

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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	: * ** *:**** ***:**:**:****:****:****: : :* *: :*:** ..*:***	
Homo_sapiens	MSLTSA ¹ YQH ² KLA ³ EKL ⁴ TIL ⁵ NRG ⁶ GV ⁷ LIR ⁸ MYN ⁹ IKKT ¹⁰ CS ¹¹ DPK ¹² SK ¹³ PP ¹⁴ FLLE ¹⁵ KS ¹⁶ ME ¹⁷ PS ¹⁸ LK ¹⁹ YIN ²⁰ K	60
Pan_troglodytes	MSLTSA ¹ YQH ² KLA ³ EKL ⁴ TIL ⁵ NRG ⁶ GV ⁷ LIR ⁸ MYN ⁹ IKKT ¹⁰ CS ¹¹ DPK ¹² SK ¹³ PP ¹⁴ FLLE ¹⁵ KS ¹⁶ ME ¹⁷ PS ¹⁸ LK ¹⁹ YIN ²⁰ K	60
Macaca_mulatta	MSLTSA ¹ YQH ² KLA ³ EKL ⁴ TIL ⁵ NRG ⁶ GV ⁷ LIR ⁸ MYN ⁹ IKKT ¹⁰ CS ¹¹ DPK ¹² SK ¹³ PP ¹⁴ FLLE ¹⁵ KS ¹⁶ ME ¹⁷ PS ¹⁸ LK ¹⁹ YIN ²⁰ K	60
Callithrix_jacchus	MSLTSA ¹ YQH ² KLA ³ EKL ⁴ TIL ⁵ NRG ⁶ GV ⁷ LIR ⁸ MYN ⁹ IKKT ¹⁰ CS ¹¹ DPK ¹² SK ¹³ PP ¹⁴ FLLE ¹⁵ KS ¹⁶ ME ¹⁷ SV ¹⁸ KYIN ¹⁹ K	60
Mus_musculus	MSLTSA ¹ YQL ² KLA ³ EKL ⁴ TIL ⁵ NRG ⁶ GV ⁷ LIR ⁸ MYN ⁹ IKKT ¹⁰ CS ¹¹ DSK ¹² SK ¹³ PP ¹⁴ FLLE ¹⁵ KS ¹⁶ ME ¹⁷ SL ¹⁸ KYIN ¹⁹ K	60
Bos_taurus	MSLTSA ¹ YQH ² KLA ³ EKL ⁴ TIL ⁵ NRG ⁶ GV ⁷ LIR ⁸ MYN ⁹ IKKT ¹⁰ CS ¹¹ DPK ¹² SK ¹³ PP ¹⁴ FLLE ¹⁵ KS ¹⁶ ME ¹⁷ SS ¹⁸ LK ¹⁹ YIN ²⁰ K	60
Pteropus_alecto	MSLTSA ¹ YQH ² KLA ³ EKL ⁴ TIL ⁵ NRG ⁶ GV ⁷ LIR ⁸ MYN ⁹ IKKT ¹⁰ CS ¹¹ SDS ¹² KA ¹³ PP ¹⁴ FLLE ¹⁵ KS ¹⁶ ME ¹⁷ SS ¹⁸ LK ¹⁹ YIN ²⁰ K	60
Ornithorhynchus_anatinus	MSLAS ¹ AYQH ² KLA ³ EKL ⁴ TIL ⁵ NRG ⁶ RG ⁷ VLIR ⁸ IYNI ⁹ IKKT ¹⁰ CS ¹¹ DPK ¹² GK ¹³ PP ¹⁴ FFLE ¹⁵ KS ¹⁶ ME ¹⁷ SS ¹⁸ LK ¹⁹ YIN ²⁰ K	60
Xenopus_tropicalis	MSLGS ¹ VYQH ² KLA ³ EKL ⁴ TIL ⁵ NRG ⁶ GV ⁷ LIR ⁸ IYNI ⁹ IKKT ¹⁰ CS ¹¹ ETK ¹² TK ¹³ PP ¹⁴ FFTE ¹⁵ KS ¹⁶ ME ¹⁷ SSI ¹⁸ KYIN ¹⁹ K	60
Rhinatrema_bivittatum	MALSS ¹ VYQH ² KLA ³ EKL ⁴ TIL ⁵ NRG ⁶ GK ⁷ GV ⁸ LIR ⁹ MYN ¹⁰ IRKT ¹¹ CS ¹² DPK ¹³ SK ¹⁴ PV ¹⁵ FLTE ¹⁶ KTME ¹⁷ SSI ¹⁸ KYIN ¹⁹ K	60
Pavo_muticus	MSLPS ¹ VYQ ² NKFA ³ EKL ⁴ TIL ⁵ NRG ⁶ RG ⁷ VLV ⁸ RIYNI ⁹ IKKT ¹⁰ CS ¹¹ DPK ¹² TR ¹³ PS ¹⁴ F ¹⁵ LC ¹⁶ DKAME ¹⁷ SSI ¹⁸ KFI ¹⁹ NK	60
Pavo_cristatus	MSLPS ¹ VYQ ² NKFA ³ EKL ⁴ TIL ⁵ NRG ⁶ RG ⁷ VLV ⁸ RIYNI ⁹ IKKT ¹⁰ CS ¹¹ DPK ¹² TR ¹³ PS ¹⁴ F ¹⁵ LC ¹⁶ DKAME ¹⁷ SSI ¹⁸ KFI ¹⁹ NK	60
Gallus_gallus	MSLPS ¹ VYQ ² NKFA ³ EKL ⁴ TIL ⁵ NERG ⁶ RG ⁷ VLV ⁸ RIYNI ⁹ IKKT ¹⁰ CS ¹¹ DPK ¹² TR ¹³ PS ¹⁴ F ¹⁵ LC ¹⁶ DKAME ¹⁷ PS ¹⁸ IKFI ¹⁹ NK	60
Chelonia_mydas	MSLPS ¹ IYQH ² KFA ³ EKL ⁴ TIL ⁵ NRG ⁶ GV ⁷ LIR ⁸ IYNI ⁹ IKKT ¹⁰ CS ¹¹ DLR ¹² TK ¹³ PP ¹⁴ FFTE ¹⁵ KTME ¹⁶ PS ¹⁷ IKYIN ¹⁸ K	60
	1.....10.....20.....30.....40.....50.....60	

