SANTA CRUZ BIOTECHNOLOGY, INC.

Olfr68 siRNA (m): sc-151044

BACKGROUND

Olfactory receptors are G protein-coupled receptors that localize to the cilia of olfactory sensory neurons where they display affinity for and bind to a variety of odor molecules. The binding of olfactory receptor proteins to odor molecules triggers a signal transduction that propagates nerve impulses throughout the body, ultimately leading to transmission of the signal to the brain and the subsequent perception of smell.The olfactory receptor proteins are members of the largest family of G protein-coupled receptors (GPCR) arising from single coding-exon genes. Olfactory receptors share a 7-trans-membrane domain structure with many neurotransmitter and hormone receptors and are responsible for the recognition and G protein-mediated transduction of odorant signals. The olfactory receptor gene family is the largest in the genome. The gene encoding Olfr68 (olfactory receptor 68), also known as 3'(b)2, 3'β2 or MOR22-3, maps to mouse chromosome 7.

REFERENCES

1. Sullivan, S.L., et al. 1994. Odorant receptor diversity and patterned gene expression in the mammalian olfactory epithelium. Prog. Clin. Biol. Res. 390: 75-84.
2. Sullivan, S.L. and Dryer, L. 1996. Information processing in mammalian olfactory system. J. Neurobiol. 30: 20-36.
3. Mori, K., et al. 1999. The olfactory bulb: coding and processing of odor molecule information. Science 286: 711-715.
4. Laurent, G. 1999. A systems perspective on early olfactory coding. Science 286: 723-728.
5. Hoppe, R., et al. 2003. The clustered olfactory receptor gene family 262: genomic organization, promotor elements, and interacting transcription factors. Genome Res. 13: 2674-2685.
6. Nedelec, S., et al. 2005. Morphological and molecular features of the mammalian olfactory sensory neuron axons: what makes these axons so special? J. Neurocytol. 34: 49-64.
7. Hoppe, R., et al. 2006. Promoter motifs of olfactory receptor genes expressed in distinct topographic patterns. Genomics 87: 711-723.
8. Gloriam, D.E., et al. 2007. The G protein-coupled receptor subset of the rat genome. BMC Genomics 8: 338.
9. Spehr, M. and Munger, S.D. 2009. Olfactory receptors: G protein-coupled receptors and beyond. J. Neurochem. 109: 1570-1583.

CHROMOSOMAL LOCATION

Genetic locus: Olfr68 (mouse) mapping to 7 E3.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

Olfr68 siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Olfr68 shRNA Plasmid (m): sc-151044-SH and Olfr68 shRNA (m) Lentiviral Particles: sc-151044-V as alternate gene silencing products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Olfr68 siRNA (m) is recommended for the inhibition of Olfr68 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Olfr68 gene expression knockdown using RT-PCR Primer: Olfr68 (m)-PR: sc-151044-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.