

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/ZNF622.psl Tue Feb 14:59:12 2022

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*****:* :*:** ******:
Pavo_muticus      -----MEVLQCDGCDFRAPSYEDLKAHIQDVHTAFLOPTDVSEESP 41
Pavo_cristatus    -----MEVLQCDGCDFRAPSYEDLKAHIQDVHTAFLOPTDVSEESP 41
Gallus_gallus     -----MEVLQCDGCDFRAPSYEDLKAHIQDVHTAFLOPTDVSEESP 41
Chelonia_mydas    MDTRKIQSEFPDVKVLRTMEVLQCDGCDFRAPSYEDLKAHIQDVHTAFLOPTDVSEESP 60
Mus_musculus      -----MEVLQCDGCDFRAPSYEDLKAHIQDVHTAFLOPTDVAEDND 41
Rattus_norvegicus -----MEVLQCDGCDFRAPSYEDLKAHIQDVHTAFLOPTDVAEDND 41
Homo_sapiens      -----MEVLQCDGCDFRAPSYEDLKAHIQDVHTAFLOPTDVAEDNV 41
Pan_troglodytes   -----MEVLQCDGCDFRAPSYEDLKVHIQDVHTAFLOPTDVAEDNV 41
Macaca_mulatta    -----MEVLQCDGCDFRAPSYEDLKAHIQDVHTAFLOPTDVAEDNV 41
Callithrix_jacchus -----MEVLQCDGCDFRAPSYEDLKAHIQDVHTAFLOPTDVAEDNA 41
Heterocephalus_glaber -----MEVLQCDGCDFRAPSYEDLKAHIQDVHTAFLOPTDVAEDND 41
Canis_lupus_familiaris -----MEVLQCDGCDFRAPSYEDLKAHIQDVHTAFLOPTDVAEDNA 41
Equus_caballus    -----MEVLQCDGCDFRAPSYEDLKAHIQDVHTAFLOPTDVAEDNA 41
Bos_taurus        -----MMEVLQCDGCDFRAPSYEDLKAHIQDVHTAFLOPTDVAEDNA 42
Rhinatrema_bivittatum -----MEVLQCDGCDFRAPSYDELKAHIQDVHTAFLOPTDVLEDGI 41
Xenopus_tropicalis -----MEVLQCDGCDFKAQTYEDLKSHIQDVHTAFLOPTDVTEEGA 41
Latimeria_chalumnae -----MEVLQCDGCDFRAPSYDDLKAHIQDVHTAFLOPTDVAEENY 41
1.....10.....20.....30.....40.....50.....60

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: :*:** :. :*: : : :* **.: :*:
Pavo_muticus      SQPRSGSMNASNQTEVEFSSVKDEFTIADIEIAGQATSQMGTGSYYSSQSQTFYGO-HMAP 100
Pavo_cristatus    SQPRSGSMNASNQTEVEFSSVKDEFTIADIEIAGQATSQMGTGSYYSSQSQTFYGO-HMAP 100
Gallus_gallus     SQPRSGSMNASNQTEVEFSSVKDEFTIADIEIAGQATSQMGTGSYYSSQSQTFYGO-HMAP 100
Chelonia_mydas    SQPRSGSMNASNQTEVEFSSVKDEFTIADIEIAGQAA-QMGTGSYYSSHQSFSYSQ-HMAP 118
Mus_musculus      DEPLSGSMNASNQTEVEFSSIKDEFVIAEDLPGQSAT-ALGSGGYGHSPGYGGO-HITP 99
Rattus_norvegicus DEPLSGSVNAGNQTEVEFSSIKDEFVIAEDLPGQSAT-ALGSGGYGHSPGYGGO-HITP 99
Homo_sapiens      NELRCGSVNASNQTEVEFSSIKDEFVIAEDLPGQAT-SLGTGGYGHSPGYGGO-HIAA 99
Pan_troglodytes   NEPRCGSMNASNQTEVEFSSIKDEFVIAEDLPGQAT-ALGTGGYGHSPGYGGO-HIAA 99
Macaca_mulatta    NEPRCGSMNASNQTEVEFSSIKDEFVIAEDLPGQAT-ALGTGGYGHSPGYGGO-HIAA 99
Callithrix_jacchus NEPRSGSMNASNQTEVEFSSIKDEFVIAEDLPGQAT-ALGTGSYYSHSPGYGGO-HIAA 99
Heterocephalus_glaber NEPRSGSMNASNQTEVEFSSIKDEFVIAEDLPGQAA-ALGTGSYYGHSPGYGGO-HIAP 99
Canis_lupus_familiaris NEPRSGSMNASNQTEVEYSSIKDEFVIAEDLPGQAT-ALGTGSYYGHSPGYGGO-HIAP 99
Equus_caballus    NEPRSGSMNASNQTEVEFSSIKDEFVIAEDLPGQAA-ALGTGSYYGHSPGYGGO-HIAP 99
Bos_taurus        NESRSGSMNASNQTEVEFSSIKDEFVIAEDLPGQAA-ALGTGSYYGHSPGYGGO-HIAP 100
Rhinatrema_bivittatum SQPRSVGMNAGNQTEVEFSQVKDEFGATEDISGQNVQ-QMGTGTYYGQSSGFYGO-NIIS 99
Xenopus_tropicalis TQAKTVDTHSSNQSEGVTFSVKDEYASAEENHAPSTP-QAASGSYYGHSPGYGGO-SNHAG 100
Latimeria_chalumnae SQGRPSTISTSNQTELGYPMLMKDEFTAEDELAEQNVQ-QSGTGNYSHNQVFYFNO-PVNH 99
.....70.....80.....90.....100.....110.....120

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*.*.*.*.*:***** *:*****
Pavo_muticus      NPKPTNKFFQCKFCVRYFRSKNLLIEHTRKVGHA---QAGGSSVGPPSASSLNYNIMMHE 157
Pavo_cristatus    NPKPTNKFFQCKFCVRYFRSKNLLIEHTRKVGHA---QAGGSSVGPPSASSLNYNIMMHE 157
Gallus_gallus     NPKPTNKFFQCKFCVRYFRSKNLLIEHTRKVGHA---QAGGSSVGPPSASSLNYNIMMHE 157
Chelonia_mydas    NPKPTNKFFQCKFCVRYFRSKNLLIEHTRKVGHT---QAGGSSVGPPAAGSLNYNIMMHE 175
Mus_musculus      NPKPTNKFFQCKFCVRYFRSKNLLIEHTRKVGHA---QAEESPTGPPVPGLNYNIMMHE 156
Rattus_norvegicus NPKPTNKFFQCKFCVRYFRSKNLLIEHTRKVGHA---QAEESPTGPPVPGLNYNIMMHE 156
Homo_sapiens      NPKPTNKFFQCKFCVRYFRSKNLLIEHTRKVGHA---QAEESPTGPPVPGLNYNIMMHE 156
Pan_troglodytes   NPKPTNKFFQCKFCVRYFRSKNLLIEHTRKVGHA---QAEESPTGPPVPGLNYNIMMHE 156
Macaca_mulatta    NPKPTNKFFQCKFCVRYFRSKNLLIEHTRKVGHA---QAEESPTGPPVPGLNYNIMMHE 156
Callithrix_jacchus NPKPTNKFFQCKFCVRYFRSKNLLIEHTRKVGHA---QAEESPTGPPVPGLNYNIMMHE 156
Heterocephalus_glaber NPKPTNKFFQCKFCVRYFRSKNLLIEHTRKVGHA---QAEESPTGPPVPGLNYNIMMHE 156
Canis_lupus_familiaris NPKPTNKFFQCKFCVRYFRSKNLLIEHTRKVGHA---QAEESPTGPPVPGLNYNIMMHE 156
Equus_caballus    NPKPTNKFFQCKFCVRYFRSKNLLIEHTRKVGHA---QAEESPTGPPVPGLNYNIMMHE 156
Bos_taurus        NPKPTNKFFQCKFCVRYFRSKNLLIEHTRKVGHA---QAEESPTGPPVPGLNYNIMMHE 157
Rhinatrema_bivittatum NPKPTNKFFQCKFCVRYFRSKILLIEHTRKVGHQ---SGE-SSSGAIDGALNYNIMMHD 155
Xenopus_tropicalis NSKPTSKFFQCKFCIRYFRSKNLLVEHTRKVGH---NGGANITGSSNVGPSNYNIMLHD 156
Latimeria_chalumnae NPKPTNTFFQCKFCVRYFRSKNLLVEHTRKVGHVGGPLMARSSSSTEPAPTSLNYNIMMHE 159
.....130.....140.....150.....160.....170.....180

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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*****:***** *** . . .::*: *
Pavo_muticus      GFGKVFSCQFCTYKSPRRARIIKHQKMYHKNNLKESSTPPAASTAISESTASASVPVOEPC 217
Pavo_cristatus    GFGKVFSCQFCTYKSPRRARIIKHQKMYHKNNLKESSTPPAASTAISESTASASVPVOEPC 217
Gallus_gallus     GFGKVFSCQFCTYKSPRRARIIKHQKMYHKNNLKESSTPPAASTAISESTASASVPVOEPC 217
Chelonia_mydas    GFGKVFSCQFCTYKSPRRARIIKHQKMYHKNNLKESSTPPATAAISESASASVPVOESC 235
Mus_musculus      GFGKVFSCQFCTYKSPRRARIIKHQKMYHKNNLKESSTAPPPAPAPLPDPVPPVSLQDPC 216
Rattus_norvegicus GFGKVFSCQFCTYKSPRRARIIKHQKMYHKNNLKESSTAPPPAPAPLPDPVPPVSLQDPC 216
Homo_sapiens      GFGKVFSCQFCTYKSPRRARIIKHQKMYHKNNLKESSTAPPPAPAPMPDPVPPVSLQDPC 216
Pan_troglodytes   GFGKVFSCQFCTYKSPRRARIIMKHQKMYHKNNLKESSTAPPPAPAPMPDPVPPVSLQDPC 216
Macaca_mulatta    GFGKVFSCQFCTYKSPRRARIIKHQKMYHKNNLKESSTAPPPAPAPMPDPVPPVSLQDPC 216
Callithrix_jacchus GFGKVFSCQFCTYKSPRRARIIKHQKMYHKNNLKESSTAPPPAPAPMPDPVPPVSLQDPC 216
Heterocephalus_glaber GFGKVFSCQFCTYKSPRRARIIKHQKMYHKNNLKESSTAPPPAPAPMPDAVPPVSLQDPC 216
Canis_lupus_familiaris GFGKVFSCQFCTYKSPRRARIIKHQKMYHKNNLKESSTAAALPAPAPMPDPVPPVSLQDPC 216
Equus_caballus    GFGKVFSCQFCTYKSPRRARIIKHQKMYHKNNLKESSTAPPPAPAPLPDPVPPVSLQDPC 216
Bos_taurus        GFGKVFSCQFCTYKSPRRARIIKHQKMYHKNNLKESSTAPPPAPAPMPDPVPPVSLQDPC 217
Rhinatrema_bivittatum GFGKVFSCQFCTYKSPRRARIIKHQKMYHKNNLKESSTSLP----ATVSESASSSVSLQEGC 211
Xenopus_tropicalis GFGKVFSCQFCTYKSPRRARILKHQKMYHKNNLKESSTPMPP---VSPPQISMPILOEAC 213
Latimeria_chalumnae GFGKVFSCQFCTYKSPRRARIMKHQKMYHKNNLKESSTAT----AVVQESVAMSVPLQETC 215
.....190.....200.....210.....220.....230.....240
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**** *****:*****:
Pavo_muticus      KELPAEVVERSILESMVKPLTKSRGNFCCEWC SYQTPRRERWCDHMMKKHRS MVKILSSL 277
Pavo_cristatus    KELPAEVVERSILESMVKPLTKSRGNFCCEWC SYQTPRRERWCDHMMKKHRS MVKILSSL 277
Gallus_gallus     KELPAEVVERSILESMVKPLTKSRGNFCCEWC SYQTPRRERWCDHMMKKHRS MVKILSSL 277
Chelonia_mydas    KELPAEVVERSILESMVKPLTKSRGNFCCEWC SYQTPRRERWCDHMMKKHRS MVKILSSL 295
Mus_musculus      KELPAEVVERSILESMVKPLTKSRGNFCCEWC SYQTPRRERWCDHMMKKHRS MVKILSSI 276
Rattus_norvegicus KELPAEVVERSILESMVKPLTKSRGNFCCEWC SYQTPRRERWCDHMMKKHRS MVKILSNI 276
Homo_sapiens      KELPAEVVERSILESMVKPLTKSRGNFCCEWC SYQTPRRERWCDHMMKKHRS MVKILSSL 276
Pan_troglodytes   KELPAEVVERSILESMVKPLTKSRGNFCCEWC SYQTPRRERWCDHMMKKHRS MVKILSSL 276
Macaca_mulatta    KELPAEVVERSILESMVKPLTKSRGNFCCEWC SYQTPRRERWCDHMMKKHRS MVKILSSL 276
Callithrix_jacchus KELPAEVVERSILESMVKPLTKSRGNFCCEWC SYQTPRRERWCDHMMKKHRS MVKILSSL 276
Heterocephalus_glaber KELPAEVVERSILESMVKPLTKSRGNFCCEWC SYQTPRRERWCDHMMKKHRS MVKILSSL 276
Canis_lupus_familiaris KELPAEVVERSILESMVKPLTKSRGNFCCEWC SYQTPRRERWCDHMMKKHRS MVKILSSL 276
Equus_caballus    KELPAEVVERSILESMVKPLTKSRGNFCCEWC SYQTPRRERWCDHMMKKHRS MVKILSSL 276
Bos_taurus        KELPAEVVERSILESMVKPLTKSRGNFCCEWC SYQTPRRERWCDHMMKKHRS MVKILSSL 277
Rhinatrema_bivittatum KELPAEVVERSILESMVKPLTKSRGNFCCEWC SYQTPRRERWCDHMMKKHRS MVKILSRL 271
Xenopus_tropicalis KELPAEVVERSILESMVKPLTKSRGNFCCEWC SYQTPRRERWCDHMMKKHRS MVKILSSL 273
Latimeria_chalumnae KELPEEVVERSILESMVKPLTKSRGNFCCEWC SYQTPRRERWCDHMMKKHRS MVKIISSL 275
.....250.....260.....270.....280.....290.....300
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::: * . . . . : .::: . . * . .::: *
Pavo_muticus      RQQQEGTSAP--DVQNKSAQNAPNSNYISMNTTGREMSNANVSNFRSSMGNSLIRPNSS 335
Pavo_cristatus    RQQQEGTSAP--DVQNKSAQNAPNSNYISMNTTGREMSNANVSNFRSSMGNSLIRPNSS 335
Gallus_gallus     RQQQEGTSAP--DVQNKSAQNAPNSNYISMNTTGREMSNANVSNFRSSMGNSLIRPNSS 335
Chelonia_mydas    RQQQDGTSLP--DVQNKSAQNAPNSNYISMNTTGREMSNANVSNFRSSMGNSLIRPNSS 353
Mus_musculus      RQQ-EGPNVS--EAQNDNEPSPTSNSSTYLSMNAASREMPNANVSNFRSSMGNSIMRPNSS 333
Rattus_norvegicus RQQQEGTNVS--EVQNNNEPSPTSNSSTYLSMNAASREMPNTNVSNFRSSVGNSIMRPNSS 334
Homo_sapiens      RQQQEGTNLP--DVPNKSAQSPTSNSSTYLSMNAASREIPNTTVSNFRSSMGNSIMRPNSS 334
Pan_troglodytes   RQQQEGTNLP--DVPNKSAQSPTSNSSTYLSMNAASREIPNTTVSNFRSSMGNSIMRPNSS 334
Macaca_mulatta    RQQQEGTNLP--DVPNKSAQSPTSNSSTYLSMNAASREIPNTTVSNFRSSMGNSIMRPNSS 334
Callithrix_jacchus RQQQEGTNLP--DVPNKSAQSPTSNSSTYLSMNAASREIPNTTVSNFRSSMGNSIMRPNSS 334
Heterocephalus_glaber RQQQEGTNLP--DVQNKSAQSPTSNSSTYLSMNAASREIPNTTVSNFRSSMGNSIMRPNSS 334
Canis_lupus_familiaris RQQQEGTNLP--DVQNKSAQSPTSNSSTYLSMNAASREIPNTTVSNFRSSMGNSIMRPNSS 334
Equus_caballus    RQQQEGTNLP--DVQNKSAQSPTSNSSTYLSMNAASREIPNTTVSNFRSSMGNSIMRPNSS 334
Bos_taurus        RQQQEGTNVP--EAQNKNDLSPSTNSSTYLSMNAASREIPNTTVSNFRSSMGNSIMRPNSS 335
Rhinatrema_bivittatum RQQ-DGTNVS--DLQTKTAQSPTSNSSTYLSMNAASREIPNTTVSNFRSSMGNSIMRPNSS 327
Xenopus_tropicalis RQD--GMNMS--DLQNKSSQVSPGGSFMPLTIG-HDIPNVNISNYRSPVNNALTRGNLP 328
Latimeria_chalumnae KQQQDGVNMATAHPQAKSIQNHAVNSSYLTMSPNGREMSPVNSSSFRGPVGNLSLRTSPA 335
.....310.....320.....330.....340.....350.....360
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      *:. .: * :*: .. .: : : * * :. : *:::.*:*****:
Pavo_muticus      TSSKFSS-VSYPQMKPK-SPHNSIVNLSDRSRYGIADMTNSSADLETNSMLNDSSSDEE 393
Pavo_cristatus    TSSKFSS-VSYPQMKPK-SPHNSIVNLSDRSRYGIADMTNSSADLETNSMLNDSSSDEE 393
Gallus_gallus     TSSKFSS-VSYPQMKPK-SPHNSIVNLSDRSRYGIADMTNSSADLETNSMLNDSSSDEE 393
Chelonia_mydas    TSSKFSS-VSYPQMKPK-SPHNSGMVNLSDRSRYGIADMTNSSADLETNSMLNDSSSDEE 411
Mus_musculus      STSKFSS-SMSYPQMKPK-SPHNSGLVNLTERSRYGMSDMTNSSADLDTNSMLNDSSSDED 392
Rattus_norvegicus STSKFSP-MSYPQMKPK-SPHNSGLVNLTERSRYGMSDMTNSSADLDTNSMLNDSSSDED 392
Homo_sapiens      -ASKFSP-MSYPQMKPK-SPHNSGLVNLTERSRYGMTDMTNSSADLETNSMLNDSSSDEE 391
Pan_troglodytes   -ASKFSP-MSYPQMKPK-SPHNSGLVNLTERSRYGMTDMTNSSADLETNSMLNDSSSDEE 391
Macaca_mulatta    SASKFSP-MSYPQMKPK-SPHNSGLVNLTERSRYGMTDMTNSSADLETNSMLNDSSSDEE 392
Callithrix_jacchus SASKYSP-MSYPQMKPK-SPHNSGLVNLTERSRYGMTDMTNSSADLETNSMLNDSSSDEE 392
Heterocephalus_glaber SASKFSP-MSYPQMKPK-SPHNSGLINLPERSRYGMTDMTNSSADLETNSMLNDSSSDEE 392
Canis_lupus_familiaris SASKFSP-VSYPQMKPK-SPHNSGLVNLTERSRYGIADMTNSSADLETNSMLNDSSSDEE 392
Equus_caballus    SASKFSP-MSYPPMKPK-SPHNSGLVNLTERSRYGMADMTNSSADLETNSMLNDSSSDEE 392
Bos_taurus        STSKFSP-MSYPQMKPK-SPHNSGLVNLTERSRYGMPDMTN-SADLDTNSMLNDSSSDEE 392
Rhinatrema_bivittatum TSSKFSS-VSYPQMKPK-SPHNSNMMSMVDSPYGMTDMTNSSADMETNSMLNDSSSDEE 385
Xenopus_tropicalis ---KYSS-MPYVPIKPK-PSSDTGIMNLSDRSPYAVSEKSSAVLDMDSNLLNDSSSDDD 383
Latimeria_chalumnae MVSKFSP-ISYPQMKPNPSSASTSIAGLADGSPYTMALSS-SADLETNSMLNDSSSDEE 393
.....370.....380.....390.....400.....410.....420

