



OLFML2B siRNA (m): sc-150197

BACKGROUND

OLFML2B (olfactomedin-like protein 2B), also known as photomedin-2, is a 750 amino acid secreted protein that contains one olfactomedin-like domain and exists as two alternatively spliced isoforms. OLFML2B can form a homodimer and is known to bind heparin and chondroitin sulfate E. Expressed in adult retina, OLFML2B is O-glycosylated and N-glycosylated during post-translational modification. The gene encoding OLFML2B maps to human chromosome 1, which includes over 3,000 genes and comprises 8% of the human genome. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

REFERENCES

1. Eudy, J.D., et al. 1998. Mutation of a gene encoding a protein with extracellular matrix motifs in Usher syndrome type IIa. *Science* 280: 1753-1757.
2. Lau, E.K., et al. 1999. Two novel polymorphic sequences in the glucocerebrosidase gene region enhance mutational screening and founder effect studies of patients with Gaucher disease. *Hum. Genet.* 104: 293-300.
3. Plasilova, M., et al. 2004. Exclusion of an extracolonic disease modifier locus on chromosome 1p33-36 in a large Swiss familial adenomatous polyposis kindred. *Eur. J. Hum. Genet.* 12: 365-371.
4. Betarbet, R., et al. 2008. Fas-associated factor 1 and Parkinson's disease. *Neurobiol. Dis.* 31: 309-315.
5. Yurov, Y.B., et al. 2008. The schizophrenia brain exhibits low-level aneuploidy involving chromosome 1. *Schizophr. Res.* 98: 139-147.
6. Gratacòs, M., et al. 2009. Identification of new putative susceptibility genes for several psychiatric disorders by association analysis of regulatory and non-synonymous SNPs of 306 genes involved in neurotransmission and neurodevelopment. *Am. J. Med. Genet. B, Neuropsychiatr. Genet.* 150B: 808-816.
7. Balcáková, J., et al. 2009. Gain of chromosome arm 1q in patients in relapse and progression of multiple myeloma. *Cancer Genet. Cytogenet.* 192: 68-72.
8. Yokoi, T., et al. 2009. Analysis of the vitreous membrane in a case of type 1 Stickler syndrome. *Graefes Arch. Clin. Exp. Ophthalmol.* 247: 715-718.
9. Tomarev, S.I. and Nakaya, N. 2009. Olfactomedin domain-containing proteins: possible mechanisms of action and functions in normal development and pathology. *Mol. Neurobiol.* 40: 122-138.

CHROMOSOMAL LOCATION

Genetic locus: Olfml2b (mouse) mapping to 1 H3.

PROTOCOLS

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

PRODUCT

OLFML2B 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see OLFML2B shRNA Plasmid (m): sc-150197-SH and OLFML2B shRNA (m) Lentiviral Particles: sc-150197-V as alternate gene silencing products.

For independent verification of OLFML2B (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-150197A, sc-150197B and sc-150197C.

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

OLFML2B siRNA (m) is recommended for the inhibition of OLFML2B 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor OLFML2B gene expression knockdown using RT-PCR Primer: OLFML2B (m)-PR: sc-150197-PR (20 μ 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.