SANTA CRUZ BIOTECHNOLOGY, INC.

ARHGAP21 siRNA (h): sc-90334

BACKGROUND

GTPase-activating proteins (GAPs) accelerate the intrinsic rate of GTP hydrolysis of Ras-related proteins, resulting in downregulation of their active form. ARHGAP21 (Rho GTPase activating protein 21), also known as ARHGAP10, is a 1,957 amino acid protein that localizes to the membrane of the Golgi apparatus, as well as to cell junctions and the cytoplasm, and contains one Rho-GAP domain, one PH domain and one PDZ domain. Expressed at high levels in heart, placenta, brain and skeletal muscle, ARHGAP21 functions as a GTPase-activating protein for Cdc42 and Rho A and is thought to control the structure and activity of the golgi apparatus. While ARHGAP21 is upregulated during cellular differentiation, depletion of ARHGAP21 may induce cell spreading, as well as an accumulation of Actin stress fibers. Multiple isoforms of ARHGAP21 exist due to alternative splicing events.

REFERENCES

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2. Katoh, M. and Katoh, M. 2004. Characterization of human ARHGAP10 gene in silico. Int. J. Oncol. 25: 1201-1206.
3. Dubois, T., et al. 2005. Golgi-localized GAP for Cdc42 functions downstream of ARF1 to control Arp2/3 complex and F-Actin dynamics. Nat. Cell Biol. 7: 353-364.
4. Sousa, S., et al. 2005. ARHGAP10 is necessary for α-catenin recruitment at adherens junctions and for *Listeria* invasion. Nat. Cell Biol. 7: 954-960.
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CHROMOSOMAL LOCATION

Genetic locus: ARHGAP21 (human) mapping to 10p12.1.

PRODUCT

ARHGAP21 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 ARHGAP21 shRNA Plasmid (h): sc-90334-SH and ARHGAP21 shRNA (h) Lentiviral Particles: sc-90334-V as alternate gene silencing products.

For independent verification of ARHGAP21 (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-90334A, sc-90334B and sc-90334C.

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

ARHGAP21 siRNA (h) is recommended for the inhibition of ARHGAP21 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

ARHGAP21 (E-10): sc-390145 is recommended as a control antibody for monitoring of ARHGAP21 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ARHGAP21 gene expression knockdown using RT-PCR Primer: ARHGAP21 (h)-PR: sc-90334-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.