

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/ANK2aps: Tue Feb 1 11:12:03 2022

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Pavo_muticus      --MGNAPICHACHSDKGMRTPGNIQDLDRIPDYYG-----CNCESKEPE 43
Pavo_cristatus    --MGNAPICHACHSDKGMRTPGNIQDLDRIPDYYG-----CNCESKEPE 43
Gallus_gallus     --MGNAPICHACHSDKGMRTPGNIQDLDRIPDYYG-----CNCESKEPE 43
Mus_musculus      --MASPTS-----PGPEGGACTION-----PPR-----I 22
Rattus_norvegicus --MAHAAASIKKVREAELDEKEKNLERERKKQRK-----IPRDRMERK 41
Homo_sapiens      --MMNEDAAQK----SDSGEFNGSSQRRK-----RP 26
Pan_troglodytes   --MAHAAASIKKVREAELDEKEKNLERDRKKQRK-----IPRERMERK 41
Macaca_mulatta    --MGNAALCPSCHADKSIRAQGNMQELDKTPDYYGCNSEDVKEPGVWVTCFQMKPEAANI 58
Callithrix_jacchus --MAHAAASIKKVREAELDEKEKNLERDRKKQRK-----IPRERMERK 41
Canis_lupus_familiaris --MAHAAASIKKVREAELDEKEKTLERERKKQRK-----IPRERMERK 41
Bos_taurus        --MAHAAASIKKVREAELDEKEKNLERERKKQRK-----IPRERMERK 41
Equus_caballus     MGNAALCPSCHASKSVGAQGHMPELDKTPDYYGC-----DSEDTKELG 43
Rhinatrema_bivittatum --MAHAAASIKKARELEPSLEEKEREKERERKR-----QRKSSREIRIDRK 45
Xenopus_tropicalis --MGNAPLCQACHTEKIDAQGNIPDPDKMPDYYVF-----ISDGTSTEQE 42
1.....10.....20.....30.....40.....50.....60

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*****:*****.*****.*****:***:
Pavo_muticus      ARSDSNASFLRAARAGNLDKVVEYLKSGIDINTCNQGNLHHLAAKEGHVGLVQELLER 103
Pavo_cristatus    ARSDSNASFLRAARAGNLDKVVEYLKSGIDINTCNQGNLHHLAAKEGHVGLVQELLER 103
Gallus_gallus     ARSDSNASFLRAARAGNLDKVVEYLKSGIDINTCNQGNLHHLAAKEGHVGLVQELLER 103
Mus_musculus      RQSDSNASFLRAARAGNLDKVVEYLKGGIDINTCNQGNLHHLAAKEGHVGLVQELLGR 82
Rattus_norvegicus RKSDSNASFLRAARAGNLDKVVEYLKGGIDINTCNQGNLHHLAAKEGHVGLVQELLGR 101
Homo_sapiens      KKSDSNASFLRAARAGNLDKVVEYLKGGIDINTCNQGNLHHLAAKEGHVGLVQELLGR 86
Pan_troglodytes   RKSDSNASFLRAARAGNLDKVVEYLKGGIDINTCNQGNLHHLAAKEGHVGLVQELLGR 101
Macaca_mulatta    EKSDSNASFLRAARAGNLDKVVEYLKGGIDINTCNQGNLHHLAAKEGHVGLVQELLGR 118
Callithrix_jacchus RKSDSNASFLRAARAGNLDKVVEYLKGGIDINTCNQGNLHHLAAKEGHVGLVQELLGR 101
Canis_lupus_familiaris RKSDSNASFLRAARAGNLDKVVEYLKGGIDINTCNQGNLHHLAAKEGHVGLVQELLGR 101
Bos_taurus        RKSDSNASFLRAARAGNLDKVVEYLKGGIDINTCNQGNLHHLAAKEGHVGLVQELLGR 101
Equus_caballus     SRSDSNASFLRAARAGNLDKVVEYLKGGIDINTCNQGNLHHLAAKEGHVGLVQELLGR 103
Rhinatrema_bivittatum RKSDSNASFLRAARAGNLDKVVEYLKGGIDINTCNQGNLHHLAAKEGHVGLVQELLGR 105
Xenopus_tropicalis VVSDSNASFLRAARAGNLDKVVEYLKGGIDINTSNQGNLHHLAAKEGHVGLVQELLER 102
.....70.....80.....90.....100.....110.....120

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**:*:*****:***:***.***.*****:***
Pavo_muticus      GSAVDSATKKGNLHIALSLAGQAEVVKVLVKEGANINAQSQNGFTPLYMAAQENHIDVV 163
Pavo_cristatus    GSAVDSATKKGNLHIALSLAGQAEVVKVLVKEGANINAQSQNGFTPLYMAAQENHIDVV 163
Gallus_gallus     GSAVDSATKKGNLHIALSLAGQAEVVKVLVKEGANINAQSQNGFTPLYMAAQENHIDVV 163
Mus_musculus      GSSVDSATKKGNLHIALSLAGQAEVVKVLVKEGANINAQSQNGFTPLYMAAQENHIDVV 142
Rattus_norvegicus GSSVDSATKKGNLHIALSLAGQAEVVKVLVKEGANINAQSQNGFTPLYMAAQENHIDVV 161
Homo_sapiens      GSSVDSATKKGNLHIALSLAGQAEVVKVLVKEGANINAQSQNGFTPLYMAAQENHIDVV 146
Pan_troglodytes   GSSVDSATKKGNLHIALSLAGQAEVVKVLVKEGANINAQSQNGFTPLYMAAQENHIDVV 161
Macaca_mulatta    GSSVDSATKKGNLHIALSLAGQAEVVKVLVKEGANINAQSQNGFTPLYMAAQENHIDVV 178
Callithrix_jacchus GSSVDSATKKGNLHIALSLAGQAEVVKVLVKEGANINAQSQNGFTPLYMAAQENHIDVV 161
Canis_lupus_familiaris GSSVDSATKKGNLHIALSLAGQAEVVKVLVKEGANINAQSQNGFTPLYMAAQENHIDVV 161
Bos_taurus        GSAVDSATKKGNLHIALSLAGQAEVVKVLVKEGANINAQSQNGFTPLYMAAQENHIDVV 161
Equus_caballus     GSSVDSATKKGNLHIALSLAGQAEVVKVLVKEGANINAQSQNGFTPLYMAAQENHIDVV 163
Rhinatrema_bivittatum GSSVNSATKKGNLHIALSLAGQAEVVKVLVKEGANINAQSQNGFTPLYMAAQENHIDVV 165
Xenopus_tropicalis GSAVDSATKKGNLHIALSLAGQAEVVKVLVKEGANINAQSQNGFTPLYMAAQENHIDVV 162
.....130.....140.....150.....160.....170.....180

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*****.*****.*****.***.*****.*****
Pavo_muticus      KYLLENGANQSTATEDGFTPLAVALQQGHNAVAAILLENDTKGKVRLPALHIAARKDDTK 223
Pavo_cristatus    KYLLENGANQSTATEDGFTPLAVALQQGHNAVAAILLENDTKGKVRLPALHIAARKDDTK 223
Gallus_gallus     KYLLENGANQSTATEDGFTPLAVALQQGHNAVAAILLENDTKGKVRLPALHIAARKDDTK 223
Mus_musculus      KYLLENGANQSTATEDGFTPLAVALQQGHNAVAAILLENDTKGKVRLPALHIAARKDDTK 202
Rattus_norvegicus KYLLENGANQSTATEDGFTPLAVALQQGHNAVAAILLENDTKGKVRLPALHIAARKDDTK 221
Homo_sapiens      KYLLENGANQSTATEDGFTPLAVALQQGHNAVAAILLENDTKGKVRLPALHIAARKDDTK 206
Pan_troglodytes   KYLLENGANQSTATEDGFTPLAVALQQGHNAVAAILLENDTKGKVRLPALHIAARKDDTK 221
Macaca_mulatta    KYLLENGANQSTATEDGFTPLAVALQQGHNAVAAILLENDTKGKVRLPALHIAARKDDTK 238
Callithrix_jacchus KYLLENGANQSTATEDGFTPLAVALQQGHNAVAAILLENDTKGKVRLPALHIAARKDDTK 221
Canis_lupus_familiaris KYLLENGANQSTATEDGFTPLAVALQQGHNAVAAILLENDTKGKVRLPALHIAARKDDTK 221
Bos_taurus        KYLLENGANQSTATEDGFTPLAVALQQGHNAVAAILLENDTKGKVRLPALHIAARKDDTK 221
Equus_caballus     KYLLENGANQSTATEDGFTPLAVALQQGHNAVAAILLENDTKGKVRLPALHIAARKDDTK 223
Rhinatrema_bivittatum KYLLENGANQSTATEDGFTPLAVALQQGHNVVAAILLENDTKGKVRLPALHIAARKDDTK 225
Xenopus_tropicalis KYLLETGANQSTATEDGFTPLAVALQQGHNVVAAILLENDTKGKVRLPALHIAARKDDTK 222
.....190.....200.....210.....220.....230.....240

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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SAALLLQNDHNADVQSKMMVNRTTESGFTPLHIAAHYGNVNVATLLLN	RGAAVDFTARN	283
SAALLLQNDHNADVQSKMMVNRTTESGFTPLHIAAHYGNVNVATLLLN	RGAAVDFTARN	283
SAALLLQNDHNADVQSKMMVNRTTESGFTPLHIAAHYGNVNVATLLLN	RGAAVDFTARN	283
SAALLLQNDHNADVQSKMMVNRTTESGFTPLHIAAHYGNVNVATLLLN	RGAAVDFTARN	262
SAALLLQNDHNADVQSKMMVNRTTESGFTPLHIAAHYGNVNVATLLLN	RGAAVDFTARN	281
SAALLLQNDHNADVQSKMMVNRTTESGFTPLHIAAHYGNVNVATLLLN	RGAAVDFTARN	266
SAALLLQNDHNADVQSKMMVNRTTESGFTPLHIAAHYGNVNVATLLLN	RGAAVDFTARN	281
SAALLLQNDHNADVQSKMMVNRTTESGFTPLHIAAHYGNVNVATLLLN	RGAAVDFTARN	298
SAALLLQNDHNADVQSKMMVNRTTESGFTPLHIAAHYGNVNVATLLLN	RGAAVDFTARN	281
SAALLLQNDHNADVQSKMMVNRTTESGFTPLHIAAHYGNVNVATLLLN	RGAAVDFTARN	281
SAALLLQNDHNADVQSKMMVNRTTESGFTPLHIAAHYGNVNVATLLLN	RGAAVDFTARN	281
SAALLLQNDHNADVQSKMMVNRTTESGFTPLHIAAHYGNVNVATLLLN	RGAAVDFTARN	283
SAALLLQNDHNADVQSKMMVNRTTESGFTPLHIAAHYGNVNVATLLLN	RGAAVDFTARN	285
SAALLLQNDHNADVQSKMMVNRTTESGFTPLHIAAHYGNVNVATLLLN	RGAAVDFTARN	282
.....250.....260.....270.....280.....290.....300		

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*****:*****.*:*****:
ITPLHVASKRGNTNMVKLLLDLDRGGQIDAKTRDGLTPLHCAARSGHDQVVELLLERGAPLL 343
ITPLHVASKRGNTNMVKLLLDLDRGGQIDAKTRDGLTPLHCAARSGHDQVVELLLERGAPLL 343
ITPLHVASKRGNTNMVKLLLDLDRGGQIDAKTRDGLTPLHCAARSGHDQVVELLLERGAPLL 343
ITPLHVASKRGNTNMVKLLLDLDRGGQIDAKTRDGLTPLHCAARSGHDQVVELLLERKAPLL 322
ITPLHVASKRGNTNMVKLLLDLDRGGQIDAKTRDGLTPLHCAARSGHDQVVELLLERGAPLL 341
ITPLHVASKRGNTNMVKLLLDLDRGGQIDAKTRDGLTPLHCAARSGHDQVVELLLERGAPLL 326
ITPLHVASKRGNTNMVKLLLDLDRGGQIDAKTRDGLTPLHCAARSGHDQVVELLLERGAPLL 341
ITPLHVASKRGNTNMVKLLLDLDRGGQIDAKTRDGLTPLHCAARSGHDQVVELLLERGAPLL 358
ITPLHVASKRGNTNMVKLLLDLDRGGQIDAKTRDGLTPLHCAARSGHDQVVELLLERGAPLL 341
ITPLHVASKRGNTNMVKLLLDLDRGGQIDAKTRDGLTPLHCAARSGHDQVAELLERGAPLL 341
ITPLHVASKRGNTNMVKLLLDLDRGGQIDAKTRDGLTPLHCAARSGHDQVVELLLERGAPLL 341
ITPLHVASKRGNTNMVKLLLDLDRGGQIDAKTRDGLTPLHCAARSGHDQVVELLLERGAPLL 343
ITPLHVASKRGNTNMVRLLLDLDRGGQIDAKTRDGLTPLHCAARSGHDQVVEVLLERGA PML 345
ITPLHVASKRGNTNMVKLLLDLDRGGQIDAKTRDGLTPLHCAARSGHDQVVELLLERGAPLL 342
.....310.....320.....330.....340.....350.....360
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*****:*****:*****:*****
ARTKNGLSPLHMAAAGDHVECVKHLLOHKAPVDDVTLDYLTALHVAAHCGHYRVTKLLLD 403
ARTKNGLSPLHMAAAGDHVECVKHLLOHKAPVDDVTLDYLTALHVAAHCGHYRVTKLLLD 403
ARTKNGLSPLHMAAAGDHVECVKHLLOHKAPVDDVTLDYLTALHVAAHCGHYRVTKLLLD 403
ARTKNGLSPLHMAAAGDHVECVKHLLOYKAPVDDVTLDYLTALHVAAHCGHYRVTKLLLD 382
ARTKNGLSPLHMAAAGDHVECVKHLLOHKAPVDDVTLDYLTALHVAAHCGHYRVTKLLLD 401
ARTKNGLSPLHMAAAGDHVECVKHLLOHKAPVDDVTLDYLTALHVAAHCGHYRVTKLLLD 386
ARTKNGLSPLHMAAAGDHVECVKHLLOHKAPVDDVTLDYLTALHVAAHCGHYRVTKLLLD 401
ARTKNGLSPLHMAAAGDHVECVKHLLOHKAPVDDVTLDYLTALHVAAHCGHYRVTKLLLD 418
ARTKNGLSPLHMAAAGDHVECVKHLLOHKAPVDDVTLDYLTALHVAAHCGHYRVTKLLLD 401
ARTKNGLSPLHMAAAGDHVECVKHLLOHKAPVDDVTLDYLTALHVAAHCGHYRVTKLLLD 401
ARTKNGLSPLHMAAAGDHVECVKHLLOHKAPVDDVTLDYLTALHVAAHCGHYRVTKLLLD 401
ARTKNGLSPLHMAAAGDHVECVKHLLOHKAPVDDVTLDYLTALHVAAHCGHYRVTKLLLD 403
ARTKNGLSPLHMAAAGDHVDCVKHLLOHKAPVDDVTLDYLTALHVAAHCGHYRVTKLLLD 405
ARTKNGLSPLHMAAAGDHVECVKHLLOHKAPVDDVTLDYLTSLHVAAHCGHYRVTKLLLD 402
.....370.....380.....390.....400.....410.....420
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KRANPNARALNGFTPLHIACKKNRIKVMELLVKYGASIQAITESGLTPIHVAAFMGHLNI	463
KRANPNARALNGFTPLHIACKKNRIKVMELLVKYGASIQAITESGLTPIHVAAFMGHLNI	463
KRANPNARALNGFTPLHIACKKNRIKVMELLVKYGASIQAITESGLTPIHVAAFMGHLNI	463
KRANPNARALNGFTPLHIACKKNRIKVMELLVKYGASIQAITESGLTPIHVAAFMGHLNI	442
KRANPNARALNGFTPLHIACKKNRIKVMELLVKYGASIQAITESGLTPIHVAAFMGHLNI	461
KRANPNARALNGFTPLHIACKKNRIKVMELLVKYGASIQAITESGLTPIHVAAFMGHLNI	446
KRANPNARALNGFTPLHIACKKNRIKVMELLVKYGASIQAITESGLTPIHVAAFMGHLNI	461
KRANPNARALNGFTPLHIACKKNRIKVMELLVKYGASIQAITESGLTPIHVAAFMGHLNI	478
KRANPNARALNGFTPLHIACKKNRIKVMELLVKYGASIQAITESGLTPIHVAAFMGHLNI	461
KRANPNARALNGFTPLHIACKKNRIKVMELLVKYGASIQAITESGLTPIHVAAFMGHLNI	461
KRANPNARALNGFTPLHIACKKNRIKVMELLVKYGASIQAITESGLTPIHVAAFMGHLNI	461
KRANPNARALNGFTPLHIACKKNRIKVMELLVKYGASIQAITESGLTPIHVAAFMGHLNI	463
KRANPNARALNGFTPLHIACKKNRIKVMELLVKYGASIQAITESGLTPIHVAAFMGHLNI	465
KRANPNARALNGFTPLHIACKKNRIKVMELLVKYGASIQAITESGLTPIHVAAFMGHLNI	462
.....430.....440.....450.....460.....470.....480	

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*****
Pavo_muticus      VLLLLQNGASPDVTNIRGETALHMAARAGQEVVRCLLRNGALVDARAREEQTPHIASR 523
Pavo_cristatus    VLLLLQNGASPDVTNIRGETALHMAARAGQEVVRCLLRNGALVDARAREEQTPHIASR 523
Gallus_gallus     VLLLLQNGASPDVTNIRGETALHMAARAGQEVVRCLLRNGALVDARAREEQTPHIASR 523
Mus_musculus      VLLLLQNGASPDVTNIRGETALHMAARAGQEVVRCLLRNGALVDARAREEQTPHIASR 502
Rattus_norvegicus VLLLLQNGASPDVTNIRGETALHMAARAGQEVVRCLLRNGALVDARAREEQTPHIASR 521
Homo_sapiens      VLLLLQNGASPDVTNIRGETALHMAARAGQEVVRCLLRNGALVDARAREEQTPHIASR 506
Pan_troglodytes   VLLLLQNGASPDVTNIRGETALHMAARAGQEVVRCLLRNGARVDARAREEQTPHIASR 521
Macaca_mulatta    VLLLLQNGASPDVTNIRGETALHMAARAGQEVVRCLLRNGALVDARAREEQTPHIASR 538
Callithrix_jacchus VLLLLQNGASPDVTNIRGETALHMAARAGQEVVRCLLRNGALVDARAREEQTPHIASR 521
Canis_lupus_familiaris VLLLLQNGASPDVTNIRGETALHMAARAGQEVVRCLLRNGALVDARAREEQTPHIASR 521
Bos_taurus        VLLLLQNGASPDVTNIRGETALHMAARAGQEVVRCLLRNGALVDARAREEQTPHIASR 521
Equus_caballus    VLLLLQNGASPDVTNIRGETALHMAARAGQEVVRCLLRNGALVDARAREEQTPHIASR 523
Rhinatrema_bivittatum VLLLLQNGASPDVTNIRGETALHMAARAGQEVVRCLLRNGALVDARAREEQTPHIASR 525
Xenopus_tropicalis VLLLLQNGASPDVTNIRGETALHMAARAGQEVVRCLLRNGALVDARAREEQTPHIASR 522
.....490.....500.....510.....520.....530.....540

