



# Rho D siRNA (m): sc-60033

## BACKGROUND

Upon activation, the small GTPase Rho D (also designated RhoHP1 and ARHD) contributes to rearrangement of the actin cytoskeleton and cell surface and also governs endosome motility and distribution. The effects of Rho D antagonize those of its family member, Rho A, by disassembling actin stress fibers normally enhanced by Rho A. Additionally, Rho D disengages focal adhesions, resulting in retardation of cell migration. Accordingly, transfection of a constitutively active form of Rho D (designated Rho D G26V) reverses the invasive phenotype of  $G_{\alpha_{olf}}$  induced cells, implying the possibility of a therapeutic use for activated Rho D in counteracting tumor metastasis.

## REFERENCES

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3. Mohandas, K., et al. 1994. Loss and reappearance of Rho(D) antigen on the red blood cells of an individual with acute myelogenous leukemia. *Immunohematology* 10: 134-135.
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6. Tsubakimoto, K., et al. 1999. Small GTPase RhoD suppresses cell migration and cytokinesis. *Oncogene* 18: 2431-2440.
7. Kim, H.S., et al. 2000. Assignment of the human RhoHP1 gene (ARHD) to chromosome 11q14.3 by radiation hybrid mapping. *Cytogenet. Cell Genet.* 89: 53.
8. Regnaud, K., et al. 2002. G-protein  $\alpha_{olf}$  subunit promotes cellular invasion, survival, and neuroendocrine differentiation in digestive and urogenital epithelial cells. *Oncogene* 21: 4020-4031.
9. Geier, D.A., et al. 2008. Neurodevelopmental disorders, maternal Rh-negativity, and Rho(D) immune globulins: a multi-center assessment. *Neuro Endocrinol. Lett.* 29: 272-280.

## CHROMOSOMAL LOCATION

Genetic locus: Rhod (mouse) mapping to 19 A.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

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

## PRODUCT

Rho D 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 Rho D shRNA Plasmid (m): sc-60033-SH and Rho D shRNA (m) Lentiviral Particles: sc-60033-V as alternate gene silencing products.

For independent verification of Rho D (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-60033A, sc-60033B and sc-60033C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

Rho D siRNA (m) is recommended for the inhibition of Rho D 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  $\mu$ 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Rho D gene expression knockdown using RT-PCR Primer: Rho D (m)-PR: sc-60033-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.