



Supplementary Material

The Bitter Taste Receptor Genes of the Raccoon Dog (*Nyctereutes procyonoides*)

Shuai Shang^{1,2}, Honghai Zhang^{2,*}, Xiaoyang Wu², Qinguo Wei², Jun Chen¹, Huanxin Zhang¹, Huaming Zhong² and Xuexi Tang^{1,*}

¹College of Marine Life, Ocean University of China, Qingdao, Shandong, China

²College of Life Science, Qufu Normal University, Qufu, Shandong, China

* Corresponding authors: zhanghonghai67@126.com;

tangxx@ouc.edu.cn

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Supplementary Material S1.- Primers of the bitter taste receptor genes *Tas2r* in the raccoon dog.

Gene	Primer	5' to 3'	Gene	Primer	5' to 3'
<i>Tas2r2</i>	CAFA-Tas2r2-R	TTTCTCAGGGCTGTATGT	<i>Tas2r19</i>	CAFA-Tas2r19P-F	CTCCCTCTGCCTATGTCT
	CAFA-Tas2r2-F	AGAAGGAAATTGCCCAAA		CAFA-Tas2r19P-R	GCAAAGACTGTCCAGGTAA
<i>Tas2r5-1</i>	CAFA-Tas2r5-F1	GAGATGAAGACAACGAGGAG	<i>Tas2r38</i>	CAFA-Tas2r38-R	GGAGGCATATTCGTGAAG
	CAFA-Tas2r5-R1	ACTTTCCTCAGCGTCTTCTA		CAFA-Tas2r38-F	ACTGACCCTTCTTTGCTG
<i>Tas2r5-2</i>	CAFA-Tas2R5-R2	AGTATAGGCTCAGAGTGC	<i>Tas2r39</i>	CAFA-Tas2r39-R	GATTGTACCCATGAAGCA
	CAFA-Tas2R5-F2	GAGATGAAGACAACGAGGAG		CAFA-Tas2r39-F	TCTCCCTCCAGACACCAA
<i>Tas2r7</i>	CAFA-Tas2r7-R	GTGCCTATCAAACACTACATC	<i>Tas2r40</i>	CAFA-Tas2r40-R	TGGGTTCCAGTCACAGAG
	CAFA-Tas2r7-F	TAATTCTGAAGGGAGGGA		CAFA-Tas2r40-F	ATAACATTGAGTGAGGGTC
<i>Tas2r8</i>	CAFA-Tas2r8-R	TTGCCGGAGAAATGACTA	<i>Tas2r41</i>	CAFA-Tas2r41-R	AGACATCGGTCTTCTCACATC
	CAFA-Tas2r8-F	GCACTAAACCGCTGGGAC		CAFA-Tas2r41-F	CCCCATTTACCAGTGTCCC
<i>Tas2r9</i>	CAFA-Tas2r9-R	CTGGTCCAACAGTGAGGT	<i>Tas2r42</i>	CAFA-Tas2r42-R	TGTACCCAACAACAGGAG
	CAFA-Tas2r9-F	GCACTAAACCGCTGGGAC		CAFA-Tas2r42-F	AAAGGAATCCAGCAGAAA
<i>Tas2r10</i>	CAFA-Tas2r10-R	GCCAACCTTTGTCTCATT	<i>Tas2r44</i>	CAFA-Tas2r44-R	GTGACGGTGTATTTCTTA
	CAFA-Tas2r10-F	CTGATTGAGCCACCGAGT		CAFA-Tas2r44-F	CCTGCTTGACATTGGTTA
<i>Tas2r12</i>	CAFA-Tas2r12-R	GTGTCAGCAGCGGGTAAT	<i>Tas2r67</i>	CAFA-Tas2r67-R	CTTTCGGGATTCTTTCTA
	CAFA-Tas2r12-F	TTCCCAAGTCTATGTTCGTGT		CAFA-Tas2r67-F	AGCGAAAGGCTTCACCAT

Supplementary Material S2.- Protein sequences of *Tas2r* genes used in this study.

>Acinonyx jubatusTas2r10

MLSIVEGLLIFIAVSESVLGVLGNGFIGLVNCDVCVKNKFSMFGILTGLATSRICLILVIADGFIKIFSPDMYSSGHLID
YISYLWIIINQSNIFWATSLSTFYFLKIANFSHHMFLWLKGRINWVPLLLMGSFLFISWLFSTFPQIVKILSDSKVGNNTTQWL
NMPKSEFFTKQILVNVGVLLFLTLFLITCFLLIISLWRHSRRMQLNVTGFQDPSTEAHMKAMKVLISFIILFILHFIGLAIEIACF
TMREKLLLFIFGMMTTVLYPWGHSFILILGNSKLLKQASLRALQVQKCC*

>Acinonyx jubatusTas2r12

MASILKNVFMILFAGEFIMGILGNGFIILVNCIDWIRNWKFFVIDFIITCLAISRIVLLCIIILGIGLDVPCEEIWNKNNQLIRFEI
LWTGSNYFCTTCTTCLSVFYFFKIANFSNPIFLWIKWRIHKVLLMIVLAAVFSFCLSLPFDKTVFMSLIKKNVNAERNWTVSF
TMRTYELFLSHMLLNIMFIIPFAVFLASFVLLIRSLWSHTRQMKGRGGDPITKVHVVRAMKSMISFLFFFMYYLSTIMMNL
YVILDSLVAKIFANTLVFLYPSGHTFLILWTSKLLKQASLVCVLKLLKCLHLRKPHTP*

>Acinonyx jubatusTas2r2

MASSLSAIPHLIIMSAEFITGITVNGFLVIINGKELIKSRKLTMPQLLCICIGISRFGLLMVL MVQSFFSVFFPLFYRVKIYGAA
MLFFWMFFSSVSLWFATCLSVFYCLKISGFTQSYFLWLKFRISKLMPWLLGSLLASMSIAAVCMDVGYPKNMNN
DFLKNATLKKTELKIRPINGVLLVNLVLLFPLAIFVMCTFMLFISLYRHTHRMQNRSHGVRASASTEAHINALKT VITFFCFFIS
YFAAFMANMTFSIPYGSQCFFVVKDIMAAFPSPGHSVIIIILSNSKFQQPFRLLCLKKNR*

>Acinonyx jubatusTas2r38

MLALTPVLTVSYEKSAFLFLSILEFTVGVLANAFIVNFWDVVRKQPLSNCDLILLSLSLTQLFLHGLLFLDAIQ LTYFQRMK
DPLSLSYQTIIMLWMITNQVGLWLTCLSLLYCSKIARFSHTLLHSVASWVSRKVPQMLLGAMFFSCICTAICLGDFFSRSGFT
FTTMLFVNNTFNLQIAKLSFYHSFICTLV SIP?LFFLVSSGVLIVSLGRHMRTMRAKTKDSRDPSEAHIKALRSLVSFLCL
YVVSFCAALISVPLLMLWHNKIGVMICVGILAACPSIIHAAILISNAKLRRAVETVLLWVQNSLKIGADHKADARTPDL C*

>Acinonyx jubatusTas2r39

MNYLHYPADNEFSPFHILSILTIIGTECIIGIIANGFIMAINIAEWIKNKQFPISRILFFLSVSRIPLOQSFMMIEITFSSTSPHFYNE D
VIYGTfKVTfMFLNHCSLWFAAWLSFYFVKIADFSH?LFLKWKWRISGTDALALWLSMFISLGYSVLFNSDINTMYC NNSSIP
SPNSSKKKYFTETNVVNLVLLYNLGIPIPLIMFIFAATLLIISLKRHTLHMESNATGSRDPSMEAHMGTIKVTSYFLILYISNA V
ALFLYMSNICDANSSWILCKFIMAAYPAGHSILLIQDNPGLRRVWKQLQPQVHLHLKEKQNTTKQAQPALPPPYLDPSPTS
FLPQT*

>Acinonyx jubatusTas2r40

METWRSGPKRMVTVNTDAMDRDTSRFKIVLTVVSVGVECMTGMIGNGFITAIQGAEWARGKRLPVSDCILLKLSFSRLL L
QIWMMLENIYSLFFLVTYNQNTVFIIFKVTMFLNYSNLWLAAWLNIVSCLRIANFAHCLFSMMKRKIRELMPRLGLSLFIS
LCFSFRFSKDIFNVYINSSVPISSNTTEKYFSETNMVNLVFLYNLGIPIPLIMFIFAATLLIISLKRYTLHKRYTTHATGFRDPS
MEAHMGAIKAISYFLIFYFNAVALFISMSNIFDINNSWNILCKIVMAAYPAGHSVLLILGNPGLRRAWKRFQHRVHLHL*

>Acinonyx jubatusTas2r41

MQANQQQRERSKEGLCAGLRPPGTKAQGTGVVTRAAETRPGLSAFFMLLFIPLCLLGLILANG?VVLVLGRERLQRGR LPPS
GMILLSLGASRFCLQWVGTVNSFYW?EYSRGPARGFFGLHWDFLNSATFWFSSWHSVLFCKITNFTHTPTFLWLKWR F
PGSVPWLLMAPLLISFIVTLLFFWGNRAVCEGFLIRKFPGNMTRFQWSRTLEVHYFLPLKLITRLVPCSVFLVSVALLINSL R
RHTGRMRLSAHRPQDPSAQAHTRALKSLVSLIPDALSLASVIDAAGFFSESDWYWPWQILYLCMSVHPFFLISSNLRLRG
VCRQLLLLARGFWVA*

>Acinonyx jubatusTas2r42

MLAGLDKIFLTLSTAEIFIIGMSGNVFVGLVNCSEWIKNQKISFVDFILTCLALSRLTQLLVSLWQSFVMTLSPFFYSTWKS A K
LITLLWRITNHWTTFWTTCLSFYLLKIAHFSHSFFLWLKWRTRNRVLAAILVLSLPLFFDFLVLESNDFFLN VYVMDESNTL
LHINDSKTYIKTLILLSFSYTIPIVLSLTLVLLFSLVRHIRNLQNLVMGSRDPSTQAHKGAIKMVM SFLLLFTVHFFSIQLTN
WMLLIFWNNKFTKFIMLAIYVFPSPGHSLLILGNSKLRQTALKVLRHLKSTLKREKTVSSQLIDIPGSF*

>Acinonyx jubatusTas2r67

MPSGIENFTLTAAVGAFMIGMLGNGFIALVNCIDWVKHQKLSPADCILTNLAVSRIILLWMILFDSLVMVFWPHLYNIEKLAT
AVNICWTLTNHLATWFATCLSVFYFFRIANFSHHCFTWLRRRISRVLLVPLPLGSLFLLVFNKLLVGFSDLWATIYH
NYERNSTWPLDVSKTGYNLSLVLSFIYLIPFLSLTSLLLFLSLMRHTRNVQLNSSSRDFSTEHRRAMK MVISFLLSTVH
FFSIQLTGWIFLLKHHANLAVTLTALFSPGHSFILIFGNSKLRQTALGLLWHLNCHLKMVKPLAS*

>Acinonyx jubatusTas2r7

MLDKVESTLMLIAAGEFAMGILGNAFI GLVNCMNWIKNRKIASIDLILTSLAISRICLLCIILLDYFILGLYPDVYTTGKKMRIID
FFWTLTNHLNVWFATCLSIFYFLKIANFFHPLFLWMKWKIDSAIPKILLGCLAFSVFISLVSENLD DFRSCVKVKKKTNIT
VKCRVNKAQYASIKICLNLLTLPFSVSVISFLLLLSLWRHTRQMKVSATGCRDPSIEAHVGAMKAVISFLLLF IAYYLAFL
VATSSYFMPETELAVMIGELIALIYPSHSLILILGNNKLRQASLRVLWKVKCILKRRNH*

>Canis lupusTas2r10

MLSILEGLLIFIAVSEILGVLGNGFIGLVNDCVKNKKFSMVGFILTGLATSRICLILIIITDGFIFKIFSPDMYSSGNLIDYISYL
WVIINQSSIWFATLSLIFYFLKIANFHHIFLWLKGRINSVPLLMGSLFISWLF TFPQIVKIINDNRMKSRNTTWQLNMQKSEF
FTKQILLNLGVILLFTLCLITCFLLVSLWRHNRHMQLNVTGLRDPSTEAHVKAMKILVSIIFILYFIGIAIEISCFILPENKLL
FIFGMMTTAIYPWGHSEFILGNSKLRQASLTKLQQLKCEARRLLTAAQIHVGGNGCSRRII*

>Canis lupusTas2r12

MAGTMKNVFMIFAGEFIIGILGNGFIILVNCIDWIRSWKFFLIDFILTCLAISRIFLLCIIMLGIGLDIICKEI WYNDNQ LITFEVL
WTGCNYFCTICTVCLSVFYFLKIANSSNPIFFWLKRRIHRLLLIIVLGAVFYFCLSLLLKDIVFKNMIKTKVNTESNVT LNFTAR
KYDLLTSNIFLNMLFVIPFAVSLASFVLLIHSWLNHTRRMKGIDSGDLITEAHVRAMKFMISFLLFFFIYYSNIIIFAYV VLD
SLVAKIFANILVFSYPSGHPFLILWNCKLKQASLYVLRKWKCMNLRKPAYIKHT*

