

# Rho GDI $\gamma$ (N-19): sc-6910

## BACKGROUND

The Ras superfamily of small GTP-binding proteins are critical mediators of diverse cell signaling pathways, including those leading to proliferation, cytoskeletal organization and secretion. The counter-conversion of the active GTP-bound form of these proteins to their inactive GDP-bound form is influenced by two types of regulatory proteins: those that alter the intrinsic GTPase activity of the GTP-binding proteins and those that alter the rate of GDP/GTP exchange. Guanine nucleotide-releasing factors (GRFs) increase the GDP dissociation rate, while GDP-dissociation inhibitors (GDIs) decrease the dissociation rate. The Rho GDI subfamily is composed of Rho GDI $\alpha$ , Ly-GDI (also known as Rho GDI $\beta$  and previously known as GDI/D4) and Rho GDI $\gamma$ . The Rho GDI proteins interact with and have varying affinities for several Ras-like GTP binding proteins, including Rho A, Rho B, Rac and Cdc42. Ly-GDI is expressed only in hematopoietic cells, predominantly in B and T lymphocyte cell lines.

## REFERENCES

1. Trahey, M., et al. 1987. A cytoplasmic protein stimulates normal N-Ras p21 GTPase, but does not affect oncogenic mutants. *Science* 238: 542-545.
2. Hall, A. 1990. The cellular functions of small GTP-binding proteins. *Science* 249: 635-640.
3. Bourne, H.R., et al. 1990. The GTPase superfamily: a conserved switch for diverse cell functions. *Nature* 348: 125-132.
4. Garrett, M.D., et al. 1991. Purification and N-terminal sequence of the p21Rho GTPase-activating protein, Rho GAP. *Biochem. J.* 276: 833-836.
5. Scherle, P., et al. 1993. Ly-GDI, a GDP-dissociation inhibitor of the RhoA GTP-binding protein, is expressed preferentially in lymphocytes. *Proc. Natl. Acad. Sci. USA* 90: 7568-7572.
6. Platko, J.V., et al. 1995. A single residue can modify target-binding affinity and activity of the functional domain of the Rho-subfamily GDP dissociation inhibitors. *Proc. Natl. Acad. Sci. USA* 92: 2974-2978.
7. Adra, C.N., et al. 1997. RhoGDI $\gamma$ : a GDP-dissociation inhibitor for Rho proteins with preferential expression in brain and pancreas. *Proc. Natl. Acad. Sci. USA* 94: 4279-4284.
8. Dirac-Svejstrup, A.B., et al. 1997. Identification of a GDI displacement factor that releases endosomal Rab GTPases from Rab-GDI. *EMBO J.* 16: 465-472.

## CHROMOSOMAL LOCATION

Genetic locus: ARHGDI $\gamma$  (human) mapping to 16p13.3; Arhgdig (mouse) mapping to 17 A3.3.

## SOURCE

Rho GDI $\gamma$  (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Rho GDI $\gamma$  of human origin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-6910 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Rho GDI $\gamma$  (N-19) is recommended for detection of Rho GDI $\gamma$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Rho GDI $\gamma$  (N-19) is also recommended for detection of Rho GDI $\gamma$  in additional species, including bovine.

Suitable for use as control antibody for Rho GDI $\gamma$  siRNA (h): sc-41877, Rho GDI $\gamma$  siRNA (m): sc-41878, Rho GDI $\gamma$  shRNA Plasmid (h): sc-41877-SH, Rho GDI $\gamma$  shRNA Plasmid (m): sc-41878-SH, Rho GDI $\gamma$  shRNA (h) Lentiviral Particles: sc-41877-V and Rho GDI $\gamma$  shRNA (m) Lentiviral Particles: sc-41878-V.

Positive Controls: HeLa whole cell lysate: sc-2200.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Jiang, W.G., et al. 2003. Prognostic value of Rho GTPases and Rho guanine nucleotide dissociation inhibitors in human breast cancers. *Clin. Cancer Res.* 9: 6432-6440.

## 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) or our catalog for detailed protocols and support products.



Try **Rho GDI $\gamma$  (E-1): sc-393690**, our highly recommended monoclonal alternative to Rho GDI $\gamma$  (N-19).