

OLFM1 siRNA (h): sc-92680

BACKGROUND

The Olfactomedin family comprises a diverse group of secreted glycoproteins, which includes OLFM1 (Noelin-1), OLFM2 (Noelin-2), OLFM3 (Noelin-3), OLFM4 (Noelin-4), tiarin, pancortin, gliomedin and myocilin. These proteins are implicated in the development of the nervous system. Specifically, OLFM1 and OLFM2 expression is observed in the neural plate and neural crest, as well as in the cranial ganglia in mouse at E8-10, and later in brain tissue and in the zone of polarizing activity in the limb. Overexpression of OLFM1 causes an excess of neural crest emigrations and prolonged neural crest production. OLFM2 participates in the regulation of the development of the anterior nervous system. An Arg144Gln mutation in OLFM2 has been implicated as a possible cause for open-angle glaucoma (OAG).

REFERENCES

1. Barembaum, M., Moreno, T.A., LaBonne, C., Sechrist, J. and Bronner-Fraser, M. 2000. Noelin-1 is a secreted glycoprotein involved in generation of the neural crest. *Nat. Cell Biol.* 2: 219-225.
2. Bronner-Fraser, M. 2002. Molecular analysis of neural crest formation. *J. Physiol. Paris.* 96: 3-8.
3. Moreno, T.A. and Bronner-Fraser, M. 2002. Neural expression of mouse Noelin-1/2 and comparison with other vertebrates. *Mech. Dev.* 119: 121-125.
4. Mukhopadhyay, A., Talukdar, S., Bhattacharjee, A. and Ray, K. 2004. Bioinformatic approaches for identification and characterization of olfactomedin related genes with a potential role in pathogenesis of ocular disorders. *Mol. Vis.* 10: 304-314.
5. Moreno, T.A. and Bronner-Fraser, M. 2005. Noelins modulate the timing of neuronal differentiation during development. *Dev. Biol.* 288: 434-447.
6. Funayama, T., Mashima, Y., Ohtake, Y., Ishikawa, K., Fuse, N., Yasuda, N., Fukuchi, T., Murakami, A., Hotta, Y. and Shimada, N. 2006. SNPs and interaction analyses of noelin 2, myocilin, and optineurin genes in Japanese patients with open-angle glaucoma. *Invest. Ophthalmol. Vis. Sci.* 47: 5368-5375.
7. Sakuragi, M., Sasai, N., Ikeya, M., Kawada, M., Onai, T., Katahira, T., Nakamura, H. and Sasai, Y. 2006. Functional analysis of chick ONT1 reveals distinguishable activities among olfactomedin-related signaling factors. *Mech. Dev.* 123: 114-123.
8. Lee, J.A., Anholt, R.R. and Cole, G.J. 2008. Olfactomedin-2 mediates development of the anterior central nervous system and head structures in zebrafish. *Mech. Dev.* 125: 167-181.

CHROMOSOMAL LOCATION

Genetic locus: OLFM1 (human) mapping to 9q34.3.

PROTOCOLS

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

PRODUCT

OLFM1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see OLFM1 shRNA Plasmid (h): sc-92680-SH and OLFM1 shRNA (h) Lentiviral Particles: sc-92680-V as alternate gene silencing products.

For independent verification of OLFM1 (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-92680A and sc-92680B.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

OLFM1 siRNA (h) is recommended for the inhibition of OLFM1 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 μ M in 66 μ 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.

RESEARCH USE

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