



# OR12D3 siRNA (m): sc-106328

## 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. OR12D3 (olfactory receptor 12D3) is a 316 amino acid protein. The gene encoding OR12D3 maps to human chromosome 6p22.1.

## REFERENCES

1. Malnic, B., Hirono, J., Sato, T. and Buck, L.B. 1999. Combinatorial receptor codes for odors. *Cell* 96: 713-723.
2. Glusman, G., Bahar, A., Sharon, D., Pilpel, Y., White, J. and Lancet, D. 2000. The olfactory receptor gene superfamily: data mining, classification, and nomenclature. *Mamm. Genome* 11: 1016-1023.
3. Gaillard, I., Rouquier, S. and Giorgi, D. 2004. Olfactory receptors. *Cell. Mol. Life Sci.* 61: 456-469.
4. Buck, L.B. 2004. Olfactory receptors and odor coding in mammals. *Nutr. Rev.* 62: S184-S188.
5. Malnic, B., Godfrey, P.A. and Buck, L.B. 2004. The human olfactory receptor gene family. *Proc. Natl. Acad. Sci. USA* 101: 2584-2589.
6. Khafizov, K., Anselmi, C., Menini, A. and Carloni, P. 2007. Ligand specificity of odorant receptors. *J. Mol. Model.* 13: 401-409.
7. 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: Olfr109 (mouse) mapping to 17 B1.

## PRODUCT

OR12D3 siRNA (m) 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see OR12D3 shRNA Plasmid (m): sc-106328-SH and OR12D3 shRNA (m) Lentiviral Particles: sc-106328-V as alternate gene silencing products.

For independent verification of OR12D3 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-106328A, sc-106328B and sc-106328C.

## PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

OR12D3 siRNA (m) is recommended for the inhibition of OR12D3 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  $\mu$ M in 66  $\mu$ l. 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 OR12D3 gene expression knockdown using RT-PCR Primer: OR12D3 (m)-PR: sc-106328-PR (20  $\mu$ l). 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.