SANTA CRUZ BIOTECHNOLOGY, INC.

# OMP siRNA (h): sc-61260

## BACKGROUND

The olfactory marker protein (OMP) has been shown to interact with the brain expressed X-linked genes Bex1 and Bex2. It is expressed in the cytoplasm of olfactory chemosensory neurons in the nasal neuroepithelium. OMP expression is a sign of mature vertebrate olfactory receptor neurons (ORNs). OMP RNA is synthesized in neuronal cell bodies in the epithelium and is then transported into axons and terminals in the olfactory bulb to be translated. OMP may have a modulatory role in the odor detection/signal transduction cascade. In fetal olfactory epithelial cells, OMP is also a potent enhancer of mitosis, and it promotes an increase in uptake of tritiated thymidine in liver. Deletion of the OMP gene causes a compromised ability to respond to odor stimuli and an elevation in behavioral threshold sensitivity.

## REFERENCES


1. Buiakova, O.I., et al. 1996. Olfactory marker protein (OMP) gene deletion causes altered physiological activity of olfactory sensory neurons. Proc. Natl. Acad. Sci. USA 93: 9858-9863.
2. Farbman, A.I., et al. 2000. TGFα and olfactory marker protein enhance mitosis in rat olfactory epithelium *in vivo*. Neuroreport 11: 3655-3658.
3. Behrens, M., et al. 2003. Identification of members of the Bex gene family as olfactory marker protein (OMP) binding partners. J. Neurochem. 86: 1289-1296.
4. Hayward, M.D., et al. 2004. Expression of Bcl-2 extends the survival of olfactory receptor neurons in the absence of an olfactory bulb. Brain Res. Mol. Brain Res. 132: 221-234.
5. Gitti, R.K., et al. 2005. Backbone dynamics of the olfactory marker protein as studied by 15N NMR relaxation measurements. Biochemistry 44: 9673-9679.
6. Moriya-Ito, K., et al. 2005. Maturation of vomeronasal receptor neurons *in vitro* by coculture with accessory olfactory bulb neurons. Chem. Senses 30: 111-119.
7. Nathan, B.P., et al. 2005. Delayed olfactory nerve regeneration in ApoE-deficient mice. Brain Res. 1041: 87-94.
8. Waguespack, A.M., et al. 2005. Naris occlusion alters olfactory marker protein immunoreactivity in olfactory epithelium. Brain Res. 1044: 1-7.
9. St John, J.A., et al. 2005. Olfactory marker protein modulates primary olfactory axon overshooting in the olfactory bulb. J. Comp. Neurol. 488: 61-69.


## CHROMOSOMAL LOCATION

Genetic locus: OMP (human) mapping to 11q13.5.

## 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

OMP siRNA (h) is a pool of 2 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 OMP shRNA Plasmid (h): sc-61260-SH and OMP shRNA (h) Lentiviral Particles: sc-61260-V as alternate gene silencing products.

For independent verification of OMP (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-61260A and sc-61260B.

## 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

OMP siRNA (h) is recommended for the inhibition of OMP 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.

## GENE EXPRESSION MONITORING

OMP (B-6): sc-365818 is recommended as a control antibody for monitoring of OMP gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.