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      :::*:. .: * : *:.: * *:.:*****:*****:*****
Pavo_muticus      LNEIDSENGLSMDHQTTGMSAEQLMGSDGNKLLKLGIPFRRYMNRFQCPFCPFLTMHR 453
Pavo_cristatus    LNEIDSENGLSMDHQATGMSAEQLMGSDGNKLLKLGIPFRRYMNRFQCPFCPFLTMHR 453
Gallus_gallus     LNEIDSENGLSMDHQTTGMSAEQLMGSDGNKLLKLGIPFRRYMNRFQCPFCPFLTMHR 453
Chelonia_mydas    LNEIDSENGLSMDHQTTGMSAEQLMGSDGNKLLKLGIPFRRYMNRFQCPFCPFLTMHR 471
Mus_musculus      LNEVDSENGLSVLDHQASGLSAEQLMGSDGNKLLKLGIPFRRFMNRFQCPFCPFLTMHR 452
Rattus_norvegicus LNEVDSENGLSVMDHQASGLSAEQLMGSDGNKLLKLGIPFRRFMNRFQCPFCPFLTMHR 452
Homo_sapiens      LNEIDSENGLSAMDHQTTGMSAEQLMGSDGNKLLKLGIPFRRFMNRFQCPFCPFLTMHR 451
Pan_troglodytes   LNEIDSENGLSAMDHQTTGMSAEQLMGSDGNKLLKLGIPFRRFMNRFQCPFCPFLTMHR 451
Macaca_mulatta    LNEIDSENGLSVMDHQTTGMSAEQLMGSDGNKLLKLGIPFRRFMNRFQCPFCPFLTMHR 452
Callithrix_jacchus LNEIDSENGLSAMDHQTTGMSAEQLMGSDGNKLLKLGIPFRRFMNRFQCPFCPFLTMHR 452
Heterocephalus_glaber LNEIDSENGLSAMDHQTTGMSAEQLMGSDGNKLLKLGIPFRRFMNRFQCPFCPFLTMHR 452
Canis_lupus_familiaris LNEIDSENGLSAMDHQTTGMSAEQLMGSDGNKLLKLGIPFRRFMNRFQCPFCPFLTMHR 452
Equus_caballus    LNEIDSENGLSAMDHQTTGMSAEQLMGSDGNKLLKLGIPFRRFMNRFQCPFCPFLTMHR 452
Bos_taurus        LNEIDSENGLSAMDHQTTGMSAEQLMGSDGNKLLKLGIPFRRFMNRFQCPFCPFLTMHR 452
Rhinatrema_bivittatum LIDMESENGLSIDHQTTGMSAEQLMGSDGNKLLKLGIPFRRYMNRFQCPFCPFLTMHR 445
Xenopus_tropicalis VIDLDSENGLSVMDHQTTGMSAEQLMGSDGNKLLKLGIPFRRYMNRFQCPFCPFLTMHR 443
Latimeria_chalumnae LNEIDSENGLSVMDHQTTGMSAEQLMGSDGNKLLKLGIPFRRYMNRFQCPFCPFLTMHR 452
.....430.....440.....450.....460.....470.....480

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      ***** :*****:***** ***** ** * * *::: * :.
Pavo_muticus      RSISRHIENIHLGKTAIVYKCECPFTCKSSLKLGAI-KQCHTGTTSDWDVTNSQAESIA 512
Pavo_cristatus    RSISRHIENIHLGKTAIVYKCECPFTCKSSLKLGAI-KQCHTGTTSDWDVTNSQAESIA 512
Gallus_gallus     RSISRHIENIHLGKTAIVYKCECPFTCKSSLKLGAI-KQCHTGTTSDWDVTNSQAESIA 512
Chelonia_mydas    RSISRHIENIHLGKTAIVYKCECPFTCKSSLKLGAI-KQCHTGTTSDWDVTNSQAESIA 530
Mus_musculus      RSISRHIENIHLGKTAIVYKCECPFTCKSSLKLGAI-KQCHTG-TSDWDVTNSQAESIS 510
Rattus_norvegicus RSISRHIENIHLGKTAIVYKCECPFTCKSSLKLGAI-KQCHTG-TSDWDVTNSQAESIS 510
Homo_sapiens      RSISRHIENIHLGKTAIVYKCECPFTCKSSLKLGAI-KQCHTGTTSDWDVTNSQAESIS 510
Pan_troglodytes   RSISRHIENIHLGKTAIVYKCECPFTCKSSLKLGAI-KQCHTGTTSDWDVTNSQAESIS 510
Macaca_mulatta    RSISRHIENIHLGKTAIVYKCECPFTCKSSLKLGAI-KQCHTGTTSDWDVTNSQAESIS 511
Callithrix_jacchus RSISRHIENIHLGKTAIVYKCECPFTCKSSLKLGAI-KQCHTG-TSDWDVTNSQAESIS 510
Heterocephalus_glaber RSISRHIENIHLGKTAIVYKCECPFTCKSSLKLGAI-KQCHTGAI-TSDWDVTNSQAESIS 511
Canis_lupus_familiaris RSISRHIENIHLGKTAIVYKCECPFTCKSSLKLGAI-KQCHTGTTSDWDVTNSQAESIS 511
Equus_caballus    RSISRHIENIHLGKTAIVYKCECPFTCKSSLKLGAI-KQCHTGTTSDWDVTNSQAESIS 511
Bos_taurus        RSISRHIENIHLGKTAIVYKCECPFTCKSSLKLGAI-KQCHTGTTSDWDVTNSQAESIS 511
Rhinatrema_bivittatum RSISRHIENIHLGKTSVYKCECPFTCKSPLKLGAI-KQCHTGTTSDWDVTNSQAESIS 505
Xenopus_tropicalis RSISRHIENIHLGKTAIVYKCECPFTCKSPLKLGAI-KQCHTGTTSDWDVTNSQAESIS 502
Latimeria_chalumnae RSISRHIENIHLGKMAIYKCECPFTCKSPLKLGAI-KQCHVGTTSEWETMSSQNESMT 511
.....490.....500.....510.....520.....530.....540

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		*****.*.*** *****:.*	
Pavo_muticus	-----SPOPHSQHPYKCTMCNYSTTTLKGLRVHQQHKHSFC	NLP	588
Pavo_cristatus	-----SPOPHSQHPYKCTMCNYSTTTLKGLRVHQQHKHSFC	NLP	588
Gallus_gallus	-----SPOPHSQHPYKCTMCNYSTTTLKGLRVHQQHKHSFC	NLP	589
Chelonia_mydas	-----SPOPHSQHPYKCTLCNYSTTTLKGLRVHQQHKHSFC	NLP	603
Mus_musculus	PHQVPP-----PTQQPPPTQAAPPLHPYKCTMCSYSTMTLKGLRVHQQHKHSFC	NLP	623
Rattus_norvegicus	PHQVPPQPQ-PPPPPTQQPPPTQVPPPLHPYKCTMCSYSTMTLKGLRVHQQHKHSFC	NLP	629
Homo_sapiens	PHQVPPQPQTQPPPTQQPPPTQAAPLHPYKCTMCNYSTTTLKGLRVHQQHKHSFC	NLP	630
Pan_troglodytes	PHQVPPQPQTQPPPPQPPPTQAAPLHPYKCTMCNYSTTTLKGLRVHQQHKHSFC	NLP	630
Macaca_mulatta	PHQVPSQPQTQPPPTQQPPPTQAAPLHPYKCTMCNYSTTTLKGLRVHQQHKHSFC	NLP	631
Callithrix_jacchus	PHQVPPPPPTQPPPTQQPPPTQAAPLHPYKCTMCNYSTTTLKGLRVHQQHKHSFC	NLP	630
Heterocephalus_glaber	PHQVPPQP--QPPPAQPPPTQAAPPLHPYKCTMCSYSTMTLKGLRVHQQHKHSFC	NLP	627
Canis_lupus_familiaris	PHQVPPQPQPQPPPTQQPPPTQVQAPPLHPYKCTMCNYSTTTLKGLRVHQQHKHSFC	NLP	624
Equus_caballus	PHQVPPQPQ--PPPTQQPPPTQVQAPPLHPYKCTMCNYSTTTLKGLRVHQQHKHSFC	NLP	623
Bos_taurus	PHQVPPQPQLPPPPPP--PPAQAPPLHPYKCTMCNYSTTTLKGLRVHQQHKHSFC	NLP	622
Rhinatrema_bivittatum	-----LSSQQHPYKCTICNYSTTTLKGLRVHQQHKHSFC	NVP	569
Xenopus_tropicalis	-----NPYKCTMCNYSTTTLKGLRVHQQHKHSFC	DMP	560
Latimeria_chalumnae	-----DFTQQHPYKCTMCSYSTMTLKGLRVHQQHKHSFC	NMP	576
610.....620.....630.....640.....650.....660		

[illegible]

