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                                                                     : .  :::: ::*
Mus_musculus                ----------------------------------------MSSVKRNPKKEMISELHSS    19
Rattus_norvegicus           ----------------------------------------MSSVKRNPKREIISELHSS    19
Canis_lupus_familiaris      --------------------MAQFVLYHFQSILRQHSLREMSSIK-SPKQEIISQFHYS    38
Bos_taurus                  ----------------------------------------MSSVKRSLNQEIISQFHYS    19
Equus_caballus              ----------------------------------------MSSIKGSPKQEIISQFHCS    19
Homo_sapiens                ----------------------------------------MSSVKRSLKQEIVTQFHCS    19
Pan_troglodytes             --------------------------------------MEEMSSVKRSPKQEIVTQFHCS    22
Macaca_mulatta              ----------------------------------------MSSVKRSPKQEIVTQFHCS    19
Callithrix_jacchus          ----------------------------------------MSSVKRSPKQEIVTQFHCS    19
Heterocephalus_glaber       ----------------------------------------MSSVKGSPKREIIYEFHSA    19
Pavo_muticus                ----------------------------------------MTNFEKNFRQEMVSQLHNF    19
Pavo_cristatus              ----------------------------------------MTNFEKNFRQEMVSQLHNF    19
Gallus_gallus               ----------------------------------------MTNFEKNFHQEMVSQLHNF    19
Anas_platyrhynchos          ----------------------------------------MTAFEKNLHQEMISQLHNF    19
Chelonia_mydas              ------------MFVSLPPAPTSSKTVTAARRGLSSSAETMTTTERNPMQQMISQLHSF    47
Xenopus_tropicalis          ---------------------------------------------MQ-NPRKEMVSQLHNL    15
Rhinatrema_bivittatum       MRVSWALRCTWLPAGSARTLCRPTQATGVAVLSRAFTGVNNMSEMQRTPKQEMVSQLHNS    60
                            1.......10........20........30........40........50........60

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Mus_musculus                AAEGNVAKLAGILSHSPSLLNETSENGWTALMYAARNGHPDVVQFLLEKGCDRSLVNKAR    79
Rattus_norvegicus           AAEGDVAKLAGILSHSPSLLNETSENGWTALMYAARNGHPDAVQFLLEKGCDRSSVNKSR    79
Canis_lupus_familiaris      AAEGDIARLTVILSHSPSLLNETSENGWTALMYAARNGHPDVVQFLLDKGCDRSIVNKSR    98
Bos_taurus                  AAEGDIAKLTAILSHSPSLLNETSENGWSALMYAARNGHPDVVQFLLEKGCDRSIVNKSR    79
Equus_caballus              AAEGDIARLTGILSLSPSLLNETSENGWTALMYAARNGHPHVVQFLLEKGCDRSIVNKSR    79
Homo_sapiens                AAEGDIAKLTGILSHSPSLLNETSENGWTALMYAARNGHPEIVQFLLEKGCDRSIVNKSR    79
Pan_troglodytes             AAEGDIAKLTGILSHSPSLLNETSENGWTALMYAARNGHPEIVQFLLEKGCDRSIVNKSR    82
Macaca_mulatta              AAEGDIAKLTGILSHSPSLLNETSENGWTALMYAARNGHPEIVQFLLEKGCDRSIVNKSR    79
