Supporting Information

SI MATERIALS AND METHODS:

Collection of DNA Samples

DNA samples from the aardwolf (*Proteles cristatus*), Asian small-clawed otter (*Amblonyx cinereus*), banded linsang (*Prionodon linsang*), California sea lion (*Zalophus californianus californianus*), Canadian otter (*Lontra canadensis*), fossa (*Cryptoprocta ferox*), Pacific harbor seal (*Phoca vitulina richardii*), raccoon (*Procyon lotor),* red wolf (*Canis rufus*) spectacled bear (*Tremarctos ornatus*) and spotted hyena (*Crocuta crocuta)* were provided by the Conservation and Research for Endangered Species Program at the San Diego Zoo. DNA samples of a Southern fur seal (*Arctocephalus forsteri*) and raccoon (*Procyon lotor*) were provided by Dr. Stephen O'Brien (National Cancer Institute). A DNA sample from the bottlenose dolphin (*Tursiops truncates)* was provided by Therion International (Saratoga Springs, New York).

Sequencing *Tas1r2* from Selected Species within Carnivora and Sequencing Sea Lion *Tas1r1* and *Tas1r3*

The design of degenerate primers for *Tas1r2* was described previously (1). Genomic based polymerase chain reaction (PCR) was conducted to amplify all six exons of *Tas1r2* from the 12 carnivore species using degenerate primers designed from conserved exon-intron boundary sequences. Genomic-based polymerase chain reaction (PCR) was also conducted to amplify all six exons of *Tas1r1* and 3 exons (2, 4, 5) of *Tas1r3* from the sea lion using degenerate primers (Supplementary Table 2) designed from conserved exon-intron boundary sequences of dog, cat and giant panda. PCR mixtures (50 µl) include 1 µl (50ng/µl) genomic

DNA, 5 µl 10 x buffer, 1µl of each primer (primer concentration varies according to degeneracy of the primer from 10 µm to 80 µm), 0.25 µl Taq polymerase (Roche). The PCR conditions were: 94 °C for 2min; 35 cycles of 94 °C for 30 s, 66 °C for 45s, 72 °C for 2 min; 72 °C for 10 min; and a 4 °C hold. PCR products were purified and sequenced directly or after being subcloned into pGEM-Teasy vector at the sequencing facility of the University of Pennsylvania. Each PCR product was sequenced from both directions to validate the results.

For fragments containing open reading frame mutations, PCR was repeated to confirm the results using either the original DNA samples or DNA samples from additional animals when available (3 additional fossaes,1 additional Asian small-clawed otter,1 additional spotted hyena and 1 additional California sea lion). We assembled the coding sequences of *Tas1r2* from all the selected carnivore species and sea lion *Tas1r1* and *Tas1r3* using Sequencer 4.8 with the dog *Tas1r2, Tas1r1 and Tas1r3* sequence as references, respectively.

Data-mining of the Dolphin Whole Genome Shotgun (WGS) Assembly

To identify the dolphin *Tas1rs*, TBlastN searches were conducted on the dolphin genome database by using the dog T1R1 (xp_546753), T1R2 (xp_855275) and T1R3 (xp_848708) amino acid sequences as queries. These searches retrieved two contigs (ABRN01270722 and ABRN01270723) for *Tas1r1*, a single contig (ABRN01341268) for *Tas1r2*, and two contigs (ABRN01316859 and ABRN01316858) for *Tas1r3*, respectively. We determined the exon-intron borders of exon 1- 6 of dolphin *Tas1r*s using Spidey (2) and TBLASTN (3) programs with dog *Tas1r* sequences as references. We aligned dolphin *Tas1r* exon sequences with that of dog and human using an modified ClustalW (4) program installed in AlignX (www.invitrogen.com). All the mutations have been confirmed by sequencing *Tas1*rs amplified from another dolphin using gene-specific primers.

To identify the dolphin *Tas2rs*, TBlastN searches were conducted on the dolphin genome database using the dog and cow *Tas2r* intact receptors (Genbank accession #: AB249684-AB249731) as queries (5). AB249725 (*bota-T2R56*) is a partial sequence of cow *Tas2r60* (Genbank accession # xm_002687121, referred to as *Bota-Tas2r60*). Conversely, each identified dolphin *Tas2r* sequences were used to blast Nucleotide collection database (nr/nt) to determine the similarity toward *Tas2rs* from other species and then named afterward their dog or cow orthologs. The *Tas2r* sequences from dolphin, dog and cow were aligned by ClustalW (4). A phylogenetic tree was constructed by the Neighbor-Joining (NJ) method implemented in MEGA 5 (6).

Evolutionary Analysis

Nucleotide sequences of *Tas1r2* from the selected carnivore species were aligned with CLUSTALX 1.81 (7), modified with Bioedit 7.04 (8), and confirmed by deduced amino acid sequence alignment. When allelic variations were found in individuals, we used the allelic sequence that was the same or similar to that of the reference dog sequence. In addition to the *Tas1r2* sequences from the 12 species reported in this study, we analyzed *Tas1r2* sequences from carnivore species available in NCBI database, including yellow mongoose (FJ356695), cat (AY819787), giant panda (GL193509), red panda (FJ356693), ferret (FJ356691) and dog (XM_850182). A consensus phylogenetic tree was built using the maximal likelihood method implemented in MEGA5 after bootstrapping for 2000 times or the neighbor-joining method after bootstrapping 10,000 times (9). Nonsynonymous and synonymous nucleotide substitution rates were calculated using the likelihood method implemented in the CODEML program in PAML 4.1 (10). The sequence data file, configuration files and the result files for the CODEML analyses were provided (DocS2.rtf). We also used a recent published carnivore phylogeny to test

our models using CODEML (11) and conclusions reached using our tree were practically identical to those using the tree proposed by Yu et al (11).

Taste Testing

The two-bowl preference tests were carried out as previously described (1). One bowl contained the test compound dissolved in water to a designated solubility, the other bowl contained an equal volume of water. The test period began at 9:30 am and ended 24 hr later. After 24 hr, the volume of fluid consumed from each bowl was recorded. Preference ratios were calculated as the ratio of taste solution intake to total fluid intake x 100%. A "strong" preference for the test compound is defined here as a preference score greater than 80%. Preferences above 80% are identified by a plus sign. For this study, we were given access to two Asian otters and four spectacled bears. The animals were born and raised at the Zoological Garden of Zurich in Germany. They were maintained and tested according to the Monell Chemical Senses Center animal protocol (Institutional Animal Care and Use Committee No. 1112) and with the permission and oversight of the director and staff of the zoo.

SI Figure legends:

Fig. S1: Start codon mutation and indel mutations found in the sea lion and fur seal *Tas1r2* coding sequences. Shown in panels (A), (B), (C), and (D) are representative DNA chromatograms and *Tas1r2* nucleotide sequences of the sea lion and fur seal aligned with *Tas1r2* sequences from the dog. In panel A, the start codon in exon 1 was mutated to ATA in both the sea lion and fur seal *Tas1r2*s, preventing the initiation of T1R2 protein translation. In panel B, a 1-bp deletion between 579-580 bp was found in exon 3 of the sea lion *Tas1r2*. In panel C, a 2-bp deletion between 674-675 bp (exon 3 of sea lion *Tas1r2*) and a corresponding 2-bp deletion

between 675-676 bp (exon 3 of fur seal *Tas1r2*) were found. In panel D, a 1-bp deletion was found between 802-803 in exon 6 of both the sea lion and fur seal *Tas1r2*s.

Fig. S2: Nonsense and indel mutations found in the pacific harbor seal *Tas1r2*. Shown in panels (A) and (B) are representative DNA chromatograms and *Tas1r2* nucleotide sequences of the pacific harbor seal aligned with *Tas1r2* nucleotide sequences from the dog. In Panel A, a premature stop codon TA**A** (position 32 in exon 6) was found. The deduced amino acid sequence is shown up to the stop codon. In panel B, a 2-bp deletion was found between 192-193 bp in exon 6.

Fig. S3. An indel mutation found in the Asian small-clawed otter *Tas1r2*. Shown are representative DNA chromatogram and *Tas1r2* nucleotide sequences aligned with *Tas1r2* sequences from the Canadian otter and dog. A 1-bp insertion was found in position 360 in exon 3. The translated amino acid sequence is shown up to the codon which contains the frameshift mutation.

Fig. S4. An indel mutation found in the spotted hyena *Tas1r2*. Shown are representative DNA chromatogram and *Tas1r2* nucleotide sequences aligned with *Tas1r2* sequences from the aardwolf and dog. A 1-bp deletion was found between 130-131 bp of exon 2 of the spotted hyena *Tas1r2*. The translated amino acid sequence is shown up to the codon which contains the frameshift mutation.

Fig. S5. Nonsense and indel mutation found in the Fossa *Tas1r2*. Shown in panel (A) and (B) are representative DNA chromatograms and *Tas1r2* nucleotide sequences aligned with *Tas1r2* sequences from the dog. In panel A, a premature stop codon T**A**G (Position 125 in exon 3) was found in the Fossa *Tas1r2*. Though, polymorphism was observed in this position by sequencing

other fossa individuals. The translated amino acid sequence is shown up to the nonsense mutation. In panel B, a 1-bp insertion at 58 bp was found in exon 4 of the fossa *Tas1r2*.

Fig. S6: Multiple indel mutations found in the banded linsang *Tas1r2*. Shown in panel A through G are chromatograms and nucleotide sequences of the banded linsang *Tas1r2* aligned with the dog coding sequences. In Panel A, a 1-bp insertion was found at 70 bp of exon 2 of the linsang *Tas1r2*. The translated amino acid sequence is shown up to the codon which contains the frameshift mutation. In Panel B, a 10-bp micro-deletion was found between 274-275 bp of exon 2 of the linsang *Tas1r2*. In Panel C, a 14-bp insertion was found in position between 78-91 bp of exon 4. In Panel D, a 20-bp deletion was found between 27-28 bp of exon 5. In Panel E, a 2-bp deletion was found between 54-55 bp of exon 5. In panel F, a 1-bp deletion was found between 210-211 bp of exon 6. In panel G, a 28-bp insertion was found between position 235-262 of exon 6 of the linsang *Tas1r2*. In panel H, a 1-bp insertion was found between position 444-445 of exon 6.

Fig. S7. Evolutionary relationships of the order Carnivora

The evolutionary history was inferred using the Neighbor-Joining method (12). The bootstrap consensus tree inferred from 10000 replicates (13) is taken to represent the evolutionary history of the taxa analyzed (13). Branches corresponding to partitions reproduced in less than 50% bootstrap replicates are collapsed. The percentage of replicate trees in which the associated taxa clustered together in the bootstrap test (10000 replicates) are shown next to the branches (13). The tree is drawn to scale, with branch lengths in the same units as those of the evolutionary distances used to infer the phylogenetic tree. The evolutionary distances were computed using the Maximum Composite Likelihood method (14) and are in the units of the number of base

substitutions per site. The rate variation among sites was modeled with a gamma distribution (shape parameter = 2). The analysis involved 19 nucleotide sequences. Codon positions included were 1st+2nd+3rd. All positions containing gaps and missing data were eliminated. There were a total of 2160 positions in the final dataset. Evolutionary analyses were conducted in MEGA5 (9). Species with a pseudogenized *Tas1r2* are marked with a diamond sign (red indicated species whose *Tas1r2* has been characterized in this study, grey indicated species whose *Tas1r2* was reported previously).

Fig. S8. The sea lion *Tas1r1* and *Tas1r3* genes are inactivated by pseudogenization. A) The upper half showed a chromatogram trace of the sea lion *Tas1r1* exon 2 sequence in which a mutation was found. The lower half showed the alignment of the above sequence to the corresponding dog and human *Tas1r1* exon 2 sequences, highlighting a 1-bp deletion mutation in the sea lion *Tas1r1* exon 2. B) An additional 11-bp deletion mutation was found in the sea lion *Tas1r1* exon 6. The upper half showed a chromatogram trace of the sea lion *Tas1r1* exon 6 sequence in which the mutation was found and the lower half showed the alignment between sea lion, dog and human *Tas1r1* exon 6 sequences. C) The upper half showed a chromatogram trace of the dolphin *Tas1r3 exon 4* and the lower half showed the alignment of the sequence to the corresponding dog and human sequences, noting a 1-bp deletion mutation in the sea lion *Tas1r3*.

Fig. S9: The dolphin *Tas1r* receptor genes are inactivated by pseudogenization. A) The upper panel showed a representative chromatogram trace of the dolphin *Tas1r1* exon 4 sequence in which a mutation was found (ti: 1417589012*)*. The lower half showed the alignment of the above sequence to the corresponding dog and human *Tas1r1* exon 4 sequences, highlighting a 5-bp deletion mutation in the dolphin *Tas1r1* exon 4. B) The upper part showed a representative chromatogram trace of the dolphin *Tas1r2 exon 3 (*ti: 1489305729*)* and the lower part showed

the alignment of the sequence to the corresponding dog and human *Tas1r2* exon 3 sequences, noting an insertion mutation of a 20-bp in the dolphin *Tas1r2*. C) The upper half showed a representative chromatogram trace of the dolphin *Tas1r3* exon 6 sequence (ti: 1431864905), the lower part showed the alignment of the sequence to the corresponding dog and human *Tas1r3* exon 6 sequences, revealing a deletion mutation of 7-bp in the dolphin *Tas1r3* exon 6.

Doc. S1: Alignment of dolphin Tas2r receptor genes to the dog or cow orthologs.

ClustalW alignments of each of 10 dolphin *Tas2rs* to the ortholog of dog or cow *Tasr2s* are shown. Nonsense mutations or premature stop codons that result from frame-shift mutations are marked in pink. Frameshift mutation (insertion or deletion) are marked in red.

Fig. S10: Evolutionary relationships of dolphin, dog and cow Tas2r receptors

The evolutionary relationship was inferred using the Neighbor-Joining method. The bootstrap consensus tree inferred from 2000 replicates is taken to represent the evolutionary history of *Tas2r* receptor genes analyzed. Branches corresponding to partitions reproduced in less than 50% bootstrap replicates are collapsed. The evolutionary distances were computed using the Maximum Composite Likelihood method and are in the units of the number of base substitutions per site. The analysis involved 58 nucleotide sequences (10 dolphin sequences, 19 dog (Cafa) sequences and 29 cow (Bota) sequences). Evolutionary analyses were conducted in MEGA5 (9).

