



Makorin-3 siRNA (h): sc-62588

BACKGROUND

The Makorins are a family of proteins containing two to four C3H zinc fingers that may confer RNA-binding. In addition, they contain C3HC4 RING zinc finger that allows them to function as E3 ubiquitin ligases. Makorin-3, also known as MKRN3, D15S9, RNF63, ZFP127 or ZNF127, is a 507 amino acid protein that is ubiquitously expressed and contains one RING-type zinc finger and three C3H1-type zinc finger through which it may convey E3 ubiquitin ligase activity. The gene encoding Makorin-3 maps to human chromosome 15, which houses over 700 genes and comprises nearly 3% of the human genome. Angelman syndrome, Prader-Willi syndrome, Tay-Sachs disease and Marfan syndrome are all associated with defects in chromosome 15-localized genes.

REFERENCES

1. Nicholls, R.D., et al. 1998. Imprinting in Prader-Willi and Angelman syndromes. *Trends Genet.* 14: 194-200.
2. Jong, M.T., et al. 1999. A novel imprinted gene, encoding a RING zinc-finger protein, and overlapping antisense transcript in the Prader-Willi syndrome critical region. *Hum. Mol. Genet.* 8: 783-793.
3. Jong, M.T., et al. 1999. Imprinting of a RING zinc-finger encoding gene in the mouse chromosome region homologous to the Prader-Willi syndrome genetic region. *Hum. Mol. Genet.* 8: 795-803.
4. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 603856. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Diene, G., et al. 2007. The Prader-Willi syndrome. *Ann. Endocrinol.* 68: 129-137.
6. Lalande, M. and Calciano, M.A. 2007. Molecular epigenetics of Angelman syndrome. *Cell. Mol. Life Sci.* 64: 947-960.
7. Makoff, A.J. and Flomen, R.H. 2007. Detailed analysis of 15q11-q14 sequence corrects errors and gaps in the public access sequence to fully reveal large segmental duplications at breakpoints for Prader-Willi, Angelman, and inv dup(15) syndromes. *Genome Biol.* 8: R114.

CHROMOSOMAL LOCATION

Genetic locus: MKRN3 (human) mapping to 15q11.2.

PRODUCT

Makorin-3 siRNA (h) 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 Makorin-3 shRNA Plasmid (h): sc-62588-SH and Makorin-3 shRNA (h) Lentiviral Particles: sc-62588-V as alternate gene silencing products.

For independent verification of Makorin-3 (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-62588A, sc-62588B and sc-62588C.

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

Makorin-3 siRNA (h) is recommended for the inhibition of Makorin-3 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Makorin-3 gene expression knockdown using RT-PCR Primer: Makorin-3 (h)-PR: sc-62588-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.