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*****:..:*****
Pavo_muticus      LGKTEIVQLLLQHMAHPDAATTNGYTPLHISAREGOVDVASVLEAGASHSMSTKKGFTP 583
Pavo_cristatus    LGKTEIVQLLLQHMAHPDAATTNGYTPLHISAREGOVDVASVLEAGASHSMSTKKGFTP 583
Gallus_gallus     LGKTEIVQLLLQHMAHPDAATTNGYTPLHISAREGOVDVASVLEAGASHSMSTKKGFTP 583
Mus_musculus      LGKTEIVQLLLQHMAHPDAATTNGYTPLHISAREGOVDVASVLEAGAAHSLATKKGFTP 562
Rattus_norvegicus LGKTEIVQLLLQHMAHPDAATTNGYTPLHISAREGOVDVASVLEAGAAHSLATKKGFTP 581
Homo_sapiens      LGKTEIVQLLLQHMAHPDAATTNGYTPLHISAREGOVDVASVLEAGAAHSLATKKGFTP 566
Pan_troglodytes   LGKTEIVQLLLQHMAHPDAATTNGYTPLHISAREGOVDVASVLEAGAAHSLATKKGFTP 581
Macaca_mulatta    LGKTEIVQLLLQHMAHPDAATTNGYTPLHISAREGOVDVASVLEAGAAHSLATKKGFTP 598
Callithrix_jacchus LGKTEIVQLLLQHMAHPDAATTNGYTPLHISAREGOVDVASVLEAGAAHSLATKKGFTP 581
Canis_lupus_familiaris LGKTEIVQLLLQHMAHPDAATTNGYTPLHISAREGOVDVASVLEAGAAHSLATKKGFTP 581
Bos_taurus        LGKTEIVQLLLQHMAHPDAATTNGYTPLHISAREGOVDVASVLEAGAAHSLATKKGFTP 581
Equus_caballus    LGKTEIVQLLLQHMAHPDAATTNGYTPLHISAREGOVDVASVLEAGAAHSLATKKGFTP 583
Rhinatrema_bivittatum LGKTEIVQLLLQHMAHPDAATTNGYTPLHISAREGOVDVASVLEAGAADSLPTKKGFTP 585
Xenopus_tropicalis LGKTEIVQLLLQHMAHPDAATTNGYTPLHISAREGOVDVASVLEAGAAHSLATKKGFTP 582
.....550.....560.....570.....580.....590.....600

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*****:***:*****:..* *****:*** *:..*
Pavo_muticus      LHVAAKYGSLEVAKLLQRRASPDAGKNGLTPLHVAAHYDNQKVALLLLEKGASPHATA 643
Pavo_cristatus    LHVAAKYGSLEVAKLLQRRASPDAGKNGLTPLHVAAHYDNQKVALLLLEKGASPHATA 643
Gallus_gallus     LHVAAKYGSLEVAKLLQRRASPDAGKNGLTPLHVAAHYDNQKVALLLLEKGASPHATA 643
Mus_musculus      LHVAAKYGSLDVAKLLQRRAAADSAGKNGLTPLHVAAHYDNQKVALLLLEKGASPHATA 622
Rattus_norvegicus LHVAAKYGSLDVAKLLQRRAAADSAGKNGLTPLHVAAHYDNQKVALLLLEKGASPHATA 641
Homo_sapiens      LHVAAKYGSLDVAKLLQRRAAADSAGKNGLTPLHVAAHYDNQKVALLLLEKGASPHATA 626
Pan_troglodytes   LHVAAKYGSLDVAKLLQRRAAADSAGKNGLTPLHVAAHYDNQKVALLLLEKGASPHATA 641
Macaca_mulatta    LHVAAKYGSLDVAKLLQRRAAADSAGKNGLTPLHVAAHYDNQKVALLLLEKGASPHATA 658
Callithrix_jacchus LHVAAKYGSLDVAKLLQRRAAADSAGKNGLTPLHVAAHYDNQKVALLLLEKGASPHATA 641
Canis_lupus_familiaris LHVAAKYGSLDVAKLLQRRAAADSAGKNGLTPLHVAAHYDNQKVALLLLEKGASPHATA 641
Bos_taurus        LHVAAKYGSLDVAKLLQRRAAADSAGKNGLTPLHVAAHYDNQKVALLLLEKGASPHATA 641
Equus_caballus    LHVAAKYGSLDVAKLLQRRAAADSAGKNGLTPLHVAAHYDNQKVALLLLEKGASPHATA 643
Rhinatrema_bivittatum LHVAAKHGSLDVAKLLQRRASPDAGKNGLTPLHVAAHYDNQKVALLLLEKGAYPHAAA 645
Xenopus_tropicalis LHVAAKYGSLDVAKLLQRRAPPDAGKNGLTPLHVAAHYDNQKVALLLLDKGASQVTA 642
.....610.....620.....630.....640.....650.....660

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*****:*****:***:*****:..* *****:*** *:..*
Pavo_muticus      KNGYTPLHIAAKKNQMCIATLLNNGAETNLTQGVTPHLASQEGHTDMVTLLLEKGS 703
Pavo_cristatus    KNGYTPLHIAAKKNQMCIATLLNNGAETNLTQGVTPHLASQEGHTDMVTLLLEKGS 703
Gallus_gallus     KNGYTPLHIAAKKNQMCIATLLNNGAETNLTQGVTPHLASQEGHTDMVTLLLEKGS 703
Mus_musculus      KNGYTPLHIAAKKNQMCIATLLNNGAETNLTQGVTPHLASQEGHTDMVTLLLDKGA 682
Rattus_norvegicus KNGYTPLHIAAKKNQMCIATLLNNGAETNLTQGVTPHLASQEGHTDMVTLLLEKGA 701
Homo_sapiens      KNGYTPLHIAAKKNQMCIATLLNNGAETNLTQGVTPHLASQEGHTDMVTLLLDKGA 686
Pan_troglodytes   KNGYTPLHIAAKKNQMCIATLLNNGAETNLTQGVTPHLASQEGHTDMVTLLLDKGA 701
Macaca_mulatta    KNGYTPLHIAAKKNQMCIATLLNNGAETNLTQGVTPHLASQEGHTDMVTLLLDKGA 718
Callithrix_jacchus KNGYTPLHIAAKKNQMCIATLLNNGAETNLTQGVTPHLASQEGHTDMVTLLLDKGA 701
Canis_lupus_familiaris KNGYTPLHIAAKKNQMCIATLLNNGAETNLTQGVTPHLASQEGHTDMVTLLLDKGA 701
Bos_taurus        KNGYTPLHIAAKKNQMCIATLLSYGAETNLTQGVTPHLASQEGHTDMVTLLLDKGA 701
Equus_caballus    KNGYTPLHIAAKKNQMCIATLLNNGAETNLTQGVTPHLASQEGHTDMVTLLLDKGA 703
Rhinatrema_bivittatum KNGYTPLHIAAKKNQMCIATLLDYGAEINLTQGVTPHLASQEGHADMVALLLDKEA 705
Xenopus_tropicalis KNGYTPLHIAAKKNQMCIATLLNNGAETNLTQGVTPHLAAQEGHADMTLLLNKQA 702
.....670.....680.....690.....700.....710.....720

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**::*:*****:*****.*:*****:***
LLKQGAVNNAKTKNGYTPHQAQQGHTHIINVLLQHGAKPNAITTTNGNTALAIARRLGY
LLKQGAVNNAKTKNGYTPHQAQQGHTHIINVLLQHGAKPNAITTTNGNTALAIARRLGY
LLKQGAVNNAKTKNGYTPHQAQQGHTHIINVLLQHGAKPNAITTTNGNTALAIARRLGY
LLKQGAVNNAKTKNGYTPHQAQQGHTHIINVLLQHGAKPNATTANGNTALAIAKRLGY
LLKQGAVNNAKTKNGYTPHQAQQGHTHIINVLLQHGAKPNATTANGNTALAIAKRLGY
LLKQGAVNNAKTKNGYTPHQAQQGHTHIINVLLQHGAKPNATTANGNTALAIAKRLGY
LLKQGAVNNAKTKNGYTPHQAQQGHTHIINVLLQHGAKPNATTANGNTALAIAKRLGY
LLKQGAVNNAKTKNGYTPHQAQQGHTHIINVLLQHGAKPNATTANGNTALAIAKRLGY
LLKQGAVNNAKTKNGYTPHQAQQGHTHIINVLLQHGAKPNATTANGNTALAIAKRLGY
LLKQGAVNNAKTKNGYTPHQAQQGHTHIINVLLQHGAKPNATTANGNTALAIAKRLGY
LLKQGAVNNAKTKNGYTPHQAQQGHTHIINVLLQHGAKPNATTANGNTALAIAKRLGY
LLKQGAVNNAKTKNGYTPHQAQQGHTHIINVLLQHGAKPNATTANGNTALAIAKRLGY
LLKQCADVNAKTKNGYTPHQAQQGHTHIINVLLQHGAKPNATTANGNTALAIAKRLGY
LLKQGAVNNAKTKNGYTPHQAQQGHTHIINVLLQHGAKPNVTVTANGNTALAIARRLGY
LLNHGAVNNAKTKNGYTPHQAQQGHTHIINVLLNGAKPNVTTTNGNTALAIARRLGY
.....790.....800.....810.....820.....830.....840

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*****:*****:*****

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ISVVDILKVVTEEIITTTTTVTTEKHKLNPETMTTEVLVDVSDDEEAFKHSDDERFSDGGEVYN
ISVVDILKVVTEEIITTTTTVTTEKHKLNPETMTTEVLVDVSDDEEAFKHSDDERFSDGGEVYN
ISVVDILKVVTEEIITTTTTVTTEKHKLNPETMTTEVLVDVSDDEEAFKHSDDERFSDGGEVYN
ISVVDILKVVTEEVTTTTTTITTEKHKLNPETMTTEVLVDVSDDEE-----
ISVVDILKVVTEEVTTTTTTITTEKHKLNPETMTTEVLVDVSDDEEALKQFGDH-FIDGEALS
ISVVDILKVVTEEVTTTTTTITTEKHKLNPETMTTEVLVDVSDDEEALKQFGDH-FIDGEALS
ISVVDILKVVTEEVTTTTTTITTEKHKLNPETMTTEVLVDVSDDEEALKQFGDH-FIDGEALS
ISVVDILKVVTEEVTTTTTTITTEKHKLNPETMTTEVLVDVSDDEEALKQFGDH-FIDGEALS
ISVVDILKVVTEEVTTTTTTITTEKHKLNPETMTTEVLVDVSDDEEAFKQFGD--FIDGEVL
ISVVDILKVVTEEVTTTTTTITTEKHKLNPETMTTEVLVDVSDDEEAFKQFGDH-FIDGEVLS
ISVVDILKVVTEEVTTTTTTITTEKHKLNPETMTTEVLVDVSDDEEALKQFGDQ-FIDGEVLS
ISVVDILKVVTEEVTTTTTTITTEKHKLNPETMTTEVLVDVSDDEE-----
ISVVDILKVVTEEVTTTTTTITTEKHKLNPETMTTEVLVDVSDDEE-----
.....850.....860.....870.....880.....890.....900
```

:**:****.******.***

GTGVISRNSWSDDTMTGDGGEYLRPEDLKELGDDSLPSSQFLDGMNYLRYSLLEGGRSDRY
GTGVISRNSWSDDTMTGDGGEYLRPEDLKELGDDSLPSSQFLDGMNYLRYSLLEGGRSDRY
GTGVISRNSWSDDTMTGDGGEYLRPEDLKELGDDSLPSSQFLDGMNYLRYSLLEGGRSDST
-----GDDTIVTGDGGEYLRPEDLKELGDDSLPSSQFLDGMNYLRYSLLEGGRSDST
DS-----GDDTIVTGDGGEYLRPEDLKELGDDSLPSSQFLDGMNYLRYSLLEGGRSDST
-----GDDTMTGDGGEYLRPEDLKELGDDSLPSSQFLDGMNYLRYSLLEGGRSD--
DS-----GDDTMTGDGGEYLRPEDLKELGDDSLPSSQFLDGMNYLRYSLLEGGRSDST
DS-----GDDTMTGDGGEYLRPEDLKELGDDSLPSSQFLDGMNYLRYSLLEGGRSD--
DS-----GDDTMTGDGGEYLRPEDLKELGDDSLPSSQFLDGMNYLRYSLLEGGRSDST
DS-----GDDTMTGDGGEYLRPEDLKELGDDSLPSSQFLDGMNYLRYSLLEGGRSD--
DS-----GDDTMTGDGGEYLRPEDLKELGDDSLPSSQFLDGMNYLRYSLLEGGRSDST
-----GDDTMTGDGGEYLRPEDLKELGDDSLPSSHFLDGMNYLRYSLLEGGRSDSI
-----DDTMTGDGGEYLRPEDLKELGDDSLPSSHFLDGMNYLRYSLLEGGRSDSI
.....910.....920.....930.....940.....950.....960

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/ANK2 **Date: Tue Feb 1 11:12:03 2022**
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	*****::**:*:**.*::**::**..*: *:: :* *:***:****:****	
Pavo_muticus	LPGLRSFSSDRSHTLSHASYLRLDSAMIDDTVVIPSQQVTTLAKEAERNYSYRLSWGPNLD	1003
Pavo_cristatus	LPGLRSFSSDRSHTLSHASYLRLDSAMIDDTVVIPSQQVTTLAKEAERNYSYRLSWGPNLD	1003
Gallus_gallus	MPSLRSFSSDRSHTLSHASYLRLDSAMIDDTVVIPSQQVTTLAKEAERNYSYRLSWGPNLD	1003
Mus_musculus	IP-----SSDRSHTLSHASYLRLDSAMIDDTVVIPSHQVSAALAKEAERNYSYRLSWGTENLD	950
Rattus_norvegicus	IPSLRSFSSDRSHTLSHASYLRLDSAMIDDTVVIPSHQVSAALAKEAERNYSYRLSWGTENLD	992
Homo_sapiens	--SLRSFSSDRSHTLSHASYLRLDSAVMDDSVVIPSHQVSTLAKEAERNYSYRLSWGTENLD	955
Pan_troglodytes	MPSLRSFSSDRSHTLSHASYLRLDSAVMDDSVVIPSHQVSTLAKEAERNYSYRLSWGTENLD	992
Macaca_mulatta	---STMPSSDRSHTLSHASYLRLDSAVMDDSVVIPSHQVSTLAKEAERNYSYRLSWGTENLD	1004
Callithrix_jacchus	MPSLRSFSSDRSHTLSHASYLRLDSAVMDDSVVIPSHQVSAALAKEAERNYSYRLSWGTENLD	992
Canis_lupus_familiaris	MPSLRSFSSDRSHTLSHASYLRLDSAMIDDTMVIPSHQVSTLAKEAERNYSYRLSWGTENLD	991
Bos_taurus	--SLRSFSSDRSHTLSHASYLRLDSAMIDDAVVIPSHQVTTLAKEAERNYSYRLSWGTENLD	988
Equus caballus	MPSLRSFSSDRSHTLSHASYLRLDSAMIDDTVVIPSHQVSAALAKEAERNYSYRLSWGTENLD	994
Rhinatrema_bivittatum	MP-----SSDRSHTLSHTSYLRDSAMIDDTIIIPSHQVAFLSRESEKNSYRLSWGTENLD	973
Xenopus_tropicalis	MPSLRSFSSDRSHSVSHTSYLRGSAMIDDSIIPNEQVSYLAH-AEPNTYRFSWGADNLD	973
	.....970.....980.....990.....1000.....1010.....1020	

	*:*****	*****	
Pavo_muticus	NVALSSSPIHSGCLSAKKETGSLLTRCSSPCLDHDNS	SFLVFSFMVDARGGAM	1055
Pavo_cristatus	NVALSSSPIHSGCLSAKKETGSLLTRCSSPCLDHDNS	SFLVFSFMVDARGGAM	1055
Gallus_gallus	NVALSSSPIHSGCLSAKKETGSLLTRCSSPCLDHDNS	SFLVFSFMVDARGGAM	1055
Mus_musculus	NVALSSSPIHSG	FLVFSFMVDARGGAM	976
Rattus_norvegicus	NVALSSSPIHSGRA	SPCLDRDNSRRCLPKRPF	1038
Homo_sapiens	NVALSSSPIHSG	FLVFSFMVDARGGAM	981
Pan_troglodytes	NVALSSSPIHSGRA	SPCLERDNS	1030
Macaca_mulatta	NVALSSSPIHSGRA	SPCLDRDNS	1042
Callithrix_jacchus	NVALSSSPIHSGRA	SPCLDRDNS	1030
Canis_lupus_familiaris	NVALSSSPIHSGRS	SPCLDRDNS	1029
Bos_taurus	NVALSSSPIHSGRT	SPCLDRDNS	1026
Equus_caballus	NVALSSSPIHSGRT	SPCLDRDNS	1032
Rhinatrema_bivittatum	NVALSSSPIHSGHS	SPYLRDSS	1011
Xenopus_tropicalis	NIALSSSPIHSGHM	SPCLDRDNS	1011
	.....1030.....1040.....1050.....1060.....1070.....1080		

	*****.*****	
Pavo_muticus	RGCRHNGLRRIIPPRKCTAPTRVTCRLVKRHRLATMPPMVEGEGLASRLIEVGPSGAQFL	1115
Pavo_cristatus	RGCRHNGLRRIIPPRKCTAPTRVTCRLVKRHRLATMPPMVEGEGLASRLIEVGPSGAQFL	1115
Gallus_gallus	RGCRHNGLRRIIPPRKCTAPTRVTCRLVKRHRLATMPPMVEGEGLASRLIEVGPSGAQFL	1115
Mus_musculus	RGCRHNGLRRIIPPRKCTAPTRVTCRLVKRHRLATMPPMVEGEGLASRLIEVGPSGAQFL	1036
Rattus_norvegicus	RGCRHNGLRRIIPPRKCTAPTRVTCRLVKRHRLATMPPMVEGEGLASRLIEVGPSGAQFL	1098
Homo_sapiens	RGCRHNGLRRIIPPRKCTAPTRVTCRLVKRHRLATMPPMVEGEGLASRLIEVGPSGAQFL	1041
Pan_troglodytes	RGCRHNGLRRIIPPRKCTAPTRVTCRLVKRHRLATMPPMVEGEGLASRLIEVGPSGAQFL	1090
Macaca_mulatta	RGCRHNGLRRIIPPRKCTAPTRVTCRLVKRHRLATMPPMVEGEGLASRLIEVGPSGAQFL	1102
Callithrix_jacchus	RGCRHNGLRRIIPPRKCTAPTRVTCRLVKRHRLATMPPMVEGEGLASRLIEVGPSGAQFL	1090
Canis_lupus_familiaris	RGCRHNGLRRIIPPRKCTAPTRVTCRLVKRHRLATMPPMVEGEGLASRLIEVGPSGAQFL	1089
Bos_taurus	RGCRHNGLRRIIPPRKCTAPTRVTCRLVKRHRLATMPPMVEGEGLASRLIEVGPSGAQFL	1086
Equus_caballus	RGCRHNGLRRIIPPRKCTAPTRVTCRLVKRHRLATMPPMVEGEGLASRLIEVGPSGAQFL	1092
Rhinatrema_bivittatum	RGCRHNGLRRIIPPRKCTAPTRVTCRLVKRHRLATMPPMVEGEGLASRLIEVGPSGAQFL	1071
Xenopus_tropicalis	RGCRHNGLRRIIPSRKCTAPTRVTCRLVKRHRLATMPPMVEGEGLASRLIEVGPSGAQFL	1071
	.....1090.....1100.....1110.....1120.....1130.....1140	

	*	*****:****.	
Pavo_muticus	GKLHLPTAPPPLEGE	SLVSRILQLGPPG	TKFLGPVVEIPHFAALRGKERELVILRSEN 1175
Pavo_cristatus	GKLHLPTAPPPLEGE	SLVSRILQLGPPG	TKFLGPVVEIPHFAALRGKERELVILRSEN 1175
Gallus_gallus	GKLHLPTAPPPLEGE	SLVSRILQLGPPG	TKFLGPVVEIPHFAALRGKERELVILRSEN 1175
Mus_musculus	GKLHLPTAPPPLEGE	SLVSRILQLGPPG	TKFLGPVVEIPHFAALRGKERELVILRSEN 1096
Rattus_norvegicus	GKLHLPTAPPPLEGE	SLVSRILQLGPPG	TKFLGPVVEIPHFAALRGKERELVILRSEN 1158
Homo_sapiens	GKLHLPTAPPPLEGE	SLVSRILQLGPPG	TKFLGPVVEIPHFAALRGKERELVILRSEN 1101
Pan_troglodytes	GKLHLPTAPPPLEGE	SLVSRILQLGPPG	TKFLGPVVEIPHFAALRGKERELVILRSEN 1150
Macaca_mulatta	GKLHLPTAPPPLEGE	SLVSRILQLGPPG	TKFLGPVVEIPHFAALRGKERELVILRSEN 1162
Callithrix_jacchus	GKLHLPTAPPPLEGE	SLVSRILQLGPPG	TKFLGPVVEIPHFAALRGKERELVILRSEN 1150
Canis_lupus_familiaris	GKLHLPTAPPPLEGE	SLVSRILQLGPPG	TKFLGPVVEIPHFAALRGKERELVILRSEN 1149
Bos_taurus	GKLHLPTAPPPLEGE	SLVSRILQLGPPG	TKFLGPVVEIPHFAALRGKERELVILRSEN 1146
Equus_caballus	GKLHLPTAPPPLEGE	SLVSRILQLGPPG	TKFLGPVVEIPHFAALRGKERELVILRSEN 1152
Rhinatrema_bivittatum	G-----		VPVVEIPHFAALRGKERELVILRSET 1098
Xenopus_tropicalis	GKLHLPTAPPPLEGE	SLVSRILQLGPPG	TKFLGPVVEIPHFAALRGKERELVILRSEN 1131
1150.....1160.....1170.....1180.....1190.....1200		

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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**..****:~*:~*****:~:~*****:~*****:~**
GDSWKEHFC EYTEDELNEILNGMDEVLDTP EEELEKKRICRIITRDFPQYFAVVSRIKQDS
GDSWKEHFC EYTEDELNEILNGMDEVLDTP EEELEKKRICRIITRDFPQYFAVVSRIKQD
GDSWKEHFC EYTEDELNEILNGMDEVLDTP EEELEKKRICRIITRDFPQYFAVVSRIKQDS
GDSWKEHFC DYTEDELNEILNGMDEVLDSP EDLEKKRICRIITRDFPQYFAVVSRIKQDS
GDSWKEHFC EYTEDELNEILNGMDEVLDSP EDLEKKRICRIITRDFPQYFAVVSRIKQDS
GDSWKEHFC DYTEDELNEILNGMDEVLDSP EDLEKKRICRIITRDFPQYFAVVSRIKQDS
GDSWKEHFC DYTEDELNEILNGMDEVLDSP EDLEKKRICRIITRDFPQYFAVVSRIKQDS
GDSWKEHFC DYTEDELNEILNGMDEVLDSP EDLEKKRICRIITRDFPQYFAVVSRIKQDS
GDSWKEHFC DYTEDELNEILNGMDEVLDSP EDLEKKRICRIITRDFPQYFAVVSRIKQDS
GDSWKEHFC DYTEDELNEILNGMDEVLDSP EDLEKKRICRIITRDFPQYFAVVSRIKQD
GDSWKEHFC EYTEDELNEILNGMDEVLDSP EDLEKKRICRIITRDFPQYFAVVSRIKQDS
GDSWKEHFC EYTEDELNEILNGMDEVLDSP EDLEKKRICRIITRDFPQYFAVVSRIKQDS
GDSWKEHFC EYTEDELNEILNGMDEVLDSP EDLEKKRICRIITRDFPQYFAVVSRIKQDS
GDNWKEHFC EYTEDELNEILNGMDEVLDSP EEELEKKRICRIITRDFPQYFAVVSRIKQDS
GDNWKEHFC EYTEDELNEILNGMDEVLDSP EEELEKKRICRIITRDFPQYFAVVSRIKQD
.....1210.....1220.....1230.....1240.....1250.....1260

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*****.*****.*****: **:*****
NLIGPEGGVLSSTVVPQVQAVFPEGALTKRIRVGLQAPMHTELIKKILGNKATFSPIVT
NLIGPEGGVLSSTVVPQVQAVFPEGALTKRIRVGLQAPMHTELIKKILGNKATFSPIVT
NLIGPEGGVLSSTVVPQVQAVFPEGALTKRIRVGLQAPMHTELIKKILGNKATFSPIVT
NLIGPEGGVLSSTVVSQVQAVFPEGALTKRIRVGLQAPMHSSELVKKILGNKATFSPIVT
NLIGPEGGVLSSTVVSQVQAVFPEGALTKRIRVGLQAPMHSSELVKKILGNKATFSPIVT
NLIGPEGGVLSSTVVPQVQAVFPEGALTKRIRVGLQAPMHSSELVKKILGNKATFSPIVT
NLIGPEGGVLSSTVVPQVQAVFPEGALTKRIRVGLQAPMHSSELVKKILGNKATFSPIVT
NLIGPEGGVLSSTVVPQVQAVFPEGALTKRIRVGLQAPMHTELVKKILGNKATFSPIVT
NLIGPEGGVLSSTVVPQVQAVFPEGALTKRIRVGLQAPMHSSELVKKILGNKATFSPIVT
NLIGPEGGVLSSTVAPQVQAVFPEGALTKRIRVGLQAPMHSSELVKKILGNKATFSPIV
NLIGPEGGVLSSTVVPQVQAVFPEGALTKRIRVGLQAPMHSSELVKKILGNKATFSPIVT
NLIGPEGGVLSSTVVPQVQAVFPEGALTKRIRVGLQAPMHSSELVKKILGNKATFSPIVT
NLIGPEGGVLSSTVVPQVQAVFPEGALTKRIRVGLQAPMHSSELVKKILGNKATFSPIVT
NLIGPEGGVLSSTVVPQVQAVFPEGALTKRIRVGLQAPMHSSELVKKILGNKATFSPIVT
NLIGPEGGVLSSTVVPQVQAVFPEGALTKRIRVGLQAPMHSSELVKKILGNKATFSPIVT
NLIGPEGGVLSSTVVPQVQAVFPEGALTKRIRVGLQAPMHSSELVKKILGNKATFSPIVT
.....1270.....1280.....1290.....1300.....1310.....1320
```

