

File: /media/morpheus/disk1/fst/pep_msa/LTKD.fasta Date: Tue Feb 1 13:57:27 2022
Page 1 of 7

Species	Sequence	Position
Pavo_muticus	AVPLLQRF ¹ TV ² EI ³ RY ⁴ VD ⁵ TNRNIVIS ⁶ SLKVG ⁷ HEEDAG ⁸ VK ⁹ WKS ¹⁰ MMAQ ¹¹ IGRI ¹² EAFKIT ¹³ LLYS ¹⁴ NC	220
Pavo_cristatus	AVPLLQRF ¹ TV ² EI ³ RY ⁴ VD ⁵ TNRNIVIS ⁶ SLKVG ⁷ HEEDAG ⁸ VK ⁹ WKS ¹⁰ MMAQ ¹¹ IGRI ¹² EAFKIT ¹³ LLYS ¹⁴ NC	220
Gallus_gallus	AVPLLQRF ¹ TV ² EI ³ RY ⁴ VD ⁵ TNRNIIIS ⁶ SLKVG ⁷ HEEDAG ⁸ VK ⁹ WKS ¹⁰ MMAQ ¹¹ IGRI ¹² ERP ¹³ FKIT ¹⁴ LLYS ¹⁵ NC	239
Chelonia_mydas	TAPALQGF ¹ TV ² EI ³ RH ⁴ VE ⁵ TNRNIIIS ⁶ PLRAG ⁷ Q ⁸ EN ⁹ WVK ¹⁰ WVL ¹¹ MAQ ¹² IGEVER ¹³ PF ¹⁴ ETIS ¹⁵ LLYS ¹⁶ TC	236
Xenopus_tropicalis	DA----IMTAMVHN ¹ IKAN ² SSLPL ³ SLKE ⁴ KT--V ⁵ NKRS ⁶ NWK ⁷ MLS ⁸ AEIAG ⁹ VNE ¹⁰ PF ¹¹ QIS ¹² LDY ¹³ IHC	201
Mus_musculus	-----	
Rattus_norvegicus	-----	
Homo_sapiens	-----	
Pan_troglodytes	-----	
Callithrix_jacchus	-----	
Macaca_mulatta	-----	
Equus_caballus	-----	
Canis_lupus_familiaris	-----	
190.....200.....210.....220.....230.....240	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/LTK Date: Tue Feb 1 13:57:27 2022

Page 2 of 7

Pavo_muticus	GAQEAGLLAVGSLQLRNCFHDKENPDLSIYNKGSSFPCLHGGCVSHLQICEFITDCPTK-	279
Pavo_cristatus	GAQEAGLLAVGSLQLRNCFHDKENPDLSIYNKGSSFPCLHGGCVSHLQICEFITDCPTK-	279
Gallus_gallus	GAQEAGLLAVGSLQLRNCFHDKENPDLSIYNKGSSFPCLHGGCVSHLQICEFISDCPTK-	298
Chelonia_mydas	GAQGAGLLALGSLQFRDCFHEKESKNLSTSNKGSTFPCCPRGGCVSHLQVCDHFSDCPTKE	296
Xenopus_tropicalis	VQTADHPIVLESILTLRHCSAGYQDSFMPTCVGENSFFCDNGDCINYNLCDFINDCPTGE	261
Mus_musculus	-----MGCshrllllwlg-----	12
Rattus_norvegicus	-----	
Homo_sapiens	-----MGCWgQLLVWFG-----	12
Pan_troglodytes	-----MGCWgQLLVWFG-----	12
Callithrix_jacchus	-----MSEHPRGFCDGSPV-----	14
Macaca_mulatta	-----MGRWGRLLVWFR-----	12
Equus_caballus	-----MGRSGWLLLVWLGAAAGIPDPD	20
Canis_lupus_familiaris	-----MGCSSWQLLVWLG-----	12
250.....260.....270.....280.....290.....300	
Pavo_muticus	EVEGVRCDSLPEGSHCSFEEGSCGWTILNETAASPWSIKGFNEMIHNGSFVGSSTLQATGGH	339
Pavo_cristatus	EVEGVRCDSLPEGSHCSFEEGSCGWTILNETAASPWSIKGFNEMIHNGSFVGSSTLQATGGH	339
Gallus_gallus	EVEGVRCDSLPEGSHCSFEKSGCGWTILNETAASAWSIKGFNDMIHSGSFVGSALQSTGGH	358
Chelonia_mydas	DEEAICADSLPAGAHCSFEQGPCGWILNDITASPSWSIRGFEEMTQEAPFMGSALLATRGH	356
Xenopus_tropicalis	DEGALCEIILPSGSYCSFDGDTGCGWTPYDGNDTTWLYTDATQIEDTSP---SDLKLVKGH	318
Mus_musculus	-----	12
Rattus_norvegicus	-----	
Homo_sapiens	-----	12
Pan_troglodytes	-----	12
Callithrix_jacchus	-----	14
Macaca_mulatta	-----	12
Equus_caballus	RVAWEGGTGPGVSAFPVGGTAKLSGGKDGVPAGLRSVRPPSHPLGRALQGRNLRYQWASC	80
Canis_lupus_familiaris	-----	12
310.....320.....330.....340.....350.....360	
Pavo_muticus	FLYLRAADSNOTNGMAKAFSTSLPARIATEDYQIQFSVHVFGSYNGTISFSVREERNVGPV	399
Pavo_cristatus	FLYLRAADSNOTNGMAKAFSTSLPARIATEDYQIQFSVHVFGSYNGTISFSVREERNVGPV	399
Gallus_gallus	FLYLRAADSNOTNGMAKAFSTSLPASAIATEDYQIQFSVHVFGSYNGTISFSVREERNVGPV	418
Chelonia_mydas	FLYLRAADSNOTGDVARAYSASLPASLASGDYQIQFSVHIFGSYNGTISFSVQEETGGVSI	416
Xenopus_tropicalis	FLYLSVQSKRSDGSATIYSAVFPKVVITNNVCQLSFKFLISGIYNGSLGIYGLDGKGMGS	378
Mus_musculus	-----AA	14
Rattus_norvegicus	-----	
Homo_sapiens	-----AA	14
Pan_troglodytes	-----AA	14
Callithrix_jacchus	-----VT	16
Macaca_mulatta	-----AV	14
Equus_caballus	GASATRAASWPASKRWSALARWGRGRGRKROGLAVERFYFPSSINILPPLPPTLLSPRHLS	140
Canis_lupus_familiaris	-----	12
370.....380.....390.....400.....410.....420	
Pavo_muticus	TLPmWERAGSWSdHWFLITLpMPVLQnRFQlQLLATWgWNSQADIAIDNITFGMDCfADG	459
Pavo_cristatus	TLPmWERAGSWSdHWFLITLpMPVLQnRFQlQLLATWgWNSQADIAIDNITFGMDCfADG	459
Gallus_gallus	TLPmWERAGSWSdHWFLITLpMPVLQnRFQlQLLATWgWNSQADIAIDNITFGMDCfADG	478
Chelonia_mydas	SPLVWERTGSWSdRWFLITLQMPVLQnKFHLQLLATWgWNSQADIAMDNITFGVGCfPVG	476
Xenopus_tropicalis	SVKLWVKQgASGNfWNSGTlQIPQfQnRFRLlVVAIWgWNSLAHlALDNVlFSVDCfHAG	438
Mus_musculus	GTILCSNSEFQTpFLTPSLLpVLVLNSQEQKVTpTPS	51
Rattus_norvegicus	-----	
Homo_sapiens	GAILCSSPGSQETFLRSSPLPLASPSPRDPKVSAPPS	51
Pan_troglodytes	GAILCSSPGSQETFLRSSPLPLASPSPRDPKVSAPPR	51
Callithrix_jacchus	CAILCSSPGSQEPFLPSSPLPLSSPSPLDPKVRARPS	53
Macaca_mulatta	GAILCSSPGSQEPFQPSSPLPLASPGPQDPKVSAPPS	51
Equus_caballus	GTILCSSSESQGPFLPSSLLPLPAPSPRPVNVTAPLT	177
Canis_lupus_familiaris	-----WLPAASPQEANVNAPPSSGLAPAS	35
430.....440.....450.....460.....470.....480	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/LTKDate: Tue Feb 1 13:57:27 2022

