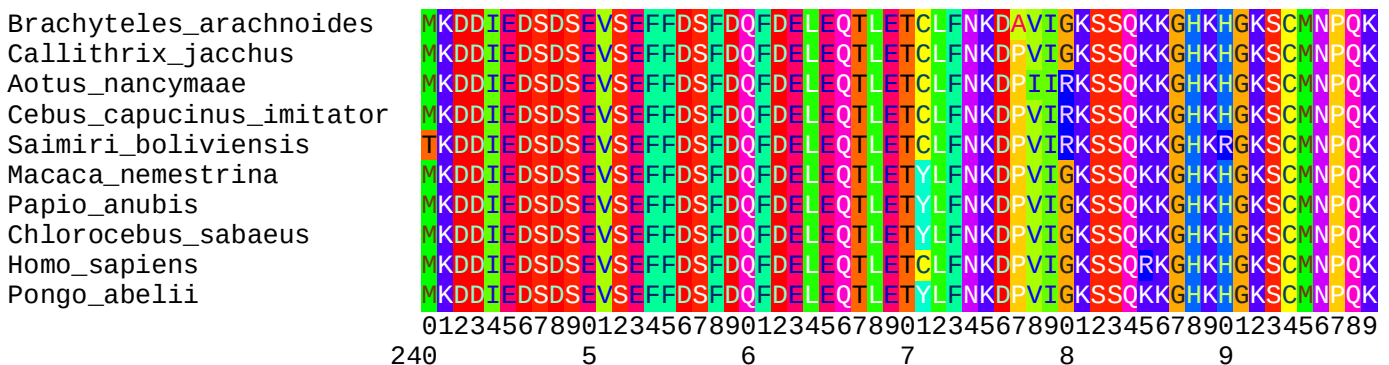
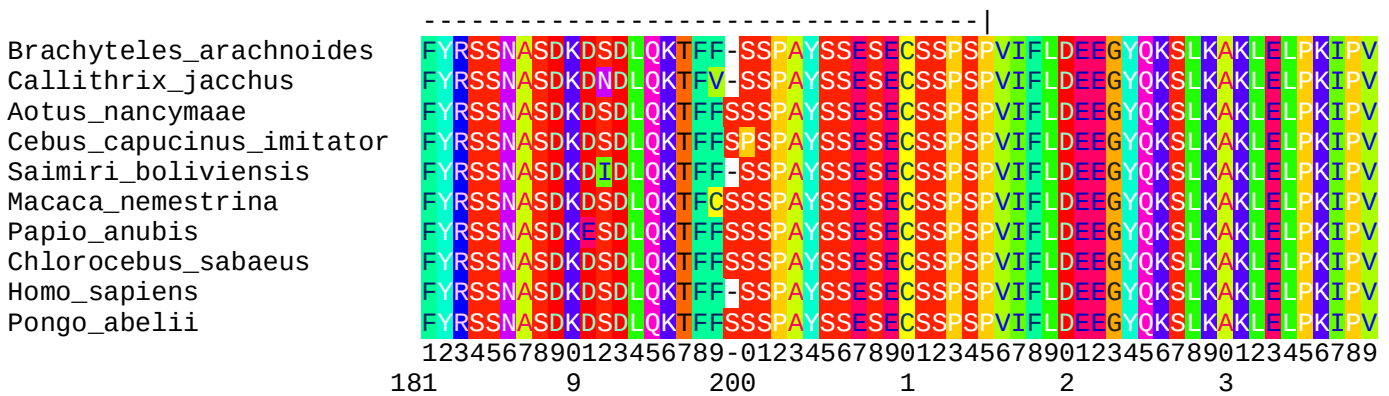
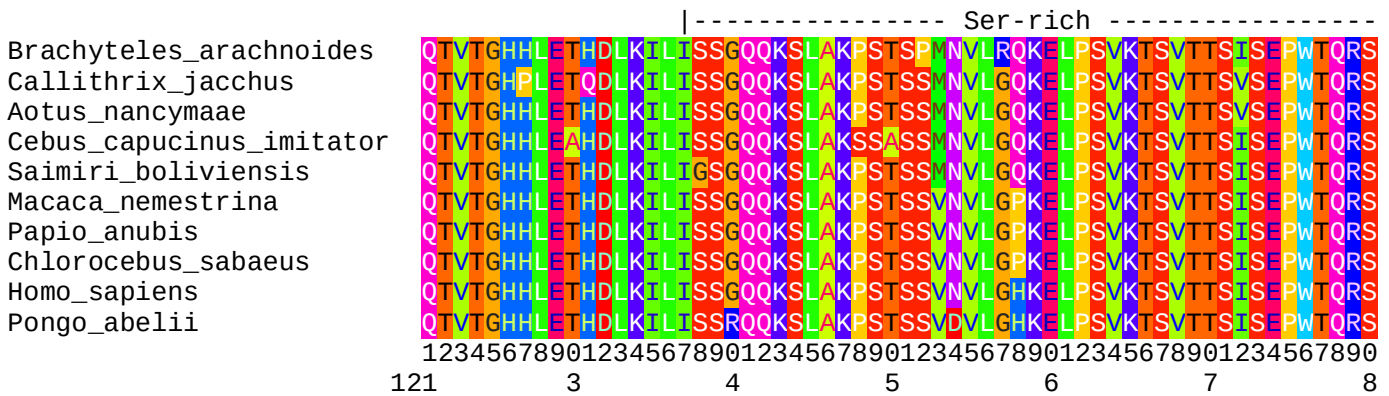
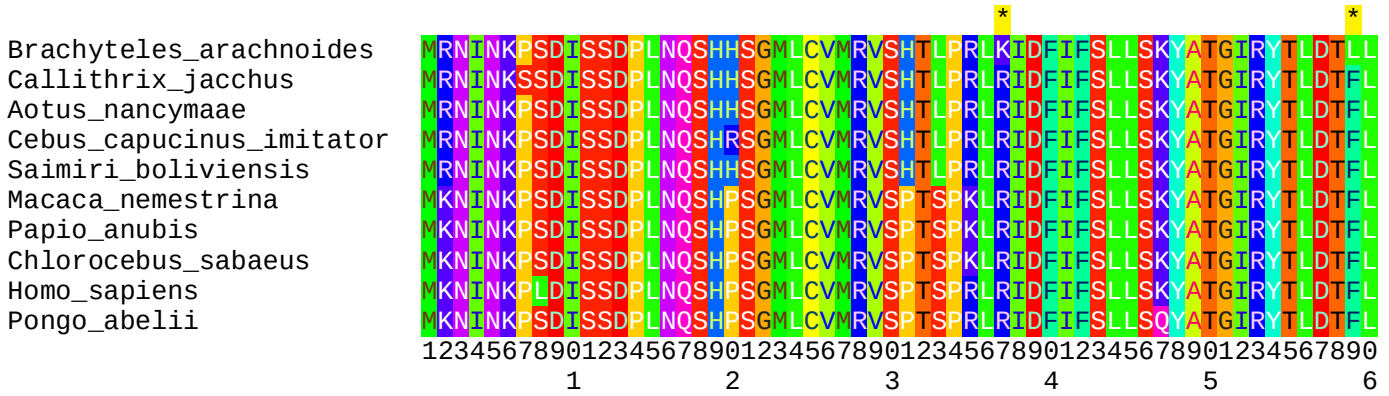


Supplementary Figure 3: Multi-species alignments of the proteins with positively selected sites identified by CODEML and FEL. To prepare the images, aligned coding sequences were converted to amino acid sequences in SeaView, manually re-numbered and colorized in DNATagger (<https://bioinfo.inca.gov.br/DNATagger>). Protein domains identified by interproscan in the following databases: Hamap, ProSiteProfiles, ProSitePatterns, Pfam, TIGRFAM, SMART, PRINTS, SFLD, CDD, Gene3D, ProDom, PIRSF, PANTHER, SUPERFAMILY, were manually added to the alignments.

AKAP11



Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Papio_anubis
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii

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 Papio_anubis
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Brachyteles_arachnoides
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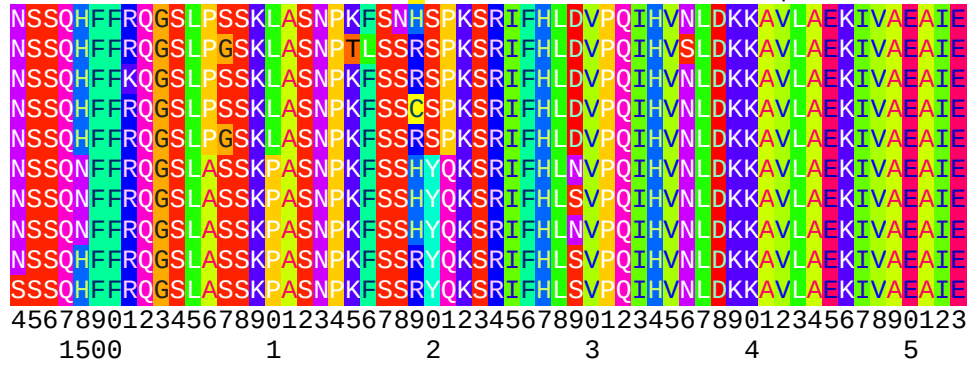
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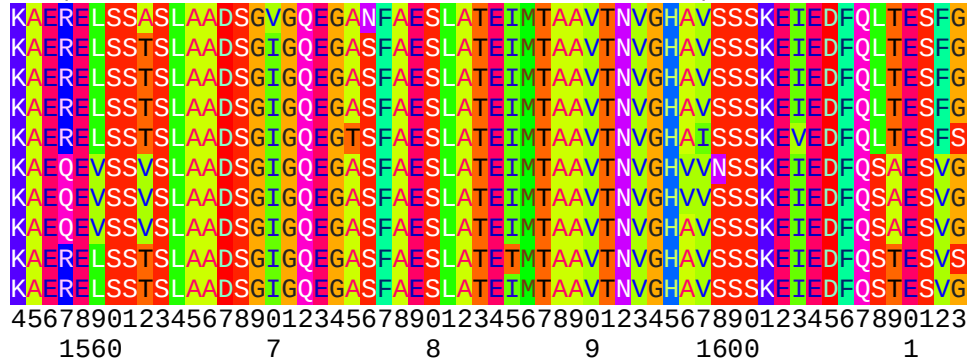
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PKA-RII subunit binding

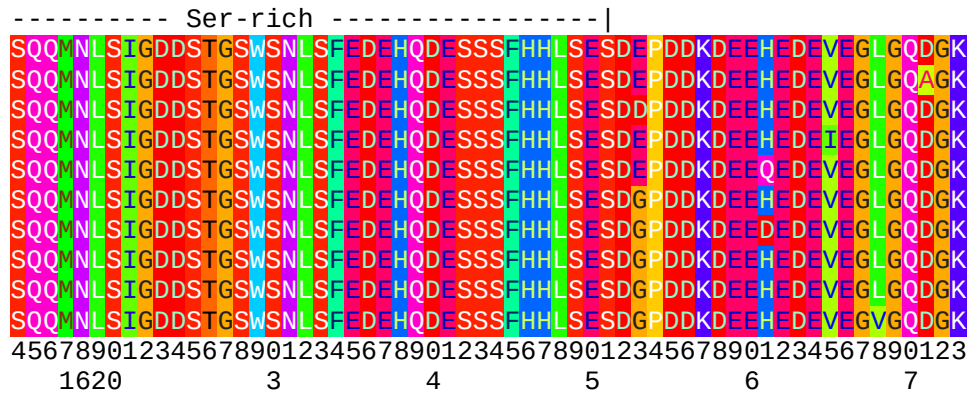
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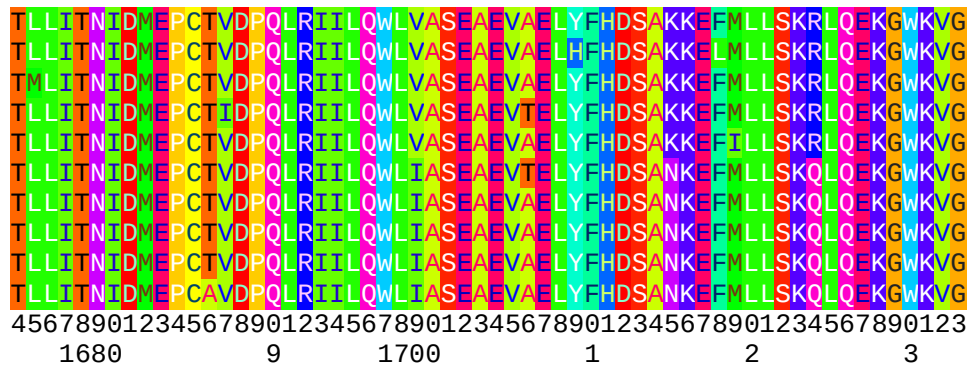
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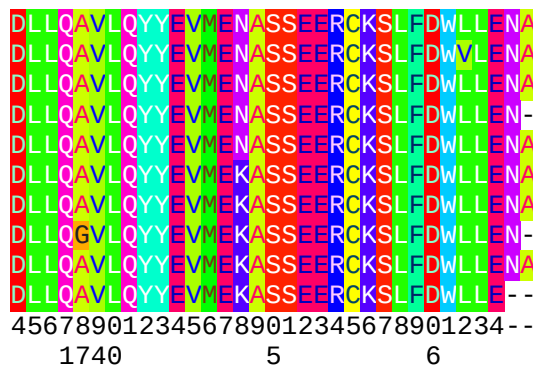
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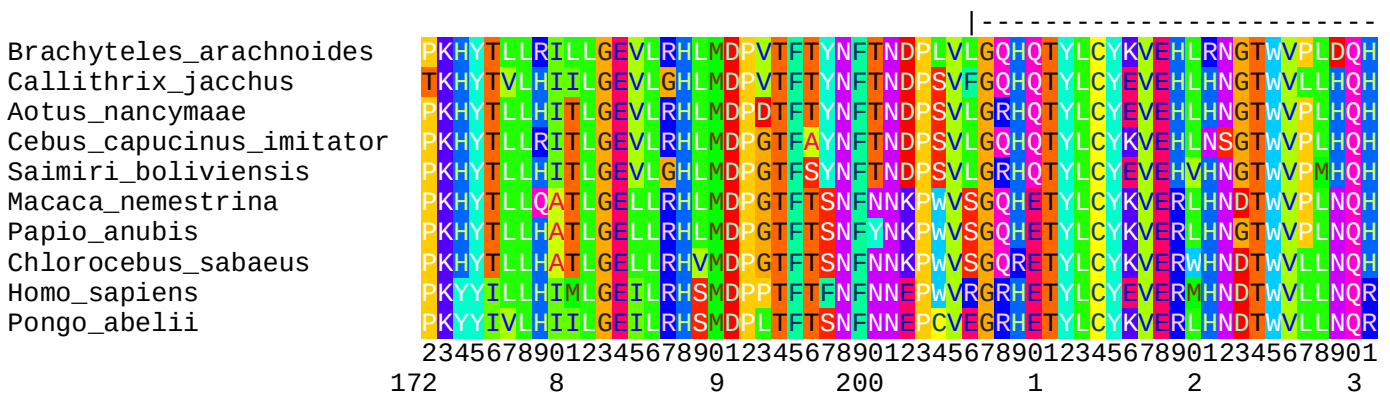
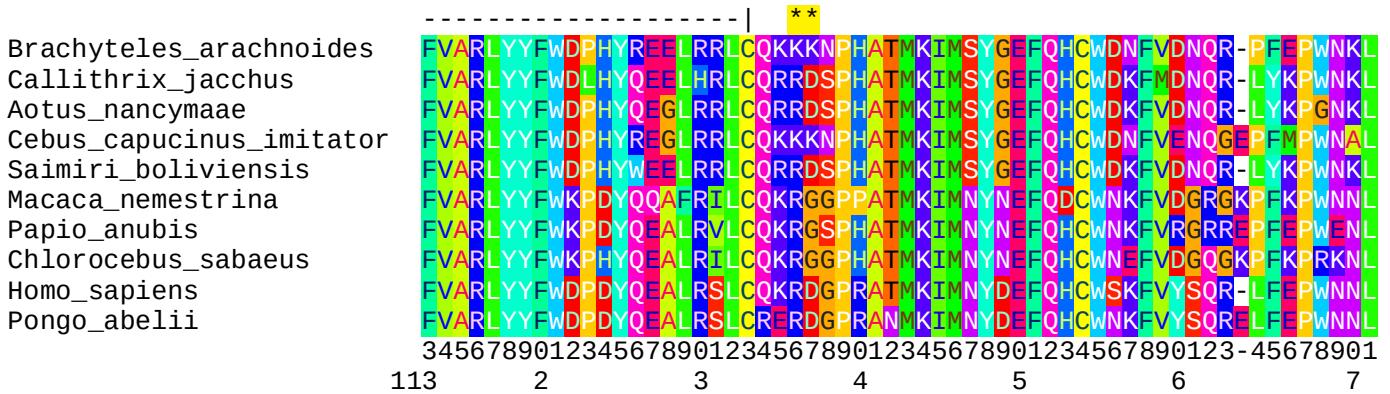
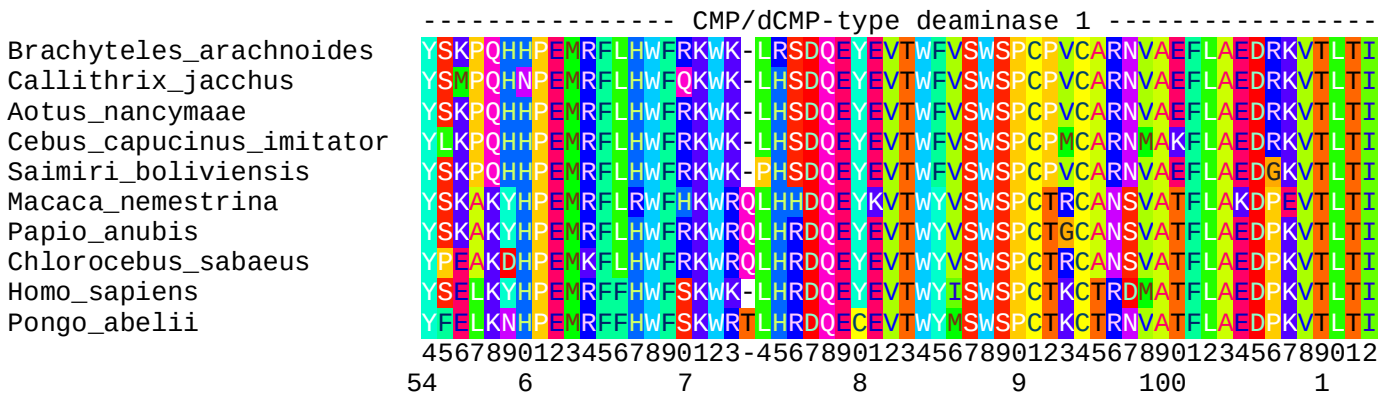
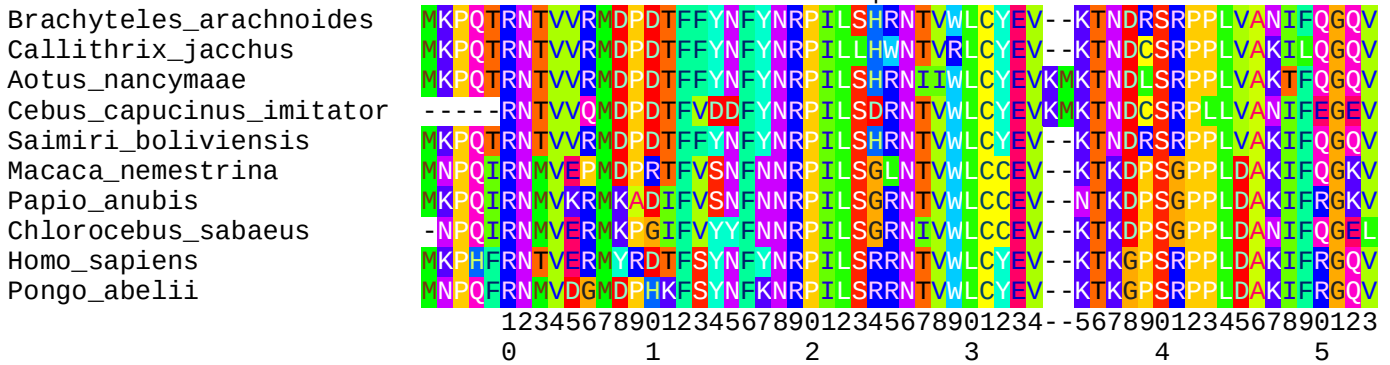
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Chlorocebus_sabaeus
Homo_sapiens
Pongo_abelii



Brachyteles_arachnoides
Callithrix_jacchus
Aotus_nancymaae
Cebus_capucinus_imitator
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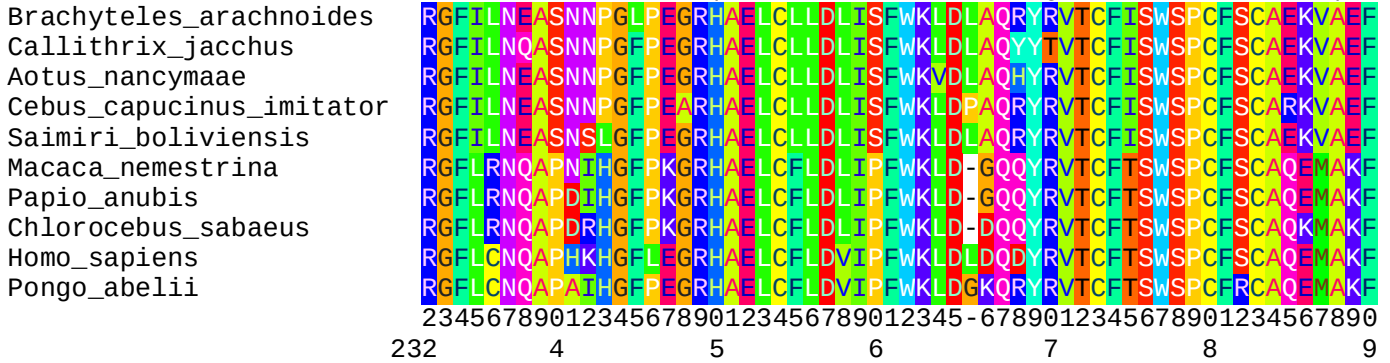


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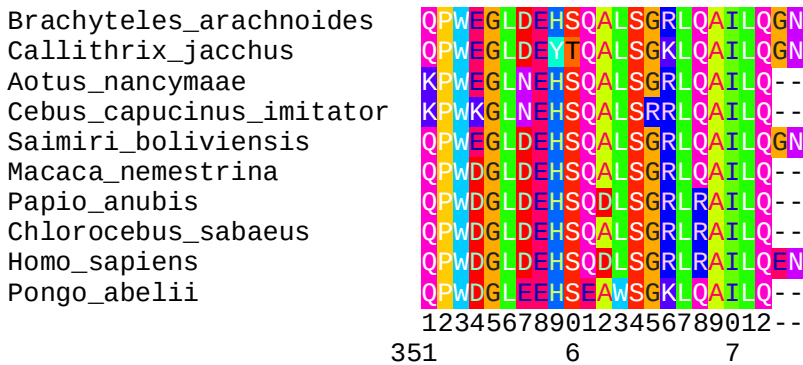
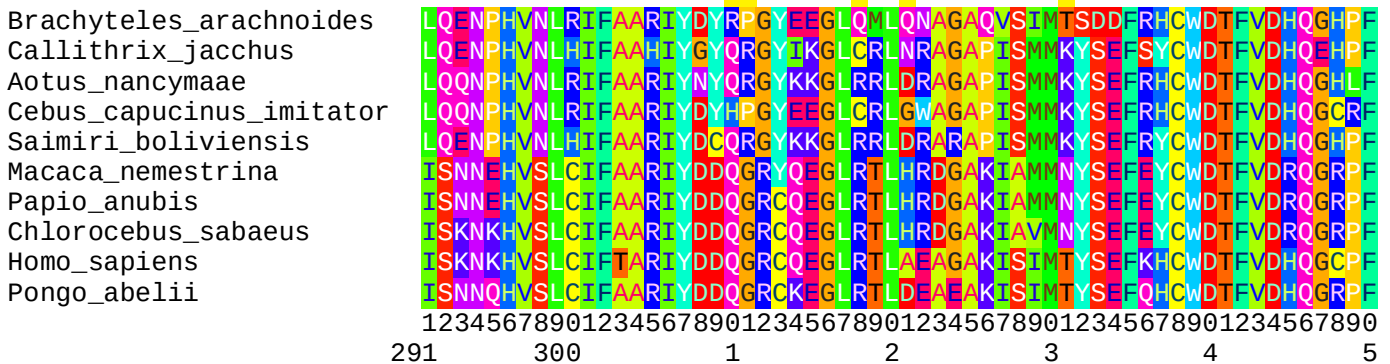


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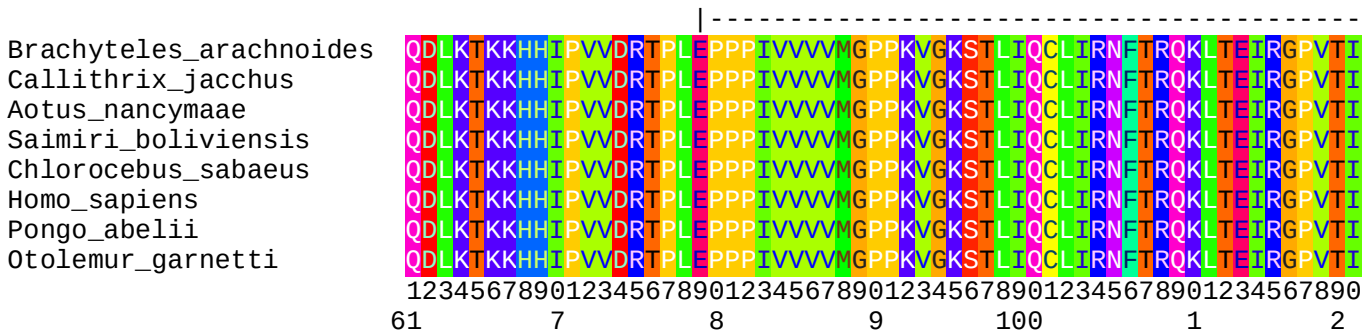
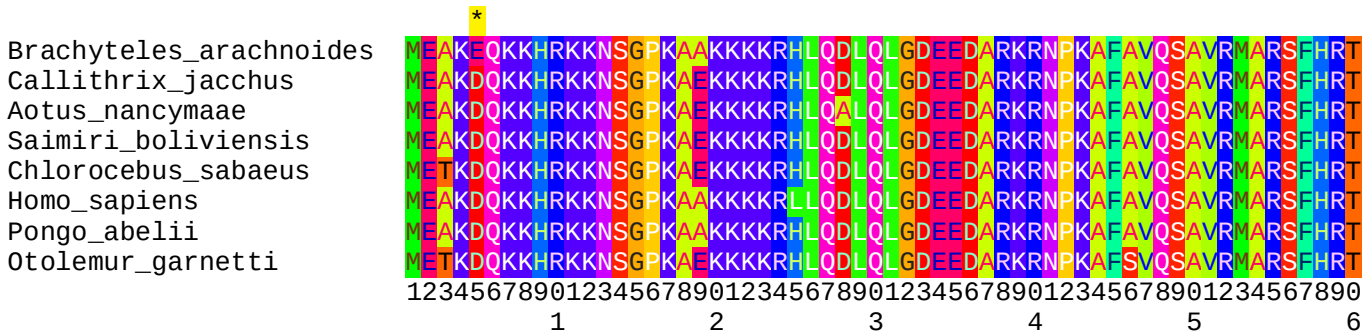
|----- zinc-binding -----|



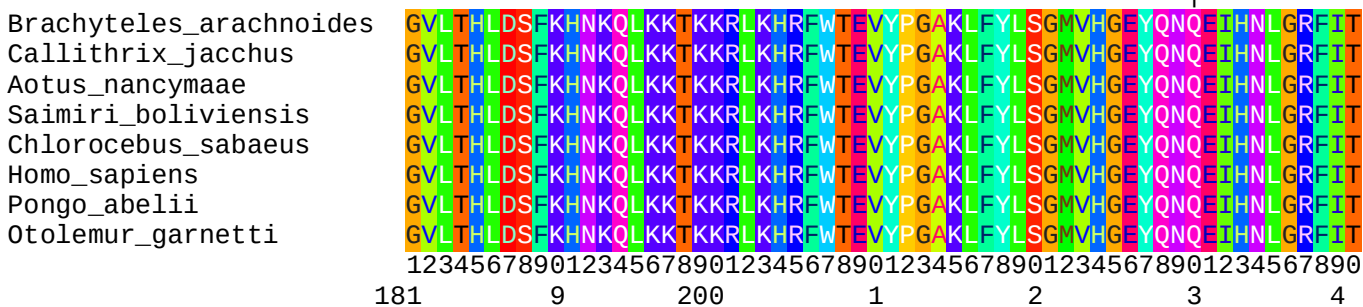
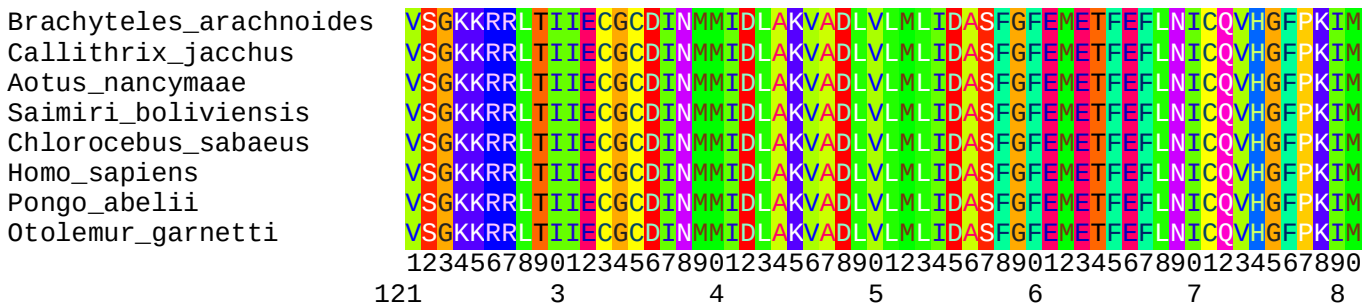
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BMS1



Bms1-type guanine nucleotide-binding (G) domain



AARP2CN (NUC121) domain



-----|

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Callithrix_jacchus GIGDFTVSDVSLFLPDPICALPEQQKKRCLNEKEKLVYAPLSGVGGVLYDKDAVYVDLGGSH

Aotus_nancymaae GVGDFTVSDVSLFLPDPICALPEQQKKRCLNEKEKLVYAPLSGVGGVLYDKDAVYVDLGGSH

Saimiri_boliviensis GVGDFTVSDVSLFLPDPICALPEQQKKRCLNEKEKLVYAPLSGVGGVLYDKDAVYVDLGGSH

Chlorocebus_sabaeus GVGDFAVSDISFLPDPICALPEQQKKRCLNEKEKLVYAPLSGVGGVLYDKDAVYVDLGGSH

Homo_sapiens GVGDFAVSDISFLPDPICALPEQQKKRCLNEKEKLVYAPLSGVGGVLYDKDAVYVDLGGSH

Pongo_abelii GVGDFAVSDISFLPDPICALPEQQKKRCLNEKEKLVYAPLSGVGGVLYDKDAVYVDLGGSH

Otolemur_garnetti GVGDFAVSDVSLFLPDPICALPEQQKKRCLNEKEKLVYAPLSGVGGVLYDKDAVYVDLGGSH

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Aotus_nancymaae GFQALDEVGSTHELVSQSLISTHSTIDAKMASSRVMLFSDSKALGSEIDNQGLLMLKEEK

Saimiri_boliviensis GFQ--DEVGSTHELVSQSLISTHSTIDAKMASSRVMLFSDSKALGSEIDNQGLLIPKEEK

Chlorocebus_sabaeus GFQ--DEVGPTHELVSQSLISTHSTIDAKMASSRVTLFSDSKPLGSEIDLNQGLLMPKEEK

Homo_sapiens VFQ--DEVGPTHELVSQSLISTHSTIDAKMASSRVTLFSDSKPLGSEIDLNQGLMMPKEEK

Pongo_abelii GFQ--DEVGPTHELVSQSLISTHSTIDAKMASSRVTLFSDSKPLGSEIDLNQGLMMPKEEK

Otolemur_garnetti GFQAADEVGPTHELVSQSLISTHSTIDAKMASSRVTLFSDSKPLGSEIDLNQGLWMPKEEK

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361 7 8 9 400 1

Brachyteles_arachnoides QMDLKTGRMRRKAIFSD-EDSGSDSDEEDDEMSEDDGLENGSSDEEADEEENA EVTD--

Callithrix_jacchus QMDLKTGRMRRKAVFGD-EDSGSDSDEEGDEMSEDDGLENGSSDEEAVEEENA EVTE--

Aotus_nancymaae QMDLKTGRMRRKAIFGD-EDSGSDSDEEDDEMSEDDGLENGSSDEEAEEEENA EVTD--

Saimiri_boliviensis QMDLKTGRMRRKAIFGD-EDSGSDSDEEDDEMSEDDGLENGSSDEEAEEEENA EVTD--

Chlorocebus_sabaeus QMDLKTGRMRRKAIFGD-EDESGSDSDEENDEISEDDLLENGSSDEEAEEEENA EMTD--

Homo_sapiens QMDLNTGRMRRKAIFGD-EDESGSDSDEEDDEMSEDDGLENGSSDEEAEEEENA EMTD--

Pongo_abelii QMDLKTGRMRRKAIFGD-EDEPGSDSDEEDDEVESEDDGLENGSSDEEAEEEENA EMTD--

Otolemur_garnetti QMDVKTGRVRRKAIFGDEEDESSEDEEDDEM SAGDRSENDSDDNTEEEEDAKMTDKS

90123456789012345-6789012345678901234567890123456789012345--

420 3 4 5 6 7

Brachyteles_arachnoides ECVTAKGVKRRKL-ELEEDSEVDLPAFADSDDDL EESSAEEGEVEGAGESSEEDDRSA-G

