SANTA CRUZ BIOTECHNOLOGY, INC.

ARHGAP17 siRNA (m): sc-141204

BACKGROUND

GTPase-activating proteins (GAPs) accelerate the intrinsic rate of GTP hydrolysis of Ras-related proteins, resulting in down regulation of their active form. ARHGAP17 (Rho GTPase activating protein 17), also known as RICH1, WBP15, MST066, MST110, NADRIN, PP4534, RICH1B, MSTP038, MSTP066 or MSTP110, is a ubiquitously expressed peripheral membrane protein whose expression is highest in heart and placenta. ARHGAP17 is involved in the maintenance of tight junctions by regulating the activity of Cdc42, thereby playing a central role in apical polarity of epithelial cells. Containina a BAR domain and a Rho-GAP domain, ARHGAP17 acts as a GTPase activator for the Cdc42 GTPase by converting it to an inactive GDP-bound state. ARHGAP17 may also participate in the Ca^{2+}-dependent regulation of exocytosis by catalyzing GTPase activity of Rho family proteins and by inducing the reorganization of cortical actin filaments. ARHGAP17 exists as seven alternative splice variants.

REFERENCES

1. Harada, A., et al. 2000. Nadrin, a novel neuron-specific GTPase-activating protein involved in regulated exocytosis. J. Biol. Chem. 275: 36885-36891.
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3. Reczek, D., et al. 2001. Identification of EPI64, a TBC/rabGAP domain-containing microvillar protein that binds to the first PDZ domain of EBP50 and E3KARP. J. Cell Biol. 153: 191-206.
4. Furuta, B., et al. 2002. Identification and functional characterization of nadrin variants, a novel family of GTPase activating protein for rho GTPases. J. Neurochem. 82: 1018-1028.
5. Katoh, Y., et al. 2004. Identification and characterization of ARHGAP27 gene *in silico*. Int. J. Mol. Med. 14: 943-947.
6. Katoh, M. and Katoh, M. 2004. Characterization of human ARHGAP10 gene *in silico*. Int. J. Oncol. 25: 1201-1206.
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CHROMOSOMAL LOCATION

Genetic locus: Arhgap17 (mouse) mapping to 7 F3.

PRODUCT

ARHGAP17 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 ARHGAP17 shRNA Plasmid (m): sc-141204-SH and ARHGAP17 shRNA (m) Lentiviral Particles: sc-141204-V as alternate gene silencing products.

For independent verification of ARHGAP17 (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-141204A, sc-141204B and sc-141204C.

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

ARHGAP17 siRNA (m) is recommended for the inhibition of ARHGAP17 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.

GENE EXPRESSION MONITORING

ARHGAP17 (G-6): sc-514438 is recommended as a control antibody for monitoring of ARHGAP17 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 ARHGAP17 gene expression knockdown using RT-PCR Primer: ARHGAP17 (m)-PR: sc-141204-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.

PROTOCOLS

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