Page 3 of 7

Pavo_muticus	RQPTHFSGKHQYPREISTPDEHLLNPLEEPSLPGDTSVVLWWFSTCGASGPHGPTQAQCD	519
Pavo_cristatus	RQPTHFSGKHQYPREISTPDEHLLNPLEEPSLPGDTSVVLWWFSTCGASGPHGPTQAQCD	519
Gallus_gallus	RQPTHFSGKHQYPREISSPDEHLLNPLEEPSLPGDTSVVLWWFSTCGASGPHGPTQAQCD	538
Chelonia_mydas	RRQSHSAGKHQYPREISIMDENLLNPLEEPSLSGNVPVVLWWFTTCGSSGPRGPTQAQCD	536
Xenopus_tropicalis	R----IEIGYENHGLVDDFEDDTVMPLSEPSYIDENSELELQFTSCGASGPHGPTQTQCD	494
Mus_musculus	-----KLEPASLPNPLGTRG--PWVFNICGASGRSGPTQTQCD	87
Rattus_norvegicus	-----	
Homo_sapiens	-----ILEPASPLNSPGTEG--SWLFSTCGASGRHGPTQTQCD	87
Pan_troglodytes	-----ILEPASPLNSPGTEG--SWLFSTCGASGRHGPTQTQCD	87
Callithrix_jacchus	-----SLEPTSQNLNSQGTER--SWLFNFCGASGRHGPTQTQCD	89
Macaca_mulatta	-----ILEPASQLNSLGTEG--SWLFSTCGASGRHGPTQTQCD	87
Equus_caballus	-----GSEPASPLIHRGTHG--PWRFFSTCGASGPRGPTQTQCD	213
Canis_lupus_familiaris	-----PLITPRPAADNN-----PHKHGATRQTQA	59
490.....500.....510.....520.....530.....540	

Pavo_muticus	NAYRGSNVSVIVEKEGRLRGVQVWRVPATNRYRISAYGAAGGKGAKNHNERSHGVFISAT	579
Pavo_cristatus	NAYRGSNVSVIVEKEGRLRGVQVWRVPATNRYRISAYGAAGGKGAKNHNERSHGVFISAT	579
Gallus_gallus	NAYRGSNVSVIVEKEGRLRGVQVWRVPATNRYRISAYGAAGGKGAKNHNERSHGVFISAT	598
Chelonia_mydas	SAYYNTNISVTVIVEKEGPLRGVQVWRVPATNRYLISAYGAAGGKGAKNHKKRSHGVFISAT	596
Xenopus_tropicalis	NAYRSSNISVVVGKEGPLRGVQLWKVPFTSVYQISAYGAAGGKGAKNHNNPAHGVFISAI	554
Mus_musculus	GAYTGSSVMVTVGGAAGPLKGVQLWRVPDTGOYLISAYGAAGGKGAKNHLSTRAHGIFLSAV	147
Rattus_norvegicus	-----	
Homo_sapiens	GAYAGTSVVVTVGAAGQLRGVQLWRVPGPGQYLIISAYGAAGGKGAKNHLSTRAHGIVFVSAI	147
Pan_troglodytes	GAYAGTSVVVTVGAAGQLRGVQLWRVPGPGQYLIISAYGAAGGKGAKNHLSTRAHGIVFVSAI	147
Callithrix_jacchus	GAYAGTSVVVTVGAAGHLRGVQLWRVPSPGQYLIISAYGAAGGKGAKNHLSTRAHGIVFVSAI	149
Macaca_mulatta	GAYAGTSVVVTVGAAGQLRGVQLWRVPGPGQYLIISAYGAAGGKGAKNHLSTRAHGIVFVSAI	147
Equus_caballus	GAYAGSSVVTVGAAGPLRGVQLWRVSPGPGQYLIISAYGAAGGTGARNHLSTRAHGIVFISAV	273
Canis_lupus_familiaris	AARGGS-----AATGPLKGLQLCWAPTAG-----P	84
550.....560.....570.....580.....590.....600	

