

Rab 38 siRNA (h): sc-96475

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 38, also known as rrGTPbp or NY-MEL-1, is a melanocyte- and lung-specific member of the Rab family of proteins and localizes to the cell membrane, where it is believed to participate in melanosomal transport and docking. Rab 38 may play an important role in melanogenesis and in the targeting of TRP1, a protein involved in the production of melanin. A mutation in the gene encoding Rab 38 may result in oculocutaneous albinism (OCA), a condition in which pigment is absent from eye, skin and hair.

REFERENCES

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3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606281. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Osanai, K., et al. 2005. Expression and characterization of Rab38, a new member of the Rab small G protein family. *Biol. Chem.* 386: 143-153.
5. Wasmeier, C., et al. 2006. Rab38 and Rab32 control post-Golgi trafficking of melanogenic enzymes. *J. Cell Biol.* 175: 271-281.
6. Walton, S.M., et al. 2006. Spontaneous CD8 T cell responses against the melanocyte differentiation antigen RAB38/NY-MEL-1 in melanoma patients. *J. Immunol.* 177: 8212-8218.
7. Zippelius, A., et al. 2007. Melanocyte differentiation antigen RAB38/NY-MEL-1 induces frequent antibody responses exclusively in melanoma patients. *Cancer Immunol. Immunother.* 56: 249-258.

CHROMOSOMAL LOCATION

Genetic locus: RAB38 (human) mapping to 11q14.2.

PRODUCT

Rab 38 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 38 shRNA Plasmid (h): sc-96475-SH and Rab 38 shRNA (h) Lentiviral Particles: sc-96475-V as alternate gene silencing products.

For independent verification of Rab 38 (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-96475A, sc-96475B and sc-96475C.

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 38 siRNA (h) is recommended for the inhibition of Rab 38 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 38 (A-8): sc-390176 is recommended as a control antibody for monitoring of Rab 38 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 38 gene expression knockdown using RT-PCR Primer: Rab 38 (h)-PR: sc-96475-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.

PROTOCOLS

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