Callithrix_jacchus ECMTAKGVKRRKL-ELEEDSEVDLPAFADSDDDL ERSSAEEGEAEAADESSEEDD CSA-G

Aotus_nancymaae EYMIKAGIKRRKLELEEDSEVDLPAFADSDDDL EKSSAEEGEVEEAADESSEEDD CSS-G

Saimiri_boliviensis ECMTAKGIKRRKLESEEDSEVDLPAFADSDDDL ERSSGEEGEVEEAADESSEGED CSA-G

Chlorocebus_sabaeus QYMAGKGVKRRKLELEEDSEVDLPAFADSDDDL ERSSVEEGEAEAADESSEEDD CTA-G

Homo_sapiens QYMAVKGIKRRKLELEEDSEMPLPAFADSDDDL ERSSAEEGEAEAADESSEEDD CTA-G

Pongo_abelii QYMAIKGVKRRKLELEEDGEMPLPAFADSDDDL ERSSAEEGEAEAADESSEEDD CTA-G

Otolemur_garnetti KYRTVKGVKRRKLEGLEEDSDLPLPAFADSDDDL ERSSGEEGEVEEAAESSEEDD VTTGG

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476 8 9 500 1 2 3

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Callithrix_jacchus EKGISGSKAVREGSKAELSPANHQDRVNLEKSLLMKKAALTTSDSGHCTAEEVFASEDE

Aotus_nancymaae ERGISGSKAVGEGSKAELSPSNHQSDPVNLEKSLPMKKAALTTSDSGHCTAEEVFASEDD

Saimiri_boliviensis ERGISGSKAVGEGSKAELSPANHQSDRVNLEKSLPMKKAALTTSDSGHCTAEEVFASEDE

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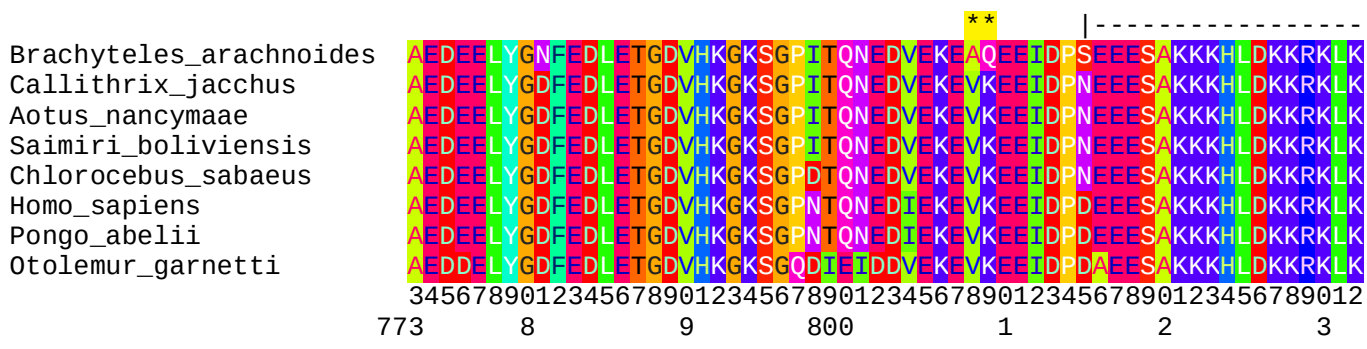
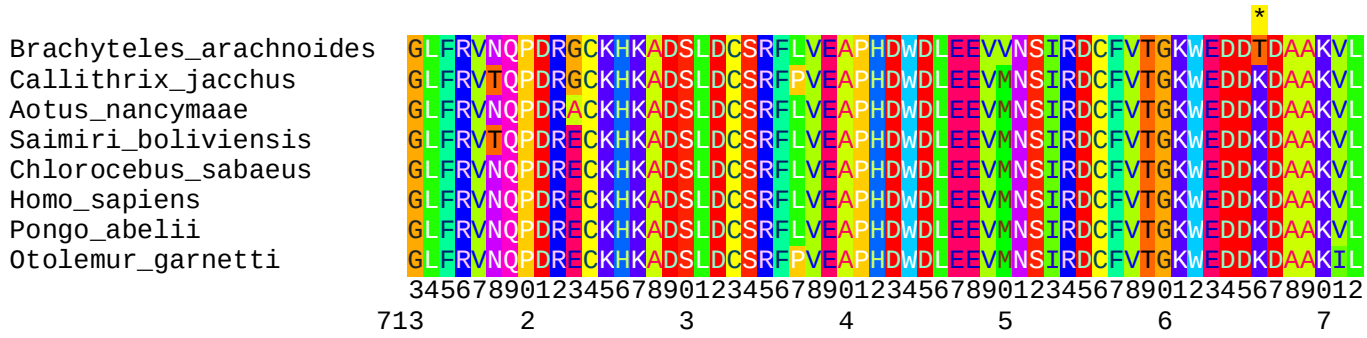
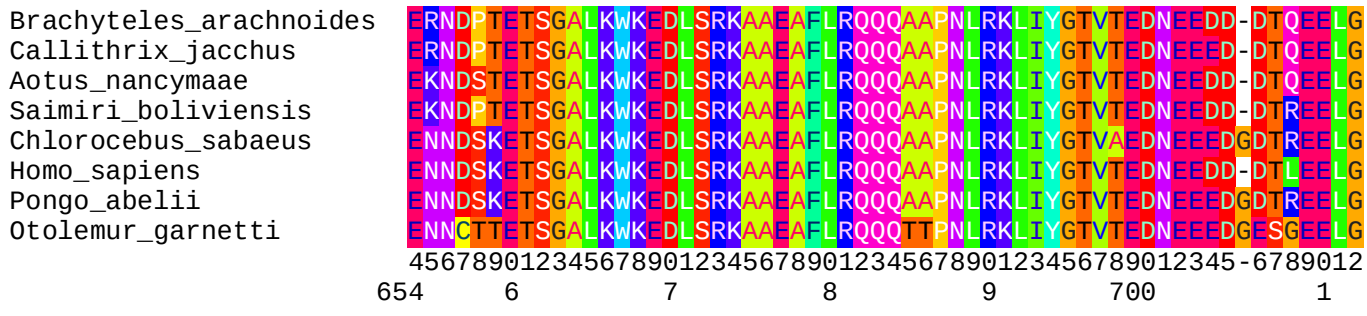
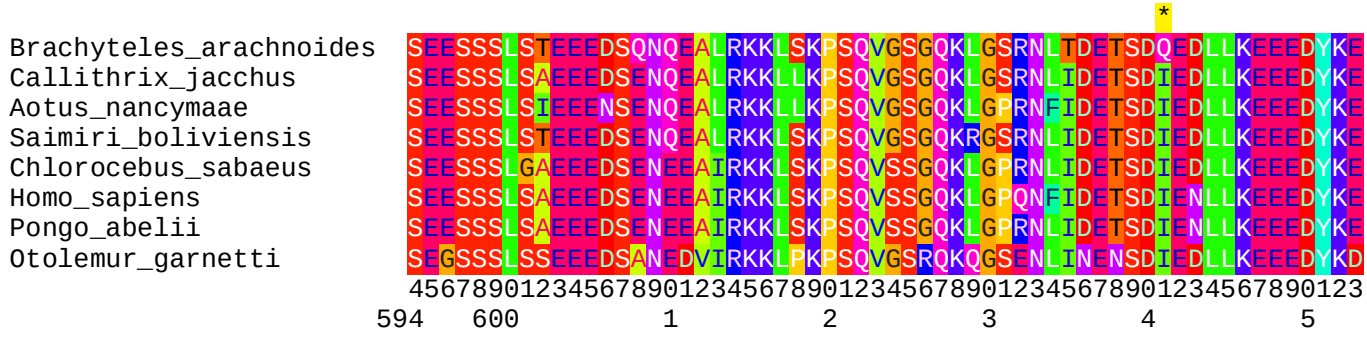
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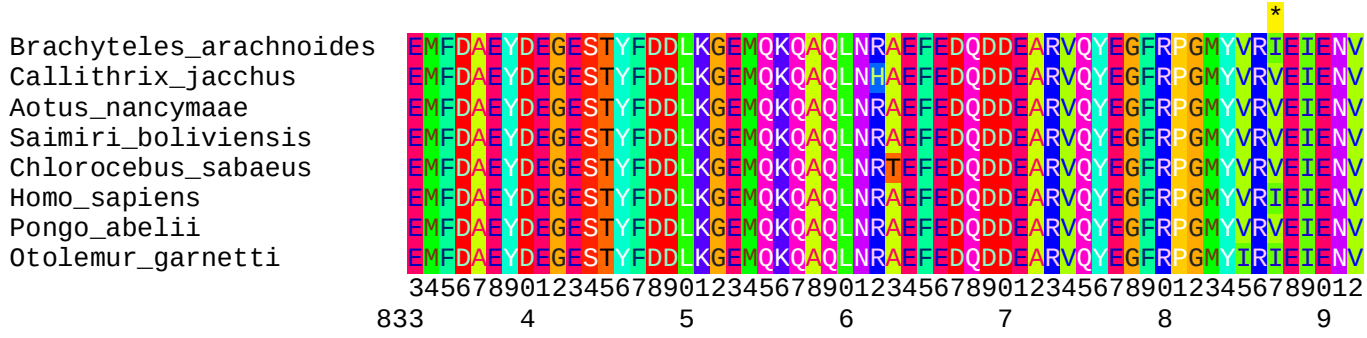
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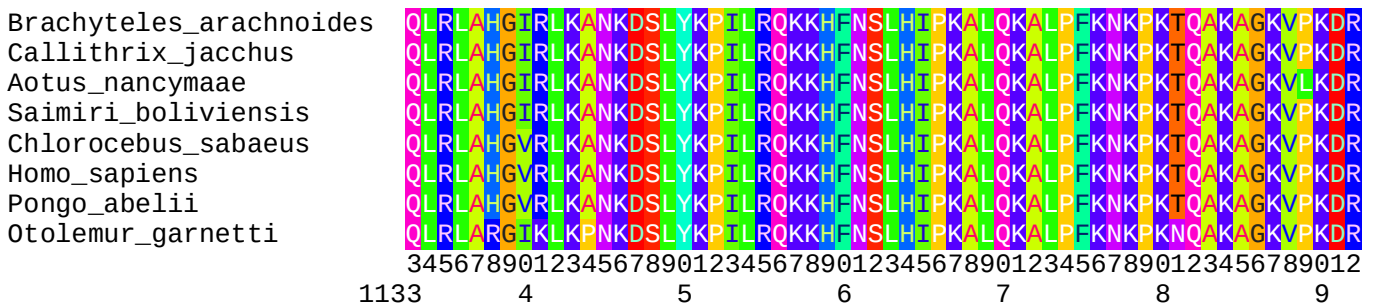
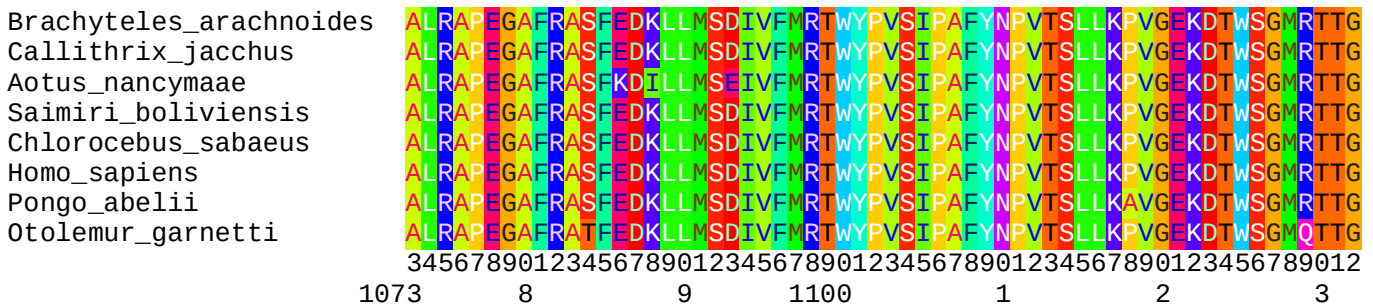
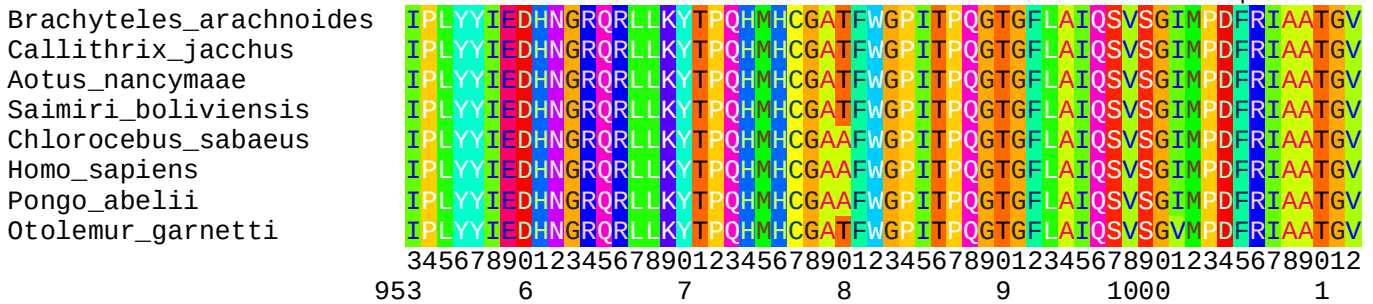
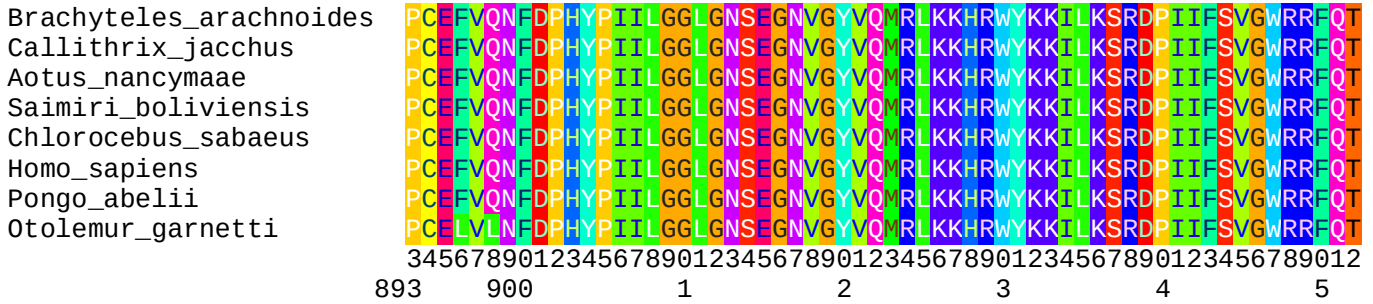
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40S ribosome biogenesis protein Tsr1 and BMS1 C-terminal



40S ribosome biogenesis protein Tsr1 and BMS1 C-terminal



CEACAM1

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Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii

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 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii

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|----- Ig-like C2-type 1 -----

Brachyteles_arachnoides
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 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii

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|----- Ig-like C2-type 2 -----

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 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii

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 NNQSLPVSSRLLQLSNGNKTLL^{*}LLSVLRNDTGPYECEIQNPVSVNRSDPVTLNVTYGPDTP
 NGQSLPVSSRLLQLSNGNKTLL^{*}LLSVLRNDTGPYECEIQNPVSVNRSDPVTLNVTYGPDAP
 NNQSLPVSPRLLQLSNGNRTLTL^{*}LLSVTRNDTGPYECEIQNPVSVNRSDPVTLNVTYGPDTP
 NNQSL^{*}LISPRLQLSNGNRTLTL^{*}LLSVTRNDAGPYECEIQNPVSVNRSDPVTLNVTYGPDTP

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|----- Ig-like C2-type 2 -----

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii

TISP^{*}SKTSYYPGANLSLFCDAASNPPAEYSW^{*}LINGTSRQ-NTQELFISNITVDHSGSYAC
 TISP^{*}SKTSYYPGANLSLFCDAASNPPAEYSW^{*}LINGTSLQ-NTQELFISNITVDDSGSYAC
 TISP^{*}SKTSYYPGANLSLFCDAASNPPAEYSW^{*}LINGTSHQKNTQELFISNITVDHSGSYAC
 TISP^{*}SKTSYYPGANLSLFCDAASNPPAEYSW^{*}LINGT^{*}PCQINTQELFISNITVNRSGSYAC
 TISP^{*}SDTYYPGANLSLSCSAASNPPAQYSW^{*}LINGTSRQ-NTQELFISNITVNRSGSYAC
 TISP^{*}SDTYYPGANLSLSCSAASNPPAQYSW^{*}LINGTFQ-NTQELFIPNITVNRSGSYTC
 TISP^{*}SDTYYPGANLSLSCSAASNPPAQYSW^{*}LINGTFQ-NTQELFIPNITVNRSGSYTC
 TISP^{*}SDTYYPGANLSLSCYAASNPPAQYSW^{*}LINGTFQ-NTQELFIPNITVNRSGSYTC
 TISP^{*}SDTYYPGANLSLSCYAASNPPAQYSW^{*}LINGTFQ-NTQELFIPNITVNRSGSYTC

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-----|-----Ig-like C2-type 2-----

Brachyteles_arachnoides VALNPVTGRNRITVKTIIVSKLNQ-VARPEVQATSTTVTEDKDSVNLTCSTNDTEISIRW

Callithrix_jacchus VALNPVTGRNRITVKTIIVSKLNQ-VAQPEVQATSTTVTEDKDSVNLTCSTNDTEISIKW

Aotus_nancymaae VALNPVTGRNRITVKTIIVSKLNQ-VARPEVQATSTTVTEDKDSVNLTCSTNDTEISIKW

Cebus_capucinus_imitator VALNPVTGRNRITVKTIIVSKLNQ-VARPEVQATSTTVTEDKDSVSLTCSTNDTEISIKW

Saimiri_boliviensis VALNPVTGRNRITVKTIIVSKLNQ-VAQPEVQATSTTVTENKDSVNLTCSTNDTEISIKW

Macaca_nemestrina HANNSVTGRNRITVKTIIVSELSPPVAQPQIKASKTTVTEKDSVNLTCSTNDTGISISW

Chlorocebus_sabaeus HANNSVTGHNRTTVKTIIVSELSPPVAQPQIKASKTTVTEKDSVNLTCSTNDTGISISW

Homo_sapiens HANNSVTGCNRTTVKTIIVTELSPP-VAKPQIKASKTTVTEGDKDSVNLTCSTNDTGISIRW

Pongo_abelii HANNSVTGRNRITVKTIIVTELSPP-VVKPQIKASKTTVTEKDSVNLTCSTNDTGISISW

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Brachyteles_arachnoides FFNSQHISSSERIKLFQDNRTLRLIDPVKREDAGQYYCEVSNPISVNQSDPIRLTVKYT--

Callithrix_jacchus FFNNQNILSSERIKLFQDNRTLRLIDPVKREDAGQYYCEVSNPISVNQSDPIRLTVKYT--

Aotus_nancymaae FFNSQNILSSERIKLFQDNRTLRLIDPVKREDAGEYYCEVSNPISVNQSDPISLTVKYT--

Cebus_capucinus_imitator FFNNQNILSSERIKLFQDNRTLRLIDPVKREDAGQYYCEVSNPISVNQSDPIMLTVKYT--

Saimiri_boliviensis FFNSQNILSSERIKLFQDNRTLRLIDPVKREDAGQYYCEVSNPISVNQSDPIMLIVKYT--

Macaca_nemestrina FFKDQSLPSSERMKLSQDNATLSINPVKREDAGNYSCVEFNLSKNRSDPIMLIVNYNNP

Chlorocebus_sabaeus FFEDQSLPSSERMKLSQDNATLSINPVKREDAGKYSCVEFNLSKNRSDPIMLIVNYNDP

Homo_sapiens FFKNQSLPSSERMKLSQGNATLSINPVKREDAGTYWCEVFNLSKNQSDPIMLVNYN--

Pongo_abelii FFENQSLPSSERMKLSQGNATLSINPVKREDAGKYWCEVFNLSKNQSDPIMLTVKYNYP

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|---- Transmembrane ----|-- Cytoplasmic

Brachyteles_arachnoides -EISGLSGGAIAGIVIGVLAGVALIAALMVYFLYVRKTGR

Callithrix_jacchus -ESSGLSGGAIAGIVIGVLAGVALIAGLVVYFQHSRKTGR

Aotus_nancymaae -ESSGLSGGAIAGIVIGVLAGVALIAALWVYFLHSRKTGR

Cebus_capucinus_imitator -ESSGLSRGAIAGIVIGVLAGMALIAALWVYFLHSRKTGR

Saimiri_boliviensis -ESSGLSGGAIAGIVIGVLAGMALIAALWVYFLHSRKTGR

Macaca_nemestrina AQENSLPAGAIAGIVIGVLAGVALVVAALACFLHFRKAGR

Chlorocebus_sabaeus AQENSLTAGAIAGIVIGVLAGVALVVAALACFLHFRKTGR

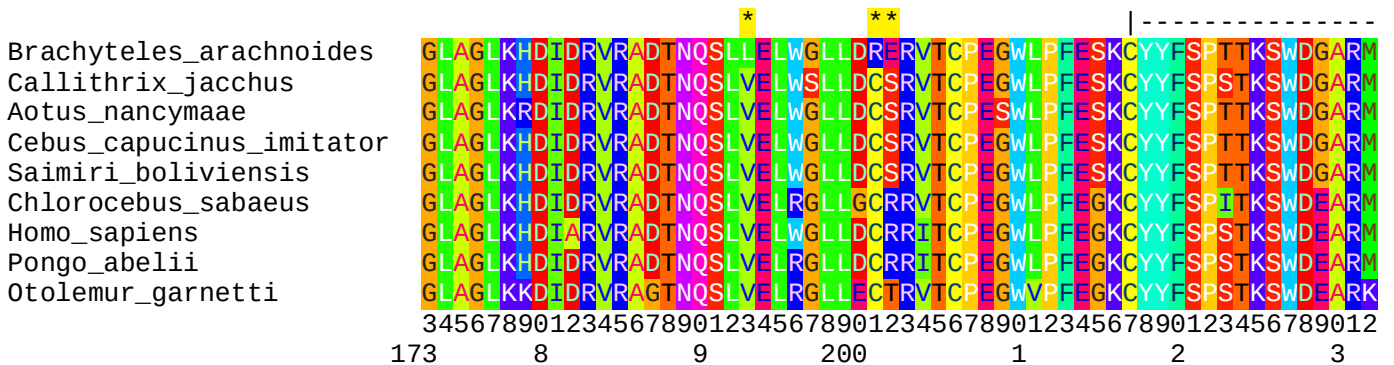
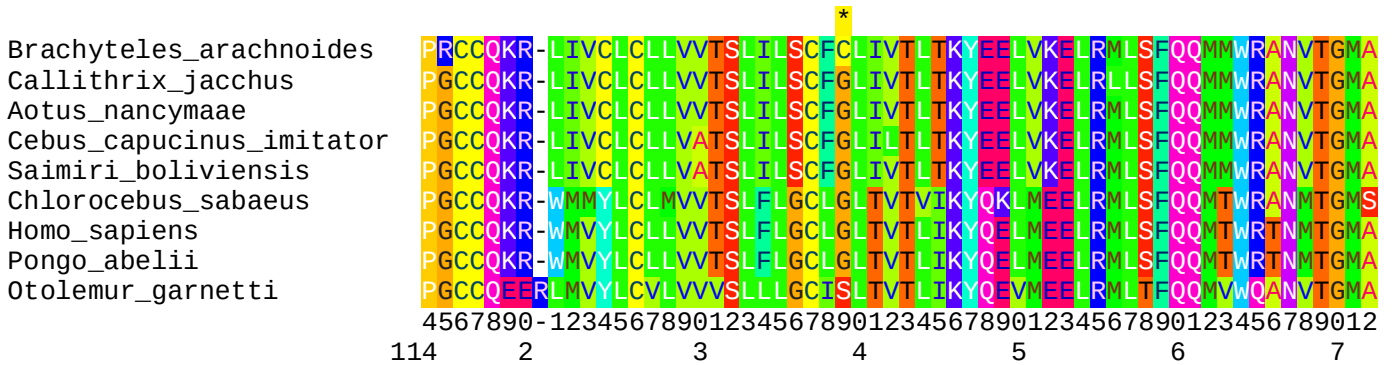
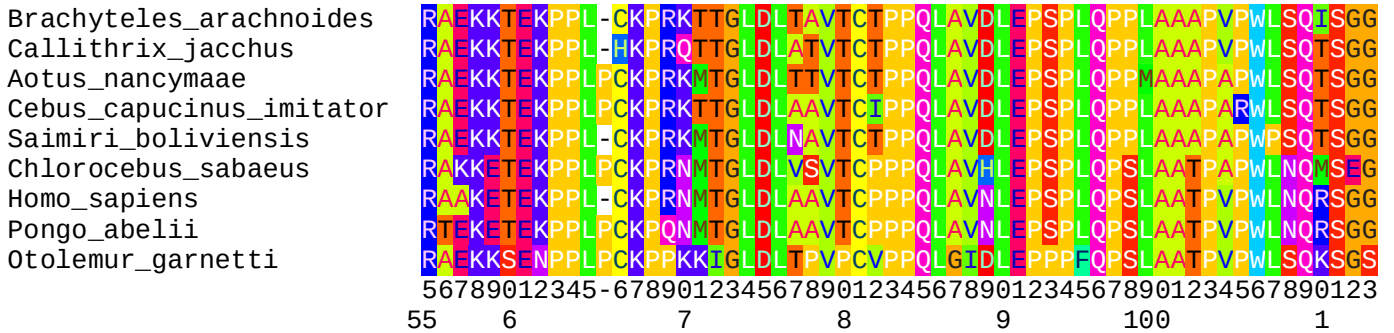
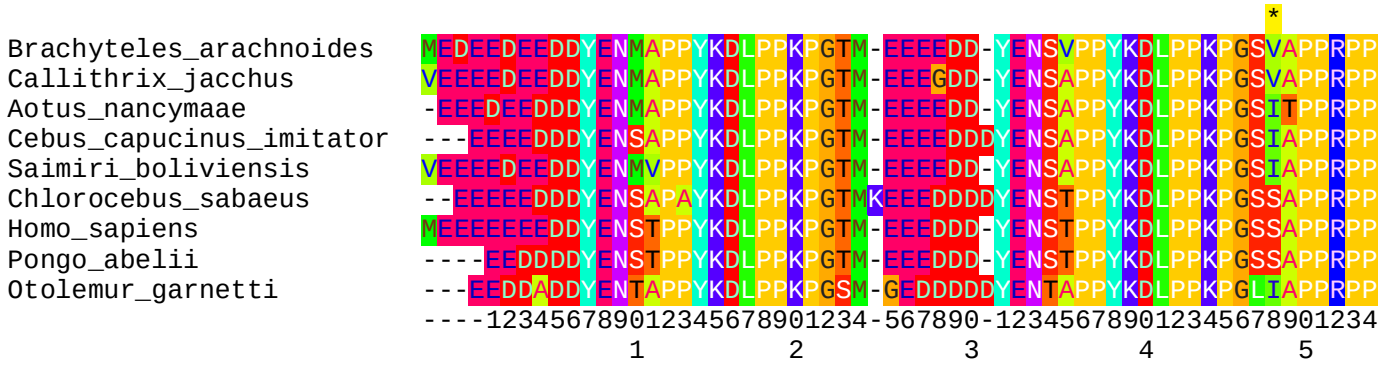
Homo_sapiens -QENGLSPGAIAGIVIGVVALVALIAVALACFLHFGKTGR

Pongo_abelii SQENGLSAGAIAGIVIGVLAGVALIAVALACFLHFRKTGR

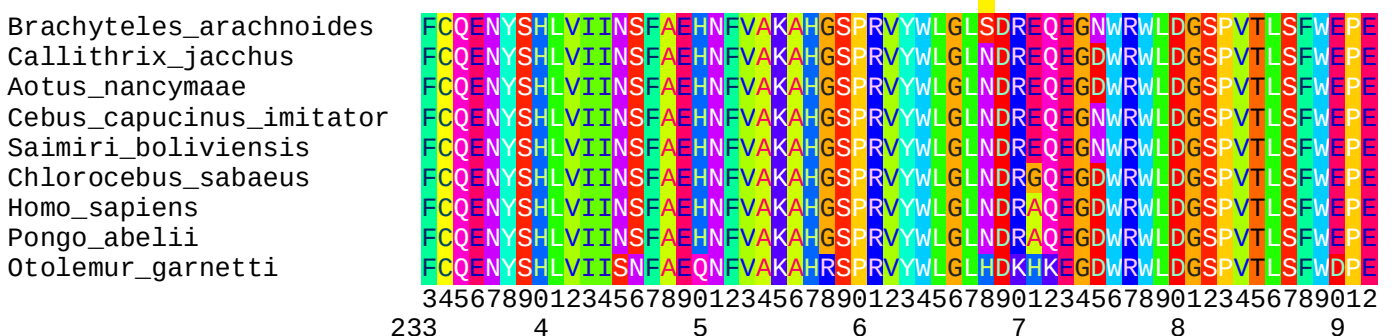
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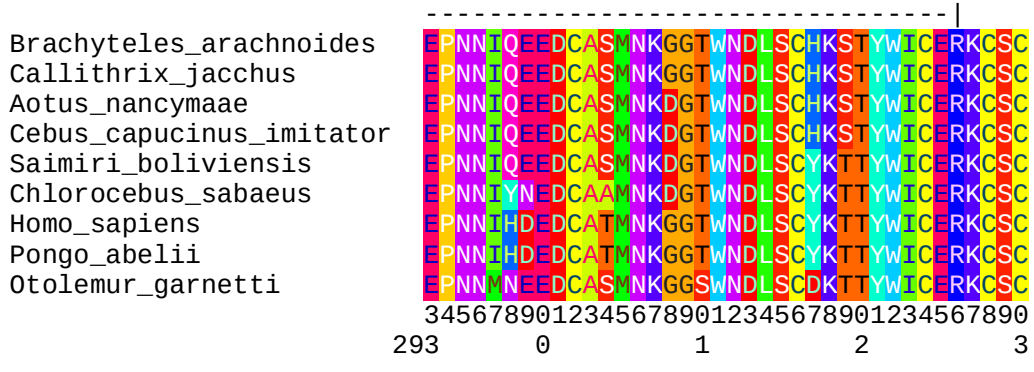
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CLEC17A



----- C-type lectin -----





DDX52

Brachyteles_arachnoides MDVHDLFRRLGAGAKFDVRRFSADAARFQIGKRKYDFDSSEVLQGLEFFGN-KNVPGV-C
 Callithrix_jacchus MDAHDLFRRLCAGAKFDVRRFSADAARFQIGKRKYDFNSLEMLQELDFFGN-KSVPGV-C
 Aotus_nancymaae MDAHDLFRRLGAGAKFDVRRFSADAARFQIGKRKYDLDSSEVLQGLDFFGNKCVPGV-C
 Cebus_capucinus_imitator MDAHDLFRRLGAGAKFDVRRFSADAARFQIGKRKYDFDSSEVLQGLDFFGNKKSVPGV-C
 Saimiri_boliviensis MDAHDLFRRLGAGAKFDVRRFSADAARFQIGKRKYDFDSSEVLQGLDFFGN-KSVPGV-C
 Macaca_nemestrina MDVHDLFRRLGAGAKFDTRRFSAADAARFQIGKRKYDFDSSEVLQGLDFFGNKKSVPGV-C
 Chlorocebus_sabaeus MDVHDLFRRLGAGAKFDTRRFSAADAARFQIGKRKYDFDSSEVLQGLDFFGNKKSVPGV-C
 Homo_sapiens MDVHDLFRRLGAGAKFDTRRFSAADAARFQIGKRKYDFDSSEVLQGLDFFGN-KSVPGV-C
 Pongo_abelii MDVHDLFRRLGAGAKFDTRRFSAADAARFQIGKRKYDFDSSEVLQGLDFFGNKKSVPGV-S
 Otolemur_garnetti MDIQDLFRRLGTGAKFDVRRFSADAARFQIGKRKYDFDSSEVLQGLDVTGNKKSFSGE-C

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Brachyteles_arachnoides GASQAHQKQPQNEDEVKKEESLTERKREQSKKKR--MTSEITSQDEGATTIQWISSVEAKIEDK
 Callithrix_jacchus GTSQAHQKQPQNEEVKKEESLTERKREQSKKKR--MTSEITSQDEVATTIQWISSVEAKIEDK
 Aotus_nancymaae GASQAHQKQPQSEEVKKEESLTERKREQSKKKRKMMTSESTSQDEVATTIQWISSVEAKIEDK
 Cebus_capucinus_imitator GASQAHQKQPQNEEVKKEESLTERKREQSKKKRKTMTSEITSQDEVATTIQWISSVEAKIEDK
 Saimiri_boliviensis RASQAHQKQPQNEEVKKEESLTERKREQSKKKK--MTSEITSQDEVATTIQWISSVEAKIEDK
 Macaca_nemestrina GASQTHQKQPQNEEKKEESLTERKKEQSKKKRKMMTSEITSQEEGATTIQWISSVEAKIEDK
 Chlorocebus_sabaeus GASQTHQKQPQNEEKKEESLTERKREQSKRKRKMMTSEITSQEEGASIQWISSVEAKIEDK
 Homo_sapiens GASQTHQKQPQNGEKKEESLTERKREQSKKKR--MTSEIASQEEGATTIQWISSVEAKIEDK
 Pongo_abelii GASQTHQKQPQNGEKKEESLTERKREQSKKKRKTMTSEITSQEEGATTIQWISSVEAKIEDK
 Otolemur_garnetti GVSQTHQELQNEEKKEESLTERKREQKRQ-REKVTSEISSEGGTTIQ*MSVDAKIEEK