[illegible]

*****:*****:*****
LTFVNECVSFTTNVSARFWLIDCRQTQESVTFASQVYREIICVPYMAKFVVFAKSHDPIE
LTFVNECVSFTTNVSARFWLIDCRQTQESVTFASQVYREIICVPYMAKFVVFAKSHDPIE
LTFVNECVSFTTNVSARFWLIDCRQTQESVTFASQVYREIICVPYMAKFVVFAKSHDPIE
LTFVNECVSFTTNVSARFWLIDCRQTQESVAFASQVYREIICVPYMAKFVVFAKSHDPIE
LTFVNECVSFTTNVSARFWLIDCRQTQESVAFASQVYREIICVPYMAKFVVFAKSHDPIE
LTFVNECVSFTTNVSARFWLIDCRQTQESVTFASQVYREIICVPYMAKFVVFAKSHDPIE
LTFVNECVSFTTNVSARFWLIDCRQTQESVTFASQVYREIICVPYMAKFVVFAKSHDPIE
LTFVNECVSFTTNVSARFWLIDCRQTQESVTFASQVYREIICVPYMAKFVVFAKSHDPIE
LTFVNECVSFTTNVSARFWLIDCRQTQESVTFASQVYREIICVPYMAKFVVFAKSHDPIE
LTFVNECVSFTTNVSARFWLIDCRQTQESVTFASQVYREIICVPYMAKFVVFAKSHDPIE
LTFVNECVSFTTNVSARFWLIDCRQTQESVTFASQVYREIICVPYMAKFVVFAKSHDPIE
LTFVNECVSFTTNVSARFWLIDCRQTQESVTFASQVYREIICVPYMAKFVVFAKSHDPIE
LTFVNECVSFTTNVSARFWLIDCRQTQESVTFASQVYREIICVPYMAKFVVFAKSHDPIE
LTFVNECVSFTTNVSARFWLIDCRQTQESVTFASQVYREIICVPYMAKFVVFAKSHDPIE
LTFVNECVSFTTNVSARFWLIDCRQTQESVTFAGQVYREIICVPYMAKFVVFAKSQDPIE
.....1390.....1400.....1410.....1420.....1430.....1440

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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*****:*****

Pavo_muticus	ARLRFCMTDDKVDKTL	EQENFAEVARSRDVEVLE	GKPIYVDCFGNLVPLTKSGQHHIF	1475
Pavo_cristatus	ARLRFCMTDDKVDKTL	EQENFAEVARSRDVEVLE	GKPIYVDCFGNLVPLTKSGQHHIF	1475
Gallus_gallus	ARLRFCMTDDKVDKTL	EQENFAEVARSRDVEVLE	GKPIYVDCFGNLVPLTKSGQHHIF	1475
Mus_musculus	ARLRFCMTDDKVDKTL	EQENFSEVARSRDVEVLE	GKPIYVDCFGNLVPLTKSGQHHIF	1396
Rattus_norvegicus	ARLRFCMTDDKVDKTL	EQENFSEVARSRDVEVLE	GKPIYVDCFGNLVPLTKSGQHHIF	1458
Homo_sapiens	ARLRFCMTDDKVDKTL	EQENFAEVARSRDVEVLE	GKPIYVDCFGNLVPLTKSGQHHIF	1401
Pan_troglodytes	ARLRFCMTDDKVDKTL	EQENFAEVARSRDVEVLE	GKPIYVDCFGNLVPLTKSGQHHIF	1450
Macaca_mulatta	ARLRFCMTDDKVDKTL	EQENFAEVARSRDVEVLE	GKPIYVDCFGNLVPLTKSGQHHIF	1462
Callithrix_jacchus	ARLRFCMTDDKVDKTL	EQENFAEVARSRDVEVLE	GKPIYVDCFGNLVPLTKSGQHHIF	1450
Canis_lupus_familiaris	ARLRFCMTDDKVDKTL	EQENFAEVARSRDVEVLE	GKPIYVDCFGNLVPLTKSGQHHIF	1449
Bos_taurus	ARLRFCMTDDKVDKTL	EQENFAEVARSRDVEVLE	GKPIYVDCFGNLVPLTKSGQHHIF	1446
Equus_caballus	ARLRFCMTDDKVDKTL	EQENFAEVARSRDVEVLE	GKPIYVDCFGNLVPLTKSGQHHIF	1452
Rhinatrema_bivittatum	ARLRFCMTDDKVDKTL	EQENFAEVARSRDVEVLE	GKPIYVDCFGNLVPLTKSGQHHIF	1398
Xenopus_tropicalis	ARLRFCMTDDKVDKTL	EQENFAEVARSRDVEVLE	GKPIYVDCFGNLVPLTKSGQHHIF	1431
	.....1450.....1460.....1470.....1480.....1490.....1500			

:***:***** *: *

Pavo_muticus	SFFAFKENRLPLFVKVRD	TTQEP	CGRLSFMKEPKSTRGLVHQAICNLNITLPIVYTKESSES	1535
Pavo_cristatus	SFFAFKENRLPLFVKVRD	TTQEP	CGRLSFMKEPKSTRGLVHQAICNLNITLPIVYTKESSES	1535
Gallus_gallus	SFFAFKENRLPLFVKVRD	TTQEP	CGRLSFMKEPKSTRGLVHQAICNLNITLPIVYTKESSES	1535
Mus_musculus	SFFAFKENRLPLFVKVRD	TTQEP	CGRLSFMKEPKSTRGLVHQAICNLNITLPIYAKESSES	1456
Rattus_norvegicus	SFFAFKENRLPLFVKVRD	TTQEP	CGRLSFMKEPKSTRGLVHQAICNLNITLPIYAKESSES	1518
Homo_sapiens	SFFAFKENRLPLFVKVRD	TTQEP	CGRLSFMKEPKSTRGLVHQAICNLNITLPIYTKESSES	1461
Pan_troglodytes	SFFAFKENRLPLFVKVRD	TTQEP	CGRLSFMKEPKSTRGLVHQAICNLNITLPIYTKESSES	1510
Macaca_mulatta	SFFAFKENRLPLFVKVRD	TTQEP	CGRLSFMKEPKSTRGLVHQAICNLNITLPIYTKESSES	1522
Callithrix_jacchus	SFFAFKENRLPLFVKVRD	TTQEP	CGRLSFMKEPKSTRGLVHQAICNLNITLPIYTKESSES	1510
Canis_lupus_familiaris	SFFAFKENRLPLFVKVRD	TTQEP	CGRLSFMKEPKSTRGLVHQAICNLNITLPIYTKESSES	1509
Bos_taurus	SFFAFKENRLPLFVKVRD	TTQEP	CGRLSFMKEPKSTRGLVHQAICNLNITLPIYTKESSES	1506
Equus_caballus	SFFAFKENRLPLFVKVRD	TTQEP	CGRLSFMKEPKSTRGLVHQAICNLNITLPIVYTKESSES	1512
Rhinatrema_bivittatum	SFFAFKENRLPLFVKVRD	TTQEP	CGRLSFMKEPKSTRGLVHQAICNLNITLPIVYTKESSES	1458
Xenopus_tropicalis	SFFAFKENRLPLFVKVRD	TTQEP	CGRLSFMKEPKSTRGLVHQAICNLNITLPIYTKESSES	1491
1510.....1520.....1530.....1540.....1550.....1560			

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Pavo_muticus	DQEQQEEVEMTSEKNDE	-TESTETSILKSHLVNEVPVLASPDLLSEVSEMKODLIKMTAI	1594
Pavo_cristatus	DQEQQEEVEMTSEKNDE	-TESTETSILKSHLVNEVPVLASPDLLSEVSEMKODLIKMTAI	1594
Gallus_gallus	DQEQQEEVEMTSEKNDE	-TESTETSILKSHLVNEVPVLASPDLLSEVSEMKODLIKMTAI	1594
Mus_musculus	DQEPEEEIGMTSEKNDE	-TESTETSILKSHLVNEVPVLASPDLLSEVSEMKODLIKMTAI	1515
Rattus_norvegicus	DQEQQEEICMTSEKNDE	-TESTETSILKSHLVNEVPVLASPDLLSEVSEMKODLIKMTAI	1577
Homo_sapiens	DQEQQEEIDMTSEKNDE	-TESTETSILKSHLVNEVPVLASPDLLSEVSEMKODLIKMTAI	1520
Pan_troglodytes	DQEQQEEIDMTSEKNDE	-TESTETSILKSHLVNEVPVLASPDLLSEVSEMKODLIKMTAI	1569
Macaca_mulatta	DQEQQEEIDMTSEKNDE	-TESTETSILKSHLVNEVPVLASPDLLSEVSEMKODLIKMTAI	1581
Callithrix_jacchus	DQEQQEEIDMTSEKNDE	-TESTETSILKSHLVNEVPVLASPDLLSEVSEMKODLIKMTAI	1569
Canis_lupus_familiaris	DQEQQEEIDMTSEKNDE	-TESTETSILKSHLVNEVPVLASPDLLSEVSEMKODLIKMTAI	1568
Bos_taurus	DQEQQEEIDMTSEKNDE	-TESTETSILKSHLVNEVPVLASPDLLSEVSEMKODLIKMTAI	1565
Equus_caballus	DQEQQEEIDMTSEKNDE	-TESTETSILKSHLVNEVPVLASPDLLSEVSEMKODLIKMTAI	1571
Rhinatrema_bivittatum	DQEHDEADVMSEKH	-	1473
Xenopus_tropicalis	DQEPEDGTTISDKNDEETESTETSILKSHLVNDVPVLASPDLLSEVCEMKODLIKMTAI		1551
	.....1570.....1580.....1590.....1600.....1610.....1620		