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*****.....*****.*.* * * :*:***
Pavo_muticus      KKRTTRIDEIASNLQSKISKQKQEDAVINVEDD-----EEEEEDNEVEIEVELDREEEQ 701
Pavo_cristatus    KKRTTRIDEIASNLQSKISKQKQEDAVINVEDD-----EEEEEDNEVEIEVELDREEEQ 701
Gallus_gallus     KKRTTRIDEIASNLQSKISKQKQEDAVINVEDD-----EEEEEDNEVEIEVELDREEEQ 702
Chelonia_mydas    KKRTTRIDEIASNLQSKINQKQEDAVINVEDD-----EEEEEDNEVEIEVELDKEEQ 716
Mus_musculus      KKRTTRIDEIASNLQSKINQTKLQEDAIINVEDD-----EEEEEDNEVEIEVELDREEEQ 737
Rattus_norvegicus KKRTTRIDEIASNLQSKINQTKLQEDAIINVEDD-----EEEEEDNEVEIEVELDREEEQ 743
Homo_sapiens      KKRTTRIDEIASNLQSKINQTKQEDAVINVEDD-----EEEEEDNEVEIEVELDREEEQ 744
Pan_troglodytes   KKRTTRIDEIASNLQSKINQTKQEDAVINVEDD-----EEEEEDNEVEIEVELDREEEQ 744
Macaca_mulatta    KKRTTRIDEIASNLQSKINQTKQEDAVINVEDD-----EEEEEDNEVEIEVELDREEEQ 745
Callithrix_jacchus KKRTTRIDEIASNLQSKINQTKQEDAVINVEDD-----EEEEEDNEVEIEVELDREEEQ 744
Heterocephalus_glaber KKRTTRIDEIASNLQSKINQTKQEDAVINVEDD-----EEEEEDNEVEIEVELDREEEQ 741
Canis_lupus_familiaris KKRTTRIDEIASNLQSKINQTKQEDAVINVEDD-----EEEEEDNEVEIEVELDREEEQ 738
Equus_caballus    KKRTTRIDEIASNLQSKINQTKQEDAVINVEDD-----EEEEEDNEVEIEVELDREEEQ 737
Bos_taurus        KKRTTRIDEIASNLQSKINQTKQEDAVINVEDD-----EEEEEDNEVEIEVELDREEEQ 736
Rhinatrema_bivittatum KKRTTRIDEIASNLQSKISQTKQEDSVINVEDE-----EEDDEENEVEIEVELDKEEQ 682
Xenopus_tropicalis KKRTTRIDEIASNLQSKINQSKQEDNVINVEDDDEEVEEEEEEEENEVEIEVELDKEEQ 677
Latimeria_chalumnae KKRTTRIDEIANNLQSKITQTKQADTIINIEDID-----DEEEDDNEVEIEVELDKEEQ 689
.....730.....740.....750.....760.....770.....780

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.: .: .: .: * *.: .: .: .: *****:~::~ *
Pavo_muticus      TEPMIEVS-SSYAPQQMVGREANDS QKEANFRSLQHDYSSA-NGAEIELTLSEDEEDYY 759
Pavo_cristatus    TEPMIEVS-SSYAPQQMVGREANDS QKEANFRSLQHDYSSA-NGAEIELTLSEDEEDYY 759
Gallus_gallus     TEPMIEVS-SSYAPQQMVGREANDS QKETNFRSLQHDYNSA-NGAEIELTLSEDEEDYY 760
Chelonia_mydas    TEPLMEVS-SSYAPQQMVGRTDND S QKETNFRNMPHDYNST-NGAEIELTLSEDEEDYY 774
Mus_musculus      TDPIMEVP-TAFSAQQIWARDASEAQKEPNYRSITHDYTAT-NGAEIELTLSEDEEDYY 795
Rattus_norvegicus TEPIMDVP-TAFSAQQIWARDTSES QKEANYRSITHDYTAT-NGAEIELTLSEDEEDYY 801
Homo_sapiens      TEPIIEVP-TSFSAQIWRVDTSEPQKEPNFRNITHDYAT-NGAEIELTLSEDEEDYY 802
Pan_troglodytes   TEPIIEVP-TSFSAQIWRVDTSEPQKEPNFRNITHDYAT-NGAEIELTLSEDEEDYY 802
Macaca_mulatta    TEPIIEVP-TSFSAQIWARDTSEPQKEPNFRNITHDYAT-NGAEIELTLSEDEEDYY 803
Callithrix_jacchus TEPIIEVP-TSFSAQIWARDTSES QKEPNFRSITHDYAT-NGAEIELTLSEDEEDYY 802
Heterocephalus_glaber AEPIMEVP-TSFSAQIWRVDTSEPQKEPNFRNITHDYAT-NGAEIELTLSEDEEDYY 799
Canis_lupus_familiaris TEPVMEVS-ASFAQQIWARDAGEPPKEPNFRSVAHDYAT-NGAEIELTLSEDEEDYY 796
Equus_caballus    TEPVMEVP-TSFAQQIWARDASEQKEPNFRSVTHDYAT-NGAEIELTLSEDEEDYY 795
Bos_taurus        PEPVMEVP-TSFAQQIWARDASEQKEPNFRSVTHDYAT-NGAEIELTLSEDEEDYY 794
Rhinatrema_bivittatum AEPVMEVS-ASFAQQIWARDAGEPPKEPNFRSVAHDYAT-NGAEIELTLSEDEEDYY 794
Xenopus_tropicalis SE-QMDTT-DAYGIHQMWWARDANNPQKNVSYRNIQHNYAATPNGAEIELTLSDDEEDYYY 735
Latimeria_chalumnae TEQLTETLCKYPAQHTWVREADDSQNEGVYRNMQDDFNVG-NGAEIELTLSDDDDDYYR 748
.....790.....800.....810.....820.....830.....840

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. . *: . : * . : : . : * * * * *: . *****
Pavo_muticus      S-VSMKEHQSPNASVLGGQSNMYG-TDQNNENTEFS-DSGRLYYCKHCDFSNKSARSVST 816
Pavo_cristatus    S-VSMKEHQSPNASVLGGQSNMYG-TDQNNENTEFS-DSGRLYYCKHCDFSNKSARSVST 816
Gallus_gallus     S-VSMKEHQSPNASVLGGQSNMYG-TDQNNENAEFS-DSGRLYYCKHCDFSNKSARSVST 817
Chelonia_mydas    SSVNMKDHQGPNASLLGSQSSMYG-SDQNSENAEPN-DSGRLYYCKHCDFSNKSARSVST 832
Mus_musculus      SSASMKD-QVSNAALLNTQPAIYG-TEPSNENTDFG-DSGRLYYCKHCDFNKKSARSVST 852
Rattus_norvegicus SSTSIKDHQVSNAALLNTQPIYG-TEHSNENTDFG-DSGRLYYCKHCDFNKKSARSVST 859
Homo_sapiens      SSTNLKDHQVSNTALLNTQTPIYG-TEHNSENTDFG-DSGRLYYCKHCDFNKKSARSVST 860
Pan_troglodytes   SSTNLKDHQVSNTALLNTQTPIYG-TEHNSENTDFG-DSGRLYYCKHCDFNKKSARSVST 860
Macaca_mulatta    SSTNLKDHQVSNTALLNTQTPIYG-TEHNNENTDFG-DSGRLYYCKHCDFNKKSARSVST 861
Callithrix_jacchus SSTNMKDHQISNTALLNTQTPIYG-TEHNNENTDFG-DSGRLYYCKHCDFNKKSARSVST 860
Heterocephalus_glaber SSTNLKDHQVSNTALMNTQTPIYG-TEHNNENTDFG-DSGRLYYCKHCDFNKKSARSVST 857
Canis_lupus_familiaris SSTNMKDHQVSNAALLNTQTPIYG-TEHNNENTDFG-DSGRLYYCKHCDFNKKSARSVST 854
Equus_caballus    STTNMKDHQVSNTALLNTQTPIYG-TEHNSENTDFS-DSGRLYYCKHCDFNKKSARSVST 853
Bos_taurus        SSTNMKDHQVSNTALLNTQTPIYA-SEHNNENTDFS-DSGRLYYCKHCDFNKKSARSVST 852
Rhinatrema_bivittatum S-GDLKDQGGQNASGSCSQSSMYGGIDQNSENAEPSEDSERLYYCKHCDFSNKSARSVST 799
Xenopus_tropicalis QSTGMKEQETSASTSHN-QSSIYN-ENEQNEAEYNESGRLYYCKHCDFSNKSARSVST 793
Latimeria_chalumnae SVANSKEVHGSITVATGNQSAVFTAQDNENSELNEDSERLYNCKHCNFSNKSARSVST 808
.....850.....860.....870.....880.....890.....900

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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*****:*****.*****:*.:* *****.*****:
Pavo_muticus      HYQRMHPYIKFSFRYILDPNHSAVYRCLECYIDYTNFEDLQQHYGEHHPEAMNVLNFDH 876
Pavo_cristatus    HYQRMHPYIKFSFRYILDPNHSAVYRCLECYIDYTNFEDLQQHYGEHHPEAMNVLNFDH 876
Gallus_gallus     HYQRMHPYIKFSFRYILDPNHSAVYRCLECYIDYTNFEDLQQHYGEHHPEAMNVLNFDH 877
Chelonia_mydas    HYQRMHPYIKFSFRYILDPNHSAVYRCLECYIDYTNFEDLQQHYGEHHPEAMNVLNFDH 892
Mus_musculus      HYQRMHPYIKFSFRYILDPNHSAVYRCLECYIDYTNFEDLQQHYGEHHPEAMNVLNFDH 912
Rattus_norvegicus HYQRMHPYIKFSFRYILDPNHSAVYRCLECYIDYTNFEDLQQHYGEHHPEAMNVLNFDH 919
Homo_sapiens      HYQRMHPYIKFSFRYILDPNHSAVYRCLECYIDYTNFEDLQQHYGEHHPEAMNVLNFDH 920
Pan_troglodytes   HYQRMHPYIKFSFRYILDPNHSAVYRCLECYIDYTNFEDLQQHYGEHHPEAMNVLNFDH 920
Macaca_mulatta    HYQRMHPYIKFSFRYILDPNHSAVYRCLECYIDYTNFEDLQQHYGEHHPEAMNVLNFDH 921
Callithrix_jacchus HYQRMHPYIKFSFRYILDPNHSAVYRCLECYIDYTNFEDLQQHYGEHHPEAMNVLNFDH 920
Heterocephalus_glaber HYQRMHPYIKFSFRYILDPNHSAVYRCLECYIDYTNFEDLQQHYGEHHPEAMNVLNFDH 917
Canis_lupus_familiaris HYQRMHPYIKFSFRYILDPNHSAVYRCLECYIDYTNFEDLQQHYGEHHPEAMNVLNFDH 914
Equus_caballus    HYQRMHPYIKFSFRYILDPNHSAVYRCLECYIDYTNFEDLQQHYGEHHPEAMNVLNFDH 913
Bos_taurus        HYQRMHPYIKFSFRYILDPNHSAVYRCLECYIDYTNFEDLQQHYGEHHPEAMNVLNFDH 912
Rhinatrema_bivittatum HYQRMHPYIKFSFRYILDPNHSAVYRCLECYIDYTNFEDLQQHYAEHHPEAMNVLNFDQ 859
Xenopus_tropicalis HYQRMHPYIKFSFRYILDPSDHSVYRCLECYIDYTNFEDLQQHYAEHHPEAMNVLNFDQ 853
Latimeria_chalumnae HYQRMHPYVKFSFRYILDPNHSAVYRCLECYVDYDNFADLQQHYSEHHPEAMNVLNFDQ 868
.....910.....920.....930.....940.....950.....960
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.*****:*****.*****:*.:* *****.*****:
Pavo_muticus      SDLIYRCRFCYSYSPNVRSLMPHYQRMHPTVKINNAMIFSSYVVEQQEGLNTESQTLREI 936
Pavo_cristatus    SDLIYRCRFCYSYSPNVRSLMPHYQRMHPTVKINNAMIFSSYVVEQQEGLNTESQTLREI 936
Gallus_gallus     SDLIYRCRFCYSYSPNVRSLMPHYQRMHPTVKINNAMIFSSYVVEQQEGLNTESQTLREI 937
Chelonia_mydas    SDLIYRCRFCYSYSPNVRSLMPHYQRMHPTVKINNAMIFSSYVVEQQEGLNAESQTLREI 952
Mus_musculus      SDLIYRCRFCYSYSPNVRSLMPHYQRMHPTVKINNAMIFSSYVVEQQEGLNAESQTLREI 972
Rattus_norvegicus SDLIYRCRFCYSYSPNVRSLMPHYQRMHPTVKINNAMIFSSYVVEQQEGLNAESQTLREI 979
Homo_sapiens      SDLIYRCRFCYSYSPNVRSLMPHYQRMHPTVKINNAMIFSSYVVEQQEGLNTESQTLREI 980
Pan_troglodytes   SDLIYRCRFCYSYSPNVRSLMPHYQRMHPTVKINNAMIFSSYVVEQQEGLNTESQTLREI 980
Macaca_mulatta    SDLIYRCRFCYSYSPNVRSLMPHYQRMHPTVKINNAMIFSSYVVEQQEGLNTESQTLREI 981
Callithrix_jacchus SDLIYRCRFCYSYSPNVRSLMPHYQRMHPTVKINNAMIFSSYVVEQQEGLNTESQTLREI 980
Heterocephalus_glaber SDLIYRCRFCYSYSPNVRSLMPHYQRMHPTVKINNAMIFSSYVVEQQEGLNTESQTLREI 977
Canis_lupus_familiaris SDLIYRCRFCYSYSPNVRSLMPHYQRMHPTVKINNAMIFSSYVVEQQEGLNTESQTLREI 974
Equus_caballus    SDLIYRCRFCYSYSPNVRSLMPHYQRMHPTVKINNAMIFSSYVVEQQEGLNTESQTLREI 973
Bos_taurus        SDLIYRCRFCYSYSPNVRSLMPHYQRMHPTVKINNAMIFSSYVVEQQEGLGTESQTLREI 972
Rhinatrema_bivittatum SDLIYRCRFCYSYSPNVRSLMPHYQRMHPTVKINNAMIFSSYVIEQQEELNSESQTLREI 919
Xenopus_tropicalis SDLIYRCRFCYSYSPNVRSLMPHYQRMHPTVKINNAMIFSSYVVDROEELNSESQTLREI 913
Latimeria_chalumnae PDLIYRCRFCYSYSPNVRSLMPHYQRMHPTVKINNAMIFSSYVVEQQEATNAESQTLREI 928
.....970.....980.....990.....1000.....1010.....1020
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*****.:*** :* . : :*.: . : . * . :*.*****.***
Pavo_muticus      LNSAPKTMATSTPVARAGVPAAGFNKSAA-KSFSPECENQKEPSVNSVVVYDCDVCSFAS 995
Pavo_cristatus    LNSAPKTMATSTPVARAGVPAAGFNKSAA-KSFSPECENQKEPSVNSVVVYDCDVCSFAS 995
Gallus_gallus     LNSAPKTMATSTPVARAGVPAAGFNKSAA-KSFSPECENQKEPSVNSVVVYDCDVCSFAS 996
Chelonia_mydas    LNSAPKTMATSTPVARAGVPAATFNKNAS-KSFSPECENQKEPSVNSVVVYDCDVCSFAS 1011
Mus_musculus      LNSAPKSMATSTPVARGGGLPATFNKNTPPKTFTPECESQKDPVNTVVVYDCDVCSFAS 1032
Rattus_norvegicus LNSAPKSMATSTPVARGGGMPATFNKNTPSKTFTPECEENQKDPVNTVVVYDCDVCSFAS 1039
Homo_sapiens      LNSAPKNMATSTPVARGGGLPATFNKNTP-KTFTPECEENQKDPVNTVVVYDCDVCSFAS 1039
Pan_troglodytes   LNSAPKNMATSTPVARGGGLPATFNKNTP-KTFTPECEENQKDPVNTVVVYDCDVCSFAS 1039
Macaca_mulatta    LNSAPKNMATSTPVARGGGLPATFNKNTPSKTFTPECEENQKDPVNTVVVYDCDVCSFAS 1041
Callithrix_jacchus LNSAPKNMATSTPVARGGGLPATFNKNTPSKTFSPECENQKDPVNTVVVYDCDVCSFAS 1040
Heterocephalus_glaber LNSAPKNMATSTPVGRRGGMPATFNKNTPSKTFTPECEENQKDPVNTVVVYDCDVCSFAS 1037
Canis_lupus_familiaris LNSAPKSLATSTPVARGGGLPATFNKNTPSKTFTPECEENQKDPVNTVVVYDCDVCSFAS 1034
Equus_caballus    LNSAPKNMATSTPVARGGGMPATFNKNTPSKTFTPECEENQKDPVNTVVVYDCDVCSFAS 1033
Bos_taurus        LNSAPKNMATSTPMARGGGMPAPYPKNTPSKTFTPECEENQKDPVNTVVVYDCDVCSFAS 1032
Rhinatrema_bivittatum LNSAPKNMATSTPASHGTMSSAYNKNAT-KSFGPDSNHNKDSVNSVVVYDCDVCSFAS 978
Xenopus_tropicalis LNSAPKSMVTSTPTGQASSSATFNKNSI-QPFGTETENPK-SSVNSVVVYDCDVCKFAS 971
Latimeria_chalumnae LNSAPKNLGTSTPVPHGISPSSSFNKNITKPLSSPEQNTLKEASLNNVVVYDCDVCSFAS 988
.....1030.....1040.....1050.....1060.....1070.....1080
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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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*****:***** **:***: .:* :* : : . : * .
Pavo_muticus      PNMHSVLVHYQKKHPEEKASYFRIQKTMRVVSVDRGSALAQMSFEMGTPVSPKLSNLAS- 1054
Pavo_cristatus    PNMHSVLVHYQKKHPEEKASYFRIQKTMRVVSVDRGSALAQMSFEMGTPVSPKLSNLAS- 1054
Gallus_gallus     PNMHSVLVHYQKKHPEEKASYFRIQKTMRVVSVDRGSALAQMSFEMGTPVSPKLSNLAS- 1055
Chelonia_mydas    PNMHSVLVHYQKKHPEEKASYFRIQKTMRVVSVDRGSALAQLSFEVGAPMSPKMSNMGS- 1071
Mus_musculus      PNMHSVLVHYQKKHPEEKASYFRIQKTMRMVSVDRGSALSQLSFEVGAPMSPKMSNMGS- 1091
Rattus_norvegicus PNMHSVLVHYQKKHPEEKASYFRIQKTMRMVSVDRGSALAQLSFEVGAPMSPKMSNMGS- 1098
Homo_sapiens      PNMHSVLVHYQKKHPEEKASYFRIQKTMRMVSVDRGSALSQLSFEVGAPMSPKMSNMGS- 1098
Pan_troglodytes   PNMHSVLVHYQKKHPEEKASYFRIQKTMRMVSVDRGSALSQLSFEVGAPMSPKMSNMGS- 1098
Macaca_mulatta    PNMHSVLVHYQKKHPEEKASYFRIQKTMRMVSVDRGSALSQLSFEVGAPMSPKMSNMGS- 1100
Callithrix_jacchus PNMHSVLVHYQKKHPEEKASYFRIQKTMRMVSVDRGSALSQLSFEVGAPMSPKMSNMGS- 1099
Heterocephalus_glaber PNMHSVLVHYQKKHPEEKASYFRIQKTMRMVSVDRGSALSQLSFEVGAPMSPKMSNMGS- 1096
Canis_lupus_familiaris PNMHSVLVHYQKKHPEEKASYFRIQKTMRMVSVDRGSALSQLSFEVGAPMSPKMSNMGS- 1093
Equus_caballus    PNMHSVLVHYQKKHPEEKASYFRIQKTMRMVSVDRGSALSQLSFEVGAPMSPKMSNMGS- 1092
Bos_taurus        PNMHSVLVHYQKKHPEEKASYFRIQKTMRMVSVDRGSALSQLSFEVGAPMSPKMSNMGS- 1091
Rhinatrema_bivittatum PNMHSVLVHYQKKHPEEKASYFRIQKTMRVSVDRGSALSQLSFEVGAPMSPKMSNMGS- 1037
Xenopus_tropicalis PNMHSVLVHYQKKHPEEKASYFRIQKTMRVSVDRGSALSQLSFEVGAPMSPKMSNMGS- 1030
Latimeria_chalumnae PNMHSVLVHYQKKHPEEKASYFRIQKTMRVSVDRGSALSQLSFEVGAPMSPKMSNMGS- 1046
.....1090.....1100.....1110.....1120.....1130.....1140

