SANTA CRUZ BIOTECHNOLOGY, INC.

# Rab 11A siRNA (h): sc-36340

## BACKGROUND

The Ras-related superfamily of guanine nucleotide binding proteins, which includes the Ral/Rec, Rap, R-Ras, and Rho/Rab subfamilies, exhibit 30-60% homology with Ras p21. Accumulating data suggests an important role for Rab proteins, either in endocytosis or in biosynthetic protein transport. The transport of newly synthesized proteins from the endoplasmic reticulum to various stacks of the Golgi complex and to secretory vesicles involves at each stage the movement of carrier vesicles, a process that appears to involve Rab protein function. The possibility that Rab proteins might also direct the exocytosis from secretory vesicles to the plasma membrane is supported by the observation that in yeast, the SEC4 protein, which is 40% homologous to Rab proteins, is associated with secretory vesicles. Several members of the Rab subfamily have been identified, each of which is found at a particular stage of a membrane transport pathway.

## REFERENCES


1. Zahraoui, A., et al. 1989. The human Rab genes encode a family of GTP-binding proteins related to yeast Ypt1 and Sec4 products involved in secretion. J. Biol. Chem. 264: 12394-12401.
2. Chavrier, P., et al. 1992. The complexity of the Rab and Rho GTP-binding protein subfamilies revealed by a PCR cloning approach. Gene 112: 261-264.
3. Baldini, G., et al. 1992. Cloning of a Rab3 isotype predominately expressed in adipocytes. Proc. Natl. Acad. Sci. USA 89: 5049-5052.
4. Karniguian, A., et al. 1993. Identification of small GTP-binding Rab proteins in human platelets: thrombin-induced phosphorylation of Rab3B, Rab6, and Rab8 proteins. Proc. Natl. Acad. Sci. USA 90: 7647-7651.


## CHROMOSOMAL LOCATION

Genetic locus: RAB11A (human) mapping to 15q22.31.

## PRODUCT

Rab 11A 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 Rab 11A shRNA Plasmid (h): sc-36340-SH and Rab 11A shRNA (h) Lentiviral Particles: sc-36340-V as alternate gene silencing products.

For independent verification of Rab 11A (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-36340A, sc-36340B and sc-36340C.

## 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

Rab 11A siRNA (h) is recommended for the inhibition of Rab 11A 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.

## GENE EXPRESSION MONITORING

Rab 11A (D-3): sc-166523 is recommended as a control antibody for monitoring of Rab 11A gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Rab 11A gene expression knockdown using RT-PCR Primer: Rab 11A (h)-PR: sc-36340-PR (20 µl, 362 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS


1. Ding, W., et al. 2006. rAAV2 traffics through both the late and the recycling endosomes in a dose-dependent fashion. Mol. Ther. 13: 671-682.
2. Zhou, L., et al. 2014. Up-regulation of cholesterol absorption is a mechanism for cholecystokinin-induced hypercholesterolemia. J. Biol. Chem. 289: 12989-12999.
3. Schmick, M., et al. 2014. KRas localizes to the plasma membrane by spatial cycles of solubilization, trapping and vesicular transport. Cell 157: 459-471.
4. Alvarez-Arce, A., et al. 2020. Thrombin-activated PAR1 membrane expression is regulated by Rab11a-RCP complex dissociation. Cell. Signal. 75: 109748.
5. Hartman, E.J., et al. 2022. The Rab11-family interacting proteins reveal selective interaction of mammalian recycling endosomes with the *Toxoplasma* parasitophorous vacuole in a Rab11- and Arf6-dependent manner. Mol. Biol. Cell 33: ar34.


## RESEARCH USE

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