Pavo_muticus	LTTDPSDKSGSIKVKDLGKATEEPPGEPFEIVERVKEDLEKVNAILRGGSYTREEHALQK	1654
Pavo_cristatus	LTTDPSDKSGSIKVKDLGKATEEPPGEPFEIVERVKEDLEKVNAILRGGSYTREEHALQK	1654
Gallus_gallus	LTTDPSDKSGSIKVKDLGKATEEPPGEPFEIVERVKEDLEKVNAILRGGSYTREEHALQK	1654
Mus_musculus	LTTDVSDDKAGSLKVKELAKAGEEPPGEPFEIVERVKEDLEKVNAILRSGTCMRDEGRARS	1575
Rattus_norvegicus	LTTDVSDDKAGSIKVKELAKAGEEPPGEPFEIVERVKEDLEKVNAILRSGTCMRDEGRARS	1637
Homo_sapiens	LTTDVSDDKAGSIKVKELVKAEEPPGEPFEIVERVKEDLEKVNAILRSGTCMRDEGRARS	1580
Pan_troglodytes	LTTDVSDDKAGSIKVKELVKAEEPPGEPFEIVERVKEDLEKVNAILRSGTCMRDEGRARS	1629
Macaca_mulatta	LTTDVSDDKAGSIKVKELVKAEEPPGEPFEIVERVKEDLEKVNAILRSGTCMRDEGRARS	1641
Callithrix_jacchus	LTTDVSDDKAGSIKVKELVKAEEPPGEPFEIVERVKEDLEKVNAILRSGTCMRDEGRARS	1629
Canis_lupus_familiaris	LTTDVSDDKAGSIKVKELVKAEEPPGEPFEIVERVKEDLEKVNAILRSGTCMRDEGRARS	1628
Bos_taurus	LTTDVSDDKAGSIKVKELVKAEEPPGEPFEIVERVKEDLEKVNAILRSGTCMRDEGRARS	1625
Equus_caballus	LTTDVSERAGSIKVKELVKAEEPPGEPFEIVERVKEDLEKVNAILRSGTCMRDEGRARS	1631
Rhinatrema_bivittatum	-----	1473
Xenopus_tropicalis	LTTDSDAQKAGSLKAKDIDK-GDEPPGEPFEIVERVKEDLEKVNAILRGTGTYAKEESFTEG	1610
1630.....1640.....1650.....1660.....1670.....1680	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus	SLSRQEFVEEEWVIVSDEEIEEARNAPVEVTEPICVEVRIDKETTEMEKKDMTGMVDYL	1714
Pavo_cristatus	SLSRQEFVEEEWVIVSDEEIEEARNAPVEVTEPICVEVRIDKETTEMEKKDMTGMVDYL	1714
Gallus_gallus	SLSRQEFVEEEWVIVSDEEIEEARNAPVEVTEPICVEVRIDKETTEMEKKDMTGMVDYL	1714
Mus_musculus	SQSER-ELEEEWVIVSDEEIQEAKQHAPVEIDEHPCEVVRVDRETKAKVEKDDSTGLVNYL	1634
Rattus_norvegicus	SQSER-ELEEEWVIVSDEEIEEAKQHAPVEIAEHPCEVVRVDRETKTKVEKDDSTGLVNYL	1696
Homo_sapiens	SRSERGLVEEEWVIVSDEEIEEARQKAPLEITEYPCVEVRIDKEIKGKVEKDDSTGLVNYL	1640
Pan_troglodytes	SRSERGLVEEEWVIVSDEEIEEARQKAPLEITEYPCVEVRIDKEIKGKVEKDDSTGLVNYL	1689
Macaca_mulatta	SRSERGLVEEEWVIVSDEEIEEARQKAPLEITEYPCVEVRIDKEIKGKVEKDS-----	1694
Callithrix_jacchus	SRSERGLVEEEWVIVSDEEIEEAKQKAPLEITEYPCVEVRVDKEIKGKVEKDDSSGLVNYL	1689
Canis_lupus_familiaris	SQLERELVEEEWVIVSDEEIEEAKLKAPLEVTEYPCVEVRLDKESNVKVEKDSAGLVNYL	1688
Bos_taurus	SQPERELVEEEWVIVSEEEIEEAKQKASLEIAEYPCVEVRLDKETKVEVEKDDSTGLVNYL	1685
Equus_caballus	ARSERELVEEEWVIVSDEEIEEARQKAPLEITEYPCVEVRIDKETKEEVEKDDSTGLVNYL	1691
Rhinatrema_bivittatum	-----	1473
Xenopus_tropicalis	AQALWPKYKKEEWVILSDEEVQEAQLNAHLEVEEIPCEVVRIDRGEKTKIKTNTEIVNYL	1670
	.....1690.....1700.....1710.....1720.....1730.....1740	

Pavo_muticus	TEDLNKYVSLHEVQPQALQED----IVEERFEAVVISRDSE-KEGQESPTTEKLSPOEQH	1769
Pavo_cristatus	TEDLNKYVSLHEVQPQALQED----IVEERFEAVVISRDSE-KEGQESPTTEKLSPOEQH	1769
Gallus_gallus	TEDLNKYVSLHEVQPQALQED----IVEERFEAVVISRDSE-KEGRESPTTETLSPOEQH	1769
Mus_musculus	TDDLNSYTSPEHEKKPHTAPE----KSGETSQASAVGKSSESNKGKATSABEEKQSAQKQL	1689
Rattus_norvegicus	TDDLNSYTGTHEKKPHTAPE----KSGETSQASAIKKSSESNKGKTSAPAEKQSAQKQV	1751
Homo_sapiens	TDDLNTCVPLPKEQLQTVQD----KAGKKCEALAVGRSSE-KEGKDIPPDDETQSTOKQH	1694
Pan_troglodytes	TDDLNTYVPLPKEQLQTVQD----KAGKKCEAPAVGRSSE-KEGKDIPPDDETQSTOKQH	1743
Macaca_mulatta	-----EQQLQTVQD----KAGKKREALAVGKSSE-KEGKDIPPDDETQSTOKQQ	1736
Callithrix_jacchus	TDDRNSYVPLPKEQPQTVQD----KAGKKSEALSVGRSSE-KEGKDIPPDDETQSTOK-H	1742
Canis_lupus_familiaris	TEDLKSYSVPHEKHLQTAQE----RAGEKREAPPIGRSSE-NEGKDAPP-ETQSAQKQQ	1741
Bos_taurus	TEDLNSYVPPHEEQPKEQGE----MVGEKPEAQGPSRRSE-SEGKDAPSEETQSTOKQP	1739
Equus_caballus	TEDLNSYVSPHGEQLQPAQE----MAGETSQAPAVGRSSE-NEGKDAHPPDETQIPQKQQ	1745
Rhinatrema_bivittatum	-----	1473
Xenopus_tropicalis	TDDLNAVIPDQEVTLTSQMORKEQRKIPLKIKPIRRKLRERQKEEFROGLTKFSSEESL	1730
	.....1750.....1760.....1770.....1780.....1790.....1800	

Pavo_muticus	KPALEIKKPVRTKLDRKHKKQKEGKMHSSEQPG--LMKISSDES--PNEEHGLTPAAAPE	1825
Pavo_cristatus	KPALEIKKPVRTKLDRKHKKQKEGKMHSSEQPG--LMKISSDES--PNEEHGLTPAAAPE	1825
Gallus_gallus	KPALEIKKPVRTKLDRKHKKQKEGKMHSSEQPG--LMKVSSDES--PNEERGLTPAAAPE	1825
Mus_musculus	KPGLAIKKPVRRKLKEKQKQKEESSQSSEKTE--LKKGSSEES--VDEDRGLVPEPLPT	1745
Rattus_norvegicus	KPSLVIKKPVRRKLKEKQKQKEESSQSGEEKTE--LKKGSSEES--VDEDRGLAPEPLPT	1807
Homo_sapiens	KPSLGIIKKPVRRKLKEKQKQKEEGLQASAEKAE--LKKGSSEES--LGEDPGLAPEPLPT	1750
Pan_troglodytes	KPSLGIIKKPVRRKLKEKQKQKEEGLQASAEKAE--LKKGSSEES--LGEDPGLAPEPLPT	1799
Macaca_mulatta	KPSLGIIKKPVRRKLKEKQKQKEEGLQASAEKAE--LKKGSSEES--LDEDPGLAPEPLPT	1792
Callithrix_jacchus	KPSLGIIKKPVRRKLKEKQKQKEEGLQASAEKAE--LKKGSSEES--LDEDPGLAPEPLPT	1798
Canis_lupus_familiaris	KPSLGIIKKPVRRKLKEKQKQKEESVQGSAEKSE--LKKCSSEES--LEEDAGLAPEPLPT	1797
Bos_taurus	KPSLGIIKKPVRRKLKEKQKQKEDSPOASAEKTE--LKKGSSEES--LDEDTSAPAEPLPA	1795
Equus_caballus	KPSLGIIKKPVRRKLKEKQKQKEESLOASTEKTE--LTKGSSEES--LDEDLGLAPEPVPA	1801
Rhinatrema_bivittatum	-----	1473
Xenopus_tropicalis	DGEICPLATAVTDADKDVSPSVETPIGSIKDKVKVLQKQVEEEOQVLKDEIGLIATAIVD	1790
	.....1810.....1820.....1830.....1840.....1850.....1860	

Pavo_muticus	AKAVSPVIEETPIGSIKDKVKALQKRVEDEQKIRS-----KLPVRIQTREGTAEKASK--	1878
Pavo_cristatus	AKAVSPVIEETPIGSIKDKVKALQKRVEDEQKIRS-----KLPVRIQTREGTAEKASK--	1878
Gallus_gallus	AKAVSPVIEETPIGSIKDKVKALQKRVEDEQKIRS-----KLPVRIQTREGTAEKASK--	1878
Mus_musculus	AKATSPLIEETPIGSIKDKVKALQKRVEDEQKGRS-----KLPVRVKGEDVPKKTTPRT	1800
Rattus_norvegicus	AKATSPLIEETPIGSIKDKVKALQKRVEDEQKGRS-----KLPVRVKGEDVPKKTTPRT	1862
Homo_sapiens	VKATSPLIEETPIGSIKDKVKALQKRVEDEQKGRS-----KLPVRVKGEDVPKKTTHRP	1805
Pan_troglodytes	VKATSPLIEETPIGSIKDKVKALQKRVEDEQKGRS-----KLPVRVKGEDVPKKTTHRP	1854
Macaca_mulatta	VKATSPLIEETPIGSIKDKVKALQKRVEDEQKGRS-----KLPVRVKGEDVPKKTTHRT	1847
Callithrix_jacchus	AKATSPLIEETPIGSIKDKVKALQKRVEDEQKGRS-----KLPVRVKGEDVPKKTTHRT	1853
Canis_lupus_familiaris	VKATSPLIEETPIGSIKDKVKALQKRVEDEQKGRS-----KLPVRVKGEDVPKKTTHRT	1852
Bos_taurus	VKATSPLIEETPIGSIKDKVKALQKRVEDEQKGRS-----KLPVRVKGEDVPKKTTHRT	1850
Equus_caballus	VKATSPLIEETPIGSIKDKVKALQKRVEDEQKGRS-----KLPVRVKGEDVPKKTTHRT	1856
Rhinatrema_bivittatum	-----	1473
Xenopus_tropicalis	AKKISPVIEETPIGSIKDKVKALQKQVDEEQKALDGKIGLNVSAVTEKVSSVIEETPIGS	1850
1870.....1880.....1890.....1900.....1910.....1920	

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Pavo_muticus          ----- 1878
Pavo_cristatus        ----- 1878
Gallus_gallus         ----- 1878
Mus_musculus          HPAVSPSSKS-----STSSKAERHSSLSSSAKPERHTPVSPSSKNEKLSPVSPSAKTER 1854
Rattus_norvegicus     HPVVSPSSKS-----SPSSKMERHSSLTSSAKTERHSPVSPSSKNEKHSPVSPSAKAER 1916
Homo_sapiens          HPAASPSLKSERHAPGSPSPKTERHSTLSSSAKTERHPPVSPSSKTEKHSPVSPSAKTER 1865
Pan_troglodytes       HPAASPSLKSERHAPGSPSPKTERHSTLSSSAKTERHPPVSPSSKTEKHSPVSPSAKTER 1914
Macaca_mulatta        HPAASPSLKTERHAPGSPSSKTERHSLSSSAKTERYPPVSPSSKTEKHSPVSPSAKTER 1907
Callithrix_jacchus    HPAASPSLKSERHAPGSPSSKTERHSLSSSAKTERHPPVSPSSKTEKHSPVSPSAKMER 1913
Canis_lupus_familiaris HPAASPSLKSERHVPASPSSKTERHSSLSSSTKTERHPPISPSSKTEKHSPVSPSAKIER 1912
Bos_taurus            HLTASPSLKSERHAPASASSRTERHTSLSSSAKTERHPPVSPSSKNEKHSPVSPSAKAER 1910
Equus_caballus        HPAVSPSLKAEKHTPASPAKTERHSSLSSSAKTERHPPVSPSSKTEKHSPVSPSAKTER 1916
Rhinatrema_bivittatum ----- 1473
Xenopus_tropicalis    IKDKVKAFQRQADSEQKTFSDKLDLTVTAIAGAPDISPVIEETPIGSIKEKVKTLOKQVE 1910
.....1930.....1940.....1950.....1960.....1970.....1980

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Pavo_muticus          ----- 1878
Pavo_cristatus        ----- 1878
Gallus_gallus         ----- 1878
Mus_musculus          HSPVFSG-KPEKHSPGSPSTKNERHSPVSS-LKTERHTPGSPSGKTDKRPPVPSSGRTEK 1912
Rattus_norvegicus     HSPVFSG-KPEKHSPGSPSTKNERHSPVSS-IKTERHTPVSPSGKTDKRPPVPSSGRTEK 1974
Homo_sapiens          HSPASSSSKTEKHSPVSPSTKTERHSPVSS-TKTERHPPVSPSGKTDKRPPVPSSGRTEK 1924
Pan_troglodytes       HSPASSSSKTEKHSPVSPSTKTERHSPVSS-TKTERHPPVSPSGKTDKRPPVPSSGRTEK 1973
Macaca_mulatta        HSPMSSSSKTEKHSPVSPSTKTERHSPVSS-TKTERHPPVSPSGKTDKRPPVPSSGRTEK 1966
Callithrix_jacchus    HSPVSSSSKAEKHSPVSPSTKTERHSPVSS-TKTERHPPISP SGKADKRPPVPSSGRTEK 1972
Canis_lupus_familiaris HSPVSSSSKTEKHSPVSPSTKTERHSPVSS-TKTERHPPVSPSGKMDKRPPVPSSGRVEK 1971
Bos_taurus            QSPVSSSSKTEKHSPVSPSTKTERHSPMSSSTKTERHPPVSPSGKTDKRPPGSPSGRSEK 1970
Equus_caballus        HSPVSSSSKTEKHSPVSPSTKTERHSPVSSSTKTERHPPVSPSGKTDKRPPISP SGRPEK 1976
Rhinatrema_bivittatum ----- 1473
Xenopus_tropicalis    EEQRVLDYEIGPTATPVADDEEISHVIERPIRSIKDEVOALQTVDEGPKALDDDETGL 1970
.....1990.....2000.....2010.....2020.....2030.....2040

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Pavo_muticus          -----KPVPVKKTVAHKA----- 1891
Pavo_cristatus        -----KPVPVKKTVAHKA----- 1891
Gallus_gallus         -----KPVPVKKSVAHKA----- 1891
Mus_musculus          HPPVSPGKTEKH--LPGSPSIRTPEKPAPGSATGKHEKHLVPSP-GKTEK----- 1959
Rattus_norvegicus     HPPVSPGKTEKR--SPGAPSIRTPEKQAPGSATGKHEKHLVPSP-GKTEK----- 2021
Homo_sapiens          HPPVSPGRTEKR--LPVSPSGRT-DKHQPVSTAGKTEKHLVPSPSGKTEK----- 1971
Pan_troglodytes       HPPVSPGRTEKR--LPVSPSGRT-DKHQPVSTAGKTEKHLVPSPSGKTEK----- 2020
Macaca_mulatta        HPPVSPGRTEKR--LPVSPSGRT-DKHQPVSTAGKTEKHLPMSPSGKTEK----- 2013
Callithrix_jacchus    HPPVSPGRTEKR--LPVSPSGRI-DKHPPVSTTGKTEKHLVPSPSGKTEK----- 2019
Canis_lupus_familiaris HAPVSPGRTEKR--LPVSPAGRL-EKHPPVSTSGKTDKHLVPSPSGKTEK----- 2018
Bos_taurus            HPPVSPGRTEKR--LPVSPAGRM-EKHSPVSSSGKTEKHLVPSPSGKTDK----- 2017
Equus_caballus        HSPVSPGRTEKR--SPVSPAGRI-ERHPPVSALGKTEKHLVPSPSGKTEK----- 2023
Rhinatrema_bivittatum ----- 1473
Xenopus_tropicalis    TTTVITGAKKVS PVVEETPIGSIKDKVKALQKRVEEEQHPPSSKPSKVQIKQASFESVTE 2030
.....2050.....2060.....2070.....2080.....2090.....2100

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Pavo_muticus          -----QPPVSPSSKTERLEETMSVRELMKAFQSGQDPSKNVSGLFEHKS VKOKQOPPEK 1945
Pavo_cristatus        -----QPPVSPSSKTERLEETMSVRELMKAFQSGQDPSKNVSGLFEHKS VKOKQOPPEK 1945
Gallus_gallus         -----QPPVSPSPKTERLEETMSVRELMKAFQSGQDPSKNVSGLFEHKS VKOKQOPPEK 1945
Mus_musculus          -----QPPISPTSKTERIEETMSVRELMKAFQSGQDPSKHKTGLFEHKS AKOKQ-PODK 2012
Rattus_norvegicus     -----QPPISPTSKTERIEETMSVRELMKAFQSGQDPSKHKTGLFEHKS AKOKQ-SQDK 2074
Homo_sapiens          -----QPPVSPTS KTERIEETMSVRELMKAFQSGQDPSKHKTGLFEHKS AKOKQ-POEK 2024
Pan_troglodytes       -----QPPVSPTS KTERIEETMSVRELMKAFQSGQDPSKHKTGLFEHKS AKOKQ-POEK 2073
Macaca_mulatta        -----QPPVSPTS KTERIEETMSVRELMKAFQSGQDPSKHKTGLFEHKS AKOKQ-POEK 2066
Callithrix_jacchus    -----QPPVSPTS KTERIEETMSVRELMKAFQSGQDPSKHKTGLFEHKS AKOKQ-POEK 2072
Canis_lupus_familiaris -----QPPVSPTS KTERIEETMSVRELMKAFQSGQDPSKHKTGLFEHKS AKOKQ-POEK 2071
Bos_taurus            -----QPPVSPTS KTERIEETMSVRELMKAFQSGQDPSKHKTGLFEHKS AKPKQ-POEK 2070
Equus_caballus        -----QPPVSPTS KTERIEETMSVRELMKAFQSGQDPSKHKAGLFEHKS AKOKQ-POEK 2076
Rhinatrema_bivittatum ----- 1473
Xenopus_tropicalis    QKVQIGKPPISSAKTERLEETMSVRDLMKAFQSGHDP SKERSGLFEHKT VKSTIKLCS 2090
.....2110.....2120.....2130.....2140.....2150.....2160

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Pavo_muticus	ETTRRKTISSQSETKRVSSHKTDKQDKQSTVLKAEKEPOPKKGRMQVSTVDTIKKTVGK	2005
Pavo_cristatus	ETTRRKTISSQSETKRVSSHKTDKQDKQSTVLKAEKEPOPKKGRMQVSTVDTIKKTVGK	2005
Gallus_gallus	ETTRRKTISSQSETKRVSSHKTDKQDKQSTVLKAEKEPOPKKGRMQVSTVDTIKKTVGK	2005
Mus_musculus	SKSRVEKEKGHTVTQRE-TQRIESTAKRGQRFQVSAATESRRFRSTTIITVGLRMEDPVR	2071
Rattus_norvegicus	SKSRVEKEKGHSVTQRE-TQRIENQAKRGQRFQVTGAMESRRFRSTTIITVGLRTEDPVR	2133
Homo_sapiens	GKVRVEKEKGPILTQRE-AQKTENQTIKRGQRLPVTGTAESEKRG-VRVSSIGVKKEDAAG	2082
Pan_troglodytes	GKVRVEKEKGPILTQRE-AQKTENQTIKRGQRLPVTGTAESEKRG-VRVSSIGVKKEDAAG	2131
Macaca_mulatta	GKVRVEKEKGPILTQRE-TQKTENQTIKRGQRLPVTGTESKRG-VRASSIGVKKEDAAG	2124
Callithrix_jacchus	GKVRVEKEKGPILTQRE-TQKTENQTIKRGQRLPVTGVTESKRG-VRASSIGIKKEDAVT	2130
Canis_lupus_familiaris	GKARVEKEKG--ANQRE-TQKTESQTIKRSQRFVVTGVSESKRA-VRASSVGFKREDVVV	2127
Bos_taurus	GRGRLEKEKGPIVTPRE-AQKMESQTIKRGQRFVVTGVSESKRA-VRASSVGFKREDGAG	2128
Equus_caballus	GKVRVEKEKGQMLTQRE-TQRTESQTIKRGQKILVTGASESKRG-VRASSLGFKKEETVG	2134
Rhinatrema_bivittatum	-----	1473
Xenopus_tropicalis	EQGEVLKTYTFQDSEDLICIVKDGIOVEYSETETELRHHEKEKLMLETTGLEAELGMTKE	2150
	.....2170.....2180.....2190.....2200.....2210.....2220	