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*.: : ***:*** *****:***** :*
Pavo_muticus      -PPPPPPPPDLATELYYCKKCSYSNRSVVGVLVHYQKRHPEIKVTAKYIRQAPPTAAMMR 1113
Pavo_cristatus    -PPPPPPPPDLATELYYCKKCSYSNRSVVGVLVHYQKRHPEIKVTAKYIRQAPPTAAMMR 1113
Gallus_gallus     -PPPPPPPPDLATELYYCKKCSYSNRSVVGVLVHYQKRHPEIKVTAKYIRQAPPTAAMMR 1114
Chelonia_mydas    PPPPPPPPPDLTTELYYCKKCSYSNRSVVGVLVHYQKRHPEIKVTAKYIRQPTPTAAMMR 1131
Mus_musculus      PPPPQPPPPDLSTELYYCKKCSYSNRSVVGVLVHYQKRHPEIKVTAKYIRQAPPTAAMMR 1151
Rattus_norvegicus PPPPQPPPPDLSTELYYCKKCSYSNRSVVGVLVHYQKRHPEIKVTAKYIRQAPPTAAMMR 1158
Homo_sapiens      PPPPQPPPPDLSTELYYCKKCSYSNRSVVGVLVHYQKRHPEIKVTAKYIRQAPPTAAMMR 1158
Pan_troglodytes   PPPPQPPPPDLSTELYYCKKCSYSNRSVVGVLVHYQKRHPEIKVTAKYIRQAPPTAAMMR 1158
Macaca_mulatta    PPPPQPPPPDLSTELYYCKKCSYSNRSVVGVLVHYQKRHPEIKVTAKYIRQAPPTAAMMR 1160
Callithrix_jacchus PPPPQPPPPDLSTELYYCKKCSYSNRSVVGVLVHYQKRHPEIKVTAKYIRQAPPTAAMMR 1159
Heterocephalus_glaber PPPPQPPPPDLSTELYYCKKCSYSNRSVVGVLVHYQKRHPEIKVTAKYIRQAPPTAAMMR 1156
Canis_lupus_familiaris PPPPQPPPPDLSTELYYCKKCSYSNRSVVGVLVHYQKRHPEIKVTAKYIRQAPPTAAMMR 1153
Equus_caballus    PPPPQPPPPDLSTELYYCKKCSYSNRSVVGVLVHYQKRHPEIKVTAKYIRQAPPTAAMMR 1152
Bos_taurus        PPPPQPPPPDLSTELYYCKKCSYSNRSVVGVLVHYQKRHPEIKVTAKYIRQAPPTAAMMR 1151
Rhinatrema_bivittatum -----PADLNVELYYCKKCSYSNRSVVGVLVHYQKRHPEIKVTAKYIRQAPPTAALMR 1090
Xenopus_tropicalis ---NVTSPSEVTPELYFCKKCSYSNRSVVGVLVHYQKRHPEIKVTAKYIRQAPPTAATVR 1087
Latimeria_chalumnae -----PSELNPELYYCKKCVYSNRSVVGVLVHYQKRHPEIKVTAKYIRQAPPTAALMR 1099
.....1150.....1160.....1170.....1180.....1190.....1200

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Pavo_muticus      AGELPPGI-QRPPVSMQQLSRGGSETSVNPPENEMFFCQHCDYGNRTVKGVLIHYQKKHR 1172
Pavo_cristatus    AGELPPGI-QRPPVSMQQLSRGGSETSVNPPENEMFFCQHCDYGNRTVKGVLIHYQKKHR 1172
Gallus_gallus     AGELPPGI-QRPPVSMQQLSRGGSETSVNPPENEMFFCQHCDYGNRTVKGVLIHYQKKHR 1173
Chelonia_mydas    GGEMPPGI-QRPPASVQ-LNRGSSSESVAPLENEMFFCQHCDYGNRTVKGVLIHYQKKHR 1189
Mus_musculus      GAEGLODS-PRPPAPL-QLN--SSERDCPPVETEMFFCQHCDYGNRTVKGVLIHYQKKHR 1207
Rattus_norvegicus GAEGLODS-PRPPAPM-QLNRSSSERDCPPVETEMFFCQHCDYGNRTVKGVLIHYQKKHR 1216
Homo_sapiens      GVEGPQGS-PRPPAPIQLNRSSSERDGPVENEMFFCQHCDYGNRTVKGVLIHYQKKHR 1217
Pan_troglodytes   GVEGPQGS-PRPPAPIQLNRSSSERDGPVENEMFFCQHCDYGNRTVKGVLIHYQKKHR 1217
Macaca_mulatta    GVEGPQGS-PRPPAPMQLNRSSSERDGPVENEMFFCQHCDYGNRTVKGVLIHYQKKHR 1219
Callithrix_jacchus GVEGPQGS-PRPPAPMQLNRSSSERDGPVENEMFFCQHCDYGNRTVKGVLIHYQKKHR 1218
Heterocephalus_glaber GAEGPQGS-PRPPAPMQLNRSSSERDGLPVENEMFFCQHCDYGNRTVKGVLIHYQKKHR 1215
Canis_lupus_familiaris GSEGPQGS-PRPPAPMQLNRSSSERDGPVENEMFFCQHCDYGNRTVKGVLIHYQKKHR 1212
Equus_caballus    GAEGPQGS-PRPPAPMQLNRSSSERDGPVENEMFFCQHCDYGNRTVKGVLIHYQKKHR 1211
Bos_taurus        GPEGPHGS-PRPPAPMQLNRSSSERDGPVENEMFFCQHCDYGNRTVKGVLIHYQKKHR 1210
Rhinatrema_bivittatum SGEATQGN-SSKRPTMQQMKSGMPLQ----ENEMFFCQHCDYGNRTVKGVLIHYQKKHR 1145
Xenopus_tropicalis NVDALQN----PPIKQPTSTNSKKGNTQPRGNEMFFCQHCDYGNRTVKGVLIHYQKKHR 1143
Latimeria_chalumnae NMEEMQITPARSQLSAYQNSTNSSESAASPDQGQLFFCQHCDYGNRTVKGVLIHYQKKHR 1159
.....1210.....1220.....1230.....1240.....1250.....1260

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/ZNF642.psl Tue Feb 1 14:59:12 2022

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**::***:****.::*****::*** **::***** **::*** **::***
YALRKHIKKDHPNLKATVTSILRWAFLDGLIEAGYHCEWCYIYSHTEPSGLLVHYQRRHPE 1292
YALRKHIKKDHPNLKATVTSILRWAFLDGLIEAGYHCEWCYIYSHTEPSGLLVHYQRRHPE 1292
YALRKHIKKDHPNLKATVTSILRWAFLDGLIEAGYHCEWCYIYSHTEPSGLLVHYQRRHPE 1293
YALRKHIKKDHPSLKATVTSILRWAFLDGLIEAGYHCEWCYIYSHTEPSGLLVHYQRRHPE 1309
YALRKHIKKDHPALKATVTSIMRWAFLDGLIEAGYHCEWCYIYSHMEPSGLLLHYQRRHPE 1326
YALRKHIKKDHPALKATVTSIMRWAFLDGLIEAGYHCEWCYIYSHMEPSGLLLHYQRRHPE 1335
YALRKHIKKDHPALKATVTSIMRWAFLDGLIEAGYHCEWCYIYSHTEPNGLLLHYQRRHPE 1337
YALRKHIKKDHPALKATVTSIMRWAFLDGLIEAGYHCEWCYIYSHTEPNGLLLHYQRRHPE 1337
YALRKHIKKDHPALKATVTSIMRWAFLDGLIEAGYHCEWCYIYSHTEPNGLLLHYQRRHPE 1339
YALRKHIKKDHPALKATVTSIMRWAFLDGLIEAGYHCEWCYIYSHTEPSGLLLHYQRRHPE 1338
YALRKHIKKDHPALKATVTSIMRWAFLDGLIEAGYHCEWCYIYSHPEPSGLLLHYQRRHPE 1335
YALRKHIKKDHPALKATVTSIMRWAFLDGLIEAGYHCEWCYIYSHTEPNGLLLHYQRRHPE 1332
YALRKHIKKDHPALKATVTSIMRWAFLDGLIEAGYHCEWCYIYSHVEPSGLLLHYQRRHPE 1331
YALRKHIKKDHPALKATVTSIMRWAFLDGLIEAGYHCEWCYIYSHTEPSGLLLHYQRRHPE 1330
YALRKHMKKDHANLKATVTSIMRWAFLDGLIEAGYHCEWCYIYSHAEPSGLLIHYQRRHPE 1265
YALRKHMKKDHPALRATVTSILKWAFLDGLIEAGYHCEWCYIYSHPEPSGLLEHYQRRHPE 1263
YAMRKHFKKDHPNVKATVTSILRWAFLDGLIEAGYHCEWCYIYSHSEPNGLLLHYQRRHPE 1278
.....1330.....1340.....1350.....1360.....1370.....1380

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***** : *** . . . : : : : * : * : * * * * * : * : * : *			
HYVDYTYMATKLWAGPDP-SPPALVLPAAEAKTYKCRDCIFEAS	SIWDITNHYQAFHPWAM	1351	
HYVDYTYMATKLWAGPDP-SPPALVLPAAEAKTYKCRDCIFEAS	SIWDITNHYQAFHPWAM	1351	
HYVDYTYMATKLWAGPDP-SPPALVLPAAEAKTYKCRDCIFEAS	SIWDITNHYQAFHPWAM	1352	
HYVDYTYMATKLWAGPDP-SPPALVMPSEAKTYKCRDCIFEAS	SIWDITNHYQAFHPWAM	1368	
HYVDYTYMATKLWAGPDP-SSPTLTMSAAEAKTYRCRDCVFEAVS	IWDITNHYQAFHPWAM	1385	
HYVDYTYMATKLWAGPDP-SSPTLTMSAAEAKTYRCRDCAFEAVS	IWDITNHYQAFHPWAM	1394	
HYVDYTYMATKLWAGPDP-SPPSLTMPAAEAKTYRCRDCVFEAVS	IWDITNHYQAFHPWAM	1396	
HYVDYTYMATKLWAGPDP-SPPSLTMPAAEAKTYRCRDCVFEAVS	IWDITNHYQAFHPWAM	1396	
HYVDYTYMATKLWAGPDP-SPPSLTMPAAEAKTYRCRDCVFEAVS	IWDITNHYQAFHPWAM	1398	
HYVDYTYMATKLWAGPDP-SPPSLAMPAAEAKTYRCRDCVFEAVS	IWDITNHYQAFHPWAM	1397	
HYVDYTYMATKLWAGPDP-SPPSLTMPAAEAKTYRCRDCVFEAVS	IWDITNHYQAFHPWAM	1394	
HYVDYTYMATKLWAGPDP-SPPSLAMPAAEAKTYRCRDCVFEAMS	IWDITNHYQAFHPWAM	1391	
HYVDYTYMATKLWAGPDP-SPPSLAMPAAEAKTYRCRDCVFEAVS	IWDITNHYQAFHPWAM	1390	
HYVDYTYMATKLWAGPDP-SPPSLTMPAAEAKTYRCRDCVFEALS	IWDITNHYQAFHPWAM	1389	
HYVDYTYMATKLWAGPDL-SSPLQAVQSEARTYKCRDCTFEAS	SIWDITNHYQALHPWAM	1324	
HYVDYTYMATKLWAGPDC-PPN--EASTESKSYKCRDCTFEAS	SIWDITNHYQAFHPWAL	1320	
HYVDYTYMATKLWGTGPDSSPPAQVTSPTDARTYRCRDCNFEAS	SIWDITNHYQAFHPWAM	1338	
.....1390.....1400.....1410.....1420.....1430.....1440			

