



ORP-5 siRNA (m): sc-151321

BACKGROUND

Members of the oxysterol-binding protein (OSBP) family function as intracellular lipid receptors. OSBPs are involved in lipid metabolism and signal transduction, as well as vesicle transport, and can translocate to the periphery of Golgi membranes when they are bound to oxysterols. ORPs (OSBP-related proteins) belong to a subfamily of OSBPs and consists of ORP-1 through ORP-11. The ORPs have a highly conserved OSBP-type sterol-binding region and a pleckstrin homology (PH) domain. They strongly bind to phosphatidic acid and weakly bind to phosphatidylinositol 3-phosphate. ORP-5, also designated OBPH1 (oxysterol-binding protein homolog 1) or OSBPL5 (oxysterol binding protein-like 5), is a 879 amino acid protein that belongs to the OSBP family and is ubiquitously expressed. Containing one PH domain, ORP-5 is encoded by a gene that maps to human chromosome 11p15.4 and mouse chromosome 7 F5.

REFERENCES

1. Laitinen, S., Olkkonen, V.M., Ehnholm, C. and Ikonen, E. 1999. Family of human oxysterol binding protein (OSBP) homologues. A novel member implicated in brain sterol metabolism. *J. Lipid Res.* 40: 2204-2211.
2. Jaworski, C.J., Moreira, E., Li, A., Lee, R. and Rodriguez, I.R. 2001. A family of 12 human genes containing oxysterol-binding domains. *Genomics* 78: 185-196.
3. Lehto, M., Laitinen, S., Chinetti, G., Johansson, M., Ehnholm, C., Staels, B., Ikonen, E. and Olkkonen, V.M. 2001. The OSBP-related protein family in humans. *J. Lipid Res.* 42: 1203-1213.
4. Anniss, A.M., Apostolopoulos, J., Dworkin, S., Purton, L.E. and Sparrow, R.L. 2002. An oxysterol-binding protein family identified in the mouse. *DNA Cell Biol.* 21: 571-580.
5. Higashimoto, K., Soejima, H., Yatsuki, H., Joh, K., Uchiyama, M., Obata, Y., Ono, R., Wang, Y., Xin, Z., Zhu, X., Masuko, S., Ishino, F., Hatada, I., Jinno, Y., Iwasaka, T., Katsuki, T. and Mukai, T. 2002. Characterization and imprinting status of OBPH1/Obph1 gene: implications for an extended imprinting domain in human and mouse. *Genomics* 80: 575-584.
6. Lehto, M. and Olkkonen, V.M. 2003. The OSBP-related proteins: a novel protein family involved in vesicle transport, cellular lipid metabolism, and cell signalling. *Biochim. Biophys. Acta* 1631: 1-11.
7. Olkkonen, V.M. and Levine, T.P. 2004. Oxysterol binding proteins: in more than one place at one time? *Biochem. Cell Biol.* 82: 87-98.
8. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 606733. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
9. Frost, J.M., Udayashankar, R., Moore, H.D. and Moore, G.E. 2010. Telomeric NAP1L4 and OSBPL5 of the KCNQ1 cluster, and the DECORIN gene are not imprinted in human trophoblast stem cells. *PLoS ONE* 5: e11595.

CHROMOSOMAL LOCATION

Genetic locus: Osbp15 (mouse) mapping to 7 F5.

RESEARCH USE

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

PRODUCT

ORP-5 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 ORP-5 shRNA Plasmid (m): sc-151321-SH and ORP-5 shRNA (m) Lentiviral Particles: sc-151321-V as alternate gene silencing products.

For independent verification of ORP-5 (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-151321A, sc-151321B and sc-151321C.

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

ORP-5 siRNA (m) is recommended for the inhibition of ORP-5 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 ORP-5 gene expression knockdown using RT-PCR Primer: ORP-5 (m)-PR: sc-151321-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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