Callithrix_jacchus          AAEGDIAKLTGILSHSPSLLNETSENGWTALMYAARNGHPEIVQFLLEKGCDRSLVNKSR    79
Heterocephalus_glaber       AAEGDMAKLTGLLSHSPSLLDETSENGWTALMYAARNGHSDVAQFLLEKGCDRSIVNKSR    79
Pavo_muticus                AAVGDAARLKALLSRSPSLINATAGNGWTALMYAARNGHFDVVQILLEGGCDRSIINKSR    79
Pavo_cristatus              AAVGDAARLKALLSRSPSLINATAGNGWTALMYAARNGHFDVVQILLEGGCDRSIINKSR    79
Gallus_gallus               AAVGDAARLKALLSRSPSLINATAGNGWTALMYAARNGHFDVVRILLEGGCDRSIINKSR    79
Anas_platyrhynchos          AAVGDVAKLKALLSHSPSLINAAADNGWTALMYGARNGHFDVVRILLEEGCDRSIVNKSR    79
Chelonia_mydas              AATGDKIRLTALCSHSPSLINEAAENGWTALMYAARNGHFEIVQILLEKGCDRSIVNKSS   107
Xenopus_tropicalis          CALGDTTKLHTLLSHSSSIINERSEHGWSALMFGARNGHFDVVNMLLEKGCDRTLVNKSN    75
Rhinatrema_bivittatum       AASGDKMQLSALLGHSLSLIDEATEKGWTALMYGARNGHFSVVQMLLEKGCDRSLVNKTG   120
                            ........70........80........90.......100.......110.......120

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Mus_musculus                QTALDIAAFWGYRHIANLLANAKGGKKPWFLTN-EVDECENYFSRTLLDRRSDKRNNSDW   138
Rattus_norvegicus           QTALDIAVFWGYKHIANLLANAKGGKKPWFLTS-DVDGCENYFSRTLLDRRSDKRTNSDW   138
Canis_lupus_familiaris      QTALDIAKFWGYKHIANLLANAKSGMKPWFLSN-EVEECENYFSRTLLDRKSEKRNNSDW   157
Bos_taurus                  QTALDIAKFWGYKHIANLLANAKGGKKPWFLTN-EVEECENYFSKTLLDRKSEKRNNSDW   138
Equus_caballus              QTALDIAKFWGYKHIANLLANAKGGKRPWFLTN-DVEECENYFSRTLLDRKSEKRNNSDW   138
Homo_sapiens                QTALDIAVFWGYKHIANLLATAKGGKKPWFLTN-EVEECENYFSKTLLDRKSEKRNNSDW   138
Pan_troglodytes             QTALDIAVFWGYKHIANLLATAKGGKKPWFLTN-EVEECENYFSKTLLDRKSEKRNNSDW   141
Macaca_mulatta              QTALDIAVFWGYKHIANLLATAKGGKKPWFLTN-EVEECENYFSKTLLDRKSEKRNNADW   138
Callithrix_jacchus          QTALDIAAFWGYKHIADLLTPAKGGKKHWFLTN-EVEECENYFSKTLLDRKSEKRNNSDW   138
Heterocephalus_glaber       QTALDIAVFWGYKHTANLLANAKGGKKPWFLTN-EVEECENYFSRTLLDRKSEKRNNSDW   138
Pavo_muticus                QTALDIAKFWGYKHIANLLANAKGGQKPGFLPT-EVKEYSNYFGTTLLDRRSDKRIDSKW   138
Pavo_cristatus              QTALDIAKFWGYKHIANLLANAKGGQKPGFLPT-EVKEYSNYFGTTLLDRRSDKRIDSKW   138
Gallus_gallus               QTALDIAKFWGYKHIANLLANAKGGQKPGFLPT-EVKEYSNYFGTTLLDRRSDKRIDSKW   138
Anas_platyrhynchos          QTALDIAKFWGYKHIANLLANVKGGQKPNFLST-EVKERENYFSMTLLDRRSDKRTDSNW   138
Chelonia_mydas              QTALDIAKFWGYKHIANLLANVKGGQKPFFLPN-DAIEYENYFSRTLLDRRSDKRTDSKW   166
Xenopus_tropicalis          QTALDIAKFWGHKHIANLLTNTRGGSKPHFLLN-AKEEHENYFSITILDKRSDKRTDMNW   134
Rhinatrema_bivittatum       QTALDIAKFWGHKHIVDLLSSSKGGPKPWFLPDGAAEGPENYFGSSLLDRKSEKRTDANW   180