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Homo_sapiens	KFPNIDVRNSTQHLGPVHREKAEIIRFLTNYYQS FVDVMEFRDHVYELLNTIDACQCHFD	120
Pan_troglodytes	KFPNIDVRNSTQHLGPVHREKAEIIRFLTNYYQS FVDVMEFRDHVYELLNTIDACQCHFD	120
Macaca_mulatta	KFPNIDVRNSTQHLGPVHREKAEIIRFLTNYYQS FVDVMEFRDHVYELLNTIDACQCHFD	120
Callithrix_jacchus	KFPNIDVRNSTQHLGPVHREKAEIIRFLTNYYQS FVDVMEFRDHVYELLNTIDACQCHFD	120
Mus_musculus	KFPNIDVRNSTQHLGPVHREKAEIIRFLTNYYQS FVDVMEFRDHVYELLNTIDACQCHFD	120
Bos_taurus	KFPNIDVRNSTQHLGPVHREKSEIRYLTNYYQS FVDVMEFRDHVYELLNTIDACQCHFD	120
Pteropus_alecto	KFPNIDVRNSTQQLGPVHREKAEIIRFLTNYYQS FVDVMEFRDHVYELLNTIDACQCHFD	120
Ornithorhynchus_anatinus	KFPTIDVRGSTQHLGPVHREKAEIIKYLTNYYQS FVDVMEFRDHVYELLNTIDACQCHFD	120
Xenopus_tropicalis	KFPNIDVRSSTQHLGPVHKESEIVKCLSSYYLS FVDVMEFRDHVYELLNTIDACQCYFD	120
Rhinatrema_bivittatum	KFPNLDARSSTQHLGPVHKEKTEILKTLSSYYLS FVDVMEFRDHVYELLNTIDACQCYFD	120
Pavo_muticus	KFPNLDVRSSTQHLGPVHKDKGDIVRALGPYYYS FVDVLEFRDHVYELLNTIDANQCFD	120
Pavo_cristatus	KFPNLDVRSSTQHLGPVHKDKGDIVRALGPYYYS FVDVLEFRDHVYELLNTIDANQCFD	120
Gallus_gallus	KFPNLDVRSSTQHLGPVHKDKGDIVRALGPYYYS FVDVLEFRDHVYELLNTIDANQCFD	120
Chelonia_mydas	KFPNVDARSSTQHLGPVHKEAEIIKVLNSYYYS FVDVMEFRDHVYELLNTIDVSCYFD	120
70.....80.....90.....100.....110.....120	

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Homo_sapiens	INLNFDFTRSYLDLIVTYTTSVILLLSRIEDRRILIGMYNCAHEMLHGHGDPFSFARLGQMV	180
Pan_troglodytes	INLNFDFTRSYLDLIVTYTTSVILLLSRIEDRRILIGMYNCAHEMLHGHGDPFSFARLGQMV	180
Macaca_mulatta	INLNFDFTRSYLDLIVTYTTSVILLLSRIEDRRILIGMYNCAHEMLHGHGDPFSFARLGQMV	180
Callithrix_jacchus	INLNFDFTRSYLDLIVTYTTSVILLLSRIEDRRILIGMYNCAHEMLHGHGDPFSFARLGQMV	180
Mus_musculus	INLNFDFTRSYLDLIVTYTTSVILLLSRIEDRRILIGMYNCAHEMLHGHSDPSFARLGQMV	180
Bos_taurus	INLNFDFTRSYLDLIVTYTTSVILLLSRIEDRRVLIGMFNCAHEMLHGHSDSSFARLGQMV	180
Pteropus_alecto	ISLNFDFTRSYLDLIVTYTTSVILLLSRIEDRRVLIGVYNCAHEMTHGHTDSSSFARLAQMI	180
Ornithorhynchus_anatinus	INLNFDLTYSYLDLIVTYTTSVILLLSRIDDRRILIGAYNCALEMLQGHSDFSFARLGQMI	180
Xenopus_tropicalis	ININYSFTKSYLDLIVTYTTSVILLMSRIEDRKSILVALFNCASEMLOGHSDPTFYARLAQML	180
Rhinatrema_bivittatum	ININYDLTKNYLDLMVTYASVILLLSRIEDRRALIGMYNCAHEMLQGSDDTNFPRLGQMV	180
Pavo_muticus	IHVNYDFTKSYLDLIVTYVSILVLLARTEDRRVLIGMYHCAHEMSHGASDSSFARLGQMV	180
Pavo_cristatus	IHVNYDFTKSYLDLIVTYVSILVLLARTEDRRVLIGMYHCAHEMSHGASDSSFARLGQMV	180
Gallus_gallus	IHVNYDFTKSYLDLIVTYVSILVLLARTEDRRVLIGMYHCAHEMSHGASDSSFARLGQMV	180
Chelonia_mydas	IHVNYDLTKNYLDLVVITYTTSVILLLSRIEDRKALIGMYNCAHEMIQSGDPSFYARLAQMV	180
130.....140.....150.....160.....170.....180	

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Homo_sapiens	LEYDHP LKKLT EEF GPH TKAVS GALLS LHFLFVRRNQGAEQWRS AQLLSLISNPPAMINP	240
Pan_troglodytes	LEYDHP LKKLT EEF GPH TKAVS GALLS LHFLFVRRNQGAEQWRS AQLLSLISNPPAMINP	240
Macaca_mulatta	LEYDHP LKKLT EEF GPH TKAVS GALLS LHFLFVRRNQGAEQWRS AQLLSLISNPPAMINP	240
Callithrix_jacchus	LEYDHP LKRLT EEF GPH TKAVS GALLS LHFLFVRRNQGAEQWRS AQLLSLISLSTPPAMINP	240
Mus_musculus	LEYDHP LKKLT EEF GLPH TKAVS GALLS LHFLFVRRNQGAEQWRS AQLLSLISPPAMINP	240
Bos_taurus	LEYDHP LKKLT EEF GPH TKAVS EALLS LHCLFVRRNQGAEQWRS VQLLSLIGTASAMINP	240
Pteropus_alecto	LEYDHP LKKLT EEF GPH TKAVS GALLS LSYFLFLRRNHGADQWRNAQLLSLISLSTPPAMINP	240
Ornithorhynchus_anatinus	LEYDHP LKKLT EEF GPH TKAVS EALLS LHFLFVRRNQGAEQWRS AQLLSLISAPPTMINP	240
Xenopus_tropicalis	LEYDNP LKKLS EEF GPH TKIVT EALMS LRF LFCRRTPADQWGAQLLSLISNPASMIDP	240
Rhinatrema_bivittatum	LEYESPLKKLT EEF GPH TKVVNTALLS LSYFLYCRNRQSAEQWRGAQLLSLISNPAAMTSP	240
Pavo_muticus	LEYDHP LKKLT EEF GPH TKAVT SALLS LHFLFARRNQGSEQWRS DQLLSLLSTAGTMLSP	240
Pavo_cristatus	LEYDHP LKKLT EEF GPH TKAVT SALLS LHFLFARRNQGSEQWRS DQLLSLLSTAGTMLSP	240
Gallus_gallus	LEYDHP LKKLT EEF GPH SKAVT SALLS LHFLFARRNQGSEQWRS DQLLSLLSTAGTMLSP	240
Chelonia_mydas	LEYDTP LKKLT EEF GPH TKVMT SALLS LRF LFAARRNQSVEQWRS DQLLSLINNSATMLSP	240
190.....200.....210.....220.....230.....240	

