SANTA CRUZ BIOTECHNOLOGY, INC.

Rabaptin-5β siRNA (h): sc-93048

BACKGROUND

Rabaptin-5β, also known as RABEP2 (Rab GTPase-binding effector protein 2), is a 569 amino acid protein that belongs to the rabaptin family. Rabaptin-5β interacts with the GTP-bound form of Rab 5, a small GTPase involved in signal transduction and mitogenesis. Both Rabaptin-5β 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-5β plays a role in membrane trafficking and in homotypic early endosome fusion. Rabaptin-5β 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-5β 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™. 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 (human) mapping to 16p11.2.

PRODUCT

Rabaptin-5β 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Rabaptin-5β shRNA Plasmid (h): sc-93048-SH and Rabaptin-5β shRNA (h) Lentiviral Particles: sc-93048-V as alternate gene silencing products.

For independent verification of Rabaptin-5β (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-93048A and sc-93048B.

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

Rabaptin-5β siRNA (h) is recommended for the inhibition of Rabaptin-5β 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Rabaptin-5β gene expression knockdown using RT-PCR Primer: Rabaptin-5β (h)-PR: sc-93048-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.