References

1. Li X*, et al.* (2009) Analyses of sweet receptor gene (Tas1r2) and preference for sweet stimuli in species of Carnivora. *J. Hered.* 100 Suppl 1:S90-100.
2. Wheelan SJ, Church DM, & Ostell JM (2001) Spidey: a tool for mRNA-to-genomic alignments. *Genome Res* 11(11):1952-1957.
3. Johnson M*, et al.* (2008) NCBI BLAST: a better web interface. *Nucleic Acids Res* 36(Web Server issue):W5-9.

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6. Tamura K*, et al.* (2011) MEGA5: Molecular Evolutionary Genetics Analysis using Maximum Likelihood, Evolutionary Distance, and Maximum Parsimony Methods. *Mol Biol Evol*.
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9. Tamura K*, et al.* (2011) MEGA5: molecular evolutionary genetics analysis using maximum likelihood, evolutionary distance, and maximum parsimony methods. *Mol Biol Evol* 28(10):2731-2739.
10. Yang Z (2007) PAML 4: phylogenetic analysis by maximum likelihood. *Mol Biol Evol* 24(8):1586-1591.
11. Yu L*, et al.* (2011) Phylogenetic utility of nuclear introns in interfamilial relationships of Caniformia (order Carnivora). *Syst Biol* 60(2):175-187.
12. Saitou N & Nei M (1987) The neighbor-joining method: a new method for reconstructing phylogenetic trees. *Mol Biol Evol* 4(4):406-425.
13. Felsenstein J (1985) Confidence limits on phylogenies: An approach using the bootstrap. *Evolution* 39:783-791.
14. Tamura K, Nei M, & Kumar S (2004) Prospects for inferring very large phylogenies by using the neighbor-joining method. *Proc Natl Acad Sci U S A* 101(30):11030-11035.

Fig. S1

Sea lion and fur seal *Tas1r2* sequences

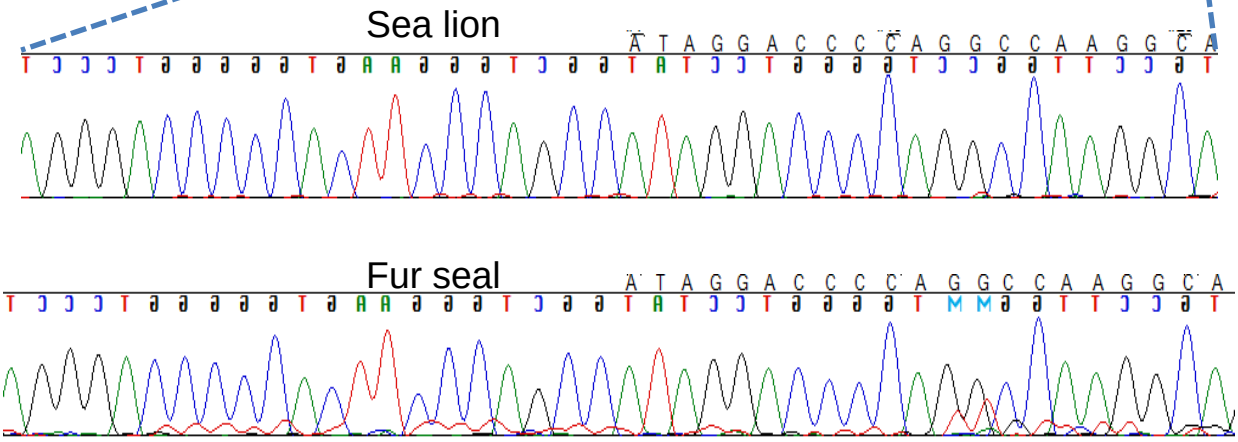
A

Dog Ex1 (-20) 5′ GGGGACCCCCACTTCCCAGCCATGGGACCCCGGGCCAAGGCG 3′

Sea Lion Ex1 (-20) 5′ AGGGACCCCCACTTCCCAGCCATAGGACCCCAGGCCAAGGCA 3′

Fur Seal Ex1 (-20) 5′ AGGGACCCCCACTTCCCAGCCATAGGACCCCAGGCCAAGGCA 3′

(start codon mutation, no translation)



B

Dog Ex3 (559) CCTGAGCCCAACAGGACCAGCCTGGAGGCCACCTGCAACCAG

Sea Lion Ex3 (559) CCTGCGCCCAACAGGACCAGC:TGGGGGCCACCTGCAACCAG

(1-bp deletion)

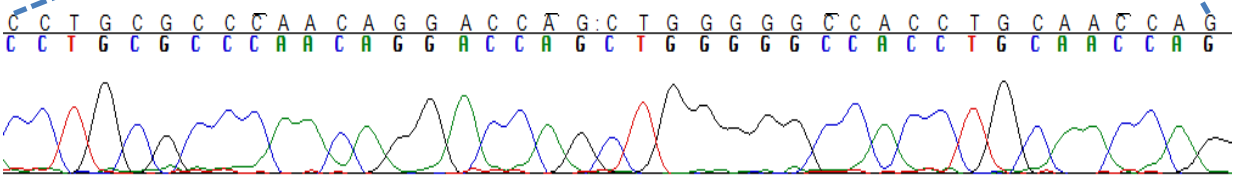


Fig. S1 continued

C

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      Dog Ex3 (655) TCCGGCGAGCGCGTGGTCTACAACGTGTACTCGGCTGTCTAC
Sea Lion Ex3 (654) TCTGGTGAGCGCGTGGTCTAG::CATGTACTCGGCTGTCTAC
Fur Seal Ex3 (655) TCTGGTGAGTGCGTGGTCTAG::CGTGTACTCGGTTGTCTAC
                                    (2-bp deletion)
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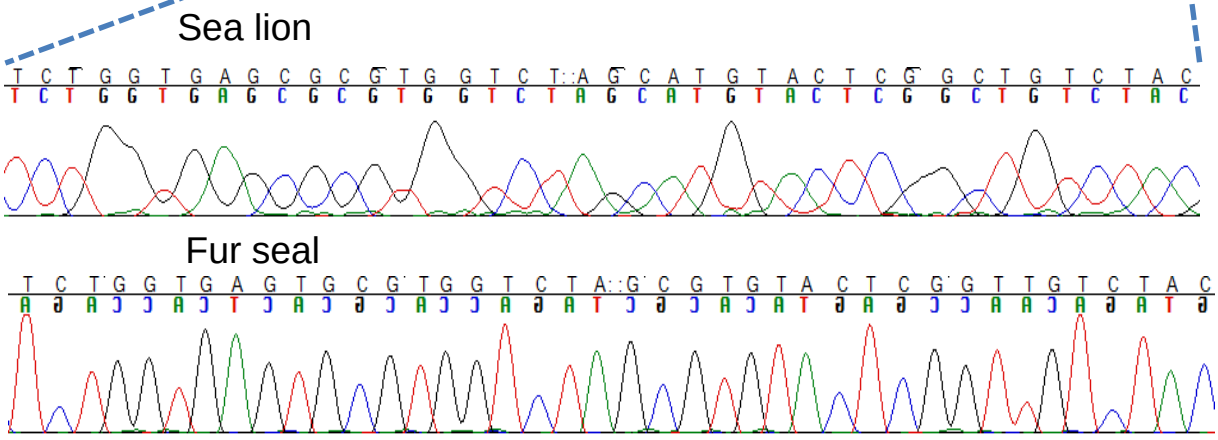

D

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      Dog Ex6 (780)CTCTTGATCACCGTGCTCAACCTTCTGGGCATCAGCTTTGGC
Sea Lion Ex6 (780)CTCTTGGTCACCATGCTCAACCC:CTGGGCATCAGCCCGGGC
Fur Seal Ex6 (780)CTCTTGGTCACCGTGCTCAACCT:CTGGGCATCAGCCCGGGC
                                    (1-bp deletion)
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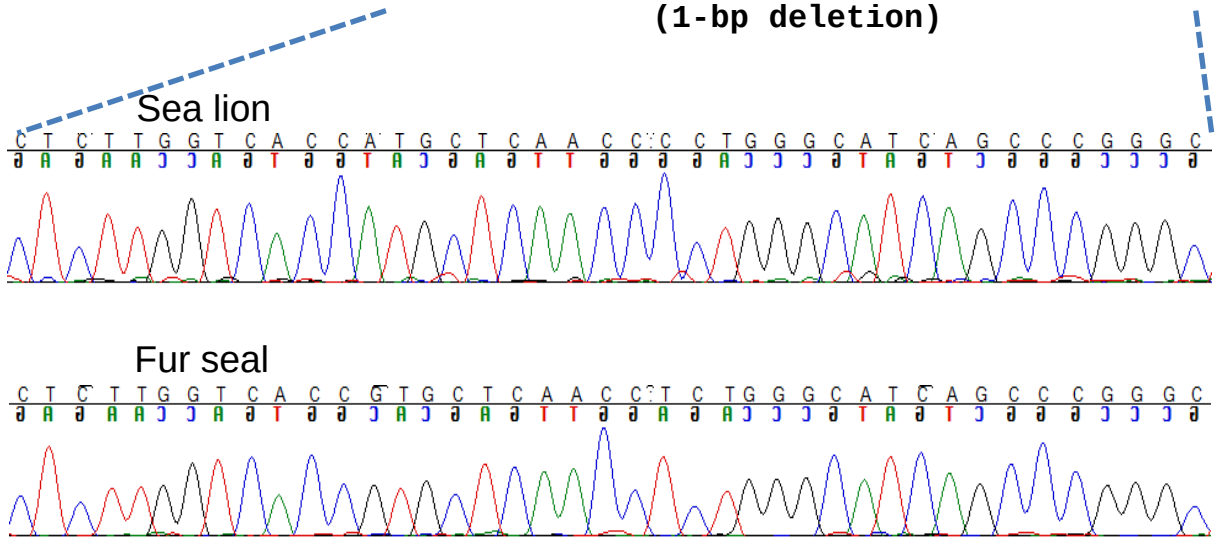


Fig. S2

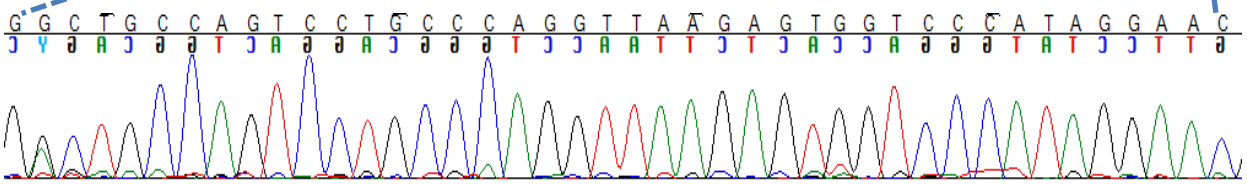
Pacific Harbor Seal *Tas1r2* sequence

A

Dog Ex6 (9) 5′ GACTGCCAGCCTTGCCCAAGTTACGAGTGGTCCCATAGGAAC 3′

P.H.Seal Ex6 (9) 5′ GGCTGCCAGTCCTGCCCAGGTTAAGAGTGGTCCCATAGGAAC 3′

G C Q S C P G *(stop: pre-mature)



B

Dog Ex6 (171) TGGAGGCACCTCCACACGCCCGTGGTTCGCTCGGCCGGGGGC

P.H.Seal Ex6 (171) TGGAGGCACCTGCACACGCCCG::GTTTGCTCGGCCGGGGGC

(2-bp deletion)