Pavo_muticus	FQLEKDELLYILVGQOGEDACPG-----	602
Pavo_cristatus	FQLEKDELLYILVGQOGEDACPG-----	602
Gallus_gallus	FQLEKDELLYILVGQOGEDACPG-----	621
Chelonia_mydas	FQLEKDELLYILVGQOGEDACPG-----	619
Xenopus_tropicalis	FPLQKDEILYILVGQOGEDACPG-----	577
Mus_musculus	FFLRRGEPVYILVGQOGQDACPG-----	170
Rattus_norvegicus	-----	
Homo_sapiens	FSLGLGESLYILVGQOGEDACPG-----	170
Pan_troglodytes	FSLGLGESLYILVGQOGEDACPG-----	170
Callithrix_jacchus	FSLGLGESLYILVGQOGEDACPGVSAASGDGAAPAPRGEGLGAGGDEPSSVPGLHSEG	209
Macaca_mulatta	FSLGLGESLYILVGQOGEDACPG-----	170
Equus_caballus	CSLRGGEPLYILVGQOGEDACPG-----	296
Canis_lupus_familiaris	VTVEQGD-----GTAGRRACPG-----	101
610.....620.....630.....640.....650.....660	

Pavo_muticus	-----ANPQTQKICLGESSVIEEDYKKKKD-----LKNWAGGGGGGGGGATY	643
Pavo_cristatus	-----ANPQTQKICLGESSVIEEDYKKKKD-----LKNWAGGGGGGGGGATY	643
Gallus_gallus	-----ANPQTQKICLGESSVIEEDYKKKKD-----LKDWAGGGGGGGGGATY	662
Chelonia_mydas	-----GNVQTQKICLGESSLIEEDYKLKKD-----LKDWAGGGGGGGGGATF	660
Xenopus_tropicalis	-----KNELTKEICMGKSSIIEDNYDDQNR-----FSEWAGGGGGGGGGASY	618
Mus_musculus	-----GSPESQLVCLGES-----GEHATTYGTERTIPGWRWAGGGGGGGGGATS	213
Rattus_norvegicus	-----	
Homo_sapiens	-----GSPESQLVCLGESRAVEEHAAMDGSEGVPGSRRWAGGGGGGGGGATY	216
Pan_troglodytes	-----GSPESQLVCLGESRAVEEHAAMDGSEGVPGSRRWAGGGGGGGGGATY	216
Callithrix_jacchus	RLPDPADFRPRCPQGSPESQLVCLGESRAVEEHAARDGSEGALASRRWAGGGGGGGGGATY	269
Macaca_mulatta	-----GSPESQLVCLGESRAVEEHAAMDGSEGVPGSRRWAGGGGGGGGGATY	216
Equus_caballus	-----GSPESRLVCLGESRAAEHVATDGTGEGVPGSRRWAGGGGGGGGGATY	342
Canis_lupus_familiaris	-----GSGAGEKGR-----	110
670.....680.....690.....700.....710.....720	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/LTKD Date: Tue Feb 1 13:57:27 2022