>Canis lupusTas2r2

MISFLSALPHVIVMSAEFITGITVNGFLIIMNCKELIKSRKPTPVQLLCICIGMSRFGLLMVLMIQSFFSVLFPFLFYKVNIFGTAM
LFFWMFFSSVSFWFATCLSVFYCLKIAGFTQSCFLWLKFRISKLMPWLLGSLLASMSIAALCIEADYPKKVDD DALKNAT
LKRTEPKIRQISEMLLVNLALLFPLAIFVMCTFMLFISLYKHTHRMQNGSHGVRNASTKAHINALKT VITFFCFFISYFAAFM
ANMTFSIPYGSHCFFVVKDIMAAFPSPGHSIIILLSNSKYQQPFRLLCFKKNQ*

>Canis lupusTas2r38

MFLSVLELAVGILTNAFIFLVNFWDVVRQPLSNCDLILLSLSLTRLFLHGLLFLDAIQLTYFQRMKDPLSLSYQTIIMLWMIT
NQAGLWLTCLSLFYCSKIVRFSHTLLCLANWVSRKAPQMLLGAMLFSSACTLLCLGDFFSRSGFAFTTVLLMNTEFNS
QIVKLNFYSSIFCTLSIPPFMFFLVSSGVLIIISLGRHMRTMKANTKDSGDPSLEAHKALISLISFLCLYVVSFCVALISVPLTM
VWHNKIGVMICVGILAACPSIIHAAILISGNAKLRRRAVETILLVWVQSSSLKVRAGHRADLRTPDLC*

>Canis lupusTas2r39

METCNPPENELSPFGILSILTITGTECIVGIIANGFIMAINAAEWIKNKTVSTSGRVLFFLSASRIALQSFTMLEITFSST
SPRFYNEDVMYDTFKVVSFMLNHCSSLWFAAWLSFFYFVKIADFSHPLFLKLRISRLMPWLLWLSVLISLGYSMLLSNDI
YTVCNNSIPSSNSTKKKYFTKTNVNLVLLYNLGIFIPLIMFILSATLLIISLKRHTLHMESNATGCRDPSMEAHGAIKATSY
FLILYIFNSVALFLYMSNIFDINSSWNILCKFIMAAYPAGHSILLIQDNPGLRRAWKRLQPQVHFYLKEQTP*

>Canis lupusTas2r40

MSRFKIVLTLVPGIECLTGIVNGFITIIHGAKWARGKRLPVTDCILLMLSFSRLLLQIWMMLNENIYSLFRVTYNQST
VFIVFKVTVIFLNYFNLWLAAWLNIFYCLRITNLAHHVFFMMKRKITELMPRLGLSLFISLCFSPFSTDFHVVYVNSSIP
IRSSNTTEKKYFSETNVVNLVLLYNLGIFIPLIMFILSATLLIISLKRHTLHMESNATGCRDPSMEAHFGAIKATSYFLILYIFNAV
ALFLSMSNIFDINSSWNILCKIVMAAYPASHVLLILGNPGLRRAWKRFQHHVPLHL*

>Canis lupusTas2r41

MQPAVSAFFMLLFLVLLCVLGLANGFIVLVLSRERMRRGRLLPSDVILLSLGLASRFCLQCIGMMNNFYLLHLEEYSTGPAR
QFFGLHWDFLNSATFWFGSWLSVLFCKIASFTHPTFLWLRWRLPGSVPWLLGASLLISFLVTLFFWGNHAVYQGFLIRKY
PGNMTFQQWSRRLEIHYFLPLKFITLSVPCSVFLVSIALLINSLRRHRGRMRRSGHGLQDPSSQAHTRALKSLVSFLILY
ALSFAASLVIDAAGFFCSQSDWYWPWQILYIYLVCTSVHPYIILSNLRLRGGCRQLLLVLRGSQA*

>Canis lupusTas2r42

MLAGLDIIFLTLSTAEFIIGMLGNAFIPLVNCSEWVKNRKISLADFILICLAISRIAQLLVSWFESFMMGLSPLFFSTYKLAK
SITLLWRITHHLATWFSTCLSFYLLKIAQFHSLSLFLWLRWRMNRVLAIVLFSFLFLDFLMLTFNDLFSNVDAMDESNTL
LYIYESKTFYVKTLILLSFYIPIILSLTSLLLFLSLVKHIRNLQLNSMGRSRSSTQAHKKAIKMVMMSFLFLFTVHFFSIQLSNW
MFFLFWNKKITKFMILAVYVFPSSHSLILGNSKLRQTALKVWLHLKSSLKREKPNSSLPIDFPESFQ*

>Canis lupusTas2r5

MLTAALPLLMVAVVEFLIGLVNGVLMVWVSGFEWVRKFNNGSSYNLIVLGLAVCRFLQCLIMMDLSLFPFFQSSRWL
HYLSIFWILVSQASLWFATFLSVFYCRKIMTLEHPVCLWLKQRAYCLSLWCLLVYLMISLLLVAHIGLKPYNPSQGNSSILY
PLKSWHYLYIVKLNAGSGLPLMVFLVSSGMLIVSLYRHHKKMEVHTAGRRDAQAKAHITVLKSLGCLLILHVYILASPFISIT
SKSSADLLVFISETVMAAYPSLHVSILILGNPRMKQTCQRILWKTVCWAKS*

>Canis lupusTas2r67

MPSRIENAFVAAAGELITGMLGNGFIVLVNCDLVKNLKSTADCILTSALSRILLIILDSLLMVFWQHLYAIDKLAK
FISVFWTSLNHLTTWIVTCLNVFYFFKIANFSPHPCFTWLRWRISRVLLVPLGSLFLLFFNFELDTFTNFVWVNLVYQRHERNSI
WSDLVSKTLYLNSLIVFSFIYLIPFLLSLASLLLLFLSLMRHIRNVQRNSSSRDFRTEAHKRAMKVMSSFLSMVNFTSILLTG
WFSLLLQNHQANLAVLLSTLVPSPGHFILILGNKLRQAALGLLWHLNCHLKMVKPFAS*

>Canis lupusTas2r7

MPDKVESILMLVAAGEFSMGILGNTFIGLVNCGWIKKRKIASIDLITSLAISRICLLCIILLDCFILVLYPDVYATGKQMRIIDFF
WTLTNHLSVWFATCLSIFYFLKIANFFHPLFLWMKWRIDSAIPRILLGCLALSIFISLVVTENLNDDFRCCVVRTKKTNLTVR
CRVKKAKYSSIKICLNLLTLPFSVSLISFLLILSLWRHTRQMKFNATGCRDFSIEAHMGAMKAVISFLLFIAYYLAFLVATSS
YFMPETELAVIIGELIALIYPSHFSFILILGNSKLRQASLRVLWVKVYVLKRRNF*

>Chrysocyon brachyurusTas2r10

MLSILEGLLIFIAVSESLGVLGNGFIGLVNCDVKNKKFSMVGFILTGLATSRICLIIITDGFIFKIFSPDMYSSGNLIDYISYL
WVIINQSSIWFATLSIFYFLKIANFHHIFLWLGKGRINSVPLLMGSLFISWLFVFPQIVKIINDNRMKSRNTTWQLNMQKSEF
FTKQILLNLGVILLFTLCLITCFLLVSLWRHNRHMQLNVTGLRDPSTEAHVKAMKILVSFIILFIFYFIGIAIEISCFILPENKLL
FIFGMMTTAIYPWGHFILILGNSKLRQASLKTLOQLKCCARRLLTAAQIHVGGNGCSRRII

>Chrysocyon brachyurusTas2r12

MAGTMKNVFMIFAGEFIMGILGNGFIIIVNCEWIRSWKFFLIDFILCLAISRIFLLCHIMLDIGLDIICKEIWNNDNQLITFE
VLWTGCNYFCTICTVCLSVFYFLKIANSSNPIFFWLKRRIRHLLIIVLGAVFYFCLSLLLKDIVFKNMIKTKVNTESNVTLN
FTARKYDLLTSHIFLNMLFVIPFAVSLASFVLLIHSLNHTRRMKGIDSGDLITEAHVVRAMKFMISLFFFIYYSNIIYFAYV
VLDSLIVANIFANILVFSYPSSHFFLILWNCCKLQASLYVLRKLLKWCMLNLRKPAYIKHT

>Chrysocyon brachyurusTas2r2

MISFALSALPHVIVMSAEFITGITVNGFLIHNCKELIKSRKPTPVQLLFCIGMSRFGLLMVLMIQSFFSVLPFLFYKVNIFGTAM
LFFWMMFSSVSFWFATCLSIFYCLKIAGFTQSCFLWLKFRISKLMPWLLGSLLASMSIAALCIEADYPKKVVDDALKNAT
LKRTEPKIRQISEMLLVNLALLFPLAIFVMCTFMLFISLYKHTHRMQNGSHGVRNASTKAHINALKTVITFFCFYFAAFM
ANMTFSPYVGSCHFFVVKDIMAAFPSPGHSIIILLNSKYQQPFRRLLCFKKNQ

>Chrysocyon brachyurusTas2r38

MFLSVLELAVGILTNAFIFLVNFWDVRRQPLSNCDLILLSLTLQFLHGLFLDAIQLTYFQRMKDPLSLSYQTIIMLWMIT
NQAGLWLTCLSLFYCSKIVRFSHTLLCLANWVSRKAPQMLLGAMLFSSACTLLCLGDFFSRSGFAFTTVLLMNTEFNS
QIVKLNIFYSSIFCTLGSIPPFMFFLVSSGVLIIISLGRHMRTMKANTKDSGDPSEAHIKALISLISFLCLYVVSFCAALISVPLTM
VWHNKIGVMICVGILAACPSIIAAILISGNAKLRRAVETILLVWQSSSLKVRAGHRADLRTPDFC

>Chrysocyon brachyurusTas2r39

METCNPPENELSPFGILSILTITGTECIVGIIANGFIMAINAAEWIKNKTVSTSGRVLFFLSASRIALQSFTMLEITFSST
SPRFYNEDVMYDTFKVSFMFLNHCSLWFAAWLSFFYFVKIADFSHPLFLKWKWRISRLMPWLLWLSVFISLGYSMLLSNDI
YTVCNNSIPSSNSTKKKYFTKTNVNLVLLYNLGFIPILIMFILSATLLIISLKRHTLHMESNATGCRDPSMEAHIGAIRATSY
FLILYIFNSVALFLYMSNIFDINSSWNILCKFIMAAYPAGHSILLIQDNPGLRRRAWKRLQPQVHFYLKEQTP

>Chrysocyon brachyurusTas2r40

MSRFKIILTLVVPGLIECLTGIVGNGFITIIHGAKWARGKRLPVSDCILLMLSFSRLLLQIWMMLENIYSLFRVTYNQNTVFIL
FKVTVIFLNYFNLWLVAVLNIFYCLRITNLAHVFFMMKRKITEMLPWLLGSLFISLCSFSPFSTDIFHVYVNSSIPICSSNT
TEKYFSETNVNLVLLYNLGFIPILITFILSATLLIISLKRHTLHMESNATGCRDPSMEAHFGAIRATSYFLILYIFNAVAL
FLSMSNIFDINSSWNILCKIVMAAYPAGHSVLLILGNPGLRRRAWKRFQHHVPLHL

>Chrysocyon brachyurusTas2r41

MQPAVSFAFFMLLFLVLCVLGILANGFIVLVLSRERMRRGRLLPSDVILLSLGASRFCLQCVGMMNFFYYYLHLEEYSTG
PARQFFGLHWDFLNSATFWFGSWLTVLFCMNIASTHPTFLWLRWLPGPSVPWLLGASLLISFLVTLFFWGNHAVYQG
FLIRKYPGNMTFQQWSRREIHIFLPLKFITLSLPCS VFVLSIALLINSLRRHRGRMRRSGHGLQDPSSQAHTRALKSLVSFLI
LYALSFAALLIDAAGFFCSQNDWYWTWQIIIYLCCTVHPYILILSNLRLRGGCRQLLLLVRGSQA

>Chrysocyon brachyurusTas2r5

MLTAALPLLMVVAEFLIGLVNGALMVVSFGEWVRKFNGSSYNLIVLGLAVCRFLLQCLIMMDLSLFFPFQSSRWL
HYLSIFWILVSQASLWFATFLSVFYCRKIMTLEHPVCLWLKQRAYCLSLWCLLVYLVISLLLVAHIGLKPYNPSQGNSSILY
PLKSWHYLYIVKLNAGSGLPLMVFLVSSGMLIVSLHRHHKKMEVHTAGRRDAQAKAHITVLKSLGCFILHVIYILASPFIT
SKSSADLLVFISETVMAAYPSLHSHVILILGNPRMKQTCQRILWKTVCWAKS

>Chrysocyon brachyurusTas2r67

MPSRIENAFVAAAGELITGMLGNGFIVLVNCDLVKLNKLSTADCILTGLALSRIILLCHILLDSLLMVFWQHLYAID
KLAKFINVFWTSLNHLTIWIVTCLNVFYFFKIANFSPHCFWLRWRISRVLLVPLGSLFLLFFNFELLDFTNFVWN
LYQRHERNSTWLDVSKTLYLNSLIVFSFIHLIPFLSLASLLLLFLSLMRHIRNVQRNSSSRDFRTEAHKRAMKMVMSSLLS
MVNFTSILLTGWFSLLLQNHQANLAVLLSTLVPSGHSFILILGNNKLRQAALGLLWHLNCHLKMVKPFAS