Pavo_muticus	DQV--KQSSSKKTTAEPPP-----PVFADESTKDSAVVKGKTSDDQGDITDFQISPDRTK	2057
Pavo_cristatus	DQV--KQSSSKKTTAEPPP-----PVFADESTKDSAVVKGKTSDDQGDITDFQISPDRTK	2057
Gallus_gallus	DQV--KQSSSKKTTVEPPP-----PVSADDESTKDSAVVKGKTSDDQGDITDFQISPDRTK	2057
Mus_musculus	ERF--ERTPIIKTPEVVP-----SVAAEESHRSSE---KIVDEQGDMDLQISPDRTK	2118
Rattus_norvegicus	ERF--ERTPVIKTPEAVPPVAAAIAAAAEESHRAETLQEKTVDEQEDMDLQISPDRTK	2191
Homo_sapiens	GK---EKVLSHKIPEPVQ-----SVPEEESHRESEVPKEKMADEQGDMDLQISPDRTK	2132
Pan_troglodytes	GK---EKVLSHKIPEPVQ-----SVPEEESHRESEVPKEKMADEQGDMDLQISPDRTK	2181
Macaca_mulatta	EK---EKILSRKIPEPVQ-----SAPEGESHRESEVPKEKMADEQGDMDLQISPDRTK	2174
Callithrix_jacchus	EK---EKSLSHKIPEPVQ-----SAPEEESHRESEVPKEKMADEQGDMDLQISPDRTK	2180
Canis_lupus_familiaris	EK---EKALSHKTPEPVQ-----SAPEEESHKENEVPKEKLADDEQGDMDLQISPDRTK	2177
Bos_taurus	EK---EKSLNHKTPEPVQ-----PVPEEESHKDSSEVPKEKLADDEQGDMDLQISPDRTK	2178
Equus_caballus	EK---EKGVSHKTPEPVV-----SAPEEESHKENEVPKEKPAEEQGDMDLQISPDRTK	2184
Rhinatrema_bivittatum	-----	1473
Xenopus_tropicalis	EFHITEKTSEHRVCELSK-----PICSLYNGESTKHSKVRTSSSDQDVPDQISPDRTK	2203
	.....2230.....2240.....2250.....2260.....2270.....2280	

Pavo_muticus	STDFSVDIKEELENNDKYQQFRHLSVTEEGELNLEQVLTSPFNVAFFPAEYVKDGFPLPALS	2117
Pavo_cristatus	STDFSVDIKEELENNDKYQQFRHLSVTEEGELNLEQVLTSPFNVAFFPAEYVKDGFPLPALS	2117
Gallus_gallus	STDFSVDIKEELEDNDKYQQFRHLSVTEEGELNLEQVLTSPFNVAFFPAEYVKDGFPLPALS	2117
Mus_musculus	STDFSSEVIKQEELEDNDKYQQFRLTETDEKAQVHLDQVITSPFNIAFFPLDYMKDEFLPALS	2178
Rattus_norvegicus	STDFSVDIKQEELEDNDKYQQFRLTENTEKAIHLQVITSPFNITFFPLDYMKDEFLPALS	2251
Homo_sapiens	STDFSSEVIKQEELEDNDKYQQFRLSEETEKALHLDQVLTSPFNITFFPLDYMKDEFLPALS	2192
Pan_troglodytes	STDFSSEVIKQEELEDNDKYQQFRLSEETEKALHLDQVLTSPFNITFFPLDYMKDEFLPALS	2241
Macaca_mulatta	STDFSSEVIKQEELEDNDKYQQFCLSEETEKALHLDQVLTSPFNITFFPLDYMKDEFLPALS	2234
Callithrix_jacchus	STDFSSEVIKQEELEDNDKYQQFRLSEETEKALHLDQVLTSPFNITFFPLDYMKDEFLPALS	2240
Canis_lupus_familiaris	STDFSVDIKQEELEDNDKYQQFRMSEKTEEVQLHLDQVLTSPFNITFFPLDYMKDEFLPALS	2237
Bos_taurus	STDFSVDIKQEELEDNDKYQQFRMTEEPEKALHLDQVLTSPFNITFFPLDYMKDEFLPALS	2238
Equus_caballus	STDFSVDIKQEELEDNEKYQQFRLSEETEKALHLDQVLTSPFNITFFPLDYMKDEFLPALS	2244
Rhinatrema_bivittatum	-----	1473
Xenopus_tropicalis	STDFSSEVIKQEELEDNDRYLQFKLLTESEGAQLNLDQVLTSPFNITFFSDYETEGYLPGLH	2263
	.....2290.....2300.....2310.....2320.....2330.....2340	

Pavo_muticus	LQSAAFDGSSESLSKHEGVADSP-GSLLDGTPOISSEESYKHEGLAETPETSPELSFSFSPK	2176
Pavo_cristatus	LQSAAFDGSSESLSKHEGVADSP-GSLLDGTPOISSEESYKHEGLAETPETSPELSFSFSPK	2176
Gallus_gallus	LQSAAFDGSSESLSKHEGVADSP-GSLLDGTPOISSEESYKHEGLAETPETSPELSFSFSPK	2176
Mus_musculus	LQSGALDGSSESLSKQEVIAAGSPCGSLMEGTPOISSEESYKHEGLAETPETSPELSFSFSPK	2238
Rattus_norvegicus	LQSGALDGSSESLSKQEVIAAGSPCGSLMEGTPOISSEESYKHEGLAETPETSPELSFSFSPK	2311
Homo_sapiens	LQSGALDGSSESLSKNEGVAGSPCGSLMEGTPOISSEESYKHEGLAETPETSPELSFSFSPK	2252
Pan_troglodytes	LQSGALDGSSESLSKNEGVAGSPCGSLMEGTPOISSEESYKHEGLAETPETSPELSFSFSPK	2301
Macaca_mulatta	LQSGALDGSSESLSKNEGVAGSPCGSLMEGTPOISSEESYKHEGLAETPETSPELSFSFSPK	2294
Callithrix_jacchus	LQSGALDGSSESLSKNEGVAGSPCGSLMEGTPOISSEESYKHEGLAETPETSPELSFSFSPK	2300
Canis_lupus_familiaris	LQNGALDGSSESLSKPEGVPGSPCGSLMEGTPOISSEESYKHEGLAETPETSPELSFSFSPK	2297
Bos_taurus	LQSGALHGSSESLSKPEGVADSPCGSLMEGTPOISSEESYKHEGLAETPETSPELSFSFSPK	2298
Equus_caballus	LPSGALDGSSESLSKHEGVAGSPCGSLMEGTPOISSEESYKHEGLAETPETSPELSFSFSPK	2304
Rhinatrema_bivittatum	-----	1473
Xenopus_tropicalis	LQSGTFDDSSDSLKHEGVADSP-GSLLDGTPOMSSEDSLKHEGLAETPGTSPDLSLCPPK	2322
2350.....2360.....2370.....2380.....2390.....2400	

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Pavo_muticus	KTDGQIEEAKGTARVHTTAETCS-----	2199
Pavo_cristatus	KTDGQIEEAKGTARVHTTAETCS-----	2199
Gallus_gallus	KTDGQIEEAKGTARVHTTAETCS-----	2199
Mus_musculus	KSEEQIGEAKETTKVGTPTDIHSEKELPIINDITD	2273
Rattus_norvegicus	KSKEQIGEAKETIKVETPTDIHSEKELPIINDIAD	2346
Homo_sapiens	KSEEQTGETKESTKTETTTEIRSEKEHPTTKDITG	2287
Pan_troglodytes	KSEEQTGETKESTKTETTTEIRSEKEHPTTKDITG	2336
Macaca_mulatta	KSEEQIGETKESTKIETTTEIHSEKEHPTTKDITG	2329
Callithrix_jacchus	KSEEQIGETKETTKVETTTEIHTKEHSATKDITGEKSEEQIGETKETTKVETTTEIYTE	2360
Canis_lupus_familiaris	KSEEQVGEVSETTKVETPAAVHSEKGHPSVKDITD	2332
Bos_taurus	KSEEQIGETHETTKLETAPESHSEKGHPSVKDITD	2333
Equus_caballus	KSEEPVREENETTKLETPREIHLEKEHPTTKDVDP	2339
Rhinatrema_bivittatum	-----	1473
Xenopus_tropicalis	KSDKQTDGLKTPSNIVSKPSSTFVDHQLLTQAH	2357
	.....2410.....2420.....2430.....2440.....2450.....2460	

Pavo_muticus	-----	2199
Pavo_cristatus	-----	2199
Gallus_gallus	-----	2199
Mus_musculus	-----SSQKQGAGVIRGSEPSSTHSQKEVTQDPH-KDVCSKQDG-CPESQSVSL	2320
Rattus_norvegicus	-----SSEKQGAGVPGDSE---HVLKEVTQVPP-KDVCSKQED-CPGSHSVSL	2389
Homo_sapiens	-----GSEERGATVTEDSETSTESFQKEATLGSP-KDTSPKRQDDCTGSCSVAL	2335
Pan_troglodytes	-----GSEERGATVTEDSETSTESFQKEATLGSP-KDTSPKRQDDCTGSCSVAL	2384
Macaca_mulatta	-----GSEERGATVTEDSETSTESFQKEATLGSP-KDTSAKRKDDCTGSCSVAL	2377
Callithrix_jacchus	KEHSATKDITGGSEEQGATVTEGSETSTEGFQKEATLGSP-KDTGPKREDDCTGSCSVAL	2419
Canis_lupus_familiaris	-----GFEEQGAHVTKGTEPSAEHLLKEATLDPSSEDTCLKREDDSLGSCSVLL	2381
Bos_taurus	-----GSEEQGAHVTEAVESSAEHQLTEATPDPS-KDICPPQEGDSLGGQSVSL	2381
Equus_caballus	-----GSEEPGAHVTEGTEPSAECLLKEATLDPS-KDTSSKQEGDYLDNSVSL	2387
Rhinatrema_bivittatum	-----P-----	1474
Xenopus_tropicalis	-----IDSVESEREILL	2368
	.....2470.....2480.....2490.....2500.....2510.....2520	

Pavo_muticus	-----	2199
Pavo_cristatus	-----	2199
Gallus_gallus	-----	2199
Mus_musculus	A---SEVFTKEGSGCGESQLPLVSSAFKTOSESETQESLTP--SEVTKPFPPSDASVKTA	2375
Rattus_norvegicus	ANETCQALTEEGSCRDSQLPLVSSACKTOAVSETQESLAT--SEVTKAFPPSDATVKTVE	2447
Homo_sapiens	AKETPTGLTEEAACDEGQRTFGSSAHKTQTDSEVQESTAT--SDETKALPLPEASVKTDT	2393
Pan_troglodytes	AKETPTGLTEEAACDEGQRTFGSSAHKTQTDSEAQESTAT--SDETKALPLPEASVKTDT	2442
Macaca_mulatta	AKETPTGLTEEAACDEGQPTFGSSDHKTQADSEAQESTAT--SDETKASPLPGASVKTDT	2435
Callithrix_jacchus	VKETPTGLTEEAACDEGQCTFGSSAYKTQTDSEAQESTAT--LEETKASLLPEASVKTDT	2477
Canis_lupus_familiaris	AKETPKGLTEEAASDEPQPTGIGSTHKTQTDTEARKSTTTEPSDETGASPPQPHASVKTGT	2441
Bos_taurus	AKETSEGLTEEVTCDEGPRAHISPSHETQTDTEAQESTATKPSGEAEASPLSEAAVKAGS	2441
Equus_caballus	AKETPKGLAEAEASCDEGQPTYVSSALKATQDTEAQGSTTTKPSDETKASPLPDVSVKGT	2447
Rhinatrema_bivittatum	-----	1474
Xenopus_tropicalis	ENVSEDGQTEMSSTMKNICTEQSFVTEKLAGCIEVTEINE-----	2408
	.....2530.....2540.....2550.....2560.....2570.....2580	

Pavo_muticus	-----	2199
Pavo_cristatus	-----	2199
Gallus_gallus	-----	2199
Mus_musculus	GTEPKPQGAIRSPQGLELPLPNRDSEVLSPMADES LAVSHKDSLEASPVLEDNSSHKTTPD	2435
Rattus_norvegicus	GTEPKPQGVIRSPQGLELPLPNRDSEVLSPMADES LAVSHKDSLEASPVLEDNSSHKTTPD	2507
Homo_sapiens	GTESKPQGVIRSPQGLELALPSRDSEVL SAVADDS LAVSHKDSLEASPVLEDNSSHKTTPD	2453
Pan_troglodytes	GTESKPQGVIRSPQGLELALPSRDSEVL SAVADDS LAVSHKDSLEASPVLEDNSSHKTTPD	2502
Macaca_mulatta	GTESKPQGVIRSPQGLELALPSRDSEVL SAVADDS LAVSHKDSLEASPVLEDNSSHKTTPD	2495
Callithrix_jacchus	GTESKPQGVIRSPQGLELALPSRDSEVL SAVADDS LAVSHKDSLEASPVLEDNSSHKTTPD	2537
Canis_lupus_familiaris	GTESKPQGVIRSPQGLELALPSRDSEVL SPGADES FAVSHKDSLEASPVLEDNSSHKTTPD	2501
Bos_taurus	GTESKPQAIRSPQGLELALPSRESEVFP GADES FAVSHKDSLEASPVLEDNSSHKTTPD	2501
Equus_caballus	GTEPKPQGVIRSPQGLELALPSRDSEVFP GADES FAVSHKDSLEASPVLEDNSSHKTTPD	2507
Rhinatrema_bivittatum	-----	1474
Xenopus_tropicalis	-DKNEHSVSVKGHQGLELVLS TQNEEPN SPVADES IAI SHKDSLES SPVLEDNSSHKTTPD	2467
2590.....2600.....2610.....2620.....2630.....2640	

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Pavo_muticus          -----PK----- 2201
Pavo_cristatus        -----PK----- 2201
Gallus_gallus         -----PK----- 2201
Mus_musculus          SLEPSPLKESPCRDSSLESSPVEPKMKAGILPSHFPLPAAIAKTDLVAEVASMRSRLLRDP 2495
Rattus_norvegicus     SLEPSPLKESPCRDSSLESSPVEPKMKAGILPSHFPLPAAIAKTDLVAEVASMRSRLLRDP 2567
Homo_sapiens           SLEPSPLKESPCRDSSLESSPVEPKMKAGIFPSHFPLPAAVAKTELLTEVASVRSRLLRDP 2513
Pan_troglodytes        SLEPSPLKESPCRDSSLESSPVEPKMKAGIFPSHFPLPAAVAKTELLTEVASVRSRLLRDP 2562
Macaca_mulatta         SLEPSPLKESPCRDSSLESSPVEPKMKAGIFPSHFPLPAAVAKTELLMEVASVRSRLLRDP 2555
Callithrix_jacchus     SLEPSPLKESPCRDSSLESSPVEPKMKAGIFPGHFPLAAAVAKTELLMEVASVRSRLLRDP 2597
Canis_lupus_familiaris SLEPSPLKESPCRDSSLESSPVEPKMKAGVLP SHFPLPAAVAKTELLTEVASMRSRLLRDP 2561
Bos_taurus             SLEPSPLKESPCRDSSLESSPVEPKMKAGILPSHFPLPAAVAKTELLTEVASVRSRLLRDP 2561
Equus_caballus         SLEPSPLKESPCRDSSLESSPVEPKMKAGILPSHFPLPAAVAKTELLTEVASMRSRLLRDP 2567
Rhinatrema_bivittatum ----- 1474
Xenopus_tropicalis     SLEPSPTKESPCDSSLESSPVEHTIKFGILLNSAAIYTS-LKPDNLNTEVTSRLSRILRDP 2526
.....2650.....2660.....2670.....2680.....2690.....2700

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Pavo_muticus          -----ELSPK----- 2206
Pavo_cristatus        -----ELSPK----- 2206
Gallus_gallus         -----ELSPK----- 2206
Mus_musculus          DGSAEDDSLEQTSLMESSGKSPLSPDTPSSEEVSYEVTPKPSDSST----PKPAVIHECA 2551
Rattus_norvegicus     DGSAEDDSLEQTSLMESSGKSPLSPDTPSSEEVSYEVTPKPSDSST----PKPAVIHECA 2623
Homo_sapiens           DGSAEDDSLEQTSLMESSGKSPLSPDTPSSEEVSYEVTPKTTDVST----PKPAVIHECA 2569
Pan_troglodytes        DGSAEDDSLEQTSLMESSGKSPLSPDTPSSEEVSYEVTPKTTDVST----PKPAVIHECA 2618
Macaca_mulatta         DGSAEDDSLEQTSLMESSGKSPLSPDTPSSEEVSYEVTPKTTSDVST----PKPAVIHECA 2611
Callithrix_jacchus     DGSAEDDSLEQTSLMESSGKSPLSPDTPSSEEVSYEVTPKTTDIST----PKPAVIHECA 2653
Canis_lupus_familiaris DGSAEDDSLEQTSLVSSGKSPLSPDTPSSEIISYEVTPKATDAST----PKPAVIHECA 2617
Bos_taurus             DGSAEDDSLEQTSLMESSGKSPLSPDTPSSEIISYEVTPKTTDT----PKPAVIHECA 2615
Equus_caballus         DGSAEDDSLEQTSLMESSGKSPLSPDTPSSEIISYEVTPKATDAST----PKPAVIHECA 2623
Rhinatrema_bivittatum ----- 1474
Xenopus_tropicalis     DGSAEDDSVEQTSLMESSGKSPLSPDTPSSEIISYEVTPKSQDLQAFSMLPKPGTIPEVA 2586
.....2710.....2720.....2730.....2740.....2750.....2760