Page 4 of 7

Pavo_muticus	IFRQKDGIFEP	LLIAAGGGGKAYLKAQ	NSLDDVPLEQFEN	STAVPGVSGRTGAA	----	698				
Pavo_cristatus	IFRQKDGIFEP	LLIAAGGGGKAYLKAQ	NSLDDVPLEQFEN	STAVPGVSGRTGAA	----	698				
Gallus_gallus	VFRQKDGIFEP	LLIAAGGGGKAYLKAQ	NSLDDVPLEQFEN	STAVPGVSGRTGAA	----	717				
Chelonia_mydas	IFRLRDGVFE	PLLIAAGGGGKAYLRDQ	DSSLDDVPLEQFENT	TAVPGVNGRTGAA	----	715				
Xenopus_tropicalis	VFKEVNGEF	IPLLVAAGGGGKAYLEDQ	EDPLDFIHPERFEN	TAVPGPNMGSGAA	----	673				
Mus_musculus	IFRLRAGEPE	PLLVAAAGGGGRS	YRRRPDRGR	TQAVPERLETRAAAPGS	GGRGGAA	268				
Rattus_norvegicus	-----	-----	-----	-----	-----	17				
Homo_sapiens	VFRVRAGELE	PLLVAAAGGGGRAYLR	PRDRGR	TQASPEKLENRSEAPGS	GGRGGAA	271				
Pan_troglodytes	VFRVRAGELE	PLLVAAAGGGGRAYLR	PRDRGR	TQASPEKLENRSEAPGS	GGRGGAA	276				
Callithrix_jacchus	VFRVRASELE	PLLVAAAGGGGRAYLR	PRDGR	TAAPEKLENRLEAPGS	GGRGGAA	329				
Macaca_mulatta	VFRVRAGELE	PLLVAAAGGGGRAYLR	PRDRGR	TQAAPEKLENRSEAPGS	GGRGGAA	271				
Equus_caballus	VFRLRAGELE	PLLVAAAGGGGRAYLR	RDRGR	TQAAPEKLENRSEAPGS	GGRGGAA	397				
Canis_lupus_familiaris	-----	LNPA	GGARASRR	AORRP	-----	143				
	730.....	740.....	750.....	760.....	770.....	780			
Pavo_muticus	-----	GGGGGWQDVTLLP	QAGKSLLEGEGG	QACHQALTKLQWAT	738					
Pavo_cristatus	-----	GGGGGWQDVTLLP	QAGKSLLEGEGG	QACHQALTKLQWAT	738					
Gallus_gallus	-----	GGGGGWQDVTLLP	QAGKSLLEGEGG	QACHQALAKLQWAT	757					
Chelonia_mydas	-----	GGGGGWEDTTLFP	QTKSLLEGEGG	QACPSLAKLQWAT	755					
Xenopus_tropicalis	-----	GGGGWNDITELP	VAGKSLFAGEGG	QTCYKAITKLQWHT	713					
Mus_musculus	-----	GGSGWTSRAHSP	QAGRS	PREGAEGGEC	CAEAWAALRWAA	308				
Rattus_norvegicus	-----	GG	-----	-----	-----	19				
Homo_sapiens	-----	GGGGWTSRAPSP	QAGRS	LQEGAEGG	GCSEAWATLGWAA	311				
Pan_troglodytes	RGERRAC	SPCGCQPS	CCRS	SAGGGGGWTSRAPSP	QAGRS	LQEGAEGG	GCSEAWATLGWAA	336		
Callithrix_jacchus	RGERREC	SPCGYQPS	CCRS	SAGGGGGWTSRAPSP	QAGRS	LQEGAEGG	GCSEAWATLGWAA	389		
Macaca_mulatta	-----	GGGGWTSRAPSP	QAGRS	LQEGAEGG	GCSEAWATLGWAA	311				
Equus_caballus	-----	GGGGWTSRAPSP	QAGRS	LQEGAEGG	GCSEAWATLGWAA	437				
Canis_lupus_familiaris	-----	-----	-----	-----	-----	143				
	790.....	800.....	810.....	820.....	830.....	840			
Pavo_muticus	SGGF	GGGGGACT	SGGGGGGYRGGHAS	NNDDITAGGQY	GISFVNPIGEIFLHP	-----	LAA	793		
Pavo_cristatus	SGGF	GGGGGACT	SGGGGGGYRGGHAS	NNDDITAGGQY	GISFVNPIGEIFLHP	-----	LAA	793		
Gallus_gallus	SGGF	GGGGGACT	SGGGGGGYRGGHAS	NNDDITAGGQY	GISFVNPIGEIFLHP	-----	LAA	812		
Chelonia_mydas	SGGF	GGGGGACT	SGGGGGGYKGGHVS	DVDDITADGQD	GVSVFNPAGEIFLHP	-----	LAA	810		
Xenopus_tropicalis	SGGF	GGGGGCT	SGGGGGGYGGNASE	LDIFDTGQY	GVSVFFHPSVKIFLHP	-----	LAA	768		
Mus_musculus	AGGF	GGGGGAC	AAGGGGGGYRGD	TSEDLLWADGED	TSFVHPSGELYLOP	-----	LAV	363		
Rattus_norvegicus	-----	-----	-----	-----	-----	-----	LAV	51		
Homo_sapiens	AGGF	GGGGGACT	AGGGGGGYRGD	ASETDNLWADGED	GVSFIHPSSELYLOP	-----	LAV	366		
Pan_troglodytes	AGGF	GGGGGACT	AGGGGGGYRGD	ASETDNLWADGED	GVSFIHPSSELYLOP	-----	LAV	391		
Callithrix_jacchus	AGGF	GGGGGACT	AGGGGGGYRGD	ASETDNLWADGED	GVSFIHPSSELYLOP	-----	LAV	449		
Macaca_mulatta	AGGF	GGGGGACT	AGGGGGGYRGD	ASETDNLWADGED	GVSFIHPSSELYLOP	-----	LAV	366		
Equus_caballus	AGGF	GGGGGACT	AGGGGGGYRGD	ASETDNLWADGED	GVSYIHPSELYLOP	-----	LAV	492		
Canis_lupus_familiaris	-----	RGRGV	SGGGGPRGLRY	GPRGPQS	-----	LGPRPVRSSLD	GRRELLDAP	-----	LAP	189
	850.....	860.....	870.....	880.....	890.....	900			
Pavo_muticus	VENDGEVEVQ	IYLNCSHCHSDNCKR	----	DPDTNLPVCQCEM	GAVLANDNVTCTVPOGHI	849				
Pavo_cristatus	VENDGEVEVQ	IYLNCSHCHSDNCKR	----	DPDTNLPVCQCEM	GAVLANDNVTCTVPOGHI	849				
Gallus_gallus	VENDGEVEVQ	IYLNCSHCHSDNCKR	----	DPDTNLPVCQCEM	GAVLANDNVTCTVPOGHI	868				
Chelonia_mydas	MESHGEAEIQ	VYLNCSHCHSGNCKR	----	DLDTNLPICICEM	GAVLASDNVTCTVPHSPI	866				
Xenopus_tropicalis	MESHGEVQIK	LFVNC	SHCYTDNCKR	----	DPINRSVCLCEVGT	VLASDNVTCTVVKWPL	824			
Mus_musculus	TEGHGEVEIR	KHPNC	SHCPFKDCQW	----	QAEWLTAECTC	PEGTELAVDNVTCTCMD	-----	L	415	
Rattus_norvegicus	TEGDVEVEIR	RHPNC	SHCSFKDCQW	----	QAEWLRAECIC	PEGME	LAVDNVTCTCTG	-----	L	103
Homo_sapiens	TENHGEVEIR	RHLNCSHCP	PLRDCQW	----	QAEQLAECLC	PEGME	LAVDNVTCTCMD	-----	L	418
Pan_troglodytes	TENHGEVEIR	RHLNCSHCP	PLRDCQW	----	QAEQLAECLC	PEGME	LAVDNVTCTCMD	-----	L	443
Callithrix_jacchus	TESHGEVEIR	RHLNCSHCL	LRDCQW	----	QAEQLAECLC	PEGME	LAVDNVTCTCVD	-----	L	501
Macaca_mulatta	TENHGEVEIR	RHLNCSHCP	PLKDCQW	----	QAEQLAECLC	PEGME	LAVDNVTCTCMD	-----	L	418
Equus_caballus	TENHGEVEIR	QHFNCSHCL	LLKDCQW	----	QAEQLAECLC	PEGME	LAVDNVTCTCMD	-----	L	544
Canis_lupus_familiaris	G-----	RAPASC	SHCWRRRAA	AGEAS	QPRGRP	AVAPRWS	GRLDVAGRV	SAG--	RS	239
	910.....	920.....	930.....	940.....	950.....	960			