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      :*:*****::**      .::      .:      .:      .:      .:
Pavo_muticus      NGDESVLLDIIKEKDAAEKSGTQPD EAGVRMDS EDQITTSQMDQEA ECAEDPSLSQ EKTIV 1411
Pavo_cristatus    NGDESVLLDIIKEKDAAEKSGTQPD EAGVRMDS EDQITTSQMDQEA ECAEDPSLSQ EKTIV 1411
Gallus_gallus     NGDESVLLDIIKEKDAAEKSGTQPD EAGVRMDS EDQITTSQMDQEA ECAEDPSLSQ EKTIV 1412
Chelonia_mydas    NGDESVLLDIIKEKDAAEKAGTQSD EVGTRVNS EDQITTSQMEQD VDC TEDS LPSQ EKNV 1428
Mus_musculus      NGDESVLLDIIKEKDGVDKALLAPEELIGPVNCENSIPNPLPEQEA ECPEDARLSPEKSI 1445
Rattus_norvegicus NGDESVLLDIIKEKDGVDKALLAPEELIGAVNCENSIPNPLPEQEA ECPEDARLSPEKSI 1454
Homo_sapiens      NGDESVLLDIIKEKDAVEKPILSSEELAGPVNCENSIPTPFPEQEA ECPEDARLSPEKSL 1456
Pan_troglodytes   NGDESVLLDIIKEKDAVEKPILSSEELAGPVNCENSIPTPFPEQEA ECPEDARLSPEKSL 1456
Macaca_mulatta    NGDESVLLDIIKEKDAVEKPILSSEELAGPVNCENSIPTPFPEQEA ECPEDARLSPEKSL 1458
Callithrix_jacchus NGDESVLLDIIKEKDAVEKPILSSEELAGPVNCENSIPTPFPEQEA ECPEDARLSPEKSL 1457
Heterocephalus_glaber NGDESVLLDIIKEKDGVEKPLLTPEELAGPMNCENSIMPILPEQEA ECESEDARFSPEKSI 1454
Canis_lupus_familiaris NGDESVLLDIIKEKDAIENPLPSSEELVGPVNCENSIMPAPLPEQDVECPEDARLSPEKSI 1451
Equus_caballus    NGDESVLLDIIKEKDAIENPLPLAEELVGPLNCENSIMPILPEQEA ECPEDARLSPEKSI 1450
Bos_taurus        NGDESVLLDIIKEKDAVENPMSSSEDLVGTVCSCNSMPGPLAEQEGEC PEDARLSPEKTI 1449
Rhinatrema_bivittatum NGDESVLLDIIKEKDAAEKASTPSQEVITTPRNKSLQKAVSNAHSEKESPNKSLSHEKTV 1384
Xenopus_tropicalis KGNESVLFNIIKEKD-----VNSEAS-----YSAEKPITINVEPQMDSGDDFILSQGKTL 1370
Latimeria_chalumnae NGDESVLLEIINGKDTTENASTPSNEIVS-LGRSPSKQMGRTQEQEIPVGESSHQSSESP 1397
      .....1450.....1460.....1470.....1480.....1490.....1500

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      * : *.*:*** ** * ** *****:*****:***
Pavo_muticus      QLASANPAISSTPYQCTVCQSEYNNLHGLLTHYGKKHPGMKVKAADFAQDIDINPGAVYK 1471
Pavo_cristatus    QLASANPAISSTPYQCTVCQSEYNNLHGLLTHYGKKHPGMKVKAADFAQDIDINPGAVYK 1471
Gallus_gallus     QLASANPAISSTPYQCTVCQSEYNNLHGLLTHYGKKHPGMKVKAADFAQDIDINPGAVYK 1472
Chelonia_mydas    QLASANPAISSTPYQCTVCQSEYNNLHGLLTHYGKKHPGMKVKAADFAQDIDINPGAVYK 1488
Mus_musculus      HLASANPAISSTPYQCTVCQSEYNNLHGLLTHYGKKHPGMKVKAADFAQDIDINPGAVYK 1505
Rattus_norvegicus HLASANPAISSTPYQCTVCQSEYNNLHGLLTHYGKKHPGMKVKAADFAQDIDINPGAVYK 1514
Homo_sapiens      QLASANPAISSTPYQCTVCQSEYNNLHGLLTHYGKKHPGMKVKAADFAQDIDINPGAVYK 1516
Pan_troglodytes   QLASANPAISSTPYQCTVCQSEYNNLHGLLTHYGKKHPGMKVKAADFAQDIDINPGAVYK 1516
Macaca_mulatta    QLASANPAISSTPYQCTVCQSEYNNLHGLLTHYGKKHPGMKVKAADFAQDIDINPGAVYK 1518
Callithrix_jacchus QLASANPAISSTPYQCTVCQSEYNNLHGLLTHYGKKHPGMKVKAADFAQDIDINPGAVYK 1517
Heterocephalus_glaber HLT SANPAISSTPYQCTVCQSEYNNLHGLLTHYGKKHPGMKVKAADFAQDIDINPGAVYK 1514
Canis_lupus_familiaris QLASANPAISSTPYQCTVCQSEYNNLHGLLTHYGKKHPGMKVKAADFAQDIDINPGAVYK 1511
Equus_caballus    QLASANPAISSTPYQCTVCQSEYNNLHGLLTHYGKKHPGMKVKAADFAQDIDINPGAVYK 1510
Bos_taurus        QLASVNP AISSTPYQCTVCQSEYNNLHGLLTHYGKKHPGMKVKAADFAQDIDINPGAVYK 1509
Rhinatrema_bivittatum HLT SANPAISSSPYQCTVCQSEYNNLHGLLTHYGKKHPGMKVKAADFAQDIDINPGSVYK 1444
Xenopus_tropicalis PLQITNNSALSSSPYLCTVCHSEYNNLHGLLTHYGKKHPGMKVKAADFAQEV D INPGAVYK 1430
Latimeria_chalumnae QLSSN NP AISSSPYQCI VCLSEYNNLHGLLTHYGKKHPGMKVKAADFAQEMDINPGAVYK 1457
      .....1510.....1520.....1530.....1540.....1550.....1560

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      *****:*****:*.:: :. *: :*.:: :*.****
Pavo_muticus      CRHCPYINTRIHGVLTHYQKRHPSIKVTAEDFVHDVEQSTDIAQNDVEETSRIFKQGYGA 1531
Pavo_cristatus    CRHCPYINTRIHGVLTHYQKRHPSIKVTAEDFVHDVEQSTDIAQNDVEETSRIFKQGYGA 1531
Gallus_gallus     CRHCPYINTRIHGVLTHYQKRHPSIKVTAEDFVHDVEQSTDIAQNDVEETSRIFKQGYGA 1532
Chelonia_mydas    CRHCPYINTRIHGVLTHYQKRHPSIKVTAEDFVHDVEQSN DMSQNDVEETSRIFKQGYGA 1548
Mus_musculus      CRHCPYINTRIHGVLTHYQKRHPAIKVTAEDFVHDVEQSADISQNDVEETSRIFKQGYGA 1565
Rattus_norvegicus CRHCPYINTRIHGVLTHYQKRHPAIKVTAEDFVHDVEQSADITQNDVEETSRIFKQGYGA 1574
Homo_sapiens      CRHCPYINTRIHGVLTHYQKRHPSIKVTAEDFVHDVEQSADISQNDVEETSRIFKQGYGA 1576
Pan_troglodytes   CRHCPYINTRIHGVLTHYQKRHPSIKVTAEDFVHDVEQSADISQNDVEETSRIFKQGYGA 1576
Macaca_mulatta    CRHCPYINTRIHGVLTHYQKRHPSIKVTAEDFVHDVEQSADISQNDVEETSRIFKQGYGA 1578
Callithrix_jacchus CRHCPYINTRIHGVLTHYQKRHPSIKVTAEDFVHDVEQSADISQNDVEETSRIFKQGYGA 1577
Heterocephalus_glaber CRHCPYINTRIHGVLTHYQKRHPAIKVTAEDFVHDVEQSADISQNDVEETSRIFKQGYGA 1574
Canis_lupus_familiaris CRHCPYINTRIHGVLTHYQKRHPSIKVTAEDFVHDVEQSADIAQNDVEETSRIFKQGYGA 1571
Equus_caballus    CRHCPYINTRIHGVLTHYQKRHPSIKVTAEDFVHDVEQSADIAQNDVEETSRIFKQGYGA 1570
Bos_taurus        CRHCPYINTRIHGVLTHYQKRHPSIKVTAEDFVHDVEQSTDIAQNDVEETSRIFKQGYGA 1569
Rhinatrema_bivittatum CRHCPYINTRIHGVLTHYQKRHPSIKVTAEDFVHDVERSVDISQNDMEETS RVFKQGYGA 1504
Xenopus_tropicalis CRHCPYINTRIHGVLTHYQKRHPSVKVTAEDFVHDVEQSTEMSONESDENSRIFKQGYGA 1490
Latimeria_chalumnae CRHCPYINTRIHGVLTHYQKRHPAIKVTAEDFVHDIEHTSDIQNDGEENSKISKHGYGA 1517
      .....1570.....1580.....1590.....1600.....1610.....1620

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****:*****.* *:: ** .: .: : :
Pavo_muticus      YRCKLCPYTHGTLEKLEKIHYEKYHNQPEFDVFAQSPPKVSASLEPDMVTEIKTS-PEIAA 1590
Pavo_cristatus    YRCKLCPYTHGTLEKLEKIHYEKYHNQPEFDVFAQSPPKVSASLEPDMVTEIKTS-PEIAA 1590
Gallus_gallus     YRCKLCPYTHGTLEKLEKIHYEKYHNQPEFDVFAQSPPKVSASLEPDMVTEIKAS-PEIAA 1591
Chelonia_mydas    YRCKLCPYTHGTLEKLEKIHYEKYHNQPEFDVFAQSPPKVSASMEPESTPEIKAS-PEIAA 1607
Mus_musculus      YRCKLCPYTHGTLEKLEKIHYEKYHNQPEFDVFSPPPKLPVSLPEITTEVSPSQVSVTE 1625
Rattus_norvegicus YRCKLCPYTHGTLEKLEKIHYEKYHNQPEFDVFSPPPKLPVSLPEITTEVSPSQVSMTE 1634
Homo_sapiens      YRCKLCPYTHGTLEKLEKIHYEKYHNQPEFDVFSQSPPKLPVPLEPEMTTEVSPSQVSITE 1636
Pan_troglodytes   YRCKLCPYTHGTLEKLEKIHYEKYHNQPEFDVFSQSPPKLPVPLEPEMTTEVSPSQVSITE 1636
Macaca_mulatta    YRCKLCPYTHGTLEKLEKIHYEKYHNQPEFDVFSQSPPKLPVPLEPEMTTEVSPSQVSITE 1638
Callithrix_jacchus YRCKLCPYTHGTLEKLEKIHYEKYHNQPEFDVFSQSPPKLPVPLEPEMTTEVSPSQVSITE 1637
Heterocephalus_glaber YRCKLCPYTHGTLEKLEKIHYEKYHNQPEFDVFSQSPPKLPVSLPEITTEVSPSQISITE 1634
Canis_lupus_familiaris YRCKLCPYTHGTLEKLEKIHYEKYHNQPEFDVFSQSPPKLPVSLPEITTEVSPSQVSVTE 1631
Equus_caballus    YRCKLCPYTHGTLEKLEKIHYEKYHNQPEFDVFSQSPPKLPVSLPEITTEVSPSQVSITE 1630
Bos_taurus        YRCKLCPYTHGTLEKLEKIHYEKYHNQPEFDVFSQSPPKLPMSLEPEITTEVSPSQVSVTE 1629
Rhinatrema_bivittatum YRCKLCPYTHGTLEKLEKIHYEKYHDQPEFDMLSQSLPKETVSVEPETISEEEIA-ETLAP 1563
Xenopus_tropicalis YRCKICPYTHGTLEKLEKIHYEKYHDQPEFDMLS--PKDFASVETDVLLEHPPQTVVTL 1548
Latimeria_chalumnae YRCKLCPYTHGTLEKLEKIHYEKYHHPAIDIFAPSPPKTDASVVPEPSIENKPS-KVVNI 1576
.....1630.....1640.....1650.....1660.....1670.....1680

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: . : : .*:*****.*
Pavo_muticus      EDVGEISVAAPHFSSSHLVSHTVFRCQLCKYFCSTRKGIARHYRIKHNNVRAQPEGKNNL 1650
Pavo_cristatus    EDVGEISVAAPHFSSSHLVSHTVFRCQLCKYFCSTRKGIARHYRIKHNNVRAQPEGKNNL 1650
Gallus_gallus     EDVGEISVAAPHFSSSHLVSHTVFRCQLCKYFCSTRKGIARHYRIKHNNVRAQPEGKNNL 1651
Chelonia_mydas    EDIGEVAVPASHFSSSHLVSHTVFRCQLCKYFCSTRKGIARHYRIKHNNVRAQPEGKNNL 1667
Mus_musculus      EEVGEDPMSTAHFSTSHLVSHTVFRCQLCKYFCSTRKGIARHYRIKHNNVRAQPEGKNNL 1685
Rattus_norvegicus EEVGEDPMSTAHFSTSHLVSHTVFRCQLCKYFCSTRKGIARHYRIKHNNVRAQPEGKNNL 1694
Homo_sapiens      EEVGEEPVSTSHFSTSHLVSHTVFRCQLCKYFCSTRKGIARHYRIKHNNVRAQPEGKNNL 1696
Pan_troglodytes   EEVGEEPVSTSHFSTSHLVSHTVFRCQLCKYFCSTRKGIARHYRIKHNNVRAQPEGKNNL 1696
Macaca_mulatta    EEVGEEPVSTSHFSTSHLVSHTVFRCQLCKYFCSTRKGIARHYRIKHNNVRAQPEGKNNL 1698
Callithrix_jacchus EEVGEEPVSTSHFSASHLVSHTVFRCQLCKYFCSTRKGIARHYRIKHNNVRAQPEGKNNL 1697
Heterocephalus_glaber EEVGEEPVSTSHFSTSHLVSHTVFRCQLCKYFCSTRKGIARHYRIKHNNVRAQPEGKNNL 1694
Canis_lupus_familiaris EDVGEEPVSTSHFSTSHLVSHTVFRCQLCKYFCSTRKGIARHYRIKHNNVRAQPEGKNNL 1691
Equus_caballus    EEVGEEPLSTSHFSTSHLVSHTVFRCQLCKYFCSTRKGIARHYRIKHNNVRAQPEGKNNL 1690
Bos_taurus        DEVGEEPVSTSHFATSHLVSHTVFRCQLCKYFCSTRKGIARHYRIKHNNVRAQPEGKNNL 1689
Rhinatrema_bivittatum DEVADVPSVSSSCFSRSLVSHTVFRCQLCKYFCSTRKGIARHYRIKHNNVRAQPEGKNNL 1623
Xenopus_tropicalis EAA--VVKGPTKYKRNHMAPHTVFRCLCKYFCSTRKGIARHYRIKHNNVRAQPEGKNNL 1606
Latimeria_chalumnae EKVDLSLPSISPFADAHMRPHSVFRCQLCKYFCSTRKGIARHYRIKHNNVRAQPEGKTNL 1636
.....1690.....1700.....1710.....1720.....1730.....1740

