SANTA CRUZ BIOTECHNOLOGY, INC.

ROPN1L siRNA (h): sc-91873

BACKGROUND

ROPN1L (Ropporin-1-like protein), also known as rhophilin associated tail protein 1-like, is a 230 amino acid sperm protein that contains one RIIa domain and belongs to the ropporin family. ROPN1L interacts with A-kinase anchoring protein, AKAP3, through the amphipathic helix region of AKAP3. Type II regulatory subunit of cAMP-dependent protein kinase (PKARII) also binds to this helix domain of AKAP3, which allows PKARII to be targeted to specific subcellular compartments. It is suggested that sperm contains several proteins that bind to AKAPs in a manner similar to PKARII, and ROPN1L may be one of them. The N-terminal regions of ROPN1L and ROPN1 share similarity with the N-terminus of type II regulatory subunit of PKA and two sperm-specific proteins, SPA17 and fibrousheathin II. The ROPN1L gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken and zebrafish, and maps to human chromosome 5p15.2.

REFERENCES

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2. Carr, D.W., et al. 2001. Identification of sperm-specific proteins that interact with A-kinase anchoring proteins in a manner similar to the type II regulatory subunit of PKA. J. Biol. Chem. 276: 17332-17338.
3. Schmutz, J., et al. 2004. The DNA sequence and comparative analysis of human chromosome 5. Nature 431: 268-274.
4. Fiedler, S.E., et al. 2008. Identification and characterization of RHOA-interacting proteins in bovine spermatozoa. Biol. Reprod. 78: 184-192.
5. Fang, J.S., et al. 2008. Cytogenetic and molecular characterization of a three-generation family with chromosome 5p terminal deletion. Clin. Genet. 73: 585-590.
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CHROMOSOMAL LOCATION

Genetic locus: ROPN1L (human) mapping to 5p15.2.

PRODUCT

ROPN1L siRNA (h) is a pool of 2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ROPN1L shRNA Plasmid (h): sc-91873-SH and ROPN1L shRNA (h) Lentiviral Particles: sc-91873-V as alternate gene silencing products.

For independent verification of ROPN1L (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-91873A and sc-91873B.

RESEARCH USE

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

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

ROPN1L siRNA (h) is recommended for the inhibition of ROPN1L 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 µM in 66 µl. 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 ROPN1L gene expression knockdown using RT-PCR Primer: ROPN1L (h)-PR: sc-91873-PR (20 µl). 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.