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Homo_sapiens	ANSDTMACEYLSVEVMERWIIIGFLLCHGCLNSNSQCCKLWKLCLOGSLYITLTIREDVLQ	300
Pan_troglodytes	ANSDTMACEYLSVEVMERWIIIGFLLCHGCLNSNSQCCKLWKLCLOGSLYITLTIREDVLQ	300
Macaca_mulatta	ANSDTMACEYLSVEVMERWIIIGFLLCHGCLNSNSQCCKLWKLCLOGSLYITLTIREDVLQ	300
Callithrix_jacchus	ANSDTMACEYLSVEVMERWIIIGFLLCHGCLNSNSQCCKLWKLCLOGSLYITLTIREDVLQ	300
Mus_musculus	ANSDTMACEYLSVEVMERWIIIGFLLCHGCLNSNSQCCKLWKLCLOGSLYITLTIREDVLQ	300
Bos_taurus	ANSDTMACEYLSVEVMERWIVIGFLLCHGCLNSNADCKLWKLCLOGSLYITLTIREDALQ	300
Pteropus_alecto	VNSDTMACEYLSVEVMERWIIIGFLLCHGCLNSNNQCCKLWKLCLOGSLYITLTIREDVLQ	300
Ornithorhynchus_anatinus	ENSDTIACEYLSVEVMERWIIIGFLLCHGCLNSNPCCQELWKLGLQGSFYITLTIREDGLQ	300
Xenopus_tropicalis	SSSDTMPCEYLSVETMERWIVIGFLLSHGFLNTPASMEWLKALQGSHCITLIRDEILF	300
Rhinatrema_bivittatum	SFSDTMPCEYLSVEVMERWIIIGFLLSHNALNANPCCLELWKMALQSSLYITLLRDETLY	300
Pavo_muticus	ASSDTMACEYLSLEVMERWILMGFLVCPGALGTSPCCLELWRLALQGSLYVTLLRDEALQ	300
Pavo_cristatus	ASSDTMACEYLSLEVMERWILMGFLVCPGALGTSPCCLELWRLALQGSLYVTLLRDEALQ	300
Gallus_gallus	ASSDTMACEYLSLEVMERWILMGFLVCPGALGASPCCLELWRLALQGSLYVTLLRDEALQ	300
Chelonia_mydas	ASSDVMACEYLSLEVMERWIIIGFLLCHGCLNSNPCCLELWKLGLQGSFYISLIRDDALQ	300
250.....260.....270.....280.....290.....300	

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Homo_sapiens	VHKVTE DLF SSLKGYGKRVADIKESKEHVIANSGQFHCORROFLRMVAVKELETVLAD EPG	360
Pan_troglodytes	VHKVTE DLF SSLKGYGKRVADIKESKEHVIANSGQFHCORROFLRMVAVKELETVLAD EPG	360
Macaca_mulatta	VHKVTE DLF SSLKGYGKRVADVKESEHVIANSGQFHCORROFLRIAVKELETVLAD EPG	360
Callithrix_jacchus	VHKVTE DLF SSLKGYGKRVADIKESKEHVIANSGQFHCORROFLRMAKELESVLAD EPG	360
Mus_musculus	VHKVTE DLF SSLKGYSKRVADIKESKEHAITNSGQFHCORROFLRTAVKELETVLND EPG	360
Bos_taurus	VHKVTE DLF SSLKGYGKRVADIKESKEHAIANSGQFHSORROFLRIAVKELETVLT D EPG	360
Pteropus_alecto	VHKVTE DLF SSLKGYGKRVADIKESKEHVIANSGQFHCORROFLRMVAVKELVTVLT D EPG	360
Ornithorhynchus_anatinus	VHKVMEELFSGLKGYGKRVS DIKECKEQ ATINSQGFHRORRNFLRSVAVKELEMVFT D EPG	360
Xenopus_tropicalis	IHRVTE DF FGSIKGYGKRVADVKECKEHFMTHCGQFHRARRRFFLRSVAVKELEAILSD EPG	360
Rhinatrema_bivittatum	IHKVIEDFLGNMKGYSKRVTVKECKENALVNSGHFRRDRRIFLRGAIRELQ TI LAD EPG	360
Pavo_muticus	IHKVTEELLSSLKGYGKRVADLKECKEHAVAHSGSLHRGRRAYLRGAVRELEALL D EPG	360
Pavo_cristatus	IHKVTEELLSSLKGYGKRVADLKECKEHAVAHSGSLHRGRRAYLRGAVRELEALL D EPG	360
Gallus_gallus	IHKVTEELLSSLKGYGKRVADLKECKEHAVAHSGSLHRGRRAYLRGAVRELEALL D EPG	360
Chelonia_mydas	IHKVTEEFFGSLKGYGKRVADVKECKEHAVAHSGQLHRNRAFLRNAVRELEALLSD EPG	360
310.....320.....330.....340.....350.....360	