                            .......130.......140.......150.......160.......170.......180
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                                 *  *:.:.:**::***.*.***      :  : *:::**:*   :::  : :.*.. *:*
Mus_musculus                     LQAKESHPTTVYLLFSDLNPLVTLGGNKESSQQPEVRLCQLNYPDVKGYLAQPEKITLVF   198
Rattus_norvegicus                LQAKESHPTTVYILFSDLNPLVTLGGNKESSQQPEVRLCQLNYADIKDYLAQPEKITLVF   198
Canis_lupus_familiaris           LLAKESHPATVYILFSDLNPLVTLGGNKETFQQPEVRLCQLNYTDVKDYLSQPEKITLIF   217
Bos_taurus                       LLAKESHPATVYILFSDLNPLVTLGGNKESFQQPEVRLCQLNYTDIKDYLAQPEKITLIF   198
Equus_caballus                   LLAKESHPATVYILFSDLNPLVTLGGNKESSQQPEVRLCQLNYTDIKDYLAQPENITLIF   198
Homo_sapiens                     LLAKESHPATVFILFSDLNPLVTLGGNKESFQQPEVRLCQLNYTDIKDYLAQPEKITLIF   198
Pan_troglodytes                  LLAKESHPATVFILFSDLNPLVTLGGNKESFQQPEVRLCQLNYTDIKDYLAQPEKITLIF   201
Macaca_mulatta                   LLAKESHPATVFILFSDLNPLVTLGGNKESFQQPEVRLCQLNYKDIKDYLAQPEKITLIF   198
Callithrix_jacchus               LLAKESHPATVFILFSDLNPLVTLGGNKESFQQPEVRLCQLNYTDIKDYLAQPEKITLIF   198
Heterocephalus_glaber            LLAKESHPSTVYILFSDLNPLVTLGGNKESFQQPEVRLCQLNYTDVKDYLAQPEKITLIF   198
Pavo_muticus                     LSKKQNHPATVYILFSDLSPLVTLSGGAEKSQQPEVRLCRLHLKDVQQCMSQTEEVTLIF   198
Pavo_cristatus                   LSKKQNHPATVYILFSDLSPLVTLSGGAEKSQQPEVRLCRLHHKDVQQCMNQTEEVTLIF   198
Gallus_gallus                    LSKKQSHPATVYILFSDLSPLVTLSGGAEKSQQPEVRLCRLHHKDVEQYMIQTEEFTLIF   198
Anas_platyrhynchos               LSRKQSHPATVYILFSNLSPLVTLGMGTERSQPPEVKLCRLYHKDVERYMSQTEEVTLIF   198
Chelonia_mydas                   LNTKQNHPATVYILFSNLNPLVTLGGEEDGSQQPEVRLCRLCHKDVKEYMSQTEEVTLIF   226
Xenopus_tropicalis               LKSKQTQASTVYILFSNLNPLVHLVGGRDTPEEPEIKLCRLQSDEVKEYLLNPEDVTLIF   194
Rhinatrema_bivittatum            LKTKQSQATTVYVLFSKLNPLVTSREEEENSQQPKVKLCRLHHDEVKEFLSQPEDVFLIF   240
                                 .......190.......200.......210.......220.......230.......240

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Mus_musculus                     LGVELEMRKGS--PAQAGGVP-EEEEDGLVAWFALGIEPGAAEEFKQRHENCYFLHPPMP   255
Rattus_norvegicus                LGVELEMRKGS--HAHAGGVP-EGEEDGLVAWFVLGIEPGAAEEFKQRHENCYFLHPPMP   255
Canis_lupus_familiaris           LGVELEMKKES--FNYAGEVP-REE-DGLVAWFALGVDSVAAEEFKQRHENCYFLHPPMP   273
Bos_taurus                       LGVELEMKKEF--FNYAGEIS-KEEEDGLVAWFALGIDTVAAEEFKQRHENCYFLHPPMP   255
Equus_caballus                   LGVELEMKKEL--LNYVGEVP-GGE-DGLVAWFALAIDPVAAEEFKQRNENCYFLHPPMP   254
