SANTA CRUZ BIOTECHNOLOGY, INC.

Rab 15 siRNA (h): sc-92373

BACKGROUND

Rab GTPases play an important regulatory role in early endocytosis. Rab 15, also known as Ras-related protein Rab-15, is a 212 amino acid member of the small GTPase superfamily and the Rab family. Rab 15 counters the stimulatory effect of Rab5-GTP on early endocytic trafficking, possibly by interfering with Rab5 function directly by sequestering Rab5 effectors or indirectly through novel sets of effector interactions. PIPK I β, however, is an effector for Rab 15. The Rab 15 protein may also act in concert with Rab 3A in regulating aspects of synaptic vesicle membrane flow within the nerve terminal. REP15 interacts directly with the GTP bound form of Rab15, but not with Rab 5 or Rab 11. Existing as two alternatively spliced isoforms, the Rab 15 gene is conserved in chimpanzee, canine, bovine, mouse, rat and zebrafish, and maps to human chromosome 14q23.3.

REFERENCES

1. Zuk, P.A. and Elferink, L.A. 1999. Rab15 mediates an early endocytic event in Chinese hamster ovary cells. J. Biol. Chem. 274: 22303-22312.
2. Zuk, P.A. and Elferink, L.A. 2000. Rab15 differentially regulates early endocytic trafficking. J. Biol. Chem. 275: 26754-26764.
3. Pereira-Leal, J.B. and Seabra, M.C. 2001. Evolution of the Rab family of small GTP-binding proteins. J. Mol. Biol. 313: 889-901.
4. Strick, D.J., Francescutti, D.M., Zhao, Y. and Elferink, L.A. 2002. Mammalian suppressor of Sec4 modulates the inhibitory effect of Rab15 during early endocytosis. J. Biol. Chem. 277: 32722-32729.
5. Heilig, R., Eckenberg, R., Petit, J.L., Fonknechten, N., Da Silva, C., Cattolico, L., Levy, M., Barbe, V., de Berardinis, V., Ureta-Vidal, A., Pelletier, E., Vico, V., Anthouard, V., Rowen, L., Madan, A., Qin, S., Sun, H., Du, H., Pepin, K., Artiguenave, F., Robert, C., Cruaud, C., et al. 2003. The DNA sequence and analysis of human chromosome 14. Nature 421: 601-607.
6. Strick, D.J. and Elferink, L.A. 2005. Rab15 effector protein: a novel protein for receptor recycling from the endocytic recycling compartment. Mol. Biol. Cell 16: 5699-5709.

CHROMOSOMAL LOCATION

Genetic locus: RAB15 (human) mapping to 14q23.3.

PRODUCT

Rab 15 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 15 shRNA Plasmid (h): sc-92373-SH and Rab 15 shRNA (h) Lentiviral Particles: sc-92373-V as alternate gene silencing products.

For independent verification of Rab 15 (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-92373A, sc-92373B and sc-92373C.

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 15 siRNA (h) is recommended for the inhibition of Rab 15 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 Rab 15 gene expression knockdown using RT-PCR Primer: Rab 15 (h)-PR: sc-92373-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.