SANTA CRUZ BIOTECHNOLOGY, INC.

OR6C70 siRNA (h): sc-95740

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 genes encoding olfactory receptors comprise the largest family in the human genome. 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. OR6C70 (olfactory receptor 6C70) is a 312 amino acid multi-pass membrane protein that functions as an odorant receptor and, like other members of the olfactory receptor family, binds specific odor molecules and participates in propagating the olfactory response.

REFERENCES

1. Malnic, B., et al. 1999. Combinatorial receptor codes for odors. Cell 96: 713-723.
2. Glusman, G., et al. 2000. The olfactory receptor gene superfamily: data mining, classification, and nomenclature. Mamm. Genome 11: 1016-1023.
3. Hoppe, R., et al. 2003. Organization and evolutionary relatedness of OR37 olfactory receptor genes in mouse and human. Genomics 82: 355-364.
4. Gaillard, I., et al. 2004. Olfactory receptors. Cell. Mol. Life Sci. 61: 456-469.
5. Buck, L.B. 2004. Olfactory receptors and odor coding in mammals. Nutr. Rev. 62: S184-S188.
6. Malnic, B., et al. 2004. The human olfactory receptor gene family. Proc. Natl. Acad. Sci. USA 101: 2584-2589.
7. Khafizov, K., et al. 2007. Ligand specificity of odorant receptors. J. Mol. Model. 13: 401-409.
8. Rinaldi, A. 2007. The scent of life. The exquisite complexity of the sense of smell in animals and humans. EMBO Rep. 8: 629-633.

CHROMOSOMAL LOCATION

Genetic locus: OR6C70 (human) mapping to 12q13.2.

PRODUCT

OR6C70 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs 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 OR6C70 shRNA Plasmid (h): sc-95740-SH and OR6C70 shRNA (h) Lentiviral Particles: sc-95740-V as alternate gene silencing products.

For independent verification of OR6C70 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-95740A, sc-95740B and sc-95740C.

PROTOCOLS

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

OR6C70 siRNA (h) is recommended for the inhibition of OR6C70 expression in human 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 OR6C70 gene expression knockdown using RT-PCR Primer: OR6C70 (h)-PR: sc-95740-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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