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*****:*****.* * *..*::** : : *
Pavo_muticus      FKCALCSYTNPIRKGLAAHYQKRHDIDAYYTHCLAASRTVSDKPNKVIIIPSPPKDDTPQL 1710
Pavo_cristatus    FKCALCSYTNPIRKGLAAHYQKRHDIDAYYTHCLAASRTVSDKPNKVIIIPSPPKDDTPQL 1710
Gallus_gallus     FKCALCSYTNPIRKGLAAHYQKRHDIDAYYTHCLAASRTVSDKPNKVIIIPSPPKDDTPQL 1711
Chelonia_mydas    FKCALCSYTNPIRKGLAAHYQKRHDIDAYYTHCLAASRTVSDKPSKVIIPSPPKDTSPOL 1727
Mus_musculus      FKCALCAYTNPIRKGLAAHYQKRHDIDAYYTHCLAASRTISDKPNKVIIIPSPPKDDSPOL 1745
Rattus_norvegicus FKCALCAYTNPIRKGLAAHYQKRHDIDAYYTHCLAASRTISDKPNKVIIIPSPPKDDSPOL 1754
Homo_sapiens      FKCALCAYTNPIRKGLAAHYQKRHDIDAYYTHCLAASRTISDKPNKVIIIPSPPKDDSPOL 1756
Pan_troglodytes   FKCALCAYTNPIRKGLAAHYQKRHDIDAYYTHCLAASRTISDKPNKVIIIPSPPKDDSPOL 1756
Macaca_mulatta    FKCALCAYTNPIRKGLAAHYQKRHDIDAYYTHCLAASRTISDKPNKVIIIPSPPKDDSPOL 1758
Callithrix_jacchus FKCALCAYTNPIRKGLAAHYQKRHDIDAYYTHCLAASRTISDKPNKVIIIPSPPKDDSPOL 1757
Heterocephalus_glaber FKCALCAYTNPIRKGLAAHYQKRHDIDAYYTHCLAASRTISDKPNKVIIIPSPPKDDSPOL 1754
Canis_lupus_familiaris FKCALCAYTNPIRKGLAAHYQKRHDIDAYYTHCLAASRTISDKPNKVIIIPSPPKDDSPOL 1751
Equus_caballus    FKCALCAYTNPIRKGLAAHYQKRHDIDAYYTHCLAASRTISDKPNKVIIIPSPPKDDSPOL 1750
Bos_taurus        FKCALCAYTNPIRKGLAAHYQKRHDIDAYYTHCLAASRTISDKPNKVIIIPSPPKDDSPOL 1749
Rhinatrema_bivittatum FKCALCTYTNPIRKGLAAHYQKRHDIDAYYTHCLAASRTVSDKPNKVVIIPSPPKDDSPOL 1683
Xenopus_tropicalis FKCALCSYTNPIRKGLAAHYQKRHDIDAYYTHCLAASRTVSDKPNKVVIIPSPQKDDSLLEL 1666
Latimeria_chalumnae FKCALCSYTNPIRKGLAAHYQKRHDIDAYYTHCLAVSKTN-DKSTKLIIPSIIP-NQSPPEL 1694
.....1750.....1760.....1770.....1780.....1790.....1800

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****: *** *.****:***:*****:*****:****:****.****.***: :
Pavo_muticus      SEELRRAVEKKKCSLCSFQSFSKKGIVSHYMKRHPGVFPKKQHASKLGGYFTAVYADEHE 1770
Pavo_cristatus    SEELRRAVEKKKCSLCSFQSFSKKGIVSHYMKRHPGVFPKKQHASKLGGYFTAVYADEHE 1770
Gallus_gallus     SEELRRAVEKKKCSLCSFQSFSKKGIVSHYMKRHPGVFPKKQHASKLGGYFTAVYADEHE 1771
Chelonia_mydas    SEELRRAVEKKKCSLCSFQSFSKKGIVSHYMKRHPGVFPKKQHASKLGGYFTAVYADEHE 1787
Mus_musculus      SEELRRAVEKKKCSLCSFQSFSKKGIVSHYMKRHPGVFPKKQHASKLGGYFTAVYADEHE 1805
Rattus_norvegicus SEELRRAVEKKKCSLCSFQSFSKKGIVSHYMKRHPGVFPKKQHASKLGGYFTAVYADEHE 1814
Homo_sapiens      SEELRRAVEKKKCSLCSFQSFSKKGIVSHYMKRHPGVFPKKQHASKLGGYFTAVYADEHE 1816
Pan_troglodytes   SEELRRAVEKKKCSLCSFQSFSKKGIVSHYMKRHPGVFPKKQHASKLGGYFTAVYADEHE 1816
Macaca_mulatta    SEELRRAVEKKKCSLCSFQSFSKKGIVSHYMKRHPGVFPKKQHASKLGGYFTAVYADEHE 1818
Callithrix_jacchus SEELRRAVEKKKCSLCSFQSFSKKGIVSHYMKRHPGVFPKKQHASKLGGYFTAVYADEHE 1817
Heterocephalus_glaber SEELRRAVEKKKCSLCSFQSFSKKGIVSHYMKRHPGVFPKKQHASKLGGYFTAVYADEHE 1814
Canis_lupus_familiaris SEELRRAVEKKKCSLCSFQSFSKKGIVSHYMKRHPGVFPKKQHASKLGGYFTAVYADEHE 1811
Equus_caballus    SEELRRAVEKKKCSLCSFQSFSKKGIVSHYMKRHPGVFPKKQHASKLGGYFTAVYADEHE 1810
Bos_taurus        SEELRRAVEKKKCSLCAFSQSFSKKGIVSHYMKRHPGVFPKKQHASKLGGYFTAVYADEHE 1809
Rhinatrema_bivittatum SEELKRAVEKKKCSLCSFQSFSKKGIVAHYMKRHPGVFPKKQHASKLGCYFTPVYAEELD 1743
Xenopus_tropicalis SEELKKAVERKKKCSLCSFQSFSKKGIVTHYMKRHPGVFPKKQYGSKLGNVFTTVYAEENE 1726
Latimeria_chalumnae SEELKTAVEKKTCSLCSFQSFSKKGIVAHYMKRHPGVLPKKQHSSKLGGYFTTVYAEEDKE 1754
.....1810.....1820.....1830.....1840.....1850.....1860

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:
Pavo_muticus      KLTPAEE---RNEFEKPEVES-EAQEIEWLPFRCIKCFKLSFSTAELLCMHYTDHHSKDL 1826
Pavo_cristatus    KLTPAEE---RNEFEKPEVES-EAQEIEWLPFRCIKCFKLSFSTAELLCMHYTDHHSKDL 1826
Gallus_gallus     KLTPAEE---RNEFEKPEVES-EAQEIEWLPFRCIKCFKLSFSTAELLCMHYTDHHSKDL 1827
Chelonia_mydas    KQILGEE---RNDFEKSEVEN-EAQEIEWLPFRCIKCFKLSFSTAELLCMHYTDHHSKDL 1843
Mus_musculus      KPPLMEE-EERSSFERAEVEG-EAQDIEWLPFRCIKCFKLSFSTAELLCMHYTDHHSRDL 1863
Rattus_norvegicus KPPLMEE-EGRSGFERPEVEG-EAQDIEWLPFRCIKCFKLSFSTAELLCMHYTDHHSRDL 1872
Homo_sapiens      KPTLMEE-EERGNFEKAEVEG-EAQEIEWLPFRCIKCFKLSFSTAELLCMHYTDHHSRDL 1874
Pan_troglodytes   KPTLMEE-EERGSFEKAEVEG-EAQEIEWLPFRCIKCFKLSFSTAELLCMHYTDHHSRDL 1874
Macaca_mulatta    KPTLMEE-EERSSFKEAEVEG-EAQEIEWLPFRCIKCFKLSFSTAELLCMHYTDHHSRDL 1876
Callithrix_jacchus KPTLMEE-EERGSFEKAEVEG-EAQEIEWLPFRCIKCFKLSFSTAELLCMHYTDHHSRDL 1875
Heterocephalus_glaber KPTLMEE-EERGSFEKAEVEG-EAQEIEWLPFRCIKCFKLSFSTAELLCMHYTDHHSRDL 1872
Canis_lupus_familiaris KPVLMEE-EDRGSFEKAEVEG-EAQEMEWLFPFRCIKCFKLSFSTAELLCMHYTDHHSRDL 1870
Equus_caballus    KPMLMEE-EERGSFEKAEVEG-EAQEIEWLPFRCIKCFKLSFSTAELLCMHYTDHHSRDL 1869
Bos_taurus        KPVLMEE-EERGSFEKAEVEG-EAQEIEWLPFRCIKCFKLSFSTAELLCMHYTDHHSRDL 1869
Rhinatrema_bivittatum AERILKD---KNDFEQPEVEP-ETKEAEWLFPFRCIKCFKLSFSTAELLCMHYTDHHSKDL 1799
Xenopus_tropicalis QPATEEA-----TETEP-EPQEQELLFPFRCIKCFKLSFSTAELLCMHYTDHHSKDI 1776
Latimeria_chalumnae SKTGTEE-----KSTFTVDQGTIEWLPFRCIKCFKLSFNATADLLCMHYTDHHSKDL 1806
.....1870.....1880.....1890.....1900.....1910.....1920

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:*** :*. ..* :*****: :*: :* ** ***:*****:***.
Pavo_muticus      KRDFITILG-SGTRSQNAVYQCKHCDMKLHSTAELTAHLNGHNEEFQKRAKROERRKOLLS 1885
Pavo_cristatus    KRDFITILG-SGTRSQNAVYQCKHCDMKLHSTAELTAHLNGHNEEFQKRAKROERRKOLLS 1885
Gallus_gallus     KRDFITILG-SGTRSQNAVYQCKHCDMKLHSTAELTAHLNGHNEEFQKRAKROERRKOLLS 1886
Chelonia_mydas    KRDFITILG-CGTRSQSSAYQCKHCDSKLHSMALTSHLNHNNEEFQKRAKROERRKOLLS 1902
Mus_musculus      KRDFVILG-SGPRFQNSTFQCKHCDSKLQSTAELTSHLNHNNEEFQKRAKROERRKOLLS 1922
Rattus_norvegicus KRDFVILG-SGPRFQNSTFQCKHCDSKLQSTAELTSHLNHNNEEFQKRAKROERRKOLLS 1931
Homo_sapiens      KRDFIILG-NGPRLQNSTYQCKHCDSKLQSTAELTSHLNHNNEEFQKRAKROERRKOLLS 1933
Pan_troglodytes   KRDFIILG-NGPRLQNSTYQCKHCDSKLQSTAELTSHLNHNNEEFQKRAKROERRKOLLS 1933
Macaca_mulatta    KRDFIILG-NGPRLQNSTYQCKHCDSKLQSTAELTSHLNHNNEEFQKRAKROERRKOLLS 1935
Callithrix_jacchus KRDFIILG-NGPRLQNSTYQCKHCDSKLQSTAELTSHLNHNNEEFQKRAKROERRKOLLS 1934
Heterocephalus_glaber KRDFVILG-NGPRLQNSTYQCKHCDSKLQSTAELTSHLNHNNEEFQKRAKROERRKOLLS 1931
Canis_lupus_familiaris KRDFVILA-SGPRLQNPAYQCKHCDSKLQSTAELTSHLNHNNEEFQKRAKROERRKOLLS 1929
Equus_caballus    KRDFIILG-SGPRLQNSAYQCKHCDSKLQSTAELTSHLNHNNEEFQKRAKROERRKOLLS 1928
Bos_taurus        KRDFVILG-GGPRLQGSAYQCKHCDSESLQSTAELTSHLNHNNEEFQKRAKROERRKOLLS 1928
Rhinatrema_bivittatum RRDFITILG-SATRSNLGTFQCKHCDSKLNNIFELTSHLNHNNEEFQKRAKROERRKOLLS 1858
Xenopus_tropicalis KRDFSVLGTSGTRSLTTTYQCKHCNSKLNVSADLTTHLNAHNEDFQKRAKROERRKOLLN 1836
Latimeria_chalumnae KRDFEVLG-SSTRSHGYNYQCKHCEFKLOTLEELGGHLISHNEEFQKRAKROERRKOLLS 1865
.....1930.....1940.....1950.....1960.....1970.....1980

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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***  :: . . : .: .*: :***:****:*****
Pavo_muticus      KQKY-ADGAFADFKQERAFGHLEDVSK-LKERKVVGYCKFCVEVHPTLRAICNHLRKHV 1943
Pavo_cristatus    KQKY-ADGAFADFKQERAFGHLEDVSK-LKERKVVGYCKFCVEVHPTLRAICNHLRKHV 1943
Gallus_gallus     KQKY-ADGAFADFKQERAFGHLEDVSK-LKERKVVGYCKFCVEVHPTLRAICNHLRKHV 1944
Chelonia_mydas    KQKY-ADGAFADFKQERTFGHLEDVSK-FKERKVVGYCKFCVEVHPTLRAICNHLRKHV 1960
Mus_musculus      KQKY-ADGAFADFKQERPFGHLEEVSK-IKERKVVGYCKFCVEVHPTLRAICNHLRKHV 1980
Rattus_norvegicus KQKY-ADGAFADFKQERPFGHLEEVSK-IKERKVVGYCKFCVEVHPTLRAICNHLRKHV 1989
Homo_sapiens      KQKY-ADGAFADFKQERPFGHLEEVSK-IKERKVVGYCKFCVEVHPTLRAICNHLRKHV 1991
Pan_troglodytes   KQKY-ADGAFADFKQERPFGHLEEVSK-IKERKVVGYCKFCVEVHPTLRAICNHLRKHV 1991
Macaca_mulatta    KQKY-ADGAFADFKQERPFGHLEEVSK-IKERKVVGYCKFCVEVHPTLRAICNHLRKHV 1993
Callithrix_jacchus KQKY-ADGAFADFKQERPFGHLEEVSK-IKERKVVGYCKFCVEVHPTLRAICNHLRKHV 1992
Heterocephalus_glaber KQKY-ADGAFADFKQERPFGHLEEVSK-IKERKVVGYCKFCVEVHPTLRAICNHLRKHV 1989
Canis_lupus_familiaris KQKY-ADGAFADFKQERPFGHLEEVSK-IKERKVVGYCKFCVEVHPTLRAICNHLRKHV 1987
Equus_caballus    KQKY-ADGAFADFKQERPFGHLEEVSK-IKERKVVGYCKFCVEVHPTLRAICNHLRKHV 1986
Bos_taurus        KQKY-ADGAFADFKQERPFGHLEEVSK-IKERKVVGYCKFCVEVHPTLRAICNHLRKHV 1986
Rhinatrema_bivittatum KQKY-TESAFADFRQERMLGHLEEVSK-FKERKVVGYCKFCVEVHPTLRAICNHLRKHV 1917
Xenopus_tropicalis KQKL-TEIAENKEK----MGNEAALHKSCKEKA VVG YCKFCVEVHPTLRAICNHLRKHV 1891
Latimeria_chalumnae KQKFGADGVAVEYKHEVNSHLDAPKA-AKEKKIVGYCKFCVEVHPTLRAICNHLRKHV 1924
.....1990.....2000.....2010.....2020.....2030.....2040