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Brachyteles_arachnoides KVQRESKLTSGKLEHLRKEKINFLRNKHKIHVQGTDLDPDIATFQQLDQEQYKINSRLLQN
 Callithrix_jacchus KVQRENKLTSGKLERLRKEKINFLRNKHKIHVQGTDLDPDIATFQQLDQEQYKINSRLLQN
 Aotus_nancymaae KVQRENKLTSGKLEHLRKEKINFLRNKHKIHVQGTDLDPDIATFQQLDQEQYKINSRLLQN
 Cebus_capucinus_imitator KVQRENKLTSGKLEHLRKEKINFLRNKHKIHVQGTDLDPDIATFQQLDQEQYKINSRLLQN
 Saimiri_boliviensis KVQRENKLTSGKLEHLRKEKINFLRNKHKIHVQGTDLDPDIATFQQLDQEQYKINSRLLQN
 Macaca_nemestrina KVPRESKLTSGKLEHLRKEKINFLRNKHKIHVQGTDLDPDIATFQQLDQEQYKINSRLLQN
 Chlorocebus_sabaeus KVPRESKLTSGKLEHLRKEKINFLRNKHKIHVQGTDLDPDIATFQQLDQEQYKINSRLLQN
 Homo_sapiens KVQRESKLTSGKLEHLRKEKINFLRNKHKIHVQGTDLDPDIATFQQLDQEQYKINSRLLQN
 Pongo_abelii KVERESKLTSGKLEHLRKEKINFLRNKHKIHVQGTDLDPDIATFQQLDQEQYKINSRLLQN
 Otolemur_garnetti KMEGENTLTSEKLEHLRKEKINFFRNKHKIHVQGTDLDPDITKFQQLD*EQYKINSQLLN

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 115 2 3 4 5 6 7

Brachyteles_arachnoides ILDAGFQMPPTPIQMQAIPVMLHGRELLASAPTGSCKTLAFSIPILMQLKQPANKGFRALI
 Callithrix_jacchus ILDAGFQMPPTPIQMQAIPVMLHGRELLASAPTGSCKTLAFGIPILMQLKQPANKGFRALI
 Aotus_nancymaae ILDAGFQMPPTPIQMQAIPVMLHGRELLASAPTGSCKTLAFSIPILMQLKQPANKGFRALI
 Cebus_capucinus_imitator ILDAGFQMPPTPIQMQAIPVMLHGRELLASAPTGSCKTLAFSIPILMQLKQPANKGFRALI
 Saimiri_boliviensis ILDAGFQMPPTPIQMQAIPVMLHSRELLASAPTGSCKTLAFSIPILMQLKQPANKGFRALI
 Macaca_nemestrina ILDAGFQMPPTPIQMQAIPVMLHGRELLASAPTGSCKTLAFSIPILMQLKQPANKGFRALI
 Chlorocebus_sabaeus ILDAGFQMPPTPIQMQAIPVMLHGRELLASAPTGSCKTLAFSIPILMQLKQPANKGFRALI
 Homo_sapiens ILDAGFQMPPTPIQMQAIPVMLHGRELLASAPTGSCKTLAFSIPILMQLKQPANKGFRALI
 Pongo_abelii ILDAGFQIPTPIQMQAIPVMLHGRELLASAPTGSCKTLAFSIPILMQLKQPANKGFRALI
 Otolemur_garnetti IVDSGFQTPPTPIQM-AIPVMLHGRELLASTPTGSCKTLAFSIPILMQLKQPANKGFRALI

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 174 8 9 200 1 2 3

Brachyteles_arachnoides ISPTRELASQIHRELIIKISEGTGFRIHMIHKAAVAAKKFGPKSSKKFDILVTTNRLIYL
 Callithrix_jacchus ISPTRELASQIHRELVKISEGTGFRIHMIHKAAVAAKKFGPKSSKKFDILVTTNRLIYL
 Aotus_nancymaae ISPTRELASQIHRELIIKISEGTGFRIHMIHKAAVAAKKFGPKSSKKFDILVTTNRLIYL
 Cebus_capucinus_imitator ISPTRELASQIHRELIIKISDGTGFRIHMIHKAAVAAKKFGPKSSKKFDILVTTNRLIYL
 Saimiri_boliviensis ISPTRELASQIHRELIIKISEGTGFRIHMIHKAAVAAKKFGPKSSKKFDILVTTNRLIYL
 Macaca_nemestrina ISPTRELASQIHRELIIKISEGTGFRIHMIHKAAVAAKKFGPKSSKKFDILVTTNRLIYL
 Chlorocebus_sabaeus ISPTRELASQIHRELIIKISEGTGFRIHMIHKAAVAAKKFGPKSSKKFDILVTTNRLIYL
 Homo_sapiens ISPTRELASQIHRELIIKISEGTGFRIHMIHKAAVAAKKFGPKSSKKFDILVTTNRLIYL
 Pongo_abelii ISPTRELASQIHRELIIKISEGTGFRIHMIHKAAVAAKKFGPKSSKKFDILVTTNRLIYL
 Otolemur_garnetti RSPT*ELASQFHRELIIKISEGAGFMIIHMIYKVAVAAKKSGPKSSKKFDILVTTNQLIYL

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 233 4 5 6 7 8 9

|DEAD| box

----- Helicase ATP-binding -----

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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----- Helicase C-terminal -----

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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352 6 7 8 9 400 1

----- Helicase C-terminal -----

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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412 2 3 4 5 6 7

----- Helicase C-terminal -----

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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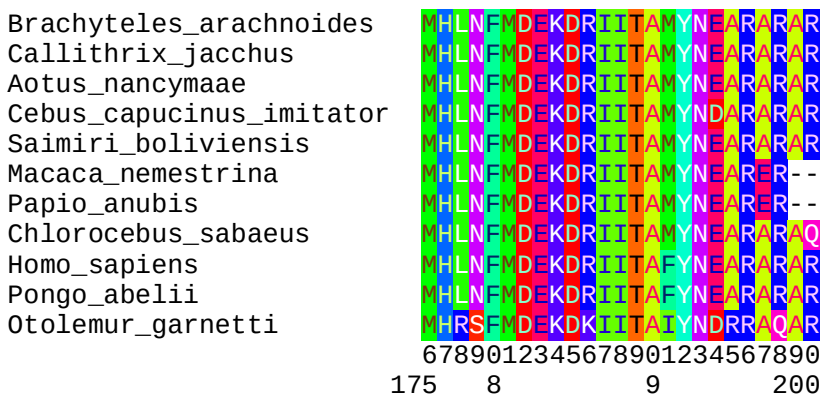
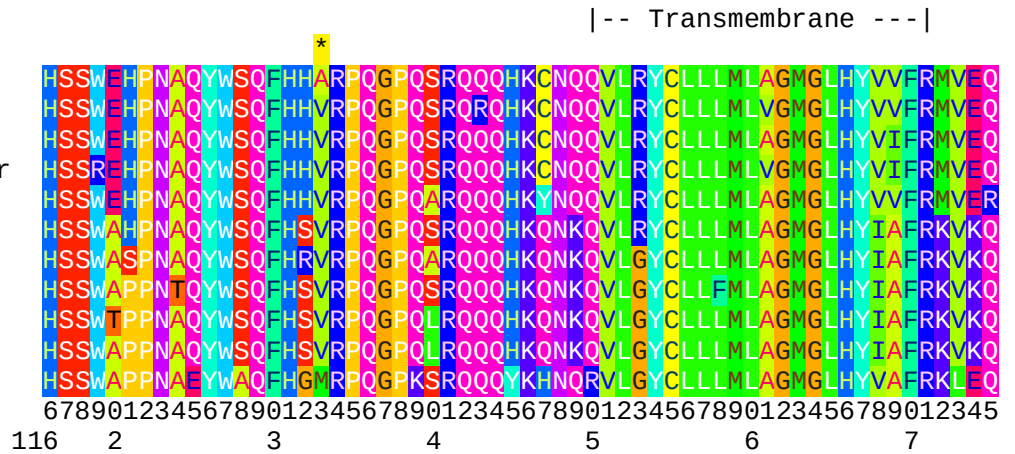
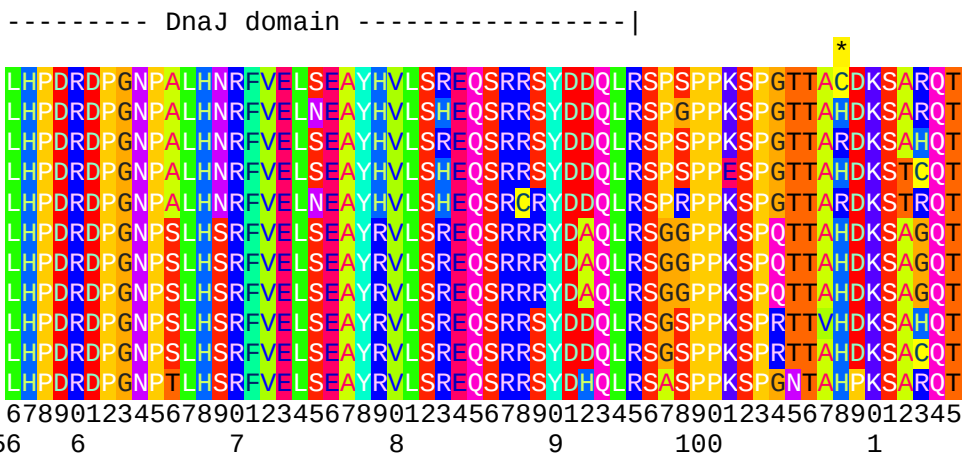
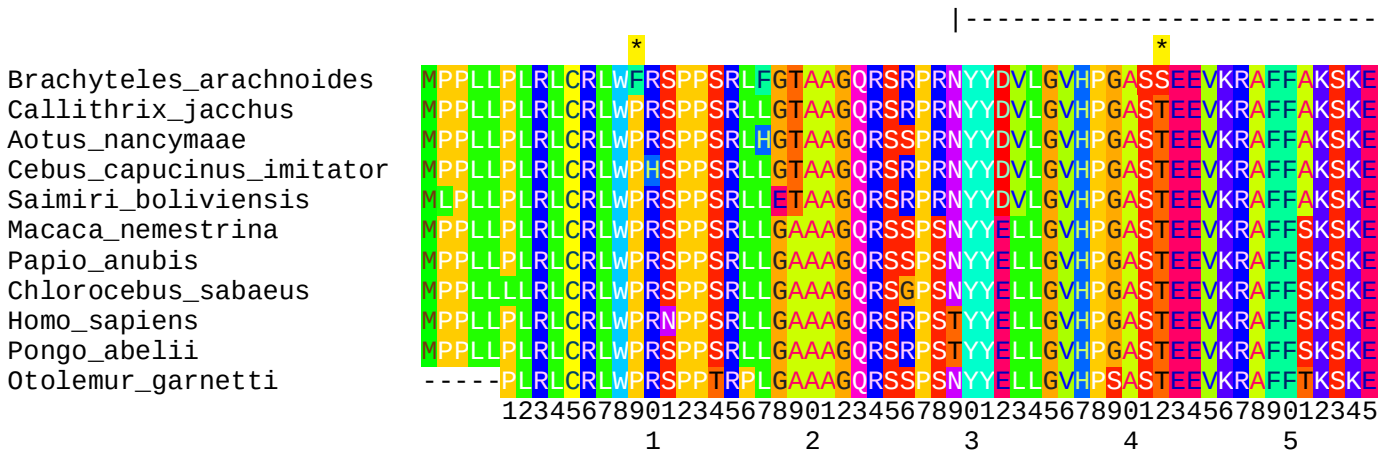
----- Lys-rich -----

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

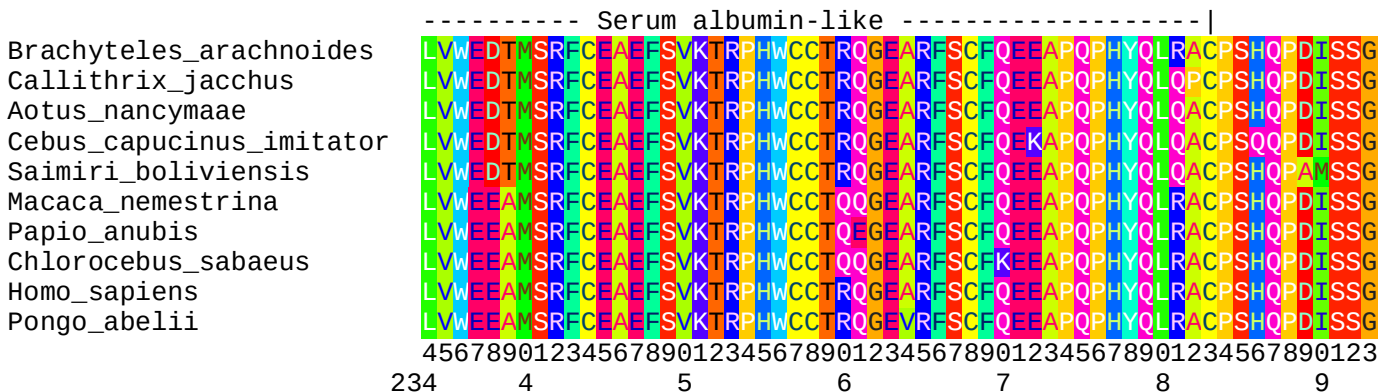
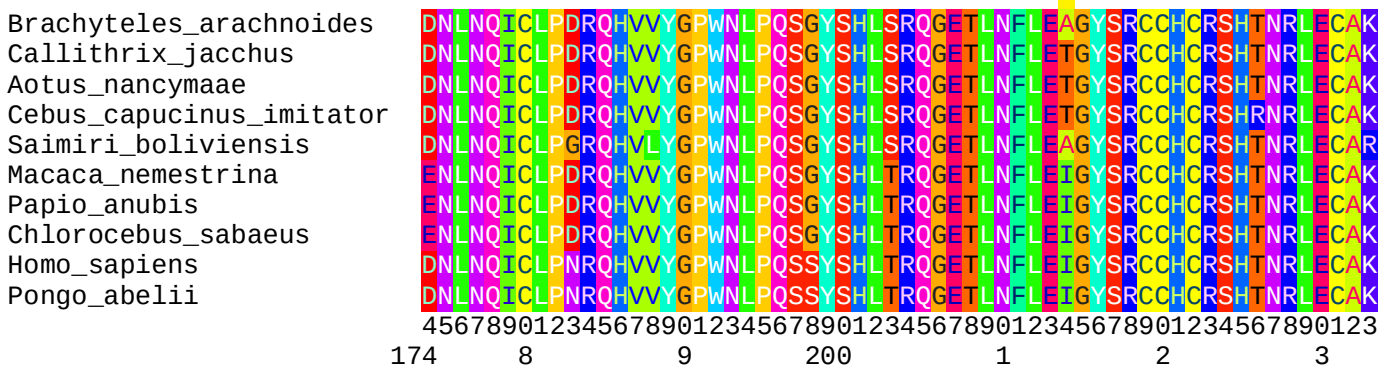
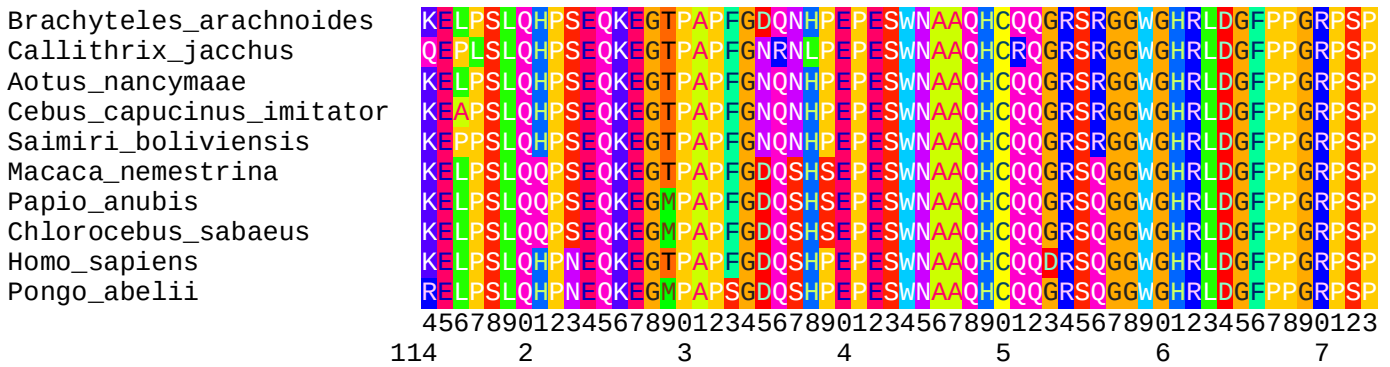
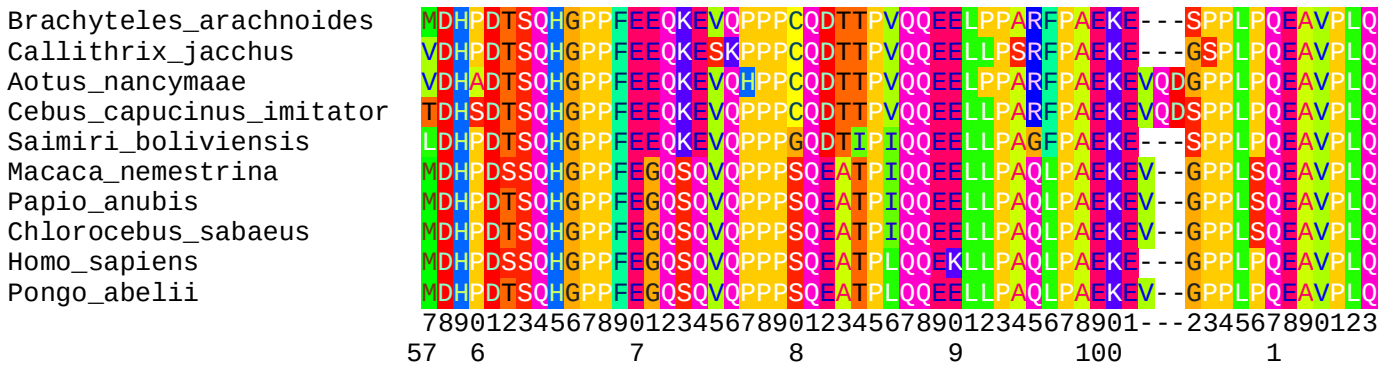
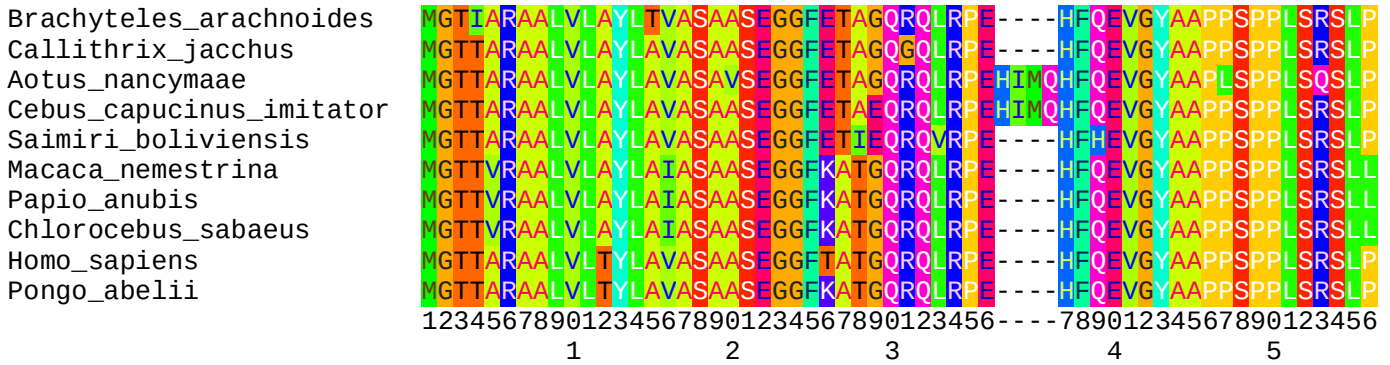
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DNAJC4



ECM1



EMCN

|Signal pep|

Brachyteles_arachnoides	LFL LPSLCSSDN - TGVINA - NTSPIVS TTIKTSV R TPSTESSQN PVITPA IGTTP NGTTN
Callithrix_jacchus	MFFHRTLQSSYF - SDVINA - NTSPIVS TTIKTSV L TPSTESLQNPVITPT IGTTP KGTT S
Aotus_nancymaae	LFL LPSLCSSD VNTDVINA STSLPIVS TTIKTSV L TPSTESLWNPVITPT MGTTP KGTT N
Cebus_capucinus_imitator	LFL LPSLCSSD VDTGLINANI SS SV TTIKTS A Q TPSTESLQNPVITPT IGT I PTGTT N
Saimiri_boliviensis	LFL LPSLCSSDN - TDVINA - NTSPIVS TAIKTSAL PSSTESLSSPVITPI IGTTP KGTT N
Macaca_nemestrina	LFL LPSICSSEN STGVINAAT PSSVVV T - TETSV TTPNTGSSQKNVITTTT NETT PKGTIT
Chlorocebus_sabaeus	LFL LPSICSSEN RTGVINVTLL SSVVV TTTKT SVATPNTGSSQKNVTTTTT ETT PKGTIT
Homo_sapiens	LFL LPSICSSNS - TGVLEA - ANNSLVV TTTKPSITTPN TESLQKNVVTPTTGTT PKGTIT
Pongo_abelii	LFL LPSICSSNS - TGVLEA - ANNSLVV TTIKTSITTPN TESLQKNVITPTTGTT PKGTIT
Otolemur_garnetti	----- TSPKGTTN

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Brachyteles_arachnoides	SELLTKSLLSTVASLTT SKEE - LRITTTDGRKNESIISNVAVTNLALPNAVSTLQSSQOK
Callithrix_jacchus	SELLKKSLLSTIASLTT SKEE - LRITSTDGK NESIISNVAVTNLALPNAVSTSPNSQHK
Aotus_nancymaae	SEL-----STVASLTT SKEE - LGITTTDGRQNESIISNAAVTYLALPTAVSTLQSSQHK
Cebus_capucinus_imitator	SELLKKS L F - TVASLTT SKEE - LRITTTDGRENESIISNVAVTNLALPNAVSTSQSSQHK
Saimiri_boliviensis	SELLKNPLLSTVASLTT SKEE - LIITTTD GKKNESIISNVAVTNLALPNAVSTLQSYQHK
Macaca_nemestrina	SELPKTSLTTT V TLLITSKDEGLRV TTPDVRENKSIISNVTVT SVTPPNAV SALQSSKPK
Chlorocebus_sabaeus	SELLKTS LTTT V TLLTTSKDEGLRV TTPDV TENKSIISNVTVT SVTPPNAVSTLQSSKPK
Homo_sapiens	NELLKMSLMSTATFL - TSKDEGLKATTTDVRKND SIISNVTVT SVTL PNAVSTLQSSKPK
Pongo_abelii	NELLKMSLM SAVTL - - TSKDEGLKVTTT D VRKNEIIVSNVTVT I VTL PNAVSTLQSSKPK
Otolemur_garnetti	SESLKTTLLVSTVSSLSTVKGQELRITTTNGTTKNESIFTTVT EANIPLSKVVSTSQSFQNK

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Brachyteles_arachnoides	TETQSTIKTTEIPGSTLQPDASPSKTGTLHSM PVTIPESTLPSQ --GTENGKNASAVATS
Callithrix_jacchus	SNVKLV LASEYFPASTLQPDASPSKTGTLHSM PVTIPESTLPSQ --GTENGKNASAVATS
Aotus_nancymaae	TETQSTIKTME LSGNTLQPDVSPSKTGT LHSTPVTIPESTLPSQ --GTENGKNASAVATS
Cebus_capucinus_imitator	TETQSTIKIMKIPGSTLQPDASPSKTGTS HSM PATIPESTLPSQ --GTENGKNSSASAAS
Saimiri_boliviensis	TETQSTIKIMEISGSTRQPDASSSKTGT LHSM PVTIPESTLPSQ --GTENGKNASASAAS
Macaca_nemestrina	TETQSSI KTTKIPGSILQPDASPSKAGTVSSIPVTIPESTLPSQ --GTENGKNASTSATS
Chlorocebus_sabaeus	TETQSSI KTTKIPGSILQPDASPSKAGTVSSIPVTIPESTLPSQ --GTENGKNASTSATS
Homo_sapiens	TETQSSI KTTTEIPGSVLQPDASPSKTGTLTSIPVTIPESTLPSQ --GTENGKNASTSATS
Pongo_abelii	TETQSSI KTTTEIPGSILQPDASPSK E TGT LSSIPVTIPESTLPSQ --GTENGKNASTSATS
Otolemur_garnetti	TDNQSLTKTTEIPGKTPQPDISHSKSTLPSVSTTVTENLLPSQ --GTEDGKNASSPTTS

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|--- Transmembrane ---|

Brachyteles_arachnoides	PSYSSII LPVVI ALIVITLSVFVLVGLYRVCWKSDPG-----QPQSDKESVKLLTVK
Callithrix_jacchus	PSYSSII LPVVI ALIVITLSVFVLVGLYRVCWKSDPG-----RPQSDKESVKLLTVK
Aotus_nancymaae	PSYSSII LPVVI ALIVITLSVFVLVGLYRVCWKSDPGT - AENGNDQPQSDKESVKLLTVK
Cebus_capucinus_imitator	PSYSSII LPVVI ALIVITLSVFVLVGLYRVCWKSDPGT - AENGNDQPQSDKESVKLLTVK
Saimiri_boliviensis	PSYSSII LPVVI ALIVITLSVFVLVGLYRVCWKSDPG-----QPQSDKESVKLLTVK
Macaca_nemestrina	RSYSSII LPVVI ALIVITLSVFVLVGLYRVCWKADPGT - PENGNDQPQSDKESVKLLTVK
Chlorocebus_sabaeus	RSYSSII LPVVI ALIVITLSVFVLVGLYRVCWKADPGT - PENGNDQPQSDKESVKLLTVK
Homo_sapiens	RSYSSII LPVVI ALIVITLSVFVLVGLYRVCWKADPG-----QPQSDKESVKLLTVK
Pongo_abelii	RSYSSII LPVVI ALIVITLSVFVLVGLYRVCWKADPGT - PENGNDQPQSDKESVKLLTVK
Otolemur_garnetti	PSYSSII LPVVI ALIVITLSVFVVVGLYRVCWKTDPGTTQENGNDQPQSDKESVKLLTVK

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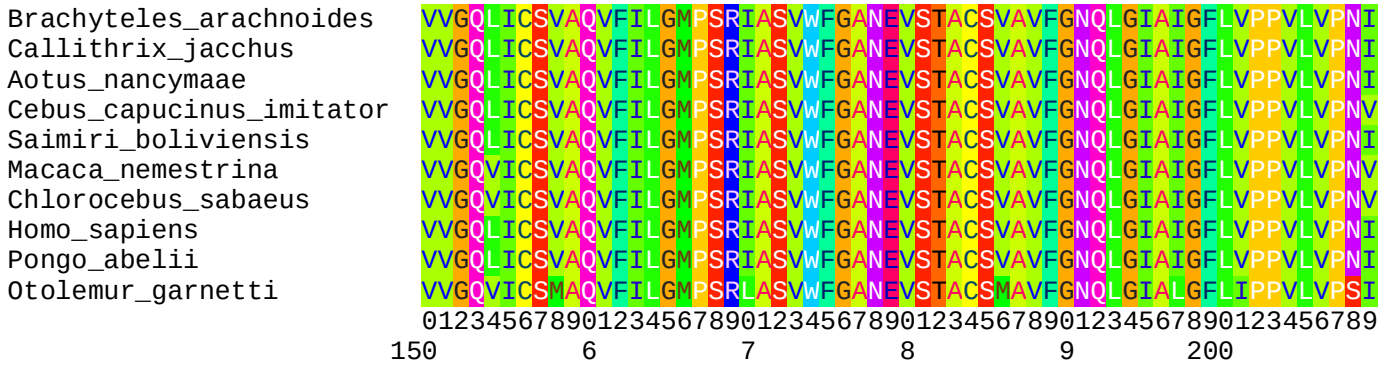
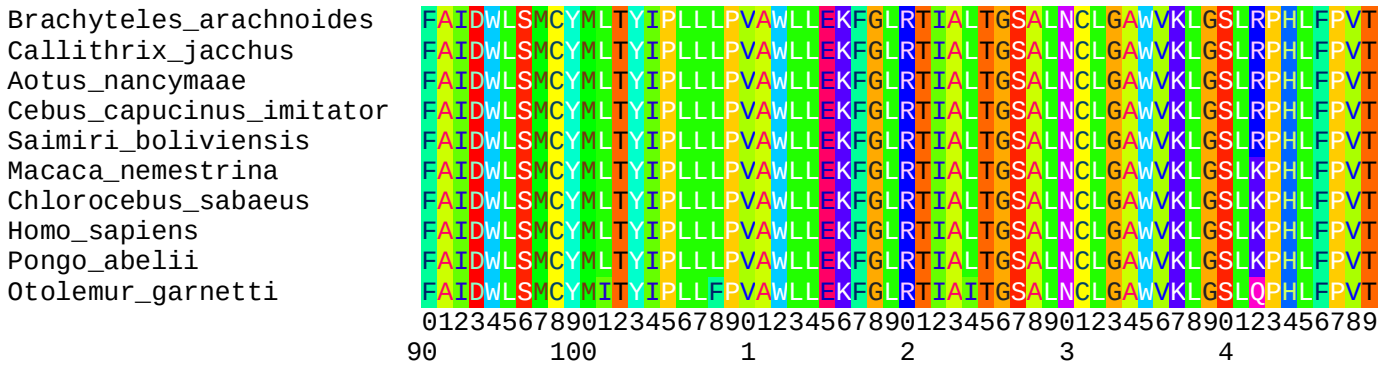
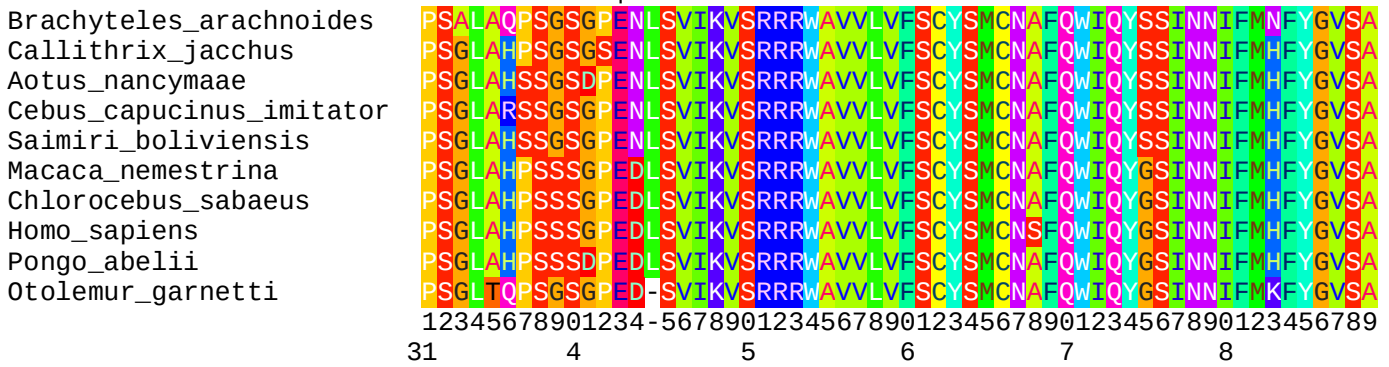
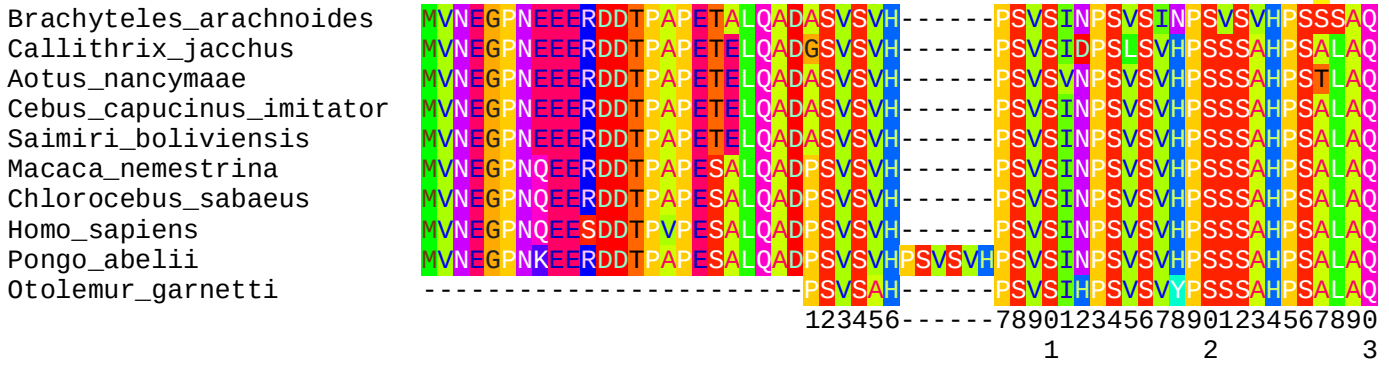
Brachyteles_arachnoides	TISHES - EHS AQGKTKN
Callithrix_jacchus	TISHES - ELLLYGRRKN
Aotus_nancymaae	TISHESGEHS AQGKSKN
Cebus_capucinus_imitator	TISHESGEHS AQGKTKN
Saimiri_boliviensis	TISHES - EHS AQGKTKN
Macaca_nemestrina	TISHESGEHS AQGKTKN
Chlorocebus_sabaeus	TLSHESGEHS AQGKTKN
Homo_sapiens	TISHES - EHS AQGKTKN
Pongo_abelii	TISHESGEHS AQGKTKN
Otolemur_garnetti	TISHESGEHS AQGKSKN

901234-5678901234

170 8

FLVCR2

|----- tandem repeats -----*



Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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IIRLFKNLNFVLLVITYGLNAGAFYALSTLLNRMVIRHYPGEEVNAGRIGLTIVIAAGMLG
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270      8      9      300      1      2
  
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Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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901234567890123456789012345678901234567890123456789012345678
330      4      5      6      7      8
  
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Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

