

ORP-3 siRNA (m): sc-151320

BACKGROUND

ORP-3 (OSBP-related protein 3), also known as OSBPL3 (oxysterol binding protein-like 3) or OSBP3, is an 887 amino acid protein that contains one PH domain and is thought to be involved in Actin cytoskeletal control, as well as in cell polarity and cell adhesion. Belonging to the OSBP family, ORP-3 exists as eight alternatively spliced isoforms, designated 1a-1d and 2a-2d, all of which are expressed in colon, lung, spleen, brain, thyroid, bone marrow and skeletal muscle, but are not present in liver and heart tissue. The gene encoding ORP-3 maps to human chromosome 7p15.3, which houses over 1,000 genes and comprises nearly 5% of the human genome. Defects in some of the genes localized to chromosome 7 have been linked to osteogenesis imperfecta, Williams-Beuren syndrome, Pendred syndrome, lissencephaly, citrullinemia and Shwachman-Diamond syndrome.

REFERENCES

1. Ishikawa, K., et al. 1998. Prediction of the coding sequences of unidentified human genes. X. The complete sequences of 100 new cDNA clones from brain which can code for large proteins *in vitro*. DNA Res. 5: 169-176.
2. Laitinen, S., et al. 1999. Family of human oxysterol binding protein (OSBP) homologues. A novel member implicated in brain sterol metabolism. J. Lipid Res. 40: 2204-2211.
3. Jaworski, C.J., et al. 2001. A family of 12 human genes containing oxysterol-binding domains. Genomics 78: 185-196.
4. Lehto, M., et al. 2001. The OSBP-related protein family in humans. J. Lipid Res. 42: 1203-1213.
5. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606732. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Collier, F.M., et al. 2003. ORP3 splice variants and their expression in human tissues and hematopoietic cells. DNA Cell Biol. 22: 1-9.
7. Lehto, M., et al. 2004. Subfamily III of mammalian oxysterol-binding protein (OSBP) homologues: the expression and intracellular localization of ORP3, ORP6, and ORP7. Cell Tissue Res. 315: 39-57.

CHROMOSOMAL LOCATION

Genetic locus: Osbpl3 (mouse) mapping to 6 B2.3.

PRODUCT

ORP-3 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-3 shRNA Plasmid (m): sc-151320-SH and ORP-3 shRNA (m) Lentiviral Particles: sc-151320-V as alternate gene silencing products.

For independent verification of ORP-3 (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-151320A, sc-151320B and sc-151320C.

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-3 siRNA (m) is recommended for the inhibition of ORP-3 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.

GENE EXPRESSION MONITORING

ORP-3 (G-5): sc-514097 is recommended as a control antibody for monitoring of ORP-3 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ORP-3 gene expression knockdown using RT-PCR Primer: ORP-3 (m)-PR: sc-151320-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.

PROTOCOLS

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