



Rab 37 siRNA (h): sc-94205

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 37, also known as Ras-related protein Rab 37, is a 223 amino acid protein that belongs to the Rab family and small GTPase superfamily. Localizing to cytoplasmic vesicle, Rab 37 is thought to be involved in mast cell degranulation and is encoded by a gene that maps to human chromosome 17q25.1.

REFERENCES

1. Novick, P. and Brennwald, P. 1993. Friends and family: the role of the Rab GTPases in vesicular traffic. *Cell* 75: 597-601.
2. Pfeffer, S.R., et al. 1995. Selective membrane recruitment of Rab GTPases. *Cold Spring Harb. Symp. Quant. Biol.* 60: 221-227.
3. Masuda, E.S., et al. 2000. Rab 37 is a novel mast cell specific GTPase localized to secretory granules. *FEBS Lett.* 470: 61-64.
4. Fukuda, M. 2003. Distinct Rab binding specificity of Rim1, Rim2, rabphilin, and NOC2. Identification of a critical determinant of Rab 3A/Rab 27A recognition by Rim2. *J. Biol. Chem.* 278: 15373-15380.
5. Breuza, L., et al. 2004. Proteomics of endoplasmic reticulum-Golgi intermediate compartment (ERGIC) membranes from brefeldin A-treated Hep G2 cells identifies ERGIC-32, a new cycling protein that interacts with human Erv46. *J. Biol. Chem.* 279: 47242-47253.
6. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 609956. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Wu, C.Y., et al. 2009. Frequent downregulation of hRAB37 in metastatic tumor by genetic and epigenetic mechanisms in lung cancer. *Lung Cancer* 63: 360-367.

CHROMOSOMAL LOCATION

Genetic locus: RAB37 (human) mapping to 17q25.1.

PRODUCT

Rab 37 siRNA (h) is a pool of 2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Rab 37 shRNA Plasmid (h): sc-94205-SH and Rab 37 shRNA (h) Lentiviral Particles: sc-94205-V as alternate gene silencing products.

For independent verification of Rab 37 (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-94205A and sc-94205B.

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

APPLICATIONS

Rab 37 siRNA (h) is recommended for the inhibition of Rab 37 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 μ M in 66 μ 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 Rab 37 gene expression knockdown using RT-PCR Primer: Rab 37 (h)-PR: sc-94205-PR (20 μ 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 for detailed protocols and support products.