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/LTKDate: Tue Feb 1 13:57:27 2022

Page 5 of 7

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Pavo_muticus      LEGHLPLPLLLAVVAVIVMLGTILTTGGSLSIIYHLKKQOLEGARARLQSPYKLSKIRT 908
Pavo_cristatus    LEGHLPLPLLLAVVAVIVMLGTILTTGGSLSIIYHLKKQOLEGARARLQSPYKLSKIRT 908
Gallus_gallus     PEGHLPLPLLLAVVAVIVMLGMILTGGSLSIYHLKKQOLEGARARLQSPYKLSKIRT 927
Chelonia_mydas    PEGHLPLPLLLAVVIVIAVLGMALACGSLSIYHRRKKQOLEGARARLQSPYKLSKIRT 925
Xenopus_tropicalis AEKQLPLSLILAVLIATVILGIIIFACGSLSFVYHRRKKQOLEGARARLQSPYKLSKIRT 883
Mus_musculus      PTTASPLILMGAVVAALALS-LLMMC AVLILVNQK-CGLWGT--RLPGPE-LELSKLRS 470
Rattus_norvegicus PTTTSPLIMMGAVVATLTLS-LLMCGVLILVNQKCSLRGT--RLPGPE-LELSKLRT 159
Homo_sapiens      HKPPGPLVLMVAVVATSTLS-LLMVCGLVILVNQKKWGLQEM--RLPSPE-LELSKLRT 474
Pan_troglodytes   HKPPGPLVLMVAVVATSTLS-LLMVCGLVILVNQKKWGLQEM--RLPSPE-LELSKLRT 499
Callithrix_jacchus RNHPGPLVLMVAVVATSTLS-LLMVCGLVILVNQK-ROGLWGM--RLPIPE-LELSKLRT 556
Macaca_mulatta    PNPPGPLVLMVAVVATSTLS-LFMVCGLVILVNQKKWGLRET--RLPSPE-LELSKLRT 474
Equus_caballus    PTPPGPLVLMVAVVATSTLS-LLMVCGLVILVNQKKWGLWGT--RLPGPELMELSKLRT 601
Canis_lupus_familiaris RDRRAVAQAGGSAGAGAAAAPAAAGSDVAALECARRGGGKRRSPFAPGPR----- 290
      .....970.....980.....990.....1000.....1010.....1020

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Pavo_muticus      SAIMTDYNPNPYCFAGKAATLS-----ELKEIPRKNISLLRALGHGAFGEVYEGTVVGIAG 963
Pavo_cristatus    SAIMTDYNPNPYCFAGKAATLS-----ELKEIPRKNISLLRALGHGAFGEVYEGTVVGIAG 963
Gallus_gallus     SAIMTDYNPNPYCFAGKAATLS-----ELKEIPRKNISLLRALGHGAFGEVYEGTVVGIAG 982
Chelonia_mydas    STIMTDYNPNPYCFAGKAATLS-----ELKEIPRKNISLLRALGHGAFGEVYEGTVIGISG 980
Xenopus_tropicalis SIIMTDYNPNPYCFAGKGASLS-----ELKEVPRKNITLLRALGHGAFGEVYEGTMVVGISG 938
Mus_musculus      SAIRTAPNPYYCQVGLSPAQWPLPPGLTEVSPANVTLLRALGHGAFGEVYEGTVGLPG 530
Rattus_norvegicus SAIRTAPNPYYCQVGLSPAQWPLPPGLTEVSPANVTLLRALGHGAFGEVYEGTVGLPG 219
Homo_sapiens      SAIRTAPNPYYCQVGLSPAQWPLPPGVTEVSPANVTLLRALGHGAFGEVYEGTVGLPG 534
Pan_troglodytes   SAIRTAPNPYYCQVGLSPAQWPLPPGVTEVSPANVTLLRALGHGAFGEVYEGTVGLPG 559
Callithrix_jacchus SAIRTAPNPYYCQVGLSPAQWPLPPGVTEVSPANVTLLRALGHGAFGEVYEGTVGLPG 616
Macaca_mulatta    SAIRTAPNPYYCQVGLSPAQWPLPPGVTEVSPANVTLLRALGHGAFGEVYEGTVGLPG 534
Equus_caballus    STIKTAPNPYYCQVGLSPAQWPLPPGLTEVSPANVTLLRALGHGAFGEVYEGTVGLPG 661
Canis_lupus_familiaris AGRVSEPGPFVRPG-----HPLFSNLSSCRALGHGDFGEVYEGTVGLPW 335
      .....1030.....1040.....1050.....1060.....1070.....1080