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Pavo_muticus          ----- 2206
Pavo_cristatus        ----- 2206
Gallus_gallus         ----- 2206
Mus_musculus          EE--DDSENGEKKRFTPEEEMFKMVTIKIKTFDELEQEAQKRDYKKEPRQDSSSSASDPD 2609
Rattus_norvegicus     EE--DDSENGEKKRFTPEEEMFKMVTIKIKTFDELEQEAQKRDYKKEPRQDESSSSSDPD 2681
Homo_sapiens           EE--DDSENGEKKRFTPEEEMFKMVTIKIKTFDELEQEAQKRDYKKEPKQEESSSSSDPD 2627
Pan_troglodytes        EE--DDSENGEKKRFTPEEEMFKMVTIKIKTFDELEQEAQKRDYKKEPKQEESSSSSDPD 2676
Macaca_mulatta         EE--DDSENGEKKRFTPEEEMFKMVTIKIKTFDELEQEAQKRDYKKEPKQEESSSSSDPD 2669
Callithrix_jacchus     EE--DDSENGEKKRFTPEEEMFKMVTIKIKTFDELEQEAQKRDYKKEPKQEESSSSSDPD 2711
Canis_lupus_familiaris EE--DDLLENGEKKRFTPEEEMFKMVTIKIKTFDELEQEAQKRDYKKEPKQEESSSSSDPD 2675
Bos_taurus             EE--DDSENGEKKRFTPEEEMFKMVTIKIKTFDELEQEAQKRDYKKEPKQEESSSSSDAD 2673
Equus_caballus         EE--DDLLENGEKKRFTPEEEMFKMVTIKIKTFDELEQEAQKRDYKKEPKQEESSSSSEPD 2681
Rhinatrema_bivittatum ----- 1474
Xenopus_tropicalis     EEPEEDSEREPKRRFTPEEEMFKMVTIKIKTFDELEQEAQKRECKKESRHDCTSSDLSN 2646
.....2770.....2780.....2790.....2800.....2810.....2820

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Pavo_muticus          ----- 2206
Pavo_cristatus        ----- 2206
Gallus_gallus         ----- 2206
Mus_musculus          ADYSAEVNDEKQMGTEGEGEVPVLVTSENKRVSSSSSESEPELTQLSKGADSGLLTEPV 2669
Rattus_norvegicus     ADCSAEVNDEKQMGTEGESDVPVLVTSESRKASSSS-ESEPELTQLSKGADSGLLTEPV 2740
Homo_sapiens           ADCSVDVDEPKHTGSGEDES GVPVLVTSESRKVSSSS-ESEPELAQLKKGADSGLLPEPV 2686
Pan_troglodytes        ADCSVDVDEPKHTGSGEDES GVPVLVTSESRKVSSSS-ESEPELAQLKKGADSGLLPEPV 2735
Macaca_mulatta         ADCSVDVDEPKHTGSGEDES GVPGLVTSESRKVSSSS-ESEPELTQLKKGADSGLLPEPV 2728
Callithrix_jacchus     ADCSADVDEPKHIGSEEDSCVPVSVTSESRKVSSSS-ESEPELTQLKKGADSGLLPEPV 2770
Canis_lupus_familiaris ADYTADVDESKHMESEVEDSDVPVVVTSESRKASSSS-ESEPELAQLKKGADSGLLPEPV 2734
Bos_taurus             VDCSADTDEPKHTESVEDES DAPVVVTTEGREASSSS-ESEPELTQLKKGADSGLLAEPV 2732
Equus_caballus         ADSSADVDEPKHMESEEEESEVPVAVTSESRKASSSS-ESEPELTQLKKGADSGLLPEPV 2740
Rhinatrema_bivittatum ----- 1474
Xenopus_tropicalis     SN--GDDLEGADIKLVQDNDVQIVMVAESRKSSSSS-ESEPELTQLKKGADSGLLMDPV 2703
.....2830.....2840.....2850.....2860.....2870.....2880

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Pavo_muticus      ----- 2206
Pavo_cristatus    ----- 2206
Gallus_gallus     ----- 2206
Mus_musculus      IRVQPPSPPLPSSIDSNSSPEEATQFOPIVPKQYTFKMNEEIQ----- 2711
Rattus_norvegicus IRVQPPSPPLPSSIDSNSSPEEA-QFOPIVPKQYTFKMNEEVK----- 2781
Homo_sapiens      IRVQPPSPPLPSSMDSNSSPEEV-QFQPVVSKQYTFKMNETQ----- 2727
Pan_troglodytes   IRVQPPSPPLPSSMDSNSSPEEV-QFQPVVSKQYTFKMNETQ----- 2776
Macaca_mulatta    IRVQPPSPPLPSSIDSNSSPEEV-QFOPIVSKQYTFKMNEEIQ----- 2769
Callithrix_jacchus IRVQPPSPPLPSSMDSNSSPEEV-QFOPIVSKQYTFKMSEDIQ----- 2811
Canis_lupus_familiaris IRVQPPSPPLPSSIDSNSSPEEV-QFOPIVSKQYTFKMNETQ----- 2775
Bos_taurus        IRVQPPSPPLPSSIDSNSSPEEI-QFOPIVSKQYTFKMNEDAQ----- 2773
Equus_caballus    IRVQPPSPPLPSSIDSNSSPEEV-QFOPIVSKQYTFKMNETQ----- 2781
Rhinatrema_bivittatum ----- 1474
Xenopus_tropicalis IRVQPPSPYAPS--SSSSPEDT-AFOPIAIAQDSFKAEDSQQNYVSTIDRKLEDVNTHDS 2760
                .....2890.....2900.....2910.....2920.....2930.....2940

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Pavo_muticus      ----- 2206
Pavo_cristatus    ----- 2206
Gallus_gallus     ----- 2206
Mus_musculus      -----EEPATSE-DKDKCKSHLAEDSQTHSADAADGSDGD 2744
Rattus_norvegicus -----EDPGNPEEDKDKCKSHLAEDSQTHSADGADGSHAD 2815
Homo_sapiens      -----EEP GKSEEEKDSESHLAEDRHAVSTEAEDRSYDK 2761
Pan_troglodytes   -----EEP GKSEEEKDSESHLAEDSHAVSTEAEDRSYDK 2810
Macaca_mulatta    -----EEP GKSEEGEKDSESHLAEDSHAVSTEAADNSFDK 2803
Callithrix_jacchus -----EEP GKSEEEERDSESHLAEDSHAVSTEGADRSYDK 2845
Canis_lupus_familiaris -----EESGKSEEEKDHESCVPEESPTISPDGPD MFDD 2809
Bos_taurus        -----EDSDKSEEEKDYKSRLPEDSHALPTDGPDM SYDD 2807
Equus_caballus    -----EESGKSEEEKVCESHLPEDSQTVSTEGPDMSYDD 2815
Rhinatrema_bivittatum ----- 1474
Xenopus_tropicalis LHFSDNEDVTITII PCSADIEVGQMEGAEKSEPVSSKGP AEKSIAYTTLYLTEEKRPEEKIQT 2820
                .....2950.....2960.....2970.....2980.....2990.....3000

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Pavo_muticus      ----- 2206
Pavo_cristatus    ----- 2206
Gallus_gallus     ----- 2206
Mus_musculus      LNRETTQPETCDGHGCE TVSPNSATPV----- 2772
Rattus_norvegicus LNRETPQLEACDGHGCKAVSPNSATPV----- 2843
Homo_sapiens      LNRDTDQPKICDGHGCEAMSPSSSAAPV----- 2789
Pan_troglodytes   LNRDTDQPKICDGHGCEAMSPSSSAAPV----- 2838
Macaca_mulatta    LNRDTDQPEICGGHGCEAMSPSSSAAPV----- 2831
Callithrix_jacchus LNRDTDQPKTC DGHGCEAMSPSSSAAPV----- 2873
Canis_lupus_familiaris LDRDAAQTEVCDGHGCE TGSPGSSVTPI----- 2837
Bos_taurus        LNGDTYQSKLCDGLEYEIGSPSDSAAPV----- 2835
Equus_caballus    LKRDDDQPKIYDDHGCEAGSPSSPATPI----- 2843
Rhinatrema_bivittatum ----- 1474
Xenopus_tropicalis LPHDFHHS E SPEGDVYSDSSTQDSFSVVKGKQTYDDMIEQKDENLHFSSEKKSETSR LVL 2880
                .....3010.....3020.....3030.....3040.....3050.....3060

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Pavo_muticus      ----- 2206
Pavo_cristatus    ----- 2206
Gallus_gallus     ----- 2206
Mus_musculus      -----SLGVQSPEHKVDKPLAIDKDSL AH 2797
Rattus_norvegicus -----SLGVQSPECHVDKPLAIDND SLAL 2868
Homo_sapiens      -----SSGLQSP TGDDVDEQPVIIKESLAL 2814
Pan_troglodytes   -----SSGLQSP TGDDVDEQPVIIKESLAL 2863
Macaca_mulatta    -----SSGLQSP TDDIDEQPVIIKESLAL 2856
Callithrix_jacchus -----SSGLQSPAGDDVDEQPVICKESLAL 2898
Canis_lupus_familiaris -----SSGLYSSPREDINEQVIHEESLPL 2862
Bos_taurus        -----SSGLRSSPGDDVSEQLVIHKESLAL 2860
Equus_caballus    -----SSGLHSSCAHDISEQLVIHKEALPL 2868
Rhinatrema_bivittatum ----- 1474
Xenopus_tropicalis RSTGSATDLTDEKKS YEEIVGLECIPSSDFIFSNAQD GSHHSESDDNVENIPINDGSCQS 2940
                .....3070.....3080.....3090.....3100.....3110.....3120

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Pavo_muticus	-----	2206
Pavo_cristatus	-----	2206
Gallus_gallus	-----	2206
Mus_musculus	QDTCENDREEREFDPSCVEST-----	2818
Rattus_norvegicus	QDTHGSDLEEREFDPSRVEST-----	2889
Homo_sapiens	QGTHEKDTGEGEELDVSRRAESP-----	2835
Pan_troglodytes	QGTHEKDTGEGEELDVSRRAESP-----	2884
Macaca_mulatta	QGSHEKDTGEGEELDVSRRAESP-----	2877
Callithrix_jacchus	QGTHEKDTGEKEHDVSTAESP-----	2919
Canis_lupus_familiaris	QDTDEKITEGEELDVSRVESL-----	2883
Bos_taurus	QDTGE--NDLEELDVPEVESS-----	2879
Equus_caballus	QDAEEK-DTEGELDVSGLESP-----	2888
Rhinatrema_bivittatum	-----	1474
Xenopus_tropicalis	AQDRSISVSADRIDDVQMESADESELESPPNAPGTQHIFNTSCFTDGERROENVVTDVLSV	3000
	.....3130.....3140.....3150.....3160.....3170.....3180	

Pavo_muticus	-----	2206
Pavo_cristatus	-----	2206
Gallus_gallus	-----	2206
Mus_musculus	-----	2818
Rattus_norvegicus	-----	2889
Homo_sapiens	-----	2835
Pan_troglodytes	-----	2884
Macaca_mulatta	-----	2877
Callithrix_jacchus	-----	2919
Canis_lupus_familiaris	-----	2883
Bos_taurus	-----	2879
Equus_caballus	-----	2888
Rhinatrema_bivittatum	-----	1474
Xenopus_tropicalis	FHHTESSEENVGLECVPLAENISPSLIDSKSEECOLKCADTLENDLNKHMIDIELSCDGN	3060
	.....3190.....3200.....3210.....3220.....3230.....3240	

Pavo_muticus	-----	2206
Pavo_cristatus	-----	2206
Gallus_gallus	-----	2206
Mus_musculus	-----	2818
Rattus_norvegicus	-----	2889
Homo_sapiens	-----	2835
Pan_troglodytes	-----	2884
Macaca_mulatta	-----	2877
Callithrix_jacchus	-----	2919
Canis_lupus_familiaris	-----	2883
Bos_taurus	-----	2879
Equus_caballus	-----	2888
Rhinatrema_bivittatum	-----	1474
Xenopus_tropicalis	ISAHEIDDVLMESGEDSPVNKVAESVAYTFLTDDNEITEKYADTILHDFHHRGPSKEDIG	3120
	.....3250.....3260.....3270.....3280.....3290.....3300	

Pavo_muticus	-----	2206
Pavo_cristatus	-----	2206
Gallus_gallus	-----	2206
Mus_musculus	-----	2825
Rattus_norvegicus	-----	2896
Homo_sapiens	-----	2842
Pan_troglodytes	-----	2891
Macaca_mulatta	-----	2884
Callithrix_jacchus	-----	2926
Canis_lupus_familiaris	-----	2890
Bos_taurus	-----	2886
Equus_caballus	-----	2895
Rhinatrema_bivittatum	-----	1474
Xenopus_tropicalis	LECRPPADLISPNAQDFYKGESEQTFYGTLETEQEDWDIFSIPANADELNEMOTESPHE	3180
3310.....3320.....3330.....3340.....3350.....3360	

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Pavo_muticus      ----- 2206
Pavo_cristatus    ----- 2206
Gallus_gallus     ----- 2206
Mus_musculus      S--SSLS ----- 2830
Rattus_norvegicus H--SSLS ----- 2901
Homo_sapiens      SFSSSS ----- 2848
Pan_troglodytes   SFSSSS ----- 2897
Macaca_mulatta    GFSPSS ----- 2890
Callithrix_jacchus SFSSSS ----- 2932
Canis_lupus_familiaris SPSSL ----- 2896
Bos_taurus        GSPSFS ----- 2892
Equus_caballus    SSSSPS ----- 2901
Rhinatrema_bivittatum ----- 1474
Xenopus_tropicalis GVS KSPDALILKNNVSVTHLTECEETVKKVEAIPHDLCHSDILEDHAIYPIVHEAESQE 3240
                .....3370.....3380.....3390.....3400.....3410.....3420

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Pavo_muticus      ----- 2206
Pavo_cristatus    ----- 2206
Gallus_gallus     ----- 2206
Mus_musculus      S--RCAIPEGNESAKEIASPSSPV 2852
Rattus_norvegicus SSSHCAVPEENESAKEISSPSPV 2925
Homo_sapiens      SLPHCLVSEGKELDEDISATSSIQ 2872
Pan_troglodytes   SLPHCSVSEGKELDEDISATSSIQ 2921
Macaca_mulatta    SLPHCLVSEGKELDEDISTSSIQ 2914
Callithrix_jacchus SFPHCLVSEGKELDEDISATSSIQ 2956
Canis_lupus_familiaris SLPHIPISEGQELDEAVFSPSTT 2920
Bos_taurus        SLPLCPASEAKELDEDMVSTASAT 2916
Equus_caballus    SLPRCLASERKELDEDLVSPSSPT 2925
Rhinatrema_bivittatum ----- 1474
Xenopus_tropicalis KCKGTTKKIEQEDIKKHFPSDEITSTPYTVDEIHDDVQMESAEHGVIESIYGSVMSSNSVE 3300
                .....3430.....3440.....3450.....3460.....3470.....3480

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Pavo_muticus      ----- 2206
Pavo_cristatus    ----- 2206
Gallus_gallus     ----- 2206
Mus_musculus      KVEVTITDQALESPEDCPIQDSSTIMQTERFAMDVPVSE ----- 2892
Rattus_norvegicus KVEVTITDQALESPEDCPTQEAATTHTERFAMDGPVSD ----- 2965
Homo_sapiens      KTEVTKTDETFENLPKDCPSQDSSITTQTDRFSDVPVSD ----- 2912
Pan_troglodytes   KTEVTKTDETFENLPKDCPSQDSSITTQTDRFSDVPVSD ----- 2961
Macaca_mulatta    KTEITKTDETFENLPKDCPTQDSSITTQTDRFSDVPVSD ----- 2954
Callithrix_jacchus KTEVTKTGETFESLTQDCPTQDSSITTQTDRFSDVPVSD ----- 2996
Canis_lupus_familiaris ETEDTKTDQAFESLPKDCSTQDSSITTQTDKLSVDVPASD ----- 2960
Bos_taurus        EMEVTKPDQAFESLPEDCSIQDSSITTQTDRLSDVPVSD ----- 2956
Equus_caballus    KVEATKTDQAFESLPKDCSTEDSSITTQTDRLSDVPVSD ----- 2965
Rhinatrema_bivittatum ----- 1474
Xenopus_tropicalis IIQEHYTTMCLEHIPDDYITQKTQDSYVISPVKSDCIETDRSDTVFCTSPITFFQNVENN 3360
                .....3490.....3500.....3510.....3520.....3530.....3540

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Pavo_muticus      ----- 2206
Pavo_cristatus    ----- 2206
Gallus_gallus     ----- 2206
Mus_musculus      -----LAETDENS DPQIISPYENVPSQSFFSAEPSKIQTDTCHSTVVHSPVYSVIIRS 2946
Rattus_norvegicus -----IAETDENSHPQITSPYENVASSSFFSGEPNFTDTCHPTVVHSPVYSVIIRS 3019
Homo_sapiens      -----LAENDEIYDPQITSPYENVPSQSFFSSEESKTQTDANHTTSFHSSEVYSVTITS 2966
Pan_troglodytes   -----LAETDEIYDPQITSPYENVPSQSFFSSEESKTQTDANHTTSFHSSEVYSVTITS 3015
Macaca_mulatta    -----LAETDEIYDRQITSPYENVPSQSFFSSEESKTQTDANHTTSFHSSEVYSVTMTS 3008
Callithrix_jacchus -----LAETDEIYDPRIITSPYENVPSQSFFSSEESKTQTDADHPINFSHSEVYSVTITS 3050
Canis_lupus_familiaris -----PADTDEIYDPQVISPYENVPSQSFFSSEESKTQTEARHTS--FQSSEVHSVTITS 3013
Bos_taurus        -----PTETEEIYDPQIISPYENVPSQSFFSGEESKTQTDTRHTS--FHSSEVYSVTITS 3009
Equus_caballus    -----PAETDEISDPQITSPYENVPSQSFFSSEESKTQTDASHTS--FHSSEVCSVTITS 3018
Rhinatrema_bivittatum ----- 1474
Xenopus_tropicalis ISLDSAAAEVETS TCDPAVISPYENVPSGHFFTSQDILLETEEK-----QNISATFINAAEE 3415
                .....3550.....3560.....3570.....3580.....3590.....3600

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Pavo_muticus	-----	2206
Pavo_cristatus	-----	2206
Gallus_gallus	-----	2206
Mus_musculus	SPEDVVVTNSSNRTVSGEESHCHESHDLTESEOKSALWAAQSDAPFLAVAPTASDAASVT	3006
Rattus_norvegicus	SPEDVIMTSSSSRTDSGEASNCEGHDLDTCECEKSAWPMQSDPEPLSVAPTTPNAPVVT	3079
Homo_sapiens	PVEDVVVASSSSGTVLSKESNFEGQDIKMSQQESTLWEMQSDSVSSSFEPITMSATTTVV	3026
Pan_troglodytes	PVEDVVVASSSSGTVLSKESNFEGQDIKMSQQESTLWEMQSDSVSSSFEPITMSATTAVV	3075
Macaca_mulatta	PVEDVVVASSSSGTVLSKESNFEGQDIKMSQQESTLWEMQSDNASSSFEPITMSATTAVV	3068
Callithrix_jacchus	SAEDIVVASSSGGTVLSKESNFESQGLKTESQQESTLWEIQSDSASSSLKPSLSATTEVV	3110
Canis_lupus_familiaris	SVEDVVVTSSSNRTVSSQESNFEDONMEKESKQESILWERQSDGAPSSLEPSVPTTSAVV	3073
Bos_taurus	SVEDVVETSSSDKTVSSKEANFEEQVLEVESKQESTLQEIQSHGASSSSLEPPVPKTSVV	3069
Equus_caballus	SVAEVAVESSSSRTVSSKESNFEDONMELESKQESTLWEMQSDGAPSSVESIPNTSAVV	3078
Rhinatrema_bivittatum	-----	1474
Xenopus_tropicalis	KVPITQTNSDIFGEDLTQESDTCADHLHSSTKHTSWCSSASSEEEVCCPTAELSSNTS	3475
	.....3610.....3620.....3630.....3640.....3650.....3660	