Homo_sapiens                     LGVELEIKDKL--LNYAGEVP-REEEDGLVAWFALGIDPIAAEEFKQRHENCYFLHPPMP   255
Pan_troglodytes                  LGVELEIKDKL--LNYAGEVP-REEEDGLVAWFALGIDPIAAEEFKQRHENCYFLHPPMP   258
Macaca_mulatta                   LGVELEMKDKL--LNYAGEVP-REEEDGLVAWFALGIDPIAAEEFKQRHENCYFLHPPMP   255
Callithrix_jacchus               LGVELEMKEKL--LNFAGEVP-REEEDGLVAWFALGIDPIAAEEFKQRHENCYFLHPPMP   255
Heterocephalus_glaber            LGVELEMNKKL--HDHAREVP-REEEDQLVAWFALGIDLIAAKEFKQRHENCYFLHPPMP   255
Pavo_muticus                     LGVDLQLHMSL-LAAYNGKVLQEDDEDGLVAWFALSINPTSAERFKQKHEDCYFLHPPMP   257
Pavo_cristatus                   LGVDLQLHMSL-LAAYNGKVLQEDDEDGLVAWFALSINPTSAERFKQKHEDCYFLHPPMP   257
Gallus_gallus                    LGVDLQFHMNLTVAAHNGKVLQEDDEDGLVAWFALSINPTSAERFKQKHEDCYFLHPPMP   258
Anas_platyrhynchos               LGVELQFNKNF-MAARNEKVLEEEEDDGLVAWFALSIDPTSAEKFKEKHEDCYFLHPPMP   257
Chelonia_mydas                   LGVELQL------ATLSGGVLKEDEEDGLVAWFALSINATFAEQFKQKHEDCYFLHPPMP   280
Xenopus_tropicalis               LGVEKQWKT---VHSSDPKRDSGGEDDGLIAWFGLNADKVSTEQFEKKHEGCYFLQPPMP   251
Rhinatrema_bivittatum            LGVELPLNRNL-LEPTEGSSRMEEQEDGLVAWFALNVDNVSAEQFSQKHDSCYFLQPPMP   299
                                 .......250.......260.......270.......280.......290.......300

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Mus_musculus                     ALLQLKEKEAGVVAQARSVLAWHSRYKFCPTCGSATKIEEGGYKRVCVRETCPSLQGVHN   315
Rattus_norvegicus                ALLQLKEKEAGVVAQARSVLAWHSRYKFCPTCGSTTKIEEGGYKRVCVRENCPSLHGVHN   315
Canis_lupus_familiaris           ALLQLKEKEAGVVAQARSVLAWHSRYKFCPTCGSATKIEEGGYKRVCLKEDCPSLHGVHN   333
Bos_taurus                       ALLQLKEKEAGVVAQARSVLAWHSRYKFCPTCGNATKIEEGGYKRVCLKEDCPSLHGVHN   315
Equus_caballus                   ALLQLKEKEAGVVAQARSVLAWHSRYKFCPTCGSATKIQEGGYKRACLKENCPSLHGVHN   314
Homo_sapiens                     ALLQLKEKEAGVVAQARSVLAWHSRYKFCPTCGNATKIEEGGYKRLCLKEDCPSLNGVHN   315
Pan_troglodytes                  ALLQLKEKEAGVVAQARSVLAWHSRHKFCPTCGNATKIEEGGYKRLCLKEDCPSLNGVHN   318
Macaca_mulatta                   ALLQLKEKEAGVVAQARSVLAWHSRYKFCPTCGNGTKIEEGGYKRVCLKEDCPSLNGVHN   315
Callithrix_jacchus               ALLQLKEKEAGVVAQARSVLAWHSRYKFCPTCGSGTKIEEGGYKRVCLKEDCPSLNGVHN   315
Heterocephalus_glaber            ALLQLREKEAGVVAQARSVLAWHSRYKFCPTCGSTTKIEEGGYKRVCLKEDCPSLHGVHN   315
Pavo_muticus                     ALLQLPENEAGVVAQARSILAWHSRYRFCPTCGSATKIEEGGYKKTCMKEDCPSLQGVHN   317
Pavo_cristatus                   ALLQLPENEAGVVAQARSILAWHSRYRFCPTCGSATKIEEGGYKKTCMKEDCPSLQGVHN   317