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Pavo_muticus      DPNPLQVAIK-----TLPEVCSEQDEMDFLMEALII SKFNHQNIVQCIGVSLQTLPR 1015
Pavo_cristatus    DPNPLQVAIK-----TLPEVCSEQDEMDFLMEALII SKFNHQNIVQCIGVSLQTLPR 1015
Gallus_gallus     DPSPLQVAIK-----TLPEVCSEQDEMDFLMEALII SKFNHQNIVQCIGVSLQTLPR 1034
Chelonia_mydas    DPNPLQVAIK-----TLPEICSEQDEMDFLMEALII SKFSHQNIVRCIGVSLQTLPR 1032
Xenopus_tropicalis DPNPLQVAIK-----TLPEICSEQDEMDFLMEALII SKFSHQNIVRCIGVSLQTLPR 990
Mus_musculus      DSSPLPVAIK-----TLPELCSHQDELDLMEALII SKFSHQNIVRCVGLSFRSAPR 582
Rattus_norvegicus DSSPLPVAIK-----TLPELCSHQDELDLMEALII SKFSHQNIVRCVGLSFRSAPR 271
Homo_sapiens      DSSPLQVAIK-----TLPELCSHQDELDLMEALII SKFRHQNIVRCVGLSLRATPR 586
Pan_troglodytes   DSSPLQVAIK-----TLPELCSHQDELDLMEALII SKFSHQNIVRCVGLSLRATPR 611
Callithrix_jacchus DSSPLQVAIK-----TLPELCSHQDELDLMEALII SKFSHQNIVRCVGLSLRAAPH 668
Macaca_mulatta    DSSPLQVAIK-----TLPELCSHQDELDLMEALII SKFSHQNIVRCVGLSLRAAPH 586
Equus_caballus    DPNPLQVAIK-----TLPELCSHQDELDLMEALII SKFSHQNIVRCVGLSLRAAPH 713
Canis_lupus_familiaris DPSPLLVTVKLRSPFPPTLPELCSQONELDFLMEALII SKKKRNIVCCVGLSLRTLRL 395
      .....1090.....1100.....1110.....1120.....1130.....1140

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      : * : : *      * : : * : * : * : * : * : * : * : * : * : * : * : * : * :
Pavo_muticus      FILLELMAGGDMKSFLRQNRPRVNQPSLTLMODLLNIARDIACGCKYLEENHFIHRDIAA 1075
Pavo_cristatus    FILLELMAGGDMKSFLRQNRPRVNQPSLTLMODLLNIARDIACGCKYLEENHFIHRDIAA 1075
Gallus_gallus     FILLELMAGGDMKSFLRQNRPRVNQPSMLTLMODLLNIARDIACGCKYLEENHFIHRDIAA 1094
Chelonia_mydas    FILLELMAGGDMKSFLRQNRPRVNQPSLTLMODLLNIARDIACGCKYLEENHFIHRDIAA 1092
Xenopus_tropicalis FILLELMAGGDMKSFLRQNRPRVNQPSLTLMODLLNIARDIACGCKYLEENHFIHRDIAA 1050
Mus_musculus      LILLELMAGGDMKSFLRHSRPHGQPLTMDLLQLAQDIAQGCHYLEENHFIHRDIAA 642
Rattus_norvegicus LILLELMAGGDMKSFLRHSRPHGQPLTMDLLQLAQDIAQGCHYLEENHFIHRDIAA 331
Homo_sapiens      LILLELMAGGDMKSFLRHSRPHGQPSPLVMRDLLQLAQDIAQGCHYLEENHFIHRDIAA 646
Pan_troglodytes   LILLELMAGGDMKSFLRHSRPHGQPSPLVMRDLLQLAQDIAQGCHYLEENHFIHRDIAA 671
Callithrix_jacchus LILLELMAGGDMKSFLRQSRPHGQPSPLVMRDLLQLAQDIAQGCHYLEENHFIHRDIAA 728
Macaca_mulatta    LILLELMAGGDMKSFLRHSRPHLDQPSPLVMRDLLQLAQDIAQGCHYLEENHFIHRDIAA 646
Equus_caballus    LILLELMAGGDMKSFLRHSRPHLDQPSPLAMODLLQLAQDIAQGCHYLEENHFIHRDIAA 773
Canis_lupus_familiaris LILLQLX-GGDVKSFLTASRPTFVQPSPLAIWDLFQLAQNIAQSCHYLEENHFIHRDIAA 454
      .....1150.....1160.....1170.....1180.....1190.....1200

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/LTKDate: Tue Feb 1 13:57:27 2022

Page 6 of 7

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*****:;* . :** *****:***** * * . * :****:** :*****
Pavo_muticus      RNCLLTCTGAGRIAKIGDFGMARDIYRASYYRKGGGRAMLPVKWMPPEAFLEG-IFTSKTD 1134
Pavo_cristatus    RNCLLTCTGAGRIAKIGDFGMARDIYRASYYRKGGGRAMLPVKWMPPEAFLEG-IFTSKTD 1134
Gallus_gallus     RNCLLTCTGAGRIAKIGDFGMARDIYRASYYRKGGGRAMLPVKWMPPEAFLEG-IFTSKTD 1153
Chelonia_mydas    RNCLLTCTGTGRVAKIGDFGMARDIYRASYYRKGGGRAMLPVKWMPPEAFLEG-IFTSKTD 1151
Xenopus_tropicalis RNCLLTYSGTGRVAKIGDFGMARDIYRASYYRKGGGRAMLPVKWMPPEAFLEG-VFTSKTD 1109
Mus_musculus      RNCLLSCSGASRVAKIGDFGMARDIYQASYYRKGGRTLLPVKWPPEALLEG-LFTSKTD 701
Rattus_norvegicus RNCLLSCSGDSRVAKIGDFGMARDIYQASYYRKGGRTLLPVKWPPEALLEG-LFTSKTD 390
Homo_sapiens      RNCLLSCSGASRVAKIGDFGMARDIYRASYYRRGDRALLPVKWPPEAFLEG-IFTSKTD 705
Pan_troglodytes   RNCLLSCTGPSRVAKIGDFGMARDIYRASYYRRGDRALLPVKWPPEAFLEG-IFTSKTD 730
Callithrix_jacchus RNCLLSCSGPSRVAKIGDFGMARDIYRASYYRRGDRALLPVKWPPEAFLEG-VFTSKTD 787
Macaca_mulatta    RNCLLSCTGPSRVAKIGDFGMARDIYRASYYRRGDRALLPVKWPPEAFLEG-IFTSKTD 705
Equus_caballus    RNCLLSCTGHGRVAKIGDFGMARDIYRASYYRKGGRRALLPVKWPPEAFLEG-IFTSKTD 832
Canis_lupus_familiaris RNCLLSCTGPSXVAKIGDFGMARDIYRASYY--GVCIPLLAKXIPPEAFLEGIFTSKTD 512
.....1210.....1220.....1230.....1240.....1250.....1260