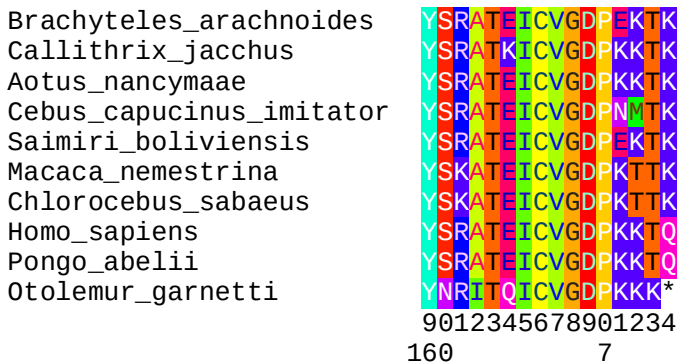
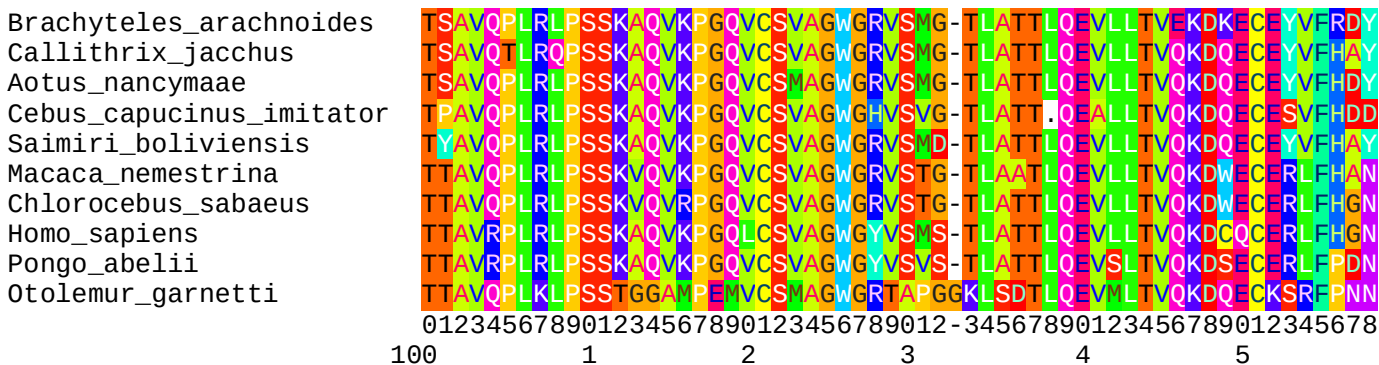
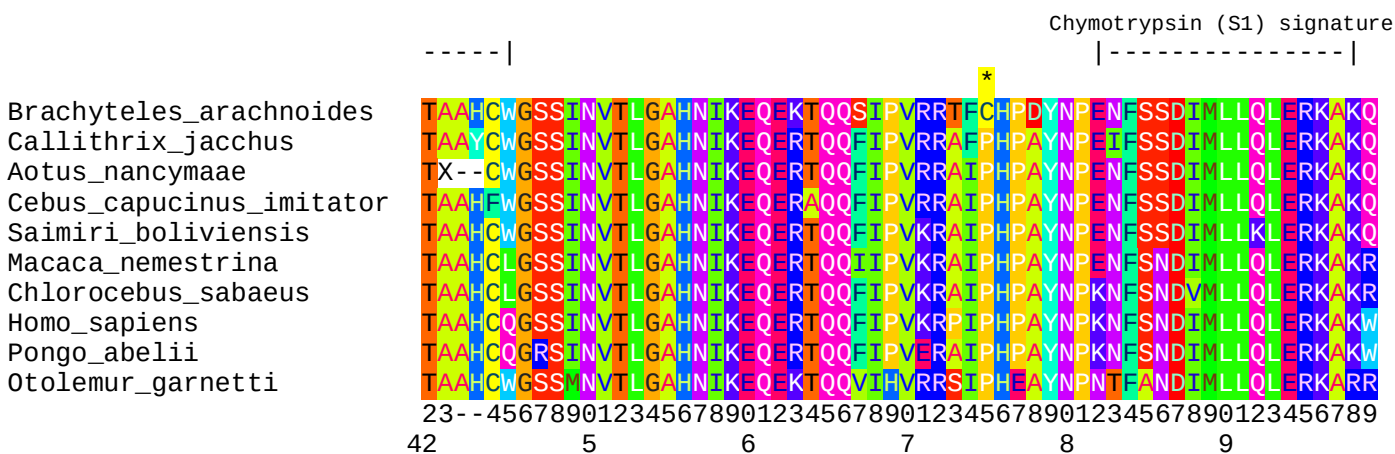
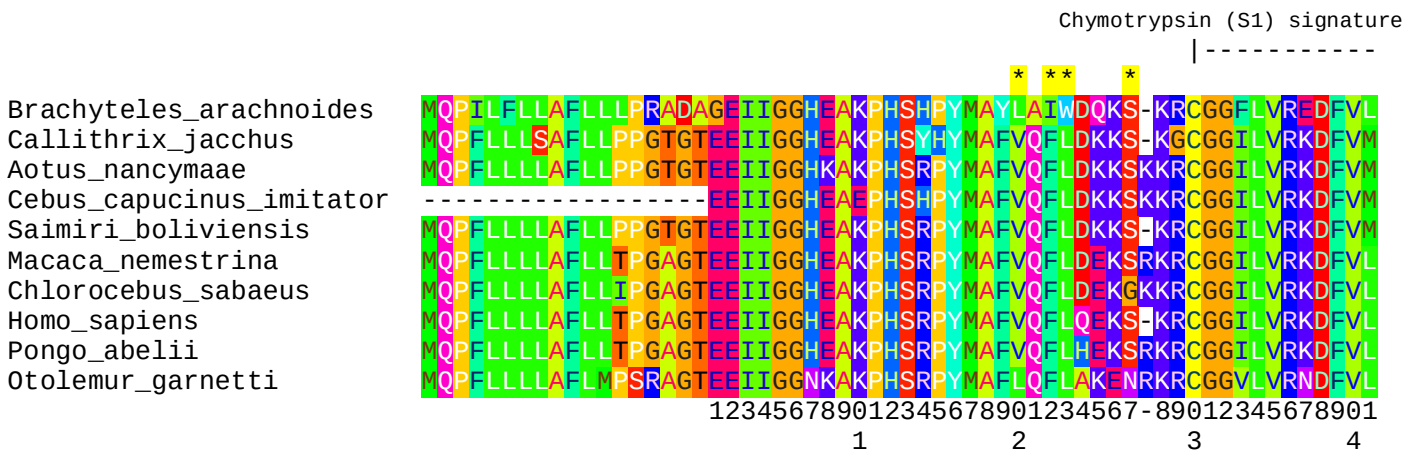
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LGFEFAVELTYPESSEGISSGLLNISAQV-GIIF-----ISAQV-GIIFF-IS
LGFEFAVELTYPESSEGISSGLLNISAQVFGIIFQVFGIIFSSGLLNISAQVFGIIF-
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90123456789012345678901234567890123456789012345678901234567890
390      400      1      420
  
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Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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AQV-GLIF-----
AQV-GIIF-----
AQVFGII-----
AQVFGII-----
AQV-GIIF-----
AQVFGIIF-----
AQVFGIIF-----
AQV-GIIF-----
-QVFGIIFSSGLLNISAQVFGIIF-
-----
  
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HLA-DRB1

| Signal peptide |

Brachyteles_arachnoides	MAALTVTL	MVLSSPL	LALAGD	TRPRFL	EHVKF	ECYLF	NGTE	--R	YLVRA	IYNQ	EEYV	RFDS
Callithrix_jacchus	VAALTVTL	MVLSSPL	LALAGD	TRPRYL	EQRKAE	CHHFN	NGTE	--R	LLERY	FYNQ	EEFV	RFDS
Aotus_nancymaae	-AALTVTL	MVLSSPL	LALVGD	TRPRFL	ELVKHE	CHFFN	NGTER	VRYL	DRYI	HNQ	EEV	RFDS
Cebus_capucinus_imitator	MAALTVTL	MVLSSPL	LALAGD	TRPRFL	EQAKSE	CHFFN	NGTER	VRYL	QRYF	YNQ	EEYV	RFDS
Saimiri_boliviensis	MAALTVTL	MVMSSPL	LALAGD	TRPRFL	KQVKHE	CHHFK	GME	--R	FLFR	HIYN	QEEY	VFDS
Macaca_nemestrina	MAALTMT	LMVLSSPL	LALAGD	TRARFL	EQVKHE	CHFFN	NGTER	VRFL	DRYF	YNQ	EEYV	RFDS
Chlorocebus_sabaeus	MAALTVTL	MVLSSPL	LALAGD	TRPRFL	EQVKSE	CHFFN	NGTER	VRYL	DRYF	YNQ	EEYV	RFDS
Homo_sapiens	MAALTVTL	MVLSSPL	LALAGD	TRPRFL	EQVKHE	CHFFN	NGTE	--R	FLDRY	FYHQ	EEYV	RFDS
Pongo_abelii	MAALTVTL	MVLSSPL	LALSGD	TQTRFL	EQVKSE	CHFFN	NGTER	VRFL	ERYF	YNQ	EEYV	HFDS

123456789012345678901234567890123456789--012345678901234567

1 2 3 4 5

Brachyteles_arachnoides	DVGEFRA	VTLEGR	RSAEY	YNSQ	KDFL	ERMRA	SVDT	-	CRHNY	GVGES	SFTV	QRRV	QPKV	TVY
Callithrix_jacchus	DVGEFRA	VTLEGR	PVAES	WNSR	KDILE	QRRAA	AVDT	-	CRHNY	EGFET	FLV	PRRV	QPKV	TVY
Aotus_nancymaae	DVGEYRA	VTLEGR	PDAEY	WNSQ	KDYVE	QKRG	QVDNY	CRHNY	GVFES	SFTV	QRRV	QPKV	TVY	
Cebus_capucinus_imitator	DVGEYRA	VTLEGR	PSAEY	WNSQ	KELLE	QKRG	QVDNY	CRHNY	RVGES	SFTV	QRRV	QPKV	TVY	
Saimiri_boliviensis	DVGEFRA	VTLEGR	PDAES	WNSQ	EDILE	QRAE	VDK	-	CRFNY	GVLER	FLV	PQV	QPKV	TVY
Macaca_nemestrina	DVGEYRA	VTLEGR	PDAEY	WNGQ	KDILE	QKRG	QVDNY	CRHNY	GVAES	SFTV	QRRV	QAKV	TVY	
Chlorocebus_sabaeus	DVGEFRA	VSELEGR	PDAEN	WNSR	KDILE	EDERAS	VDTY	CRHNY	GVGES	SFTV	QRRV	QPKV	TVY	
Homo_sapiens	DVGEYRA	VTLEGR	PDAEY	WNSQ	KDILE	QRRAE	AVDT	-	CRHNY	GVVES	SFTV	QRRV	YPEV	TVY
Pongo_abelii	DVGEYRA	VTLEGR	PDAEY	WNSQ	KNLLE	QKRG	QVDNY	CRHNY	GVGES	SFTV	QRRV	QPKV	TVY	

89012345678901234567890123456789012-3456789012345678901234567890123456

58 6 7 8 9 100 1

----- Ig-like C1-type -----

Brachyteles_arachnoides	PAKTQPL	QHHLN	LLVCS	VSGF	YPGS	IEVR	WFRN	DQEEK	AGVV	STGL	IQNG	DWTF	QTLV	MLE
Callithrix_jacchus	PAKTQPL	QHHLN	LLVCS	VSGF	YPGS	IEVR	WFRN	DQEEK	AGVV	STGL	IQNG	DWTF	QTLV	MLE
Aotus_nancymaae	PAKTQPL	QHHLN	LLVCS	VSGF	YPGS	IEVR	WFRN	NQEEK	AGVV	STGL	IQNG	DWTF	QTLV	MLE
Cebus_capucinus_imitator	PAKTQPL	QHHS	LLVCS	VSGF	YPGS	IEVR	WFRN	GQEEK	AGVV	STGL	IQNG	DWTF	QTLV	MLE
Saimiri_boliviensis	PAKTQPL	QHHLN	LLVCS	VSGF	YPGS	IEVR	WFRN	DQEEK	AGVV	STGL	IQNG	DWTF	QTLV	MLE
Macaca_nemestrina	PAKTQPL	QHHLN	LLVCS	VNGF	YPGS	IEVR	WFRN	GQEEK	AGVV	STGL	IQNG	DWTF	QTLV	MLE
Chlorocebus_sabaeus	PAKTQPL	QHHT	LLVCS	VNGF	YPGS	IEVR	WFRN	GQEEK	AGVV	STGL	IQNG	DWTF	QTLV	MLE
Homo_sapiens	PAKTQPL	QHHLN	LLVCS	VNGF	YPGS	IEVR	WFRN	GQEEK	TGVV	STGL	IQNG	DWTF	QTLV	MLE
Pongo_abelii	PSKTQPL	QHHLN	LLVCS	VNGF	YPGS	IEVR	WFRN	GQEEK	TGVV	STGL	IQNG	DWTF	QTLV	MLE

7890123456789012345678901234567890123456789012345678901234567890123456

117 2 3 4 5 6 7

Brachyteles_arachnoides	TVPQSGE	VYTCQ	VEHPS	VMSPI	TVQWR	ARSE	SAQSK	NLSG	VGGF	VLGLL	FLG	AGL	FIYFR
Callithrix_jacchus	TVPQSGE	VYTCQ	VEHPS	VMSPT	TVQWR	ARQSE	SAQSK	NLSG	VGGF	VLGLL	FLG	AGL	FIYFR
Aotus_nancymaae	TVPQSGE	VYTCQ	VEHPS	VMTT	PITVQ	WRARQ	SESAQSK	NLSG	VGGF	VLGLL	FLG	AGL	FIYFR
Cebus_capucinus_imitator	TVPQSGE	VYTCQ	VEHPS	VMSPT	TVQWR	ARQSE	SAQSK	NLSG	VGGF	VLGLL	FLG	AGL	FIYFR
Saimiri_boliviensis	TVPQSGE	VYTCQ	VEHPS	VMSPI	TVQWR	ARQSE	SAQRK	NLSG	VGGF	VLGLL	FLG	AGL	FIYFR
Macaca_nemestrina	TVPRSGE	VYTCQ	VEHPS	VMSPT	TVQWR	ARQSE	SAQSK	NLSG	VGGF	VLGLL	FLG	AGL	FIYFR
Chlorocebus_sabaeus	TVPRSGE	VYTCQ	VEHPS	VMSPT	TVQWR	ARQSE	SAQSK	NLSG	VGGF	VLGLL	FLG	AGL	FIYFR
Homo_sapiens	TVPRSGE	VYTCQ	VEHPS	LTSP	TVQWR	ARQSE	SAQSK	NLSG	VGGF	VLGLL	FLG	AGL	FIYFR
Pongo_abelii	TVPRSGE	VYTCQ	VEHPS	VMSPT	TVQWR	ARQSE	SAQSK	NLSG	VGGF	VLGLL	FLA	AGL	FIYFR

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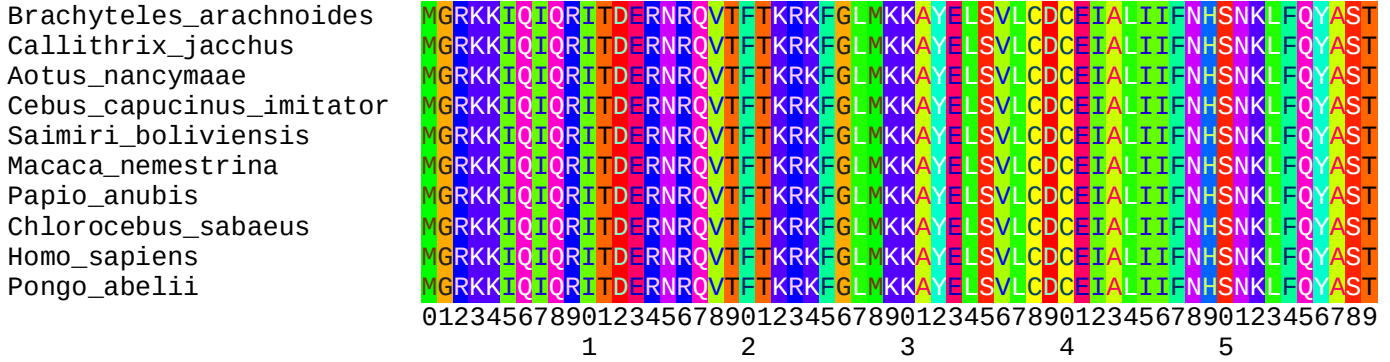
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Callithrix_jacchus	NQKGR	SGLQPT
Aotus_nancymaae	NQKGG	SGLQPT
Cebus_capucinus_imitator	NQKGR	SGLQPT
Saimiri_boliviensis	NQKGH	SGLQPT
Macaca_nemestrina	NQKGH	SGLQPT
Chlorocebus_sabaeus	NQKGH	SGLQPT
Homo_sapiens	NQKGH	SGLQPT
Pongo_abelii	NQKGH	SGLPPT

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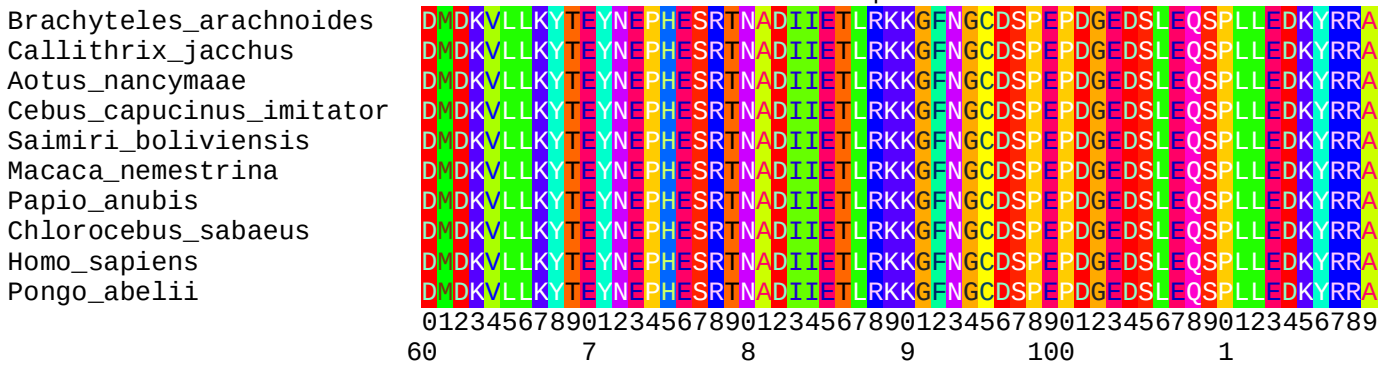
237 4

MEF2D

|----- Transcription factor MADS-box -----|

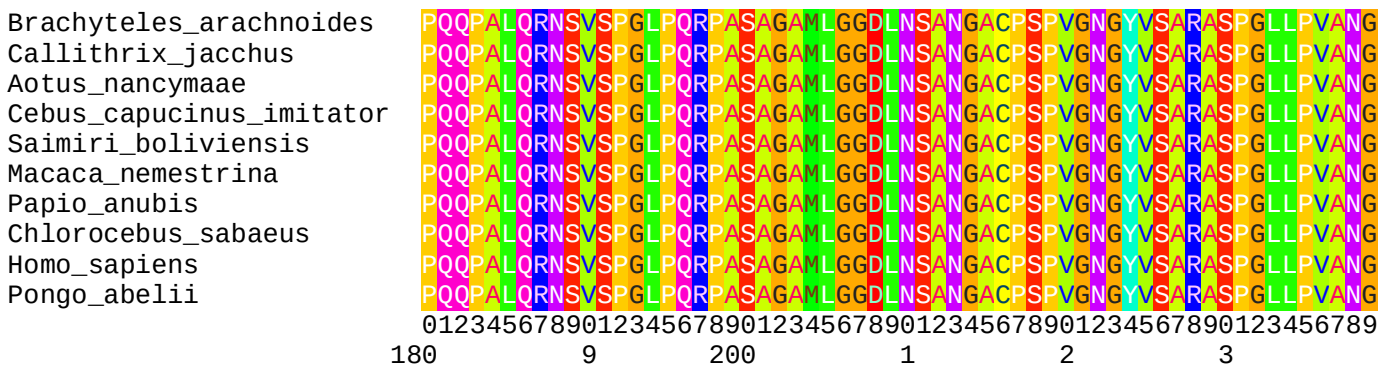
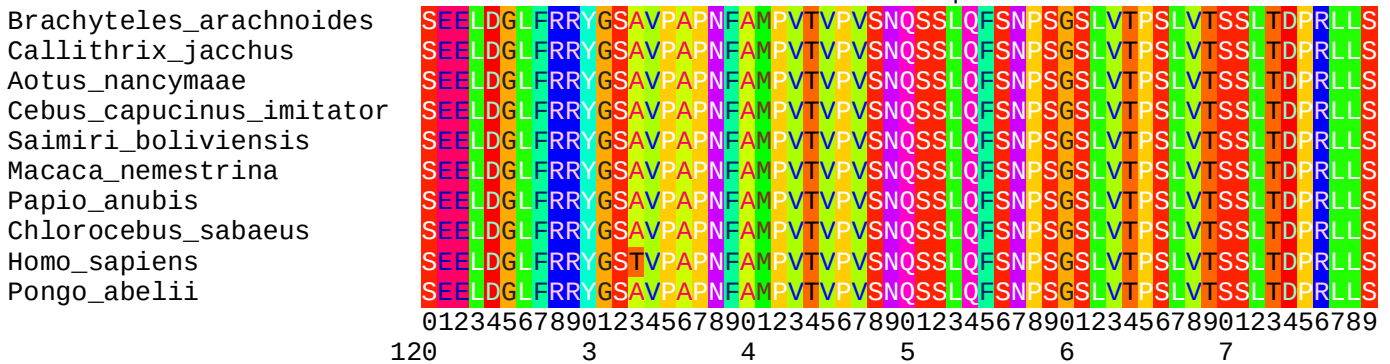


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Holliday junction regulator

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|--
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Callithrix_jacchus TTPVWSVATPSLLSQGLPFSSMPTAYNTDYQLTSAELSSLPAFSSPGGLSLGNVTAWQQP
Aotus_nancymaae TTPVWSVATPSLLSQGLPFSSMPTAYNTDYQLTSAELSSLPAFSSPGGLSLGNVTAWQQP
Cebus_capucinus_imitator TTPVWSVATPSLLSQGLPFSSMPTAYNTDYQLTSAELSSLPAFSSPGGLSLGNVTAWQQP
Saimiri_boliviensis TTPVWSVATPSLLSQGLPFSSMPTAYNTDYQLTSAELSSLPAFSSPGGLSLGNVTAWQQP
Macaca_nemestrina TTPVWSVATPSLLSQGLPFSSMPTAYNTDYQLTSAELSSLPAFSSPGGLSLGNVTAWQQP
Papio_anubis TTPVWSVATPSLLSQGLPFSSMPTAYNTDYQLTSAELSSLPAFSSPGGLSLGNVTAWQQP
Chlorocebus_sabaeus TTPVWSVATPSLLSQGLPFSSMPTAYNTDYQLTSAELSSLPAFSSPGGLSLGNVTAWQQP
Homo_sapiens TTPVWSVATPSLLSQGLPFSSMPTAYNTDYQLTSAELSSLPAFSSPGGLSLGNVTAWQQP
Pongo_abelii TTPVWSVATPSLLSQGLPFSSMPTAYNTDYQLTSAELSSLPAFSSPGGLSLGNVTAWQQP
012345678901234567890123456789012345678901234567890123456789
300 1 2 3 4 5

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-- Gln/Pro-rich -----|

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* *
Brachyteles_arachnoides QQPQQPQQPQQPQ---PQQPQPQPQQPQQPQQPQQPQQPQSHLVPVSLSNLIPGSPLPHVGA
Callithrix_jacchus QQPQQPQQPQQPQ---PQPQQPQPQPQQPQQPQQPQQPQQPQSHLVPVSLSNLIPGSPLPHVGA
Aotus_nancymaae QQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQSHLVPVSLSNLIPGSPLPHVGA
Cebus_capucinus_imitator QQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQSHLVPVSLSNLIPGSPLPHVGA
Saimiri_boliviensis QQPQQPQQPQQPQ---PQPQQPQPQPQQPQQPQQPQQPQQPQSHLVPVSLSNLIPGSPLPHVGA
Macaca_nemestrina QQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQSHLVPVSLSNLIPGSPLPHVGA
Papio_anubis QQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQSHLVPVSLSNLIPGSPLPHVGA
Chlorocebus_sabaeus QQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQSHLVPVSLSNLIPGSPLPHVGA
Homo_sapiens QQPQQPQQPQQPQ---PQPQQPQPQPQQPQQPQQPQQPQQPQSHLVPVSLSNLIPGSPLPHVGA
Pongo_abelii QQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQQPQSHLVPVSLSNLIPGSPLPHVGA
0123456789012---34567890123456789012345678901234567890123456
360 7 8 9 400 1

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Brachyteles_arachnoides LTVTTHPHISIKSEPVSPSRERSAPPPPAVFPAARPEPGDGLSSPAGGSYETGDRDDGR
Callithrix_jacchus LTVTTHPHISIKSEPVSPSRERSAPPPPAVFPAARPEPGDGLSSPAGGSYETGDRDDGR
Aotus_nancymaae LTVTTHPHISIKSEPVSPSRERSAPPPPAVFPAARPEPGDGLSSPAGGSYETGDRDDGR
Cebus_capucinus_imitator LTVTTHPHISIKSEPVSPSRERSAPPPPAVFPAARPEPGDGLSSPAGGSYETGDRDDGR
Saimiri_boliviensis LTVTTHPHISIKSEPVSPSRERSAPPPPAVFPAARPEPGDGLSSPAGGSYETGDRDDGR
Macaca_nemestrina LTVTTHPHISIKSEPVSPSRERSAPPPPAVFPAARPEPGDGLSSPAGGSYETGDRDDGR
Papio_anubis LTVTTHPHISIKSEPVSPSRERSAPPPPAVFPAARPEPGDGLSSPAGGSYETGDRDDGR
Chlorocebus_sabaeus LTVTTHPHISIKSEPVSPSRERSAPPPPAVFPAARPEPGDGLSSPAGGSYETGDRDDGR
Homo_sapiens LTVTTHPHISIKSEPVSPSRERSAPPPPAVFPAARPEPGDGLSSPAGGSYETGDRDDGR
Pongo_abelii LTVTTHPHISIKSEPVSPSRERSAPPPPAVFPAARPEPGDGLSSPAGGSYETGDRDDGR
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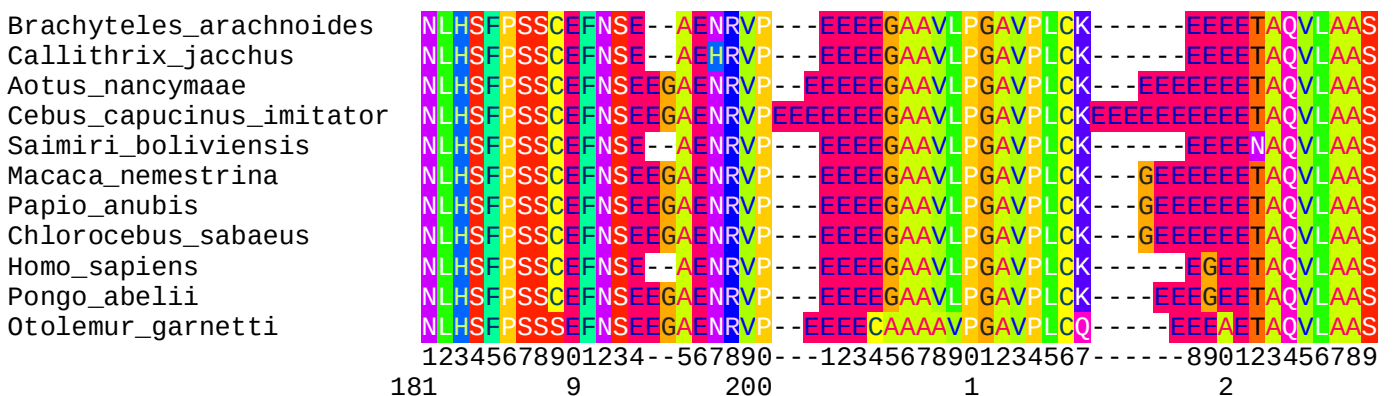
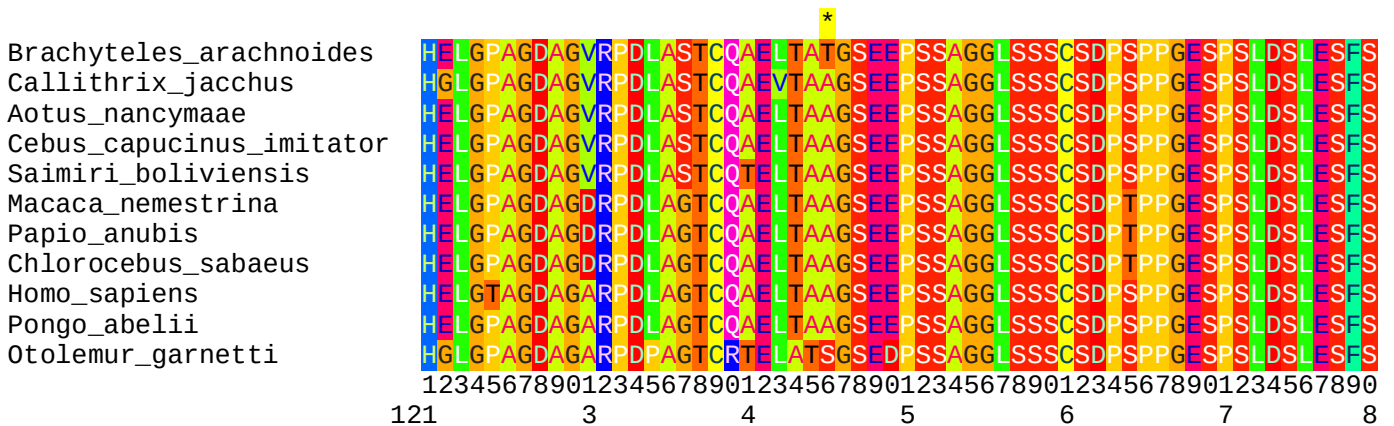
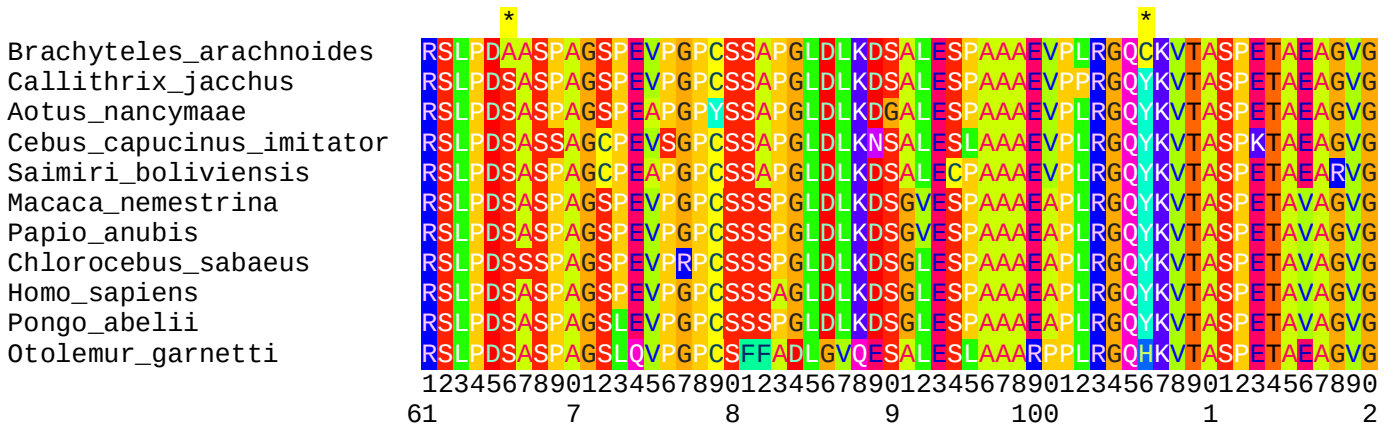
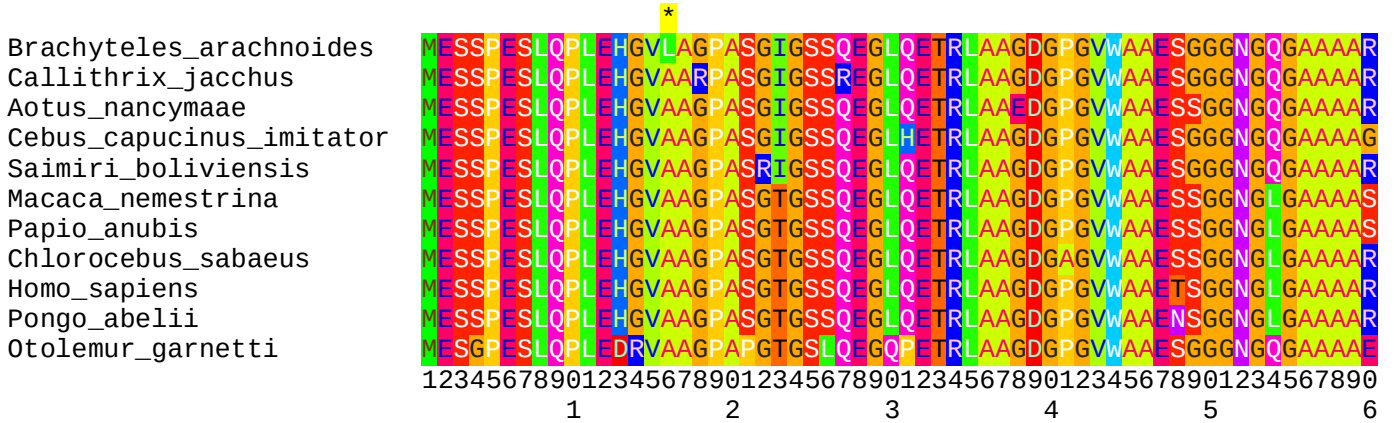
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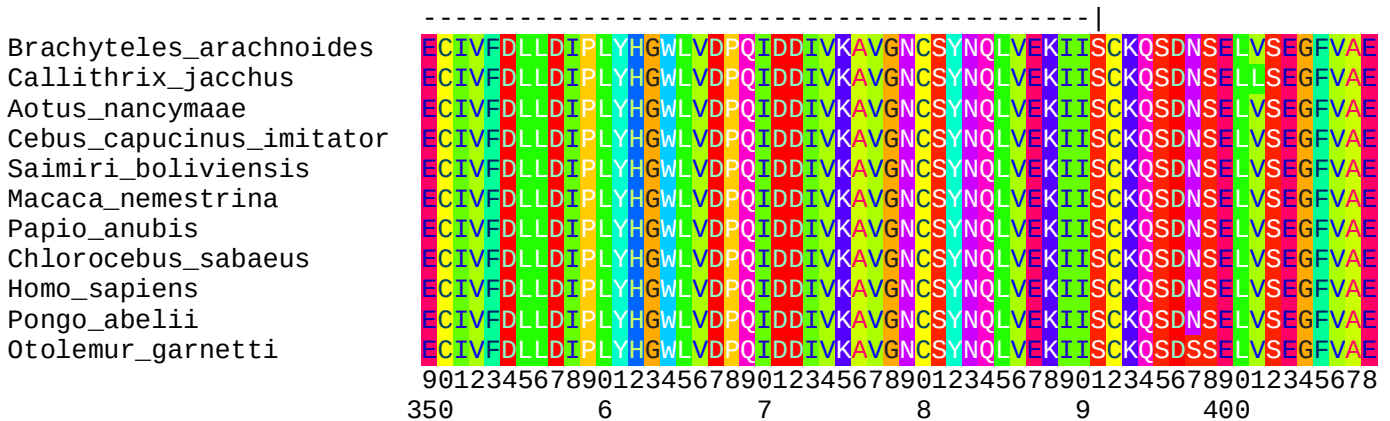
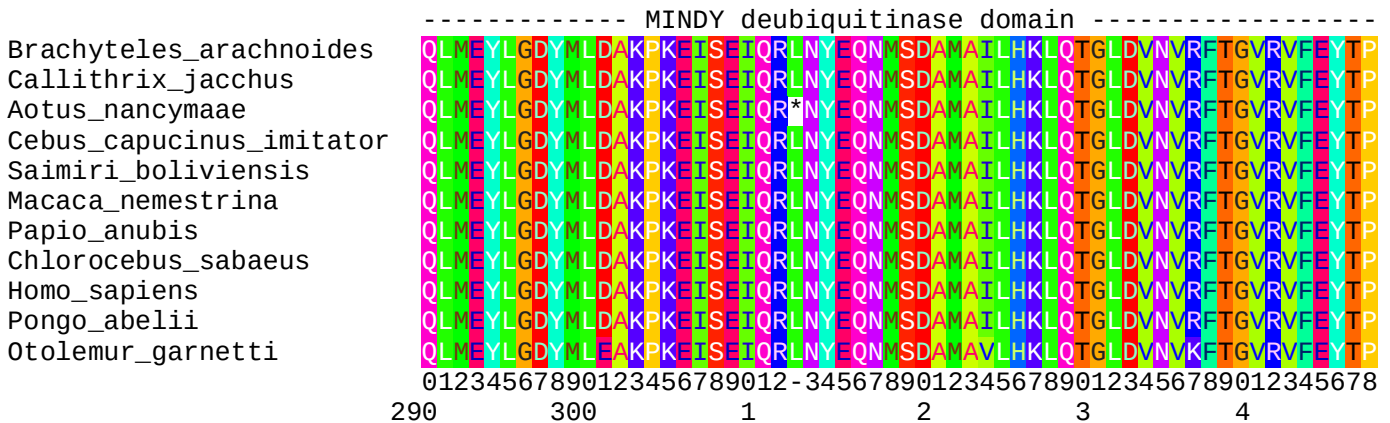
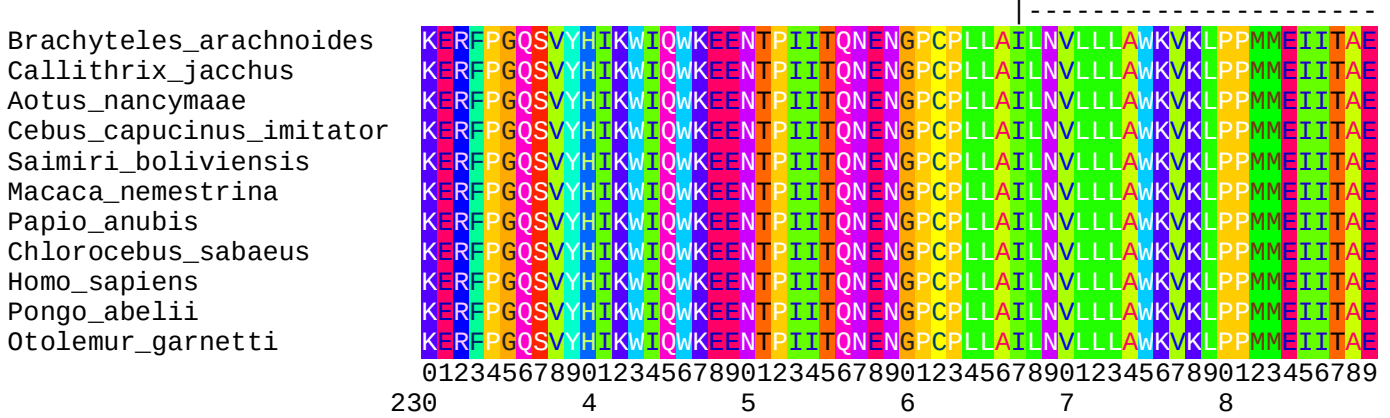
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Brachyteles_arachnoides GDFGPTLGLLRPAEPEAEAGSAVKRMRLDTWTLK
Callithrix_jacchus GDFGPTLGLLRPAEPEAEAGSAVKRMRLDTWTLK
Aotus_nancymaae GDFGPTLGLLRPAEPEAEAGSAVKRMRLDTWTLK
Cebus_capucinus_imitator GDFGPTLGLLRPAEPEAEAGSAVKRMRLDTWTLK
Saimiri_boliviensis GDFGPTLGLLRPAEPEAEAGSAVKRMRLDTWTLK
Macaca_nemestrina GDFGPTLGLLRPAEPEAEAGSAVKRMRLDTWTLK
Papio_anubis GDFGPTLGLLRPAEPEAEAGSAVKRMRLDTWTLK
Chlorocebus_sabaeus GDFGPTLGLLRPAEPEAEAGSAVKRMRLDTWTLK
Homo_sapiens GDFGPTLGLLRPAEPEAEAGSAVKRMRLDTWTLK
Pongo_abelii GDFGPTLGLLRPAEPEAEAGSAVKRMRLDTWTLK
7890123456789012345678901234567890
477 8 9 500 1

