

ARHGEF39 siRNA (h): sc-92586

BACKGROUND

Rho GTPases, which play a fundamental role in numerous cellular processes, are initiated by external stimuli that signal through G protein-coupled receptors. ARHGEF39 (Rho guanine nucleotide exchange factor 39) is a 335 amino acid protein that contains a DH (DBL-homology) domain and a PH domain. Localizing to the cell membrane, ARHGEF39 is strongly expressed in hepatocellular carcinoma (HCC). ARHGEF39 may play a role in the promotion of cell proliferation. Existing as four alternatively spliced isoforms, ARHGEF39 is encoded by a gene mapping to human chromosome 9p13.3. Chromosome 9 consists of approximately 145 million bases and 4% of the human genome, encoding nearly 900 genes. Considered to play a role in gender determination, deletion of the distal portion of 9p can lead to development of male to female sex reversal. Hereditary hemorrhagic telangiectasia and Familial dysautonomia are also associated with genes mapping to chromosome 9.

REFERENCES

1. Humphray, S.J., et al. 2004. DNA sequence and analysis of human chromosome 9. *Nature* 429: 369-374.
2. Coppo, P., et al. 2006. Bcr-Abl activates STAT3 via JAK and MEK pathways in human cells. *Br. J. Haematol.* 134: 171-179.
3. Zheng, X., et al. 2006. Bcr and its mutants, the reciprocal t(9;22)-associated Abl/Bcr fusion proteins, differentially regulate the cytoskeleton and cell motility. *BMC Cancer* 7: 262.
4. Burmeister, T., et al. 2007. Atypical Bcr-Abl mRNA transcripts in adult acute lymphoblastic leukemia. *Haematologica* 92: 1699-1702.
5. Cottin, V., et al. 2007. Pulmonary vascular manifestations of hereditary hemorrhagic telangiectasia (Rendu-Osler disease). *Respiration* 74: 361-378.
6. Fernandez-L, A., et al. 2007. Gene expression fingerprinting for human hereditary hemorrhagic telangiectasia. *Hum. Mol. Genet.* 16: 1515-1533.
7. Hims, M.M., et al. 2007. A humanized IKBKAP transgenic mouse models a tissue-specific human splicing defect. *Genomics* 90: 389-396.

CHROMOSOMAL LOCATION

Genetic locus: ARHGEF39 (human) mapping to 9p13.3.

PRODUCT

ARHGEF39 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 ARHGEF39 shRNA Plasmid (h): sc-92586-SH and ARHGEF39 shRNA (h) Lentiviral Particles: sc-92586-V as alternate gene silencing products.

For independent verification of ARHGEF39 (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-92586A, sc-92586B and sc-92586C.

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

ARHGEF39 siRNA (h) is recommended for the inhibition of ARHGEF39 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ARHGEF39 gene expression knockdown using RT-PCR Primer: ARHGEF39 (h)-PR: sc-92586-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.