SANTA CRUZ BIOTECHNOLOGY, INC.

Rab 43 siRNA (h): sc-78238

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 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 43, also known as ISY1, Rab 41 or Rab 11B, is a widely expressed member of the Rab family of proteins. Localizing to the Golgi complex, Rab 43 is required for retrograde trafficking to the *trans*-Golgi and for the biogenesis and maintenance of the Golgi structure. In addition, Rab 43 is a target of the GTPase activating protein (GAP) RN-tre.

REFERENCES

1. Guo, J.H., et al. 2003. Isolation, expression pattern of a novel human RAB gene RAB 41 and characterization of its intronless homolog RAB 41P. DNA Seq. 14: 431-435.
2. Haas, A.K., et al. 2005. A GTPase-activating protein controls Rab 5 function in endocytic trafficking. Nat. Cell Biol. 7: 887-893.
3. Sklan, E.H., et al. 2007. TBC1D20 is a Rab 1 GTPase-activating protein that mediates hepatitis C virus replication. J. Biol. Chem. 282: 36354-36361.
4. Fuchs, E., et al. 2007. Specific Rab GTPase-activating proteins define the Shigatoxin and epidermal growth factor uptake pathways. J. Cell Biol. 177: 1133-1143.
5. Haas, A.K., et al. 2007. Analysis of GTPase-activating proteins: Rab 1 and Rab 43 are key Rabs required to maintain a functional Golgi complex in human cells. J. Cell Sci. 120: 2997-3010.

CHROMOSOMAL LOCATION

Genetic locus: RAB43 (human) mapping to 3q21.3.

PRODUCT

Rab 43 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 43 shRNA Plasmid (h): sc-78238-SH and Rab 43 shRNA (h) Lentiviral Particles: sc-78238-V as alternate gene silencing products.

For independent verification of Rab 43 (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-78238A, sc-78238B and sc-78238C.

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.

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 43 siRNA (h) is recommended for the inhibition of Rab 43 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.

GENE EXPRESSION MONITORING

Rab 43 (D-12): sc-515460 is recommended as a control antibody for monitoring of Rab 43 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 43 gene expression knockdown using RT-PCR Primer: Rab 43 (h)-PR: sc-78238-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.