Gallus_gallus                    ALLQLPENEAGVVAQARSILAWHSRYRFCPTCGSATKIEEGGYKKTCVKEDCPSLQGVHN   318
Anas_platyrhynchos               ALLQLTEKEAGVVAQARSVLAWHSRYRFCPTCGSATKIEEGGYKKTCLKEGCPSLQGVHN   317
Chelonia_mydas                   ALLQLPEKEAGVVAQARSLLAWHNRYQFCPTCGSATKIEEGGYKTTCLNEDCPSLQGVHN   340
Xenopus_tropicalis               AFLQLNPKEAGILAQARSVMAWHSRYKFCPTCGSATTIEEGGYKRTCLKNGCPSLRGVHN   311
Rhinatrema_bivittatum            QLLRLSQEESGVVAQARSVLAWHSRYRFCPTCGSATKIGEGGYKRTCLKEGCPSIRGIHN   359
                                 .......310.......320.......330.......340.......350.......360
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                    *.*****  *** *:**** :*****:* **.***:*****:**
Mus_musculus        TSYPRVDPVVIMQVIHPDGTKCLLGRQKRFPPGMFTCLAGFIEPG--------------   360
Rattus_norvegicus   TSYPRVDPVVIMQVIHPDGTKCLLGRQKRFPPGMFTCLAGFIEPG--------------   360
Canis_lupus_familiaris TSYPRVDPVVIMQVIHPDGTKCLLGRQKRFPPGMFTCLAGFIEPG--------------   378
Bos_taurus          TSYPRVDPVVIMQVIHPDGTKCLLGRQKRFPPGMFTCLAGFIEPG--------------   360
Equus_caballus      TSYPRVDPVVIMQVIHPDGTKCLLGRQKRFPPGMFTCLAGFIEPG--------------   359
Homo_sapiens        TSYPRVDPVVIMQVIHPDGTKCLLGRQKRFPPGMFTCLAGFIEPG--------------   360
Pan_troglodytes     TSYPRVDPVVIMQVIHPDGTKCLLGRQKRFPPGMFTCLAGFIEPG--------------   363
Macaca_mulatta      TSYPRVDPVVIMQVIHPDGTRCLLGRQKRFPPGMFTCLAGFIEPG--------------   360
Callithrix_jacchus  TSYPRVDPVVIMQVIHPDGTKCLLGRQKRFPPGMFTCLAGFIEPG--------------   360
Heterocephalus_glaber TSYPRVDPVVIMQVIHPDGAKCLLGRQKRFPPGMFTCLAGFVEPG--------------   360
Pavo_muticus        TSYPRVDPVVIMQVIHPDGNHCLLGRQKRFPPGMFTCLAGFVEPG--------------   362
Pavo_cristatus      TSYPRVDPVVIMQVIHPDGNHCLLGRQKRFPPGMFTCLAGFVEPG--------------   362
Gallus_gallus       TSYPRVDPVVIMQVIHPDGNHCLLGRQKRFPPGMFTCLAGFVEPG--------------   363
Anas_platyrhynchos  TSYPRVDPVVIMQVIHPDGNHCLLGRQKRFPPGMFTCLAGFVEPG--------------   362
Chelonia_mydas      TSYPRVDPAVIMQVVHPDGNQCLLGRQKRFPPGMFTCLAGFVEPVRCKGGSLKRGRMCQR   400
Xenopus_tropicalis  TSYPRVDPVVIMLVIHPDGNHCLLGRKKIFPAGMFSCLAGFIEPG--------------   356
Rhinatrema_bivittatum TCYPRVDLSVIMLVLHPDGNQCLLGRKKQFPAGMFSCLAGFIEPG--------------   404
                    .......370.......380.......390.......400.......410.......420

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Mus_musculus        ETIEDAVRREVEEESGVKVGHVQYVSCQPWPMPSSLMIGCLAVAVSTEIKVDKNEIEDAR   420
Rattus_norvegicus   ETIEDAVRREVGEESGVKVGHVQYVSCQPWPMPSSLMIGCLAVAVSTEIKVDKNEIEDAR   420
Canis_lupus_familiaris ETIEDAVRREVEEESGVKVGHVQYVSCQPWPMPSSLMIGCLAVAVSTEIKVDKNEIEDAR   438
Bos_taurus          ETIEDAVRREVEEESGVKVGHVQYVSCQPWPMPSSLMIGCLAVAVSTEIKVDKNEIEDAR   420