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Homo_sapiens	LLGPKALFAFMALSFIRDEVTWLVVRHTENVTKTKTPEDYADSSIAELLFLLLEGIRSLVRR	420
Pan_troglodytes	LLGPKALFAFMALSFIRDEVTWLVVRHTENVTKTKTPEDYADSSIAELLFLLLEGIRSLVRR	420
Macaca_mulatta	LLGPKALFAFMALSFIRDEVTWLVVRHTENVTKTKTPEDYADSSIAELLFLLLEIRSLVRR	420
Callithrix_jacchus	LLGPKALFAFMALSFIRDEVTWLVVRHTENVTKTKTPEDYADSSIAELLFLLLEIRSLVRR	420
Mus_musculus	LLGPKALFAFMALSFIRDEVTWLVVRHTENVTKTKTPEDYADSSIAELLFLLLEIRALVRR	420
Bos_taurus	LLGPKALFAFMALSFIRDEVTWLVVRHTENVTKTKTPEDYVDSSIAELLFLLLEVRALVRR	420
Pteropus_alecto	LLGPKVLVAFMALSFIRDEVTWLVVRHTENVTKTKTPEDYVDSSIAELLFLLLEIRALVRR	420
Ornithorhynchus_anatinus	LLGPKALFAFLALSFIRDEVNWLVRHAENVTKTKTPEDFVDPHIAELLLLLLEIRSLVRR	420
Xenopus_tropicalis	LLGPKALFAFMALSFCDREINWLVRHAENVTKTKTPEDYVDVQIAELIFYVEAIRAIVKK	420
Rhinatrema_bivittatum	LLGPKAVFAFMALSFXRDEINWLVRHAENVTKSKTQEDYVDVNIARIELIYYMEELKALMRR	420
Pavo_muticus	LLGPKALFVFMALSFCDREVSWLVRHAEHVTTKTKTPEDFADNHVAEMLFLMEQLRRLVRR	420
Pavo_cristatus	LLGPKALFVFMALSFCDREVSWLVRHAEHVTTKTKTPEDFADNHVAEMLFLMEQLRRLVRR	420
Gallus_gallus	LLGPKALFVFMALSFCDREVSLLRHAEHVTTKTKTPEDFADNHIAEILFLMEQLRSLVRR	420
Chelonia_mydas	LLGPKALCVFMALSLCRDEMNWLVRHAEHVTTKTKTPEDYADSHIAELLFLMEQLRTLCHK	420
370.....380.....390.....400.....410.....420	

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CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Homo_sapiens      EFSGLRLDWFRLLQAYTSVAKAPLHLHENPDIAKVMNLIVFHSRMLDSVEKLLVETSDLST 540
Pan_troglodytes   EFSGLRLDWFRLLQAYTSVAKAPLHLHENPDIAKVMNLIVFHSRMLDSVEKLLVETSDLST 540
Macaca_mulatta    EFSGLRLDWFRLLQAYTSVAKAPLHLHENPDIAKVMNLIVFHSRMLDSVEKLLVETSDLST 540
Callithrix_jacchus EFSGLRLDWFRLLQAYTSVAKAPLHLHENPDIAKVMNLIVFHSRMLDSVEKLLVETSDLST 540
Mus_musculus      DFGSLRLDWFRLLQAYTSVSKAPLHLHENPDIAKVMNLIIFHSQMLDSVEKMLVETSDLST 540
Bos_taurus        EFGSLRLDWFRLLQAYTSVAKAPLHLHENPDIAKVMNLIVFHSRMLDSVENMLVETSDLST 540
Pteropus_alecto   EFSGLRLDWFRLLQAYTSVAKAPLHLHENPDIAKVMNLIVFHSRMLDSVEKMLVETSDLST 540
Ornithorhynchus_anatinus DFGSLRLDWFRLLQAYTSVAKAPLHLHENPDIAKIMNLIVFHSRMLDSVEEILVETSDLST 540
Xenopus_tropicalis DFCALRLDWFRLLQAYTSIAKAPLSLRDNPDLGKVMNLIMFHSWMMLDSVEELLVETSDLSA 540
Rhinatrema_bivittatum EFMARLDWFRLLQAYTSVSKAPLQLRDNPDLGKVMNTIMFHTKMLDSIEELMLETSDLSD 540
Pavo_muticus      DFTPLRLDWFRLLQAYTSVAKAVLPLSTNPVGRIMNLIVFHTKLLDSLEELLAEASDLSD 540
Pavo_cristatus    DFTPLRLDWFRLLQAYTSVAKAVLPLSTNPVGRIMNLIVFHTKLLDSLEELLAEASDLSD 540
Gallus_gallus     DFTPLRLDWFRLLQAYTSVAKAVLPLSTNPVGRIMNLIVFHTKLLDSLEELLAEVDLSD 540
Chelonia_mydas    DFGSLRLDWFRLLQAYTSVAKAPMQLRESNPVGRVMNLIMFHSKMLDSLEELVETSDLSA 540
.....490.....500.....510.....520.....530.....540

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Homo_sapiens      FCFHLRIFEKMFAMTLEESAMLRVIAIAFPLICAHFVHCTHEMCPEEYPHLKNHGLHHCNS 600
Pan_troglodytes   FCFHLRIFEKMFAMTLEETMLRYAIAFPLICAHFVHCTHEMCPEEYPHLKNHGLHHCNS 600
Macaca_mulatta    FCFHLRIFEKMFAMTLEETMLRYAIAFPLICAHFVHCTHEMCPEEYPHLKNHGLHHCNC 600
Callithrix_jacchus FCFHLRIFEKMFAMTLEETMLRYAIAFPLICAHFVHCTHEMCPEEYTHLKNHGLHHCNA 600
Mus_musculus      FCFHLRTFEKMFATTLEETMLRYTIAFPLICAHFVHCVHEMCPEEYPHLKNHGLHHCNS 600
Bos_taurus        FCFHLRTFEKMFATVLEETPAMFRYAIAFPLICAHFVHCTHEMCPEEYPHLKNHGLHHCNS 600
Pteropus_alecto   FCFHLRTFEKMFATTLEETMLRYAIAFPLICAHFVHCTHEMCPEEYPHLKNHGLHHCNS 600
Ornithorhynchus_anatinus FCFHPRVLEKMFALTLEEPSMLCRVIAFPLICSHFANCSHDMCPEEYPHLRNHALHFCNS 600
Xenopus_tropicalis FCFHVRTFEKMFMTMEEPSALRYSIAFPLICSHFSSSIHEMCPEEYPHLKNCSLGFCNN 600
Rhinatrema_bivittatum FCFHIRTFEKMFSTMEEPSALRYSLSFPMACAHFVNCTHDMCPEEYPHLKNCALGLCNT 600
Pavo_muticus      LCFPPRPVEKMFVATMEEPSMLRYSIAFPLLCNHFSLCIHPMCPEEYPQLQAALGLCNK 600
Pavo_cristatus    LCFPPRPVEKMFVATMEEPSMLRYSIAFPLLCNHFSLCVHPMCPEEYPQLQAALGLCNK 600
Gallus_gallus     LCFPPRPVEKMFVATMEEPSMLRYSIAFPLLCNHFSHCVHPMCPEEYPQLQAALGLCNK 600
Chelonia_mydas    FCFYIRPFEKLFALTMEEPAMLRFTIAFPLVCSHFACHTHPMCPPEEYPHLKSCSLGLCNN 600
.....550.....560.....570.....580.....590.....600