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MINDY2





Brachyteles_arachnoides	IVWESLHNVDG DGNFC DSEFHLRPPSDPETVYKGGQQDQIDQDYLMALSLQQEQQSQEIINW
Callithrix_jacchus	VVWESLHNVDG DGNFC DSEFHLRPPSDPETVYKGGQQDQIDQDYLMALSLQQEQQSQEIINW
Aotus_nancymae	VVWESLHNVDG DGNFC DSEFHLRPPSDPETVYKGGQQDQIDQDYLMALSLQQEQQSQEIINW
Cebus_capucinus_imitator	VVWESLHNVDG DGNFC DSEFHLRPPSDPETVYKGGQQDQIDQDYLMALSLQQEQQSQEIINW
Saimiri_boliviensis	VVWESLHNVDG DGNFC DSEFHLRPPSDPETVYKGGQQDQIDQDYLMALSLQQEQQSQEIINW
Macaca_nemestrina	VVWESLHNVDG DGNFC DSEFRLRPPSDPETVYKGGQQDQIDQAGPASTLS-----IKW
Papio_anubis	-----
Chlorocebus_sabaeus	VVWESLHNVDG DGNFC DSEFHLRPPSDPETVYKGGQQDQIDQDYLMALSLQQEQQSQEIINW
Homo_sapiens	VVWESLHNVDG DGNFC DSEFHLRPPSDPETVYKGGQQDQIDQDYLMALSLQQEQQSQEIINW
Pongo_abelii	VVWESLHNVDG DGNFC DSEFHLRPPSDPETVYKGGQQDQIDQDYLMALSLQQEQQSQEIINW
Otolemur_garnetti	VVWESLHNVDG DGNFC DSEFHLRPPSDPETVYKGGQQDQIDQDYLMALSLQQEQQSQEIINW

Brachyteles_arachnoides	EQIPEGISDLELAKKLQEEEDRRASQYYQEQQ-AAAAAAAASTQAQQGQPTQASPSSGRQ
Callithrix_jacchus	EQIPEGISDLELAKKLQEEEDRRASQYYQEQQ-AAAAAAAASTQAQQGQPTQASPSSGRQ
Aotus_nancymae	EQIPEGISDLELAKKLQEEEDRRASQYYQEQQAAAAAAAASTQAQQGQPTQASPSSGRQ
Cebus_capucinus_imitator	EQIPEGISDLELAKKLQEEEDRRASQYYQEQQAAAAAAAASTQAQQGQPTQASPSSGRQ
Saimiri_boliviensis	EQIPEGISDLELAKKLQEEEDRRASQYYQEQQ-AASAAAASTQAQQGQPTQASPSSGRQ
Macaca_nemestrina	KTIWE**T*TE-----
Papio_anubis	-----
Chlorocebus_sabaeus	EQIPEGISDLELAKKLQEEEDRRASQYYQEQQAAAAAAAASTQVQQGQPAQASPSSGRQ
Homo_sapiens	EQIPEGISDLELAKKLQEEEDRRASQYYQEQQ-AAAAAAAASTQAQQGQPAQASPSSGRQ
Pongo_abelii	EQIPEGISDLELAKKLQEEEDRRASQYYQEQQAAAAAAAASTQAQQGQPAQASPSSGRQ
Otolemur_garnetti	-----

Brachyteles_arachnoides	SGNSERKRKEPREKDKEKEKEKNSCVIL
Callithrix_jacchus	SGNSERKRKEPREKDKEKEKEKNSCVIL
Aotus_nancymae	SGNSERKRKEPREKDKEKEKEKNSCVIL
Cebus_capucinus_imitator	SGNSERKRKEPREKDKEKEKEKNSCVIL
Saimiri_boliviensis	SGSSERKRKEPREKDKEKEKEKNSCVIL
Macaca_nemestrina	-----,EPREKDKEKEKEKNSCVIL
Papio_anubis	-----
Chlorocebus_sabaeus	SGNSERKRKEPREKDKEKEKEKNSCVIL
Homo_sapiens	SGNSERKRKEPREKDKEKEKEKNSCVIL
Pongo_abelii	SGNSERKRKEPREKDKEKEKEKNSCVIL
Otolemur_garnetti	-----

MRPS14

| Signal Pept |

	1	2	3	4	5	6
Brachyteles_arachnoides	MAGSTLGFVLR	TFKQMPSSASG	QVRGYYVDWRM	WRDVKRRKMAYE	EYADERLRVNSLRKN	
Callithrix_jacchus	MAASVLGSVLR	TFKQMPSSASG	QVRGYYVDWRM	WRDVKRRKMAYE	EYADERLRVNSLRKN	
Aotus_nancymae	MAVSVLGSVLR	MFKQMPSSASG	QVRGYYVDWRM	WRDVKRRKMAYE	EYADERLRVNSLRKN	
Cebus_capucinus_imitator	MAASVLGSVLR	TFKQMPSSASG	QVRGYYVDWRM	WRDVKRRKMAYE	EYADERLRVNSLRKN	
Saimiri_boliviensis	MAASVLGSVLR	AFKQMPSSASG	QVRGYYVDWRM	WRDVKRRKMAYE	EYADERLRVNSLRKN	
Macaca_nemestrina	MAAFMLGSLLR	TFKQMPSSASG	QVRSHYYVDWRM	WRDVKRRKMAYE	EYADERLRINSLRKN	
Papio_anubis	MAAFMLGSLLR	TFKQMPSSASG	QVRSHYYVDWRM	WRDVKRRKMAYE	EYADERLRINSLRKN	
Chlorocebus_sabaeus	MAAFMLGSLLR	MFKQMPSSASG	QVRSHYYVDWRM	WRDVKRRKMAYE	EYADERLRINSLRKN	
Homo_sapiens	MAAFMLGSLLR	TFKQMPSSASG	QVRSHYYVDWRM	WRDVKRRKMAYE	EYADERLRINSLRKN	
Pongo_abelii	MAAFMLCSLLR	RFKQMPSSASG	QVRSHYYVDWRM	WRDVKRRKMAYE	EYADERLRINSLRKN	
Otolemur_garnetti	MAAYVLGSLLR	TFRQVGPASASG	QVRGYYVDWRML	RDVKRRKMAYE	EYADERLRINALRKN	

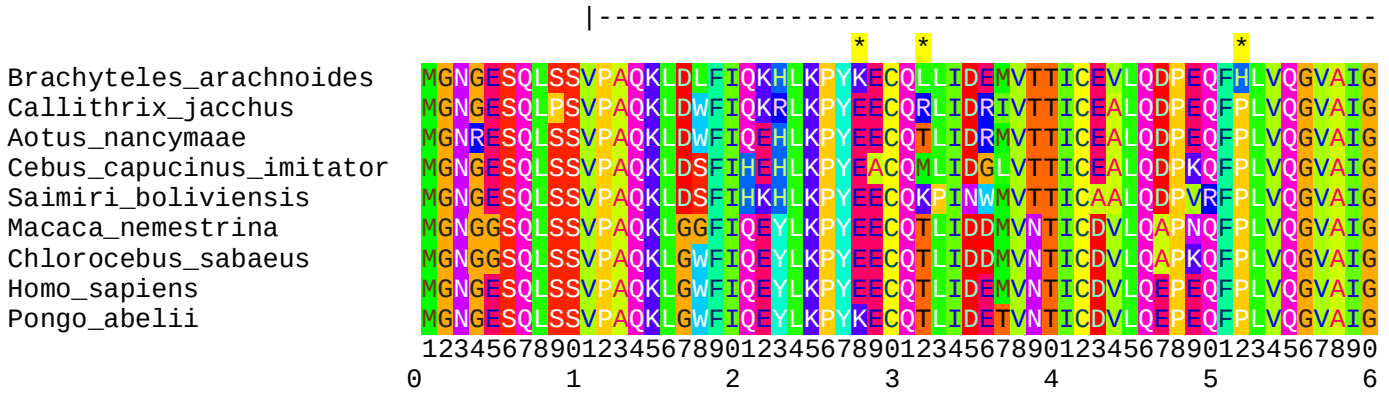
|----- Ribosomal protein S14/S29 -----|

Brachyteles_arachnoides	TILPKLLQDVADEEIAAF	PRDSCPVRIRNRCVMT	SRPRGVKRRWRL	SRIVFRHLADHGQL
Callithrix_jacchus	TILPKLLQDVADEEIAAF	PRDSCPVRIRNRCVMT	SRPRGVKRRWRL	SRIVFRHLADHGQL
Aotus_nancymae	TILPKLLQDVADEEIAAF	PRDSCPVRIRNRCVLT	SRPRGVKRRWRL	SRIVFRHLADHGQL
Cebus_capucinus_imitator	TILPKLLQDVADEEIAAF	PRDSCPVRIRNRCVMT	SRPRGVKRRWRL	SRIVFRHLADHGQL
Saimiri_boliviensis	TILPKLLQDVADEEIAAF	PRDSCPVRIRNRCVMT	SRPRGVKRRWRL	SRIVFRHLADHGQL
Macaca_nemestrina	TXLPKILQDVADEEIAAL	PRDSCPVRNQESV	CYDVRPRGVKRRWRL	SRIVFRHLADN-QQL
Papio_anubis	TILPKILQDVADEEIAAL	PRDSCPVRIRNRCVMT	SRPRGVKRRWRL	SRIVFRHLADHGQL
Chlorocebus_sabaeus	TILPKILQDVADEEIAAL	PRDSCPVRIRNRCVMT	SRPRGVKRRWRL	SRIVFRHLADHGQL
Homo_sapiens	TILPKILQDVADEEIAAL	PRDSCPVRIRNRCVMT	SRPRGVKRRWRL	SRIVFRHLADHGQL
Pongo_abelii	TILPKILQDVADEEIAAL	PRDSCPVRIRNRCVMT	SRPRGVKRRWRL	SRIVFRHLADHGQL
Otolemur_garnetti	TILPKDIQVADEEIAAL	PRDSCPVRIRNRCVMT	SRPRGVKRRWRL	SRIVFRHLADHGQL

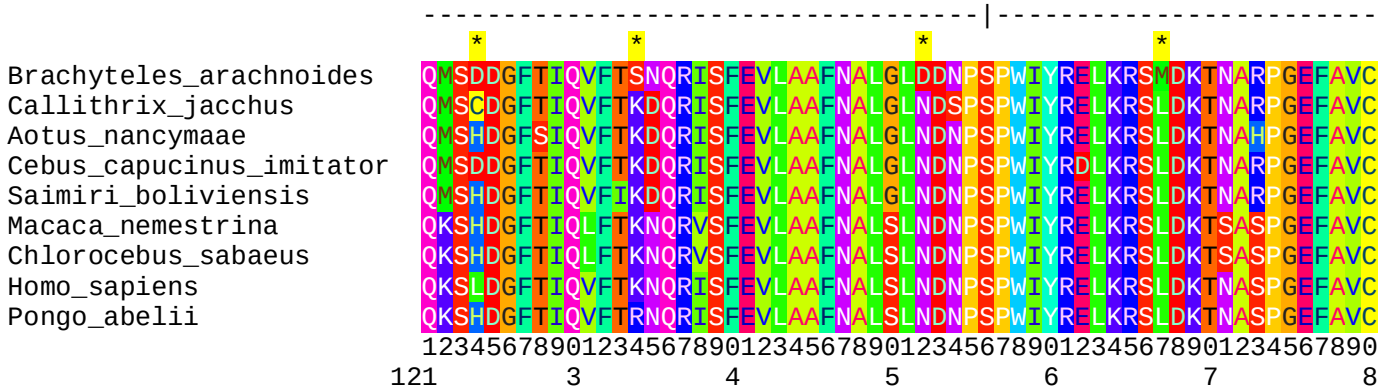
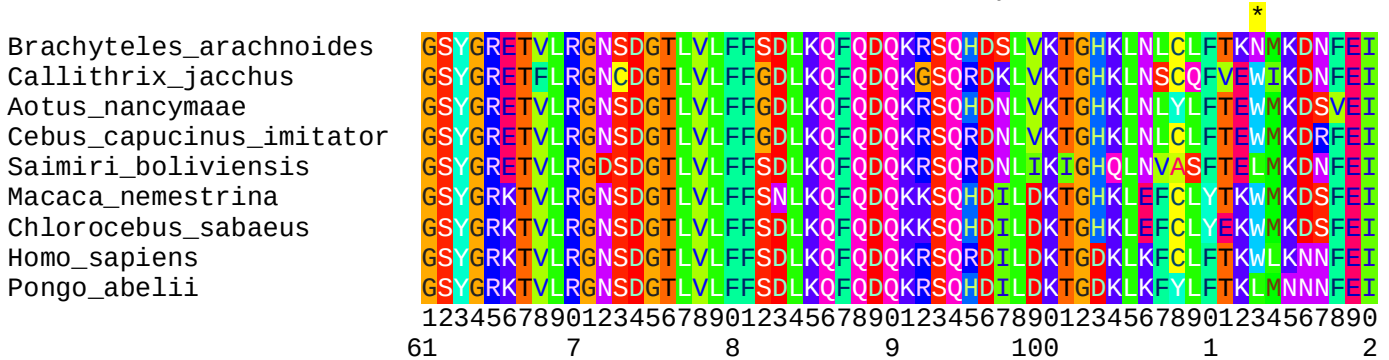
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Brachyteles_arachnoides	SGVQRAM
Callithrix_jacchus	SGVQRAM
Aotus_nancymae	SGVQRAI
Cebus_capucinus_imitator	SGVQRA-
Saimiri_boliviensis	SGVQRAM
Macaca_nemestrina	SGIQRX-
Papio_anubis	SGIQRX-
Chlorocebus_sabaeus	SGIQRX-
Homo_sapiens	SGIQRAT
Pongo_abelii	SGIQRA-
Otolemur_garnetti	SGVQRX-

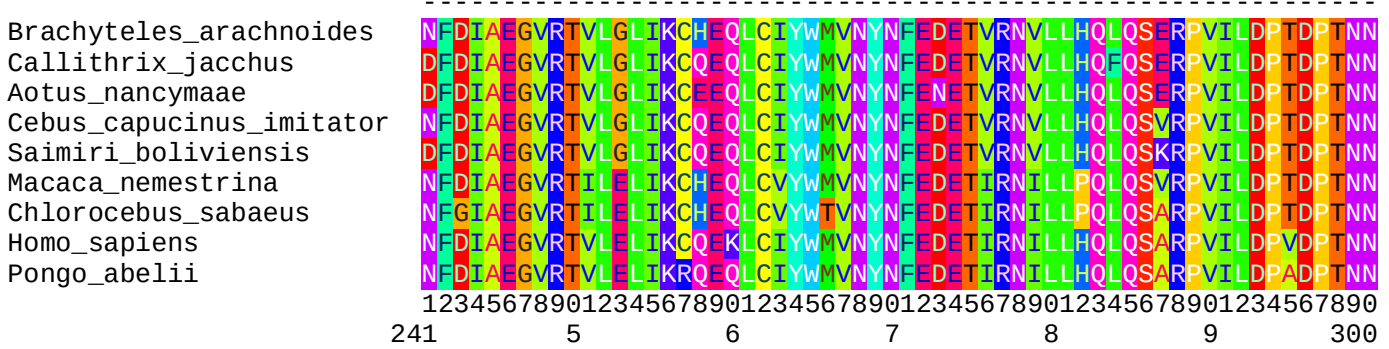
012345
120



---- 2-50AS/ClassI-CCaase, nucleotidyltransferase domain ----



-- 2'-5'-oligoadenylate synthetase 1, domain 2/C-terminal --



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Brachyteles_arachnoides V R G D Y R C W Q R L K Q E A Q T W L T S P N L D N E L P A P S W N V L P A P L F T T P G H R L D K F I K D F L Q P D K
 Callithrix_jacchus V S G D Y R C W Q R L K Q E A Q T W L T S P N L D N E L P A P S W N V L P A P L F T T L G H H L D K F I K D F L Q P D K
 Aotus_nancymaae V S G D N R C W Q R L K Q E A Q T W L T S P S L D N E L P A P S W N V L P A P L F T T P G H R L D K F I K D F L Q P D K
 Cebus_capucinus_imitator V S G D N R C W Q R L K Q E A Q T W L T S P Q L D N E L P A P S W N V L P A P L F T T P G H C L D K F I K D F L Q P D K
 Saimiri_boliviensis V S G D N R C W Q R L K Q E A Q T W L T S P N L D N E L P A P S W N V L P A P L F T T P G H C L D K F I K D F L Q P D K
 Macaca_nemestrina V S G D K R C W Q W L K K E A Q T W L T S P N L D N E L P A P S W N V L P A P L F T T P G H L L D K F I K E F L Q P N K
 Chlorocebus_sabaeus V S G D K R C W Q W L K K E A Q T W L T S P N L D N E L P A P S W N V L P A P L F T T P G H L L D K F I K E F L Q P N K
 Homo_sapiens V S G D K I C W Q W L K K E A Q T W L T S P N L D N E L P A P S W N V L P A P L F T T P G H L L D K F I K E F L Q P N K
 Pongo_abelii V S G D K I C W Q R L K K E A Q T W L T S P N L D N E L P A P S W N V L P A P L F T T P G H L L D K F I K E F L Q P N K

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301 1 2 3 4 5 6

|--- 2-50AS/ClassI-CCAase, nucleotidyltransferase domain ---

Brachyteles_arachnoides Y F L E Q I D S A V N I I C T F L K E N C F R Q S T A K I Q T V R G G S T A K G T A L K T G S D A D L V V F H N S L K S
 Callithrix_jacchus Y F L E Q V D S A V N I I C K F L E E N C F R R S T A K I Q T V Q G G S T A K G T A L K T G S D S D L V V F H N S L K S
 Aotus_nancymaae Y F L E Q V D I A I N I I C K F L E E N C F R Q S T A K I Q T V Q G G S T A K G T A L K T G S D A D L V V F H N S L K S
 Cebus_capucinus_imitator Y F L E Q V D S A V N I I C K F L E E N C F R R S I A K I Q T V Q G G S T A K G T A L K T G S D G N L V V F H N S L K S
 Saimiri_boliviensis Y F L E Q V N G A V N I I C K F L E E N C F P Q S T A K I K T V Q G G S T A K G T A L K T G S D A D L V V F H N S L R S
 Macaca_nemestrina F F L E Q I D S A V D I I C T F L K E N C F R Q S T A K I Q I V Q G G S T A K G T A L K T G S D A N L V V F H N S L K S
 Chlorocebus_sabaeus F F L E Q I D S A V D M I C T F L K E N C F R Q S T A K I Q I V Q G G S T A K G T A L K T G S D V D L V V F H N S L K S
 Homo_sapiens C F L E Q I D S A V N I I R T F L K E N C F R Q S T A K I Q I V R G G S T A K G T A L K T G S D A D L V V F H N S L K S
 Pongo_abelii C F L E Q I D S A V N I I R T F L K E N C F R Q S T A K I Q I V R G G S T A K G T A L K T G S D A D L V V F H N S L K S

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Brachyteles_arachnoides Y I C Q K N E R H K I I K E I H Q Q L E A F Q R E K K E E L E V R F E I S K W K A P R V L S F S L K S K V L N E S V N F
 Callithrix_jacchus Y T F Q K N E Q H K I I K E I H Q Q L E A F Q Q E K K E E L E V R F E I S R W K A P R V L S F S L K S K V L N E S V N F
 Aotus_nancymaae Y T S P K N E R H K I F K E I H Q Q L E A F Q R Q K K E E L E V R F E I S K W K A P R V L S F S L K S K V L N Q S V N F
 Cebus_capucinus_imitator Y T S Q K N E R H K I I K E I H Q Q L E A F Q Q E K K E E L E V R F E I S K W E A P R V L S F S L K S K V L N E S V N F
 Saimiri_boliviensis Y T S Q K Y T G H N I M K E I H Q Q L E A F Q R E M E E E I E V R F E I S K W K A P R V L S F S L K S K V L N E S V S F
 Macaca_nemestrina Y T S Q K N E R Y R I I K E I H E Q L E T F W R E K K E E L E V S F E P P W K A P R V L S F S L K S K V L N E S V S F
 Chlorocebus_sabaeus Y T S Q K N E R Y R I I K E I Q E Q L E T F W R E K K E E L E V S F E L P W K A P R V L S F S L K S K V L N E S V S F
 Homo_sapiens Y T S Q K N E R H K I V K E I H E Q L K A F W R E K E E E L E V S F E P P K W K A P R V L S F S L K S K V L N E S V S F
 Pongo_abelii Y T S Q K N E R H K I V K E I H E Q L E A F W R E N K E E L E V S F E P P K W K A P R V L S F S L K S K V L N E S V S F

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421 3 4 5 6 7 8

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Brachyteles_arachnoides D V L P A F N A L G Q L S S G S T P S P E V Y A G L I D L Y K S S D L P G G E F S T C F T V L Q R N F I R T O P T K L K
 Callithrix_jacchus D V L P A F N A L G Q L S S G S T S S P E V Y A G L I D L Y K S S D L P G G E F S T C F T A L Q R N F I S S Q H T K L K
 Aotus_nancymaae D V L P A F N A L G Q L S S G S T S S P E V Y A G L I D L Y K S S D L P G G E F S T C F T A L Q R N F I R S Q D T K L K
 Cebus_capucinus_imitator D V L P A F N A L G Q L S S G S T S S P E V Y A G L I D L Y K S S D L P G G E F S T C F T A L Q R N F I H S R H T K L K
 Saimiri_boliviensis N V L P A F N A L G Q L S S G S T S S P E V Y A E L I D L Y K S L D L P G G E F S T C F T V L Q R N F I H S R P T K L K
 Macaca_nemestrina D V L P A F N A L G Q L S S G S T P S P E V Y A G L L D L Y K S S D F P G G E F S T C F T V L Q R N F I C S R P T K L K
 Chlorocebus_sabaeus D V L P A F N A L G Q L S S G S T P T P E V Y A G L L D L Y K S S D F P G G E F S T C F T V L Q R D F I R S R P T K L K
 Homo_sapiens D V L P A F N A L G Q L S S G S T P S P E V Y A G L I D L Y K S S D L P G G E F S T C F T V L Q R N F I R S R P T K L K
 Pongo_abelii D V L P A F N A L G Q R S S G S T P S P E V Y A G L I D L Y K S S D L P G G E F S T C F T V L Q R N F I R S R P T K L K

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481 9 500 1 2 3 4

-- 2'-5'-oligoadenylate synthetase 1, domain 2/C-terminal --

Brachyteles_arachnoides D L I R L V K H W Y K E C E R K L K P K G S L P P K Y A L E L L T V Y A W E Q G S G V L D F D T A E G F R T V L G L V T
 Callithrix_jacchus D L I R L V K H W Y K E C E R K L K P K G S L P P K Y A L E L L T V Y A W E Q G S G Q P D F D T A E G F R T V L E L V T
 Aotus_nancymaae D L I R L V K H W Y K E C E R K L K P K G S L P P K Y A L E L L T V Y A W E Q G S G P D F D T A E G F R T V L E L V T
 Cebus_capucinus_imitator D L I R L V K H W Y Q E C E R K L K P K G S L P P K Y A L E L L T V Y A W E Q G S G M P D F D T A E G F R T V L E L V T
 Saimiri_boliviensis D L I R L V K H W Y K E C E R K L K P K G S L P P K Y A L E L L T V Y A W E Q G S G L P D F D T A E G F R T V L E L V T
 Macaca_nemestrina D L I R L V K H W Y K E C R K L K P K G S L P P K Y A L E L L T V Y A W E Q G S G A P D F D T A E G F R T V L E L V T
 Chlorocebus_sabaeus D L I R L V K H W Y K E C E R K L K P K G S L P P K Y A L E L L T V Y A W E Q G S G A P D F D T A E G F R T V L E L V T
 Homo_sapiens D L I R L V K H W Y K E C E R K L K P K G S L P P K Y A L E L L T I Y A W E Q G S G V P D F D T A E G F R T V L E L V T
 Pongo_abelii D L I R L V K H W Y K E C E R K L K P K G S L P P K Y A L E L L T I Y A W E Q G S G V P D F D T A E G F R T V L E L V T

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541 5 6 7 8 9 600

-- 2'-5'-oligoadenylate synthetase 1, domain 2/C-terminal --

Brachyteles_arachnoides	QYQQLCIFWKVNYNFEDET	VRKFLLSQLQKTRPVILDPAEPTG	DVGGGDRWCWHL	LAK	EA
Callithrix_jacchus	QYQQLCIFWKVNYNFEDET	VRKFLLSQLQKTRPVILDPAEPTG	DVGGGDRWCWHL	LAK	EA
Aotus_nancymaae	QYQQLCIFWKVNYNFEDET	VRKFLLSQLQKTRPVILDPAEPTG	DVGGGDRWCWHL	LAK	EA
Cebus_capucinus_imitator	QYQQLCIFWKVNYNFEDET	VRKFLLSQLQKTRPVILDPAEPTG	DVGGGDRWCWHL	LAK	EA
Saimiri_boliviensis	QYQQLCIFWKVNYNFEDET	VRKFLLSQLQKTRPVILDPAEPTG	DVGGGDRWCWHL	LAK	EA
Macaca_nemestrina	QYRQLCIFWKVNYNFEDET	VRKFLLSQLQKTRPVILDPAEPTG	DVGGGDRWCWHL	LAK	EA
Chlorocebus_sabaeus	QYRQLCIFWKVNYNFEDET	VRKFLLSQLQKTRPVILDPAEPTG	DVGGGDRWCWHL	LAK	EA
Homo_sapiens	QYQQLCIFWKVNYNFEDET	VRKFLLSQLQKTRPVILDPAEPTG	DVGGGDRWCWHL	LAK	EA
Pongo_abelii	QYQQLCIFWKVNYNFEDET	IRKFLLSQLQKTRPVILDPAEPTG	DLGGGDRWCWHL	LAK	EA