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**.. :
Pavo_muticus      QYGNVSSVSATVK----- 1956
Pavo_cristatus    QYGNVSSVSATVK----- 1956
Gallus_gallus     QYGNVSSVSATVK----- 1957
Chelonia_mydas    QYGNVSSVTATVKQ-----EAEDSNTTLEGFEGAKDH-----GMVEFTEAESGA 2005
Mus_musculus      QYGSVPAVSAAVK----- 1993
Rattus_norvegicus QYGSVPAVSAAVKQ-----EAEDPSHLFLDGF EAARDASGTLVGRVDGGHCLLDG 2039
Homo_sapiens      QYGNVPAVSAAVK----- 2004
Pan_troglodytes   QYGNVPAVSAAVKQ-----EADDP AHLFLDGL EAAKDASGALVGRVDGEHCLLDG 2041
Macaca_mulatta    QYGNVPAVSAAVKQ-----EADDP AHLFLDGL EAAKDASGALVGRVDGEHCLLDG 2043
Callithrix_jacchus QYGNVPAVSAAVKQ-----EADDP AHLFLDGL EAAKDASGALVGRVDGEHCLLDG 2042
Heterocephalus_glaber QYGSVPAMSAAVKVSRGALDAELQEAEDPSHFFLDGLEAAKDASGALVGRVDGGHCLLDG 2049
Canis_lupus_familiaris QYGSVPAVSAAVK----- 2000
Equus_caballus    QYGSVPAVSAAVKQ-----EAEDPSHLFLDGL EAKDASGALVDRVDGEHCLLDG 2036
Bos_taurus        QYGSVPAVSAAVKQ-----EAEDPSHLFLDGL EAAKDASGALVDRVDGEHCLLDG 2036
Rhinatrema_bivittatum QYGNVMKGAMKEIT-----DSSDLITANLGD EDAKTFDGGADGATEDNTAEV 1964
Xenopus_tropicalis QYGNVPELSSDLQDEK-YEFTIDEDTIEFYDYDDGVDEEEEDVEEASTPAEENPVDEAKET 1950
Latimeria_chalumnae QYADGKCLKSTSVKQ-----EVVEESEKLSDDKSTDVPEGFSAANKETDVDVEAEDS 1975
.....2050.....2060.....2070.....2080.....2090.....2100

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*****:* *****:***:***:***:*****
Pavo_muticus      -----GLRSHERSHLALAMFTREDKYSQCYCSFVSAFRHNL 1992
Pavo_cristatus    -----GLRSHERSHLALAMFTREDKYSQCYCSFVSAFRHNL 1992
Gallus_gallus     -----GLRSHERSHLALAMFTREDKYSQCYCSFVSAFRHNL 1993
Chelonia_mydas    SLEDETRPGGYHCSQCDRVLMMSQGLRSHERSHLALAMFTREDKYSQCYCSFVSAFRHNL 2065
Mus_musculus      -----GLRSHERSHLALAMFTREDKYSQCYCSFVSAFRHNL 2029
Rattus_norvegicus MLEDETRPGGYHCSQCDRVLMMSQGLRSHERSHLALAMFTREDKYSQCYCSFVSAFRHNL 2099
Homo_sapiens      -----GLRSHERSHLALAMFTREDKYSQCYCSFVSAFRHNL 2040
Pan_troglodytes   MLEDETRPGGYHCSQCDRVLMMSQGLRSHERSHLALAMFTREDKYSQCYCSFVSAFRHNL 2101
Macaca_mulatta    MLEDETRPGGYHCSQCDRVLMMSQGLRSHERSHLALAMFTREDKYSQCYCSFVSAFRHNL 2103
Callithrix_jacchus MLEDETRPGGYHCSQCDRVLMMSQGLRSHERSHLALAMFTREDKYSQCYCSFVSAFRHNL 2102
Heterocephalus_glaber MLEDETRPGGYHCSQCDRVLMMSQGLRSHERSHLALAMFTREDKYSQCYCSFVSAFRHNL 2109
Canis_lupus_familiaris -----GLRSHERSHLALAMFTREDKYSQCYCSFVSAFRHNL 2036
Equus_caballus    MLEDETRPGGYHCSQCDRVLMMSQGLRSHERSHLALAMFTREDKYSQCYCSFVSAFRHNL 2096
Bos_taurus        MLEDETRPGGYHCSQCDRVLMMSQGLRSHERSHLALAMFTREDKYSQCYCSFVSAFRHNL 2096
Rhinatrema_bivittatum TLEDELQPGGYHCTQCDRVLMMSQGLRSHERSHLALAMFTREDKYNQCYCSFASTFRHNL 2024
Xenopus_tropicalis KKGRRTRPGGYPCKQCDRVLMMSQGLRSHERSHLALAMFTRDDKYSQCFCSFVSAFRHNL 2010
Latimeria_chalumnae SVEKPERHGGYPCTQCDRVLMMSQGLRSHERSHMASAMFTREDKYSQCYCHFVSAFRHNL 2035
.....2110.....2120.....2130.....2140.....2150.....2160

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***:*****:*.***** ***:*:*:*****.***** *:*: *****:
Pavo_muticus      DRHMQTHHGHHKPFRCCKLCPFKSSYSNRLKTHILKAHAGEHAYKCS SCSFSTMTISQLKE 2052
Pavo_cristatus    DRHMQTHHGHHKPFRCCKLCPFKSSYSNRLKTHILKAHAGEHAYKCS SCSFSTMTISQLKE 2052
Gallus_gallus     DRHMQTHHGHHKPFRCCKLCPFKSSYSNRLKTHILKAHAGEHAYKCS SCSFSTMTISQLKE 2053
Chelonia_mydas    DRHMQTHHGHHKPFRCCKLCPFKSSYSNRLKTHILKAHAGEHAYKCS SCSFSTMTISQLKE 2125
Mus_musculus      DRHMQTHHGHHKPFRCCKLCPFKSSYSNRLKTHILKAHAGEHAYKCS SCSFSTMTISQLKE 2089
Rattus_norvegicus DRHMQTHHGHHKPFRCCKLCPFKSSYSNRLKTHILKAHAGEHAYKCS SCSFSTMTISQLKE 2159
Homo_sapiens      DRHMQTHHGHHKPFRCCKLCPFKSSYSNRLKTHILKAHAGEHAYKCS SCSFSTMTISQLKE 2100
Pan_troglodytes   DRHMQTHHGHHKPFRCCKLCPFKSSYSNRLKTHILKAHAGEHAYKCS SCSFSTMTISQLKE 2161
Macaca_mulatta    DRHMQTHHGHHKPFRCCKLCPFKSSYSNRLKTHILKAHAGEHAYKCS SCSFSTMTISQLKE 2163
Callithrix_jacchus DRHMQTHHGHHKPFRCCKLCPFKSSYSNRLKTHILKAHAGEHAYKCS SCSFSTMTISQLKE 2162
Heterocephalus_glaber DRHMQTHHGHHKPFRCCKLCPFKSSYSNRLKTHILKAHAGEHAYKCS SCSFSTMTISQLKE 2169
Canis_lupus_familiaris DRHMQTHHGHHKPFRCCKLCPFKSSYSNRLKTHILKAHAGEHAYKCS SCSFSTMTISQLKE 2096
Equus_caballus    DRHMQTHHGHHKPFRCCKLCPFKSSYSNRLKTHILKAHAGEHAYKCS SCSFSTMTISQLKE 2156
Bos_taurus        DRHMQTHHGHHKPFRCCKLCPFKSSYSNRLKTHILKAHAGEHAYKCS SCSFSTMTISQLKE 2156
Rhinatrema_bivittatum DRHMQTHHGHHKPFRCCKLCPFKSSYSNRLKTHILKAHAGEHAYKCS SCSFSTMTISQLKE 2084
Xenopus_tropicalis DRHVQTHHGHHKPFRCCKLCPFKSSYSNRLKTHILKAHAGEHAYKCS SCSFSTMTISQLKE 2070
Latimeria_chalumnae DRHMQSHHGHHKPFRCCKLCPFKSSYSNRLKSHILKSHAGEHTYKCS SCSFSTMTISQLKE 2095
.....2170.....2180.....2190.....2200.....2210.....2220

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****.***:*.***: * . : : : . :
Pavo_muticus      HSLKVH GKAL TLPRPRIVNLAASHAHHTSKNHTPAEEVEDSN----- 2094
Pavo_cristatus    HSLKVH GKAL TLPRPRIVNLAASHAHHTSKNHTPAEEVEDSN----- 2094
Gallus_gallus     HSLKVH GKAL TLPRPRIVNLAASHAHHTSKNHTPAEEVEDSN----- 2095
Chelonia_mydas    HSLKVH GKAL TLPRPRIVSLVASFQAHASKNHTPAEEVEDSN----- 2167
Mus_musculus      HSLKVH GKAL TLPRPRIVSLSSHAPHSSQKATPAEEVEDSN----- 2131
Rattus_norvegicus HSLKVH GKAL TLPRPRIVSLSSHAPHSSQKATPAEEVEDSN----- 2201
Homo_sapiens      HSLKVH GKAL TLPRPRIVSLSSHAPHSSQKATPAEEVEDSN----- 2142
Pan_troglodytes   HSLKVH GKAL TLPRPRIVSLSSHAPHSSQKATPAEEVEDSN----- 2203
Macaca_mulatta    HSLKVH GKAL TLPRPRIVSLSSHAPHSSQKATPAEEVEDSN----- 2205
Callithrix_jacchus HSLKVH GKAL TLPRPRIVSLSSHAPHSSQKATPAEEVEDSN----- 2204
Heterocephalus_glaber HSLKVH GKAL TLPRPRIVSLSSHAPHSSQKATPAEEVEDSN----- 2211
Canis_lupus_familiaris HSLKVH GKAL TLPRPRIVSLSSHAPHSSQKATPAEEVEDSN----- 2138
Equus_caballus    HSLKVH GKAL TLPRPRIVSLSSHAPHSSQKATPAEEVEDSN----- 2198
Bos_taurus        HSLKVH GKAL TLPRPRIVSLSSHAPHSSQKATPAEEVEDSN----- 2198
Rhinatrema_bivittatum HSLKAHGKTL TLPKPRTVQALSSAQKTTDLEG---EVEETD----- 2123
Xenopus_tropicalis HSLKVH GKTL TLPRIRTIQTSPRAKQTTRIGK---ESGLD----- 2108
Latimeria_chalumnae HSLKVH GKAL PLPKPRSTNQIASASKNVSTQSPVVEAQDSGRVDHSNVLFSSSLLCSS 2155
.....2230.....2240.....2250.....2260.....2270.....2280

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Pavo_muticus      -----DSSYSEPPDVQQQLNHYQSAALAR 2118
Pavo_cristatus    -----DSSYSEPPDVQQQLNHYQSAALAR 2118
Gallus_gallus     -----DSSYSEPPDVQQQLNHYQSAALAR 2119
Chelonia_mydas    -----DSSYSEPPDVQQQLNHYQSAALAR 2191
Mus_musculus      -----DSSYSEPPDVQQQLNHYQSAALAR 2155
Rattus_norvegicus -----DSSYSEPPDVQQQLNHYQSAALAR 2225
Homo_sapiens      -----DSSYSEPPDVQQQLNHYQSAALAR 2166
Pan_troglodytes   -----DSSYSEPPDVQQQLNHYQSAALAR 2227
Macaca_mulatta    -----DSSYSEPPDVQQQLNHYQSAALAR 2229
Callithrix_jacchus -----DSSYSEPPDVQQQLNHYQSAALAR 2228
Heterocephalus_glaber -----DSSYSEPPDVQQQLNHYQSAALAR 2235
Canis_lupus_familiaris -----DSSYSEPPDVQQQLNHYQSAALAR 2162
Equus_caballus    -----DSSYSEPPDVQQQLNHYQSAALAR 2222
Bos_taurus        -----DSSYSEPPDVQQQLNHYQSAALAR 2222
Rhinatrema_bivittatum -----DSSYSEPPDVQQQLNHYQSAALAR 2147
Xenopus_tropicalis -----DSSYSEPPDVQQQLNHYQSAALAR 2132
Latimeria_chalumnae FLDGSTLYPESKTEISASKETGVQVNLKKTQDGHESYSEPPDVQQQLNHYQSAALAR 2215
.....2290.....2300.....2310.....2320.....2330.....2340

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      :.  ** * .      : * . * ****.*****.*****.*****.*****.
Pavo_muticus      NNN-VSPIPLSGSAAG-MEKTEAILNCEFCFSSGYIQSIRRHYRDKHGKKLFFCKDCS 2176
Pavo_cristatus    NNN-VSPIPLSGSAAG-MEKTEAILNCEFCFSSGYIQSIRRHYRDKHGKKLFFCKDCS 2176
Gallus_gallus     NNN-VSPIPLSGSAAG-MEKTEAILNCEFCFSSGYIQSIRRHYRDKHGKKLFFCKDCS 2177
Chelonia_mydas    NNNNTSPLPLSGAAAGAEQKTEAILNCEFCFSSGYIQSIRRHYRDKHGKKLFFCKDCS 2251
Mus_musculus      NKSRSVPVPPSGTAAGTEQKAEAVLHCEFCFSSGYIQSIRRHYRDKHGKKLFFCKDCS 2215
Rattus_norvegicus NNSRSVPVPPSGTAAGTEQKAEAVLHCEFCFSSGYIQSIRRHYRDKHGKKLFFCKDCS 2285
Homo_sapiens      NNSRSVPVPLSGAAAGTEQKTEAVLHCEFCFSSGYIQSIRRHYRDKHGKKLFFCKDCS 2226
Pan_troglodytes   NNSRSVPVPLSGAAAGTEQKTEAVLHCEFCFSSGYIQSIRRHYRDKHGKKLFFCKDCS 2287
Macaca_mulatta    NNSRSVPVPLSGAAAGTEQKTEAVLHCEFCFSSGYIQSIRRHYRDKHGKKLFFCKDCS 2289
Callithrix_jacchus NNSRSVPVPLSGAAAGTEQKTEAVLHCEFCFSSGYIQSIRRHYRDKHGKKLFFCKDCS 2288
Heterocephalus_glaber NNSRSVPVPLPGAAAGTEQKAEAVLHCEFCFSSGYIQSIRRHYRDKHGKKLFFCKDCS 2295
Canis_lupus_familiaris NNSRSVPVPLSGAPGGAEQKTEAVLHCEFCFSSGYIQSIRRHYRDKHGKKLFFCKDCS 2222
Equus_caballus    NNSRSVPVPLSGAAGSAEQKTEAVLHCEFCFSSGYIQSIRRHYRDKHGKKLFFCKDCS 2282
Bos_taurus        NNSRSVPVPLSGAAGGAEQKTEAILHCEFCFSSGYIQSIRRHYRDKHGKKLFFCKDCS 2282
Rhinatrema_bivittatum NNSNSPVPVPLSVAPACTEQKSEAVLNCEFCFSSGYIQSIRRHYRDKHGKKLFFCKDCS 2207
Xenopus_tropicalis YNN-NSPAPLPVSTSAEQNQEAVLNCEFCDFSSGYIQSIRRHYRDKHGKKLFFCKDCS 2191
Latimeria_chalumnae GNNSSSPAPLPVLVSVPEVKSSEGLSCEFCFSSGYIQSIRRHYRDKHGKRLFFCKDCP 2275
      .....2350.....2360.....2370.....2380.....2390.....2400