>Chrysocyon brachyurusTas2r7

MPDKVESILMLVAAGEFSMGILGNTFIGLVNCGWIKKRKIASIDLITSLAISRICLLCHILLDCFILVLYPDVYATGKQMRIIDF
WTLTNHLSVWFATCLSIFYFLKIANFFHPLFLWMKWRIDSAIPRILLGCLALS VFISLVVTENLNDDFRCCVTRKKTNLTVR
CRVKKAKYSFIKICLNLLTLFPFSVLSIFLLLILSLWRHTRQMKFNATGCRDFSIEAHMGAMKAVISLFLFIAYYLAFLVATSS
YFMPETELAVIIGELIALIYPSHSHFILILGSNKLRQASRLVWVKYILKRRNS

>Cuon alpinusTas2r12

MAGTMKNVFMIFAGEFIIGILGNGFIIIVNCDWIRSWKFFLIDFILTCLAISRIFLLCIIMLGIGLDIICKEIWNQNDNLITFEVL
WTGCNYFCTICTVCLSVFYFLKIANSSNPIFFWLKRRIHRLLLIIVLGAVFYFCLSLLLKDIVFKNMIKTKVNTESNVTLNFTAR
KYDLLTSHIFLNMLFVIPFAVSLASFVLLIHSLNHTRRMKGIDSGDLITEAHVRSMKFMISLFFFYIYLSNIIYFAYVLDL
VAKIFANILVFSYPSGHPFLILWTCKLKQASLYVLRKLRKWCMLRKPAYIKHT

>Cuon alpinusTas2r2

MISFLSALPHVIVMSAEFITGITVNGFIIIMNCKELIKSRKPTPVQLFCIGMSRFGLLMVLMIQSSFSVLFPLFYKVNIFGTAIL
FFWMFFGSVSFWFATCLSVFYCLKIAGFTQSCFLWLKFRISKLMPWLLGSLLASMSIAALCIEADYPKKVDDDDALKNAT
LKRTEPKIRQISEMLLVNALLFPLAIFVMCTFMLFISLYKHTHRMQNGSHGVRNASTKAHINALKTVITFFCFFISYFAAFM
ANMTFSIPYGSCHFFVVKDIMAAPSGHSIIILLSNSKYQQPFRRLLCFKKNQ

>Cuon alpinusTas2r38

MFLSVLELAVGILTNAFIFLVNFWDVRRQPLSNCDLILLSLTLRFLHGLFLDAIQLTYFQRMKDPLSLSYQTIIMLWMIT
NQAGLWLTCLSLFYCSKIVRFSHTLLCLANWVSRKAPQMLLGAMLFSSACTLLCLGDFFSRSGFAFTTVLLMNTEFNS
QIVKLNIFYSSIFCTLGSIPPFMFFLVSSGVLIIISLGRHMRTMKANTKDSGDPSEAHIKALISLISFLCLYVVSFCAALISVPLTM
VWHNKIGVMICVGILAACPSIIAAILISGNAKLRRAVETILLVWQSSSLNVRAGHRADLRTPDLC

>Cuon alpinusTas2r39

METCNPPENELSPFGILSILTITGTECIVGIIANGFIMAINAAEWIKNKTVSTSGRVLFFLSASRIALQSFTMLEITFSST
SPRFYNEDVIYDTFKVSFMFLNHCSLWFAAWLSFFYFVKIADFSHPLFLKWKWRISRLMPWLLWLSVFISLGYSMLLSNDIYT
VVCNNSIPSSNSTKKKYFTKTNVNLVLLYNLGFIPILIMFILSATLLIISLKRHTLHMESNATGCRDPSMEAHIGAIRATSYFLI
LYIFNSVALFLYMSNIFDINSSWNILCKFIMAAYPAGHSILLIQDNPGLRRRAWKRLQPQVHFYLKEQTP

>Cuon alpinusTas2r40

MSRFKIVLTLVVPGLIECLTGIVGNGFITIIHGAKWARGKRLPVSDCILLMLSFSRLLLQIWMMLNENIYSLFRVITYNQST
VFIVFKVTVIFLNYFNWLAAWLNIFYCLRITNLAHHVFFMMKRKITELMPRLGLSLFISLCSFPFSTDFHVVYVNSSIP
IRSSNTTEKKYFSETNVVNLVLLYNLGFIFLIMFILSATLLIISLKRHTLHMESNATGCRDPSMEAHFGAIRATSYFLILYIFNAV
ALFLSMSNIFDINSSWNILCKIVMAAYPASHSVLLILGNPGLRRAWKRFQHHVPLHL

>Cuon alpinusTas2r41

MQPAVSAFFMLLFVLLCVLGLANGFIVLVLSRERMRRGRLLPSDVILLSLGASRFCLQCVGMMNNFYHYLHLEEYSMG
PARQFFGLHWDFLNSATFWFGSWLSVLFCKIASFTHTPTFLWLRWRLPGSVPWLLGASLLISFLVTLFFWGNHAVYQG
FLIRKYPGNMTFQQWSRRLEIHYFLPLKFITLSPVCSVFLVSIALLINSLRRHRGRMRRSGHGLQDPSSQAHTRALKSLVSFLI
LYALSFAASLVIDAAGFFCSQSDWYWPWQILYILCTSVHPYILILSNLRLRGGCRQLLLLVRGSQLA

>Cuon alpinusTas2r5

MLTAALPLLMVAVVEFLIGLVGNGVLMVWSFGGEWVRKFNSSYNLIVLGLAVCRFLLQCLIMMDSLFPFFQSSRWL
HYLSIFWILVSQASLWFATFLSVFYCRKIMTLEHPVCLWLKQRAYCLSLWCLLVYLMISLLLVAHIGLKPYNPSQGNSSILY
PLKSWHYLYIVKLNAGSGLPLMVFLVSSGMLIVSLYRHKKMEVHTAGRRDAQAKAHITVLKSLGCFLLHVIYILDSPFSIT
SKSSADLLVFISETVMAAYPSLHVSILILGNPRMKQTCQRILWKTVCWAKS

>Cuon alpinusTas2r42

MLAGLDIIFLTLSTAEFIIGMLGNFIGLVNCSWVKNRKISLADFILICLAISRIAQLLVSWFESFMMGLSPLFFSTYKLA
SITLLWRITHHLATWFSTCLSFYLLKIAQFSHSLFLWLRWRMNRVLAIVFSLFLLDFLMLLETFNDFLFSNV DAMDESNLT
LYIYESKTFYVKTLLLSFSYIPIILSLTSLLLLFLSLVKHIRNLQLNSMGRSDSSTQAHKKAIKMVMMSFLFLFTVHFFSIQLSNW
MFFLFWNKKITKFMILAVYVFPSSSHLILGNSKLRQTALKVWLHLKSSLKREKPNSSLPIDFSESF

>Cuon alpinusTas2r67

MPSRIENAFVAAAGELITGMLGNGFIVLVNCDLVKNLKLSTADCILTGLALSRIILLCIILLDSLLMVFWQHLYAID
KLAKFISVFWLTSNHLTTWIVTCLNVFYFFKIANFSHPCTWLRWRISRVLVLPGLSFLFFNFELLDFTNFVWN
LYQRHERNSTWSLDVSKTLYLNSLIVFSFIYLPFLSLASLLLLFLSLMRHIRNVQRNSSSRDFRTEAHKRAMKMVMSSLLL
MVNFASILLTGWFSLLLQNHQANLAVLLLSTLVPSGHSFILILGNKLRQAALGLLWHLNCHLKMVSPFPN

>Cuon alpinusTas2r7

MPDKVESILMLVAAGEFSMGILGNTFIGLVNCGIWIKRRIASIDLITSLAISRICLLCIILLDCFILVLYPDVYATGKQMRIIDFF
WTLTNHLSVWFATCLSIFYLKIANSFFHPLFLWMKWRIDSAIPRILLGCLALS VFISLVVTENLNDDFRCCVVRTKKNLNTVR
CRVKKAKYSSIKICLNLLTLPFVSLSIFLLLILSLWRHTRQMKFNATGCRDFSIEAHMGAMKAVISFLLLIAYYLAFLVATSS
YFMPETELAVIIGELIALIYPSHSFILILGNSKLRQASLRVLWVKYIILKRRNF

>Felis catusTas2r12

MASVLKNVFMILFAGEFIMGILGNGFIILVNCIDWIRNWKFFVIDFIITCLAISRIVLLCIHILGIGLDVPCCEIWNKNNQLIRFEIL
WTGSNYFCITCTTCLSVFYFFKIANFSNPLFLWIKWRIHKVLLTIVLA AVFSFCLSLPFKDTVFTSLIKNKVNAERNWTVSFT
MRTYELFLSHMLLNIMFIIPFAVSLASFVLLICLSWSHTRQMKGRGGDPTTKVHVVRAMKAMISFLLFFMYLSTIMMNLAY
VILDSLVAKIFANTLVFLYPSGHTFLLILWTSKLLQASLVCVLLKCLHLRKPTRP*

>Felis catusTas2r2

MASSLSAIPHLIIMS AEFITGITVNGFLVIINGKELIKSRKLTMPQLLCICIGISRFGLLMVL MVQSFFSVFFPLFYRVKIYGASM
LFFWMFSSVSLWFATCLSIFYCLKISGFTQSYFLWLKFRISKLMPWLLGSLLASMSIAAVSLDVGYPKNMNNNDFLKNAT
LKKTELKIGPINGVLLVNLALLFPLAIFVMCTFMLFISLYRHTHRMQNRSHGVRNASTEAHINALKT VITFFCFFISYFAAFM
ANMTFSIPYGSQCFVVKDIMA AFPSGHSVIIIILNNSKFQQPFRRLLCLKKNQ*

>Felis catusTas2r38

MLALTPVITVSYEVKSAFLFLSILEFTVGVLANAFIVLVNFDVVRKQPLSNCDLILLSLSLTRLFLHGLLFDALQTYFQRM
KDPLSLSYQTIIMLWMITNQVGLWLTCLSLLYCSKIARFSHTLLHCVASWVSRKVPQMLLGAMLFSCICTAICLGDFFSRSG
FTFTTMLFVNNTFNLQIAKLSFYHSFIFCTLASIPSLFFLVSSGV LIVSLGRHMRTMRAKTKDSDHPSLEAHIKALRSLVSFL
CLYVVSFCAALVSPLLMLWHNKIGVMICVGILAACPSIHAAILISGNAKLRRAVETILLWVQNSLKIGADHKADARTPGLC*

>Felis catusTas2r42

MLAGLDKIFLTLSTAEFVIGMSGNVFVGLVNCSEWIKNQKISFVDFILTCLALS RITQLLVSLWQSFVMTLSPPFYSTWKS
LITLLWRITNHWTWFTTCLSFYLLKIAHFSHSFFLWLKWRTRNRVLAIVLVLSPFLDFLVLESNDFFLNVYVMDESNLT
LHINDCKSLYIKTLILLSFYTIPIVLSLTVLLFLSLVRHIRNLQLSVMGSRDASTQAHKGAIKMVMMSFLLFTVHFFSIQLTN
WMLLIFWNNKVTKFMILAIYVFPSSHSILILGNSKLRQTALKVLRHLKSTLKREKTVSSQLIDVPGSF*

>Felis catusTas2r67

MPSGIENFTLTA AVGAFMIGMLGNGFIALVNCIDWVKHRKLSPADCILTSLAVSRIILLWMILFDLLVMVFWPHLYNIEKLATA
VNICWTLTNHLATWFATCLSIFYFFRIANFSHRCTWLRRRISRVLVLPGLSFLFFNYKLLVGFSDLWATYHNYERNSTR
PLDVSKTGYLNSLVLSFIYLPFLSLTSLLLLFLSLMRHTRNVQLNSSSRDFSTEAHKRAMKMVISFLLSTVHFFSIQLTGWI
FLLKHHANLMVTLTALFSPGHSFILIFGNSKLRQTALGLLWHLNCHLKMVKPLAS*

>Lycaon pictusTas2r2

MISFLSALPHVIVMSAEFITGITVNGFLIHNCKELIKSRKPTPVQLLFICIGMSRFGLLMVLMIQSFFSVLFPFLFYKVNIFGTAM
LFFWMFFSFVSWFATCLSVFYCLKIAGFTQSCFLWLKFRISKLMPWLLGSLLASMSIAALCIEADYPKKVDDALKNAT
LKRTEPKIRQISEMLLVNLALLFPLAIFVMCTFMLFISLCKHTRMQNGSHGVRNASTKAHINALKTVITFFCFFISYFAAFM
ANMTFSIPYGSHCFVVKDIMAAFPSPGHSIIILSNSKYQQPFRRLLCFKKNQ*

