus	K <mark>TLE</mark> SLQ	1846
Equus_caballus	KTLENLE	1844
<pre>Canis_lupus_familiaris</pre>	K <mark>T</mark> LENLE	1846
Mus_musculus	KTLESLE	1840
<pre>Heterocephalus_glaber</pre>	KTLENL-	1847
Latimeria_chalumnae	KQLAT <mark>P</mark> S	1844
Rhinatrema_bivittatum	KKFENLC	1848
Xenopus_tropicalis	KKLEN	1847

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