SANTA CRUZ BIOTECHNOLOGY, INC.

Rab 17 siRNA (m): sc-76315

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The Power to Question

BACKGROUND

The Ras-related superfamily of guanine nucleotide binding proteins includes the R-Ras, Rap, Ral/Rec and Rho/Rab subfamilies all of which are thought to play an important role in either endocytosis or in biosynthetic protein transport. The process of transporting newly synthesized proteins from the endoplasmic reticulum (ER) to various stacks of the Golgi complex and to secretory vesicles involves the movement of carrier vesicles and requires Rab protein function. Rab proteins are also an integral part of endocytic pathways. Rab 17 is a 202 amino acid lipid-anchored protein that localizes to the cytoplasmic side of the cell membrane and belongs to the Rab subfamily of Ras-related GTPases. Like other Rab proteins, Rab 17 is thought to be involved in transcellular transport processes across the cell membrane.

REFERENCES

1. Lütcke, A., et al. 1993. Rab17, a novel small GTPase, is specific for epithelial cells and is induced during cell polarization. J. Cell Biol. 121: 553-564.
2. McMurtrie, E.B., et al. 1997. Rab17 and rab18, small GTPases with specificity for polarized epithelial cells: genetic mapping in the mouse. Genomics 45: 623-625.
3. Hunziker, W. and Peters, P.J. 1998. Rab17 localizes to recycling endosomes and regulates receptor-mediated transcytosis in epithelial cells. J. Biol. Chem. 273: 15734-15741.
4. Bucci, C., et al. 1999. Interaction cloning and characterization of the cDNA encoding the human prenylated rab acceptor (PRA1). Biochem. Biophys. Res. Commun. 258: 657-662.
5. Peters, P.J. and Hunziker, W. 2001. Subcellular localization of Rab17 by cryo-immunogold electron microscopy in epithelial cells grown on polycarbonate filters. Meth. Enzymol. 329: 210-225.
6. Zhao, H., et al. 2002. Intracellular membrane trafficking pathways in bone-resorbing osteoclasts revealed by cloning and subcellular localization studies of small GTP-binding rab proteins. Biochem. Biophys. Res. Commun. 293: 1060-1065.

CHROMOSOMAL LOCATION

Genetic locus: Rab17 (mouse) mapping to 1 D.

PRODUCT

Rab 17 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Rab 17 shRNA Plasmid (m): sc-76315-SH and Rab 17 shRNA (m) Lentiviral Particles: sc-76315-V as alternate gene silencing products.

For independent verification of Rab 17 (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-76315A, sc-76315B and sc-76315C.

RESEARCH USE

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

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 17 siRNA (m) is recommended for the inhibition of Rab 17 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 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 Rab 17 gene expression knockdown using RT-PCR Primer: Rab 17 (m)-PR: sc-76315-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.