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Homo_sapiens      FLEELAKQTSNCVLEICAEQRLNSEQLLPKHCATTISKAKNKKTRKQRTPRKGEPERDK 660
Pan_troglodytes   FLEELAKQTSNCVLEICAEQRLNSEQLLPKHCATTISKAKNKKTRKQRTPRKGEPERDK 660
Macaca_mulatta    FLEELAKQTSNCVLEICAEQRLNSEQLLPKHCATTISKAKNKKTVKQRTPRKGEPERDK 660
Callithrix_jacchus FLEELAKQTSNCVLEICAEQRLNSEQLLPKHCATTISKAKNKKTMKQRTPRKGEPERDK 660
Mus_musculus      FLEELAKQTSNCVLEICAEQRLNSEQLLPKHCATTISKAKNKKSMKQRTAPRKGEPRDK 660
Bos_taurus        FLEELAKQTSNCVLEICAEQRLNSEQLLPKHCATTISKAKNKKTMKQRTAPRKGEPRDK 660
Pteropus_alecto   FLEELAKQTSNCVLEICAEQRLNSEQLLPKHCATTISKAKNKKIMMQRTPRKGEPRDK 660
Ornithorhynchus_anatinus FLEELAKLTSDCVLEICAEQRLNSEQLLPKHCATTISKAKNKKASKQKQMPKKGEPRDK 660
Xenopus_tropicalis FLDEMSKHASNCAMDICAEQNLSEKLLPKHCAATISKARNKR--LKKPPPKRAEPEREK 658
Rhinatrema_bivittatum FLEEISKQACNYIMDICAESNLSSQLLPKHCATTISKAKNKK--LHRAAAKKGEVESEK 658
Pavo_muticus      FLEEMARQACACIMDACAEOHNLSEQLLPKHCATVSKARNKK--TLKHPSKKGEPERGK 658
Pavo_cristatus    FLEEMARQACACIMDACAEOHNLSEQLLPKHCATVSKARNKK--TLKHPSKKGEPERGK 658
Gallus_gallus     FLEEMARQACVCIMDACAEOHNLSERLLPKHCATVSKARNKK--TLKHPSKKGEPERGK 658
Chelonia_mydas    FLEETIAQAANCIMDACAEOQLNSEQLLPKHCATVSKARNKK--AHKOPPKGEAERDK 658
.....610.....620.....630.....640.....650.....660

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Homo_sapiens      PGAESHRKNRSIVTNMDKLHLNLTALTMNHVVSFSVFEHTIFPSEYLSSSHLEARNRA 720
Pan_troglodytes   PGAESHRKNRSIVTNMDKLHLNLTALTMNHVVSFSVFEHTIFPSEYLSSSHLEARNRA 720
Macaca_mulatta    PGAESHRKNRSIVTNMDKLHLNLTALTMNHVVSFSVFEHTLFPSEYLSSSHLEARNRA 720
Callithrix_jacchus PGAESHRKNRSIVTNMDKLHLNLTALTMNHVVSFSVSGHTVFPSEYLSSSHLEARNRA 720
Mus_musculus      PGAESHRKNRSIVTNMDKLHLNLTALAMNHVVSFSVFEHTIFPSEYLSSSHLEARNRA 720
Bos_taurus        PGAESHRKNRSIVTNMDKLHLNLTALTMNHVVSFSVFEHTIFPSEYLSSSHLEARNRA 720
Pteropus_alecto   PGAESHRKNRSIVTNMDKLHLNLTALTMNHVVSFSVFEHTIFPSEYLSSSHLEARNRA 720
Ornithorhynchus_anatinus PGAESHRKNRSIVTTMDKLHQLTTELSTQSMNHATSFTVFEHTIYFSEYLSSSHLESRLNRA 720
Xenopus_tropicalis PGAESQRDRSVTTNLDKLHLTLCELSMALNHVRSIRVFEHVVTPEAYLSSSHLENRFGR 718
Rhinatrema_bivittatum PGTESQRKNRSIVTNLDKLHVNLSELSTLSTVSSLSVFEHIVTPTTEYLSLHLEMLNRA 718
Pavo_muticus      PGAESQRKDRVTVTNMDKLHVTLAELSLSLNHVPNFTVFEHTVTPAEYLSSSHLEARFKA 718
Pavo_cristatus    PGAESQRKDRVTVTNMDKLHVTLAELSLSLNHVPNFTVFEHTVTPAEYLSSSHLEARFKA 718
Gallus_gallus     PGAESQRKDRSVTTNMDKLHLTLAELSLSLNHVPNFTVFEHTVTPAEYLSSSHLEARFKA 718
Chelonia_mydas    PGAESQRKDRIVVTNMDKLHQLSELSLSVNHVPSFTVFEHVVTPEAYLSSSHLETRLNRS 718
.....670.....680.....690.....700.....710.....720

