



# rabphilin-3AL siRNA (h): sc-94036

## BACKGROUND

Rabphilin-3AL (rabphilin-3A-like), also known as RPH3AL or NOC2, is a cytoplasmic Rab GTPase effector. It contains one FYVE-type zinc finger and one Rab-binding (RBD) domain, but unlike its related protein, rabphilin-3A, rabphilin-3AL does not contain any C2 domains. Rabphilin-3AL is expressed in a variety of tissues, with highest levels found in kidney, skeletal muscle, pancreas, liver, ovary, stomach, heart and thyroid. It is believed to play a role regulating calcium-dependent secretory vesicle exocytosis in endocrine and exocrine cells. Via its RBD domain, rabphilin-3AL is capable of binding Rab 27a and, through this interaction, rabphilin-3AL is recruited to dense-core vesicles. With lower affinity, rabphilin-3AL can also bind Rab 3 and Rab 8 with its RBD domain. Through an interaction with Rab 3, rabphilin-3AL can inhibit G protein signaling in endocrine pancreas and positively regulate Insulin secretion. Rabphilin-3AL knockout mice display accumulation of secretory granules and irregular shape in exocrine cells.

## REFERENCES

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2. Matsumoto, M., Miki, T., Shibasaki, T., Kawaguchi, M., Shinozaki, H., Nio, J., Saraya, A., Koseki, H., Miyazaki, M., Iwanaga, T. and Seino, S. 2004. NOC2 is essential in normal regulation of exocytosis in endocrine and exocrine cells. *Proc. Natl. Acad. Sci. USA* 101: 8313-8318.
3. Fukuda, M., Kanno, E. and Yamamoto, A. 2004. Rabphilin and NOC2 are recruited to dense-core vesicles through specific interaction with Rab 27a in PC12 cells. *J. Biol. Chem.* 279: 13065-13075.
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## CHROMOSOMAL LOCATION

Genetic locus: RPH3AL (human) mapping to 17p13.3.

## PRODUCT

rabphilin-3AL 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see rabphilin-3AL shRNA Plasmid (h): sc-94036-SH and rabphilin-3AL shRNA (h) Lentiviral Particles: sc-94036-V as alternate gene silencing products.

For independent verification of rabphilin-3AL (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-94036A, sc-94036B and sc-94036C.

## 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

rabphilin-3AL siRNA (h) is recommended for the inhibition of rabphilin-3AL 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  $\mu$ 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 rabphilin-3AL gene expression knockdown using RT-PCR Primer: rabphilin-3AL (h)-PR: sc-94036-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.

## PROTOCOLS

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