>Lycaon pictusTas2r38

MFLSVLELAVGILTNAFIFLVNFWDVVRQPLSNCDLILLSLTRLFLHGLLFLDAIQLTYFQWMKDPLSLSYQTIIMLWMIT
NQAGLWLTCLSLFYCSKIVRFSHTLLCLANWVSRKAPQMLLGAMLFSSACTLLCLGDFFSRSGFAFTTVLLMNTEFNS
QIVKLNFFYSSIFCTLGSIPPFMFFLVSSGVLIISLGRHMRTMKANTKDSGDPSEAHKALISLISFLCCLYVVSFCAALISVPLTM
VWHNKIGVMICVGIACPSIIHAAIISGNAKLRRAVETILLWVQSSLKVRAGHRADLRTPDLC*

>Lycaon pictusTas2r39

METCNPPENELSPFGILSILTIIGTECIVGIIANGFIMAINAAEWIKNKTVSTSGRVLFFLSASRIALQSFTMLEITFSST
SPRFYNEDVMYDTFKVSMFLNHCSLWFAAWLSFFYFVKIADFSHPLFLKLRWRISRLMPWLLWLSVFISLGYSMLLSNDI
YTVCNNSIPSSNSTKKKYFTKTNVNLVLLYNLGIPIPLIMFILSATLLIISLKRHTLHMESNATGCRDPSMEAHMGAIRATS
YFLILYIFNSVALFLYMSNIFDINSSWNILCKFIMAAYPAGHSILLIQDNPGLRRRAWKRLQPQVHFYLKEQTP*

>Lycaon pictusTas2r40

MSRFKIVLTLVVPGIECLTGIVGNGFITIIHGAKWARGKRLLVSDCILLMLSFSRLLLQIWMMLENIYSLFRVITYNQST
VFIVFKVTIVFLNYFNWLAAWLNIFYCLRITNLAHHVFFMMKRKITELMPRLGLSLFISLCSFPFSTDIFHVYVNSSIP
IRSSNTTEKKYFSETNVVNLVLLYNLGIPIPLIMFILSATLLIISLKRHTLHMESNATGCRDPSMEAHFGAIRATSIFLILYIFNAV
ALFLSMSNIFDINSSWNILCKIVMAAYPASHSVLLILGNPGLRRAWRRFQHHVPLHL*

>Lycaon pictusTas2r41

MQPAVSFAFFMLLVLLCVLGIANGFIVLVLSRERMQRGRLLPSDVILLSLGASRFCLQCVGMMNFFYYLHLEEYSTGPAR
QFGLHWDFLNSATFWFGSWLSVLFCMKIASFTHPTFLWLRWRPGLVWLLGASLLISFLVTLFFWGNHNAVYQGFLIRKY
PGNMTFQWSRRELETHYFLPLKFITLSVPCSVFLVSIALLINSLRRHRGRMRSSGHGLQDPSSQAHTRALQSLVSFLILY
ALSFAVLVDAAGFFCSQSDWYWPWQILYILCTSVHPYILISNLRRLRGGRQLLLLVIRGSQMA*

>Lycaon pictusTas2r42

MLAGLDIIFLTLSTAEFIIGMLGNAFIGLVNCSEWVKNRKLADLADLILCLAISRIAQLLVSWFESFMMGLSPLFFSTYKLA
SITLLWRITHHLATWFSTCLSFYLLKIAQFSHSLFLWLRWRMNRVVLAILVSLFLLDFLMLETFNDLFSNVDAMDESNT
LYIYESKTFYVKTLILLSFSYIPIILSLTLLLLFSLVKHIRNLQNSMGRSDSSTQAHKKAIKMVMMSFLFVHFFSIQLSNW
MFFLFWNKKITKFMILAVYVFPSSHSLLILGNSKLRQTALKVLWHLKSSLKREKPNSSSIDFPESFQ*

>Lycaon pictusTas2r67

MPSRIENAFVAAAGELITGMLGNGFIVLVNCIDLKLNKSTADCLTGLALSRIILLCHILLDSLLMVFWQHLYAID
KLAKFISVFWTSLNHLTTWIVTCLNVFYFFKIANFSPHCFWLRWRISRVLLVPLGSLFLLFFNFELLDFTNFVWN
LYQRHERNSTWSDVSKTLYLNSLIVFSFIYLIPFLLSLASLLLLFSLMRHIRNVQRNSSSRDFRTEAHKRAMKVMSS?LS
MVNFTSILLTGWFSLLLQNHQANLAVLLSTLVPSGHSFILILGNKLRQAALGLLWHLNCHLKMVKPFAS*

>Lycaon pictusTas2r7

MPDKVESILMLVAAGEFMSGILGNTFIGLVNCIGWIKKRKIASIDLITSLAISRICLLCHILLDCFILVLYPDVYATGKQMRIIDF
WTLTNHLSVWFATCLSFYFLKIANFFHPLFLWMKWRIDSAIPRILLGCLALSVFISLVVTENLNDDFR?CVRTKKTNLTVR
CRVKKAKYSSIKICLNLLTLFPFSVSLISFLLILSLWRHTRQMKFNATGCRDFSIEAHMGAMKAVISFLLLIAYYLAFLVATSS
YFMPETELAVIIGELIALIYPSHSHFILILGNSKLRQASLRVLWVKVYILKRRNF*

>Mustela putoriusTas2r12

MASTFKNVFTMIFAGEFIAGLLGNGFIIIVNCIDWIRSWKFFLIDFILTCLAISRMLLLCIIMLGIGIDIICEEICYNDNQLMIFEIL
WTGSNYFCITCTACLSVFYLLKIANFNSNPIFFWIKQRTHRLLLIIVLGAVLSFCLSLLFKDVTVFKNLIKTVWNPDSNQTLNFT
VRKYDLLTSNIVLNIMFIPFGVSLASFVLLIHSWVKHTRRMKGTGSGDLITKAHVAMKSMISFLLFFMYWLSNIIIVLY
VMLDSLVAKMFAFMVFSYPSGHPFLILWNSKLRQASLQVLRKLRWCRNVRKSANP*

>Mustela putoriusTas2r10

MPDKVETTLMLIAAGEFMSGILGNAFIGLVNCMGWIKNRKITSIDLITSLAISRICLLCHILLDCFILVLYPDVYTAGKQMRIID
FFWTLTNHLSVWFATCLSFYFLKIANFYHPLFLWMKWRIDSMIPRILLGCLAVSAFISLVVTENLNDDFRYCVKTKRKANVT
VRCRVNKAQYASIKICLNLLTLFPASLISFLLILSLWRHNRQMKVSATRCRDFNIEAHVGAMKAVISFLLLIAYYLAFL
VATSSYFMPETELAVIIGELIALIYPSHSHFILILGSKKLRQTSVTLVWVKVYILNRRNF*

>Mustela putoriusTas2r2

MASSLSAIPHLIVMSAEFITGITVNAFLILINCKELIKSRKLTMPQLLFLCIGMSRFGLLMVLMVQSFFSVFFPLFYRVKVV
GAAMLFFWMFFSSVSLWFATCLSVFYCLKISGFTQSYFLWLKFRISKLSWLLGSLASMSIAALCIEADYPKKANDDDV
LKNATLKRTEPKIRQINEVLLVNLALLFPLALFVMCTFMLLISLYKHTHRMQNGSHGVRNASTEAHINALKTVMTFFCFFISY
FAAFMANMTFSMPYGSHCFVVKDIMAAFPSPGHSIIILSNSKFQQPFRRLLCFKKNQ*

>Mustela putoriusTas2r38

MLTLTPVITVSYEVKCAFLLLSALEFAVGILTNTFIFLVNIWDVVRQRPLSNCDLILLSLSLTRLFLHGLLFLDALQLIYFQRMK
DPLSLSYQIIVMLWMVTNQAGLWLTTCLSLLYCSKIVRFSHTILLCLASWVSRKVPQMLLGAMVFFSICLCLGDFFSRSGFG
FTTTLFMNNTLNLQITKLNFYYSFIFCTLGSIPPFLFLVSSGVLIVSLGRHMRTMKAKSKDSDHPSLEAHIKALRSLISFLCLY
VVSFCAALISVPLMLWRNKIGVMICVGIACPSIHAIIISGNAKLRRRAVETILLWQSSLKVRADHRADPRTPDLC*

>Mustela putoriusTas2r42

MLAGLDTIFLTLTSEFIIGMLGNVFIGLVNCESEVVRNREISLADFIILTCLAISRISQLLVSSFESFMMGLSPPFPYPTHKLAK
PVTLLWRITNHLSTWFTTSLIFYLFKIAQFHSFLWLRWRMNRVVLAILVFSLFILLFDLLETFNFFWNIHAMDESNTL
HINESKTSYIKTLVLLSISYIPIVLSLISLFLSLVKHIRNLKLSMGSRDFSIQAHKKAIKMVVSFLFLFTVHFLSIQLSNWIL
FLFWNNKSAKFIMLAVYIFPSGHSILILGNSRLRQTALNVLWHLKSFLKREKAISLQINLPEPFQ*

>Mustela putoriusTas2r5

MLSAALALLMVVAEFLIGLVGNVGVVWVSFGGEVVRKFNCGSSYNLIVLGLAVCRFLLQWLIMMDLSLPLFHSSHWLR
YLSVFWILVQSASLWFAAFLSVFYCRKIMTLEHPVCMWLKQRAYCLSLWCLLGYFMISLVLTLIGLKPYPDPSQGNSSILYP
FESWHYLYVLKLNAGSGLPLMVFLVSSVMLIISLYRHHKMKVYTAGRRDARAKAHITVLKSLGCFLLHVVYILASPFSSII
YKSSANLLIIFISVMAAYPSLHVSILIMGNPRVKQTCQRILWKMVCAWRS*

>Mustela putoriusTas2r67

MPSGIENAFLIAATGGFLTGMGLNSFIVLVNDCIDWVKGQKLSSADCILTSLAISRIVLLCIIILDSYLMVWVPHLYIIDNIA
KFVNSFWTLSNHLATWFATGLSVFYFKIANFHSCHFTWLRRRISRVLVPLGSLLLLCNFELDTFSNFSVNVYQRY ER-
NSTWLSLNVSKTLNLSLIVFSFTYLIPFLLSLASLFLSLRRHTRNVQNCNRDFNTEAHQRAMKMVMSFLFLSTVH
FSSILLTGWIFVLLQNSQVNLVAILLSTLFPSSHSFILGNSKLRKTALGLLWHINHHLKTVPKPFIP*

>Mustela putoriusTas2r7

MPDKVETTLMLIAAGEFSMGLGNAFIGLVNCGWIKNRKITSIDLITSLAISRICLLCIIILDCFILVLYPDVYTAGKQMRIID
FFWTLTNHLSVWFATCLSFYFLKIANFYHPLFLWMKWRIDSMIPRILLGCLAVSAFISLVVTENLNDDFRYCVKTKRKANVT
VRCRVNKAQYASIKICLNLTLPLFASLISLFLLLILSLWRHNRQMKVSATRCRDFNIEAHVGMKAVISFLLLFIAYYLAFL
VATSSYFMPETELAVIIGELIALIYPSHSHFILGSKKLRQTSLTVLWVKVYILNRRNF*

>Nyctereutes procyonoidesTas2r10

MLSILEGLLIFIAVSESILGVLGNFIGLVNCGWIKNRKITSIDLITSLAISRICLLCIIILDCFILVLYPDVYTAGKQMRIID
WVIINQSSIWFATSLSFYFLKIANFHHIFLWLGKGRINSVPLLMGSLFISWLFVFPQVQIINDNRMKSRNTTRQLNMQKSEF
FTKQILLNLGVILLFTLCLITCFLLIISLWRHNRHMQLNVTGLRDPSTEAHVKAMKILLSFILFIFYFIGIAIEISCFILPENKLLFIF
GMMTTAIYPWGHFILGNSKLLKQASLTKLQQLKCCARRLLTAAQIHVGGNGCFRRII*

>Nyctereutes procyonoidesTas2r12

MAGTLKNVFMIFAGEFIMGILGNFIILVNCIDWIRSWKFFLIDFILTCLAISRIFLLCIIIMLIGLIDICKEIYVNDNQIPITFEVL
WTGCNYFCTTCTVCLSVFYFLKIANSSNPIFFWLKRIHRLLLIIVLGAFCFLSLLKDIVFKNMIKTKVNTESNVTLNFTAR
KYDLLTSHIFLNILFVIPAVSLASFVLLIHSWLNHITRMKGIDSGDLITEAHVRAMKFMISFLLFFFIYLSNIIIFAYVVDLSL
VAKIFANILVFSYPSGHPFLILWNCKLKQASLYVLRKLLKWCMLRKPAYIKHT*

>Nyctereutes procyonoidesTas2r2

MISFLSALPHVIIMSAAEFITGITVNGFLIHNCKELIKSRKPTPVQVLFICIGMSRFGLLMVLMIQSFFSVFFPFYKVNIFGTAM
LFFWMMFSSVSLWFATCLSVFYCLKIAGFTQSCFLWLKFRISKLLPWWWGSLASMSIAALCIEADYKPNVDDALKNAT
LKRTEPKIRQINEMLLVNLALLFPLAIFVMCTFMLFISLYKHTHRMQNGSHGVRNASTKAHINALKTVITFFCFISYFAAFM
ANMTFSIPYGSCHFFVVKDIMAAPSGHSIIILLNSNSKYQQPFRRLLCFKKNQ*

