

# Rabaptin-5 $\beta$ siRNA (m): sc-155957

## BACKGROUND

Rabaptin-5 $\beta$ , also known as RABEP2 (Rab GTPase-binding effector protein 2), is a 569 amino acid protein that belongs to the rabaptin family. Rabaptin-5 $\beta$  interacts with the GTP-bound form of Rab 5, a small GTPase involved in signal transduction and mitogenesis. Both Rabaptin-5 $\beta$  and RABAPTIN-5 proteins contain coiled-coil repeats and are recruited on the endosomal membrane by Rab 5 for endocytic membrane docking and fusion in the presence of GTP. Rabaptin-5 $\beta$  plays a role in membrane trafficking and in homotypic early endosome fusion. Rabaptin-5 $\beta$  forms a heterodimer with Rabex-5, which then binds Rab 5A that has been activated by GTP-binding. Existing as two alternatively spliced isoforms, the Rabaptin-5 $\beta$  gene is conserved in canine, bovine, mouse, rat and zebrafish, and maps to human chromosome 16p11.2.

## REFERENCES

1. Rybin, V., et al. 1996. GTPase activity of Rab5 acts as a timer for endocytic membrane fusion. *Nature* 383: 266-269.
2. Gournier, H., et al. 1998. Two distinct effectors of the small GTPase Rab5 cooperate in endocytic membrane fusion. *EMBO J.* 17: 1930-1940.
3. Christoforidis, S., et al. 1999. The Rab5 effector EEA1 is a core component of endosome docking. *Nature* 397: 621-625.
4. Ghebranious, N., et al. 2007. A novel microdeletion at 16p11.2 harbors candidate genes for aortic valve development, seizure disorder, and mild mental retardation. *Am. J. Med. Genet. A* 143A: 1462-1471.
5. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 611869. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Gauci, S., et al. 2009. Lys-N and trypsin cover complementary parts of the phosphoproteome in a refined SCX-based approach. *Anal. Chem.* 81: 4493-4501.
7. Rose, A.E., et al. 2010. Copy number and gene expression differences between African American and Caucasian American prostate cancer. *J. Transl. Med.* 8: 70.

## CHROMOSOMAL LOCATION

Genetic locus: Rabep2 (mouse) mapping to 7 F3.

## PRODUCT

Rabaptin-5 $\beta$  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 Rabaptin-5 $\beta$  shRNA Plasmid (m): sc-155957-SH and Rabaptin-5 $\beta$  shRNA (m) Lentiviral Particles: sc-155957-V as alternate gene silencing products.

For independent verification of Rabaptin-5 $\beta$  (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-155957A, sc-155957B and sc-155957C.

## 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

Rabaptin-5 $\beta$  siRNA (m) is recommended for the inhibition of Rabaptin-5 $\beta$  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 Rabaptin-5 $\beta$  gene expression knockdown using RT-PCR Primer: Rabaptin-5 $\beta$  (m)-PR: sc-155957-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.