

# ARHGAP19 siRNA (m): sc-141206

## BACKGROUND

GTPase-activating proteins (GAPs) accelerate the intrinsic rate of GTP hydrolysis of Ras-related proteins, resulting in downregulation of their active form. ARHGAP19 (Rho GTPase activating protein 19) is a 494 amino acid protein that localizes to the nucleus and contains one Rho-GAP domain. Strongly expressed in fetal liver, lung, brain, heart, kidney and pancreas and present at lower levels in adult ovary, spleen and thymus, ARHGAP19 functions as a negative regulator of Rho-type GTPases, specifically catalyzing the conversion of the target GTPase to an inactive, GDP-bound state. Via its catalytic activity, ARHGAP19 is involved in cell proliferation, migration and differentiation, as well as in Actin remodeling. ARHGAP19 exists as multiple alternatively spliced isoforms and is encoded by a gene which maps to human chromosome 10.

## REFERENCES

1. Katoh, Y. and Katoh, M. 2004. Identification and characterization of ARHGAP27 gene in silico. *Int. J. Mol. Med.* 14: 943-947.
2. Katoh, M. and Katoh, M. 2004. Characterization of human ARHGAP10 gene in silico. *Int. J. Oncol.* 25: 1201-1206.
3. Wennerberg, K. and Der, C.J. 2004. Rho-family GTPases: it's not only Rac and Rho (and I like it). *J. Cell Sci.* 117: 1301-1312.
4. Kandpal, R.P. 2006. Rho GTPase activating proteins in cancer phenotypes. *Curr. Protein Pept. Sci.* 7: 355-365.
5. Lv, L., Xu, J., Zhao, S., Chen, C., Zhao, X., Gu, S., Ji, C., Xie, Y. and Mao, Y. 2007. Sequence analysis of a human RhoGAP domain-containing gene and characterization of its expression in human multiple tissues. *DNA Seq.* 18: 184-189.
6. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611587. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: Arhgap19 (mouse) mapping to 19 C3.

## PRODUCT

ARHGAP19 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ARHGAP19 shRNA Plasmid (m): sc-141206-SH and ARHGAP19 shRNA (m) Lentiviral Particles: sc-141206-V as alternate gene silencing products.

For independent verification of ARHGAP19 (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-141206A, sc-141206B and sc-141206C.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## 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  $\mu$ M in 66  $\mu$ 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.

## APPLICATIONS

ARHGAP19 siRNA (m) is recommended for the inhibition of ARHGAP19 expression in mouse cells.

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## GENE EXPRESSION MONITORING

ARHGAP19 (B-11): sc-398428 is recommended as a control antibody for monitoring of ARHGAP19 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 ARHGAP19 gene expression knockdown using RT-PCR Primer: ARHGAP19 (m)-PR: sc-141206-PR (20  $\mu$ 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.