>Nyctereutes procyonoidesTas2r38

MFLSVLELAVGILTNAFIFLVNFWDVVRQRPLSNCDLILLSLSLTRLFLHGLLFLDAIQLTYFQRMKDPLSLSYQTIIMLWMIT
NQAGLWLTTCLSLIFYCSKIVHFSHTLLCLANWVSRKAPQMLLGAMLSFACTLLCLGDFFSRSGFAFTTVLLMNNTEFNS
QIVKLNFYYSIFCTLGSIPPFFMFLVSSGVLIIISLGRHMRTMKANTKDSGDPSEAHIKALISLISFLCLYVVSFCAALISVPLTM
VWHNKIGVMICVGIACPSIHAAILISGNAKLRRRAVETILLWVQSSLKVRAGHRADLRTPDLC*

>Nyctereutes procyonoidesTas2r39

METCNPPENELSPFGILSILTITGTECIVGIIANGFIMAINAAEWIKNKTVSTSGRVLFFLSASRIALQSFTMLEITFSST
SPRFYNEDVMYDTFKVSMFLNHCSLWFAAWLSFFYFVKIADFSHPLFLKLRWRISRLMPWLLWLSVFISLGYSMLLSNDI
YTVYCNSSSIPSSNSTKKKYFTKTNVNLVLLYNLGIFIPLIMFILSATLLIISLKRHTLHMESNATGCRDPSMEAHIGAIRATSY
FLILFIFNSVALFLYMSNIFDINSSWNILCKFIMAAYPAGHSILLIQDNPGLRRRAWKRLQPQVHFYLKEQTP*

>Nyctereutes procyonoidesTas2r40

MSRFKIVLTLVVPGLDCLTGIVGNFITIIHGAKWARGKRLPVSDCILLMFSRLLLQIWMMLENIYSLLFQVTYNQNTVFIL
FKVTVIFLNYFNWLAAWLNIFYCLRIANLAHHVFMKKKITELMPRLPGLSLFISLFCNFPFSTDFHVVYVNSSIPIRSSNT
SEKKYFTKTNVNLVLLYNLGIFILLIMFILSATLLIISLKRHTLHMESNATGCRDPSMEAHIGAIRATSYFLILYIFNAVAL
FLSMSNIFDINSSWNILCKIVMAAYPAGHSVLLILGNPGLRRRAWKRFQHHVPLHL*

>Nyctereutes procyonoidesTas2r41

MQPAVSACFMLLFVLLCVLGILANGFIVLVLSRERMRRGRLLPSDVILLSLGASRFCLQCVGMMNNFYYYLHLEEYST
GLARQFFGLHWDFLNSATFWFGSWLSVLFCKIASFTHTPTFLWLRWRLPGSVPWLLGASLLISFLVTLLFFWGNHAVYQG
FLIRKYPGNMTFQQWSRRLEIHVFLPLKFITLSVPCSVFLVSIALLINSLRRHRGRMRGGHGLQDPSSQAHTRALKSLVSFLI
LYALSFASLVIDAAGFFCSQSDWYWPWQILIYLCSTVHPYILILSNLRLRGGCRQLLLLVRGSQA*

>Nyctereutes procyonoidesTas2r42

MLAGLDIIFLTLSTAEFIIGMLGNAFIIGLVNCESEWVKNQKISLADFILICLAISRIAQLLVSWFESFMMGLSPLFFSTYKLGK
SITLLWRITHHLATWFSTCLSFYVVKIAQFHSLSFLWLRWRMNRVVLAILVSLFLLDFLMLLETFNDFLNVNDAMDESNLT
LYINESKTFYVKTLLLSFSYIPIILSLTSLLLFLSLVKHIRNLQSSMGRSDSSTQAHKKAIKMVMMSFLFLTTFVHFFSIQLSNW
MFFLFWNKKITKFIMLAVYVFPSSSHLILGNSKLRQTALKVWLHLKSSLKREKPNSSLPIDFPESFQ*

>Nyctereutes procyonoidesTas2r5

MLTAALPLLMMVVAVVEFLIGLVGNGVLMVWVSGEWRKFNKNGSSYNLIVLGLAVCRFLQLCLIMMDLSLFPFFQSSRWL
HYLSIFWILVQSASLWFATFLSVFYCRRIMTLEHPVCLWLKQRAYCLSLWCLLVYLMISLLLVAHVGLKPYNPSQGNSSILY
PLKSWHYLYIVTLNAGSGLPLMVFLVSSGMLIVSLYRHHKKMEVHTAGRRDAQAKAHITVLKSLGCFILHVIYILASPFSIT
SKSSADLLVFISETVMAAYPSSLHVSILGNPRMKQTCQRILWKTVCWAKS*

>Nyctereutes procyonoidesTas2r67

MPSRIENAFIVAAAGELITGMLGNFIVLVNCLDLVKNLKLSTADCILTGLALSRIILLCIILLDSLLMVFWQHLYAID
KLARFINVFWTLNHLTTWIVTCLNVFYFFKIANFNSHPCFTWLRWRISRVLLVPLGSLFLLFFNFELLDFTFTNFVWN
LYQRHERNSTWLDVSKTVYLNLSLIVFSFIYLIPLFLSLASLLLLFSLMRHTRNVQRNSSSRDFRTEAHKRAMKMVMSSLL
STVNFTSILLTGWFSLLQNHQANLAVLLSTLVPSGHSFILILGNNKLRQAALGLLWHLNCHLKMVKPFAS*

>Nyctereutes procyonoidesTas2r7

MPDKVESILMLVAAGEFSMGILGNTFIGLVNCGIWIKKRKIASIDLITSLAISRICLLCIILLDCFILVLYPDVYATGKQMRIIDFF
WTLTNHLSVWFATCLSFYFLKIANFFHPLFLWMKWRIDSAIPRILLGCLALS VFISLVVTENLNDDFRCCVVRTKKTNTLTVR
CRVKKAKYSSIKICLNLTLVPLSVSLISFLLILSLWRHTRQMKFNATGCRDFSIEAHMGAMKAVISFLLFIAYYLAFLVATSS
YFMPETELAVIIGELIALIYPSHSHFILILGNSKLRQASRLVWVKYILKRNK*

>Panthera pardusTas2r10

MLSIVEGLLIFIAVSESVLGVLGNGFIGLVNCMDCVKNKKFSMIGFILTGLATSRICLILIVVDGFIKIFSPDMYSSGHLIDYISYL
WIIINQSNWFATSLSTFYFLKIANFNSHMFVWLKGRINWVPLLMGSLFISWLFTEFPQIVKILRDSKVVNGNSTWQLNMLKSE
FFTQKILVNVGVLLLFITLITCFLLIISLWRHSRRMQLNVTGFQDPSTEAHMKAMKVLISFLILFILHFIAGLAIACFTMPEK
KLLFIFGMMTTVLYPWGHSFILILGNSKLRQASRLALQVVKCY*

>Panthera pardusTas2r12

MASILKNVFMILFAGEFIMGILGNFIILVNCIDWIRNWKFFIIDFISTCLAISRVLLCIILLGIGVDVPCCEIWNKKNQLISFEIL
WTGSNYFCTTCTTCLSVFYFFKIANFNSPIFLWLKWRHVKVLLIIVLAAVFSFCLSLPFKDTVFMSLIKSVNAERNRTVSFTM
RTYELFLSHMLLNIMFIIPFAVSLASFVLLIRLSWHSRTRQVKDRGGDPITKVHVRAMKSMISFLLFFMYLLSTIMMNLAYVILD
SLVAKIFANTLVFLYPSGHTFLLILWTSKLRQASLCLVKKLKLHLRKPHTP*

>Panthera pardusTas2r2

MASSLSAIPHLIIMSAEFITGITVNGFLVIINGKELIKSRKLTMPQLLCICIGISRFGLLMVLMVQSFFSVFFPLFYRVKIYGAAM
LFFWMFSSVSLWFATCLSVFYCLKISGFTQSYFLWLKFRISKLMPWLLGSLLASMSIAAVCLDVGYPKNTNNDFLKNAT
LKKTELKIRPINGVLLVNLALLFPLAIFVMCTFMLFISLYRHTRMQNRSHGVRNASTEAHINALKTVITFFCFISYFAAFM
ANMTFSPYGSQCFVVKDIMAAFPSGHSVIIIILNNSKFQQPFRRLLCLKKNQ*

>Panthera pardusTas2r38

MLALTPVITVSYEKSAFLFLSILEFTVGLANAFIVLVNFDVVRKQPLSNCDLILLSLSTRFLHGLLFLDAIQTYFQRM
KDPLSLSYQTIIMLWMITNQVGLWLTCLSLLYCSKIARFSHTLLCVASWVSRKVPQMLLGAMFFSCICTAICLGDFFSRSG
FTFTMLFVNNTFNLQIAKLNFYHSFIFCTLSIPSLFLVSSGVLVSLGRHMRTMRAKTKDSRDPSEAHIKALRSLVSFL
CLYVVSFCAALVSVPLMLWHNKIGVMICVGIILAAACPSIHAAILISGNAKLRRAVETILLWVQNSLKIGADHKADPRTPDLC*

>Panthera pardusTas2r40

MATVNTDAMDRTSRFKIVLT?VLSGVECMTGMIINGFITAIHGAEWARGKRLPVSDCILLKLSFSRLLLQIWMMLNENIYSLF
FLVTYNQNTVFITFKVITMFLNYSNLWLAAWLNIVSCLRIANFAHCLFSMMKRKIRELMPRLGLSLFISLRFSSFRFSKDFIN
VYINSSVIPSSNTTEKKYFSETNMVNVLVLLYNGLIFIPLIMLIFAATLLIISLKRYTLHKIHPHATGFRDPSMEAHMGAIKAISY
FLIFYIFNAVALFISMSNIFDINSSWNILCKIVMAAYPAGHSVLLILGNPGLRRRAWKRFQHRVHLHL*EQL*

>Panthera pardusTas2r41

MAGLVSDGRCRAWTLFSRPQRSKEGLCAGVGRPPGTKAQGTGVVTRAAETRPGLSAFFMLLFVLPCLLGLILASG?IVLV
LGRERLQRGRLLPSGMILLSLGASRFCLQVWGTVNSFYW?EYRRGPARQFFGLHWDFLNSATFRFSSWHSVLFCKMITN
FTHTPTFLWVWRFPGPSVPWLLMAPLLISFIVTLLFFWGNRAVCEGFLIRKFPGNMTFRQWSRTLEVHYFLPLKLTLLVPCSV
FLVSVALLINSLRRHTGRMQLSAHRPQDPSAQAHTRALKSLVSFLILDALSLASLVIDAAGFFSESDWYWPYWPWQILIY
CMSVHPSFLISSNLRLRGVCRQLLLLARGFWVA

>Panthera pardusTas2r42

MLAGLDKIFLTLSTAEFIIGMSGNVFVGLVNCSEWIKNQKISFVDFILTCLALSRLITQLLVSLWQSFVMTLSPPFYSTWKS
AKLITLLWRITNHWTTWFTTCLSFYLLKIAHFHSHSFFLWLKWRTRNVVLAAILVLSLPLFLDFLVLLESNDFFLN
VYVMDESNTLHINDSKSLYIKTLILLSFSYTIPIVLSLISLVLLFSLVLRHIRNLQLNFMGSRDPSTQAHKGAIKM
VMSFLLLFTVHFFSIQLTNWMLFIFWNNKFTKFIMLAIYVFPSPGHSLLILGNSKLRQTALKVLRHLKSTLKREKTVS
SLQIDVPGSF*

>Panthera pardusTas2r67

MPSGIENFTLTAAVGAFMIGMLGNGFIVLVNCIDVVKHRKLSPADCILTSLAVSRIILLWMLFDSLVMVFWPHLYNIEK
LATAVSIKWTVTNHLATWFATCLSVFYFFRIANFHRCTWLRQRIRRVLLVPLGSLFLLVFNYKLLVGFSDLWAT
IYHNYERNSTRPLDVSKTVYLNLSLVLSFIYLIPLFLSLTSLLLFLSLMRHTRNVQLNSSSRDFSTEAHRRAMK
MVISFLLLSTVHFFSIQLTGWIILLKKHHANLVTLTSAFFPSGHSLLIFGNSKLRQTALGLLWHLNCHLKMVKPLAS*

>Panthera pardusTas2r7

MCLSNYISPTRSGWIFLYFTMLDKVESTLMLIAAGEFAMGILGNAFIGLVNMCNWKINRKRKIASIDLILTS
LAISRICLLCILLDYFILGLYDPVYTTGKKMRIIDFFWTLTNHLNVWFATCLSFYFLKIANFFHPLFLWMK
WKIDSAIPRILLGCLAFSVFISLVSENLNDDFRSCVKVKKKTNITVKCRVNAQYASVKICLNLLTLPFVS
SVISFLLLLSLWRHTRQMKVSATGCRDPSIEAHVGAMKAVISFLLFIAYYLAFLVATSSYFMPETELAVMIGEL
IALIYPSHSLILGNNKLRQASLRVLWVKCILKRRNH*