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Homo_sapiens	IVWLAGYNATTQEIFVRPSELLAGVKAYIGFIQSLAQFLGADASRVIRNALLQQTQPLDSC	780
Pan_troglodytes	IVWLAGYNATTQEIFVRPSELLAGVKAYIGFIQSLAQFLGADASRVIRNALLQQTQPLDSC	780
Macaca_mulatta	IVWLAGYNATTQEIFVRPSELLAGVKAYIGFIQSLAQFLGADASRVIRNALLQQTQPLDSC	780
Callithrix_jacchus	IVWLAGYNATTQEIFLRPSELLAGVKAYIGFIQSLAQFLGADASRVIRNALLQQTQPLDSC	780
Mus_musculus	IVTLAGYNATTQEIFLRPSELLAGVKAYISFIQSLAQFLGADASRIVRNALLQQTQPLDSS	780
Bos_taurus	IVWLAGYNATTQEIARPSELLAGVKAYISFIQSLAQFLGADVSRIRNALLQQTQPLDSS	780
Pteropus_alecto	IVWLAGYNATTQEIARPSELLAGVKAYISFIQSLAQFLGADVSRIRNALLQQTQPLDSC	780
Ornithorhynchus_anatinus	IVWLAGYNATTQEIARPSEVLGKAYVGFISLQSLAQFLGADVSRIRNALLQQTQPLDSA	780
Xenopus_tropicalis	LVMNVNFKQTTREILRPSEVLHGMRSYLSTLKSIGHLVNIDVTRIIRSSLLQQTQPLTDAN	778
Rhinatrema_bivittatum	IVWMLSYNQSTKEIRRPSEVLASLGAYITTVHSLAHLANIDVSHAIRSALLQQTQPLSSS	778
Pavo_muticus	VVAMACYSQATQEVARPSEVLVGLGAYIAFIQSLTHFVGLDTARIIRSALLQQTQPRDAG	778
Pavo_cristatus	VVAMACYSQATQEVARPSEVLVGLGAYIAFIQSLTHFVGLDTARIIRSALLQQTQPRDAG	778
Gallus_gallus	IVAMACYSPATQEVARPSEVLVGLGAYITFIQSLTHFVGLDTARIIRSALLQQTQPRDAS	778
Chelonia_mydas	FVWMANYNATQEIARPSEVLVGLRSYIAFIQSLGQFTCVDASRIIRSALLQQTQPLDSS	778
730.....740.....750.....760.....770.....780	

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Homo_sapiens	GEQTITTLYTNWYLESLLRQASSGTIILSPAMQAFVSLP--REGEQNFSAEFSDIS---	835
Pan_troglodytes	GEQTITTLYTNWYLESLLRQASSGTIILSPAMQAFVSLP--REGEQNFSAEFSDISAVV	838
Macaca_mulatta	GEQTITTLYTNWYLESLLRQASSGTIIFSPAMQAFVSLP--REGEQNFSAEFSDIS---	835
Callithrix_jacchus	GEQTITTLYTNWYLESLLRQASSGTIILSPAMQAFVSLP--REGEQNFSAEFSDIS---	835
Mus_musculus	GEQTVTTLTYTNWYLESLLRQASSGAIVLSPAMQAFISLP--RDGEQNFSAEFSDIS---	835
Bos_taurus	GEQTITTLYTNWYLESLLRQASSGTIILSPAMQAFISLP--REGEQNFSAEFSDVS---	835
Pteropus_alecto	GEQTITTFYTNWYLESLLRQASSGTIILSPAMQAFISLP--REGEQNFSAEFSDIS---	835
Ornithorhynchus_anatinus	GEQTITTLYTNWYLESLLRQASGGTIILSPAIAQAFMSIPP--REGSTFSAEEFSDVS---	836
Xenopus_tropicalis	GEPTITALYTNWYLECLLRQASAGFIHYSPPARRTFMDLPTMSGEOGLNAAEYSDVS---	835
Rhinatrema_bivittatum	GEQTITTIYTNWYLRLRRQVSSGLIHSPAVQSFSVSVSQDASGDQTFRAEYSDVL---	835
Pavo_muticus	GEQTLTTIYTNWYLEALLRQASTGAIVLAPALQAFATVP--REGEPSFSAAEYSDVS---	833
Pavo_cristatus	GEQTLTTIYTNWYLEALLRQASTGAIVLAPALQAFATVP--REGEPSFSAAEYSDVS---	833
Gallus_gallus	GEQTLTTIYTNWYLEALLRQASTGAIVLAPALQAFATTVP--REGEPSFSAAEFSDVS---	833
Chelonia_mydas	GEQTLTTIYTNWYLEALLRQASTGAIVLSPAMQAFISVP--KEGESFSAAEFSDIS---	833
790.....800.....810.....820.....830.....840	

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Homo_sapiens	-----EMRALAE	ELLGPYGMKFLSENLMWHVTSQIVELKKLVVENMDI	877
Pan_troglodytes	QILQCLLSPIWGLCNSVP	EMRALAEELLGPYGMKFLSENLMWHVTSQIVELKKLVVENMDI	898
Macaca_mulatta	-----EMRALAE	ELLGPYGMKFLSENLMWHVTSQIVELKKLVVENMDI	877
Callithrix_jacchus	-----EMRALAE	ELLGPYGMKFLSENLMWHVTSQIVELKKLVVENMDI	877
Mus_musculus	-----EMRALAE	EILGPYGMKFLSENLMWHVTSQIVELKKLVVENMDI	877
Bos_taurus	-----EMRALAE	ELLGPYGMKFLSENLMWHVTSQIVELKKLVVENMDV	877
Pteropus_alecto	-----EMRALAE	ELLGPYGMKFLSENLMWHVTSQIVELKKLVVENMDV	877
Ornithorhynchus_anatinus	-----EMRALAE	ELLGPYGMKFLSENLMWHVTSQIVELKKLVVENMDV	878
Xenopus_tropicalis	-----EMKALSELIGPYGMKFLSENLMWHVTSQIVELKKLVVENMDV	877	
Rhinatrema_bivittatum	-----EMQALAE	ELLGPYGMKFLSENLLWHVTSQVVELKKLVVENMDT	877
Pavo_muticus	-----EMRALAE	LIGPYGMKFLSDNLMWHVSSQVAELKKLVNENMDT	875
Pavo_cristatus	-----EMRALAE	LIGPYGMKFLSDNLMWHVSSQVAELKKLVNENMDT	875
Gallus_gallus	-----EMRALAE	LIGPYGMKFLSDNLMWHVSSQVAELKKLVNENMDT	875
Chelonia_mydas	-----EMRALAE	ELLGPYGMKFLSDNLMWHVTSQVVELKKLVTENMDV	875
850.....860.....870.....880.....890.....900		