Equus_caballus      ETIEDAVRREVEEESGVKVGHVQYVSCQPWPMPSSLMIGCLAVAVSTEIKVDKNEIEDAR   419
Homo_sapiens        ETIEDAVRREVEEESGVKVGHVQYVACQPWPMPSSLMIGCLALAVSTEIKVDKNEIEDAR   420
Pan_troglodytes     ETIEDAVRREVEEESGVKVGHVQYVACQPWPMPSSLMIGCLALAVSTEIKVDKNEIEDAR   423
Macaca_mulatta      ETIEDAVRREVEEESGVKVGHVQYVSCQPWPMPSSLMIGCLAVAVSTEIKVDKNEIEDAR   420
Callithrix_jacchus  ETIEDAVRREVEEESGVKVGHVQYVSCQPWPMPSSLMIGCLALAVSTEIKVDKNEIEDAR   420
Heterocephalus_glaber ETIEDAVRREVEEESGVKVGHVQYVSCQPWPMPSSLMIGCLAVAVSTEIKVDKNEIEDAR   420
Pavo_muticus        ETIEDAVRREVEEEAGVKVGHVQYVSCQPWPMPSSLMIGCLAVAVSSEIRVDKNEIEDAR   422
Pavo_cristatus      ETIEDAVRREVEEEAGVKVGHVQYVSCQPWPMPSSLMIGCLAVAVSSEIRVDKNEIEDAR   422
Gallus_gallus       ETIEDAVRREVEEEAGVKVGHVQYVSCQPWPMPSSLMIGCLAVAVSTEIRVDKNEIEDAR   423
Anas_platyrhynchos  ETIEDAVRREVEEEAGVKVGHVQYVSCQPWPMPSSLMIGCLAVAVSTEIRVDKNEIEDAR   422
Chelonia_mydas      ETIEDAVRREVEEESGVKIGHVQYVSCQPWPMPSSLMIGCLAVAVSTEIRVDKNEIEDAR   460
Xenopus_tropicalis  ETIEDAVRREVEEESGVKVGHVQYVSCQPWPMPSSLMIGCLAVAISTEINVDKEEIEDAH   416
Rhinatrema_bivittatum ETIEDAVRREVEEESGIRVGHVQYVSCQPWPMPSSLMIGCLAVAISTEIKVDKNEIEEAH   464
                    .......430.......440.......450.......460.......470.......480

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Mus_musculus        WFTREQVVDVLTKGKQQAFFVPPSRAIAHQLIKHWVGMNPNL   462
Rattus_norvegicus   WFTREQVVDVLTKGKQQAFFVPPSRAIAHQLIKHWVGMNPSL   462
Canis_lupus_familiaris WFTREQVVDVLTKGKQQAFFVPPSRAIAHQLLKHWIGMNPNL   480
Bos_taurus          WFTREQVVDVLTKGKQQAFFVPPSRAIAHQLIKHWIGMNPNL   462
Equus_caballus      WFTREQVVDVLTKGKQQAFFVPPSRAIAHQLIKHWIGMNPNL   461
Homo_sapiens        WFTREQVLDVLTKGKQQAFFVPPSRAIAHQLIKHWIRINPNL   462
Pan_troglodytes     WFTREQVLDVLTKGKQQAFFVPPSRAIAHQLIKHWIRINPNL   465
Macaca_mulatta      WFTREQVLDVLTKGKQQAFFVPPSRAIAHQLIKHWIRINPNL   462
Callithrix_jacchus  WFTREQVLDVLTKGKQQAFFVPPSRAIAHQLIKHWIRINPNL   462
Heterocephalus_glaber WFTREQVVDVLTRGKQQEFFVPPSRAIAHQLIKHWIRMNPNL   462
Pavo_muticus        WFTREQVVDVLIKGNQRSFFVPPSRAIAHQLIKHWIGMNANL   464
Pavo_cristatus      WFTREQVVDVLIKGNQRSFFVPPSRAIAHQLIKHWIGMNANL   464
Gallus_gallus       WFTREQVVDVLIKGNQRSFFVPPSRAIAHQLIKHWIGMNANL   465
Anas_platyrhynchos  WFTREQVVEVLIKGNQRSFFVPPSQAIAHQLIKHWIGMNANL   464
Chelonia_mydas      WFTREQIPALFLLLN--SSLSEGKRS----------------   484
Xenopus_tropicalis  WFTREQVVDAVIKGNHHALTVPPRQAIAYQLIKHWIGMNANL   458
Rhinatrema_bivittatum WFTREQVLEVVMK-KKRSFFVPPRQAIAHQLIKHWIRLNANL   505
                    .......490.......500.......510.......520..
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