>Ursus maritimusTas2r10

MLSILEGLFIFIAVSESILGVLGNGFIELVNCIDCVKKNKFSMIGFILTGLATSRICLILIIITDGLTKIFFPDMY
SSGNLIDYISYLWVIFNQSSIWFAATSLSVFYFLKIANFHHIFLWLKGRINKVLHLLMGSFLISWLF
TFPQIVEIINESRMKSGNATWNLHMQRSKFFTQKILLNLGVILLFTLCLITCFLIISLWRHNRSMQLNVTGPRDP
STEAHVKAMKVLISFIILFIFYFIGIAIEISCFTLPENKLLFISGMVTTAIYPWGHSEFILGNSKLLQASLRAL
QRFKCCEVGRLLTAAQTRVGRNGCSRRII*

>Ursus maritimusTas2r2

MVSSLSAIPHVIVMSAEFITGITVNGFLIHNCKELIKSRKLTMPQLLFCIGMSRFGLLMVLVQGFSSVFFPLFY
RVKIYGAAMLFFWMFLSSLSLWFATCLSVFYCLKISGFTQSYFLWLKFRISKLMWLLGSFLASMSTAALC
VEADYPQNTDSDDGKNDTLKRTEAKIRQINEVLLVNLALLFPLAIFVMCTFMFLISLYKHTHRMONGFHG
VNRNASTEAHINALKTIVITFFCFFISYFAAFMANMFTSIPYGSCHCFVLKDIMAAFPSPGHSIIILSNSK
FQQHFRKLLCCLKNR*

>Ursus maritimusTas2r5

MLTAALTLMLVVAEFLIGLVGNGVLMVWSFGWVVRKFNNGSSYNLIVLGLAVCRFLLQWLIMMDLSLFLFQ
SSHWLHNLSVFWILVSQASLWFATFLSVFYCRKITTLEHPVCLWLKQRAYCLSLWCLLGYLMISLVAVARIGL
KPYHLSQGNSSILYPLKSCHYLILKLNAGSGLPLMVFLVSSGMLIVSLYRHHKMKVHTAGRRDARAKA
HITVLSLGCFLILHVYILASPSIVSKSSADVLIVFISETVMAAAYPSLHVSILIMGNPRVKQTCQRILWKT
VCAWRA*

>Ursus maritimusTas2r38

MLTLTPVITVSYEVKSAFLFLSALEFAVGILTNAFIFLVNFWDVVRRQPLSNCDLILLSLSLTRLFLHGLL
FLDALELIYFQQMKDPLSLSYQVIIMLWMITNQAGLWLTCLSLLYCSKIVRFSHTILLCLASWISRKVPQ
MMLGAMFFSICTLLCLGDFFSRPDFAFTMLFINNTEPNLQIAELNFYHSFIFCILGSIPLFLFLVSSGVL
IVSLGRHMRTMKVKTKDSCDPSLEAHKALRSLVSFFCLYVVSFCAALISVPLMLWHNKIGVMICVGILA
ACPSIHAAILISSNAKLRRAVETLLWVQSSLKVRADHKADPRTPDL*

>Ursus maritimusTas2r39

MTETCNPPENELSPFYILSILTIIGTECIVGIIANGFIMAINAAEWIENKAVSTSGRILFFLSLSRIALQSF
MMLEITFSSTCPRFYNEELIYDMFKVSFMLNHCSLWFAAWLSFFYFVKIADFSHPLFLKLRWRISRWMP
QLLWLSVFISLGYSAFASKDIYTVYCNSSIPSSNSTKKKYFTETNMVNLALLYNLGIFIPLTMFIFAATLL
IISLKRHTLHMESNATGSRDPNMEAHMGAIKATSYFLILYIFNAVALFLYMSNIFDVNSFWNILCRFIMA
AYPAGHSILLIQGNPGLRRRAWKRLQPQVHLYLKEQTP*

>Ursus maritimusTas2r40

MATVRTDATERDTSRKFIVLTLVVGVECLTGIAGNGFITATHGAEWARGKRLPVSDCILLMFSRLLLQIRM
MLENTYSLFWVTYNQNTVFILFKVTVMFLNYFNWLAAWLNIFYCLRIASFAHPLFSMMKRKITGLMPCLL
GLSLLISLCSFPSTDFNVYVNSSIPISSNTEKKYFSETNVVNLALLYNLGIFIPLTMFIFAATLLIISLKR
HTQHMESNATGSRDPSTEAHVGAIKAISYFLILYISNAVALFISMSNIFDINSSGNILCKIVMAAYPAGH
SVLLILGNPGLRKAWKRFQHYVHLHL*

>Ursus maritimusTas2r42

MLAGFDIIFLTLSTAEFIIGMLGNVLIGLVNCSEWVKNRKLADLILTCLAISRLITQLLVSLFESFMMGLNPP
FYSIYKLAKPVTLLWRITNHLTIWFTTCLSFYLLKIAQFHSLSFLWLRMRNRVILAILVFSLLFLFLDFL
LLEAWNDFLNHAMDESNTLTFMNESKTFYIKSLILLSFSYIVPIALSMTSLLLLFLSLIKHIRNLQLNSM
GSRDFSTQAHKRAIKMVVSFLFLFTVHFFSIQLSNWLLFLFWNKNTKFIMLTVYVFPSPGHSLLILGNS
RLRQTALKVLWHLKSSLKKENQFHLYR*

>Ursus maritimusTas2r7

MPDKVETTLMLIAAGEFSVGILGNAFIGLVNMGWIKNRKIASIDLILTSLAISRICLLCILLDCFILVLYP
DVYTTGKQMRIIDFFWTLTNHLSVWFATCLSFYFFKIANFFHPLFLWMKWRIDSVIPRILLGCLVLSV
FISLLVTENLNDDFRYCVKTKKKTNLTVR CRVNAQYASIKIFLNLLTLPFVSLSIFLLLLLSLWRHTR
QMKLNATGCRDPSIEAHMGAMKAVISFLLLFIVYCLAFLVATSSYFMPETELAVIIGELIALIYPSH
SFILILGNSKLRQECLRVLWVKYILNRKNF*

>Vulpes corsacTas2r10

MLSILEVLLIFIAVSEILGVLGNGFIGLVNCDVCVKNKKFSMVGFILTGLATSRICLILIIITDGFIFKIFSPDMYSSGNLIDYISYL
WVIINQSSIWFATSLSIFYFLKIANFSSHIFLWLKGRINSVPLLMGSLFISWLFQIVKIINDNRMKSRNTTWQLNMQKSE
FFTKQILLNLGVILLFTLCLITCFLLIISLWRHNRHMQLNVTGLRDPSTEAHVKAMKILVSFIILFIFYFIGIAIEISCFILPENKLL
FIFGMMTTAIYPWGHFSFILILGNSKCLKQASLKTLOQLKCCEARRLLTAAQIHVGGNGCSRRII

>Vulpes corsacTas2r12

MAGTLKNVFMIFAGEFIMGILGNGFIILVNCIDWIRSWKFFLIDFILTCLAISRIFLLCIIMLGIGLDIICKEIWIYNDNQLITFEV
LWTGCNYFCTICTVCLSVFYFLKIANSSNPIFFWLKRRHRLLLIIVLGAVFCFCLSLLLKDIVFKNMIKTKVNTESNVTLNFT
VRKYDLLTSHMFLNMLFVIPFAVSLASFVLLIHSWLNHTRRMKGIDSGDLITEAHV RAMKFMISFLLFFFIYLSNIIYFAYV
VLDSLVAKIFANILVFSYPSGHPFLLILWNFKLKQASLYVLRKLLKWCMLNRKPAYIKHT

>Vulpes corsacTas2r2

MISFLSALPHVIVMSAEFITGITVNGFLLIMNCKELIKSRKPTPVQLFCIGMSRFGLLMVLMIQSFFSVLFPFYKVNIFGTAM
LFFWMFSSVSLWFATCLSVFYCLKIAGFTQSCFLWLKFRISKMPWLLGSLLASMSIAALCVEADYPKKVDDNALKNAT
LKRTEPKIRQINEMLLVNLALLFPLAIFVMSTFMLFISLYKHTHRMQNGSHGVRNASTKAHINALKTVITFFCFFLSYFAAFM
ANMTFSIPYGSHCFVVKDIMAAFPSGHSIIILLSNSKYQQPFRRLLCFKKNQ

>Vulpes corsacTas2r38

MFLSVLELAVGILTNAFIFLVNFWDVRRQPLSNCDLILLSLSTRFLHGLLFLDAIQLTYFQRMKDPLSLSYQTIIMLWMIT
NQAGLWLTCLSLFYCSKIVHFSHAFLCLANVWSRKAPQMLLGAMLFSSACTLLCLGDFFSRSGFAFTTVLLMNTEFNS
QIVKLNIFYSSIFCTLGSIPPFMFFLVSSGVLIISLGRHMRTMKANTKDSGDPSEAHIKALISLISFLCLYVVSFCAALISVPLTM
VWHNKIGVMICVGILAAACPSIIAAILISGNAKLRRAVETILLWVQSSLKERAGHRADLRTPDLC

>Vulpes corsacTas2r39

METCNPPENELSPFGILSILTITGTECIVGIIANGFIMAINAAEWIKNKTVSTSGRVLFFLSASRIALQSFTMLEITFSST
SPRFYNEDVMYDTFKVSFMLNHCSLWFAAWLSFFYFVKIADFSHPLFLKLRWRISRLMPWLLWFSVVISLGYSMLLSNDI
YTVCNNSIPSSNATKKKYLTMTNVNVLVLLYNLGIFLITFILSATLLIISLKRHTLHMESNATGCRDPSMEAHIGAIRATSY
FLILYIFNSVALFLYMSNIFDINSSWNILCKFIMAAYPAGHSILLIQDNPGLRRAWKRLQPQVHFYLKEQTP

>Vulpes corsacTas2r40

MSRFKIVLTLVPGIECLTVIVGNGFITIIHGAKWARGKRLPVSDCILLMFSRLLLQIWMMLNENIYSLFRVITYNQST
VFIVFKVTVIFLNYFNLFWFAAWLNIFYCLRITNLAAHVFFMMKRKITELMPRLGLSLFISLCSFPFSTDFHVVYNSSIP
IRSSNTTEKYFSETNVNVLVLLYNLGIFLIMFILWATLLIISLKRHTLHMESNATGCRDPSMEAHFGAIRATSYFLILYIFNAV
ALFLSMSNIFDINSSWNILCKVMAAYPASHSVLLILGNPGLRRAWKRFQHHVPLHL

>Vulpes corsacTas2r41

MQPAVASAFFMLLVLLCVLGLANGFIVLVLSRERMRRGRLLPSDVILLSLGASRFCLQCVGMMNNYYYYLHLEEYSTG
PARQFFGLHWDFLNSATLWFGSWLSVLFCKIASFTHTPTFLWLRWRLPGSVPWLLGASLLISFLVTLFFWGNHAVYQG
FLIRKYPGNMTFQQWSRREIHYFLPLKFITLSPVCSVFLVSIALLINSLRRHRGRMRRSGHGLQDPSSQAHTRALKSLVSFLI
LYALSFAASLVIDAAGFFRSQSEWYWPWQILYILCTSVHPYILILSNLRLRGGCRQLLLLVRGSQA

>Vulpes corsacTas2r42

MLAGLDIIFLTLSTAEFIIGMLGNFIVLNCSEWVKNRKISLADFILICLAISRIAQLLVSLFESFMMGLSPLFFSNYKLAK
SITLLWRITHHLATWFSTCLSFYLLKIAQFSHSLFLWLRWRMNRVVLAILVFSLFLFLDFLMLLETFNDFLSNVDAMDESNTL
LYINESKTFYVVKTLILLFSFYIPIILSLTLLLLFLSLVKHIRNLQLNSMGSRDSSTQAHKKAVKMVMSFLFLFTVHFFSIQLSNW
MFFLFWNKKITKFIMLAVYVFPSSHSLLILGNSKLRQTALKVLWHLKSSLKREKPNSSLPIDFPESFQ

>Vulpes corsacTas2r5

MLTAALPLLMVVAEFLIGLVGNGLLMVWSFGEWVRKFNSSYNLIVLGLAGCRFLQCLIMMDLSLFPFFQSSRWL
HYLSIFWILVSQASLWFATFLSVFYCRKIMTLEHPVCLWLKQRAYCLSLWCLLVYLMISLLLVAHIGLKPYNPSQGNSSILY
PLKSWHYLYIVKLNAGSGLPLMVFLVSSGMLIVSLYRHHKKMEVHTAGRRDAQAKAHITVLKSLGCFILHVIYILASPFSIT
SKSSADLLVFISETVMAAYPSSLHSVILILGNPRMKQTCQRILWKTVCWKS

>Vulpes corsacTas2r67

MPSRIENAFVAAAGELITGMLGNGFIVLVNCDLVKNLKLSTADCILTGLALSRIILLCHILLDSLLMVFWQHLYAID
KLAKFINVFWTSLNHLTIWIVTCLNVFYFFKIANFSPHCFWLRWRISRVLLVPLGSLFLLFFNFELLDFTNFVWN
LYQRHERNSTWLDVSKTLYLNSLIVFSFIHLIPFLSLSALLLFLSLMRHIRNVQRNSSSRDFRTEAHKRAMKMVMSSLLS
MVNFTSILLTGWFSLLLQNHQANLAVLLLSTLVPSGHSFILILGNKLRQAALGLLWHLNCHLKMVKPFAS