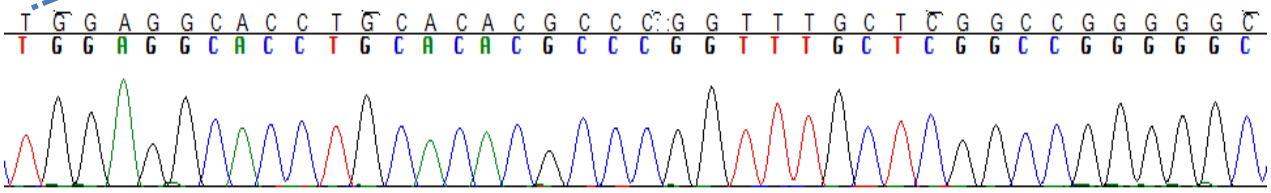


Fig. S3

Asian Otter *Tas1r2* sequence

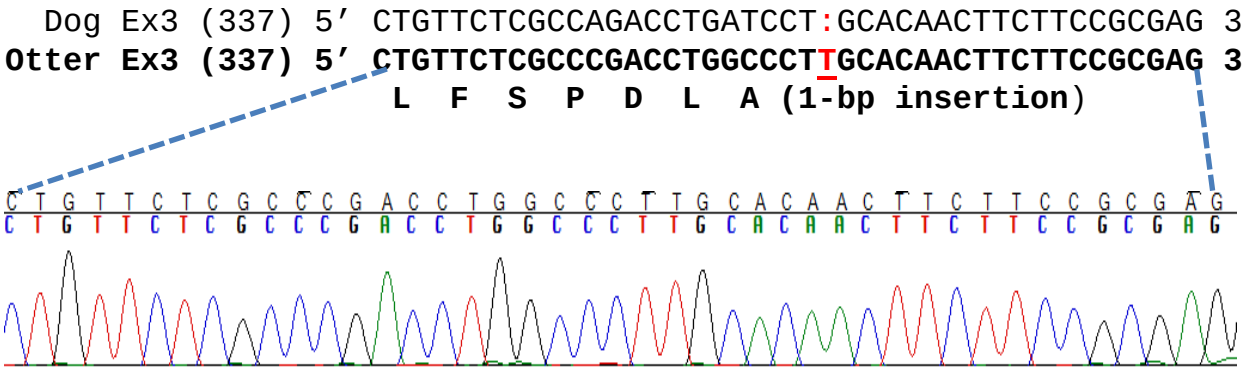


Fig. S4

Spotted Hyena *Tas1r2* sequence

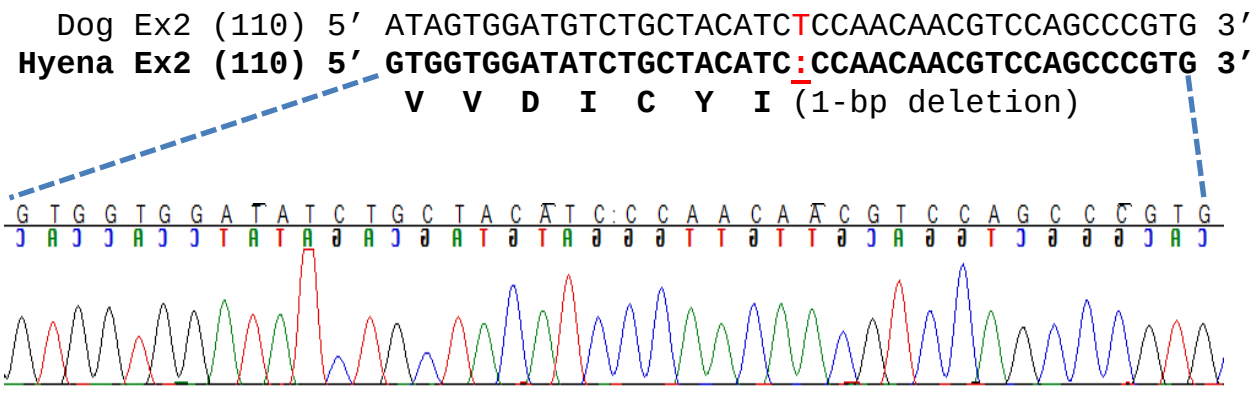


Fig. S5

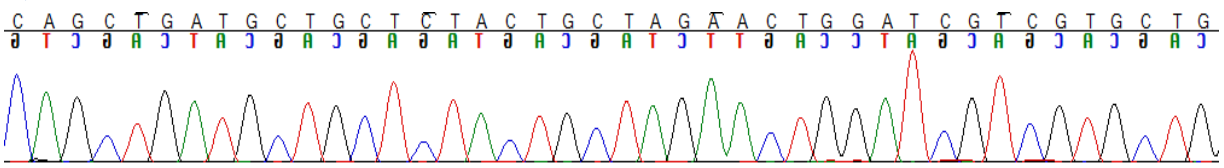
Fossa *Tas1r2* sequence

A

Dog Ex3 (103) 5′ CAGCTCCTGCTCCACTTCAACTGGAACTGGATCATCGTGCTA 3′

Fossa Ex3 (103) 5′ CAGCTGATGCTGCTCTACTGCTAGAACTGGATCGTCGTGCTG 3′

Q L M L L Y C ***(stop: premature)**



B

Dog Ex4 (37) CTGGGCCACAATGTCTTTTTT:GACAAGCAAGGGGACGTG

Fossa Ex4 (37) CTGGGCCACCAGATCTTTTTTTGACAAGCAAGGGGACCTG

(1-bp insertion)

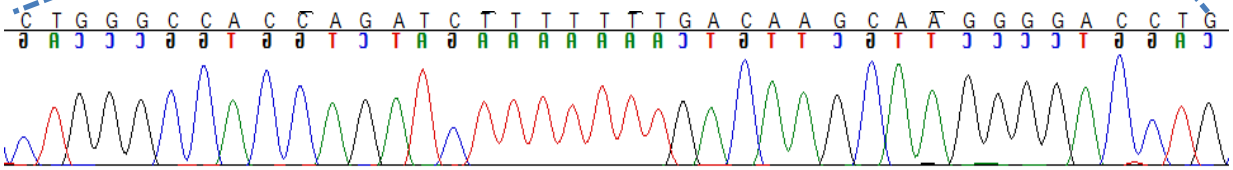


Fig. S6

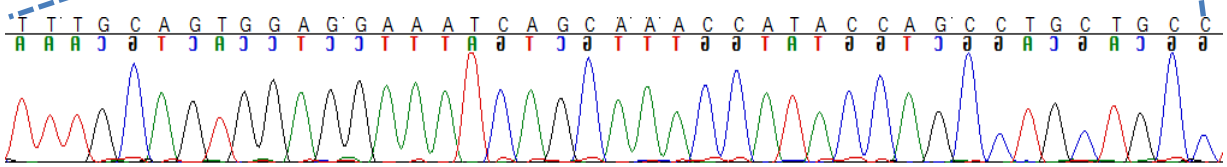
Banded Linsang *Tas1r2* sequence

A

Dog Ex2 (47) 5′ TTTGCGGTGGAAGAGATTAACAA:CCGCAGCGACCTGCTGCC 3′

Linsang Ex2 (47) 5′ TTTGCAGTGGAGGAAATCAGCAAACCATACCAGCCTGCTGCC 3′

F A V E E I S (1-bp insertion)

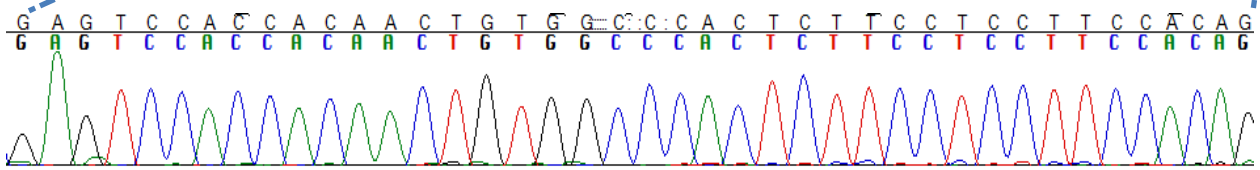


B

Dog Ex2 (251)GAGTCCACTACTACTGTGGCCCATTTCCTCTCACTCTTCCTCCTTCCACAG

Linsang Ex2 (252)GAGTCCACCACAACTGTGGCCCA:::::::::CTCTTCCTCCTTCCACAG

(10-bp deletion)

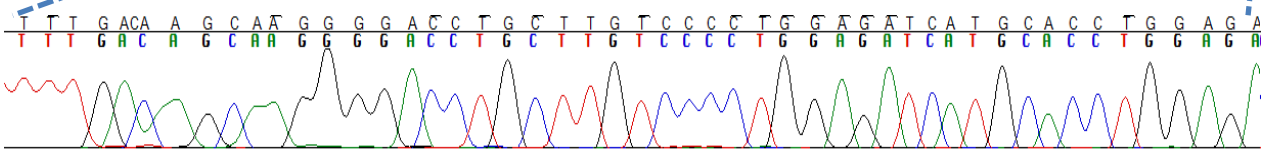


C

Dog Ex4 (55) TTTGACAAGCAAGGGGACGTGCT:::::::::::::CATGCCCATGGAGG

Linsang Ex4 (55) TTTGACAAGCAAGGGGACCTGCTTGTCCCCTGGAGATCATGCACCTGGAGA

(14-bp insertion)



D

Dog Ex5(7) TCCATGTGTTCCAAGGACTGCCATCCTGGCCAAAGGAAGAAGCCTGTGGGCA

Linsang Ex5(7) TCCATGTGTTCCAAAGAC:::::::::::::::::::GAAGCCCATAGCCA

(20-bp deletion)

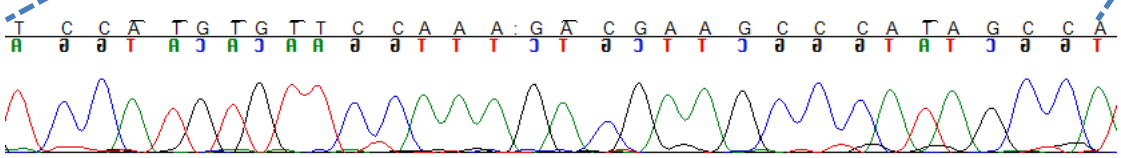


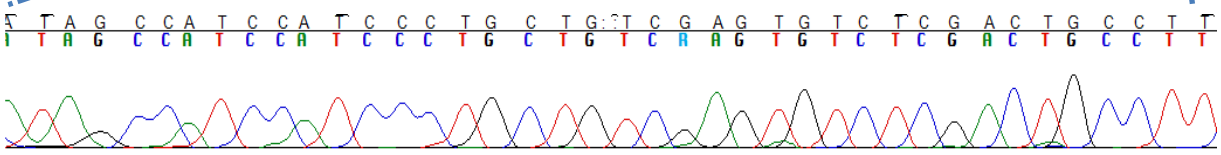
Fig. S6 continued

E

Dog Ex5(55) GTGGGCATCCACTCCTGCTGCTTCGAGTGTATTGACTGCCTT

Linsang Ex5(35) ATAGCCATCCATCCCTGCTG::TCGAGTGTCTCGACTGCCTT

(2-bp deletion)

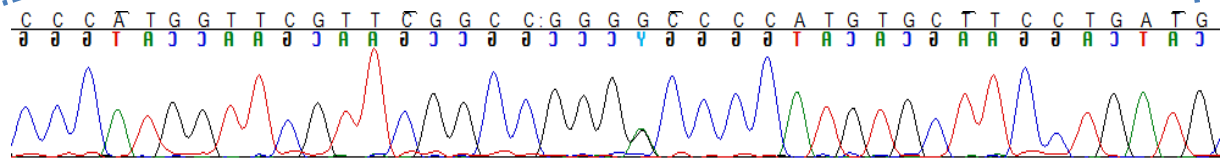


F

Dog Ex6 (189) CCCGTGGTTCGCTCGGCCGGGGGCCCCATGTGCTTCCTGATG

Linsang Ex6 (189) CCCATGGTTCGTTCGGCCGGGG:CCCCATGTGCTTCCTGATG

(1-bp deletion)

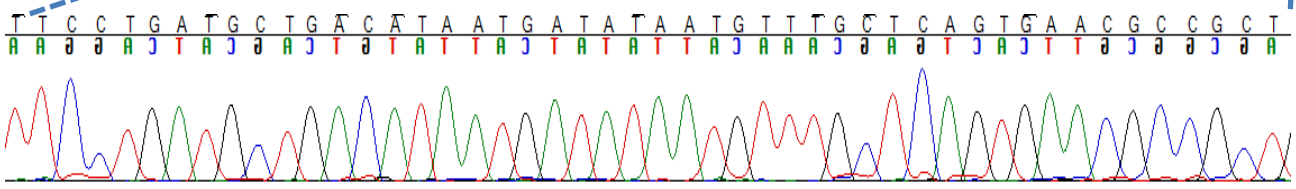


G

Dog Ex6(222) TTCCTGATGCTGGT:::::::::::::::::::::::::::GCCGCTGCT

Linsang Ex6(221) TTCCTGATGCTGACATAATGATATAATGTTTGCTCAGTGAACGCCGCTGCT

(28-bp insertion)



H

Dog Ex6 (416) AGGCGCCTCCCGCGCGCCTACGGCTACTGGGTGCGCTGCCAC

Linsang Ex6 (423) AGGCGCCTCCTGCGAGCCTACG:CTACTGGGTCCGCTACCAC

(1-bp deletion)