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      *: * *** *****: . . *****.*****.*****.*****.*****
Pavo_muticus      FYTGFKSAFTMHVEAGHSAPVEEGPKDLRCPLCLYHTKYKRNMDHIVLHREERVVPIEV 2236
Pavo_cristatus    FYTGFKSAFTMHVEAGHSAPVEEGPKDLRCPLCLYHTKYKRNMDHIVLHREERVVPIEV 2236
Gallus_gallus     FYTGFKSAFTMHVEAGHSAPVEEGPKDLRCPLCLYHTKYKRNMDHIVLHREERVVPIEV 2237
Chelonia_mydas    FYTGFKSAFTMHVEAGHSAPVEEGPKDLRCPLCLYHTKYKRNMDHIVLHREERVVPIEV 2311
Mus_musculus      FYTGFKSAFTMHVEAGHSAPVEEGPKDLRCPLCLYHTKYKRNMDHIVLHREERVVPIEV 2275
Rattus_norvegicus FYTGFKSAFTMHVEAGHSAPVEEGPKDLRCPLCLYHTKYKRNMDHIVLHREERVVPIEV 2345
Homo_sapiens      FYTGFKSAFTMHVEAGHSAPVEEGPKDLRCPLCLYHTKYKRNMDHIVLHREERVVPIEV 2286
Pan_troglodytes   FYTGFKSAFTMHVEAGHSAPVEEGPKDLRCPLCLYHTKYKRNMDHIVLHREERVVPIEV 2347
Macaca_mulatta    FYTGFKSAFTMHVEAGHSAPVEEGPKDLRCPLCLYHTKYKRNMDHIVLHREERVVPIEV 2349
Callithrix_jacchus FYTGFKSAFTMHVEAGHSAPVEEGPKDLRCPLCLYHTKYKRNMDHIVLHREERVVPIEV 2348
Heterocephalus_glaber FYTGFKSAFTMHVEAGHSAPVEEGPKDLRCPLCLYHTKYKRNMDHIVLHREERVVPIEV 2355
Canis_lupus_familiaris FYTGFKSAFTMHVEAGHSAPVEEGPKDLRCPLCLYHTKYKRNMDHIVLHREERVVPIEV 2282
Equus_caballus    FYTGFKSAFTMHVEAGHSAPVEEGPKDLRCPLCLYHTKYKRNMDHIVLHREERVVPIEV 2342
Bos_taurus        FYTGFKSAFTMHVEAGHSAPVEEGPKDLRCPLCLYHTKYKRNMDHIVLHREERVVPIEV 2342
Rhinatrema_bivittatum FYTCFKSVFTMHVEAGHSVIPVEGPKDLRCPLCLYHTKYKRNMDHIVLHREERVVPIEV 2267
Xenopus_tropicalis FYTCFKSAFTMHVEAGHSATPMEGPKDLRCPLCLYHTKYKRNMDHIVLHREERVVPIEV 2251
Latimeria_chalumnae FFTGFKSMFTMHVEAGHTAAAEAGPKDLRCPLCLYHTKYKRNMDHIVLHREERVVPIEV 2335
      .....2410.....2420.....2430.....2440.....2450.....2460

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      *****.:*****.*****.:***** *****.*****.:* *: *: *
Pavo_muticus      CRSKLSKYLQGVVFRCDKCTFTCSSDESLOQHIEKHNELKPYKCQLCYETKHTTEELDAH 2296
Pavo_cristatus    CRSKLSKYLQGVVFRCDKCTFTCSSDESLOQHIEKHNELKPYKCQLCYETKHTTEELDAH 2296
Gallus_gallus     CRSKLSKYLQGVVFRCDKCTFTCSSDESLOQHIEKHNELKPYKCQLCYETKHTTEELDAH 2297
Chelonia_mydas    CRSKLSKYLQGVVFRCDKCTFTCSSDESLOQHIEKHNELRPYKCQLCYETKHTTEELDAH 2371
Mus_musculus      CRSKLSKYLQGVVFRCDKCTFTCSSDESLOQHIEKHNELKPYKCQLCYETKHTTEELDTH 2335
Rattus_norvegicus CRSKLSKYLQGVVFRCDKCTFTCSSDESLOQHIEKHNELRPYKCQLCYETKHTTEELDTH 2405
Homo_sapiens      CRSKLSKYLQGVVFRCDKCTFTCSSDESLOQHIEKHNELKPYKCQLCYETKHTTEELDSH 2346
Pan_troglodytes   CRSKLSKYLQGVVFRCDKCTFTCSSDESLOQHIEKHNELKPYKCQLCYETKHTTEELDSH 2407
Macaca_mulatta    CRSKLSKYLQGVVFRCDKCTFTCSSDESLOQHIEKHNELKPYKCQLCYETKHTTEELDSH 2409
Callithrix_jacchus CRSKLSKYLQGVVFRCDKCTFTCSSDESLOQHIEKHNELKPYKCQLCYETKHTTEELDSH 2408
Heterocephalus_glaber CRSKLSKYLQGVVFRCDKCTFTCSSDESLOQHIEKHNELKPYKCQLCYETKHTTEELDSH 2415
Canis_lupus_familiaris CRSKLSKYLQGVVFRCDKCTFTCSSDESLOQHIEKHNELKPYKCQLCYETKHTTEELDSH 2342
Equus_caballus    CRSKLSKYLQGVVFRCDKCTFTCSSDESLOQHIEKHNELKPYKCQLCYETKHTTEELDSH 2402
Bos_taurus        CRSKLSKYLQGVVFRCDKCTFTCSSDESLOQHIEKHNELKPYKCQLCYETKHTTEELDSH 2402
Rhinatrema_bivittatum CRSKLSRHLQGVVFRCDKCTFTCSSDDESLOQHIEKHNELKPYKCQLCYETKQTEELDNH 2327
Xenopus_tropicalis CRSKLSKHLQGVVFRCDKCTFTCSSDEALQQHIEKHNELKPYKCQLCYETKLSSEELDTH 2311
Latimeria_chalumnae CRSKLSKHLQGVVFRCDKCTFTCSSDESLOQHIGKHNELKPYKCQLCYETSKQREDLESH 2395
      .....2470.....2480.....2490.....2500.....2510.....2520

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Pavo_muticus      LRDEHKVSRNFELVGRVNLDOLEQMKGKTESSSS-DEEEKEEELS PKTEERD-SMFPDSG 2354
Pavo_cristatus    LRDEHKVSRNFELVGRVNLDOLEQMKGKTESSSS-DEEEKEEELS PKTEERD-SMFPDSG 2354
Gallus_gallus     LRDEHKVSRNFELVGRVNLDOLEQMKGKTESSSS-DEEEKEEELS PKTEERD-SMFPDSG 2356
Chelonia_mydas    LRDEHKVSRNFELVGRVNLDOLEQMKGKTESSSS-DEEEKEEELS PKTEERD-SMFPDSG 2430
Mus_musculus      LRDEHKVSRNFELVGRVNLDOLEQMKGKTESSSS-DEEDKDEEMSSKAEDRELMRFSDRG 2394
Rattus_norvegicus LRDEHKVSRNFELVGRVNLDOLEQMKGKTESSSS-DEEDKDEEMSSKAEDRELMRFSDRG 2464
Homo_sapiens      LRDEHKVSRNFELVGRVNLDOLEQMKGKTESSSS-DEEDKDEEMNSKAEDRELMRFSDHG 2405
Pan_troglodytes   LRDEHKVSRNFELVGRVNLDOLEQMKGKTESSSS-DEEDKDEEMNSKAEDRELMRFSDHG 2466
Macaca_mulatta    LRDEHKVSRNFELVGRVNLDOLEQMKGKTESSSS-DEEDKDEEMNSKAEDRELMRFSDHG 2468
Callithrix_jacchus LRDEHKVSRNFELVGRVNLDOLEQMKGKTESSSS-DEEDKDEEMNSKAEDRELMRFSDHG 2467
Heterocephalus_glaber LRDEHKVSRNFELVGRVNLDOLEQMKGKTESSSS-DEEDKDEEMNSKAEDRELMRFSDHG 2474
Canis_lupus_familiaris LRDEHKVSRNFELVGRVNLDOLEQMKGKTESSSS-DEEDKDEEMNSKAEDRELMRFSDRG 2401
Equus_caballus    LRDEHKVSRNFELVGRVNLDOLEQMKGKTESSSS-DEEDKDEEMNSKAEDRELMRFSDRG 2461
Bos_taurus        LRDEHKVSRNFELVGRVNLDOLEQMKGKTESSSS-DEEDKDEEMNSKAEDRELMRFSDRG 2461
Rhinatrema_bivittatum LRDEHKVSRNFELVGRVNLDOLEQMKGKTESSSS-DEEDKDEEMNSKAEDRELMRFSDRG 2386
Xenopus_tropicalis LREEHKVSRNFELVGRVNLDOLEQMKGKTESSSS-DEE-----EVTTKQDAALISESNVI 2366
Latimeria_chalumnae LREEHKVSRNFELVGRVNLDOLEQMKGKTESSSS-DEE-----EVTTKQDAALISESNVI 2455
.....2530.....2540.....2550.....2560.....2570.....2580

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.*:*** ***** *: :***** : :.* :.*
Pavo_muticus      P---PEKFRFPCEFCGRSFTEGSEWERHVLRHGMALNESKHGTSSEDSQPKEDVEETVSTLP 2411
Pavo_cristatus    P---PEKFRFPCEFCGRSFTEGSEWERHVLRHGMALNESKHGTSSEDSQPKEDVEETVSTLP 2411
Gallus_gallus     P---PEKFRFPCEFCGRSFTEGSEWERHVLRHGMALNESKHGTSSEDSQPKEDVEETVSTLP 2413
Chelonia_mydas    A---PEKFRFPCEFCGRSFTEGSEWERHVLRHGMALNESKHGTSSEDSQPKEDVEETVSTLP 2487
Mus_musculus      PGVNTKEKFRFPCEFCGRAFSQGSSEWERHVLRHGMALNHDITQVSRDEIHTKEMVEDSMQLPS 2454
Rattus_norvegicus AGVNTKEKFRFPCEFCGRAFSQGSSEWERHVLRHGMALNHDITQVSRDEIHTKEMVEDSMQLPS 2524
Homo_sapiens      AALNTEKFRFPCEFCGRAFSQGSSEWERHVLRHGMALNHDITQVSRDEIHTKEMVEDSMQLPS 2465
Pan_troglodytes   AALNTEKFRFPCEFCGRAFSQGSSEWERHVLRHGMALNHDITQVSRDEIHTKEMVEDSMQLPS 2526
Macaca_mulatta    AALNTEKFRFPCEFCGRAFSQGSSEWERHVLRHGMALNHDITQVSRDEIHTKEMVEDSMQLPS 2528
Callithrix_jacchus AALNTEKFRFPCEFCGRAFSQGSSEWERHVLRHGMALNHDITQVSRDEIHTKEMVEDSMQLPS 2527
Heterocephalus_glaber AALNTEKFRFPCEFCGRAFSQGSSEWERHVLRHGMALNHDITQVSRDEIHTKEMVEDSMQLPS 2534
Canis_lupus_familiaris AALNTEKFRFPCEFCGRAFSQGSSEWERHVLRHGMALNHDITQVSRDEIHTKEMVEDSMQLPS 2461
Equus_caballus    AALNTEKFRFPCEFCGRAFSQGSSEWERHVLRHGMALNHDITQVSRDEIHTKEMVEDSMQLPS 2521
Bos_taurus        AALNTEKFRFPCEFCGRAFSQGSSEWERHVLRHGMALNHDITQVSRDEIHTKEMVEDSMQLPS 2521
Rhinatrema_bivittatum A-LISEKFRFPCEFCGRITFAHGCDEWERHVLRHGMALNHDITQVSRDEIHTKEMVEDSMQLPS 2444
Xenopus_tropicalis AQ---EKFRFPCEFCGRNFALYTEWERHVLRHGMALNHDITQVSRDEIHTKEMVEDSMQLPS 2423
Latimeria_chalumnae APEYNEKFRFPCEFCGRMFALHSEWERHVLRHGMALNHDITQVSRDEIHTKEMVEDSMQLPS 2515
.....2590.....2600.....2610.....2620.....2630.....2640

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Pavo_muticus      EEKEGIEK-MVLDYSHNSETVVS-VVTPDKPLQENSEAKNE---- 2450
Pavo_cristatus    EEKEGIEK-MVLDYSHNSETVVS-VVTPDKPLQENSEAKNE---- 2450
Gallus_gallus     EEKEGIEK-MVLDYSHNSETVVS-VVTPDKPLQENSEAKNE---- 2452
Chelonia_mydas    AEEKESSE-EMVDFSHKNETAVL-GVAADKSLQENTSEAKNE---- 2526
Mus_musculus      IEAKEDDEPIGIDFPLKSETVTICVVAADKSLLEDAEAKNE---- 2495
Rattus_norvegicus IEAKEDDEPIGIDFPLKSETVTICVVAADKSLLEDAEAKNE---- 2565
Homo_sapiens      IEAKEDDEAIGIDFSLKNETVAICVVTADKSLLEDAEAKNE---- 2506
Pan_troglodytes   IEAKEDDEAIGIDFSLKNETVAICVVTADKSLLEDAEAKNE---- 2567
Macaca_mulatta    IEAKEDDEAIGIDFSLKNETVAICVVTADKSLLEDAEAKNE---- 2569
Callithrix_jacchus IEAKEDDEPIGIDFPLKSETVTICVVAADKSLLEDAEAKNE---- 2568
Heterocephalus_glaber IEAKEDDEPIGIDFPLKSETVTICVVAADKSLLEDAEAKNE---- 2575
Canis_lupus_familiaris IEAKEDDEAIGIDFSLKNETVAICVVAADKSLLEDAEAKNE---- 2502
Equus_caballus    IEAKEDDEAIGIDFSLKNETVAICVVAADKSLLEDAEAKNE---- 2562
Bos_taurus        IEAKEDDEPIGIDFPLKSETVTICVVAADKSLLEDAEAKNE---- 2562
Rhinatrema_bivittatum MDKKVEGETREVDFCLGKEAAVY---AADILQMDKITDTRRE---- 2482
Xenopus_tropicalis VSKMETAERQVDASQQTKNFSL-----KNLAENTETKKE---- 2458
Latimeria_chalumnae VVEEEEEKTKPEIADNNKTTET----LAKNLKVEAETKSSIEDIV 2556
.....2650.....2660.....2670.....2680.....

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