SANTA CRUZ BIOTECHNOLOGY, INC.

R-Spondin4 siRNA (h): sc-76309

BACKGROUND

Roof plate-specific Spondins (R-Spondins) are secreted proteins that possess a Furin-like cysteine-rich domain and are involved in regulating β-catenin function. R-Spondin4, also known as RSPO4, is a 234 amino acid secreted protein that, characteristic of R-Spondins, contains one Furin-like repeat and one TSP type-1 domain. R-Spondin4 interacts with heparin and is able to activate the β-catenin signaling cascade, possibly via control of the Wnt/β-catenin signaling pathway. Defects in the gene encoding R-Spondin4 are the cause of anonychia, an autosomal recessive condition characterized by severe hypoplasia (underdevelopment) of fingernails and toenails. R-Spondin4 exists as multiple alternatively spliced isoforms that are encoded by a gene which maps to human chromosome 20.

REFERENCES

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5. Chishti, M.S., et al. 2008. A novel missense mutation in RSPO4 gene underlies autosomal recessive congenital anonychia in a consanguineous Pakistani family. Br. J. Dermatol. 158: 621-623.
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CHROMOSOMAL LOCATION

Genetic locus: RSPO4 (human) mapping to 20p13.

PRODUCT

R-Spondin4 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see R-Spondin4 shRNA Plasmid (h): sc-76309-SH and R-Spondin4 shRNA (h) Lentiviral Particles: sc-76309-V as alternate gene silencing products.

For independent verification of R-Spondin4 (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-76309A, sc-76309B and sc-76309C.

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

R-Spondin4 siRNA (h) is recommended for the inhibition of R-Spondin4 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 R-Spondin4 gene expression knockdown using RT-PCR Primer: R-Spondin4 (h)-PR: sc-76309-PR (20 µl). 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.