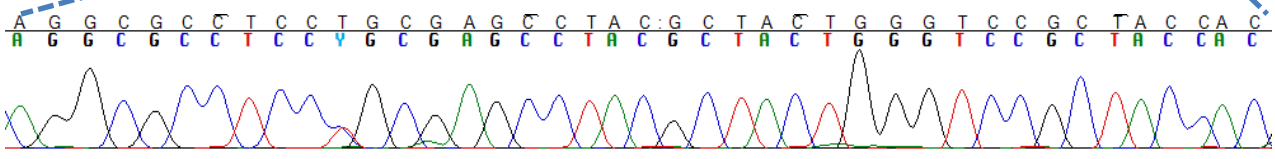


Fig. S7: Evolutionary Relationships of the order Carnivora

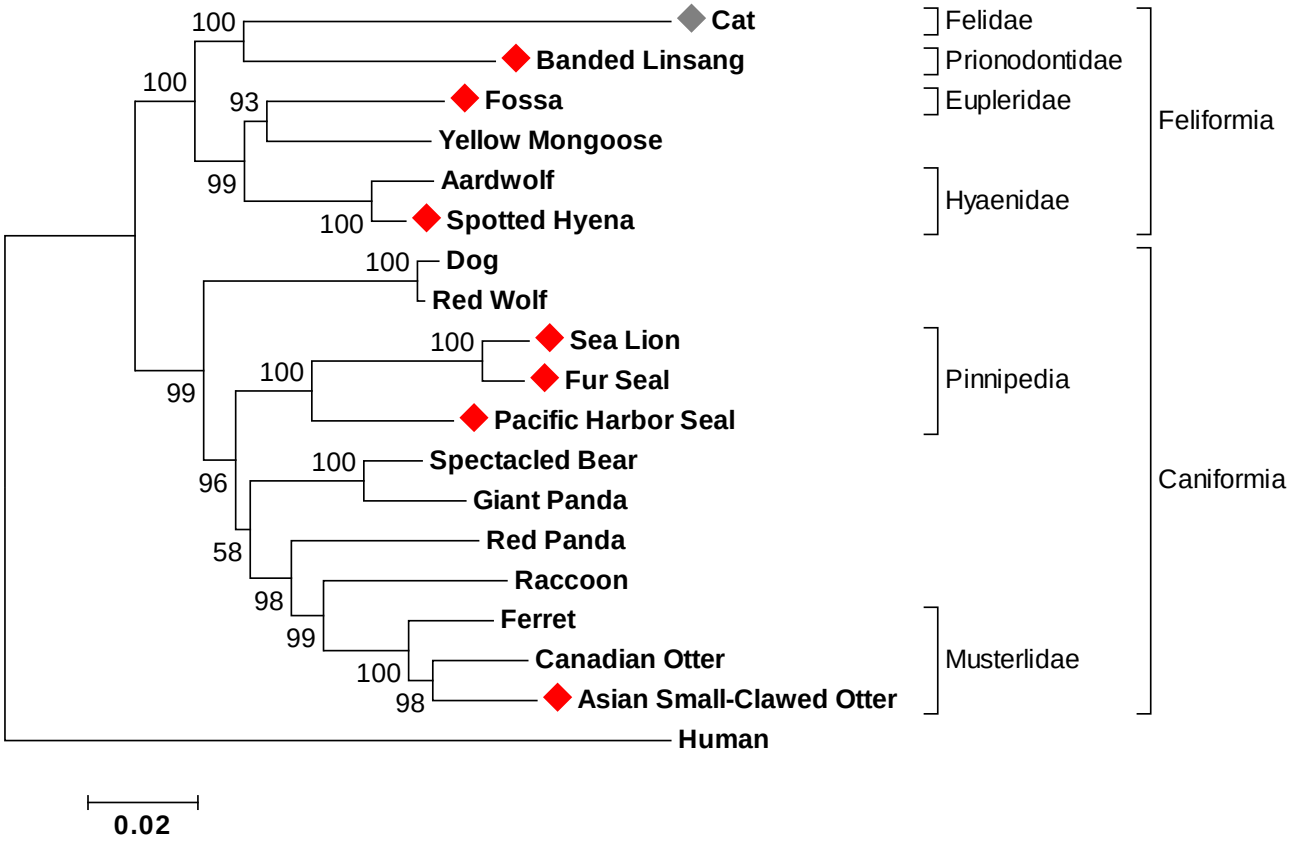


Fig. S8. The Sea Lion *Tas1r1* and *Tas1r3* Genes

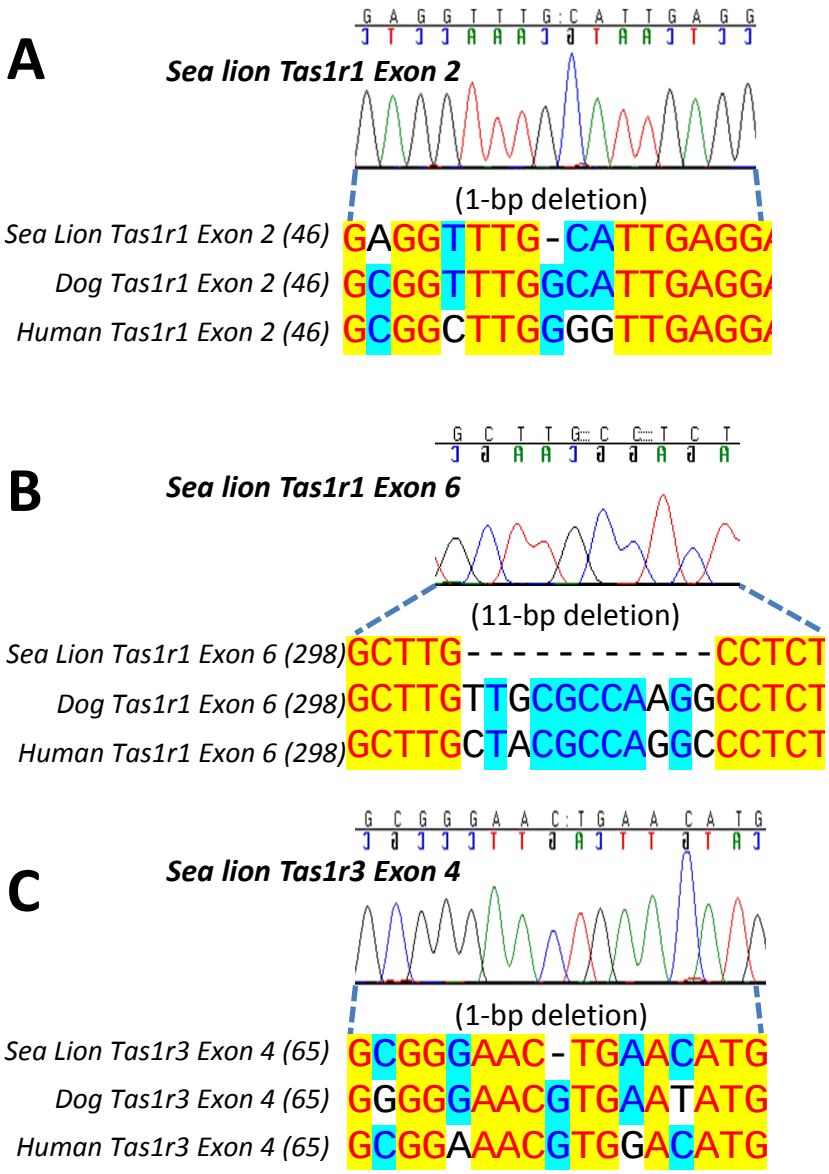


Fig. S9 The Dolphin *Tas1r* Receptor Genes

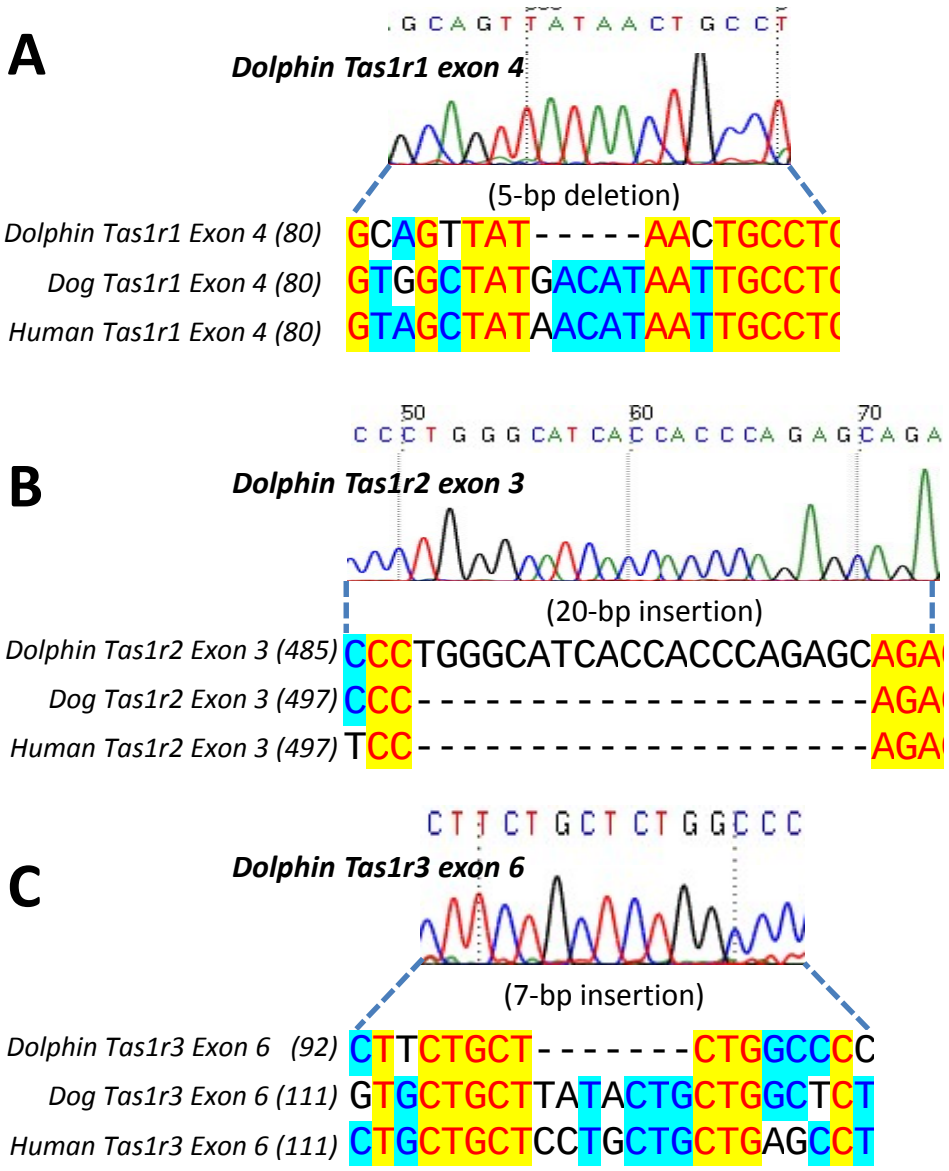


Fig. S10: Evolutionary Relationships of Dolphin, Dog and Cow *Tas2r* receptors

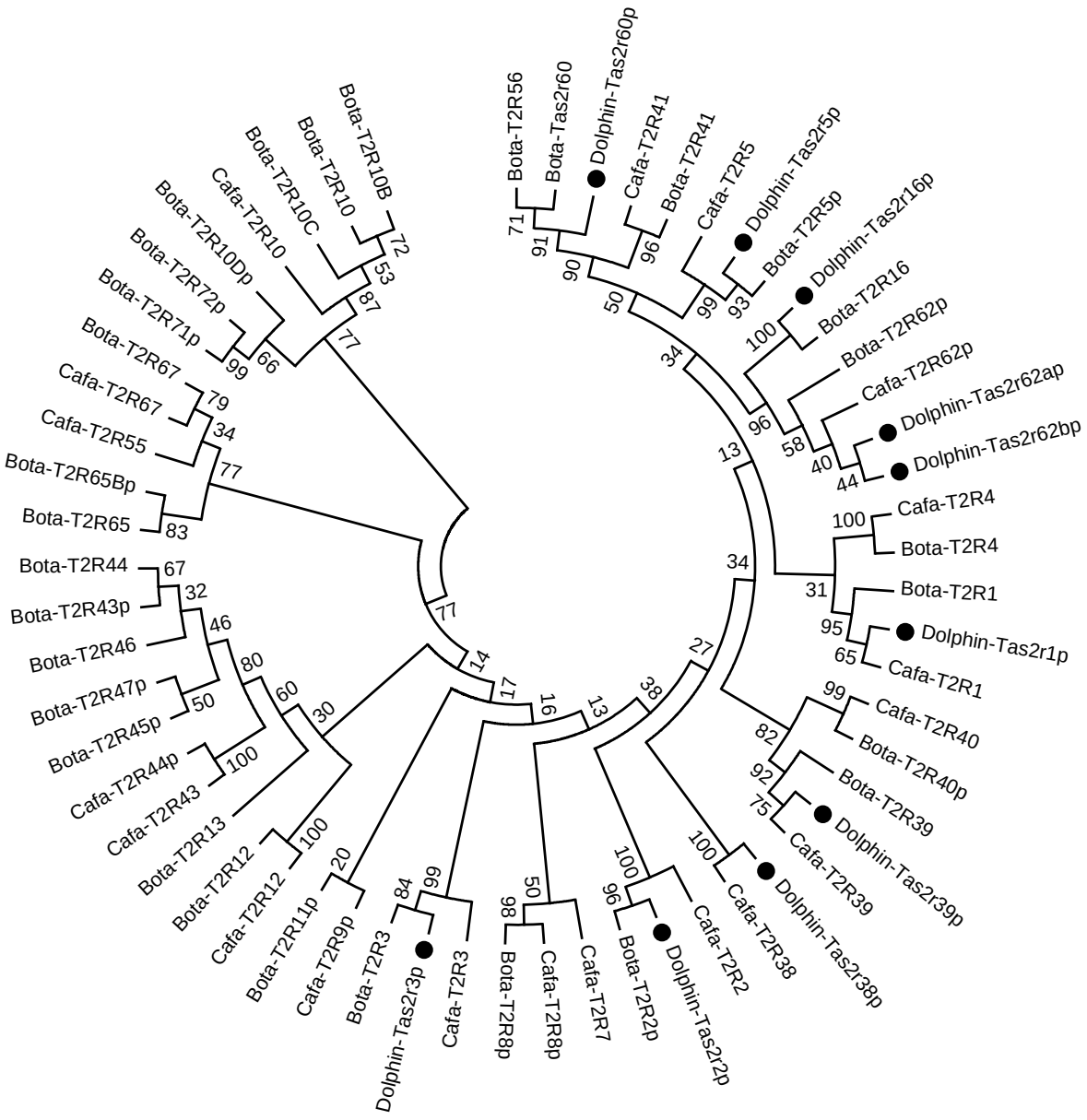


Table S1: Degenerate primers used to amplify exons of the sea lion *Tas1r1* and *Tas1r3.*

Tas1r1	
T1R1_EX1_F1	GGCCATGCCAGGCACAGGAC
T1R1_EX1_R1	CCCCTCACTCACCTGTCACAGAGRGT
T1R1_EX2_F1	GCTCTCAGCykGGCTTTCTCyACAG
T1R1_EX2_R1	CCAGCTyACCAsrGGCACCAG
T1R1_EX3_F1	CAGATCAGCTACGAGGCCAGCAG
T1R1_EX3_R1	CTTACCTGCCAGGGGTAGACTCGGT
T1R1_EX4_F1	TATyTCAGCTTCTrGAGCAGATCCGy
T1R1_EX4_R1	TTACCTGGTTGTCCTyyCCGTGCC
T1R1_EX5_F1	CAGAACACCTGTGGCTTCTTGCAGGT
T1R1_EX5_R1	CACTCACCrCTCTTGTTGAGGAAGsTsC
T1R1_EX6_F1	CCTTTyCTTCCAGACCTCCACAGmTGC
T1R1_EX6_R1	TCAGGTGGAGCCGCAGCGCC
Tas1r3	
T1R3_EX2_F1	AGGTTCTCGkCyCTbGGCCTGCTC
T1R3_EX2_R1	CACCTGAGGCAyrAGGAAGAAGCTGAA
T1R3_EX4_F1	CAGCTCCTrGArAACATGTACAACd
T1R3_EX4_R1	CTCACCTGsTTCCChGGyGT
T1R3_EX5_F1	CAGCvGCCCGTGTCCCAGTGC
T1R3_EX5_R1	GAGGTGCTCACCTGGGyTGCGCT

Doc. S1: Pairwise alignment of dolphin and dog (cafa) or cow (bota) *Tas2r* sequences (page 23 – page 35)

