SANTA CRUZ BIOTECHNOLOGY, INC.

ARHGAP30 siRNA (m): sc-141216

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The Power to Question

BACKGROUND

GTPase-activating proteins (GAPs) accelerate the intrinsic rate of GTP hydrolysis of Ras-related proteins, resulting in downregulation of their active form. ARHGAP30 (Rho GTPase activating protein 30), also known as Rho-type GTPase-activating protein 30, is a 1,101 amino acid protein that contains one Rho-GAP domain and exists as four alternatively spliced isoforms. Conserved in chimpanzee, canine, bovine mouse and rat, ARHGAP30 is among the most neurite-enriched GAPs, which also includes ARHGAP21, FNBP2 and Bcr). One of four single-nucleotide polymorphisms (SNPs) at the USF-1 gene locus, rs2774279, which is located in the promoter area of the USF-1 gene, which is in turn located within its flanking gene ARHGAP30, is linked to low-density lipoprotein cholesterol levels, incident type 2 diabetes mellitus and increased cardiovascular risk.

REFERENCES

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3. Holzapfel, C., et al. 2008. Genetic variants in the USF-1 gene are associated with low-density lipoprotein cholesterol levels and incident type 2 diabetes mellitus in women: results from the MONICA/KORA Augsburg case-cohort study, 1984-2002. Eur. J. Endocrinol. 159: 407-416.
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5. Pertz, O.C., et al. 2008. Spatial mapping of the neurite and soma proteomes reveals a functional Cdc42/Rac regulatory network. Proc. Natl. Acad. Sci. USA 105: 1931-1936.
6. Singmann, P., et al. 2009. Gene-gene interaction between APOA5 and USF-1: two candidate genes for the metabolic syndrome. Obes. Facts 2: 235-242.
7. Wu, S., et al. 2010. Upstream transcription factor 1 influences plasma lipid and metabolic traits in mice. Hum. Mol. Genet. 19: 597-608.
8. Tseng, L.H., et al. 2010. Genome-based expression profiling study of Hunner's ulcer type interstitial cystitis: an array of 40-gene model. Int. Urogynecol. J. 21: 911-918.
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CHROMOSOMAL LOCATION

Genetic locus: Arhgap30 (mouse) mapping to 1 H3.

PROTOCOLS

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

PRODUCT

ARHGAP30 siRNA (m) 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 ARHGAP30 shRNA Plasmid (m): sc-141216-SH and ARHGAP30 shRNA (m) Lentiviral Particles: sc-141216-V as alternate gene silencing products.

For independent verification of ARHGAP30 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-141216A, sc-141216B and sc-141216C.

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

ARHGAP30 siRNA (m) is recommended for the inhibition of ARHGAP30 expression in mouse 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 ARHGAP30 gene expression knockdown using RT-PCR Primer: ARHGAP30 (m)-PR: sc-141216-PR (20 µl). 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.