Pavo_muticus	-----	2206
Pavo_cristatus	-----	2206
Gallus_gallus	-----	2206
Mus_musculus	GEQASKVIIITKTADADSWSEIREDDAFEARVKEEEKIFGLMVDRQSQGTTPDTPAR	3066
Rattus_norvegicus	GEQVSKVIIITKTADADSWSEIREDDAFEARVKEEEKIFGLMVDRQSQGTTPDTPAR	3139
Homo_sapiens	GEQISKVIIITKTADVSDSWSEIREDDEAFEARVKEEEKIFGLMVDRQSQGTTPDTPAR	3086
Pan_troglodytes	GEQISKVIIITKTADVSDSWSEIREDDEAFEARVKEEEKIFGLMVDRQSQGTTPDTPAR	3135
Macaca_mulatta	GEQISKVIIITKTADVSDSWSEIREDDEAFEARVKEEEKIFGLMVDRQSQGTTPDTPAR	3128
Callithrix_jacchus	GEQISKVIIITKTADVSDSWSEIREDDEAFEARVKEEEKIFGLMVDRQSQGTTPDTPAR	3170
Canis_lupus_familiaris	GEQISKVIIITKTADVSDSWSEIREDDEAFEARVKEEEKIFGLMVDRQSQGTTPDTPAR	3133
Bos_taurus	SEQISKVIIITKTADVSDSWSEIREDDEAFEARVKEEEKIFGLMVDRQSQGTTPDTPAR	3129
Equus_caballus	GEKISKVIIITKTADVSDSWSEIREDDEAFEARVKEEEKIFGLMVDRQSQGTTPDTPAR	3138
Rhinatrema_bivittatum	-----	1474
Xenopus_tropicalis	DDQFNKVIIITRPDADSDTWSCIREDDEAFEARVKEEEKIFGLIADKQSQGTTPDTPAR	3535
	.....3670.....3680.....3690.....3700.....3710.....3720	

Pavo_muticus	-----	2206
Pavo_cristatus	-----	2206
Gallus_gallus	-----	2206
Mus_musculus	TPTEEGTPTSEQNPFLLFQEGKLFEMTRSGAIDMTKRSYADESLHFFQIGQESNEEAISED	3126
Rattus_norvegicus	TPTEEGTPTSEQNPFLLFQEGKLFEMTRSGAIDMTKRSYADESLHFFQIGQDSNEETISED	3199
Homo_sapiens	TPTEEGTPTSEQNPFLLFQEGKLFEMTRSGAIDMTKRSYADESFHFFQIGQESREETLSED	3146
Pan_troglodytes	TPTEEGTPTSEQNPFLLFQEGKLFEMTRSGAIDMTKRSYADESFHFFQIGQESREETLSED	3195
Macaca_mulatta	TPTEEGTPTSEQNPFLLFQEGKLFEMTRSGAIDMTKRSYADESFHFFQIGQESREETLSED	3188
Callithrix_jacchus	TPTEEGTPTSEQNPFLLFQEGKLFEMTRSGAIDMTKRSYADESFHFFQIGQESREETASED	3230
Canis_lupus_familiaris	TPTEEGTPTSEQNPFLLFQEGKLFEMTRSGAIDMTKRSYADESFHFFQIGQESREETVSED	3193
Bos_taurus	TPTEEGTPTSEQNPFLLFQEGKLFEMTRSGAIDMTKRSYADESFHFFQIGQESREEAVSQD	3189
Equus_caballus	TPTEEGTPTSEQNPFLLFQEGKLFEMTRSGAIDMTKRSYADESFHFFQIGQESSEETLSED	3198
Rhinatrema_bivittatum	-----	1474
Xenopus_tropicalis	SPTEDGTPTNEQNPFLLFQEGKLFEMTRSGAIDMTKRNYADESFHFFQIGEHCGQEAIIIE	3595
	.....3730.....3740.....3750.....3760.....3770.....3780	

Pavo_muticus	-----	2206
Pavo_cristatus	-----	2206
Gallus_gallus	-----	2206
Mus_musculus	LKEGATGAEPPTQETTSESLELSEPKAEMDDEGELLPPDDVSEEEIEDLPASDANIDSQVII	3186
Rattus_norvegicus	LKEGATGAEPPTQETTSESLELSEPKAEMDDEGELVPDDVSEEEIEDLPASDADLDSKVVI	3259
Homo_sapiens	VKEGATGADPLPLETSAESLALSESKEKTVDDDEADLLPDDVSEEEVEEIPASDAQLSQMG	3206
Pan_troglodytes	VKEGATGAEPPLPLETSAESLTLSEKTVDDDEADLLPDDLSEEEVEEIPASDAQLSQMG	3255
Macaca_mulatta	VQEGATGAEPPLPLETSTESLALPEKTVDDDEADLLPDDLSEEEVEEIPASDTQLNPOMGI	3248
Callithrix_jacchus	VKEEAAGAEPLOLETSSVESLVLSEKTVDDDEADLLPDDLSEEEVEEIPASDAQLSQMG	3290
Canis_lupus_familiaris	MKEGSPGAELPQQETSALLESKEAVSDEADLLPDDLSEEEVEEISASDAQLSHVG	3253
Bos_taurus	MKEGGTGAEPQVETSALSLTLSEKTVDDDEAELLPDDLSEEEVEEIHSTDTPLSSQIDI	3249
Equus_caballus	MKGVSTGAEPPOLETSAESLALSQSKPEVDDDEADLLPDDLSEEEVEEIPSSDAQLSQME	3258
Rhinatrema_bivittatum	-----	1474
Xenopus_tropicalis	IKEESGEEESVNPDDFPLLATDFDNVTPEPQDTCETLYDIDLNSDDLCLASVDNDRE	3655
3790.....3800.....3810.....3820.....3830.....3840	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Pavo_muticus          ----- 2206
Pavo_cristatus        ----- 2206
Gallus_gallus         ----- 2206
Mus_musculus          SASTETPTKEAVSTA--VEEPPTTORSDS--LS-----TVKQTPRPAPVPGPVG--QLDF 3234
Rattus_norvegicus    SASTETPTKEAVSTV--AEEPATMQWSDS--LS-----TVKQTSCTPFPPEPVG--QLDF 3307
Homo_sapiens         SASTETPTKEAVSVG--TKDLPTVQTGDIPPLS-----GVKQISCPDSSEPAVQVQLDF 3258
Pan_troglodytes      SVSTETPTKEAVSVG--TKDLPTVQTGDIPPLS-----GVKQISCPDSSEPTVQVQLDF 3307
Macaca_mulatta       SASPETPTKEAVSVG--TKDLPTMQTGDMPPLS-----GVKQISCPDSSEPAVQVQLDF 3300
Callithrix_jacchus   SASTETLTKETVSVVSVFKDRSTMQMGDTTPPLS-----DVKQISCPDSSEPVVQAQLDF 3344
Canis_lupus_familiaris SVSVEISMEETPSAG--AEDPPTMQMGDMSPKS-----SVKNTSCPDPEPVVHVQLDF 3305
Bos_taurus           SASTETSMKEATSTG--LEDLPTROMGDSLPPS-----SEKQTTCPDFPEQVQVQLDF 3301
Equus_caballus       SASAETSTEDATSAE--PEDLPTTOVSDTPPKS-----SVKQTSCPDSSEPAVQVHLDF 3310
Rhinatrema_bivittatum ----- 1474
Xenopus_tropicalis   ETRTDQKSRIPIKMGIAASSAPSKPFASEIPLSEELTSSSLQDSSPSPEECVNNLQNNF 3715
.....3850.....3860.....3870.....3880.....3890.....3900

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Pavo_muticus          ----- 2206
Pavo_cristatus        ----- 2206
Gallus_gallus         ----- 2206
Mus_musculus          SPVTRSVMYSGQDDESPESPPEEQKSVIEIPTAPVDNVPSAESKPOIPIRTILPTLVPAPPS 3294
Rattus_norvegicus    STVTRSVMYSDRDDESPDSSPEEQKSVIEIPTAPMENVPVSAEIKPOIPIRTILPTSVSAPPS 3367
Homo_sapiens         STLTRSVMYSDRGDDSPDSSPEEQKSVIEIPTAPMENVPFTESKSKIPVRTIMPTSTPAPPS 3318
Pan_troglodytes      STLTRSVMYSDRGDDSPDSSPEEQKSVIEIPTAPMENVPSTESKSKILVRTIMPTSTPAPPS 3367
Macaca_mulatta       STVTRSVMYSDRGDDSPDSSPEEQKSVIEIPTAPMENVPSTESKSKIPVRTIMPTSTPAPPS 3360
Callithrix_jacchus   SAITRSVMYSDKGDASPDSSPEEQKSVIEIPTAPMENVPSTESKSKIPVRTIMPTSTPALPS 3404
Canis_lupus_familiaris STVTRSVMYSDRNDDSPDSSPEEQKSVIEIPTAPMENVPVSAESKSKIPVRTILPMSTPAPPS 3365
Bos_taurus           STVTRSVMYSDRGDDSPDSSPEEQKSVIEIPTATMENVPSTESKSKIPVRTIPTSTSIIPPS 3361
Equus_caballus       STVTRSVMYSDREDDSPDSSPEEQKSVIEIPTAPMESVPSTESKSKIPVRTIPTSTPAPPS 3370
Rhinatrema_bivittatum ----- 1474
Xenopus_tropicalis   IPFAKLECAERGD--SPDSSPEEQKSIIEIPTAIMECGSSASIKSKIPVRAVSEEPSHTFS 3774
.....3910.....3920.....3930.....3940.....3950.....3960

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Pavo_muticus          ----- 2206
Pavo_cristatus        ----- 2206
Gallus_gallus         ----- 2206
Mus_musculus          AEDESASFSDDFPSSLDEDSKEGGAKPKSKIPVKAPTORTEWQPSPTDIPLOKTIAPVQGOE 3354
Rattus_norvegicus    AEDESASFSDDFPSSLDEGESEEDGAKPKSKIPKAPORTEWHPSHPDISLQKSGVPOGQD 3427
Homo_sapiens         AEYESSVSEDFLSSVDEENKADEAKPKSKLPVKVPLQVVEQQLSDLDTSVQKTVAPOGQD 3378
Pan_troglodytes      AEYESSVSEDFLSSVDEENKEDEAKPKSKLPVKVPLQVVEQQLSDLDTSVQKTVAPOGQD 3427
Macaca_mulatta       AEYESSLSEDLSSVDEENNEDEAKPKSKLPVKVPLQVVEQQLSDLDTPVQETVAPOGQD 3420
Callithrix_jacchus   AEYENSLSEDLSSIDEENKEDEAKPKSKLPVKVPLQVVEQQLSDLDTSVQKTVDPQGD 3464
Canis_lupus_familiaris VEYENSLSEDLPSLDEESKEDEIKPKSKIPVKAPVQVVEQQLHLHLDSSLQKIVAPOGQD 3425
Bos_taurus           VEYESSLSEDLPSLDEESKEDEAKPKSKIPVKAPAQVVEQQLSHLDSPLKKTGRPOGQD 3421
Equus_caballus       AEDENSLSEDVPPSLDEESKEDETKPKSKIPVKAPVQVVEQQLLVLDSSLQKTVAPOGQD 3430
Rhinatrema_bivittatum ----- 1474
Xenopus_tropicalis   IGSESTCPADDHIYLEDQ-----KPKSKIPVKTSLPKAEQHFPIITDSLKMS---EDNS 3825
.....3970.....3980.....3990.....4000.....4010.....4020

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Pavo_muticus          ----- 2206
Pavo_cristatus        ----- 2206
Gallus_gallus         ----- 2206
Mus_musculus          TLSRAPDGRSKSESADASSLDAKTKCPVKARSYIETETESRERAEFGFESSEDGATKPKLF 3414
Rattus_norvegicus    VLSRGPDGRSKSESADASSLDAKTKCPVKARSYIETETESRERAEFGFESSEEGATKPKLF 3487
Homo_sapiens         MASIAPDNRSKSESADASSLDSKTKCPVKTRSYTETETESRERAELELESEEGATRPKIL 3438
Pan_troglodytes      MTSIAPDNRSKSESADASSLDSKTKCPVKTRSYTETETESRERAELELESEEGATRPKIL 3487
Macaca_mulatta       MTSIAPDNRSKSESADASSLDSKTKCPVKTRSYTETETESRERAELELESEEGATRPKIL 3480
Callithrix_jacchus   MTSITPDDRSKSESADASSLDSKIIYPEKTRSYTETETENRERAELELESEEGATRPKIL 3524
Canis_lupus_familiaris MTSRTPESSRSKSESADAPLDSKTKCPVKTKSYTETETESTEGDELELESEEGATRPKIF 3485
Bos_taurus           LTSSAPDDRSKSESADSLDVKTKCPVETRSYTEAEIESTGEEEELELESEEGATRPKIF 3480
Equus_caballus       VTSRARDDRSKSESADAPLDSKAKSPVKTRSYTETETESGEKAELELESEEGATRTKIF 3490
Rhinatrema_bivittatum ----- 1474
Xenopus_tropicalis   KLPLKQDRSKSESDCSSVDIKTRRSVKTKSCTETFYESTEKSTCFEETSEATKPKSY 3885
.....4030.....4040.....4050.....4060.....4070.....4080

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Species	Sequence	Position
Pavo_muticus	-----	2206
Pavo_cristatus	-----	2206
Gallus_gallus	-----	2206
Mus_musculus	ASRLPVKSRSTSSSSGRPGTSPTREREHFFDLYRNSIEFFEEISDEASKLVDRLTQERE	3474
Rattus_norvegicus	ASRLPVKSRSTSSSSSRGTGTSPTREREHFFDLYRNSIEFFEEISDEASKLVDRLTQERE	3547
Homo_sapiens	TSRLPVKSRSTTSSCRGGTSPTKESKEHFFDLYRNSIEFFEEISDEASKLVDRLTQERE	3498
Pan_troglodytes	TSRLPVKSRSTTSSCRGATSPTKESKEHFFDLYRNSIEFFEEISDEASKLVDRLTQERE	3547
Macaca_mulatta	TSRLPVKSRSTTSSCRGGTSPTKESKEHFFDLYRNSIEFFEEISDEASKLVDRLTQERE	3540
Callithrix_jacchus	ASRLPVKSRSTSSYRGGMSPTKESKEHFFDLYRNSIEFFEEISDEASKLVDRLTQERE	3584
Canis_lupus_familiaris	TSRLPVKSKSTTSSCKGAVSPTKESKEHFFDLYRNSIEFFEEISDEASKLVDRLTQERE	3545
Bos_taurus	ASRLPVKSKSTASSCRGPTSPTKDNKEHFFDLYRNSIEFFEEISDEASKLVDRLTQERE	3540
Equus_caballus	ASRLPVKSKSTTSSCREDTSPTKDSKEHFFDLYRNSIEFFEEISDEASKLVDRLTQERE	3550
Rhinatrema_bivittatum	-----	1474
Xenopus_tropicalis	SSRLPVKAKNKSSAS-QIKTSTTTDDQEQFFEIYKNSIDFFEEISDEASKLVDRLTQASE	3944
	.....4090.....4100.....4110.....4120.....4130.....4140	

Species	Sequence	Position
Pavo_muticus	-----EN	2208
Pavo_cristatus	-----EN	2208
Gallus_gallus	-----EN	2208
Mus_musculus	QEPPSDDESSSALEVSVIESLPPVDIEHSAPEDIFDTRPIWDESIETMIERIPDENGHDR	3534
Rattus_norvegicus	QEPPSDDESSSALEVSVIENLPPVDIEHSAPEDIFDTRPIWDESIETMIERIPDENGHDR	3607
Homo_sapiens	QEIVSDDESSSALEVSVIENLPPVETEHSVPEDIFDTRPIWDESIETLIERIPDENGHDH	3558
Pan_troglodytes	QEIVSDDESSSALEVSVIENLPPVETEHSVPEDIFDTRPIWDESIETLIERIPDENGHDH	3607
Macaca_mulatta	QELVSDDESSSALEVSVIENLPPVETEHSVPEDIFDTRPIWDESIETLIERIPDENGHDH	3600
Callithrix_jacchus	QELVSDDESSSALEVSVIENLPPVETEHSVPEDIFDTRPIWDESIETLIERIPDENGHDH	3644
Canis_lupus_familiaris	QELVSDDESSSALEVSVIENLPPVETEHSIPEDIFDTRPIWDESIETLIERIPDENGHDH	3605
Bos_taurus	QDLVSDDESSSALEVSVIENLPPVETENSIPEDLFDTRPIWDESIETLIERIPDENGHDH	3600
Equus_caballus	QELVSDDESSSALEVSVIENLPPVETEHSIPEDIFDTRPIWDESIETLIERIPDENGHDH	3610
Rhinatrema_bivittatum	-----	1474
Xenopus_tropicalis	QEPVSDDESS-AFEISVIENVPAPDFQOSVPEDIFDTRPIWDESVEIQIERIPDDHSDN	4003

		: :: *****:*****:*****:***:*****	
Pavo_muticus	EKDQDDRERTEERLAHIADHLGFSWTELARELDFTEEQIHQIRIENPNSLQDQSHALLK		2268
Pavo_cristatus	EKDQDDRERTEERLAHIADHLGFSWTELARELDFTEEQIHQIRIENPNSLQDQSHALLK		2268
Gallus_gallus	EKDQDDRERTEERLAHIADHLGFSWTELARELDFTEEQIHQIRIENPNSLQDQSHALLK		2268
Mus_musculus	AEDPDEQERMEERLAIADHLGFSWTELARELDFTEEQIHQIRIENPNSLQDQSHALLK		3594
Rattus_norvegicus	AEDPDEQERMEERLAIADHLGFSWTELARELDFTEEQIHQIRIENPNSLQDQSHALLK		3667
Homo_sapiens	AEDPDEQERIEERLAIADHLGFSWTELARELDFTEEQIHQIRIENPNSLQDQSHALLK		3618
Pan_troglodytes	AEDPDEQERIEERLAIADHLGFSWTELARELDFTEEQIHQIRIENPNSLQDQSHALLK		3667
Macaca_mulatta	AEDPDEQERIEERLAIADHLGFSWTELARELDFTEEQIHQIRIENPNSLQDQSHALLK		3660
Callithrix_jacchus	AEDPDEQERIEERLAIADHLGFSWTELARELDFTEEQIHQIRIENPNSLQDQSHALLK		3704
Canis_lupus_familiaris	AEDQDEQERIEERLAIADHLGFSWTELARELDFTEEQIHQIRIENPNSLQDQSHALLK		3665
Bos_taurus	AEDQDEQERIEERLAIADHLGFSWTELARELDFTEEQIHQIRIENPNSLQDQSHALLK		3660
Equus_caballus	AEDQDEQERTEERLAIADHLGFSWTELARELDFTEEQIHQIRIENPNSLQDQSHALLK		3670
Rhinatrema_bivittatum	----QEDQEKTEERLAHIADHLGFSWTELARELDFTEEQIHQIRIENPNSLQDQSHALLK		1530
Xenopus_tropicalis	FOVDFREDRTTEERLAHIADHLGFSWTELAKELDFTEEQIQIRVENPNSLQDQSHALLK		4063
	.....4210.....4220.....4230.....4240.....4250.....4260		