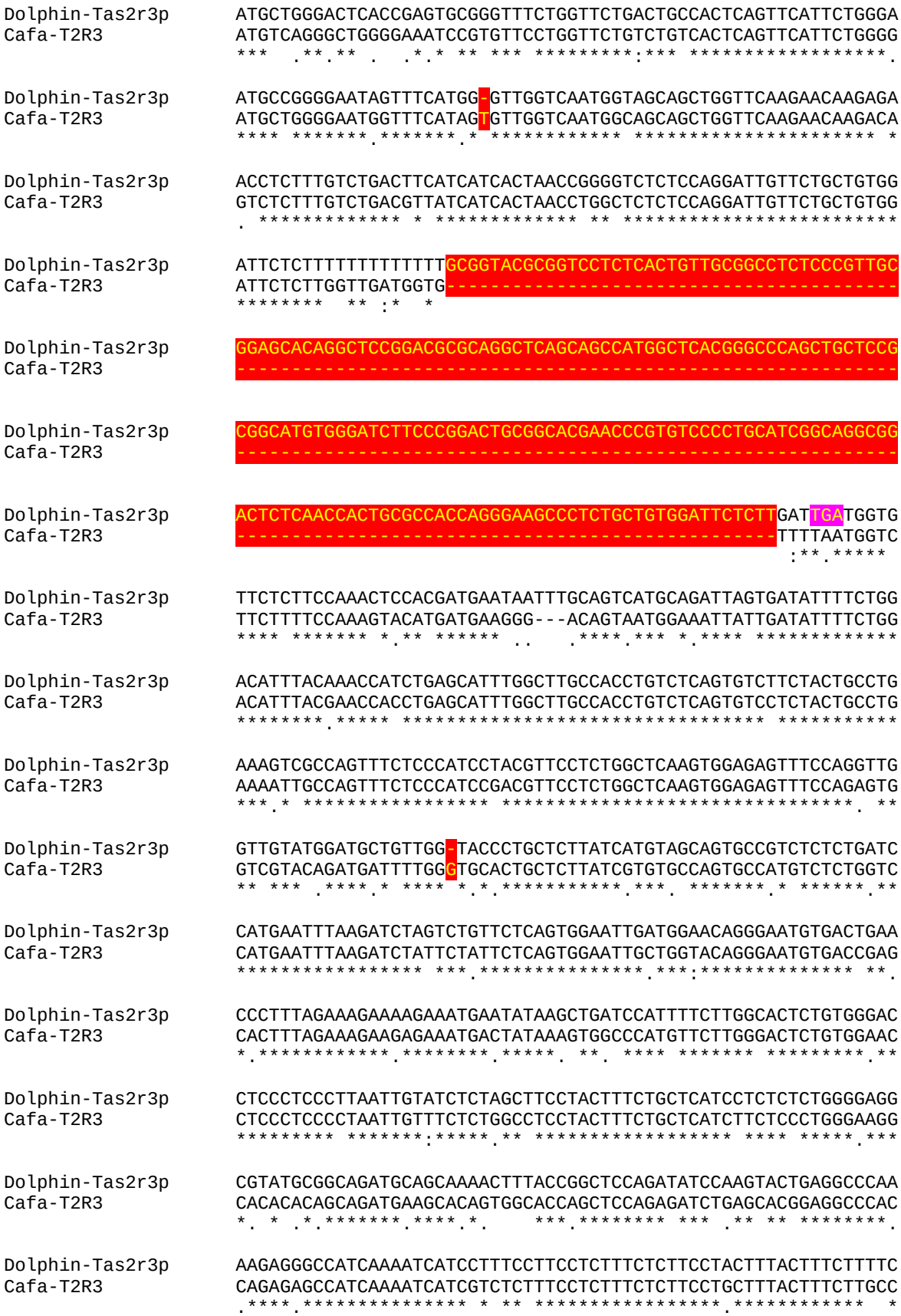
Tas1r1 [Cafa-T2R1 (AB249684)]

```
Dolphin-Tas2r1p      ATGCTGGAGTCTCACCTCATTAGCCACCTTTGTTTGGCAGTGATAAAATTTCTCTTTGGG
Cafa-T2R1            ATGTTAGAGTTTTACCTTATTATCCATTTTCTTTTCACAGTGATGCAATTTCTCATCGGG
                     *** * **** * **** **** ***  **  ***  *******  ******** * ***

Dolphin-Tas2r1p      GTTTTAGTAAATGGCATCATTGTGGTTGTGAATGACACTCACTTGATCAAGCAGAGAAAG
Cafa-T2R1            GTTTTAGCAAATGGCATCATTGTGGTGGTGAATGGCACTGAGTTGATCAAGCAGAGAAAG
                     ******* ****************** ******* **** * ******************

Dolphin-Tas2r1p      ATGATTCCATTGGATCTCCTTGTTTCCTGCCTGGCGATTTCCAGGATTTGTCTGCAACTA
Cafa-T2R1            ATGATTCCCTTGGCTCTCCTTCTTTGCTGTCTGGCGATTTCCAGGATTTGTCTACAATTG
                     ******** **** ******* *** *** ********************** *** *

Dolphin-Tas2r1p      GCCATCTTCTACGTTAACCTGGCTGTTCTTTCCTTGATTGAATTCCCTCAGCTTGCTGAG
Cafa-T2R1            ATCATCTTCTTCATGAATCTGGGTACTCTCTTCTTGATTGAAGTCCCCCTACTTGCTGAT
                       ******** * * ** **** *  *** * ********** **** *  ********

Dolphin-Tas2r1p      AAGTTCGTAATTCTCACATTTATAAATGAATCGGGACTTTGATTTGCCACATGGCTCAGC
Cafa-T2R1            AATTTTGTAATTTTCGTGTTTGTAAATGAATTGGGACTTTGGTTCGCCACATGGCTTGGG
                     ** ** ****** **   *** ********** ********* ** ***********  *

Dolphin-Tas2r1p      CTTTTCTACCGTGCCGAGATTGCCACCATTGCTCACCCACACTT---CCGCTTGAAGGTG
Cafa-T2R1            GTTTACTACTGTGCCAAGATCGCCCCCATAACTCACTCATTCTTTTTCTGGTTGAAGATA
                      *** **** ***** **** *** ****  ***** **  ***   * * ****** *

Dolphin-Tas2r1p      AGGATATCCAAGTTGGTTCCTTGGCTGGCACTTGAGTCCCTGCTATATGCATCCAGCATG
Cafa-T2R1            AGGATATCCAAGTGGATGCCATGGCTGATCCTCGGGTCCATGATGTATGCATCCGTCCCT
                     ************* * * ** ******   ** * **** ** * *********  *

Dolphin-Tas2r1p      GATGTTTTCCACAGCAAACATAGGTGGATATTTTCCAAAGAACACTTCCTGGGCCTTTTC
Cafa-T2R1            TCTGTTTTCTGCAGCAAACAGATATGGGTTTATTCCCAAAACGTTTTGTCCAGCCTTTTT
                       *******  ********* *  *** * * **** ** *    **     *******

Dolphin-Tas2r1p      TCCCCAAATGCAACCACCCAATCAAAGAA-TACCTGCTTTACAGTTTGCCTTTCTTTTTG
Cafa-T2R1            TCCCCAAACGCAACT--CAAATCAAAGAAACATCTGCTTTACAGATTGCCTTTCTTATTA
                     ******** *****   * **********  * ********** ********** **

Dolphin-Tas2r1p      CTGAGTTTCATTGCCATTACTTATCTTCCTTATTTCTTCTCTGCTCTTGATATTTTCTCT
Cafa-T2R1            --GGTTATTATTGCCACTGCTTATCTTTCTCGGTTCCACCCTACTTTTGATATTTTCCCT
                       *  * * ******* * ******** **   ***  * ** ** ********** **

Dolphin-Tas2r1p      GGAGAGACACAC-TGACAGATGAGAAACACAGCAACAGGCCCCAGGAGCCCTCGCACATG
Cafa-T2R1            GGGGAGACACACCTGGCAGATGAGAAACACAGCAACAGGCCCCAGGGACCCTAGCACAGG
                     ** ********* ** ******************************  **** ***** *

Dolphin-Tas2r1p      CGTGCACATCAGCACTCTTCTCTCCATCCTGTCCTTTCTGGTCCTCTATCTCTGCCACTC
Cafa-T2R1            TGTCCACGTGAGCACGATCCTGTCCGTTCTATCCTTCCTGGTCCTCTGCCTCTCCCACTA
                      ** *** * *****  * ** *** * ** ***** **********  **** *****

Dolphin-Tas2r1p      CATGACAGCTGCTTTGCTCTTTTCCCAAATTTTCAACTTTAGAAGCTTCATATTTCTGTT
Cafa-T2R1            CATGGCAGCTGCTTTGCTCTCTTTTCAGATCTTTCAGCTCAGAAGCCTCGTCTTTCTGAT
                     **** *************** **  ** ** **  *  * ****** ** * ****** *

Dolphin-Tas2r1p      CTGCATCTTGTGGGTTGGTTCATACCACTCTGGACACTCTATTACCTTAATTTTAGGAAA
Cafa-T2R1            CTGTCTCTGGGTGTTTGGGTCCTATCCTTCTGGACACTCTATGATCTTAATTTTAGGAAA
                     ***  *** *  * **** ** ** *  ************** * ***************

Dolphin-Tas2r1p      TCCTAAAATGAAACAAAATGCAAAGAAATTGCTCCTCCACAGAAAGTGCTGTCAGTGA
Cafa-T2R1            TCCTAAATTGAAACAAAATGCAAAGAAGCTCCTCCTCCACGGGAAGTGCTGCCAGTGA
                     ******* ******************  * ********* * ******** ******
```

Tas2r2 [cafa-T2R2 (AB249685)]

```
Dolphin-Tas2r2p      ATGGCCTCCTCTTTGTCAGCTCGTCTTCATGTTATCCTCATGTCAGCAGAATTTATCACA
Cafa-T2R2            ATGATCTCCTTTTTGTCAGCTCTTCCTCATGTTATTGTTATGTCAGCAGAATTTATCACA
                     ***  ***** ********** ** *********  * ********************

Dolphin-Tas2r2p      GGGATTACAGTAAATGGATTTCTTATAATCATCGACTGTAATGAATTGGTCAAAAGCAGA
Cafa-T2R2            GGGATTACAGTAAATGGATTTCTTATCATCATGAACTGTAAAGAATTGATCAAAAGCAGA
                     ************************** *****  ******* ****** ***********

Dolphin-Tas2r2p      AAGCTGACACCAATGCATCTCCTTTTCATATGCATAGGGATGTCTAGATTTGGTTTGCAG
Cafa-T2R2            AAGCCAACACCAGTGCAACTCCTTTTCATATGTATAGGGATGTCGAGATTTGGTCTGCTC
                     ****  ****** **** ************** ********** ********* ***

Dolphin-Tas2r2p      ATAGTGTTAATGGTAAAG---TTTTTCTC-ATGTTCTTTCCACTCTTTTATAGAGTAAAA
Cafa-T2R2            ATGGTGTTAATGATACAAAGTTTTTTCTCTGTGTTATTTCCACTCTTTTATAAGGTAAAC
                     ** ********* ** *    ********  **** ***************  *****

Dolphin-Tas2r2p      ATTTATGGTACAGCGATGAT-TTTTTGGGGATGTTTTTCAGCTCTGTCAGTCTCTGGTTT
Cafa-T2R2            ATTTTTGGTACAGCAATGTTGTTCTTTTGGATGTTTTTTAGCTCTGTCAGTTTCTGGTTT
                     **** ********* *** * ** **  ********** ********** ********

Dolphin-Tas2r2p      GCCACCTGTCTCTCTGTATTTTACTGCCTCAAGATAACACACTTCACCCAGTACTGTTTT
Cafa-T2R2            GCCACCTGCCTTTCTGTATTTTACTGCCTCAAGATAGCAGGCTTCACTCAATCCTGTTTT
                     ******** ** ********************** **  ****** ** * *******

Dolphin-Tas2r2p      CTTTGGCTGAAATTCAGGATCTCAAAGTTAATGCCTTGACTGCTTCTGGGAAGCCTGCTG
Cafa-T2R2            CTTTGGCTGAAATTCAGGATCTCGAAGTTAATGCCTTGGCTACTTCTGGGAAGTTTGCTG
                     ********************** ************** ** ***********  *****

Dolphin-Tas2r2p      ACCTCCGTGAGCATTGCAACTCTGTGTGTCAAGGTGGATTACCCTAAAAATGTGGATATT
Cafa-T2R2            GCCTCCATGAGCATTGCAGCTCTGTGTATTGAAGCAGATTACCCTAAAAAGGTGGATGAT
                      ***** *********** ******** *  * *  ************** ******  *

Dolphin-Tas2r2p      GATGTCCTCAGGGATGCCATGCTAAAGAGGACTAAACTCAAGACAAAGCAGATTAATGAA
Cafa-T2R2            GATGCCCTCAAGAATGCCACATTGAAGAGGACTGAACCCAAGATAAGGCAAATTAGTGAA
                     **** ***** * ******   * ********* *** ***** ** *** **** ****

Dolphin-Tas2r2p      GTGCTTCTTGTCAGCTTGGCATTAATATTTCCTCTGGCCATATCTGTGAGGTGAACTGTT
Cafa-T2R2            ATGCTGCTTGTCAACTTGGCATTACTATTTCCTCTAGCCATATTTGTGATGTGCACTTTT
                      **** ******* ********** ********** ******* ***** *** *** **

Dolphin-Tas2r2p      ATGTTATTCAGTTCTCTCTATAAACACGCTAATCGGATGCAAAATGGACCTCTTGGTTTT
Cafa-T2R2            ATGTTATTCATTTCTCTCTATAAGCACACTCATCGGATGCAAAATGGATCTCATGGTGTT
                     ********** ************ *** ** ***************** *** **** **

Dolphin-Tas2r2p      AGAAACGCCAGCACTGAAGCCCATATTAATACATTAAGATCAGTGATAACATTCTTTTGC
Cafa-T2R2            AGAAATGCCAGCACAAAAGCCCATATAAATGCATTAAAAACAGTGATAACATTCTTTTGC
                     ***** ********  ********** *** ****** * ********************

Dolphin-Tas2r2p      TTCTTTATTTCTTATTTTGCTGCCTTCATGGCAAATATGACATTCAGTATTCCTTATGGG
Cafa-T2R2            TTCTTTATTTCTTATTTTGCTGCCTTCATGGCAAATATGACATTCAGTATTCCTTATGGA
                     ************************************************************

Dolphin-Tas2r2p      AGTCAGTGCTTCTTTGTGGTGAAGGACATAATGGCAGCATATATCCCTCTGGCCATTCGG
Cafa-T2R2            AGTCATTGCTTCTTTGTAGTAAAGGACATAATGGCAGCATTT--CCCTCTGGTCATTCAA
                     ***** ********** ** ******************* *  ******** *****

Dolphin-Tas2r2p      TTATAATTATCTTGAGTAATTCTCAGTTCCAACAACCAGTCAGGAGACTTCTCTACCTCA
Cafa-T2R2            TTATAATCCTCCTGAGTAATTCTAAATACCAACAACCTTTCAGGAGACTTCTCTGCTTCA
                     *******  ** ********** * * *********  *************** * ***

Dolphin-Tas2r2p      GAAAGAATCAATGA
Cafa-T2R2            AAAAGAATCAATGA
                      *************
```

