

Additional file 2. Amelotin (AMTN) sequences. In bold: from cDNA sequences. ?: unknown residues. *: Stop codon.

MAMMALIA

Primates

>AMTN *Homo sapiens* [NM_212557.2]

MRSTILLFCLLGSTRSLPQLKPALGLPPTKLPADQGTLPNQOQSNQVFPSSLSLIPLTQMLTLGPDHLHLLNPAAGMTPGTQTHPLTLGGLNVQQQLHPHVLPIFVTQLGA
QGTTLSSEELPQIFTSLSIIHSLFPGGILPTSQAGANPDVQDGSPPAGGAGVNPATQGTTPAGRLPTPSGTDDDFAVTTPAGIQRSTHAI E EATTESANGIQ*

>AMTN *Pan troglodytes*

MRSTILLFCLLGSTRSLPQLKPALGLPPTKLPADQGTLPNQOQSNQVFPSSLSLIPLTQMLTLGPDHLHLLNPAAGMTPGTQTHPLTLGGLNVQQQLHPHVLPIFVTQLGA
QGTTLSSEELPQIFTSLSIIHSLFPGGILPTSQAGANPDVQDGSPPAGGAGVNPATQGTTPAGRLPTPSGTDDDFAVTTPADIQRSTRAIE EATTESANGIQ*

>AMTN *Pan paniscus*

MRSTILLFCLLGSTRSLPQLKPALGLPPTKLPADQGTLPNQOQSNQVFPSSLSLIPLTQMLTLGPDHLHLLNPAAGMTPGTQTHPLTLGGLNVQQQLHPHVLPIFVTQLGA
QGTTLSSEELPQIFTSLSIIHSLFPGGILPTSQAGANPDVQDGSPPAGGAGVNPATQGTTPAGRLPTPSGTDDDFAVTTPADIQRSTRAIE EATTESANGIQ*

>AMTN *Gorilla gorilla*

MRSTILLFCLLGSTRSLPQLKPALGLPPTKLPADQGTLPNQOQSNQVFPSSLSLIPLTQMLTLGPDHLHLLNPAAGMTPGTQTHPLTLGGLNVQQQLHPHMLPIFVTQLGA
QGTTLSSEELPQIFTSLSIIHSLFPGGILPTSQAGANPDVQDGSPPAGGAGVNPATQGTTPAGRLPTPSGTDDDFAVTTPAGIQRSTRAIE ETTTESANGIQ*

>AMTN *Pongo pygmaeus*

MKTTILLFCLLGSTRSLPQLKPALGLPPTKRAPDQGTLPNQOQSNQVFPSSLSLIPLTQMLTLGPDHLHLLNPAAGMTPGTQTHPLTLGGLNVQQQLHPHMLPIFVTQLGA
QGTTLSSEELPQIFTSLSIIHSLFPGGILPTSQAGANPDVQDGSPPGGAGVNPATQGTTPAGRLPTPSGTDDDFAVTTPAGIQRSTRAIE ETTTESANGIQ*

>AMTN *Pongo abelii*

MKTTILLFCLLGSTRSLPQLKPALGLPPTKRAPDQGTLPNQOQSNQVFPSSLSLIPLTQMLTLGPDHLHLLNPAAGMTPGTQTHPLTLGGLNVQQQLHPHMLPIFVTQLGA
QGTTLSSEELPQIFTSLSIIHSLFPGGILPTSQAGANPDVQDGSPPGGAGVNPATQGTTPAGRLPTPSGTDDDFAVTTPAGIQRNTRAI EETNTTESANGIQ*

>AMTN *Nomascus leucogenys*

MKTTMLLFCLLGSTRSLPQLKPALGLPPTKLPADQGTLPNQOQSNQVFPSSLSLIPLTQMLTLGPDHLHLLNPAAGMTPGTQTHPLTLGGLNIQQQLHPHILPIFVTQLGA
QGTTLSSEELPQIFTSLSIIHSLFPGGILPTSQAGANPDVQDGSPPAGGAGVNPATQGTTPAGRLPTPSGTDDDFAVTTPAGIQRNTHAI EETTTESANGIE*

>AMTN *Macaca mulatta*

MKTMILLFCLLGSTQSLPQLKPALGLPPTKLPADQGTLPNQOQSNQVFPSSLSLIPLTQMLTLGPDHLHLLNPAAGMTPGTQAHPLTLGVLNLPQQLQPHMLPIFVTQLGA
QGTTLSSEELPQIFTSLSIIHSLFPGGILPTSQAGANPDVQDGSPPAGQAGVNPATQGTTPAGRLPTPSGTDDDFAVTTPAGIQRSTHATE ETTTE*