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:***** ** ***** **::* *:. * **.*:.* ** : *** *
Pavo_muticus      TWSFGVLLWEIFSLGYMPYPCKTNQEVLEFVTSGGRMPPKNCPPGVYRIMTQCWOHSPE 1194
Pavo_cristatus    TWSFGVLLWEIFSLGYMPYPCKTNQEVLEFVTSGGRMPPKNCPPGVYRIMTQCWOHSPE 1194
Gallus_gallus     TWSFGVLLWEIFSLGYMPYPCKTNQEVLEFVTSGGRMPPKNCPPGVYRIMTQCWOHSPE 1213
Chelonia_mydas    TWSFGVLLWEIFSLGYMPYPCKTNQEVLEFVTSGGRMPPKNCPPGVYRIMTQCWOHSPE 1211
Xenopus_tropicalis TWSFGVLLWEIFSLGYMPYPCKTNQEVLEFVTSGGRMPPKNCPPGVYRIMTQCWOHTPE 1169
Mus_musculus      SWSFGVLLWEIFSLGYMPYPGHTNQEVLDFIATGNRMDPPRNCPPGVYRIMTQCWOHQPE 761
Rattus_norvegicus SWSFGVLLWEIFSLGYMPYPGHTNQEVLDFIATGNRMDPPRNCPPGVYRIMTQCWOHQPE 450
Homo_sapiens      SWSFGVLLWEIFSLGYMPYPGRTNQEVLDFFVGGGRMDPPRGCPGVYRIMTQCWOHEPE 765
Pan_troglodytes   SWSFGVLLWEIFSLGYMPYPGRTNQEVLDFFVGGGRMDPPRGCPGVYRIMTQCWOHEPE 790
Callithrix_jacchus SWSFGVLLWEIFSLGYMPYPGRTNQEVLDFFVAGGRMDPPRGCPGVYRIMTQCWOHLPE 847
Macaca_mulatta    SWSFGVLLWEIFSLGYMPYPGRTNQEVLDFFVAGGRMDPPRGCPGVYRIMTQCWOHEPE 765
Equus_caballus    SWSFGVLLWEIFSLGYMPYPGRTNQEVLDFFVGGGRMDPPRGCPGVYRIMTQCWOHQPE 892
Canis_lupus_familiaris SWSFGVLLREIS-LGYMPYPGWTDMLYFIVGGKRMGPPRGCPGLVYHTVMXCWQHOLE 571
.....1270.....1280.....1290.....1300.....1310.....1320

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* . ***:.. * *****: *:: * *:* :
Pavo_muticus      YRPNFSTILIRIKYCTQDPDVINTQLPMECSPTPEDEGNTVVRPNVSSGIVPLLVSPLT 1254
Pavo_cristatus    YRPNFSTILIRIKYCTQDPDVINTQLPMECSPTPEDEGNTVVRPNVSSGIVPLLVSPLT 1254
Gallus_gallus     YRPNFSTILIRIKYCTQDPDVINTQLPMECSPTPEDEGNTVVRPNVSSGIVPLLVSPLT 1273
Chelonia_mydas    YRPNFSTILIRIKYCTQDPDVINTQLPMECSPTPEDEGNTVVRPNVSSGIVPLLVSPLT 1271
Xenopus_tropicalis HRPNFSTILIRISYCTQDPDVINTPLPVEGSPAPEDEGSTSIRPNSCNGLNPIMSSQPIA 1229
Mus_musculus      LRPDFGSILIRIQYCTQDPDVLSPLPVEPGPILEEEASRLGNRSLEGLRSPK----- 815
Rattus_norvegicus LRPDFASILIRIQYCTQDPDVLSPLPMEPGPIVEEGASGPGNRSLEGLRSPK----- 504
Homo_sapiens      LRPSFASILERLQYCTQDPDVLSPLPMELGPTPEEEGTSGLGNRSLEGLRPPQ----- 819
Pan_troglodytes   LRPSFASILERLQYCTQDPDVLSPLPMELGPTPEEEGTSGLGNRSLEGLRPPQ----- 844
Callithrix_jacchus LRPSFASILERLQYCTQDPDVLSPLPMELGPTPEEEGASGLGNRSLEGLRPPQ----- 901
Macaca_mulatta    LRPSFASILERLQYCTQDPDVLSPLPMELGPTPEEEGASGLGNRSLEGLRPPQ----- 819
Equus_caballus    LRPSFASILERLQYCTQDPDVLSPLPMELGPTLEEEGASGLGSRSLLEGLRSPQ----- 946
Canis_lupus_familiaris LCPSXQGILEHLQNCIQDPDVLSALPMDLGPFXEQEGTSGLRSRSSEGLRSRQ----- 625
.....1330.....1340.....1350.....1360.....1370.....1380