Tas2r3 [Cafa-T2R3 (AB249686)]



```
Dolphin-Tas2r3p      TTTGCAATTTTGACATCCAGTTATTTCT-ACCAGCAACTGAGGTGATTATGATGACTGGA
Cafa-T2R3            TTTTTAATTACATCATCCAGTTATTTCATACCAGAAACTGAGATGGTTAAGAGAGTTGGA
                     ***  ****: .:**************: *****.*******.**.***:** .. ****

Dolphin-Tas2r3p      GAAGTAATTACAATGTTATATCCTGCTGGCCGCTCATATATTCTCATTCTGGGAAATAAT
Cafa-T2R3            GTAGTTGTTACAATGTTTTACCCTGCCAGCCACTCATTCGTTATCATTCTGGGAAACAAT
                     *:***:.**********:** ***** .***.*****: .**.************* ***

Dolphin-Tas2r3p      AAGCTGAAGCAGATGTTCATGGAGACGCTTTGGTGTGAGCCTGGTCATCTGAAGCCTGGA
Cafa-T2R3            AAGCTGAAGCAGATGTTTACGGAGATGCTGTGCTGTGAGCCTGGTTATCTGAAGCCTGGA
                     ***************** * ***** *** ** ************ **************

Dolphin-Tas2r3p      TCCAAGGAACCCGTTTTTCCATAG
Cafa-T2R3            TTCAAAAGACCTTTTGCCCCATAA
                     * ***...***  **   *****.
```

Tas2r5 [Cafa-T2R5 (AB249688)]

```
Dolphin-Tas2r5p      ATGCTGACTGCTGTCCTAGGACTGTTAATGCGGGTAGCAGTGGCTGAATTTCTCATTGGC
Cafa-T2R5            ATGCTGACTGCTGCCCTACCACTGCTGATGGTGGTGGCAGTGGTTGAATTTCTCATTGGC
                     ************* **** **** *.***  ***.******* ***************

Dolphin-Tas2r5p      CTGGTTGGAAATGGAGTCCTCGTGGTCTGGAGTTTTGGAGAACGGCTCAGAAAATTCAAG
Cafa-T2R5            TTGGTGGGAAATGGAGTCCTTATGGTCTGGAGTTTTGGTGAATGGGTCAGAAAATTCAAC
                      **** ************** .****************:*** ** *************

Dolphin-Tas2r5p      GGGTCCTCATATAACCTCATTGTCCTGGGCCTGGCTGTCTGTTGATTTCTTCTGCAGTGG
Cafa-T2R5            GGGTCCTCATACAACCTCATTGTCCTGGGCCTGGCTGTCTGCCGATTTCTCCTGCAGTGT
                     *********** ****************************  ******* ********

Dolphin-Tas2r5p      TTGATTATGGTGGACTTAAGTCTGTTTCCACTTTTCCAGAGCAGCCATTGGCTTCGCTAT
Cafa-T2R5            CTGATTATGATGGACTTAAGCCTGTTTCCATTTTTCCAGAGTAGCCGTTGGCTTCACTAT
                      ********.********** ********* ********** ****.********.****

Dolphin-Tas2r5p      CTCCATGTCTTCTGGGTCTTAGTAAACCAGACCAGCCTGTGGTTTGCCACTTTTCTCAGT
Cafa-T2R5            CTCAGTATCTTCTGGATCCTGGTAAGCCAGGCCAGCCTGTGGTTTGCCACTTTCCTCAGC
                     ***..*.********.** *.****.****.********************** *****

Dolphin-Tas2r5p      GTCTTCTACTGCAGGAAGATCATGACCTTTGAACACCCTGTCTACTTGTGGCTGAAGCAG
Cafa-T2R5            GTCTTCTACTGCAGGAAGATCATGACCCTTGAACATCCTGTCTGCTTGTGGCTGAAGCAG
                     *************************** ******* *******.****************

Dolphin-Tas2r5p      AGGGCCTGTTGTCTTAGTCACTGGTGCCTTCTGGTGTACTTCATGATCAGTTTGTTACTT
Cafa-T2R5            AGGGCCTATTGCCTGAGTCTCTGGTGCCTTCTGGTGTACCTCATGATCAGTTTGTTACTT
                     *******.*** ** ****:******************** ********************

Dolphin-Tas2r5p      ATAGTCCAGGGTAGCTTAGAGTTCTCCAATCTTTCCCAAGGAAACAGCAGCATTTTATAC
Cafa-T2R5            GTAGCACACATTGGCTTAAAGCCCTATAATCCTTCTCAAGGCAACAGCAGCATTCTGTAC
                     .*** .** . *.*****.**  **. **** *** *****.************ *.***

Dolphin-Tas2r5p      CCCCCTTCAAACTGGCACTGTCTGTATATATTATGGCTCAATACAGGAAGTATAATGCCC
Cafa-T2R5            CCCCTTAAAAGCTGGCACTACCTGTATATAGTAAAGCTCAACGCAGGAAGTGGATTGCCT
                     **** *:.**.********. ********* **:.****** .********. *:****

Dolphin-Tas2r5p      TTCATGGTGTTGCTTATTTCCTCTGGGATGCAGATTGTCTCTTTGTGTAGACACCGCAGG
Cafa-T2R5            CTCATGGTGTTTCTTGTTTCTTCTGGGATGCTGATTGTCTCTTTGTATAGACACCACAAG
                      ********** ***.**** **********:**************.********.**.*

Dolphin-Tas2r5p      AAGATGAATGTCCATACAGTCGGCAGGAGAGATGCTCAGGCCAAGGCTCACATCACTGTC
Cafa-T2R5            AAGATGGAGGTACATACAGCTGGTAGGAGAGATGCTCAGGCCAAGGCTCACATCACTGTA
                     ******.* **.*******  ** **********************************.

Dolphin-Tas2r5p      CTGAAGTCCTTGGGCTGTTTCCTTATACTTTACATAGTTTACATCCTGGCCAGCCCCTTC
Cafa-T2R5            CTGAAGTCCTTGGGCTGCTTCCTTATCCTTCATGTGATTTATATCCTGGCCAGCCCCTTT
                     ***************** ********.*** * .*..**** *****************

Dolphin-Tas2r5p      TCCATCACCTCCAGGTCTTTTCCTGCTGCTCTTACCGCTCTCTTCATCTCTGAGACACTC
Cafa-T2R5            TCCATTACCTCCAAGTCTT---CTGCTGATCTCCTCGTTGTCTTCATCTCTGAGACAGTC
                     ***** *******.*****   ******.*** . ** * ***************** **

Dolphin-Tas2r5p      ATGGCTGCCTAGGCTTCTCTTCATTCTGTCATATTGATCATGGGGAATTCCAGGATGAAG
Cafa-T2R5            ATGGCTGCCTATCCTTCTCTTCATTCTGTCATTCTGATCCTGGGGAATCCCAGGATGAAG
                     ***********  ******************: *****.******** ************

Dolphin-Tas2r5p      CAGACTTGTCAGAGAATCCTGTGGAAGACAGTGTACGCTTGGAGAGAAAGGAGTGGTAA
Cafa-T2R5            CAGACTTGTCAGAGAATTCTGTGGAAGACAGTGTGTGCTTGGAAATCCTAG--------
                     ***************** ***************. *******.* ..:.*
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Tas2r16 [Bota-T2R16 (AB249716)]

```
Dolphin-Tas2r16p      ATGATAACCATCCAACTCT--GTCTTCTTCATGATCATCTATATGCTCAAGCTCTTGACA
Bota-T2R16            ATGACAACCAGCCAACTCTCTGTCTTCTTCATGATTATCTATATGCTCGAGTTCTTGATA
                      **** ***** ********  ************** ************ ** ****** *

Dolphin-Tas2r16p      ATAATTATGCAGAGCAGCTTAACTGTTGTAGTGCTGGGCACAGAGTGGGTAAGTTTCCAA
Bota-T2R16            ATAACTGGGCAGAGCAGCCTGATTGTTGTAGCGCTGGGCAGAGACTGGGTGCAGACTCAA
                      **** *  ********** * * ******** ******** *** *****       ***

Dolphin-Tas2r16p      AGGCTATCACCTGTGGAAATGATTCTCACCGGCCTGGGTGTCTGCATGCTTCTGTCAACT
Bota-T2R16            AGGCTGCCACCTGCGGACATGATTCTCATCAGCCTGGGCATCT-TTTGCTTCTGTCAACT
                      *****  ****** *** ********** * *******  ***   **************

Dolphin-Tas2r16p      GTGGTCATCAATGCTGTACAACTTTTGCTCCCACTTCTACCCTAGTTACGAATTTTGGTA
Bota-T2R16            GTGGTCATCGATGCTGTACAACTTTTGTTCCCACTTCCACCCTAATTACAATTTTTGGTA
                      ********* ***************** ********* ****** **** * ********

Dolphin-Tas2r16p      CTTCAGTATCGTCTGGGAATTTACTAACATTCTTTCATTCTGGTTGACCAGCATGTTTGC
Bota-T2R16            TTTCGGGATCATCTGGGAATTTACTAACATCCTTTCCTTCTGGTTGACCAGCTTGCTTGC
                       *** * *** ******************* ***** ************** ** ****

Dolphin-Tas2r16p      TGTCTTCTACTGTGTCAAAGTCTCCTCCTTCAGCCACCCCATCTTC---TGGCTGAAGTG
Bota-T2R16            TGTCTTCTACTGTGTCAAAGTCTCTTTCTTCAGCCACCCCGTCTTCCTCTGGCTGAAGTG
                      ************************ * ************* *****   ***********

Dolphin-Tas2r16p      GAGAATTGTGAGGTTGGTTCCTTGGCTGTTGCTGGGTTCTCTGCTGACTTCTTGTGTGTC
Bota-T2R16            GAGAATTGTGAGATGGGTTCCTCGGCTGTTGCTGGGCTCTCTGCTGATTTCTTGTGTGTC
                      ************ * ******* ************* ********** ************

Dolphin-Tas2r16p      TATCATCTTTGCAGCTGTTGGGCATTACAGCAAGATTCAACTAATCTCCATGACGCATTT
Bota-T2R16            TACCATATTTCCAGCTACTAGTTATTACATTGATATTCAATTCATCGCCATGAAGCATTT
                      ** *** *** *****  * *  ******   * ****** * *** ****** ******

Dolphin-Tas2r16p      CCCTAGAAACAGCACCATGACTGAGAGACTTGAGATATTCCTGTGGGATTCTTCCATGTG
Bota-T2R16            CCCTAGAAACAGCACCATGCTTGAGAGACTTGAGGCGTTCCTGTGGGATTTTTCCACACT
                      ******************  *************   ************* *****

Dolphin-Tas2r16p      TCACAA-GTGGTTGTGTTGATTATTCCTTTCCTCCTGTTCCTGGCCTCCACCGTCTTGCT
Bota-T2R16            GCACAAAGTAGTTGTGTTGGTTATTCCTTTCCTCCTGTTCCTGGCCTCCACAGTCTTGCT
                       ***** ** ********* ********************************* ********

Dolphin-Tas2r16p      CATGGCCTTATTATTCCAACACCTGAGGCAGATGAAAGATCATCACACCAGCCACTC---
Bota-T2R16            CATGGCCTTATTATCCCGACATCTGAAGCAGATGAAAGACCTTCACACAGGCTGCTCCAA
                      ************** ** *** **** ************ * ******  **  ***

Dolphin-Tas2r16p      -TCCAGCCTGAAAGCTCACTCTACTGCCCTGAGGTCTCTTGCTGTCTTCCTCATTTTCTT
Bota-T2R16            CTCCAGCCCGGAAGCTCACTCTGCCGCCCTGAGGTCCCTTGCCATCGTCCTCATCTTGTT
                       ******* * *********** * *********** *****  ** ******* ** **

Dolphin-Tas2r16p      CACCTCTTATTTTCTGACCCTAATAATCTCCATGTGGGGTGTCCTTTTTAATAAGGGGTC
Bota-T2R16            CACCTTTTATTTTCTCACCGTGCTCCTCTCCATATTGGATGTCCTATTTAATAAAGAGTC
                      ***** ********* *** *  *  ******* * ** ****** ******** * ***

Dolphin-Tas2r16p      CTGGTTCTGGGCCTGGGAAGCTATCATCTGTGCTCTGGTCTCTATTCATTTGACTTCACG
Bota-T2R16            CTGGTTCTGGGCCTGGGAAGCTATCATCTATGCATTAGTCTCTATTCATTCTACTTTACT
                      ***************************** ***  * *************  **** **

Dolphin-Tas2r16p      GATGCTGAGCAGCCCTAAACTGAAAAGGGTTTTAAAGGTAAAGTGCTGGGACCTAGAGGC
Bota-T2R16            AATGCTGAGCAGTGTCAAACTGAAAAGAGTTTTAAAGGCAAGGTGCTGGAGCCTAGAAGC
                       ***********    *********** ********** ** *******  ****** **

Dolphin-Tas2r16p      TGCCTGA
Bota-T2R16            TGCCTGA
                      *******
```

Tas2r38 [Cafa-T2R38 (AB249694)]

```
Dolphin-Tas2r38p      ATGGTGACTCTGACTGCCACTGTAACTGTGCCCTATGAAGTCAGGAATGCATTTCTGTTC
Cafa-T2R38            ----------------------------------------------------ATGTTC
                                                                           *****

Dolphin-Tas2r38p      TTTTCAGTCCTGGAGTTTGCAGTAGGGATCCTGGTCAATGCCTTCATTTTCTTGATGAAT
Cafa-T2R38            CTTTCAGTACTGGAGCTCGCAGTGGGGATCCTGACCAATGCCTTCATTTTCTTGGTGAAT
                       ******* ****** * ***** *********  ****************** *****

Dolphin-Tas2r38p      TTTTGGGTCGTGGTGAGGAGGTGGCCACTGAGCAACTGTGATCTTGTCCTGCTGAATCTC
Cafa-T2R38            TTTTGGGATGTGGTGAGGAGGCAGCCACTGAGCAACTGCGATCTTATCCTTCTGAGTCTC
                      *******  ************  *************** ****** **** **** ****