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Homo_sapiens	LVQIRSNFSKPDLMASLLPOLTGAENVLKRMTIIGVILSFRAMAQEGLEVFSSHCPFLM	937
Pan_troglodytes	LVQIRSNFSKPDLMASLLPOLTGAENVLKRMTIIGVILSFRAMAQEGLEVFSSHCPFLM	958
Macaca_mulatta	LVQIRSNFSKPDLMASLLPOLTGAENVLKRMTIIGVILSFRAMAQEGLEVFSSHCPFLM	937
Callithrix_jacchus	LVQIRSNFSKPELMASLLPOLTGAENVLKRMTIIGVILSFRAMAQEGLEVFSSHCPFLM	937
Mus_musculus	LVQIRSNFSKPELMASLLPOLTGAENVLKRMTIIGVILSFRAMAQEGLEVFSAHCPFLM	937
Bos_taurus	LVQIRSNFNKADLMASLLPOLTGADNVLKRMTIIGVILSFRAMAQEGLEVFSSHCPFLM	937
Pteropus_alecto	LVQIRSNFGKADLMASLLPOLMGADNVLKRMTIIGVILSFRAMAQEGLEVFSSHCPFLM	937
Ornithorhynchus_anatinus	LVQIRSNFSKPELMSSLLPRLNAAENVLKRMTIIGVILTFRMAQEGLEVFSSHCPFLM	938
Xenopus_tropicalis	LVQIRSNFSNSELMPSSLAKLSQENLLKRMTIIGVILSFRALTEGLEVFSAHCPFM	937
Rhinatrema_bivittatum	LVQIRSNYDKPEQMVVLLSRLTSQENLLKRMTIIGVILSFRMAQEGLEQKVFSDHCPYLM	937
Pavo_muticus	LVQLRSSCKPEQMAALLPRLTSADNVLKRMTIIGEILSFRAMAQGLREVFSYHCPFLM	935
Pavo_cristatus	LVQLRSSCKPEQMAALLPRLTSADNVLKRMTIIGEILSFRAMAQGLREVFSYHCPFLM	935
Gallus_gallus	LVQLRSSCKPEQMAALLPRLTSADNVLKRMTIIGEILTFRAMAQGLREDFSHHCPFLM	935
Chelonia_mydas	LVQIRSNFYKPEQMVSLPRLTSADNVLKRMTIIGEILSFRMAQTGLHEVFSNRCPFLM	935
910.....920.....930.....940.....950.....960	

CLUSTAL 2.1 MULTIPLE SEQUENCE ALIGNMENT

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Homo_sapiens	GP ¹ IECLKEFVTPD ² TDIKVTLSIFELASAAGV ³ GC ⁴ ID ⁵ PALVAAIANLKAD ⁶ TSS ⁷ PEEEYK ⁸ VA	997
Pan_troglodytes	GP ¹ IECLKEFVTPD ² TDIKVTLSIFELASAAGV ³ ACD ⁴ ID ⁵ PALVAAIANLKAD ⁶ TSS ⁷ PEEEYK ⁸ VA	1018
Macaca_mulatta	GP ¹ IECLKEFVTPD ² TDIKVTLSIFELASAAGV ³ GC ⁴ ID ⁵ PALVAAIANLKAD ⁶ TSS ⁷ PEEEYK ⁸ VA	997
Callithrix_jacchus	GP ¹ IECLKEFVTPD ² TDIKVTLSIFELASAAGV ³ GC ⁴ ID ⁵ PALVAAIANLKAD ⁶ TSS ⁷ PEEEYK ⁸ VA	997
Mus_musculus	GP ¹ IECLKEFVTPD ² TDIKVTLSVFELACAAGV ³ SCD ⁴ ID ⁵ PALVAAIANLKAD ⁶ NSS ⁷ PEEEYK ⁸ VA	997
Bos_taurus	GP ¹ IECLKEFVTPD ² TDIKVTLSIFELASAAGV ³ DCD ⁴ ID ⁵ PALVAAIANLK ⁶ TDLSS ⁷ PEEEYK ⁸ VA	997
Pteropus_alecto	GP ¹ IECLKEFVTPD ² TDIKVTLSVFELASAAGV ³ GC ⁴ ID ⁵ PTLVAAIANLKAD ⁶ TSS ⁷ PEEEYK ⁸ VA	997
Ornithorhynchus_anatinus	GP ¹ IECLKEFVTPD ² TDIKVTLSIFELAAAAGV ³ GC ⁴ ID ⁵ PALVAAIANLKAD ⁶ GSS ⁷ PEEEYK ⁸ VA	998
Xenopus_tropicalis	SP ¹ IESLKDLVNP ² DID ³ IQVTL ⁴ SIFELATAAGV ⁵ PCD ⁶ VD ⁷ PSLVAALS ⁸ NIKT ⁹ DSAS ¹⁰ LEEEYK ¹¹ VA	997
Rhinatrema_bivittatum	GP ¹ IECLKDFVTPD ² TDIKVALGIFELATAAG ³ IPCD ⁴ ID ⁵ PALVMALSSLN ⁶ TD ⁷ STS ⁸ PEEEYK ⁹ IA	997
Pavo_muticus	GP ¹ IECLTDVVT ² PD ³ TDIQVTL ⁴ SFFELASAAG ⁵ IPCE ⁶ ID ⁷ PALVNVLAGSK ⁸ MDGSS ⁹ SEEDYK ¹⁰ VA	995
Pavo_cristatus	GP ¹ IECLTDVVT ² PD ³ TDIQVTL ⁴ SFFELASAAG ⁵ IPCE ⁶ ID ⁷ PALVNVLAGSK ⁸ MDGSS ⁹ SEEDYK ¹⁰ VA	995
Gallus_gallus	GP ¹ IECLTDVVT ² PD ³ TDIQVTL ⁴ SIFELASAAG ⁵ IPCE ⁶ ID ⁷ PALVSVLAGSK ⁸ MDGSS ⁹ SEEDYK ¹⁰ VA	995
Chelonia_mydas	GP ¹ IECLKDFVTPD ² TDIKVTLSIFELATAAG ³ IPCD ⁴ ID ⁵ PALVTALSNLKT ⁶ DSL ⁷ PEEEYK ⁸ SA	995
970.....980.....990.....1000.....1010.....1020	