>Vulpes corsacTas2r7

MPDKVESILMLVAEEFMSGILGNTFIGLVTCMGWIKKRKIASIDLILTSLAISRICLLCHILLDCFILVLYPDVYATGKQMRIID
FFWTLTNHLSVWFATCLSFYFLKIANFFHPLFLWMKWRIDSAIPRILLGCLALS VFISLVVTENLNDDFRCCVVRTKKTNLT
VRCRVKKAKYSSIKICLNLLTFPFSVSLISFLLLILSLWRHTRHMKNFATGCRDFSIEAHMGAMKAVISFLLFIAYYLAFL
VATSSYFMPETELAVIIGELIALIYPSHSFILILGNSKLRQASLRVLWKIKYILKRRNF

>Vulpes ferrilataTas2r10

MLSILEGLLIFIAVSEILGVLGNGFIGLVNCIDCVKNKKFSMVGFILTGLATSRICLILIIITDGFIFKIFSPDMYSSGNLIDYISYL
WVIINQSSIWFATSLSIFYFLKIANFSSHIFLWLKGRINSVLPLLMGSLFISWLFQIVKIINDNRMKSRNTTWQLNMQKSE
FFTKQILLNLGVILLFTLCLITCFLLIISLWRHNRHMQNLNVTGLRDPSTEAHVKAMKILVFSFILFIFYFIGIAIEISCFILPENKLL
FIFGMMTTAIYPWGHSEFILILGNSKLLKQASLKTLLQQLKCEARRLLTAAQIHVGGNGCSRRII

>Vulpes ferrilataTas2r12

MAGTLKNVFMIFAGEFIMGILGNGFIILVNCIDWIRSWKFFLIDFILTCLAISRIFLLCIIMLGIGLDIICKEIWIYNDNQLITFEV
LWTGCNYFCTICTVCLSVFYFLKIANSSNPIFFWLKRRIHRLLLIIVLGAVFCFCLSLLLKDIVFKNMIKTKVNTESNVTLNFT
VRKYDLLTSHMFLNMLFVIPAVSLASFVLLIHSLNHTRRMKGIDSGDLITEAHVRAMKFMISFLLFFIYYLSNIIYFAYV
VLDSLVAKIFANILVFSYPSGHPFLLILWNFKLKQASLYVLRKLLKWCMLNRKPAYIKHT

>Vulpes ferrilataTas2r2

MISFLSALPHVIVMSAEFITGITVNGFLIIMNCKELIKSRKPTPVQLFCIGMSRFGLLMVLMIQSSFSVLFPLFYKVNIFGTAM
LFFWMFFSSVSLWFATCLSVFYCLKIAGFTQSCFLWLKFRISKLMPWLLGSLLASMSIAALCVEADYPKKVDDNALKNAT
LKRTEPKIRQINEMLLVNLALLFPLAIFVMSTFMLFISLYKHTHRMQNGSHGVRNASTKAHINALKTVITFFCFLLSYFAAFM
ANMTFSIPYGSCHFFVVKDIMAAFPSGHSIIILLNSKYQQPFRRLLCFKKNQ

>Vulpes ferrilataTas2r38

MFLSVLELAVGILTNAFIFLVNFWDVVRQPLSNCDLILLSLTRLFLHGLLFLDAIQTYFQRMKDPLSLSYQTIIMLWMIT
NQAGLWLTCLSLFYCSKIVHFSHAFLLCLANWVSRKAPQMLLGAMLFSSACTLLCLGDFFSRSGFAFTTVLLMNNTEFNS
QIVKLNFFYSSIFCTLGSIIPFMFFLVSSGVLIISLGRHMRTMKANTKDSGDPSEAHIKALISLISFLCLYVVSFCAALISVPLTM
VWHNKIGVMICVGIACPSIIAAILISGNAKLRRAVETILLWVQSSLLKKGAGHRADLRTPDL

>Vulpes ferrilataTas2r39

METCNPPENELSPFGILSILTITGTECIVGIIANGFIMAINVAEWIKNKTVSTSGRVLFFLSASRIALQSFTMLEITFSST
SPRFYNEDVMYDTFKVSMFLNHCSLWFAAWLSFFYFVKIADFSHPLFLKLRWRISRLMPWLLWFSVVISLGYSMLLSNDI
YTVCNNSSIPSSNSTKKKYLTNTVNVNLVLLYNLGIFILITFILSATLLIISLKRHTLHMESNATGCRDPSMEAHIGAIRATSY
FLILYIFNSVALFLYMSNIFDINSSWNILCKFIMAAYPAGHSILLIQDNPGLRRAWKRLQPQVHFYLKEQTP

>Vulpes ferrilataTas2r40

MSRFKIVLTLVVPGIECLTVIVGNGFITIIHGAKWARGKRLPVSDCILLMLSFSRLLLQIWMMLENIYSLFRVTYNQSTGFIS
FKVTVIFLNYFNLFWFAAWLNIFYCLRITNLAAHVFFMMKRKITELMPRLGLSLFISLCSFPFSTDFHVVYVNSSIPIRSSNT
TEKYFSETNVVNLVLLYNLGIFILIMFILWATLLIISLKRHTLHMESNATGCRDPSMEAHFGAIRATSYFLILYIFNAVAL
FLSMSNIFDINSSWNILCKIVMAAYPASHSVLLILGNPGLRRAWKRFQHHVPLHL

>Vulpes ferrilataTas2r41

MQPAVSFAFFMLLVLLCVLGLANGFIVLVLSKERMRRGRLLPSDVILLSLGASRFCLQCVGMMNNFYHLEEYSTG
PARQFFGLHWDFLNSATFWFGSWLSVLFCKIASFTHTPTFLWRWRPGLSVPWLLGASLLISFLVTLFFWGNHAVYQG
FLIRKYPGNMTFQQWSRREIHYFLPLKFITLSPVCSVFLVSIALLIDSLRRHRGRMRRSGHGLQDPSSQAHTRALKSLVSFLI
LYALSFAASLVIDAAGFFCSQSDWYWPWQILYILCTSVHPYILILSNLRLRGGCRQLLLLVRSGLA

>Vulpes ferrilataTas2r42

MLAGLDIIFLTLSTAEFIIGMLGNFIGLVNCSEWVKNRKISLADFILICLAISRIAQLLVSWFESFMMGLSPLFFSTYKLA
SITLLWRITHHLATWFSTCLSFYLLKIAQFSHSLFLWLRWRMNRVLAIVFSLFFLLDFLMLETFNDLFSNV DAMDESNT
LYIYESKTFYVKTLILLSFSYIPIILSLTSLLLFLSLVKHIRNLQLNSMGRSDSSTQAHKKAIKMVMSFLFLFTVHFFSIQLSN
WIFFLFWNKVKKFIMLAVYVFPSSPPLILILGNSKLLKQTALKVLWHLKSSLKREKPNSSLPIDFPESFQ

>Vulpes ferrilataTas2r5

MLTAALPLLMMVVAEFLIGLVGNGVLMVWSFGEWVRKFNSSYNLIVLGLAGCRFLQCLIMMDLSLFPFFPRSQWI
HYLIIFWILGSEASLWFATFLSVFYCRKIMTLEHPVCLWLKHAYCLSLWCLLVYLMISLLLVAHIGLKPYNPSQGNSSILY
PLKSWHYLYIVKLNAGSGLPLMVFLVSSGMLIVSRYRHHKMEVHTAGRRDAQAKAHITVLKSLGCFLILHVYILASPFISIT
SKSSADLLVFISETVMAAYPSLHVSILILGNPRMKQTCQRILWKTVCWKS

>Vulpes ferrilataTas2r67

MPSRIENAFVAAAGELITGMLGNCFIVLVNCIDLKLNKSTADCLTGLALSRIILLCIILLDSLLMVFWQHLYAID
KLAKFISVFWTSLNHLTTWIVTCLNVFYFFKIANFHPCTWLRWRISRVLLVPLGLSFLFFNFELLDFTNFVWN
LYQRHERNSTWLDVSKTLYLNSLIVFSFIYLPFLSLASLLLLFLSLMRHIRNVQRNSSSRDRTEAHKRAMKVMSSLLS
MVNFTSILLTGWFSLLLQNHQANLAVLLSTLVPSGHSFILILGNNKLRQAALGLLWHLNCHLKMVKPFAS

>Vulpes ferrilataTas2r7

MPDKVESILMLVAAGEFSIGLNTSIGLMYICIGWIKRKRKIASIDLITSLAISRICLLCIILLDCFILVLYPDVYATGKQMRIIDFF
WTLTNHLSVWFATCLSFYFLKIANFFHPLFLWMKWRIDSAIPRILLGCLALS VFISLVVTENLNDDFRCCVVRTKKTNTLTVR
CRVKKAKYSSIKICLNLLTLFPFSVSLISFLLILSLWRHTRQMKFNATGCRDFSIEAHMGAMKAVISFLLFIAYYLAFLVATSS
YFMPETELAVIIGELIALIYSSHSFILILGNSKLLRQASLRLVWKIKYILKRRNF

>Vulpes vulpesTas2r10

MLSILKSPLIFIAVSEILGVLGNGFIGLVNCDVCVKNKKFSMVGFILTGLATSRICLILIIITDGFIFKIFSPDMYSSGNLIDYISYL
WVIINQSSIWFATSLSIFYFLKIANFSSHIFLWLKGRINSVPLLMGSLFISWLFQIVKIINDNRMKSRNTTWQLNMQKSE
FFTKQILLNLGVILLFTLCLITCFLLIISLWRHNRHMQLNVTGLRDPSTEAHVKAMKILVSFIFILFIFYFIGIAIEISCFILPENKLL
FIFGMMTTAIYPWGHFSFILILGNSKCLKQASLKTLOQLKCCEARRLLTAAQIHVGGNGCSRRII

>Vulpes vulpesTas2r12

MAGTLKNVFMIFAGEFIMGILGNGFIIIVNCDWIRSWKFFLIDFILTWLAISRIFLLCIIIMLGIGLDIICKEIWIYNDNQLITFEV
LWTGCNYFCTICTMCLSVFYFLKIANSSNPIFFWLKRRIRHLLLIIVLGAVFCFCLSLLLKDIVFKNMIKTKVNTESNVTLNFTL
RKYDLLTSHIFLNMLFVIPFAVSLASVLLIHSLNHNTRRMKGIDSGDLITEAHVRAMKFMISFLLFFFIYYSNIIIFAYVVDL
SLVAKIFANILVFSYPSGHPFLLILWNFKLQASLYVLRKLLKWCNLRKPAYIKHT

>Vulpes vulpesTas2r2

MISFLSALPHVIVMSAEFITGITVNGFIIIMNCKELIKSRKPTPVQLFCIGMSRFGLLMVLMIQSFFSVLFPFYKVNIFGTAM
LFFWMFSSVSLWFATCLSVFYCLKIAGFTQSCFLWLKFRISKLPWLLGSLLASMSIAALCVEADYPKKVDDNALKNAT
LKRTEPKIRKINEMLLVNLALLFPLAIFVMCTFMLFISLYKHTHRMQNGSHGVRNASTKAHINALKTVITFFCFFLSYFAAFM
ANMTFSIPYGSHCFVVKDIMAAFPSPGHSIIILLSNSKYQQPFRRLLCFKKNQ

>Vulpes vulpesTas2r38

MFLSVLELAVGILTNAFIFLVNFWDVRRQPLSNCDLILLSLSTRFLHGLLFLDAIQLTYFQRMKDPLSLSYQTIIMLWMIT
NQAGLWLTCLSLFYCSKIVHFSHTFLLCLANWVSRKAPQMLLGAMLFSSACTLLCLGDYFSRSGFAFTTVLLMNNTEFNS
QIVKLNIFYSSIFCTLGSIPPFMFFLVSSGVLIISLGRHMRTMKANTKDSGDPSEAHKALISLISFLCLYVVSFCAALISVPLTM
VWHNKIGVMICVGILAAACPSIIAAILISGNAKLRRAVETILLWVQSSLKVRAGHRADLRTPDLC

>Vulpes vulpesTas2r39

METCNPPENELSPFGILSILTITGTECIVGIIANGFIMAINAAEWIKNKTVSTSGRVLFFLSASRIALQSFTMLEITFSST
SPRFYNEDVMYDFTFKVSFMLNHCSLWFAAWLSFFYFVKIADFSHPLFLKLRWRISRLMPWLLWLSVLISLGYSMLLSNDI
YTVCNNSIPSSNSTKTKYLTNTNVNVLVLLYNLGIFLITFILSATLLIISLKRHTLHMESNVTGCRDPSMEAHGAIKATSY
FLIFYFNSVAVFLYMSNIFDINSSWNILCKFIMAAYPAGHSILLIQDNPGLRRAWKRLQPQVHFYLKEQSP