Dolphin-Tas2r38p      AGCCTCACCTGGCCTTTCCTACACGGGCTGCTCTTTCTGGATGCCATCCAGCTTACCCAC
Cafa-T2R38            AGCCTCACTCGACTTTTCCTGCATGGGCTGCTGTTTCTGGATGCCATCCAGCTTACATAC
                      ********  * * ****** ** ******** **********************  **

Dolphin-Tas2r38p      TTCCAGTGGGTAAAAGACCCGCTGGGCCTCTGCTACCAGACCACCCTCATGCTCTGGATG
Cafa-T2R38            TTCCAGCGGATGAAAGACCCACTGAGCCTCAGCTACCAGACCATCATCATGCTCTGGATG
                      ****** ** * ******** *** ***** ************ * **************

Dolphin-Tas2r38p      CTCGTAAATCAAGCTGGCCTCTGGCTCACCACTTGCCTTAGTCTCCTCTACTGCTCCAGG
Cafa-T2R38            ATCACAAACCAAGCTGGGCTCTGGCTCACCACCTGTCTCAGTCTTTTCTACTGCTCCAAG
                       **  *** ******** ************** ** ** *****  ************ *

Dolphin-Tas2r38p      ACTGTCCATTTCTTTCACACCTTCCTCCTCCGCTTGGCAAGCTGGATCTCCAGGAAGATC
Cafa-T2R38            ATTGTCCGTTTCTCTCATACCCTCCTTCTCTGCTTGGCAAACTGGGTCTCCAGGAAGGCA
                      * ***** ***** *** *** **** *** ********* **** ***********

Dolphin-Tas2r38p      CCCCAGATGCTCCTGGGTGCTATTTTTTCCTCCTGTGTCTGCACTGTTCTCTATTTGTGG
Cafa-T2R38            CCCCAGATGCTCCTGGGTGCCATGCTTTTCTCTTCTGCCTGCACTCTCCTCTGTTTGGGG
                      ******************** **  *** *** * ** ******* * **** **** **

Dolphin-Tas2r38p      GACTTTTTCAATAGATCTCACTTCTCAGTTGCAACCATGCTACTCATGAATAA--CAATA
Cafa-T2R38            GACTTCTTTAGTAGATCTGGCTTTGCATTCACAACTGTGCTACTCATGAATAATACAGAA
                      ***** ** * *******  ***  ** *  ****  ***************  **  *

Dolphin-Tas2r38p      CTCAATTGAGAAACTGAGAAAACTCAATTTCTTTCATTCCTTCCTCTTCTGCAGCCTGGG
Cafa-T2R38            TTTAATTCACAAATTGT-AAAACTCAATTTCTATTATTCCTCCATCTTCTGTACCCTGGG
                       * **** * *** **  ************** * ****** * ******* * ******

Dolphin-Tas2r38p      GTCCACCCCTTCTTTCTTGCTTTTTCTGGTTTCTTCTGGGGTGTTGATTGTCTCCCTGGG
Cafa-T2R38            GTCAATCCCTCCTTTCATGTTTTTTCTGGTTTCTTCTGGGGTGCTGATTATCTCTCTGGG
                      *** * **** ***** ** ********************** ***** **** *****

Dolphin-Tas2r38p      GAGGCACATGAGGACAAGGAGGGCCAAAACCAGAGACTCTCGGGACCCCAGCCTGGAGGC
Cafa-T2R38            AAGGCACATGAGAACAATGAAGGCCAACACCAAAGACTCCGGTGACCCCAGCCTGGAGGC
                       *********** **** ** ****** **** ******  * *****************

Dolphin-Tas2r38p      CCACATCAAAGCACTCGGGTCTC--ATCTCTTTCTTCTGCCTGTATGTGGTGTC---CTG
Cafa-T2R38            CCATATCAAAGCACTCATATCTCTCATCTCCTTTCTCTGCCTCTATGTGGTGTCATTCTG
                      *** ************   ****  ***** **  ******* ***********   ***

Dolphin-Tas2r38p      CGCTGGCTTCATCTCGGTGCCTTTGCTGATGCTGTGGCACAACAAGATCGGGGTCATGGT
Cafa-T2R38            TGTTGCCCTTATCTCAGTGCCTTTAACCATGGTGTGGCACAACAAGATCGGGGTAATGAT
                       * ** * * ***** ********    *** ********************** *** *

Dolphin-Tas2r38p      CTGTGCAGGGATACTGGCAGCCTGCCCCTCGGGGCACACAGTCATCCTGATCTCAGGCAA
Cafa-T2R38            CTGTGTAGGGATCCTAGCAGCTTGTCCCTCTATACATGCAGCCATCCTGATCTCAGGCAA
                      ***** ****** ** ***** ** *****    **  *** ******************

Dolphin-Tas2r38p      TGCCAAGCTGAAGAGAGCCGTGGAGACCATTCTGCTCCGGGCTCAGAGCAGCCTAAAGGT
Cafa-T2R38            TGCCAAGCTGAGGAGAGCTGTGGAGACCATTCTACTCTGGGTTCAGAGCAGCCTTAAGGT
                      *********** ****** ************** *** *** ************ *****
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Dolphin-Tas2r38p      AAGGGCGGACCGCAAGGCAGATCCCAGGATGCCAGATCTATGTTGA
Cafa-T2R38            AAGGGCAGGCCACAGGGCAGATCTCAGGACTCCAGATCTATGTTGA
                      ****** * ** ** ******** *****  ***************
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Tas2r39 [Cafa-T2R39 (AB249695)]

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Dolphin-Tas2r39p      ATGACTGAAACCTGCAATCCCCCAGAAAATCAACTGTCACCATCTCGCATCATTTTGATG
Cafa-T2R39            ---ATGGAAACCTGCAATCCCCCAGAAAATGAATTGTCACCATTTGGCATCCTCTCGATT
                         *  ********************** ** ********* * ***** * * ***

Dolphin-Tas2r39p      TGAATCGTTATAGGCACCGAATGCGTCCTTGGTCTCACTGCAAATGGGTTCATTGTGGCT
Cafa-T2R39            TTAACAATTACAGGCACTGAATGCATCGTTGGTATCATTGCAAATGGGTTCATCATGGCT
                      * **   *** ****** ****** ** ***** *** ***************  *****

Dolphin-Tas2r39p      ATAAATACAGCAGGATGGATTCACAACAAGGCAGTTTCCACAAGTGGCAAGATCCTGCTT
Cafa-T2R39            ATAAATGCGGCTGAATGGATTAAAAATAAGACAGTTTCCACAAGTGGCAGAGTCCTGTTT
                      ****** * ** * ******* * ** *** ******************   ***** **

Dolphin-Tas2r39p      CTCCTGAGCGTATCCGGAAGAGTGCTACAAAGCTTCATGATGCTAGAACTCACCTTCAGT
Cafa-T2R39            TTCTTGAGTGCATCCAGAATAGCTCTCCAAAGCTTCACAATGCTAGAAATTACCTTCAGT
                       ** **** * **** *** **  ** **********  ********* * *********

Dolphin-Tas2r39p      TCAACATCCCCACACTTTTATAATCAAGACATTCATCGTATATGATACGTTCAAAGGAAG
Cafa-T2R39            TCAACATCCCCACGTTTTTATAATGAAGATGTT----ATGTATGACACATTCAAAGTAAG
                      *************  ********* ****  **     * ***** ** ******* ***

Dolphin-Tas2r39p      TTTCATGTTCTTAAATGATTGTAGCCTCTGGTTTGCTGCCTGGCTTAGATTCTTCTACTT
Cafa-T2R39            TTTCATGTTCTTAAATCATTGTAGCCTCTGGTTTGCTGCTTGGCTCAGTTTCTTCTACTT
                      ********************* ********************** ***** ** ***********

Dolphin-Tas2r39p      CGTGAAGATGGCGGATTTCTCCTACCCCCTTTTCCTCAAGCCGAAGTAGAGAATTTCTGG
Cafa-T2R39            CGTGAAGATTGCTGATTTCTCCCACCCCCTTTTTCTCAAGCTGAAGTGGAGAATTTCCAG
                      ********* ** ********* ********** ******* ***** *********  *

Dolphin-Tas2r39p      ATGGATGCCCTGGTTTCTGTGACTATCAGTGTTTGTTTCCTTTGGGCCACAGTGTGTTCT
Cafa-T2R39            ACTGATGCCCTGGCTTCTGTGGCTTTCAGTGCTTATTTCCTT-GGGCTACAGTATGCTCC
                      *  ********** ******* ** ****** ** ******* **** ***** ** **

Dolphin-Tas2r39p      TCCTCAAAAACATCTACACTATGCATTGCAACCATCCTTTTTCTAGCCCCTCCTTCAACT
Cafa-T2R39            TCTCCAATGACATCTACACTGTGTATTGTAACAATTCTT---CTATCCCCTCTTCCAACT
                      **  ***  *********** ** **** *** ** ***   *** ****** * *****

Dolphin-Tas2r39p      CCACTAAGAAAAATTACTTCACTGAGACCAACGTGATCAGCCTGGTTCTTTTCTTTAACG
Cafa-T2R39            CCACTAAGAAAAAATACTTCACTAAGACCAATGTGGTCAACCTGGTTCTTCTCTATAACC
                      ************* ********* ******* *** *** ********** *** ****

Dolphin-Tas2r39p      TGGGAATCTTCGTTCCTCTGATCACGTTCATCCTACCTGCCACCCTGCTGATCATCTCTC
Cafa-T2R39            TGGGGATCTTCATTCCTCTAATCATGTTCATCCTTTCGGCCACCCTGCTGATCATCTCTC
                      **** ****** ******* **** *********  * **********************

Dolphin-Tas2r39p      TAAAGAGACACACCCTACACATGGAAAGCAATGCCACTGGTTCCAGGGACCCCAGCATGG
Cafa-T2R39            TCAAGAGACATACACTACACATGGAAAGCAATGCCACTGGCTGCAGGGACCCCAGCATGG
                      * ******** ** ************************** * *****************

Dolphin-Tas2r39p      AGGCTCATGTGGGGACCATCAAAGCTATCAGCTATTTTCTCATTTTCTAAATTTTCAATG
Cafa-T2R39            AGGCTCACATAGGGGCCATCAGAGCGACCAGCTACTTTCTCATTCTCTATATTTTCAATT
                      *******  * *** ****** *** * ****** ********* **** *********

Dolphin-Tas2r39p      CAGATGCTCTATTTCTTTCCATGTCCGACATCTTTGATATCAATAGTTCCTAGAATACTT
Cafa-T2R39            CAGTTGCTCTATTTCTCTATATGTCCAACATCTTTGATATCAACAGCTCCTGGAATATTT
                      *** ************ *  ****** ***************** ** **** ***** **

Dolphin-Tas2r39p      TGTGCAAAATCATCATGGCTGCCTATCCTGCTGACCACTCCATCCTACTGATACAGGACA
Cafa-T2R39            TGTGCAAATTCATCATGGCTGCCTACCCTGCTGGTCACTCCATTCTGCTGATTCAGGACA
                      ******** ***************** *******  ******** ** ***** *******

Dolphin-Tas2r39p      ACCCTGGGTTGAGAAGAGCCTGGAAGCGGCTTCAGCCTGGAAGCGGAGTTCACCTTTACT
Cafa-T2R39            ACCCTGGGTTGAGAAGAGCCTGGAAGCGGCTTCAGCCTCAA------GTTCATTTTTACC
                      ************************************  *      *****  *****
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Dolphin-Tas2r39p      TGA--GAGTGGACTCTATGA
Cafa-T2R39            TAAAAGAGCAGACTCCATGA
                      * *  ***  ***** ****
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Tas2r60 [Bota-Tas2r60 (XM_002687121)

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Dolphin-Tas2r60p      ATGAGTGGAGAGGACGTGGTTCCAGGACCTCAGTTGGCTGATAAGATAGCCTTTATCTTT
Bota-Tas2r60          ATGAACGGAGGGGACATGGTTCCTGGACCTCAGTTGGTTGATAAGACAGCCCTTGTCTGC
                      ****  **** **** ******* ************ ******** **** ** ***

Dolphin-Tas2r60p      GCTATCATTTTATTCCTTTTGTGCTTGGTGGCAGTGGTGGGTAATGGCTTAATCACCATG
Bota-Tas2r60          ATTATTATTTTATTCCTTTTGTTCCTGGTGGCATTGGTAGGTAATGGCTTAATCATCATG
                        *** *************** * ******** **** *************** ****

Dolphin-Tas2r60p      GCACTGGGCATGGAGTGGTTGCTGCAGAGAACTTTGTCACCCTGCAATAAGTTATTGGTC
Bota-Tas2r60          GCACTGGGCAGCGAGTGGCTGCTGCAGAGAACGTTGTCGCCTTGCGATAAGTTATTGGTC
                      **********  ****** ************* ***** ** *** **************

Dolphin-Tas2r60p      AGCCTGGGAGCCCCTAGCTTCTATCTGTGATGGGTGGTGAT----AAGAACATTTATATT
Bota-Tas2r60          AGCCTGGGGGCCTCTCGCTTCTGTCTGCAATGGGTGGTGATTAGTAAGAACATTTACATT
                      ******** *** ** ****** ****  ************     *********** ***

Dolphin-Tas2r60p      TTCCTGAATCCAATAGCCTTCCCATACAACC--GTATTCCAGTTCCTAGCCTTTCAGTGG
Bota-Tas2r60          TTCCTGAATCCCATGGCCTTCCCATACAACCCCGTGTTCCAGCTCCTGGCCGTTCAGTGG
                      *********** ** ***************  ** ****** **** *** *********

Dolphin-Tas2r60p      GACTTCTTGAATGCTGTCACGTTATGGTTCTCCACCTGGCTCAGTGTCTTCTCCTGTGTG
Bota-Tas2r60          GACTTCTGGAACTCTGCAACACTGTGGTTCTCCACCTGGCTCAGTGTCTTCTACTGTGTG
                      ******* ***  ***  **  * ***************************** *******