>AMTN *Macaca fascicularis*

MKTMILLFCLLGSTQSLPQLKPALGLPPTKLPADQGTLPNQOQSNQVFPSSLSLIPLTQMLTLGPDHLHLLNPAAGMTPGTQAHPLTLGVLNLPQQLQPHMLPIFVTQLGA
QGTTLSSEELPQIFTSLSIIHSLFPGGILPTSQAGANPDVQDGSPPAGQAGVNPATQGTTPAGRLPTPSGTDDDFAVTTPAGIQRSTHATE ETTTE*

>AMTN *Nasalis larvatus*

MKTMILLFCLLGSTQSLPQLKPALGLPPTKLPADQGTLPNQOQSNQVFPSSLSLIPLTQMLTLGPDHLHLLNPAAGMTPGTQAHPLTLGVLNLPQQLQPHMLPIFVTQVGA
QGTTLSSEELPQIFTSLSIIHSLFPGGILPTSQAGANPDVQDGSPPAGQAGVNPATQGTTPAGRLPTPSGTDDDFAVTTPAGIQRSTHATE ETTTESPNGIQ*

>AMTN *Papio anubis*

MKTMILLFCLLGSTQSLPQLKPALGLPPTKLPADQGTLPNQOQSNQVFPSSLSLIPLTQMLTLGPDHLHLLNPAAGMTPGTQAHPLTLGVLNLPQQLQPHMLPIFVTQLGA
QGTTLSSEELPQIFTSLSIIHSLFPGGILPTSQAGANPDVQDGSPPAGQAGVNPATQGTTPAGRLPTPSGTDDDFAVTTPAGIQRSTHATE ETTTE*

>AMTN *Papio hamadryas*

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QGTTLSSEELPQIFTSLSIIHSLFPGGILPTSQAGANPDVQDGSPPAGQAGVNPATQGTTPAGRLPTPSGTDDDFAVTTPAGIQRSTHATE ETTTE*

>AMTN *Callithrix jacchus*

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AQGTTLSSEELPLAPQIFTGIIHSLFPGGILPTSQAGANPNVQDGRPLPAGQAGVNSAIQGTTPAGHLP IPSSTDDDFAMTTPAGIQRSTHAME ETTTESPNGIQ*

>AMTN *Saimiri boliviensis*

MKTTILLFCLLGSTQSLPQLKPALGLPPTKLPADQATLLNQOQSNQVFPSSLSLIPLTQVLTGQDLQLLNPAAGMTPGAQTHPLTLGGLNVQQQLQPHMLPIFVTHLG
QGTTLSSEELPLAPQIFTGIIHSLFPGGILPTSQAGANPNVQDGRPLPAGQAGVNPATQGTTPAGHFP TSSSTDDDFAMTTPAGIQRSTHATE ETTTESPNGIQ*

>AMTN *Microcebus murinus*

MKTTILLFCLLGSTQSLPRHLNPALGLPTKLPADQATPLTQQQPQNVFPSSLSIPLTQMLTLGSDLLHLLNPAAGMTPGAQTHPLTLGGLNVQQQLQPHMLPIFVTHLG
AQ????????PVAPHFTGLIIHPLLPGGILPPTQAGANPDGQGTSLPAGQAGVNPATHTGTEGHLPTPTDDEFGVTTAGLRRGLHTTE ETTTEPPNE???

>AMTN *Daubentonia madagascariensis*

MKTTILLFCLLGSTQSVPKHLNPALGLPPTKLPADQATLLNQOQPNVFPSSLSIPLTQMFALGSDLLHLLNPAAGMTPGAQTHPLTLGGLNVQQQLQSQMLPIFVAQLG
AQGTTLSSEELPVAPQIFTGIIHPLFPGGILPTSQVGANPGQGGSLPAGQAGVNPATHTGTEGHHPTPRDDEFGVTPASPIQRGTHTE ETTTESPNGIQ*

>AMTN *Tarsius syrichta*

MKTTILLFCLLGSQSLPKQLNPALGLPPTKLPADQVTLNQOQPNVFPSSLSIPLTQMLTLGSDLLQLLNPAAGMTPGAQTHPLTLGGLNVQQQLQSQMLPIFVAQLG
GTILSSEELPVGSPFFTGLIHLPLFPGGILPTSQAGTKPDVQDGSPPAGQAGVNPATHTGTEGHHPTPRDDEFGVTPASPIQRGTHTE ETTTESPDGIQ*

>AMTN *Otolemur garnettii*

MKTMILLFCLLGPQSLPKHLSPTLGLQPTKLPADQATLLNQOQPNVFPSSLSIPLTQMLTLGSDLLRLLSPAAGLAPGAQAHSPLGGLNAQQQLQSQMLPIFVAQLG
QGTTLSSEELPVAPQIFTGIIHPLFPGGVLPASQARANLDVQGENLPAGTAEHLTTPRDDDESQVTPPAGIRSGTSTGSDTTELPNGIQ*

