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# RIN3 siRNA (m): sc-152969

## BACKGROUND

The Ras oncogene family, whose members include Rab 5B and Rab 5C, encode membrane-associated small G proteins that are regulated, in part, by the activity of guanine nucleotide exchange factors (GEFs). The RIN family of Ras interaction-interference proteins (namely RIN1, RIN2, RIN3 and RIN4) comprise a group of Rab 5 binding partners that interact with and control Rab 5 function. RIN3 (Ras and Rab interactor 3) is a 984 amino acid member of the RIN family and is thought to associate with Rab 5B and function as a GEF, exchanging bound GDP for free GTP. Expressed throughout the body, RIN3 is a cytoplasmic protein that contains one VPS9 domain, one SH2 domain and one Ras-associating domain. In addition to its probable role as a Rab 5B-associated GEF, RIN3 is thought to participate in intracellular transport between the plasma membrane and early endosomes. Four isoforms of RIN3 exist due to alternative splicing events.

## REFERENCES

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2. Bilezikjian, L.M., Corrigan, A.Z., Blount, A.L., Chen, Y. and Vale, W.W. 2001. Regulation and actions of Smad7 in the modulation of activin, inhibin, and transforming growth factor- $\beta$  signaling in anterior pituitary cells. *Endocrinology* 142: 1065-1072.
3. Saito, K., Murai, J., Kajihio, H., Kontani, K., Kurosu, H. and Katada, T. 2002. A novel binding protein composed of homophilic tetramer exhibits unique properties for the small GTPase Rab 5. *J. Biol. Chem.* 277: 3412-3418.
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5. Kajihio, H., Saito, K., Tsujita, K., Kontani, K., Araki, Y., Kurosu, H. and Katada, T. 2003. RIN3: a novel Rab 5 GEF interacting with amphiphysin II involved in the early endocytic pathway. *J. Cell Sci.* 116: 4159-4168.
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## CHROMOSOMAL LOCATION

Genetic locus: Rin3 (mouse) mapping to 12 E.

## RESEARCH USE

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

## PROTOCOLS

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

## PRODUCT

RIN3 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 RIN3 shRNA Plasmid (m): sc-152969-SH and RIN3 shRNA (m) Lentiviral Particles: sc-152969-V as alternate gene silencing products.

For independent verification of RIN3 (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-152969A, sc-152969B and sc-152969C.

## 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

RIN3 siRNA (m) is recommended for the inhibition of RIN3 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 RIN3 gene expression knockdown using RT-PCR Primer: RIN3 (m)-PR: sc-152969-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.