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RSHL3 siRNA (m): sc-153142

BACKGROUND

Radial spokes are regularly spaced along cilia, sperm, and flagella axonemes and have a multisubunit "stalk" and 'head' that form a signal transduction scaffold between the central microtubule pair and dynein arms. RSHL3 is predicted to be a component of the radial spoke head based on homology with proteins in the biflagellate alga *Chlamydomonas reinhardtii* and other ciliates. RSHL3 (radial spoke head-like protein 3), also known as radial spoke head protein 4 homolog A, is a 716 amino acid protein that belongs to the flagellar radial spoke RSP4/6 family. Mutations in the RSHL3 gene cause primary ciliary dyskinesia 1, a disease arising from dysmotility of motile cilia and sperm. Existing as three alternatively spliced isoforms, the RSHL3 gene contains 6 exons, is conserved in chimpanzee, canine, bovine, mouse, rat, chicken, zebrafish, fruit fly and *Pfalciaparum*, and maps to human chromosome 6q22.1.

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PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: Rsph4a (mouse) mapping to 10 B1.

PRODUCT

RSHL3 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 RSHL3 shRNA Plasmid (m): sc-153142-SH and RSHL3 shRNA (m) Lentiviral Particles: sc-153142-V as alternate gene silencing products.

For independent verification of RSHL3 (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-153142A, sc-153142B and sc-153142C.

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

RSHL3 siRNA (m) is recommended for the inhibition of RSHL3 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 RSHL3 gene expression knockdown using RT-PCR Primer: RSHL3 (m)-PR: sc-153142-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.