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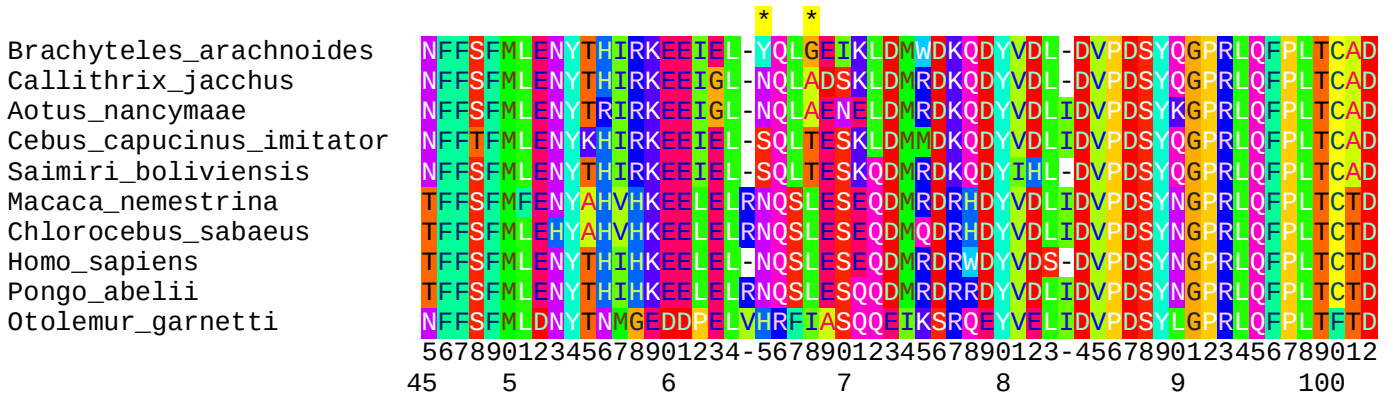
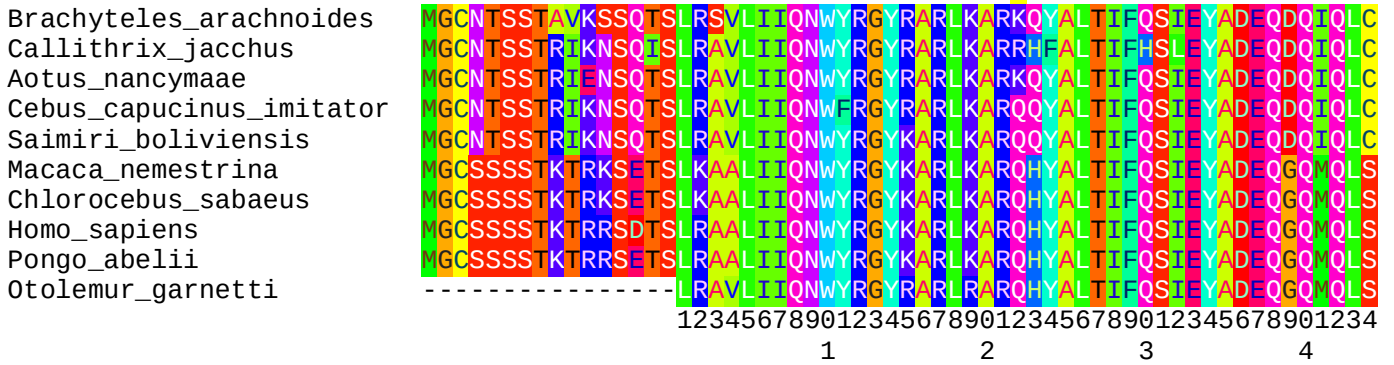
Brachyteles_arachnoides	KEWLC	SLCFKDGSGNPI	SPWKVPVKVI
Callithrix_jacchus	KEWFC	SLCFKDGSGNPI	PPWKVPVKVI
Aotus_nancymaae	KEWLC	SLCFKDGSGNPI	PPWKVPVKVI
Cebus_capucinus_imitator	KEWLY	SLCFKDGSGNPI	APWKVPVKVI
Saimiri_boliviensis	KEWLY	SLCFKGGSGNPI	SPWKVPVKVI
Macaca_nemestrina	KEWSY	SLCFKDETNPI	SPWKVPVKVI
Chlorocebus_sabaeus	KEWLY	SLCFKDGSGNPI	SPWKVAVKVI
Homo_sapiens	KEWL	SSPCFKDGTGNPI	PPWKVPVKVI
Pongo_abelii	KEWL	SSLCFKDGSGNPI	PPWKVPX---

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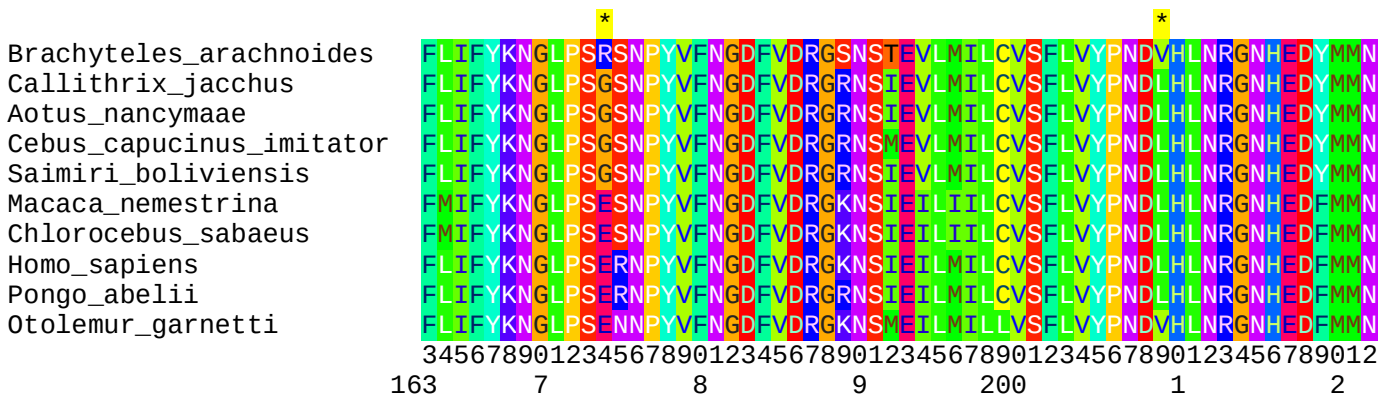
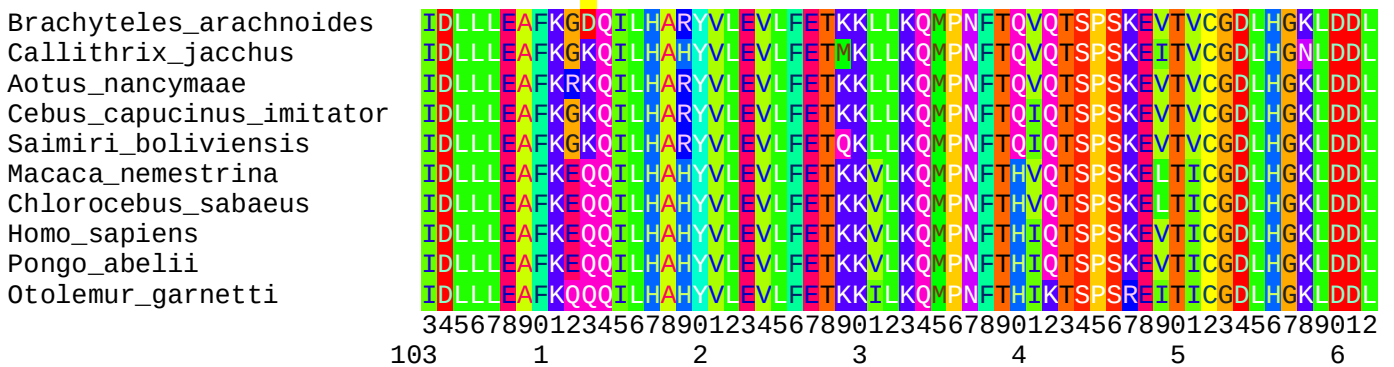
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PPEF1

|----- IQ motif -----|



|--- Serine/threonine-specific protein phosphatase -----|



Brachyteles_arachnoides	LRYGFTKEILCKY-KIHGKKILQSL	EEELYTWLPIGTIIDNEILVWHGGISETTDLNLLHR
Callithrix_jacchus	LRYGFTKEILHKY-KIHGKKILQTL	EEFYTWLPIGTIIDNEILVWHGGISETTDLNLLHR
Aotus_nancymaae	LRYGFTKEILHKY-KIHGKKILQTL	EEFYTWLPIGTIIDNEILVWHGGISETTDLNLLHR
Cebus_capucinus_imitator	LRYQKNKTYSSYLQIHGKKILQTL	EEELYTWLPIGTIIDNEILVWHGGISETTDLNLLHR
Saimiri_boliviensis	LRYGFTKEILHKY-KVHGKKILQTL	EEELYTWLPIGTIIDNEILVWHGGISETTDLNLLHR
Macaca_nemestrina	LRYGFTKEILHKY-KLHGKRILQI	LEELYAWLPIGTIVDNEILVIHGGISETTDLNLLHR
Chlorocebus_sabaeus	LRYGFTKEILHKY-KLHGKRILQI	LEELYAWLPIGTIVDNEILVIHGGISETTDLNLLHC
Homo_sapiens	LRYGFTKEILHKY-KLHGKRILQI	LEEFYAWLPIGTIVDNEILVIHGGISETTDLNLLHR
Pongo_abelii	LRYGFTKEILHKY-KLHGKRILQI	LEELYAWLPIGTIVDNEILVIHGGISETTDLNLLHR
Otolemur_garnetti	LRYGFTKEILHKY-KLHGKKILEI	LEELYTWLPIGTIIDNEILVTHGGISETDNLVLR

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Brachyteles_arachnoides	IERNKMKSVLMPPREINKDHN	NSQHSKVGVTISAHGRIKTS	SGFPSEHLPKQEW	EQVIDI
Callithrix_jacchus	VERNKMKSVLMPPREINKDHS	SSDSKHGNVGVITGAHGRIK	ASGCPSEHLPKHEW	EQVIDI
Aotus_nancymaae	VERNKMKSVLMPPREIYKDYN	TDSKHSKVDVTISAHGRIK	TGFLSEHLPKHERE	EQVIDI
Cebus_capucinus_imitator	LERNKMKSVLMPPEINKDYNT	DSKHSKLGVTISAHGRIK	ASGLSSEHLPKHEW	EQVIDI
Saimiri_boliviensis	VERNKMKSVLMPPEINKDCN	NDSSKPSKVGVTISAHGRI	KASGCPSEHLPKHEW	EQVVDI
Macaca_nemestrina	VERNKMKSVLIPPTETNRDND	TDSKHNVGVTFNAHGRIK	TNGSPIEHLPKHEW	EQIIDI
Chlorocebus_sabaeus	IERNKMKSVLIPPNETDRDYD	TDSKHNVGVTFNAHGRIK	TNRSSIEHLPKHEW	EQIIDI
Homo_sapiens	VERNKMKSVLIPPTETNRDHD	TDSKHNVGVTFNAHGRIK	TNGSPTEHLTEHEW	EQIIDI
Pongo_abelii	VERNKMKSVLIPPTETNRDHD	TDKHNVGVTFNAHGRIK	TNGSPIEHLTKHEW	EQIIDI
Otolemur_garnetti	LERNKMKSVLIPPNDVSRDQ	AVEFEQSRMGISVSASEIFK	-QGETSEHLSRHEW	EQVIDI

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282 9 300 1 2 3 4

Brachyteles_arachnoides	LWSDPRGKKGCFPNTGRGGGCY	FGPDITSKILNKFQLKMIIRS	HQCKPEGYEICH	DGKVV
Callithrix_jacchus	LWSDPRGKKGCFPNTGRGGGCY	FGPDITSKILNKFQLKMIIRS	HECKPEGYEICH	GKVV
Aotus_nancymaae	LWSDPRGKKGCFPNTGRGGGCY	FGPDITSKILNKFQLKMIIRS	HECKPEGYEICH	GKVV
Cebus_capucinus_imitator	LWSDPRGKKGCFPNTGRGGGCY	FGPDITSKILNKFQLKMIIRS	HECKPEGYEICH	GKVV
Saimiri_boliviensis	LWSDPRGKKGCFPNTGRGGGCY	FGPDITSKILNKFQLKMIIRS	HECKPEGYEICH	GKVV
Macaca_nemestrina	LWSDPRGKNGCFPNTGRGGGCY	FGPDVTSKILNKYQLKMLIRS	HECKPEGYEICH	DGKVV
Chlorocebus_sabaeus	LWSDPRGKNGCFPNTGRGGGCY	FGPDVTSKILNKYQLKMLIRS	HECKPEGYEICH	DGKVV
Homo_sapiens	LWSDPRGKNGCFPNTCRGGGCY	FGPDVTSKILNKYQLKMLIRS	HECKPEGYEICH	DGKVV
Pongo_abelii	LWSDPRGKNGCFPNTGRGGGCY	FGPDVTSKILNKYQLKMLIRS	HECKPEGYEICH	DGKVV
Otolemur_garnetti	LWSDPKGRKGCYPNTRGGGCY	FGPDVTSKILSKFQLKMLIRS	HECKPEGYEICH	DGKVI

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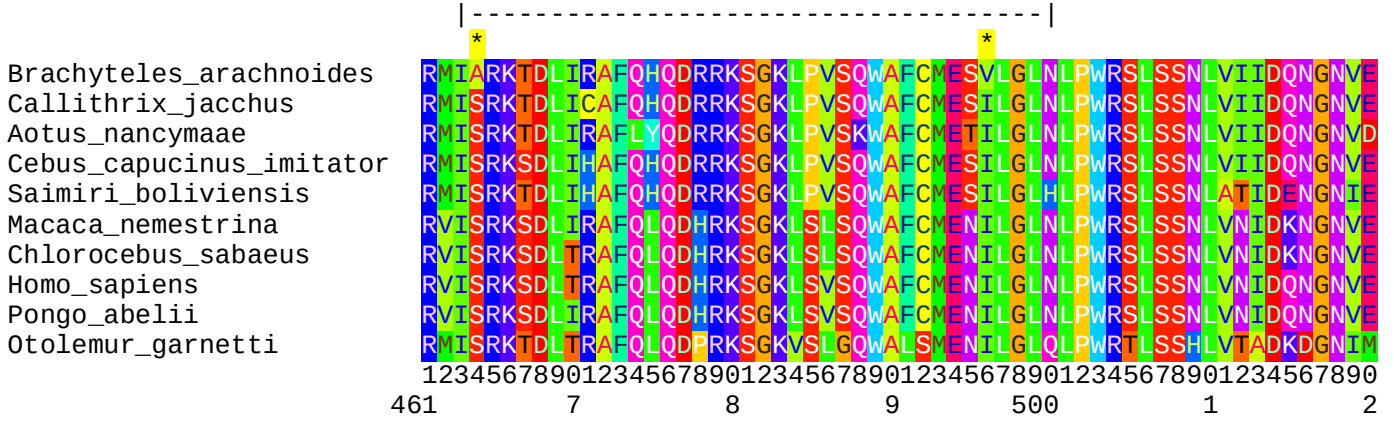
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Brachyteles_arachnoides	TIFSASNYEEEDSNRGAYVKL	CSGNTNPOFFQYQVTDATCF	HPHLQHRVSTIENSAIKILRE
Callithrix_jacchus	TIFSASNYEEEDSNRGAYVKL	CSGKNPLFFQYQVTDATCF	HTLQHRVSTVNSAIKILRE
Aotus_nancymaae	TIFSASNYEEEDSNRGAYVKL	CSGNTNPRFFQYQVTDATCF	HPFHQHRVSTMNSAIKILKE
Cebus_capucinus_imitator	TIFSASNYEEEDSNRGAYVKL	CSGNTNPRFFQYQVTDATCF	QPLHQRVSTMNSAIKILRE
Saimiri_boliviensis	TIFSASNYEEEDSNRGAYVKL	CSGANPRFFQYQVTDATCF	QPLHQRVSTMNSAIKILRE
Macaca_nemestrina	TIFSASNYEEEGSNRGAYIKL	CSGTAPRFFQYQVTKATCF	QPLRQRVYTMESSAIKILKE
Chlorocebus_sabaeus	TIFSASNYEEEGSNRGAYIKL	CSGTAPRFFQYQVTKATCF	QPLRQRVYTMESSAIKILKE
Homo_sapiens	TIFSASNYEEEGSNRGAYIKL	CSGTTNPRFFQYQVTKATCF	QPLRQRVDTMNSAIKILRE
Pongo_abelii	TIFSASNYEEEGSNRGAYIKL	CSGTTNPRFFQYQVTKATCF	QPLRQRVHTMNSAIKILRE
Otolemur_garnetti	TVFSASNYEEEGSNRGAYIRL	CSGMNPRFFQYQVTKATCL	KLQPLHQRVNIMEISAIRALKE

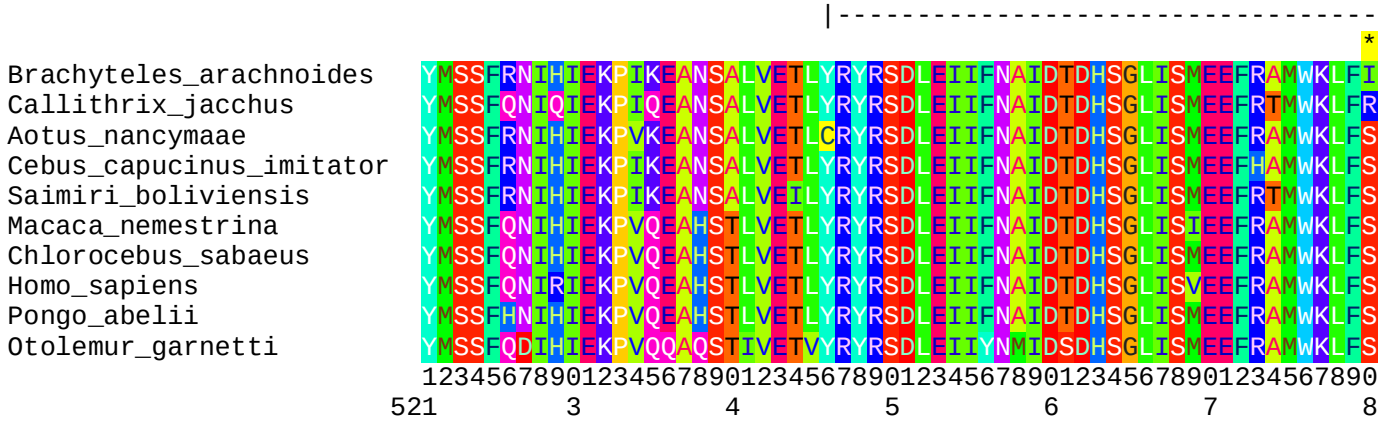
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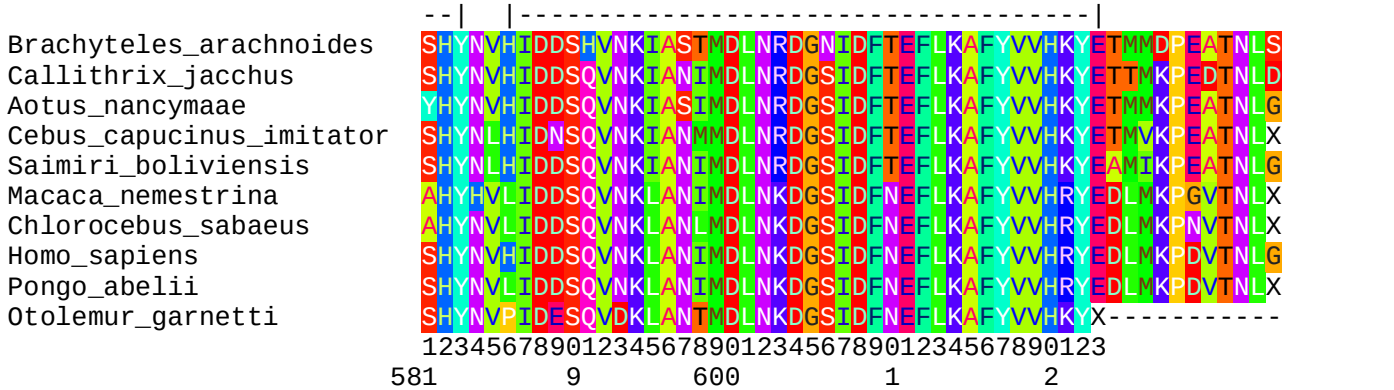
EF-hand calcium-binding domain 1



EF-hand calcium-binding domain 2

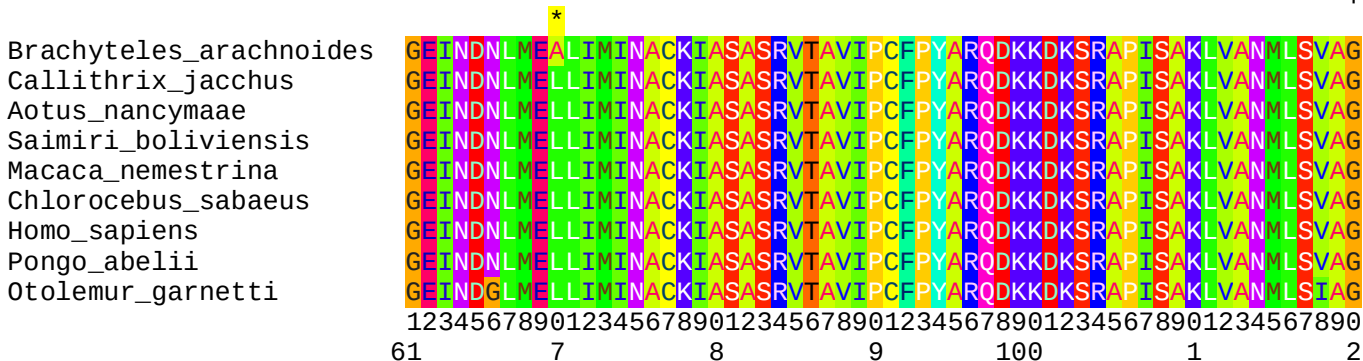
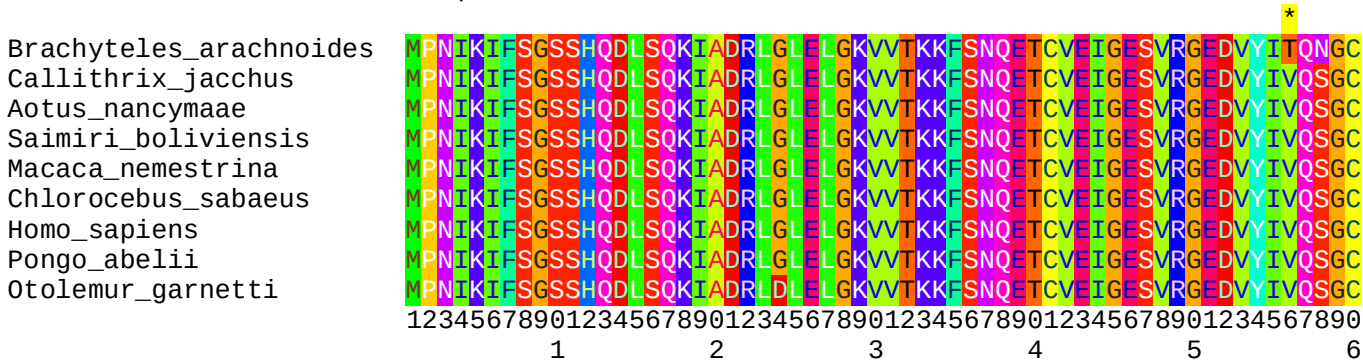


EF-hand calcium-binding domain 3

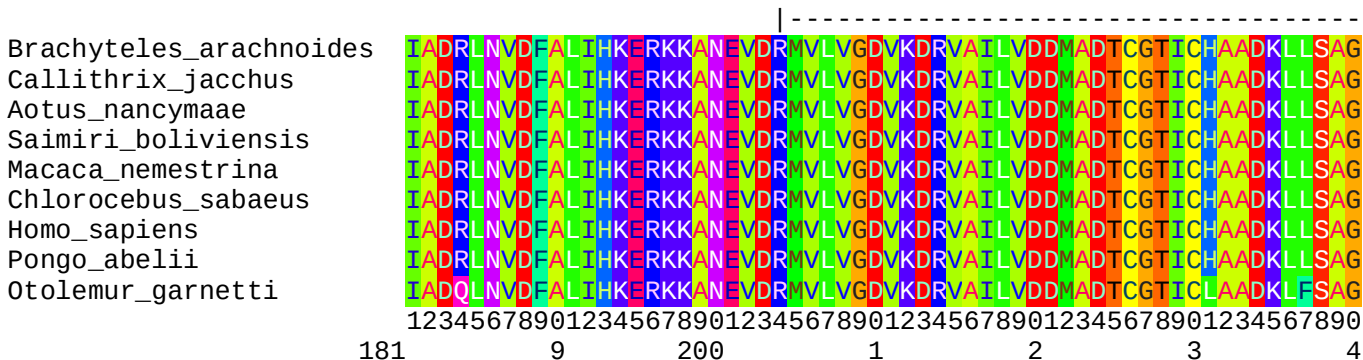
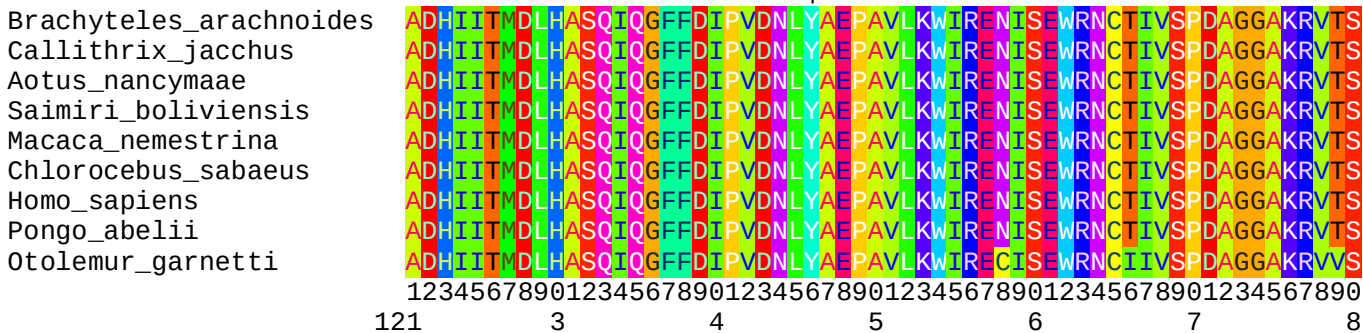


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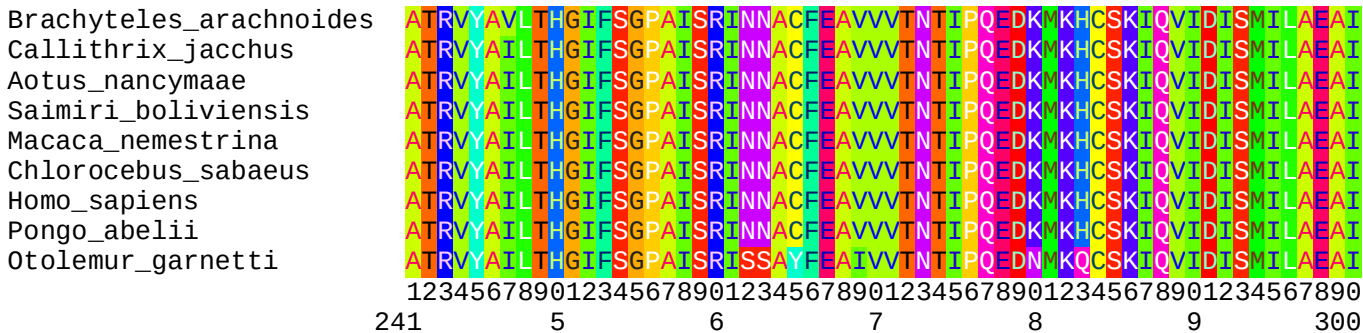
N-terminal domain of ribose phosphate pyrophosphokinase



Phosphoribosyltransferase domain

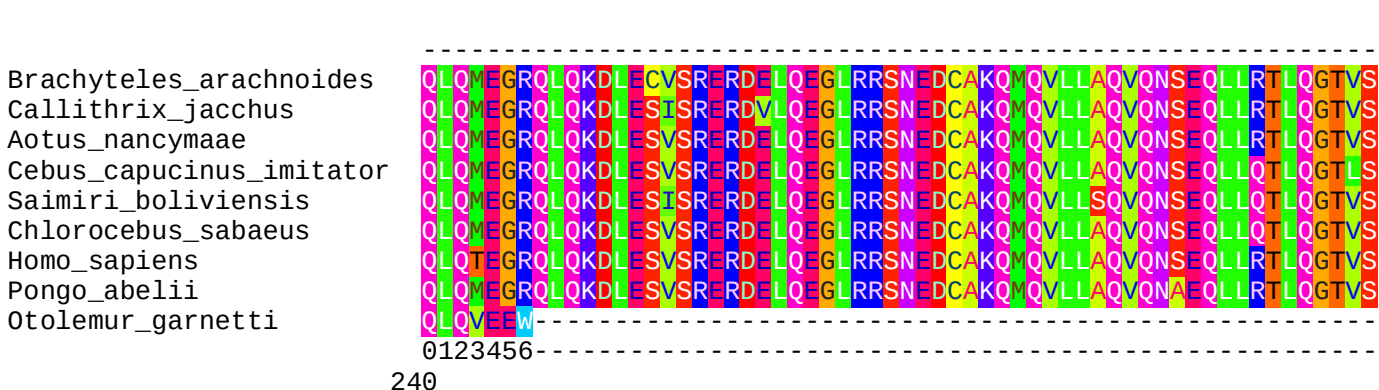
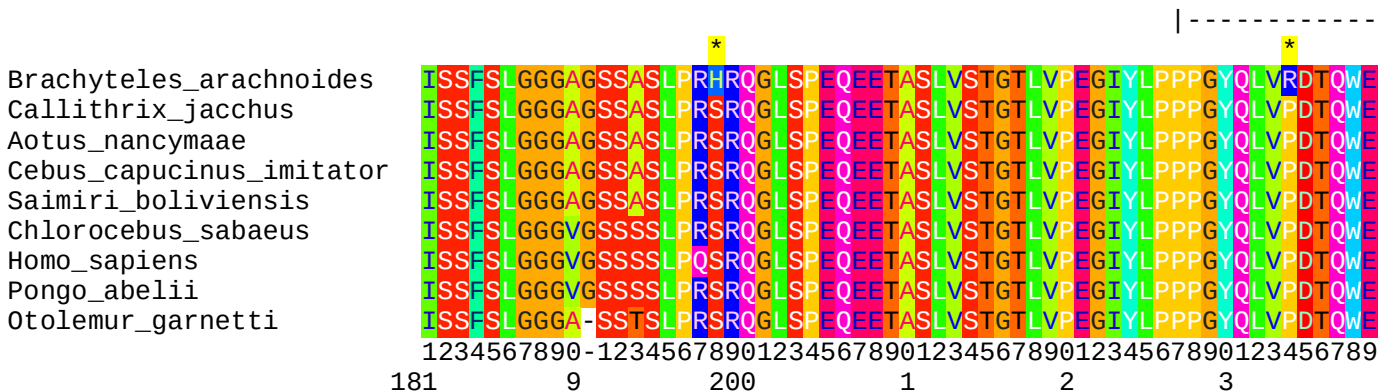
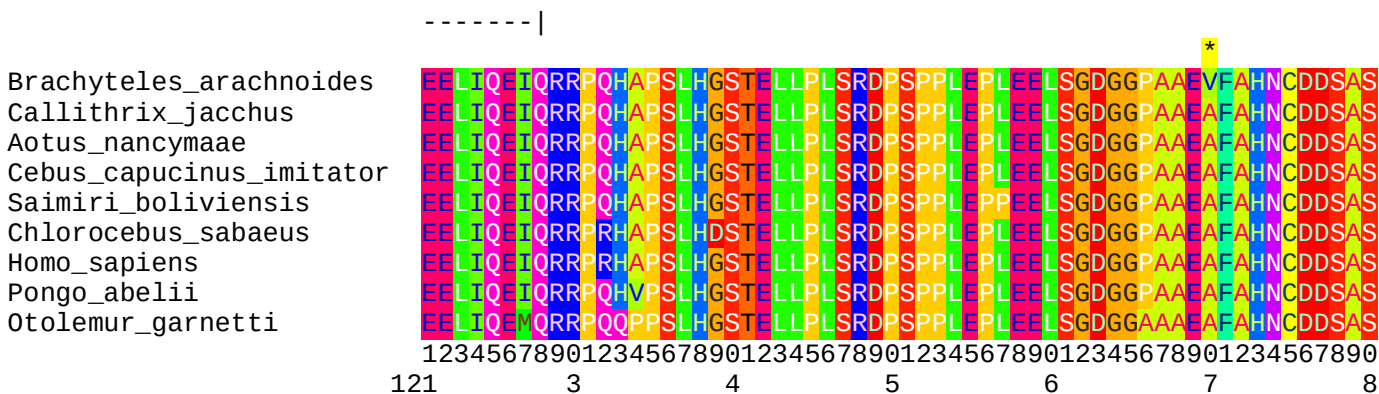
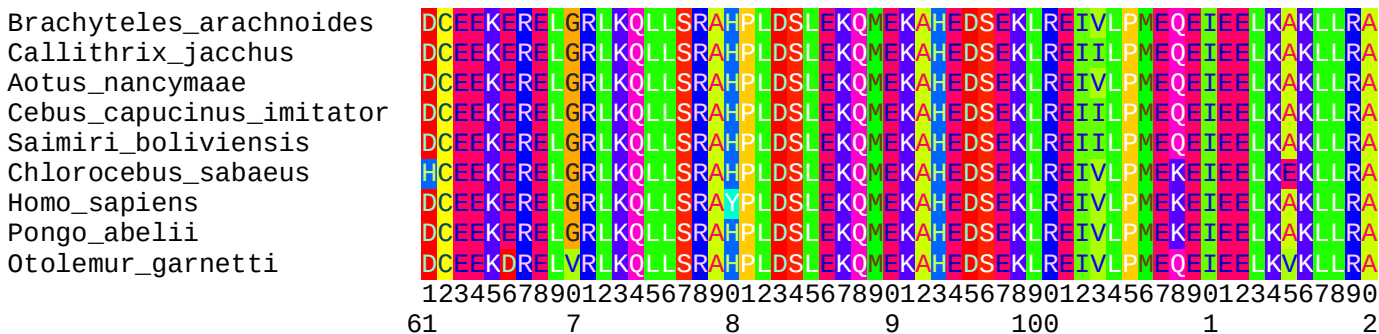
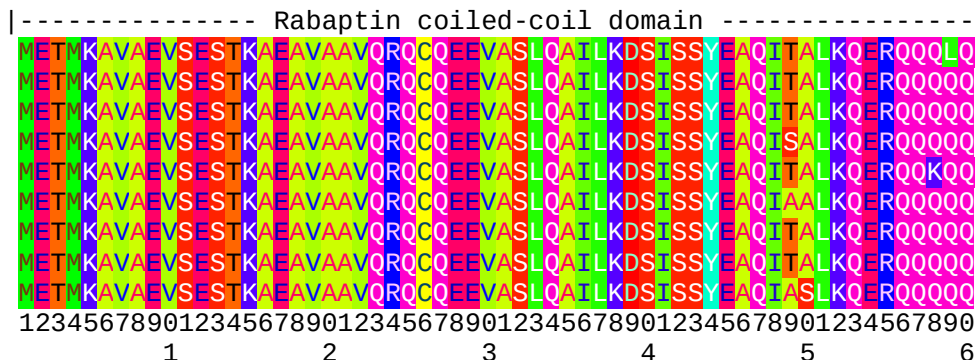