	*****:**** * :*****:***: : : :*:*:*: :*:**	
Pavo_muticus	YWLERD GKHATD TS L TC L TKINRMDIVHLMETS G GIDSMQVHG T RTYAEIE Q TIGLDHSE	2328
Pavo_cristatus	YWLERD GKHATD TS L TC L TKINRMDIVHLMETS G GIDSMQVHG T RTYAEIE Q TIGLDHSE	2328
Gallus_gallus	YWLERD GKHATD TS L TC L TKINRMDIVHLMETS G GIDSMQVHG T RTYAEIE Q TIGLDHSE	2328
Mus_musculus	YWLERD GKHATD TI L IECLTKINRMDIVH L LEIN-TE P LQ E RMGRSYAEIE Q TITILDHSE	3653
Rattus_norvegicus	YWLERD GKHATD TV L IECLTKINRMDIVH L LEIN-TE P LQ E RMGRIT Y AEME Q TITILDHSE	3726
Homo_sapiens	YWLERD GKHATD TN L VECLTKINRMDIVHLMETN-TE P LQ E RI S HSYAEIE Q TITILDHSE	3677
Pan_troglodytes	YWLERD GKHATD TN L VECLTKINRMDIVHLMETN-TE P LQ E RI S HSYAEIE Q TITILDHSE	3726
Macaca_mulatta	YWLERD GKHATD TN L IECLTKINRMDIVHLMETN-ME P LQ E RI S HSYAEIE Q TITILDHSE	3719
Callithrix_jacchus	YWLERD GKHATD TN L IECLTKINRMDIVHLMETN-TE P LQ E RI S HSYAEIE Q TITILDHSE	3763
Canis_lupus_familiaris	YWLERD GKHATD TN L IECLTKINRMDIVHLM E AS-TE P LQ E RI S HSYAEIE Q TITILDHSE	3724
Bos_taurus	YWLERD GRHATD TS L VECLTKINRMDIVHLMETS-TE A LQ E RI G HSYAEIE Q TITILDHSE	3719
Equus_caballus	YWLERD GKHATD TS L IECLTKINRMDIVH L LETS-TE P LQ E HM S HSYAEIE Q TITILDHSE	3729
Rhinatrema_bivittatum	YWLERD GKHATD T G L I QCLTKINRMDIVHLMET Y AME L IEKHADRT Y AD L E Q TVVLDHSE	1590
Xenopus_tropicalis	YWLERD GKHATD TS L QCLTKINRMDIVHLMETS I Q E PPGGRANRT Y AD I E Q SLTMDRSE	4123
4270.....4280.....4290.....4300.....4310.....4320	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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***.:*: :.* : : **:*:**:*. * .: : .::: :
GFSVLQEEELYSRRHKPEEH-HRISKSDPPEHPPIVSEEDVSVSYSPFQDSTPRSEAELS 2387
GFSVLQEEELYSRRHKPEEH-HRISKSDPPEHPPIVSEEDVSVSYSPFQDSTPRSEAELS 2387
GFSVLQEEELYSRRHKPDER-HRISKDGDPTHEHPIVSEEDVSVSYSPFQDSTPRSEAELS 2387
GFSVLPPDELCAAKEKKEQE---ASKESESSDHPPMVSEEDI SVGYSTFQDCIPKTEGDSF 3710
GFSVLPEELCAVKEKKEQE---ASKESESSDHPPMVSEEDI SVGYSTFQDCIPKTEGDSF 3783
GFSVLQEELCTAQHKQKEE-QAVSKESETCDHPPIVSEEDI SVGYSTFQDGVPKTEGDSF 3736
GFSVLQEELCTAQHKQKEE-QAVSKESETCDHPPIVSEEDI SVGYSTFQDGVPKTEGDSF 3785
GFSVLQEELCTAQHKQKEE-QALSKESETCDHPPIVSEEDI SVGYSTFQDGIPKTEGDSF 3778
GFSVLHEELCTAQHKQKEE-QAVSKESETCDHPPIVSEEDI SVGYSTFQDGIPKTEGDSF 3822
GFSVLQEELNTAQHKQKEE-QGASKESSESCDHPPIVSEEDI SVGYSTFQDCIPKAEGDSS 3783
GFSVLQEELCTAQHKQKEE-HAASKEDEASDHPPIVSEEDI SVGYSTLQDGIPKTEGDGS 3778
GFSVLQEELCLAQQQKKEEQGAASKEGEPCDPPIVSEEDI SVGYSTFDYIPKTDGDSF 3789
GFSVLTEELNISRHADGV-CPESKDCETPDHPPIVSEEDISVSY-TLPNMPRTAEADV 1648
GFSAIDDFSGSPOKRITAD-YTASPGEIAGHPPLVSEEDISISYSSFHESSKAEDDKL 4182
.....4330.....4340.....4350.....4360.....4370.....4380
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[illegible]

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      : .          . . :: **::**.* .   .* * ** :
TKEEREETSP-----OPPSSAQRGGSPIIQEPEELHLHQDDLSPRRTSLVIVESTD    2493
TKEEREETSP-----QPPSSAQRGGSPIIQEPEELHLHQDDLSPRRTSLVIVESTD    2493
TKKEEREKTSPI-----OSPSSAQRGGSPIIQEPEELHLHQDDPSPRRTSLVIVESID    2493
LCKTPEDISTPPEGTKPCLOTPTVTISERG-SPIVQEPEEEASEPKKEESSPRKTSLVIVESTD    3817
LCKTPEDISTPPEEAKPCLQTPVAIEHA-SPIVQEPEEEASEPKKEESSPRKTSLVIVESTD    3890
PSKTPEEVSTPAEEEKLTYLTPTSSERGGSPIIQEPEEPSEHREESSPRKTSLVIVESAD    3853
PSKTPEEVSTPAEEEKLTYLTPTSSERGGSPIIQEPEEPSEHREESSPOKTSLVIVESAD    3902
PSKTPEEVSTPPEEDRLYLTPTSSERGGSPIIQEPEEPSEHREESSPRKTSLVIVESAD    3895
PSKTPEEVSTPPEERLYLTPTSSERGGSPIIQEPEDEPSEHREESSPRKTSLVIVESAD    3939
PSKTPEEIRTPPEERPYLTPTSSEHGDSPIIQEPEEPPERGEES-PRKTSLVIVESAE     3899
PTKTPEEIIVTPSEERLYLTPTSSERGGSPVVQEPEEPPERREESSPRKTSLVIVESAE     3894
PSKTPEEIITPPEERPYLTPTPSEQGDSPIVQEPEEPLAQREES-PRKTSLVIVESAD       3905
HNEQHAEFKSRHEEYERPYPHTPSDDQDSPIVQDPVLNFQQEGLSASGRDLLIESAD     1764
VSQSPOETPELEKLDRPDLYTPVDQHSSESPVVQEPSSESSE-QGDLYASGDLFIAESSD    4300
.....4450.....4460.....4470.....4480.....4490.....4500

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EQPE	---	KLGSGYEEE	---	SLEKELAEELGELET	SSDEDEMVTTRVRRRVIIQA	2542
EQPE	---	KLGSGYEEE	---	SLEKELAEELGELET	SSDEDEMVTTRVRRRVIIQA	2542
EQPE	---	KLGSGYEEE	---	SLEKELAEELGELEN	SSDEDEMVTTRVRRRVIIQA	2542
DQSQ	---	VFERLDGDA	---	AFQ	-----KG	3835
DQPC	---	VFEKLDGDA	---	AFQKELTEELGELEA	SSDEEAMVTTRVRRRVIIQG	3939
NQPE	---	TCERLDEDA	---	AFE	-----KG	3871
NQPE	---	TCERLDEDA	---	AFEKELTEELGELEA	SSDEEAMVTTRVRRRVIIQG	3951
NQPE	---	TRERLDEDA	---	AFEKELTEELGELEA	SSDEEAMVTTRVRRRVIIQG	3944
NQLE	---	TCERVDEDA	---	AFEKELTEELGELES	SSDEEAMVTTRVRRRVIIQG	3988
DQSQ	---	ILERLDEDA	---	AFHKELTEELGELEA	SSDEEAMVTTRVRRRVIIQG	3948
DQPC	---	AFERLDEEA	---	AFQKELTEELGELEA	SSDEEAMVTTRVRRRLIIQG	3943
DQPC	---	AFERLEEDA	---	AFQKELTEELGELEA	SSDDEATVTTRVRRRVIIQG	3954
EHPERYYEDE	SFERFMNE	PDKKANEIVLE	KELAEELGELEA	SSDEDEMVTTRVIRRRVIIQG	1824	
EQHD	---	KNKRT	EFERS	---	LESFEKELAEELGELET	SSDEDEMVTTRVRRRVIIQA
.....4510	.....4520	.....4530	.....4540	.....4550	.....4560	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

File: /media/morpheus/disk1/fst/pep_msa/ANK2aps: Tue Feb 1 11:12:03 2022

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*.*.*.*.*: **:*.*.*.*.*: *.*.*.*.*: *.*.*.*.*: *.*.*.*.*: *.*.*.*.*: *.*.*.*.*: *.*.*.*.*:
Pavo_muticus      DSMPEMPPETVTEEQYTDEHGHTVVKVTRKIIIRRYVSPDGTEKEDIITIGTPOKPVTV 2602
Pavo_cristatus    DSMPEMPPETVTEEQYTDEHGHTVVKVTRKIIIRRYVSPDGTEKEDIIMOGTPOKPVTV 2602
Gallus_gallus     DSMPEMPPETVTEEQYTDEHGHTVVKVTRKIIIRRYVSPDGTEKEDIIMOGTPOKPVTV 2602
Mus_musculus      DDMPDIPPETVTEEEYVDENGHTVVKVTRKIIIRRYVSSDGTEKEEVTMOGMPQEPVNI 3895
Rattus_norvegicus DDMPDIPPETVTEEEYVDENGHTVVKVTRKIIIRRYVSSDGTEKEEITMOGMPQEPVNI 3999
Homo_sapiens      DDMPEIPPETVTEEEYIDEHGHTVVKVTRKIIIRRYVSSEGTEKEEIMVOGMPQEPVNI 3931
Pan_troglodytes   DDMPEIPPETVTEEEYIDEHGHTVVKVTRKIIIRRYVSSEGTEKEEIMVOGMPQEPVNI 4011
Macaca_mulatta    DDMPEIPPETVTEEEYIDEHGHTVVKVTRKIIIRRYVSSEGTEKEEITVOGMPQEPVNI 4004
Callithrix_jacchus DDMPEIPPETVTEEEYIDEHGHTVVKVTRKIIIRRYVSSEGTEKEEIMVOGMPQEPVNI 4048
Canis_lupus_familiaris DDMPDIPPETVTEEEYIDEHGHTVVKVTRKIIIRRYVSSDGTEKEEVTMOGMAQGPISIE 4008
Bos_taurus        DDMPDIPPETVTEEEYIDEHGHTVVKVTRKIIIRRFISSDGTEKEEITMOGAPQDSISVD 4003
Equus_caballus    DDMPDIPPESVTEEEYIDEHGHTVVKVTRKIIIRRYVSSDGTEKEEITVOGLPQDPVDVE 4014
Rhinatrema_bivittatum DDMPEIPPETVTEEEYIDEHGHTVVKVTRKIIIRRYVSPDGTEKEDVIVHGAPQEPITIE 1884
Xenopus_tropicalis DDMPDILPETVTEEQYTDEHGHTVVKVTRKIIIRRYVLPDGTEKEEVVVGKQDPVTIE 4411
.....4570.....4580.....4590.....4600.....4610.....4620

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:.*.*.*.*: *.*.*.*.*: *.*.*.*.*: *.*.*.*.*:
Pavo_muticus      EGDGYSKVVKRVVLKSDSEQSEVTLSEPGVLPSANFQSEPVEGRKVSVKIKTTVVQAER 2662
Pavo_cristatus    EGDGYSKVVKRVVLKSDSEQSEVTLSEPSVLPSANFQSEPVEGRKVSVKIKTTVVQAER 2662
Gallus_gallus     EGDGYSKVVKRVVLKSDSEQSEVTLSEPGVLPSANFQSEPVEGRKVSVKIKTTVVQGER 2662
Mus_musculus      DGDNYSKVIKRVVLKSDTQSQSEVTLSEPSVLSSTSQFQAEPEGRRVSVVKTMMVHGER 3955
Rattus_norvegicus DGDSYSKVIKRVVLKSDTQLSEVTLSEPSIVSGTSQFQAEPEGRRVSVVKTMMVHGER 4059
Homo_sapiens      EGDGYSKVIKRVVLKSDTEQSEDNNE----- 3957
Pan_troglodytes   EGDGYSKVIKRVVLKSDTEQSEVTLCEPSILSSTSQFQAEPEGRRVSVVKTMMVHGER 4071
Macaca_mulatta    EGDGYSKVIKRVVLKSDTEQSEVTLCEPSILSSTSQFQAEPEGRRVSVVKTMMVHGER 4064
Callithrix_jacchus EGDGYSKVIKRVVLKSDTQSEVTLCEPNVLSSTSQFQSEPVEGRRVSVVKTMMVHGER 4108
Canis_lupus_familiaris EGDGYSKVMKRVVLKSDIEQSEVTLSEPSILSSTSQFQAEPEGRRVSVVKTMMVHGER 4068
Bos_taurus        EGDGYSKVIKRVVLKSDTEQSEVTLSEPSILSSTSQFQAEPEGRRVSVVKTMMVHGER 4063
Equus_caballus    EGDGYSKVIKRVVLKSDTALSEVTLSEPSILSSSSQFEAEPEGRRVSVVKTMMVHGER 4074
Rhinatrema_bivittatum EGDGYSKVLKRTVLKSNSEQSEVTLSEPSILSSTSQFQAEPEGRRVSVVKTMMVHGER 1944
Xenopus_tropicalis EGDSFSKVLKRTVLKSDTEQSEIATSEPRVLTS--EFEAEQVEGRKVSVKIKTTMMVHGER 4469
.....4630.....4640.....4650.....4660.....4670.....4680

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MEKHLGDASLATDLPSAKEDFEEALSYTGNQIKIQLPALVEKEIMKEDGSIKRTTMSKA 2722
Pavo_cristatus    MEKHLGDASLATDLPSAKEDFEEALSYTGNQIKIQLPALVEKEIMKEDGSIKRTTMSKA 2722
Gallus_gallus     MEKHLGDASLATDLPSAKEDFEEALSYTGNQIKIQLPALVEKEIMKEDGSIKRTTMSKA 2722
Mus_musculus      MEKSLGDSSLATDLPSAKDDFEEDN-----NE----- 3982
Rattus_norvegicus MEKSLGDSSLATDLPSAKEDFEEALGYTGSHMKVHLPSLVENEILKEDGSIKRTTMSKA 4119
Homo_sapiens      ----- 3957
Pan_troglodytes   MEKHLGDSSLATDLPSAKDDFEEALSYTGSHMKVHLPSLVENEILKEDGSIKRTTMSKA 4131
Macaca_mulatta    MEKHLGDSSLATDLPSAKDDFEEALSYTGSHMKVHLPSLVENEILKEDGSIKRTTMSKA 4124
Callithrix_jacchus MEKHLGDSSLATDLPSAKDDFEEALSYTGSHMKIHLPSLVENEILKEDGSIKRTTMSKA 4168
Canis_lupus_familiaris MEKHLGDSSLATDLPSAKDDFEEALSYTGSHMKVHLPSLVENEILKEDGSIKRTTMSKA 4128
Bos_taurus        MEKHLGDSSLATDLPSAKDDFEEALSYTGSHMKVHSPSLVENEVLKEDGSIKRTTMSKA 4123
Equus_caballus    MEKHLGDSSLATDLPSAKDDFEEALSYTGSHMKVHSPSLVEREILKEDGSIKRTTMSKA 4134
Rhinatrema_bivittatum TEKHLGDPSTLDLPSAKDDFEEALSYTGSHMKVSLPNLIEKEVQKEDGSIKRTTMSKA 2004
Xenopus_tropicalis MEKYVGDPSTLDLPSAKDDFEQALSYVGVDVKNLPTLEKEIILKEDGSIKRTTMSKA 4529
.....4690.....4700.....4710.....4720.....4730.....4740

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STQKRTVMKDYQKGVHIEELDDKPEALPDDLDLQDLQQLLRHFCKEDWKQDAK 2776
Pavo_cristatus    STQKRTVMKDYQKGVHIEELDDKPEALPDDLDLQDLQQLLRHFCKEDWKQDAK 2776
Gallus_gallus     STQKRTVMKDRYQKGVHIEELDDTPEALPDDLDLQDLQQLLRHFCKEDWKQDAK 2776
Mus_musculus      ----- 3982
Rattus_norvegicus RTQRRVVKDQGGKCNLEHLEDVPGALDQDDLQDLQQLLRHFCKENTKQDAK 4173
Homo_sapiens      ----- 3957
Pan_troglodytes   ITQKRAVVKDQHGKRIDLHLEDVPEALDQDDLQDLQQLLRHFCKEDLKQDAK 4185
Macaca_mulatta    ITQKRAVVKDQHGKRIDLHLEDVPEALDQDDLQDLQQLLRHFCKEDLKQDAK 4178
Callithrix_jacchus STQKRAVVKDQHGKRIDLHLEDVPEALDQDDLQDLQQLLRHFCKEDLKQDAK 4222
Canis_lupus_familiaris STQKRAVVKDQHGKRIYLEHLEDVPEALDQDDLQDLQQLLRHFCKEDSKPEAK 4182
Bos_taurus        RTQKRAVVKDQGGKRIYLEHLEDVPEALDQDDLQDLQQLLRHFCKEDSKPEAK 4177
Equus_caballus    STRSRAVVKDQHGKHIHLEHLEDVPEALDQDDLQDLQQLLRHFCKEDLKQDAK 4188
Rhinatrema_bivittatum STQKRTVVKDQHGKHIHLEHLEDVPEALDQDDLQDLQQLLRHFCKEDWKQDAK 2058
Xenopus_tropicalis RTQKRTVVKDQHGKHFVFEQLEDVPEALPKDDLQDLQQLLRFCGEDWKKEAK 4583
.....4750.....4760.....4770.....4780.....4790.....

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