Dolphin-Tas2r60p      AAAATCGCAACCTTCACCCACCCTGTCTTCCTCTGGCTAAAGCAGATAGTGTCTGCGTTG
Bota-Tas2r60          AAAATTGCCACCTTCACCCACCCCGTCTTCCTCTGGCTAAAGCGGAATGTATCTGGGTTG
                      ***** ** ************** ******************* **  ** **** ****

Dolphin-Tas2r60p      GTTCCATGGGTGCTGCTCAGCTCCGTGGGGGTCTCCAGCTTCAGCACCATTCTAGTTTTC
Bota-Tas2r60          GTTCCTTGGATGCTACTCAGCTCTCTGGGGTTCTCTACCTTTACCACCATTCTATTTTTC
                      ***** *** **** ********  ***** **** * *** * ********** *****

Dolphin-Tas2r60p      ATAGGCAACCGGAGAATAGATCAGAACTATTTAAAGAGGGTTCTGCAACCTTGGAATGTC
Bota-Tas2r60          ATAGGCAACCACAGAATGTATCAGAACTATATAAAGAAGGGTCTGCAACCTTGGAATGTC
                      **********  *****  ************ ****** ** ******************

Dolphin-Tas2r60p      GCTGGGAATGCTGTGAGAACATATGAGAGACTCTGCTTCTTCCCTTTGAAAATTGTTACC
Bota-Tas2r60          ACTAGGAATGCTGTGAGAACATATGAGAGGTTCTGCCTCTTCCCTTTGAGAATTGTTACC
                       ** ************************  ***** ************ **********

Dolphin-Tas2r60p      TGGACAGTCCCTACTGTTGTCTTCATCGCTGGCATGGCTTTGCTCATTCCACCTCTGGGA
Bota-Tas2r60          TGGACCGTCCCTACTGTTATCTTTATTGTGGGCACAGTTTTGCTCATTACATCTCTGGGA
                      ***** ************ **** ** *  ****  * ********** ** ********

Dolphin-Tas2r60p      AGACACACCAAGCAGGTCTCCCTGTCCATCTCAGGCTCTCACGATCCCAGCACCCAGGCA
Bota-Tas2r60          AGACACACCAAGAAGGTCTTCTTCTCCATCTCAGGCTTTCACAGTTCCAGTGCCCAGGCA
                      ************ ****** * * ************* ****  * ****  ********

Dolphin-Tas2r60p      CACATCAAGGCTCTC---------ATCTCCTTTGCTGTCCTCTTTGTTTCCTATTTTCTG
Bota-Tas2r60          CACATCAAGGCTCTCTTGGCTTTTATCTCCTTTGCTATCTTCCTCACTTCCTCTTTTCTG
                      ***************         ************ ** ** *   ***** *******

Dolphin-Tas2r60p      TCACTGGTGCTCAGTGCCTCAGGTGTGTTTCCATCACGGGAATTCTG-CACTGGGTGTGG
Bota-Tas2r60          TCACTGGTTCTCACTGCCTCAGGTATGTTTCCTTTTGGGGAATTCCGGTTCTGGATATGG
                      ******** **** ********** ******* *   ******** *   **** * ***

Dolphin-Tas2r60p      CAGGCTGTGATTTATCTGTGCACAGTAGTCCGCCCCATTGTTCTTTTCTTGAGTAACAGC
Bota-Tas2r60          CAGACTGTGATTTATCTGGGTACAGCAATCCACCCCCTTATTCTTCTCTTGAGTAACCGC
                      *** ************** * **** * *** **** ** ***** *********** **

Dolphin-Tas2r60p      AGACCGAGAGCTGTGCTAGAGAGGGGCTGCTCCTCAG-GCATGGGGCATCTTGA
Bota-Tas2r60          AGGCTGAGAGCTCTGCTAGGGAGGGGCTGCTCCTCAGCACATGGGGCATCTTGA
                      ** * ******* ****** *****************  ***************
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Tas2r62a [Cafa-T2R62p (AB249701)]

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Dolphin-Tas2r62ap      ATGCCCTCCTCACCCATGTTGATCTTCATGGTCATCTTTTTCCTGGAGTTGCTGGCTGCC
Cafa-T2R62p            ATGTCCTCCTCACCTACATTGATCTTCATGGTCATCTTCTTCCTGGAGTCGTTGGCTGCA
                       *** ********** *  ******************** ********** * *******

Dolphin-Tas2r62ap      ATGCTGCAGAATGGCTTCATAGTTACTGTGTTGATCAGGGAGTGGGTACAATGCCAGACA
Cafa-T2R62p            ATGCTGCAGAATGGCTTCATGGTTACTGTGTTGGGCAGGGAGTGGGTGCGACGCCGGACG
                       ******************** ************  ************ * * *** ***

Dolphin-Tas2r62ap      CTGCTTGCAGGCGACATGATTGCGGCGGCCTCCCTGGCCGCCTCCCGGTTCTGACTGCAT
Cafa-T2R62p            CTGCCTGCAGGTGACATGATTGTGGC---CTCCCTGGCTGCCTCCTGGTTCTGCCTGCAT
                       **** ****** ********** ***   ********* ****** ******* ******

Dolphin-Tas2r62ap      GGGATGGCCCTCCTGAACAACCTCGTGGCCTTCTTTGGTTTTGGTTTCAGAATTTACTAT
Cafa-T2R62p            GGGGTGGCCATCCTGAACAACCTCTTGATCTTCTTTGGTTTTCACTTCGTAAGGGATTAT
                       *** ***** ************** **  *************   ***  **   * ***

Dolphin-Tas2r62ap      TTCAGCATCCCCTAGGACTTCATCAACTCTCTCACTTTCTGGCTTACTGCTTGGCTTGCT
Cafa-T2R62p            TACAACACCCTCTGGCACTTTGTCAACACTCTCACTCTCTGGCTCACTGCCTGGCTTGCT
                       * ** ** ** ** * ****  ***** ******** ******* ***** *********

Dolphin-Tas2r62ap      ACATTCTACTGTGTGAAGATCTCATTCTTCTCTCACCCCATCTTCTTTGGGCTGAAGTTG
Cafa-T2R62p            GTCTTCTACTGTGTGAAGGTCGCCGTCTTCTCTCACCCGGTCTTCTTCTGGCTGAAATGG
                          *************** ** *  *************  *******  ******* * *

Dolphin-Tas2r62ap      AGGATTTCTCGGTCAGTGCCCAGGCTGCTGCTGGGCTCCCTGATCTTATCTGCTCTGGTA
Cafa-T2R62p            AGGATTTCTCGGTTAGTGCCCAGGCTGCTGCTGGGCTCCCTGGTCTTAGTTGGCCTGACA
                       ************* ***************************** *****  **  ***  *

Dolphin-Tas2r62ap      GCCATCCCGTTAGACACTGGGAACACAATTCGTGTGCGGATGGTTGCTGCCCAGAGTTCC
Cafa-T2R62p            GTCATCTCATCAGCCATTGTGACTGGAATTCTGAAACAGATGATTGCCTCCAAGAGTTCC
                       * **** * * ** ** ** **    *****     * **** ****  ** ********

Dolphin-Tas2r62ap      CATGGAAACAGCACCCTGGCTGGTAGAACACAGACTGTCTCTTTGTACTTTTTTCTACCT
Cafa-T2R62p            CAAGGAAACAGCACCTGGGCTGAGAGAGTACAGGCCTTCTATAGGTCTTTTCAAATATTT
                       ** ************  *****  ***  **** *  *** *  **  ***    **  *

Dolphin-Tas2r62ap      CGTGTAATTATTATGCGGTCAATTCCATTTCTCCCGTCCCTGGTGTCCACCCTCTCGTGT
Cafa-T2R62p            GATGTAATGCTTATGTGGTCAGTTCCATTCCT--CATGGCTTGTGTCCATGCTCTGCTGG
                         ******  ***** ***** ******* **  * *  ** *******  ****  **

Dolphin-Tas2r62ap      TCTCGCTGCGCCGGCATTTGGGGCAGATGAGGGACCATAGACCTGGCCCCGAGTGATCCC
Cafa-T2R62p            ------------------------------------------------------------

Dolphin-Tas2r62ap      AGCACCTGGGCTCACACCGTGGCCCTGAAGTCACTTGCCTTCTTCCTCACCTTCTACCAT
Cafa-T2R62p            ------------------------------------------------------------

Dolphin-Tas2r62ap      CACGTTACCTGTGCCTGATTATCGTTGTTATAAACATCCTAACCCTCTGGAATCACTGGC
Cafa-T2R62p            ------------------------------------------------------------

Dolphin-Tas2r62ap      GCTGGGCCTGGGAAGTGGTGACCTGTGCAGGCATCTGTCGGCACTCCAGCATCTCGGTGC
Cafa-T2R62p            ------------------------------------------------------------

Dolphin-Tas2r62ap      ACGGCAGCCCCAGGCTGAGAAAGGCCCTGATGACGAGGCCTTGGAGAGCCCTGGGCAAGG
Cafa-T2R62p            ------------------------------------------------------------

Dolphin-Tas2r62ap      AGCAGTTTGTCTCATCAGAGTCAGTAACTGCTGTCACTGAACAAGCCCATGGGTGG
Cafa-T2R62p            ------------------------------------------------------
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Tas2r62b [Cafa-T2R62p (AB 249701)]

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Dolphin-Tas2r62bp      GCGTCCCCCTCACCCACGTGGACCTGCACGGTCACCTTTCTCCTGGAGTCGGTGGCTGCC
Cafa-T2R62p            ATGTCCTCCTCACCTACATTGATCTTCATGGTCATCTTCTTCCTGGAGTCGTTGGCTGCA
                         **** ******* ** * ** ** ** ***** ***  ********** *******

Dolphin-Tas2r62bp      AGGCTGCAGAACGGCCTCACAGTCGTCGTGCTGAGCCGGACTGGGACGCTGGACGCTGCC
Cafa-T2R62p            ATGCTGCAGAATGGCTTCATGGTTACTGTGTTGGGCAGGGAGTGGGTGC-----GACGCC
                       * ********* *** ***  **    *** ** ** **    **  **     *  ***

Dolphin-Tas2r62bp      GGACGCTGTGCGCAGGCGACGTGATTGTGGCCCGCCTGGCCGTCTCCCAGTTCTGTCTGC
Cafa-T2R62p            GGACGCTGCCTGCAGGTGACATGATTGTGGCCTCCCTGGCTGCCTCCTGGTTCTGCCTGC
                       ********   ***** *** ***********  ****** * ****  ****** ****

Dolphin-Tas2r62bp      AAGGGATGGCCCTCCAGCGCAACCTCCTGGCTTCCTTTGGTTTTGGTTCCCAATT---TT
Cafa-T2R62p            ATGGGGTGGCCATCCTGAACAACCTCTTGATCTTCTTTGGTTTTCACTTCGTAAGGGATT
                       * *** ***** *** *  ******* **   * **********   * *  *     **

Dolphin-Tas2r62bp      ATTTCAGCATCTCCTGGAGCTTCATCAACACTCTCACTTTCTGGCCGACCAGCTGGCTTG
Cafa-T2R62p            ATTACAACACCCTCTGGCACTTTGTCAACACTCTCACTCTCTGGCTCACTGCCTGGCTTG
                       *** ** ** *  ****  ***  ************** ******  **   ********

Dolphin-Tas2r62bp      CTGTCTTCTACCGTGTGAAGGTAGCATCCTTCTCTCACCCCATCTTCTTCTGGCTGAAGT
Cafa-T2R62p            CTGTCTTCTACTGTGTGAAGGTCGCCGTCTTCTCTCACCCGGTCTTCTTCTGGCTGAAAT
                       ********** ********** **   ************  ********************

Dolphin-Tas2r62bp      GCAGGATTTCTCGGTCAGTGCCCGGGCTGCTGCTGGGCTCCCTGATCCTGTCTGGTCTGA
Cafa-T2R62p            GGAGGATTTCTCGGTTAGTGCCCAGGCTGCTGCTGGGCTCCCTGGTCTTAGTTGGCCTGA
                       * ************* ******* ******************** ** *   *** ****

Dolphin-Tas2r62bp      CA-TCATC--AGCAGCCACCGGGAAGTCAATTCTTGTGCAGATGGTTGCCACCCAGGGTT
Cafa-T2R62p            CAGTCATCTCATCAGCCATTGTGACTGGAATTCTGAAACAGATGATTGCCTCCAAGAGTT
                       ** *****  * ******  * **    ******    ****** ***** ** ** ***

Dolphin-Tas2r62bp      CCCATGGCAACGACACCCTCACGCAATTATCATGCGGTCAGTTCCATTCCTCCTGTTCCT
Cafa-T2R62p            CCCAAGGAAACAGCACCTGGGCTGAGAGAGTACA-GGCC--TTCTATAGGTCT--TTTCA
                       **** ** ***  ****    *  *   *  *  ** *  *** **   **   ** * *

Dolphin-Tas2r62bp      GGTGTCCACCCTCTCGCTCGTGTTCTCGCTGCACCGGCACTTGGGGCAGATGAGGGACCA
Cafa-T2R62p            AATATTTGATGTAATGCTTATGTGGTCA--GTTCCATTCCTCATGGCTTGTG------TC
                         * *      *   ***  ***  **   *  **    **   ***   **

Dolphin-Tas2r62bp      CAGACCCGGCCCGAGTGATCCCAGCACCCGGGCTCACACCGTGGCCCGGAAGTCACTTGC
Cafa-T2R62p            CATGCTCTGCTGG----------------------------------------------
                       **  * * **  *

Dolphin-Tas2r62bp      CTTCTTTTTCATCCTATTTCCTGTGCCTGAGAATTGTCCTTGTGAACATCCCAACCCTCC
Cafa-T2R62p            ------------------------------------------------------------

Dolphin-Tas2r62bp      GGAAGCACCGGCACTGGGAAGCGGTGACCTACGCCGGCATCTGTCTGCACGCCAGCATCT
Cafa-T2R62p            ------------------------------------------------------------

Dolphin-Tas2r62bp      TGGTGCACAGCAGCCCCAAGCCGAGAAGGGCCCCAAAGAAGAGGCTTCGGCGAGCCCTGG
Cafa-T2R62p            ------------------------------------------------------------

Dolphin-Tas2r62bp      GCAAGGAGCAGTTTGTATTGAGTTACCGGTATCAATGA
Cafa-T2R62p            ---------------------------------------
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