Phosphoribosyl synthetase-associated domain



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Callithrix_jacchus	RRTHNGESVSYLFSHVPL
Aotus_nancymae	RRTHNGESVSYLFSHVPL
Saimiri_boliviensis	RRTHNGESVSYLFSHVPL
Macaca_nemestrina	RRTHNGESVSYLFSHVPL
Chlorocebus_sabaeus	RRTHNGESVSYLFSHVPL
Homo_sapiens	RRTHNGESVSYLFSHVPL
Pongo_abelii	RRTHNGESVSYLFSHVPL
Otolemur_garnetti	RRTHNGESVSYLFSHVPL
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301	1

RABEP2



Rabaptin, GTPase-Rab5 binding domain

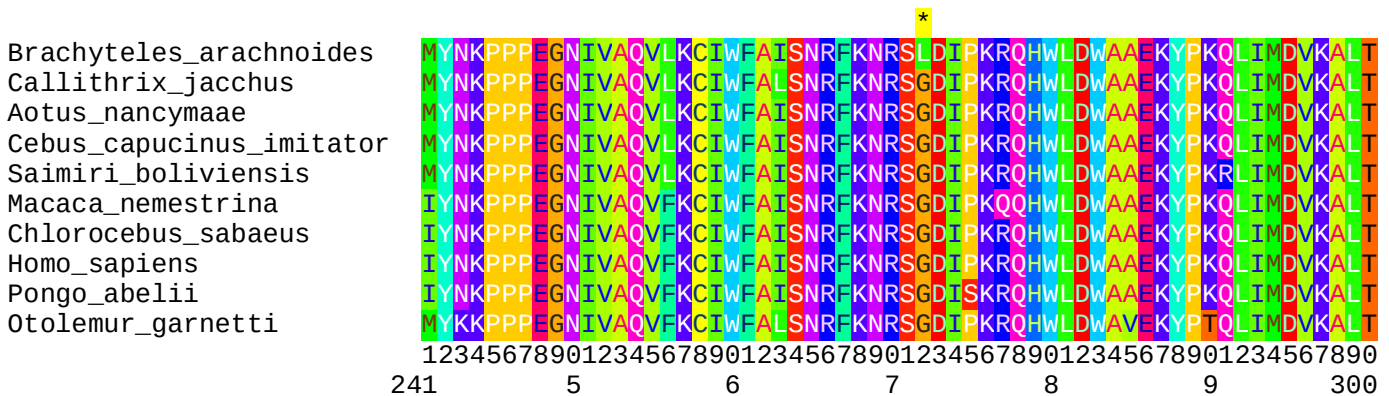
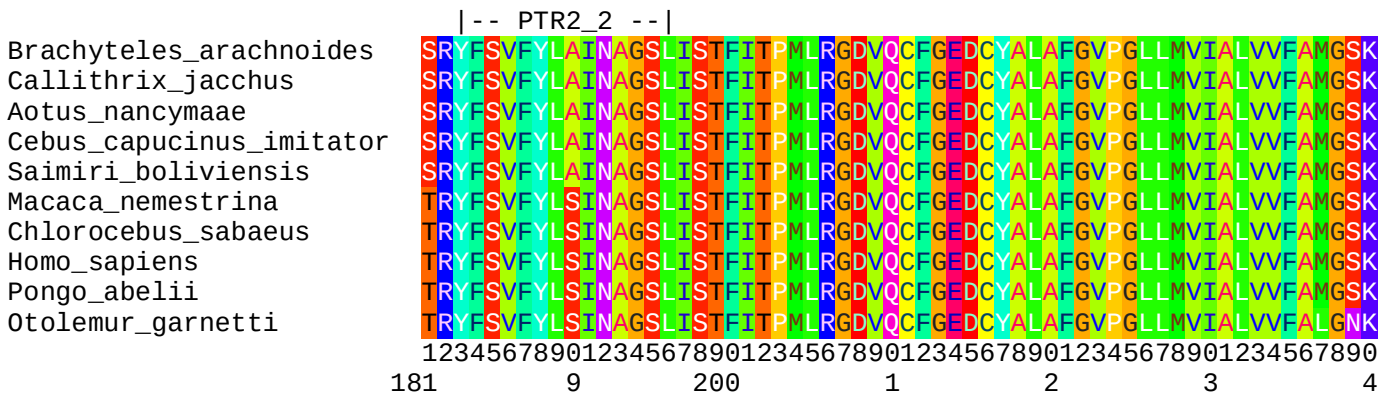
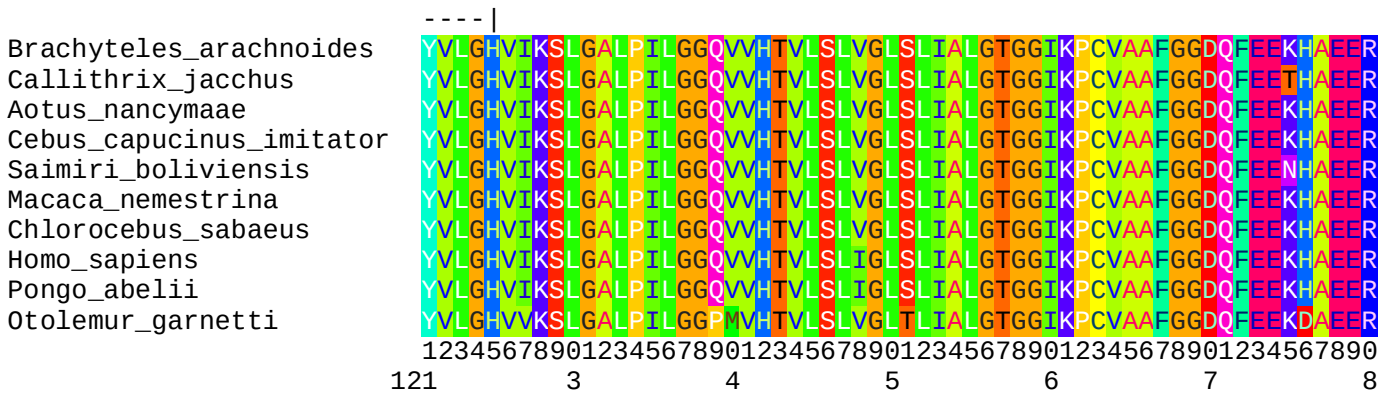
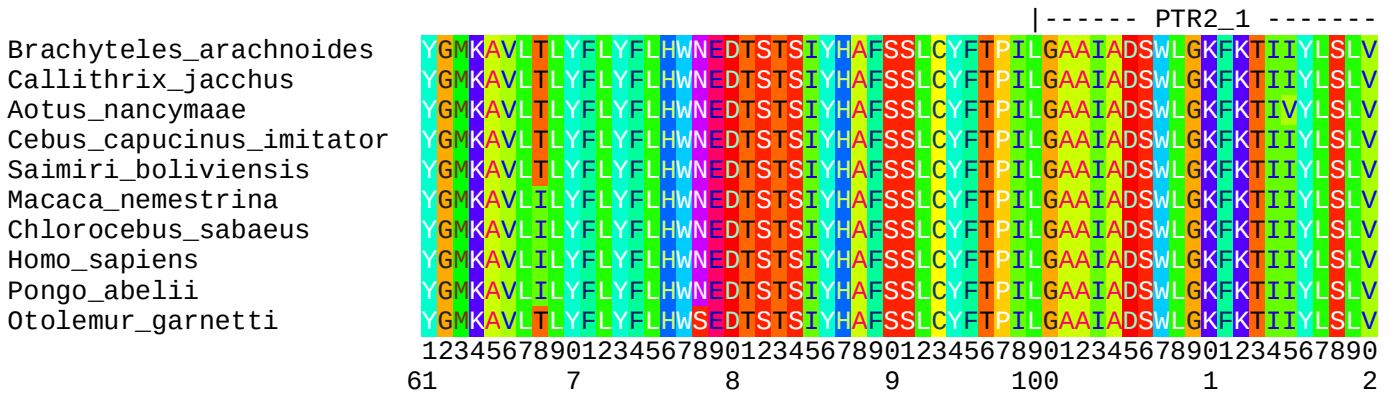
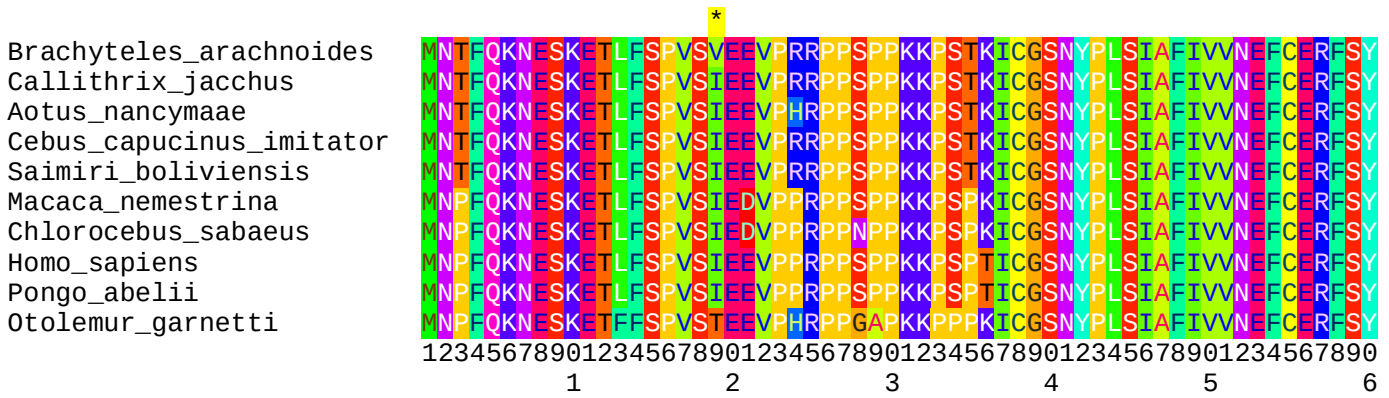
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 Callithrix_jacchus QAQERVQLQMAELVTTTHKCLHNEVKRLNEENQGLRAEQPPSSAPQGLQQERGEEESLPSS
 Aotus_nancymaae QAQERVQLQMAELVTTTHKCLHNEVKRLNEENRGLQAEQPPSSAPQGLQQEQGEEESLPSS
 Cebus_capucinus_imitator QAQERVQLQMAELVTTTHKCLHNEVKRLNEENRGLRAEQLPSSAPQGLQQEQGEEESLPSS
 Saimiri_boliviensis QAQERVQLQMAELVTTTHKCLHNEVKRLNEENRGLRAEQLPSSAPQGPQQEQGEEESLPSS
 Chlorocebus_sabaeus QAQERVQLQMAELVTTTHKCLHHEVKRLNEENQGLRAEQLPSSAPQGLQQEQGEEESLPSS
 Homo_sapiens QAQERVQLQMAELVTTTHKCLHHEVKRLNEENQGLRAEQLPSSAPQGSQQEQGEEESLPSS
 Pongo_abelii QAQERVQLQMAELVTTTHKCLHHEVKRLNEENQGLRAEQLPSSAPQGPQQEQGEEESLPSS
 Otolemur_garnetti ---EQLQVE-AELVTSHKCLRHEVKRLNEENQGLRAEQPPSSAPQGLEQDEGEEESLPTV
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 Brachyteles_arachnoides VPQLQQLLRHTQQEARARLQAQEHGAERLRIEIVTLREAL EEETAARASLEGQLRVQREE
 Callithrix_jacchus VPQLQQLLRHTQQEAQARLQAQEHGAERLRIEIVTLREAL EEETAARASLEGQLRVQREE
 Aotus_nancymaae VSELQQLLRHTQQEARARLQAQEHGAERLRIEIVTLREAL EEETAARASLEGQLRVQREE
 Cebus_capucinus_imitator VLELQQLLRHTQQEAQAQLQAQEHGAERLRIEIVTLREAL EEETAARASLEGQLRVQREE
 Saimiri_boliviensis VPQLQQLLRHTQQEAQARLQAQEHGAERLRIEIVTLREAL EEETAARASLEGQLRVQREE
 Chlorocebus_sabaeus VPQLQQLLRRTQEARARLQAQEHGAERLRIEIVTLREAL EEETAARASLEGQLRVQRED
 Homo_sapiens VPQLQQLLCCTRQEARARLQAQEHGAERLRIEIVTLREAL EEETVARASLEGQLRVQREE
 Pongo_abelii VPQLQQLLCRTRQEARAQLQAQEHGAERLRIEIVTLREAL EEETAARASLEGQLRVQREE
 Otolemur_garnetti VPQLQQLVRRTRQEARARQAQEHAAERLRIEIVTLREVL EEEKAAARASLDGQLRVQREE
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 303 1 2 3 4 5 6

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 Callithrix_jacchus TEVLEASLCSLRTEVERVQQEQSKAQLPD-LSEQRAKVLRLQAELETSEVQVQDFVRLSQ
 Aotus_nancymaae TEVLEASLCSLRTEVERVQQEQSKAQLPD-LSEQRAKVLRLQAELETSEVQVQDFVRLSQ
 Cebus_capucinus_imitator TEVLEASLCSLRTEVERVQQEQSKAQLPD-LSEQRAKVLRLQAELETSEVQVQDFVRLSQ
 Saimiri_boliviensis TEVLEASLCSLRTEVERVQQEQSKAQLPD-LSEQRAKVLRLQAELETSEVQVQDFVRLSQ
 Chlorocebus_sabaeus TEVLEASLCSLRTEMERVQQEESKAQLPD-LSEQRAKVLRLQAELETSEVQVQDFVRLSQ
 Homo_sapiens TEVLEASLCSLRTEMERVQQEQSKAQLPD-LSEQRAKVLRLQAELETSEVQVQDFVRLSQ
 Pongo_abelii TEVLEASLCSLRTEMERVQQEQSKPQLPDLLSEQRAKVLRLQAELETSEVQVQDFVRLSQ
 Otolemur_garnetti TEVLEASLCSLRTEMERMQQEQSKAQLPDLLSEQRAKVLRLQAELETSEVQVQDFVRLSQ
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 363 7 8 9 400 1 2

ALQVRLERIRQAETLEQVRSIMDEAPLTDIRDIKDT
 Callithrix_jacchus ALQVRLERIRQAETLEQVRSIMDEAPLTDIRDIKDT
 Aotus_nancymaae ALQVRLERIRQAETLEQVRSIMDEAPLTDIRDIKDT
 Cebus_capucinus_imitator ALQVRLERIRQAETLDQVRSIMDEAPLTDIRDIKDT
 Saimiri_boliviensis ALQVRLERIRQAETLEQVRNIMDEAPLTDIRDIKDT
 Chlorocebus_sabaeus ALQVRLERIRQAETLEQVRSIMDEAPLTDIRDIKDT
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 Pongo_abelii ALQVRLERIRQAETLEQVHSIMDEAPLTDVVDIKDT
 Otolemur_garnetti ALQVRLERIRQAETLEQVRSILDEAPPRDVRDIRD
 234567890123456789012345678901234567
 422 3 4 5

SLC15A2



Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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 301 1 2 3 4 5 6

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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 361 7 8 9 400 1 2

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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 541 5 6 7 8 9

Brachyteles_arachnoides	IPANKMSIAWQLPQYALVTAAEVMFSVTGLEFSYSQAPSSMKSVLQAAWLLTVAVGNIIV
Callithrix_jacchus	IPANKMSIAWQLPQYALVTAAEVMFSVTGLEFSYSQAPSSMKSVLQAAWLLTVAAAGNIIV
Aotus_nancymaae	IPANKMSIAWQLPQYALVTAAEVMFSVTGLEFSYSQAPSSMKSVLQAAWLLTVAVGNIIV
Cebus_capucinus_imitator	IPANKMSIAWQLPQYALVTAAEVMFSVTGLEFSYSQAPSSMKSVLQAAWLLTVAVGNIIV
Saimiri_boliviensis	IPANKMSIAWQLPQYALVTAAEVMFSVTGLEFSYSQAPSSMKSVLQAAWLLTVAVGNIIV
Macaca_nemestrina	IPANKMSIAWQLPQYALVTAGEVMFSVTGLEFSYSQAPSSMKSVLQAAWLLTIAVGNIIV
Chlorocebus_sabaeus	IPANRMSIAWQLPQYALVTAGEVMFSVTGLEFSYSQAPSSMKSVLQAAWLLTIAVGNIIV
Homo_sapiens	IPANKMSIAWQLPQYALVTAGEVMFSVTGLEFSYSQAPSSMKSVLQAAWLLTIAVGNIIV
Pongo_abelii	IPANKMSIAWQLPQYALVTAGEVMFSVTGLEFSYSQAPSSMKSVLQAAWLLTIAVGNIIV
Otolemur_garnetti	IPANKMSIAWQLPQYALVTAGEVMFSVTGLEFSYSQAPSSMKSVLQAAWLLTVAVGNIIV
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Brachyteles_arachnoides	LVVAQFSGLVQWAEFILFSCLLLVVCLIFSIMGYNYVPVKTEDRQGPADKQIPHIQGNMI
Callithrix_jacchus	LVVAQFSGLVQWAEFILFSCLLLVVCLIFSIMGYNYVPVKTEDMQGPADKQIPHIQGNVI
Aotus_nancymaae	LVVAQFSGLVQWAEFILFSCLLLVVCLIFSIMGYNYVPVKTEDMQGPADKQIPHIQGNMI
Cebus_capucinus_imitator	LVVAQFSGLVQWAEFILFSCLLLVVCLIFSIMGYNYVPVKTEDMQGPADKQIPHIQGNMI
Saimiri_boliviensis	LVVAQFSGLVQWAEFILFSCLLLVVCLIFSIMGYNYVPVKTEDMQGPADKQIPHIQGNMI
Macaca_nemestrina	LVVAQFSGLVQWAEFILFSCLLLVICLIFSIMGYYYVPVKTEDMQGPGDKQISHIQGNMI
Chlorocebus_sabaeus	LVVAQFSGLVQWAEFILFSCLLLVICLIFSIMGYYYVPVKTEDMQGPGDKQIPHIQGNMI
Homo_sapiens	LVVAQFSGLVQWAEFILFSCLLLVICLIFSIMGYYYVPVKTEDMRGPADKHIPIHIQGNMI
Pongo_abelii	LVVAQFSGLVQWAEFILFSCLLLVICLIFSIMGYYYVPVKTEDMRGPADKQIPHIQGNMI
Otolemur_garnetti	LVVAQFSGLVQWAEFILFSCLLLVVCLIFSIMGYYYVPVKPEDMQGPADKQIPHIQGNMI
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	660 7 8 9 700 1

Brachyteles_arachnoides	NLETKKTK
Callithrix_jacchus	NLETKKTK
Aotus_nancymaae	NLETKKTK
Cebus_capucinus_imitator	NLETKKTK
Saimiri_boliviensis	NLETKKTK
Macaca_nemestrina	NLETKKTK
Chlorocebus_sabaeus	NLETKKTK
Homo_sapiens	KLETKKTK
Pongo_abelii	NLETKKTK
Otolemur_garnetti	NLETKKTK
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	720

-----|---- Cytoplasmic ----|-- Transmembrane ---| Lumenal -

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Callithrix_jacchus TTMAILLHEIPHEVGDFAILLRAGFDRWSAAKLQLSTALGGLL GAGFAICTQSPK GVEET

Aotus_nancymaae TTMAILLHEIPHEVGDFAILLRAGFDRWSAAKLQLSTALGGLL GAGFAICTQSPK GVEET

Cebus_capucinus_imitator TTMAILLHEIPHEVGDFAILLRAGFDRWSAAKLQLSTALGGLL GAGFAICTQSPK GVEET

Saimiri_boliviensis TTMAILLHEIPHEVGDFAILLRAGFDRWSAAKLQLSTALGGLL GAGFAICTQSPK GVEET

Macaca_nemestrina TTMAILLHEIPHEVGDFAILLRAGFDRWSAAKLQLSTALGGLL GAGFAICTQSPK GVEET

Papio_anubis TTMAILLHEIPHEVGDFAILLRAGFDRWSAAKLQLSTALGGLL GAGFAICTQSPK GVEET

Chlorocebus_sabaeus TTMAILLHEIPHEVGDFAILLRAGFDRWSAAKLQLSTALGGLL GAGFAICTQSPK GVEET

Homo_sapiens TTMAILLHEIPHEVGDFAILLRAGFDRWSAAKLQLSTALGGLL GAGFAICTQSPK GVEET

Pongo_abelii TTMAILLHEIPHEVGDFAILLRAGFDRWSAAKLQLSTALGGLL GAGFAICTQSPK GVEET

Otolemur_garnetti TTMAILLHEIPHEVGDFAILLRAGFDRWSAAKLQLSTALGGLL GACFAICTQSPK GVEET

9012345678901234567890123456789012345678901234567890123456789012345678

240 5 6 7 8 9

|-- Transmembrane --|Cytoplasmic|-- Transmembrane ---|

Brachyteles_arachnoides AA W V L P F T S G G F L Y I A L V N V L P D L L E E E D P W R S L Q Q L L L L C T G I M V M V L F S L F V D

Callithrix_jacchus AA W V L P F T S G G F L Y I A L V N V L P D L L E E E D P W R S L Q Q L L L L C A G I M V M V L F S L F V D

Aotus_nancymaae AA W V L P F T S G G F L Y I A L V N V L P D L L E E E D P W R S L Q Q L L L L C A G I M V M V L F S L F V D

Cebus_capucinus_imitator VA W V L P F T S G G F L Y I A L V N V L P D L L E E E D P W R S L Q Q L L L L C A G I M V M V L F S L F V D

Saimiri_boliviensis AA W V L P F T S G G F L Y I A L V N V L P D L L E E E D P W R S L Q Q L L L L C A G I M V M V L F S L F V D

Macaca_nemestrina AA W V L P F T S G G F L Y I A L V N V L P D L L E E E D P W R S L Q Q L L L L C A G I V M V L F S I F V D

Papio_anubis AA W V L P F T S G G F L Y I A L V N V L P D L L E E E D P W R S L Q Q L L L L C A G I V M V L F S I F V D

Chlorocebus_sabaeus AA W V L P F T S G G F L Y I A L V N V L P D L L E E E D P W R S L Q Q L L L L C A G I V M V L F S I F V D

Homo_sapiens AA W V L P F T S G G F L Y I A L V N V L P D L L E E E D P W R S L Q Q L L L L C A G I V M V L F S L F V D

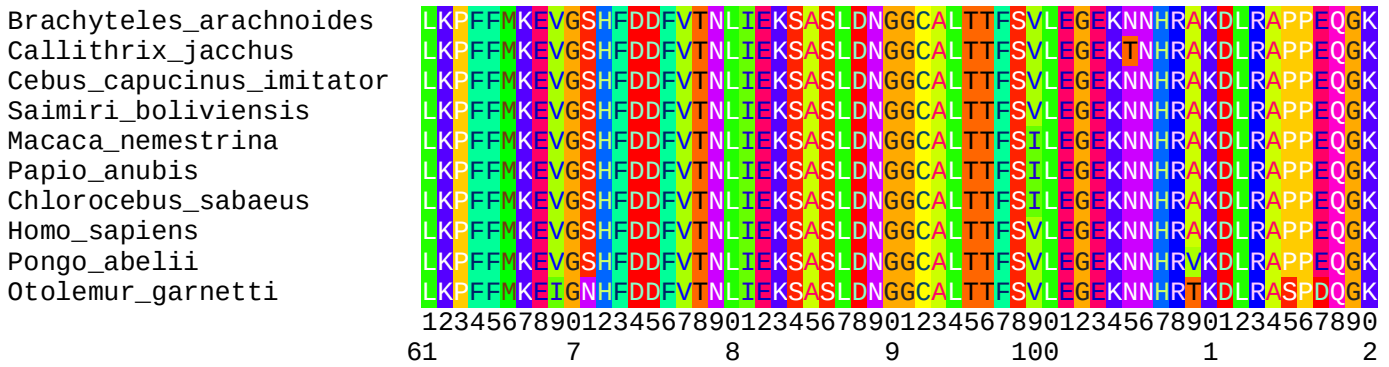
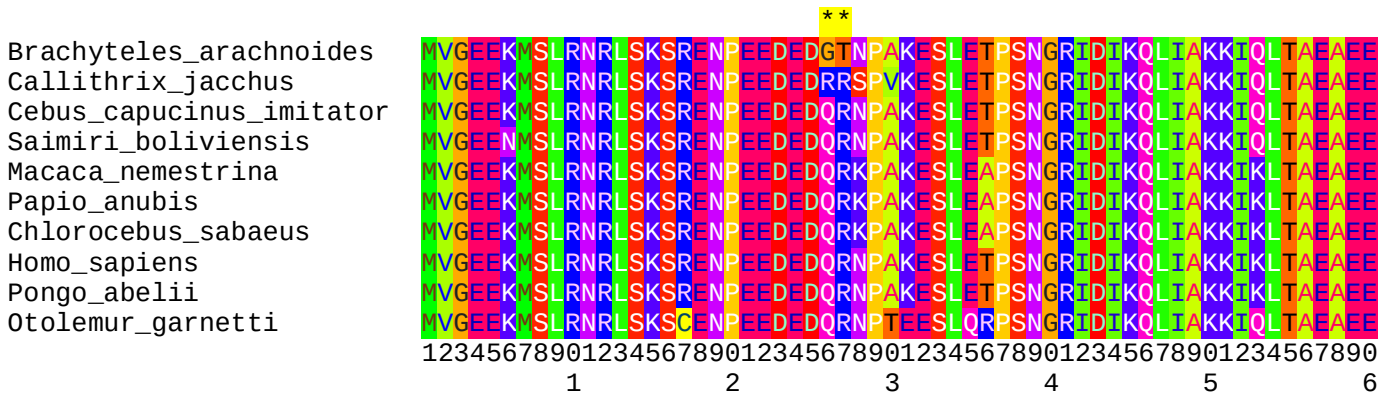
Pongo_abelii AA W V L P F T S G G F L Y I A L V N V L P D L L E E E D P W R S L Q Q L L L L C A G I V M V L F S L F V D

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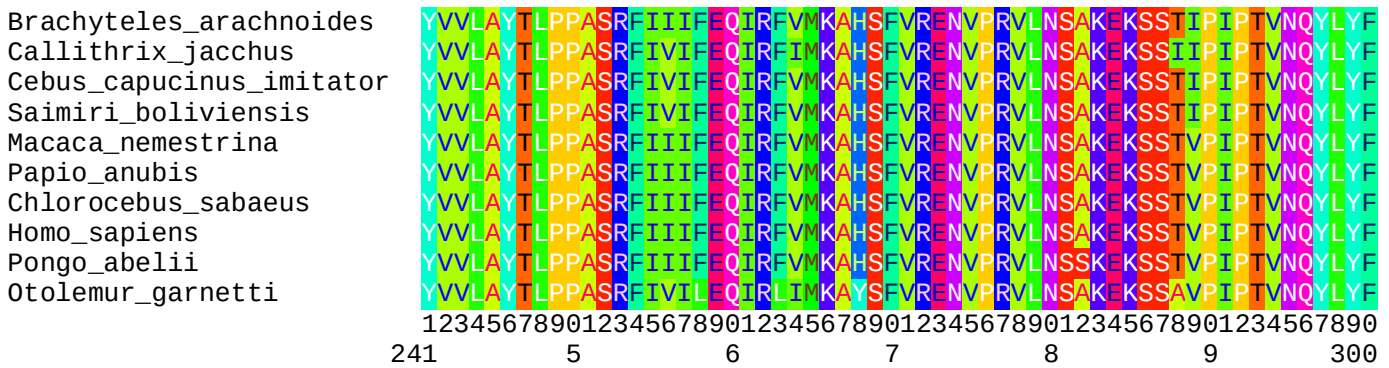
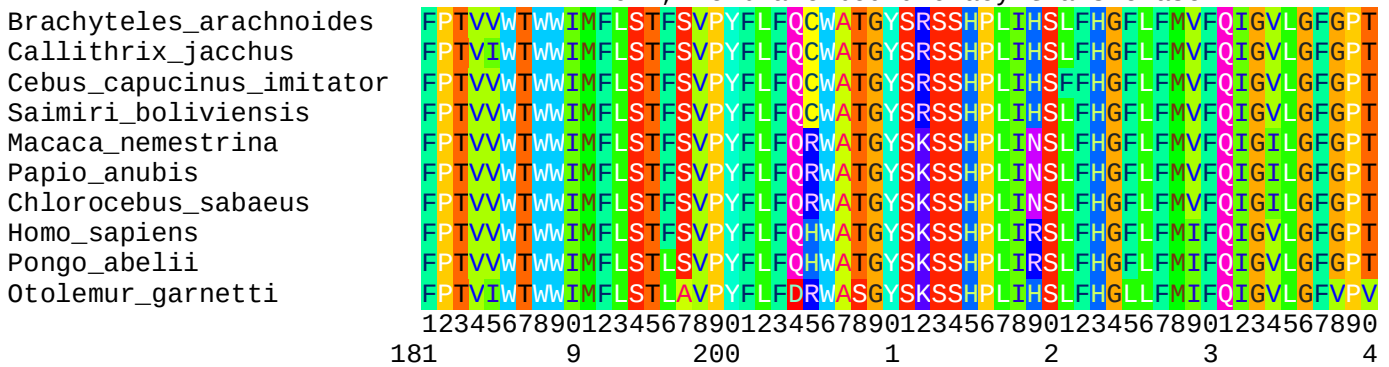
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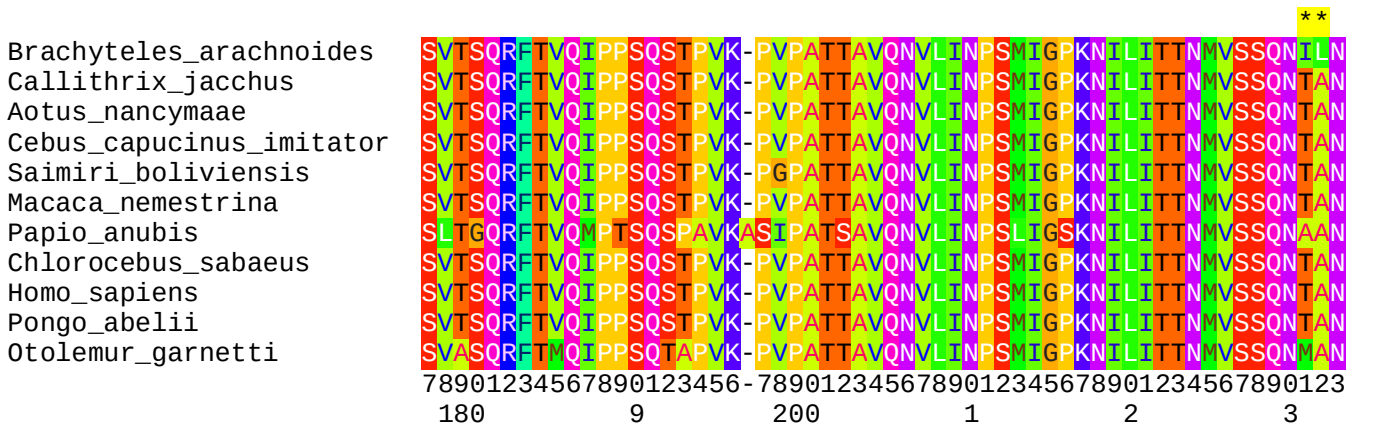
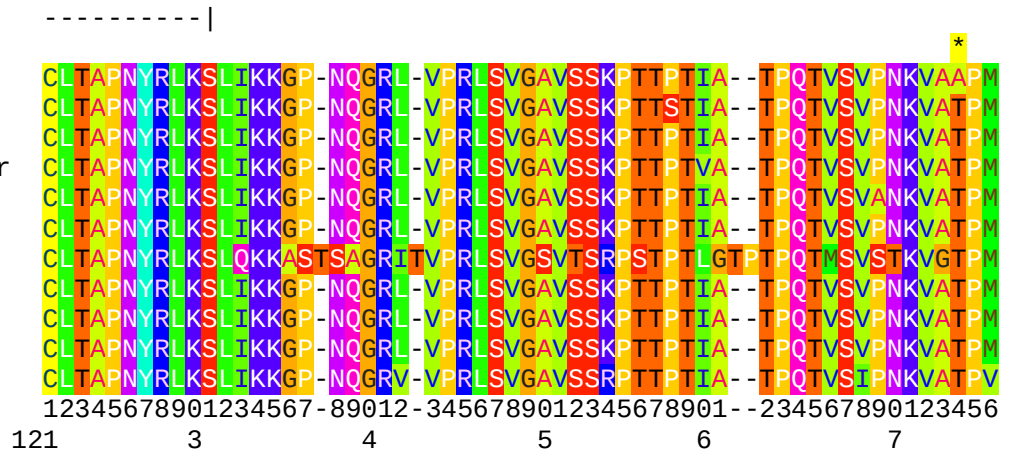
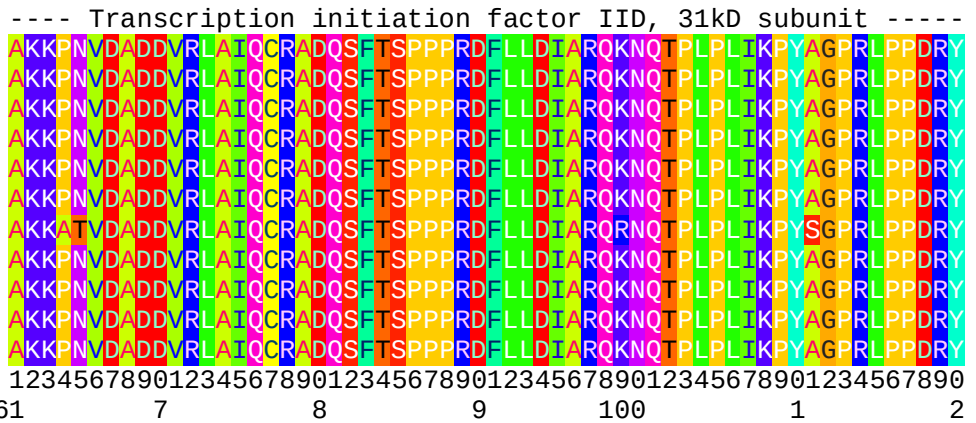
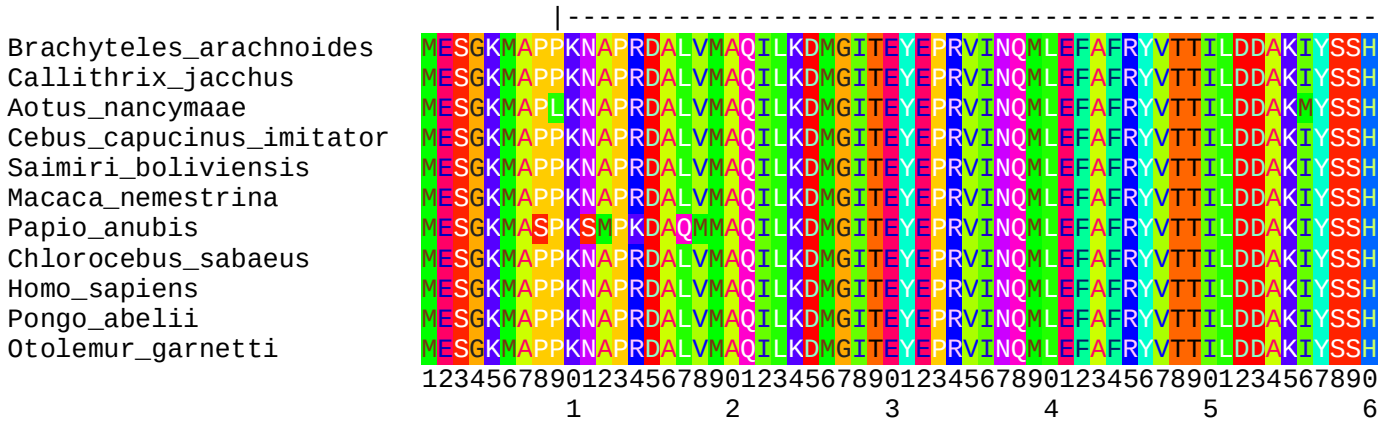
SOAT1