>Vulpes vulpesTas2r40

MSRFKIILTLVVPGIECLTGIVGNGFITIIHGAKWARGKRLPVSDCILLMLSFSRLLLQIWMMLENIYSLFRVYTNQNTVFIL
FKVTVIFLNYFNWLAWLWLNIFYCLRITNLAHHVFFMMKRKITEMLPWLLGLSLFISLCSFTFSTDFHVVYVNSSIPISSNT
TEKKYFSETNVNVLVLLYNLGIFLITFILSATLLIISLKRHTLHMESNATGCRDPSMEAHFGAIRATSYFLILYIFNAVAL
FLSMSNIFDINSSWNILCKVMAAYPAGHSVLLILGNPGLRRAWKRFQHHVPLHL

>Vulpes vulpesTas2r41

MQPAVASAFFMLLFLVLLCVLGILANGFIVLVLSRERMRRGRLLPSDVILLSLGASRFCLQCVGMMNFFYYLHLEEYSTG
PARQFFGLHWDFLNSATFWFGSWLSVLFCKIASFTHTPTFLWLRWRLPGSVPWLLGASLLISFLVTLFFWGNHAVYQG
FLIRKYPGNMTFQQWSRREIHYFLPLKFITLSPVCSVFLVSIALLINSLRRHRGRMRRSGHGLQDPSSQAHTRALKSLVSFLI
LYALSFAASLVIDAAGFFCSQSDWYWPWQILYILCTSVHPYIILSNLRLRGGCRQLLLLVRGSQA

>Vulpes vulpesTas2r42

MLAGLDIIFLTLSTAEFIIGMLGNAFIGLVNCEWVKNRKISLADFILICLAISRIAQLLVSLFESFMMGLSPLFFSNYKLAK
SITLLWRITHHLATWFSTCLSFYLLKIAQFSHSLFLWLRWRMNRVVLAILVFSLFLFLDFLMLETFNDLFSNVDAMDESNTL
LYINESKTFYVKTLLLSFSYIPIILSLTSLLLLFLSLVKHIRNLQLNSMGSRDSSSTAQAHKAVKMVMSFLFLFTVHFFSIQLSNW
MFFLFWNKKITKFMILAVYVFPSSSHLILGNSKLRQTALKVLWHLKSSLKREKTNSSTIDFPDLS

>Vulpes vulpesTas2r5

MLTAALPLLMMVVAEFLIGLVGNGVLMVWSFGEWVRKFNSSYNLIVLGLAGCRFLQCLIMMDLSLFPFFQSSRWL
HYLSIFWILVSQASLWFATFLSVFYCRKIMTLEHPVCLWLKQRAYCLSLWCLLVYLMISLLLVAHIGLKPYNPSQGNSSILY
PLKSWHYLYIVKLNAGSGLPLMVFLVSSGMLIVSLYRHHKKMEVHTAGRRDAQAKAHITVLKSLGCFILHVIYILASPFSIT
SKSSADLLVFISETVMAAAYPSLHVSILILGNPRMKQTCQRILWKTVCWKS

>Vulpes vulpesTas2r67

MPSRIENAFVAAAGELITGMLGNGFILLVNCIDLKLNKLTSTADCILTGLALSRIILLCHILFDSLLMVFWQHLYAID
KLAKFIGVFWTLNHLTTWIVTCLNVFYFFKIANFSHPCFTWLRWRISRVLLVPLGSLFLLFFNFELLDFTFTNFVWN
LYQRHERNSTWLDVSKTLYLNSLIVFSFIYLIPFLSLASLLLLFLSLMRHTRNVQRNSSSRDFRTEAHKRAMKMVMSSLLS
MVNFTSILLTGWFSLLLQNHQANLAVLLLSTFVPSGHSFILILGNKLRQAALGLLWHINCHLKMVKPFAS

>Vulpes vulpesTas2r7

MPDKVESILMLVAAGEFSMGILGNTFIGLVTCMGWIKKRKIASIDLITSLAISRICLLCHILLDCFILVLYPDVYATGKQMRIID
FFWTLTNHLSVWFATCLSFYFLKIANFFHPLFLWMKWRIDSAIPRILLGCLALSVFISLVVTENLNDDFRCCVVRTKKTNTLT
VRCRVKKAKYSSIKICLNLLTFPFSVSLISFLLLILSLWRHTRQMKFNATGCRDFSIEAHMGAMKAVISFLLFIAYYLAFV
VATSSYFMPETELAVIIGELIALIYPSHSHFILILGNSKLRQASLRVLWKIKYILKRRNF

>Vulpes zerdaTas2r10

MLSILERLSFFIAVSESLGVLGNGFIGLVNCDVCVKNKKISMVGFILTGLATSRICLILIIITDGFIFKIFSPDMYSSGNLIDYISYL
WVIINQSSIWFATSLSIFYFLKIANFSSHIFLWLKGRINSVLP LLMGSLFISWLF TFPQIVKIINDNRMKSRNTTWQLNMQKSE
FFTKQILLNLGVILLFTLCLITCFLLIISLWRHNRHMQLNVTGLRDPSTEAHVKAMKILVFSIILFIFYFTGIAIEISCFILPENKLL
FIFGMMTTAIYPWGHSEFILGNSKLLKQASLKTLLQQLKCCARRLLTAAQIHVGGNGCSRRII

>Vulpes zerdaTas2r12

MAGTLKNVFMIFAGEFIMGILGNGFIILVNCIDWIRSWKFFLIDFILTCLAISRIFLLCIIMLGIGLDIICKEIWIYNDNQLITFEV
LWTGCNYFCTICVCLSVFYFLKIANSSNPIFFWLKRRIHRLLLIIVLGAVFCFCLSLLLKDIVFKNMIKTKVNTESNVTLNFT
VRKYDLLTSHIFLNMLFVIPFAVSLASFVLLIHSLNHNHTRRMKGIDSGDLITEAHVRAMKFMISFLLFFFIYYLSNIIYFAYV
VLDSLPEILANILVFSYPSGHPFLLILWNFKLKQASLYVLRKLLKWCMLNRKPAYIKHT

>Vulpes zerdaTas2r2

MISFLSALPHVIVMSAEFITGITVNGFIIIMNCKELIKSRKPTPVQLFCIGMSRFGLLMVLMIQSSFFSVLPFLFYKVNIFGTAM
LFFWMFFSSVSLWFATCLSVFYCLKIAGFTQSCFLWLKFRISKLMPWLLGSLLASMSIAALCVEADYPKKVDDNALKNAT
LKRTEPKIRQINEMLLVNLALLFPLAIFVMSTFMLFISLYKHTHRMQNGSHGVRNASTKAHINALKTVITFFCFFLSYFAAFM
ANMTFSIPYGSCHFFVVKDIMAAFPSGHSIIILLNSKYQQPFRRLLCFRKNQ

>Vulpes zerdaTas2r38

MFLSVLELAVGILTNAFIFLVNFWDVVRQPLSNCDLILLSLSLTRLFLHGLLFLDAIQTYFQRMKDPLSLSYQTIIMLWMIT
NQAGLWLTCLSLFYCSKIVHFSHTFLLCLANVWSRKAPQMLLGAMLFSSACTLLCLGDFFSRSGFAFTTVLLMNNTFNS
QIVKLNIFYSSIFCTLGSIPPFMFFLVSSGVLIIISLGRHMRTMKANTKDSSEAHIKALISLISFLCLYVVSFCAALISVPLTM
VWHNKIGVMICVGIACPSIIAAILISGNAKLRRAVETILLVWQSSLKVRAGHRADLRTPDC

>Vulpes zerdaTas2r39

METCNPPENELSPFGILSILTITGTECIVGIIANGFIMAINVAEWIKNKTVSTSGRVLFFLSASRIALQSFTMLEITFSST
SPRFYNEDVMYDTFKVSFMFLNHCSLWFAAWLSFFYFVKIADFSHPLFLKLRWRISRLMPWLLWFSVFISLGYSMLLSNDI
YTVCYCNSSIPSSNKKKYLTKTNVNLVLLYNLGIFLIPLIMFILSATLLIISLKRHTLHMESNATGCRDPSMEAHIGAIRVTSY
FLILYIFNSVALFCLMNSNIFDINSSWNILCKFIMAAYPAGHSILLIQDNPGLGRAWKRLQPQVHFYLKEQTP

>Vulpes zerdaTas2r40

MSRFKIILTLVVPGLIECLTGIVGNGFITIIHGAKWARGKRLPVSDCILLMLSFSRLLLIQIWMMLENIYSLFRVYTNQNTVFIL
FKITVIFLNYFNLWLAAWLNIFYCLRIANLAHHVFFMMKRKITELMPWLLGSLFISLCSFPFSTDFHVVYVNSSIPICSSNT
TEKKYFSETNVNLVLLYNLGIFLIPLITFILSATLLIISLKRHTLHMESNATGCRDPSMEAHFGAIRATSFLILYIFNAVAL
FLSMSNIFDINSSWNILCKIVMGAYPAGHSVLLILGNPGLRRRAWKRFQHHVPLHL

>Vulpes zerdaTas2r41

MQPAVSFAFFMLLFVLLCVLGLANGFIVLVLSRERMRRGRLLPSDVILLSLGASRFCLQCVGMMNNFYHLEEYSTG
PARQFFGLHWDFLNSATFWFGSWLSVLFCKIASFTHTPTFLWRWRLPGSVPWLLGASLLISFLVTLFFWGNHAVYQG
FLIRKYPGNMTFQQWSRREIHYFLPLKFITLSPVCSVFLVSIALLINSLRRHRGRMRRSGHGLQDPSSQAHTRALKSLVSFLI
LYALSFAASLVIDAAGFFCSQSDWYWPWQILYILCTSVHPYILILSNLRLRGGCRQLLLLVGRSQA

>Vulpes zerdaTas2r42

MLAGLDIIFLTLSTAEFIIGMLGNFIGLVNCEWVKNRKISLADFILICLAISRIAQLLVSLFESFMMGLSPLFFSTYKLAK
SITLLWRITHHLATWFSTCLSFYLLKIAQFSHSLFLWLRWRMNRVVLAILVFSLFFLLDFLMELETFNDFLSNVDAMDESNT
LYINESKTFYVKTLLSFSYIPIILSLTLLLLFLSLVKHIRNLQLNSMGRSDSSTQAHKAVKVMMSFLFLFTVHFFSIQLSNW
MFFLFWNKKITKFIMLAVYVFPSSHSLLILGNSKLRQTALKVLWHLKSSLKREKPNSSLPIDFPESFQ

>Vulpes zerdaTas2r5

MLTAALPLL MVVAEFLIGLVGNGVLMVWSFGEWVRKFNSSYNLIVLGLAVCRFLQCLIMMDLSLFPFFQSSRWL
HYLSIFWILVQSASLWFATFLSVFYCRKIMTLEHPVCLWLKQRAYCLSLWCLLVYLMISLLLVAHIGLKPYNPSQGNSSILY
PLKSWHYLYIVKLNAGSGLPLMVFLVSSGMLIVSLYRHHKKMEVHTAGRRDAQAKAHITVLKSLGCFLILHVYILASPFST
SKSSADLLVFISETVMAAYPSLHVSILILGNPRMKQTCQRILWKTVCWKS

>Vulpes zerdaTas2r67

MPSRIENAFVAAAGELITGMLGNGFILLVNCIDLKLNKSTADCLTGLALSRIILLCIILFDSLLMVFWQHLYAID
KLAKFISVFWTSLNHLTTWIVTCLNVFYFFKIANFHPCTWLRWRISRVLLVLPGLSFLFFNFELLDFTNFVWN
LYQRHERNSTWSDVSKTLYLNLIVFSFIYLPFLSLASLLLLFLSLMRHTRNVQGNSSSRDRTEAHKRAMKM
VMSSLLSMVNFTSILLTGWFSLLLQNHQANLAVLLLSTFVPSGHSFILILGNNKLRQAASGLLWHINCHLKMVNPSLL

>Vulpes zerdaTas2r7

MPDKVESILMLVAAGEFSMILGNTFIGLVTCMGWIKKRKIASIDLILTSLAISRICLLCIILLDFILVLYPDVYATGKQMRIID
FFWTLTNHLSVWFATCLSFYFLKIANFFHPLFLWMKWRIDSAIPRILLGCLALS VFISLVVTENLNDDFRCCVRTKKTNTLT
VRCRVKKAKYSSIKICLNLLTFPFSVSLISFLLILSLWRHTRQMKFNATGCRDFSIEAHMGAMKAVISFLLFIAYYLAF
VATSSYFMPETELAVIIGELIALIYPSHSFILILGNSKLRQASLRVLWKIKYILKRRNF

>Zebra fishV1R

MIAEAVIRGLLFLSLVLVGVPGNTAVICGFILLVRREGRLSPADAIVLHLCSANLVVSVRCLLEVLATFRIHNVFDDAGCRAV
IFLHRTARSLSIWLTFLLTALQCLSVAPPGSRRAAARALLARSLPAIFLALWLINTSMSVASLLYSIGARNDNRLLQNAINVEFC
FLSFPSRLARDANGAAQVARDVVPMLMAAGSLVLLVYLVRQRRRVQGLRGTAGGAAERRAAVTVVTLVSLYLLVFGLD
NGLWVYTLTVSHTLSSALITDLRLFFTSLYTAVSPLLILVSNTRLRCGKQPETMH*

Supplementary Material S3.- Percent identity matrix can be viewed in Excel file at: <http://dx.doi.org/10.17582/journal.pjz/2018.50.4.1361.1366>