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Homo_sapiens	CLLLIFLAVSLPLLATDPSSFYSIEKDGYNNNIHCLTKAIIQVSAALFTLYNKNIETHLK	1057
Pan_troglodytes	CLLLIFLAVSLPLLATDPSSFYSIEKDGYNNNIHCLTKAIIQVSAALFTLYNKNIETHLK	1078
Macaca_mulatta	CLLLIFLAVSLPFLATDPSSFYSIEKDGYNNNIHCLTKAIIQVSAALFTLYNKNIETHLK	1057
Callithrix_jacchus	CLLLIFLAVSLPLLATDPSSFYSIEKDGYNNNIHCLTKAIIQVSAALFTLYNKNIETHLK	1057
Mus_musculus	CLLLIFLAVSLPLLATDPSSFFSIEKDGYNNNIHCLTKAIIQVSAALFTLYNKNIETHLK	1057
Bos_taurus	CLLLIFLAVSLPLLAMDAAFSYSIEKDGYSNNIHCLTKAIIQVSAALFTVYNKNIETHLK	1057
Pteropus_alecto	CLLLIFLAVSLPLLATDPSSFYCIKDGYNNNIHCLTKAIIQVSAALFTLYNKNIETHLK	1057
Ornithorhynchus_anatinus	CLLLIFIAVSIPFLATDPSSFFNIETDGFSSNNIHCLTKAIIQVAALFTLHNKNIETHLK	1058
Xenopus_tropicalis	CLLQVFLAVSLPLLADPMFSYSIENDGYNNNIHCLAKAIIQVSAALFTLYNKNIETHLK	1057
Rhinatrema_bivittatum	CLLLVFLAVSLPNLAIDPLSFYNIENDGYGNNIQCLAKAIINVSAALFTNYNKNIETHLK	1057
Pavo_muticus	CLLLVFAVAVSLPLLASDPASVYNTIEMDGYNNNIHCLAKAIIHVSAAALFTLHNKNIETHLK	1055
Pavo_cristatus	CLLLVFAVAVSLPLLASDPASVYNTIEMDGYNNNIHCLAKAIIHVSAAALFTLHNKNIETHLK	1055
Gallus_gallus	CLLLVFAVAVSLPMLASDPASVYNTIEMDGYNNNIHCLAKAIIHVSAAALFTLHNKNIETHLK	1055
Chelonia_mydas	CLLLVFAVAVSLPLLADPFSIYSIEMDGYNNNIHCLAKAIIQVSAALFTVHNSKNIETHLK	1055
1030.....1040.....1050.....1060.....1070.....1080	

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Homo_sapiens	EFLVVASVSLLOLQGETDKLKTRNRESISLLMRLVVE--ESSFLTLDMLSCFPYVLLRN	1115
Pan_troglodytes	EFLVVASVSLLOLQGETDKLKTRNRESISLLMRLVVE--ESSFLTLDMLSCFPYVLLRN	1136
Macaca_mulatta	EFLVVASVSLLOLQGETDKLKTRNRESISLLMRLVVE--ESSFLTLDMLSCFPYVLLRN	1115
Callithrix_jacchus	EFLVVASVSLLOLQGETDKLKTRNRESISLLMRLVVE--ESSFLTLDMLSCFPYVLLRN	1115
Mus_musculus	EFLVVASVSLLOLQGETDKLKTRNRESISLLMRLVVE--ESPFLTLDMLSCFPYVLLRN	1115
Bos_taurus	EFLVVASVSLLOLQGETDKLKTRNRESISLLMRLVVE--ESSFLTLDMLSCFPYVLLRN	1115
Pteropus_alecto	EFLVVASVSLLOLQGETDKIKTRNRESISLLMRLVVE--ESSFLTLDMLSCFPYVLLRN	1115
Ornithorhynchus_anatinus	EFLVVASISLLOLQGETDKLKSARNRESISLLMRLLVGVTFLLHLRTRPHAEIRAIPLTRD	1118
Xenopus_tropicalis	EFLLMASGSLLOLGEETDKSKARNRESIILLHLIVE--ESSFLTVDMLSCFPYVLLRN	1115
Rhinatrema_bivittatum	EFLMLASVSLLOLQGETDRMKSRNRESIILLHLMIVE--ESSFLTVDMMSCFPYVLLRN	1115
Pavo_muticus	EFLLLASVSLLOLQGETDRLRSRNRDAVSLLMQILIVA--ESSFLTVDMLSCFPYVLLRN	1113
Pavo_cristatus	EFLLLASVSLLOLQGETDRLRSRNRDAVSLLMQILIVA--ESSFLTVDMLSCFPYVLLRN	1113
Gallus_gallus	EFLLLASVSLLOLQGETDKLKRNRREAVCLLMQILIVA--ESSFLTVDMLSCFPYVLLRN	1113
Chelonia_mydas	EFLLLASVSLLOLQGETDKLRNKNRESISLLMHLIVE--ESSFLTVDMLSCFPYVLLRN	1113
1090.....1100.....1110.....1120.....1130.....1140	

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Homo_sapiens	-AYREVSRAFHLLN-----	1127			
Pan_troglodytes	-AYREVSRAFHLLN-----	1148			
Macaca_mulatta	-AYREVSRAFHLNRVPANTH----	1134			
Callithrix_jacchus	-AYREVSRFAHLNRVPASTH-----	1134			
Mus_musculus	-AYREVSRAFYLNRLPASSH-----	1134			
Bos_taurus	-AYREVSRFAHLNRVSASTH-----	1134			
Pteropus_alecto	-AYREVSRFAHLNRVPASTH-----	1134			
Ornithorhynchus_anatinus	RSIPQTTKIVQLKGVRRGSDGEGRDTSLGPRDLCLLVHSFSCLPIPHWEVLPVV	1172			
Xenopus_tropicalis	--AYHEVHRAFPTVT-----	1128			
Rhinatrema_bivittatum	--SYREVYRACIMAAAATG-----	1132			
Pavo_muticus	--AYREVCRENLLSRLPPH-----	1130			
Pavo_cristatus	--AYREVCRENLLSRLPPH-----	1130			
Gallus_gallus	--AYREVCRENLLSRLPPH-----	1130			
Chelonia_mydas	--AYREVHRAFLVLSKLPAH-----	1130			
1150.....1160.....1170.....1180.....1190....				