SANTA CRUZ BIOTECHNOLOGY, INC.

OR1D2 siRNA (h): sc-93893

BACKGROUND

Olfactory receptors interact with odorant molecules in the nose to initiate a neuronal response that leads to the perception of smell. While they share a seven transmembrane domain structure with many neurotransmitter and hormone receptors, olfactory receptors are responsible for the recognition and transduction of odorant signals. The olfactory receptor gene family is the largest in the genome. OR1D2 (olfactory receptor 1D2), also known as OR17-6 or OLFR1, is a 312 amino acid multi-pass membrane protein that belongs to the G protein-coupled receptor 1 family. Aside from functioning as an odorant receptor, OR1D2 is involved in sperm chemotaxis. OR1D2 is expressed in olfactory epithelium and testis. The gene that encodes OR1D2 consists of nearly 1,000 bases and maps to human chromosome 17p13.3.

REFERENCES

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6. Spehr, M., Gisselmann, G., Poplawski, A., Riffell, J.A., Wetzel, C.H., Zimmer, R.K. and Hatt, H. 2003. Identification of a testicular odorant receptor mediating human sperm chemotaxis. Science 299: 2054-2058.
7. Spehr, M., Schwane, K., Heilmann, S., Gisselmann, G., Hummel, T. and Hatt, H. 2004. Dual capacity of a human olfactory receptor. Curr. Biol. 14: R832-R833.
8. Malnic, B., Godfrey, P.A. and Buck, L.B. 2004. The human olfactory receptor gene family. Proc. Natl. Acad. Sci. USA 101: 2584-2589.

CHROMOSOMAL LOCATION

Genetic locus: OR1D2 (human) mapping to 17p13.3.

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

OR1D2 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 OR1D2 shRNA Plasmid (h): sc-93893-SH and OR1D2 shRNA (h) Lentiviral Particles: sc-93893-V as alternate gene silencing products.

For independent verification of OR1D2 (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-93893A, sc-93893B and sc-93893C.

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

OR1D2 siRNA (h) is recommended for the inhibition of OR1D2 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 OR1D2 gene expression knockdown using RT-PCR Primer: OR1D2 (h)-PR: sc-93893-PR (20 µl, 594 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.