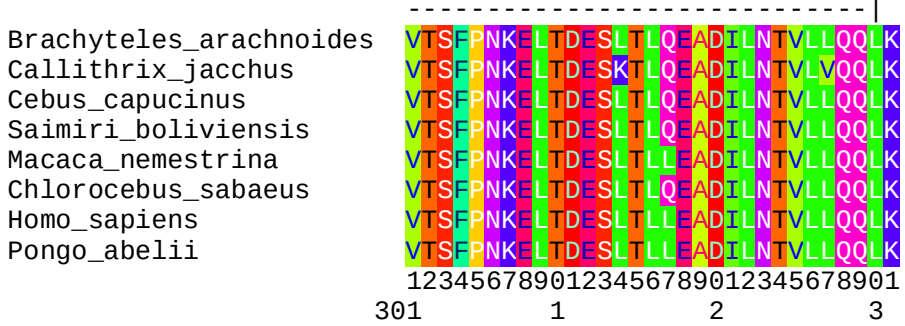
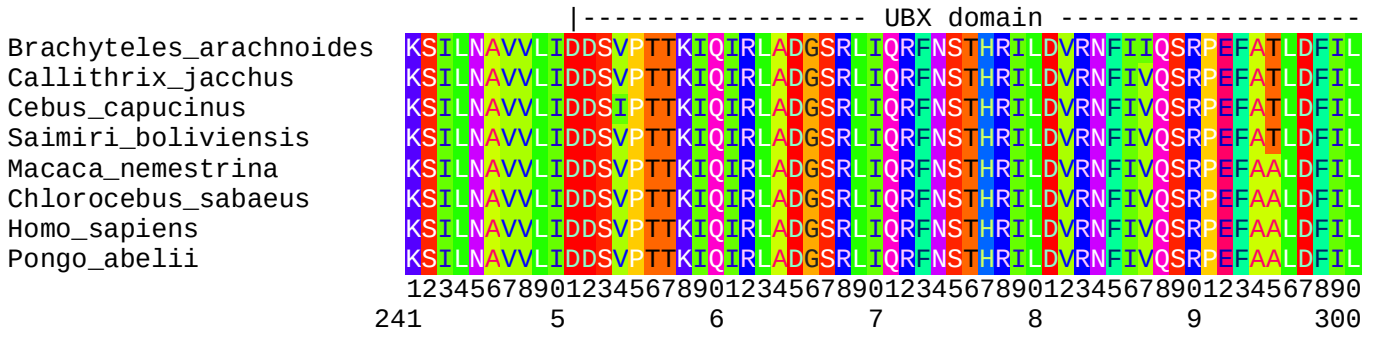
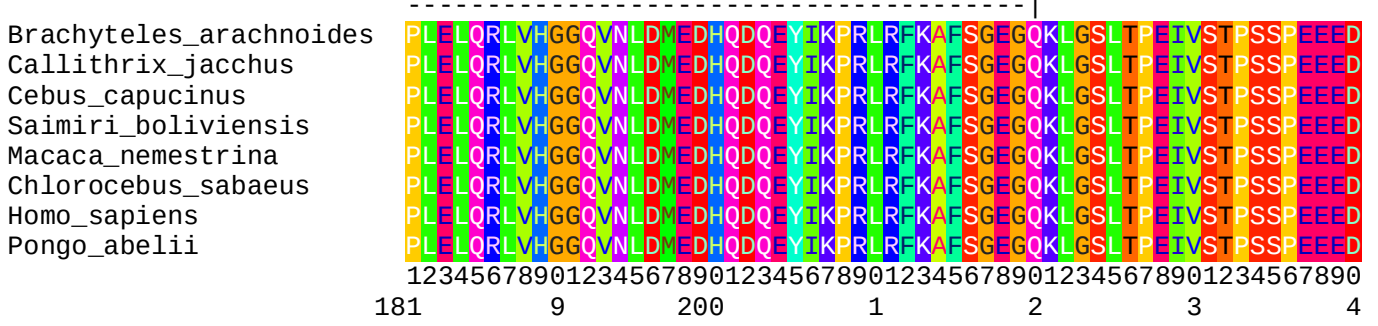
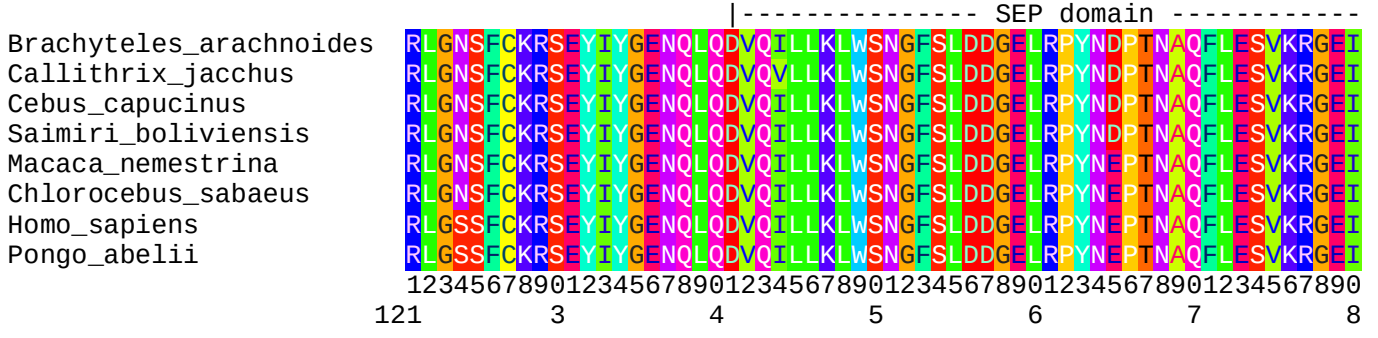
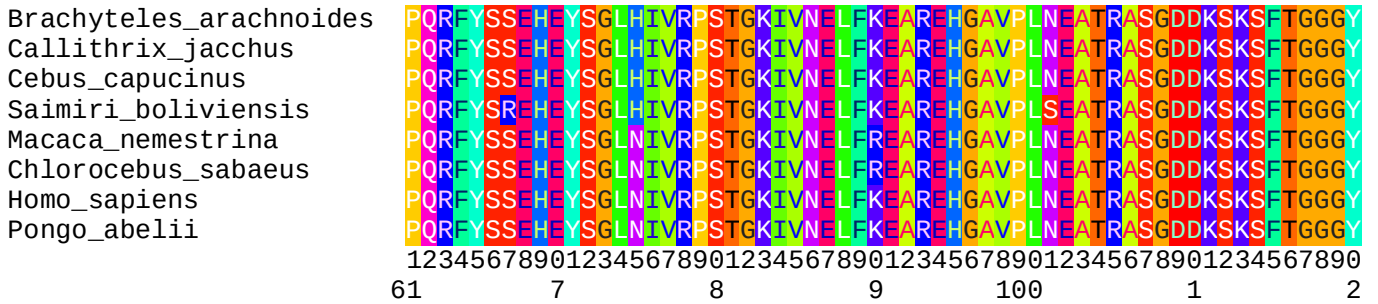
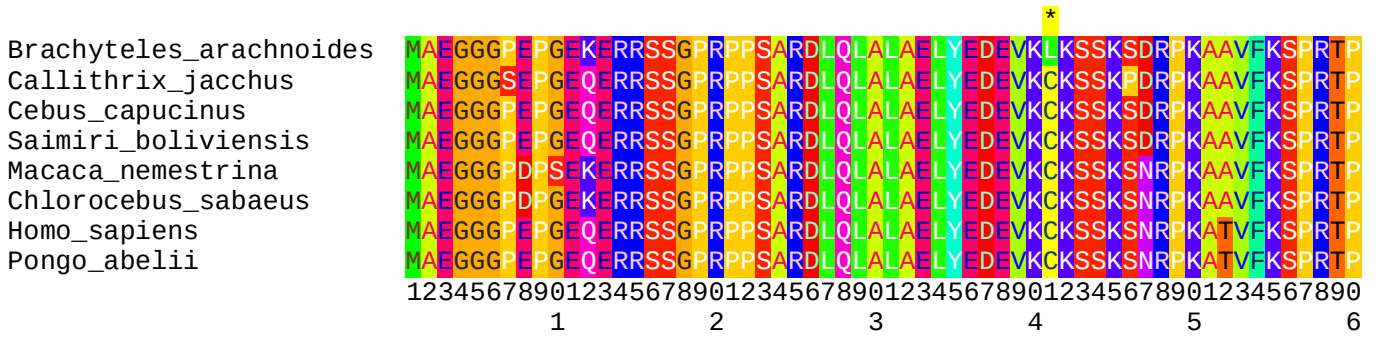
----- MBOAT, membrane-bound O-acyltransferase -----



TAF9B



UBXN2B



UHRF1BP1L

|----- N-terminal region of Chorein or VPS13 -----

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

MAGI I K K Q I L K H L S R F T K N L S P D K I N L S T L K G E G E L K N L E L D E E V L Q N M L D L P T W L A I N K
 MAGI I K K Q I L K H L S R F T K N L S P D K I N L S T L K G E G E L K N L E L D E E V L Q N M L D L P T W L A I N K
 MAGI I K K Q I L K H L S R F T K N L S P D K I N L S T L K G E G E L K N L E L D E E V L Q N M L D L P T W L A I N K
 MAGI I K K Q I L K H L S R F T K N L S P D K I N L S T L K G E G E L K N L E L D E E V L Q N M L D L P T W L A I N K
 MAGI I K K Q I L K H L S R F T K N L S P D K I N L S T L K G E G E L K N L E L D E E V L Q N M L D L P T W L A I N K
 MAGI I K K Q I L K H L S R F T K N L S P D K I N L S T L K G E G E L K N L E L D E E V L Q N M L D L P T W L A I N K
 MAGI I K K Q I L K H L S R F T K N L S P D K I N L S T L K G E G E L K N L E L D E E V L Q N M L D L P T W L A I N K
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Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

V F C N K A S I R I P W T K L K T H P I C L S L D K V I M E M S T C E E P R S P N G P S P I A T A S G Q S E Y G F A E K
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61 7 8 9 100 1 2

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

V V E G I T V S V N S I V I R I G A K A F N A S F E L S Q L R I Y S V N A H W E H G D L R F T R I Q D P Q R G E V L T F
 V V E G I T V S V N S I V I R I G A K A F N A S F E L S Q L R I Y S V N A H W E H G D L R F T R I Q D P Q R G E V L T F
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Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
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Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
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 Pongo_abelii
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Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Saimiri_boliviensis
 Macaca_nemestrina
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Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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 840 5 6 7 8 9

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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 ISFLDYLSDKHLGKI SEDESSGLVYKSGSGEIGAGVSDKKNS*-----DSNIP

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954 6 7 8 9 1000

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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1001 1 2 3 4 5 6

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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1061 7 8 9 1100 1 2

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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1121 3 4 5 6 7 8

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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 NGEIDIRGEDTEICLQVNQVTPDQLGNI^{*}SLRHLYLCNRPVGS^{*}DQKAVIHSKSSPEISLRF^{*}E
 NGEIDIRGEDTEICLQVNQVTPDQLGNI^{*}SLRHLYLCNRPVGS^{*}DQKAVIHSKSSPEISLRFV^{*}

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 1181 9 1200 1 2 3 4

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

SGPGAVIHSLLAEKNGFLQCHIENFST^{*}EFLTSSLLNIQHFL^{*}EDET^{*}VATVMP^{*}QIEV^{*}SNTK
 SGPGAVIHSLLAEKNGFLQCHIENFST^{*}EFLTSSLLNIQHFL^{*}EDET^{*}VATVMP^{*}QIEV^{*}SNTK
 SGPGAVIHSLLAEKNGFLQCHIENFST^{*}EFLTSSLLNIQHFL^{*}EDET^{*}VATVMP^{*}QIEV^{*}SNTK
 SGPGAVIHSLLAEKNGFLQCHIENFST^{*}EFLTSSLLNIQHFL^{*}EDET^{*}VATVMP^{*}QIEV^{*}SNTK
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 SGPGAVIHSLLAEKNGFLQCHIENFST^{*}EFLTSSLLNIQHFL^{*}EDET^{*}VATVMP^{*}QIEV^{*}SNTK
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 SGPGAVIHSLLAEKNGFLQCHIENFST^{*}EFLTSSLLNIQHFL^{*}EDET^{*}VATVMP^{*}QIEV^{*}SNTK
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 SGPGAVIHSLLAEKNGFLQCHVENFST^{*}EFLTSSLLNIQHFL^{*}EDET^{*}VATVMP^{*}QIEV^{*}SNTK

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 1241 5 6 7 8 9 1300

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Saimiri_boliviensis
 Macaca_nemestrina
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

INLKDDSPRSSTV^{*}SL^{*}EPTPVA^{*}VHIDHLW^{*}ERNDDGSFHIR
 INLKDDSPRSSTV^{*}SL^{*}EPTPVT^{*}VHIDHLW^{*}ERNDDGSFHIR
 INLKDDSPRSSTV^{*}SL^{*}EPTPVT^{*}VHIDHLW^{*}ERNDDGSFHIR
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 1301 1 2 3 4

ZBTB44

|----- BTB/POZ domain -----

Brachyteles_arachnoides MGVKTFTHSSSSHSQEMLGKLNMLRNDGHFCDITIRVQDKIFRAHKVVLAAACSDFFRTKL
Aotus_nancymaae MGVKTFTHSSSSHSQEMLGKLNMLRNDGHFCDITIRVQDKIFRAHKVVLAAACSDFFRTKL
Cebus_capucinus MGVKTFTHSSSSHSQEMLGKLNMLRNDGHFCDITIRVQDKIFRAHKVVLAAACSDFFRTKL
Saimiri_boliviensis MGVKTFTHSSSSHSQEMLGKLNMLRNDGHFCDITIRVQDKIFRAHKVVLAAACSDFFRTKL
Macaca_nemestrina MGVKTFTHSSSSHSQEMLGKLNMLRNDGHFCDITIRVQDKIFRAHKVVLAAACSDFFRTKL
Papio_anubis MGVKTFTHSSSSHSQEMLGKLNMLRNDGHFCDITIRVQDKIFRAHKVVLAAACSDFFRTKL
Homo_sapiens MGVKTFTHSSSSHSQEMLGKLNMLRNDGHFCDITIRVQDKIFRAHKVVLAAACSDFFRTKL
Pongo_abelii MGVKTFTHSSSSHSQEMLGKLNMLRNDGHFCDITIRVQDKIFRAHKVVLAAACSDFFRTKL
Otolemur_garnetti MGVKTFTHSSSSHSQEMLGKLNMLRNDGHFCDITIRVQDKIFRAHKVVLAAACSDFFRTKL

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1 2 3 4 5 6

Brachyteles_arachnoides VGQAEDENKNVLDLHHVTVTGFIPLLLEYAYTATLSINTENIIDVLAASYSYMQMFSVASTC
Aotus_nancymaae VGQAEDENKNVLDLHHVTVTGFIPLLLEYAYTATLSINTENIIDVLAASYSYMQMFSVASTC
Cebus_capucinus VGQAEDENKNVLDLHHVTVTGFIPLLLEYAYTATLSINTENIIDVLAASYSYMQMFSVASTC
Saimiri_boliviensis VGQAEDENKNVLDLHHVTVTGFIPLLLEYAYTATLSINTENIIDVLAASYSYMQMFSVASTC
Macaca_nemestrina VGQAEDENKNVLDLHHVTVTGFIPLLLEYAYTATLSINTENIIDVLAASYSYMQMFSVASTC
Papio_anubis VGQAEDENKNVLDLHHVTVTGFIPLLLEYAYTATLSINTENIIDVLAASYSYMQMFSVASTC
Homo_sapiens VGQAEDENKNVLDLHHVTVTGFIPLLLEYAYTATLSINTENIIDVLAASYSYMQMFSVASTC
Pongo_abelii VGQAEDENKNVLDLHHVTVTGFIPLLLEYAYTATLSINTENIIDVLAASYSYMQMFSVASTC
Otolemur_garnetti VGQAEDENKNVLDLHHVTVTGFIPLLLEYAYTATLSINTENIIDVLAASYSYMQMFSVASTC

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61 7 8 9 100 1 2

Brachyteles_arachnoides SEFMKSSILWNTPN SQPEKGLDAGQENNSNCNFTSRDGSISPVSSSECSVVERTIPVCRES
Aotus_nancymaae SEFMKSSILWNTPN SQPEKGLDAGQENNSNCNFTSRDGSISPVSSSECSVVERTIPVCRES
Cebus_capucinus SEFMKSSILWNTPN SQPEKGLDAGQENNSNCNFTSRDGSISPVSSSECSVVERTIPVCRES
Saimiri_boliviensis SEFMKSSILWNTPN SQPEKGLDAGQENNSNCNFTSRDGSISPVSSSECSVVERTIPVCRES
Macaca_nemestrina SEFMKSSILWNTPN SQPEKGLDAGQENNSNCNFTSRDGSISPVSSSECSVVERTIPVCRES
Papio_anubis SEFMKSSILWNTPN SQPEKGLDAGQENNSNCNFTSRDGSISPVSSSECSVVERTIPVCRES
Homo_sapiens SEFMKSSILWNTPN SQPEKGLDAGQENNSNCNFTSRDGSISPVSSSECSVVERTIPVCRES
Pongo_abelii SEFMKSSILWNTPN SQPEKGLDAGQENNSNCNFTSRDGSISPVSSSECSVVERTIPVCRES
Otolemur_garnetti SEFMKSSILWNTPN SQPEKGLDAGQENNSNCNFTSRDGSISPVSSSECSVVERTIPVCRES

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121 3 4 5 6 7 8

Brachyteles_arachnoides RRKRKSYIVMSPESPVKCSTQTSSPQVLNSSASYSERNQPVDSLAFPWTFPFGI DRRR
Aotus_nancymaae RRKRKSYIVMSPESPVKCSTQTSSPQVLNSSASYSERNQPVDSLAFPWTFPFGI DRRR
Cebus_capucinus RRKRKSYIVMSPESPVKCSTQTSSPQVLNSSASYSERNQPVDSLAFPWTFPFGI DRRR
Saimiri_boliviensis RRKRKSYIVMSPESPVKCSTQTSSPQVLNSSASYSERNQPVDSLAFPWTFPFGI DRRR
Macaca_nemestrina RRKRKSYIVMSPESPVKCSTQTSSPQVLNSSASYSERNQPVDSLAFPWTFPFGI DRRR
Papio_anubis RRKRKSYIVMSPESPVKCSTQTSSPQVLNSSASYSERNQPVDSLAFPWTFPFGI DRRR
Homo_sapiens RRKRKSYIVMSPESPVKCGTQTSSPQVLNSSASYSERNQPVDSLAFPWTFPFGI DRRR
Pongo_abelii RRKRKSYIVMSPESPVKCGTQTSSPQVLNSSASYSERNQPVDSLAFPWTFPFGI DRRR
Otolemur_garnetti RRKRKSYIVMSPESPVKCSTQTNSPQVLNSSASYSERNQPVDSLAFPWTFPFGI DRRR

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Brachyteles_arachnoides QPEKVKQGENTRTLELPGPSETGRRMTDYVTCESTKTTLLPLGTEEDVRVKVERLSDEEVH
Aotus_nancymaae QPEKVKQGENTRTLELPGPSETGRRMTDYVTCESTKTTLLPLGTEEDVRVKVERLSDEEVH
Cebus_capucinus QPEKVKQGENTRTLELPGPSETGRRMTDYVTCESTKTTLLPLGTEEDVRVKVERLSDEEVH
Saimiri_boliviensis QPEKVKQGENTRTLELPGPSETGRRMTDYVTCESTKTTLLPLGTEEDVRVKVERLSDEEVH
Macaca_nemestrina QPEKVKQAENTRTLELPGPSETGRRMADYVTCESTKTTLLPLGTEEDVRVKVERLSDEEVH
Papio_anubis QPEKVKQAENTRTLELPGPSETGRRMADYVTCESTKTTLLPLGTEEDVRVKVERLSDEEVH
Homo_sapiens QPEKVKQAENTRTLELPGPSETGRRMADYVTCESTKTTLLPLGTEEDVRVKVERLSDEEVH
Pongo_abelii QPEKVKQAENTRTLELPGPSEASRRMADYVTCESTKTTLLPLGTEEDVRVKVERLSDEEVH
Otolemur_garnetti QPEKVKQAESTRTLELPGPSETGRRMADYVTCESTKTTLLPLGTEEDVRVKVERLSDEEVH

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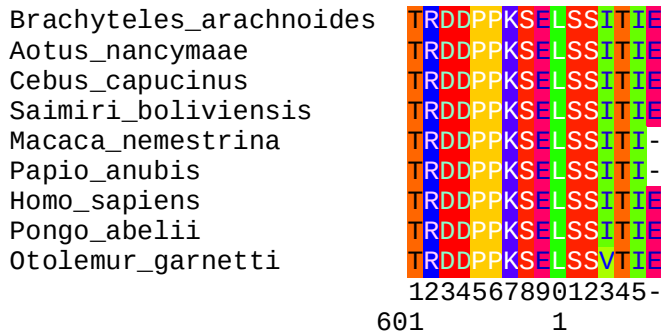
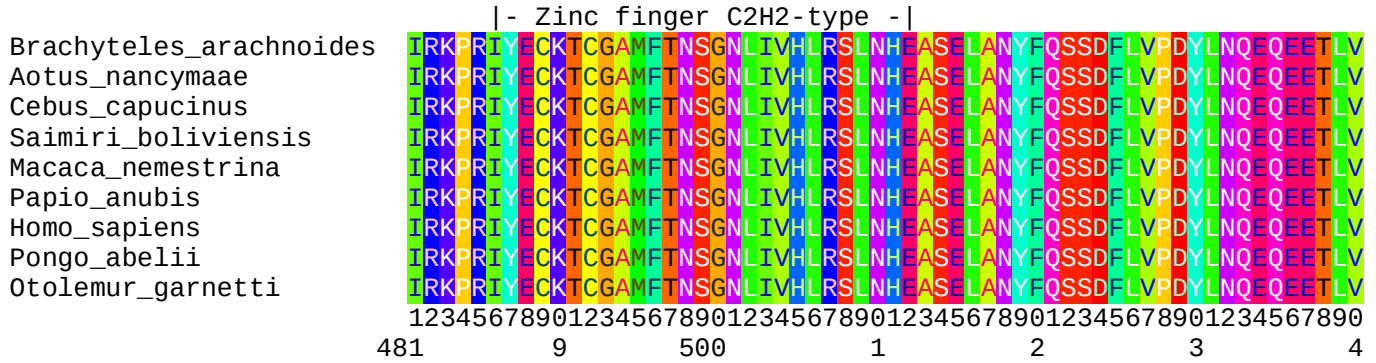
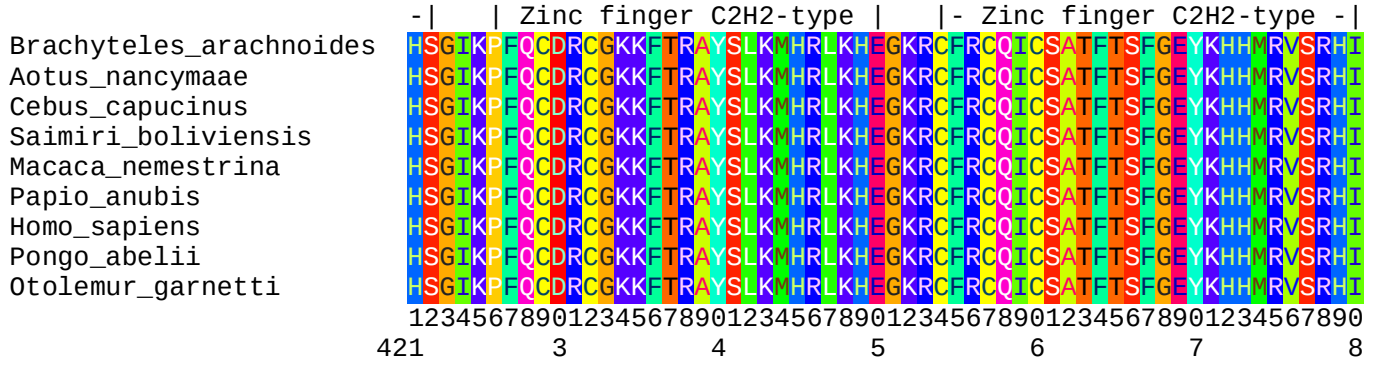
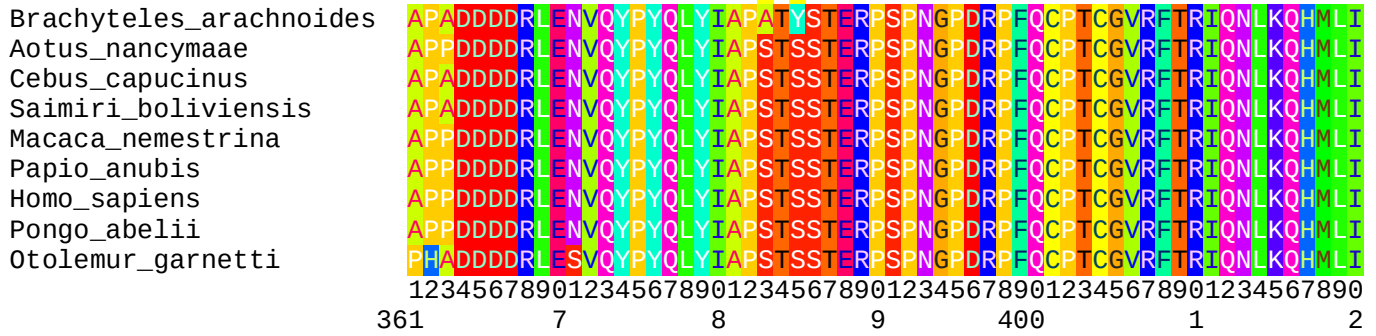
241 5 6 7 8 9 300

Brachyteles_arachnoides EEVSQPVSASQSSLSDQQTVPGSEQVQEDLLISPQSSSIGSVDEGVTEGLPTLQSTSSTN
Aotus_nancymaae EEVSQPVSASQSSLSDQQTVPGSEQVQEDLLISPQSSSIGSVDEGVTEGLPTLQSTSSTN
Cebus_capucinus EEVSQPVSASQSSLSDQQTVPGSEQVQEDLLISPQSSSIGSVDEGVTEGLPTLQSTSSTN
Saimiri_boliviensis EEVSQPVSASQSSLSDQQTVPGSEQVQEDLLISPQSSSIGSVDEGVTEGLPTLQSTSSTN
Macaca_nemestrina EEVSQPVSASQSSLSDQQTVPGSEQVQEDLLISPQSSSIGSVDEGVSEGLPTLQSSSSTA
Papio_anubis EEVSQPVSASQSSLSDQQTVPGSEQVQEDLLISPQSSSIGSVDEGVSEGLPTLQSSSSTA
Homo_sapiens EEVSQPVSASQSSLSDQQTVPGSEQVQEDLLISPQSSSIGSVDEGVSEGLPTLQSTSSTN
Pongo_abelii EEVSQPVSASQSSLSDQQTVPGSEQVQEDLLISPQSSSIGSVDEGVSEGLPTLQSTSSTN
Otolemur_garnetti EEVSQPVSASQSSLSDQQTVPGSEQVQEDLLISPQSSSIGSVDEGVTEGLPTLQSTSSTN

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| Zinc finger C2H2-type



ZSWIM8

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Papio_anubis
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

MELMFAEWEDGERFSFEDSDRFEEDSLCSFISEAESLCQNWRGWRKQSAAGPNSPTGGGGG
 MELMFAEWEDGERFSFEDSDRFEEDSLCSFISEAESLCQNWRGWRKQSAAGPNSPTGGGGG
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Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Papio_anubis
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

GGSGGTRMRDGLVIPLVELSAKQVAFHIPFEVVEKVYPPVPEQLQLRIAFWSFPENEEDI
 GGSGGTRMRDGLVIPLVELSAKQVAFHIPFEVVEKVYPPVPEQLQLRIAFWSFPENEEDI
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 GGSGGTRMRDGLVIPLVELSAKQVAFHIPFEVVEKVYPPVPEQLQLRIAFWSFPENEEDI
 GGSGGTRMRDGLVIPLVELSAKQVAFHIPFEVVEKVYPPVPEQLQLRIAFWSFPENEEDI
 GGSGGTRMRDGLVIPLVELSAKQVAFHIPFEVVEKVYPPVPEQLQLRIAFWSFPENEEDI
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 GGSGGTRMRDGLVIPLVELSAKQVAFHIPFEVVEKVYPPVPEQLQLRIAFWSFPENEEDI
 GGSGGTRMRDGLVIPLVELSAKQVAFHIPFEVVEKVYPPVPEQLQLRIAFWSFPENEEDI
 GGSGGTRMRDGLVIPLVELSAKQVAFHIPFEVVEKVYPPVPEQLQLRIAFWSFPENEEDI
 GGSGGTRMRDGLVIPLVELSAKQVAFHIPFEVVEKVYPPVPEQLQLRIAFWSFPENEEDI

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Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Papio_anubis
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

RLYSCLANGSADEFQRGDQLFRMRRAVKDPLQIGFHLSATVVPQMVPPKGAYNVAVMFDR
 RLYSCLANGSADEFQRGDQLFRMRRAVKDPLQIGFHLSATVVPQMVPPKGAYNVAVMFDR
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 RLYSCLANGSADEFQRGDQLFRMRRAVKDPLQIGFHLSATVVPQMVPPKGAYNVAVMFDR
 RLYSCLANGSADEFQRGDQLFRMRRAVKDPLQIGFHLSATVVPQMVPPKGAYNVAVMFDR
 RLYSCLANGSADEFQRGDQLFRMRRAVKDPLQIGFHLSATVVPQMVPPKGAYNVAVMFDR
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--- Zinc finger SWIM-type ---|

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Papio_anubis
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

CRVTSCSCTCGAGAKwCTHVAALCLFRIHNASAVCLRAPVSESLSRLQRDQLQKFAOYLI
 CRVTSCSCTCGAGAKwCTHVAALCLFRIHNASAVCLRAPVSESLSRLQRDQLQKFAOYLI
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 CRVTSCSCTCGAGAKwCTHVAALCLFRIHNASAVCLRAPVSESLSRLQRDQLQKFAOYLI
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 CRVTSCSCTCGAGAKwCTHVAALCLFRIHNASAVCLRAPVSESLSRLQRDQLQKFAOYLI
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 181 9 200 1 2 3 4

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Papio_anubis
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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 241 5 6 7 8 9 300

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Papio_anubis
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Papio_anubis
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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361 7 8 9 400 1 2

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Papio_anubis
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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421 3 4 5 6 7 8

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Papio_anubis
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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481 9 500 1 2 3 4

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Papio_anubis
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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541 5 6 7 8 9

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Papio_anubis
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

* *
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 GSKRRLSSEDSSLEPDLAEMSLDDSSLALGAEASTFGGFPES-PPPCPPPGGSRGASTF

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 600 1 2 3 4 5

Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Papio_anubis
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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 LPESPDTYEEDGGVYFSEGPEPPTASAGPPGLLPGEVCTRDDL PSTDESGSGLPKAKEAA
 LPEPDTYEEDGGVYFSEGPEPPTASAGPPGLLPGEICTRDDL PSTDESGSGLPKTKEAA
 LPEPDTYEEDGGVYFSEGPEPPTV SAGPPGLLPGEICTRDDL PSTDESGSGLPKAKEAA
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Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Papio_anubis
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Papio_anubis
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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Brachyteles_arachnoides
 Callithrix_jacchus
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 Saimiri_boliviensis
 Macaca_nemestrina
 Papio_anubis
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

LLTVLSERPEHHNLAFRVGMFALELQRPPASTKALEVKLAYQESEVAALLKKIPLGPSEM
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Brachyteles_arachnoides
 Callithrix_jacchus
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 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Papio_anubis
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
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Brachyteles_arachnoides
 Callithrix_jacchus
 Aotus_nancymaae
 Cebus_capucinus_imitator
 Saimiri_boliviensis
 Macaca_nemestrina
 Papio_anubis
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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Brachyteles_arachnoides
 Callithrix_jacchus
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 Cebus_capucinus_imitator
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 Macaca_nemestrina
 Papio_anubis
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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Brachyteles_arachnoides
 Callithrix_jacchus
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 Cebus_capucinus_imitator
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 Macaca_nemestrina
 Papio_anubis
 Chlorocebus_sabaeus
 Homo_sapiens
 Pongo_abelii
 Otolemur_garnetti

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