Dermoptera

>AMTN *Galeopterus variegatus*

MKTAILLFCLLGSTQSLPKQLNPALGLPPTKLPADQATLLNQOQPNVFPSSLSIPLTQMLTLGSDLLQLLNPAAGMTPGAQTHPLTLGGLNVQQQLQSQMLPIFVAQLG
AQGTTLSSEELPVAPQIFTGIIHPLYPGDLLPSSQAGANPDVQARIPASAGQAGANPAFQRTLPTPRGTDDDFEVATPAGIQRGLHTTE ETTTESPNGIQ*

Euarchontoglires

Scandentia

>AMTN *Tupaia chinensis*

MKTMILLFCLLGSTQSLPKQHNPAAGLPTKLPADQATLLNQOQPKQVFPSSLSIPLTQMLTLGSDLLQLLNPAAGMTPGAQTHPLTLGGLNVQQQLQSQMLPIFVAQLG
AQGTTLSSEELPVAPQIFTGIIHPLFPGGILSTSQTGANPEVHNGILPAGQAGVNPATQGTTPGGHLPTPSDDELDVATPAGILRGMHTTE ETTTESPNGIQ*

>AMTN *Tupaia belangeri*

MKTMILLFCLLGSTQSLPKQHSASGLPPTKLPADQATLLNQOQPKQVFPSSLSIPLTQMLTLGSDLLQLLNPAAGMTPGAQTHPLTLGGLNVQQQLQSQMLPIFVAQLG
AQGTTLSSEELPVAPQIFTGIIHPLFPGGILSTSQTGANPEVHNGILPAGQAGVNPATQGTTPGGHLPTPSDDELDVATPAGILRGMHTTE ETTTESPNGIQ*

Rodentia

>AMTN *Mus musculus* [NM_027793]

MKTMILLFCLLGSQSLPKQLNPASGVPATKPTPGQVTPLPQQQPNVFPSSLSIPLTQMLTLGSDLLPLFNPAAGPHGAHTLPFTLGPLNGQQQLQSQMLPIFVAQLG
QGALLSSEELPLASQIFTGIIHPLFPAGIIPSGOAGTKPDVQNGVLPTRQAGAKAVNQGTTPGHVTPGVTTDDDDYEMSTPAGLRRATHTE ETTTIDPNRTQ*

>AMTN *Rattus norvegicus* [NM_001044296]

MKTVVLLCLLGSQAQSLPQRLSPALGAPATKPTPGQVTPLTQQQPNOVFPSSISLIPLTQLLTLGSDLPLFNPATMPHGQTTLPTLGPLNGQQQLQPQMLPIIVAQLGA
QGALLSSEELPLASQIFFTGLLIHPLFPFGAIQPSGQTGAKPDVQNGALPTRQAGASPAQATTPGHVTPAVTDDDDYEMSTPAGLQRAHTHTEGTTMDPPNRK*
>AMTN Cricetulus griseus
MKTITILLFCLLGTQSLPKQISPTLGLPPTKTADQVALLTQQQPNOVFPSSISLIPLTQLLTLGSDLQLLNPAATGLAHGAQALPFTLGPLNRQQQLQSQMLPIIVAQLGA
QGTTLSSEELPLASQIFFTGLLIHPLFPFGGILPSSQTGAKPDGQNGVLPTRQAGANPAVQGTQGHVTPGVTDVDDDDYETSTPAGIRRGHTHTEGTTIDTPNRQ*
>AMTN Mesocricetus auratus
MKTITILLFCLLGTQSLPKQISPALGLPATKTADQVLLTQQQSNQVFPSSISLIPLTQLLTLGSDLQL????????????????????????????????????MLPIIVAQLGA
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>AMTN Peromyscus maniculatus
MKTITILLFCLLGTQSLPKQIRPTLGFPTTSPDQGTQLTQEQANQVFPSSISLIPLAQLLTLGSDLQLLNPAATGPAHGTQTFPPLGPLNRQQQLQPQMLPIIVAPLGA
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>AMTN Microtus ochrogaster
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*
>AMTN Jaculus jaculus
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>AMTN Dipodomys ordii
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>AMTN Octodon degus
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>AMTN Chinchilla laniger
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>AMTN Heterocephalus glaber
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>AMTN Nannospalax galili
MKTITILLFCLLGTQSLPKQNSALEVSPTKPTPNQVTLQNLQQQPSQVFPSSISLIPLTQLLTLGSDLQLLSPATGMAPGAQTIPLTLGSLNGQQQLQPQMLPIIVARLGA
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>AMTN Ictidomys (Spermophilus) tridecemlineatus
MKTITILLFCLLGTQSLPKQNLGLAPTKPADQASQLNQQQPNQVFPSSISLIPLTQLLTLGADLQFNPAIGMAPGAQTLPLTLGALNGQQQLQSQMLPIIVAQLGAQ
GTILSSEELPLAQIFFTGLLIHPLFPFGGILPQTNQAGANPDAQDQVLPAGQTVNPTNQGTTPASHLATPTGIDDEDFEATTPAGIRRGHTTDETTTSPNRIH*
Lagomorpha
>AMTN Oryctolagus cuniculus
MKTITILLFCLLGTQSLPKQNSALEVSPTKPADQVTLNQQQPSQVFPSSISLIPLTQMLTLNPAAGMAPGAQTLPLTLKLDGQQQLQPQILPIIVAQLGTQGTIL
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>AMTN Ochotona princeps
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GAQAVLSSEELPAAPQILTGLLHPLFPFGGILPSSQAGANPDQAGVLPAGQAGVNPATRAPADDIGVTTAGIQRSTPVTEETTSPKGIH*
Laurasiatheria
Carnivora
>AMTN Felis catus
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>AMTN Panthera tigris
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QGTILSSEELPMAPQIFFTGLIFQPLFPFGSILPNSQANPDAQNGILPAGQAGMNAIQGTSEGFSTPSTDDDFEVTAFTGIRRMHTTQETTTGPPNGNQ*
>AMTN Canis familiaris
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>AMTN Mustela putorius [JP005519]
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>AMTN Ailuropoda melanoleuca
MKTITILLYLLGSTRSLPTQLNPAALGLPPTKAPHQAKLLNQQQPNQVFPSSISLIPLTQMFTLGSDLQLLNPAAGMAPGIQTLPLSLGVLNTQQQLQSQMLPVIIVAHG
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>AMTN Ursus maritimus
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>AMTN Odobenus rosmarus
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>AMTN Leptonychotes weddellii
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Cetartiodactyla

