

Rab 7L1 siRNA (h): sc-88818

BACKGROUND

The Ras-related superfamily of guanine nucleotide binding proteins includes the R-Ras, Rap, Ral/Rec and Rho/Rab subfamilies. Increasing data suggests an important role for Rab proteins 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 7L1, also known as RAB7L, is a 203 amino acid, ubiquitously expressed member of the Rab family of proteins that localizes to the cell membrane. Rab 7L1 contains four GTP-binding domains and shares 35% identity with Rab 7 and 94% identity with the rat protein Rab 29. In addition, Rab 7L1 is often used as a marker of T cells.

REFERENCES

1. Shimizu, F., et al. 1997. Cloning and chromosome assignment to 1q32 of a human cDNA (RAB7L1) encoding a small GTP-binding protein, a member of the RAS superfamily. *Cytogenet. Cell Genet.* 77: 261-263.
2. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603949. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Middleton, R., et al. 2003. Improving the comparative map of porcine chromosome 9 with respect to human chromosomes 1, 7 and 11. *Cytogenet. Genome Res.* 102: 128-132.
4. Helip-Wooley, A. and Thoenes, J.G. 2004. Sucrose-induced vacuolation results in increased expression of cholesterol biosynthesis and lysosomal genes. *Exp. Cell Res.* 292: 89-100.
5. Gurkan, C., et al. 2005. Large-scale profiling of Rab GTPase trafficking networks: the membrome. *Mol. Biol. Cell* 16: 3847-3864.
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CHROMOSOMAL LOCATION

Genetic locus: RAB7L1 (human) mapping to 1q32.1.

PRODUCT

Rab 7L1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Rab 7L1 shRNA Plasmid (h): sc-88818-SH and Rab 7L1 shRNA (h) Lentiviral Particles: sc-88818-V as alternate gene silencing products.

For independent verification of Rab 7L1 (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-88818A, sc-88818B and sc-88818C.

PROTOCOLS

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

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 7L1 siRNA (h) is recommended for the inhibition of Rab 7L1 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.

GENE EXPRESSION MONITORING

Rab 7L1 (D-8): sc-398274 is recommended as a control antibody for monitoring of Rab 7L1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Rab 7L1 gene expression knockdown using RT-PCR Primer: Rab 7L1 (h)-PR: sc-88818-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.