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# R-Spondin4 siRNA (m): sc-152620

## BACKGROUND

Roof plate-specific Spondins (R-Spondins) are secreted proteins that possess a Furin-like cysteine-rich domain and are involved in regulating  $\beta$ -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  $\beta$ -catenin signaling cascade, possibly via control of the Wnt/ $\beta$ -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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## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## CHROMOSOMAL LOCATION

Genetic locus: Rspo4 (mouse) mapping to 2 G3.

## PRODUCT

R-Spondin4 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see R-Spondin4 shRNA Plasmid (m): sc-152620-SH and R-Spondin4 shRNA (m) Lentiviral Particles: sc-152620-V as alternate gene silencing products.

For independent verification of R-Spondin4 (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-152620A, sc-152620B and sc-152620C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

R-Spondin4 siRNA (m) is recommended for the inhibition of R-Spondin4 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  $\mu$ M in 66  $\mu$ 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 R-Spondin4 gene expression knockdown using RT-PCR Primer: R-Spondin4 (m)-PR: sc-152620-PR (20  $\mu$ 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.