>AMTN Bos taurus
MKAAILLFCLLGSTLSLPMQLNPALVLPPTKLVDPQATLLNPQQPNQVSSLSLIPLTHMLTLGSLNQLLNPAAGMPSGTQTLPLALGGLKVQQQLQPQMLPVIVAHF
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>AMTN Bos grunniens
MKAAILLFCLLGSTLSLPMQLNPALVLPPTKLVDPQATLLNPQQPNQVSSLSLIPLTHMLTLGSLNQLLNPAAGMPSGTQTLPLALGGLKVQQQLQPQMLPVIVAHF
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>AMTN Bos indicus
MKAAILLFCLLGSTLSLPMQLNPALVLPPTKLVDPQATLLNPQQPSQVSSLSLIPLTHMLTLGSLNQLLNPAAGMPSGTQTLPLALGGLKVQQQLQPQMLPVIVAHF
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>AMTN Capra hircus
MKAAILLFCLLGSTLSLPMQLNPALVLPPTKLVDPQATLLNPQQPSQVSSLSLIPLTHMLTLGSDQLLNPAAGMPSGTQTLPLALGGLKVQQQLQPQMLPVIVAHF
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>AMTN Ovis aries
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>AMTN Sus scrofa
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>AMTN Vicugna pacos
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>AMTN Camelus ferus
MKTITILLFCLLGSTLSLPMQNLPTLGLPPTKLVDPQATPLNQQPNQVFPSSLSLIPLTQMLTLGSDQLLNPAAGMPSGTQTLPLTLGGLNMKQQQLQPQMLPVIVAHLGV
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>AMTN Orcinus orca
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>AMTN Tursiops truncatus
MKTITILLFCLLGSTLSLPMQNLNPALVLPPTKLVDPQATLLNQQPNQVFPSSLSLIPLTQMLTLGSDQLLNPAAGMPSGTQTLPLTLGGLKVQQQLQPQMLPVIVAHLG
AQGAILSSEELPATRQILTGLIFHPLFPGAILPTCPPAHLPTCPPDVQNGILPAGQAGANPAIRGNSEGFPTTSGTDDDFAAETTPVGIQRGIHTTEETPTGSPKGI*
>AMTN Physeter catodon
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>AMTN Balaenoptera acutorostrata
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Eulipotyphla
>AMTN Erinaceus europaeus
MKTITILLFCLLGSTHTLPMQNLNPALGLPPTKLVDPQATLLSQPNQVFPSSLNLIPLTQMLTLGSDQLLNPAAGMPSGTQTLPLTLGGLNVQQQLQPQMLPIIVAQLG
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>AMTN Sorex araneus
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Chiroptera
>AMTN Eptesicus fuscus
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>AMTN Myotis davidii
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>AMTN Myotis lucifugus
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>AMTN Pteropus alecto
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>AMTN Pteropus vampyrus
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Perissodactyla
>AMTN Equus caballus
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