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Rtn-3 siRNA (m): sc-42220

BACKGROUND

The reticulon (Rtn) family consists of four members: Rtn-1 (also designated neuroendocrine-specific protein or NSP), Rtn-2 (also designated NSP-like-1), Rtn-3 (also designated NSP-like-2) and Nogo (also designated Rtn-4A). Reticulon proteins are anchored to the membranes of the endoplasmic reticulum through their common C-terminal regions. Localized on human chromosome 14q23.1, the gene encoding Rtn-1 is expressed as three isoforms: Rtn-1A (NSP-A), Rtn-1B (NSP-B) and Rtn-1C (NSP-C). The gene encoding human Rtn-2 is located on chromosome 19q13.32 and also encodes three isoforms. Rtn-2-A and Rtn-2-C are produced by the use of alternative initiation sites, whereas Rtn-2-B is an alternative splice variant of the Rtn-2-A isoform. Rtn-2-A and Rtn-2-B are highly expressed in brain, while Rtn-2-C is primarily expressed in skeletal muscle. The human Rtn-3 gene is located on chromosome 11q13.1 and is widely expressed, with the highest expression being in brain.

REFERENCES

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3. Geisler, J.G., et al. 1998. Molecular cloning of a novel mouse gene with predominant muscle and neural expression. *Mamm. Genome* 9: 274-282.
4. Roebroek, A.J., et al. 1998. cDNA cloning, genomic organization, and expression of the human RTN2 gene, a member of a gene family encoding reticulons. *Genomics* 51: 98-106.
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6. Moreira, E.F., et al. 1999. Cloning of a novel member of the reticulon gene family (RTN3): gene structure and chromosomal localization to 11q13. *Genomics* 58: 73-81.
7. GrandPre, T., et al. 2000. Identification of the Nogo inhibitor of axon regeneration as a reticulon protein. *Nature* 403: 439-444.

CHROMOSOMAL LOCATION

Genetic locus: Rtn3 (mouse) mapping to 19 A.

PRODUCT

Rtn-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 Rtn-3 shRNA Plasmid (m): sc-42220-SH and Rtn-3 shRNA (m) Lentiviral Particles: sc-42220-V as alternate gene silencing products.

For independent verification of Rtn-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-42220A, sc-42220B and sc-42220C.

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

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

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Rtn-3 gene expression knockdown using RT-PCR Primer: Rtn-3 (m)-PR: sc-42220-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.