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. ** . *
Pavo_muticus      PQMTPKTLDShRTGHKLVOCPQELLVENLSNRTARGPSLPCLSEFNSTSWIQN-SNOKLE 1313
Pavo_cristatus    PQMTPKTLDShRTGHKLVOCPQELLVENLSNRTARGPSLPCLSEFNSTSWIQN-SNOKLE 1313
Gallus_gallus     PQMTPKSLDTHCTGHKLVOCPQELLVENLSNRTARGPSLPCLSEFNSTSWIQN-SNOKLE 1332
Chelonia_mydas    POLAPITLTHHAGHKAGR-POELLVENLGNWTGRGPSLPCLTDSSRSWFQQTANQRLE 1330
Xenopus_tropicalis P-----LLDTQSTEQKLGDVPOELLVENLAGWNKTPGLQTVAEESTEGSWFQSNSTTTE 1284
Mus_musculus      -----PLELSSQNLK-----SWGGGLLGSWLP 837
Rattus_norvegicus -----TLELSSQNLK-----SRGGDLLGSQLP 526
Homo_sapiens      -----POELSPKCLK-----SWGGSPLGPWLS 841
Pan_troglodytes   -----POELSPKCLK-----SWGGSPLGPWLS 866
Callithrix_jacchus -----POELSPKCLK-----SWGGSPLGPWLS 923
Macaca_mulatta    -----POELSPKCLK-----SWGGSPLGPWLS 841
Equus_caballus    -----TOELSLSLK-----SWGGSLLGPWLP 968
Canis_lupus_familiaris -----TOELNLSLK-----SWGRSLLCTGLK 647
.....1390.....1400.....1410.....1420.....1430.....1440

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/LTKDate: Tue Feb 1 13:57:27 2022

Page 7 of 7

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          :*:  * *
Pavo_muticus      FSNPPTHRLKNKTKNLWNPTYGSWVLENICHLSPTTKLKATPEREDSGFDGNCSSSPSSR 1373
Pavo_cristatus    FSNPPTHRLKNKTKNLWNPTYGSWVLENICHLSPTTKLKATPEREDSGFDGNCSSSPSSR 1373
Gallus_gallus     FSNPPTHRLKNKTKNLWNPTYGSWVLENSCHLSPI SKLVTPEREDSGFDGNCSSSPSSR 1392
Chelonia_mydas    SSSQPAHRPHN-TKNLWNPTYGSWVMENICRSCPNAKLKATTEREDSGFDGNCSSSPSSR 1389
Xenopus_tropicalis PKLQTT HKLKNKSKNLWNPTYGSWVMESTC----- 1314
Mus_musculus      SGLKTLKPRCLQPQNIWNPTYGSWTPR-----GPOGEDTGIEHCNGSSSSSI 884
Rattus_norvegicus SGLKTLTSRCLQPQNIWNPTYGSWTPR-----SPQGEDSDIDLSNGPSSDSF 573
Homo_sapiens      SGLKPLKSRGLQPQNLWNPTYRS----- 864
Pan_troglodytes   SGLKPLKSRGLQPQNLWNPTYRS----- 889
Callithrix_jacchus SGFKPLKSRGLQPQNLWNPTYRS----- 946
Macaca_mulatta    SGLKPLKSRGLQPQNLWNPTYRS----- 864
Equus_caballus    SGLKPSKIRGLQQLNLWNPTYGSWAPR-----GPEGEDSGIDGNSSSSLHS 1015
Canis_lupus_familiaris TLKSKFQFPQGKFQRLP---YGS----- 667
.....1450.....1460.....1470.....1480.....1490.....1500

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Pavo_muticus      ASPASPSRSNCPHLDIGGIELVKLQTFPCGNVNYAYDDL CYGTDHPPSVLTGVRAAVLRS 1433
Pavo_cristatus    ASPASPSRSNCPHLDIGGIELVKLQTFPCGNVNYAYDDL CYGTDHPPSVLTGVRAAVLRS 1433
Gallus_gallus     ASPASPSRNNCPHLDIGGIELVKLQNFPCGNVNYAYDDL CFYTDHSPSVLTGVRAAVLRS 1452
Chelonia_mydas    ASPASPNRSHCLHRNIGGIELVKLQTFPCGNVNYAYDDL YYVTDG-PSALAVGRPGVLRS 1448
Xenopus_tropicalis ----- 1314
Mus_musculus      PGIQ----- 888
Rattus_norvegicus PGEQ----- 577
Homo_sapiens      ----- 864
Pan_troglodytes   ----- 889
Callithrix_jacchus ----- 946
Macaca_mulatta    ----- 864
Equus_caballus    GF----- 1017
Canis_lupus_familiaris ----- 667
.....1510.....1520.....1530.....1540.....1550.....1560

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Pavo_muticus      SSLRTDEKPFYKTEKAARERDSGLSLSDDL SVTPV 1468
Pavo_cristatus    SSLRTDEKPFYKTEKAARERDSGLSLSDDL SVTPV 1468
Gallus_gallus     SSLHTDEKPFYKTEKAARERDSGLSLSDDL SVTPV 1487
Chelonia_mydas    TSLHRD GKPFCCKPEKTSRERDSGLSLSDDL SVTPV 1483
Xenopus_tropicalis ----- 1314
Mus_musculus      ----- 888
Rattus_norvegicus ----- 577
Homo_sapiens      ----- 864
Pan_troglodytes   ----- 889
Callithrix_jacchus ----- 946
Macaca_mulatta    ----- 864
Equus_caballus    ----- 1017
Canis_lupus_familiaris ----- 667
.....1570.....1580.....1590.....

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