

# Rho GDI $\alpha$ (G-2): sc-373724

## BACKGROUND

Members of the Ras superfamily of small GTP-binding proteins are critical mediators of diverse cell signaling pathways, including those leading to cell 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. Rho GDI $\alpha$ , also known as ARHGDI $\alpha$  or GDIA1, is a 204 amino acid member of the Rho GDI family of proteins. Localized to the cytoplasm, Rho GDI $\alpha$  inhibits the dissociation of GDP from Rho proteins, thereby preventing GTP from binding to and subsequently activating Rho proteins. In humans, Rho GDI $\alpha$  can be phosphorylated at Ser 101 by p21-activated kinase ( $\alpha$ PAK), an event that inhibits Rho GDI $\alpha$  activity and may result in positive feedback regulation of certain Rho GDI $\alpha$  target proteins.

## CHROMOSOMAL LOCATION

Genetic locus: ARHGDI $\alpha$  (human) mapping to 17q25.3; Arhgdia (mouse) mapping to 11 E2.

## SOURCE

Rho GDI $\alpha$  (G-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 2-29 at the N-terminus of Rho GDI $\alpha$  of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Rho GDI $\alpha$  (G-2) (G-2) is available conjugated to agarose (sc-373724 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373724 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373724 PE), fluorescein (sc-373724 FITC), Alexa Fluor<sup>®</sup> 488 (sc-373724 AF488), Alexa Fluor<sup>®</sup> 546 (sc-373724 AF546), Alexa Fluor<sup>®</sup> 594 (sc-373724 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-373724 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-373724 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-373724 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-373724 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## STORAGE

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

## PROTOCOLS

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

## APPLICATIONS

Rho GDI $\alpha$  (G-2) is recommended for detection of Rho GDI $\alpha$  of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

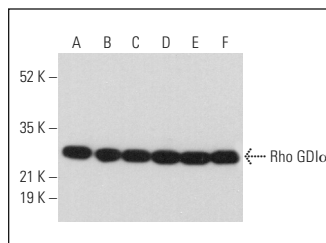
Rho GDI $\alpha$  (G-2) is also recommended for detection of Rho GDI $\alpha$  in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Rho GDI $\alpha$  siRNA (h): sc-36417, Rho GDI $\alpha$  siRNA (m): sc-36416, Rho GDI $\alpha$  siRNA (r): sc-61880, Rho GDI $\alpha$  shRNA Plasmid (h): sc-36417-SH, Rho GDI $\alpha$  shRNA Plasmid (m): sc-36416-SH, Rho GDI $\alpha$  shRNA Plasmid (r): sc-61880-SH, Rho GDI $\alpha$  shRNA (h) Lentiviral Particles: sc-36417-V, Rho GDI $\alpha$  shRNA (m) Lentiviral Particles: sc-36416-V and Rho GDI $\alpha$  shRNA (r) Lentiviral Particles: sc-61880-V.

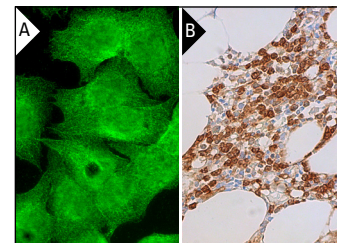
Molecular Weight of Rho GDI $\alpha$ : 30 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, K-562 whole cell lysate: sc-2203 or Jurkat whole cell lysate: sc-2204.

## DATA



Rho GDI $\alpha$  (G-2): sc-373724. Western blot analysis of Rho GDI $\alpha$  expression in K-562 (A), MCF7 (B), Jurkat (C), PC-12 (D), HL-60 (E) and HeLa (F) whole cell lysates. Detection reagent used: m-IgG $\kappa$  BP-HRP: sc-516102.



Rho GDI $\alpha$  (G-2): sc-373724. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoskeleton localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing cytoplasmic staining of hematopoietic cells (B).

## SELECT PRODUCT CITATIONS

- Hernandez, G., et al. 2013. MitoTimer: a novel tool for monitoring mitochondrial turnover. *Autophagy* 9: 1852-1861.
- Sorrentino, S., et al. 2018. Hindlimb ischemia impairs endothelial recovery and increases neointimal proliferation in the carotid artery. *Sci. Rep.* 8: 761.
- Mohammad, G., et al. 2019. Functional regulation of an oxidative stress mediator, Rac 1, in diabetic retinopathy. *Mol. Neurobiol.* 56: 8643-8655.
- Kholmanskikh, S., et al. 2022. Activation of RhoC by regulatory ubiquitination is mediated by LNX1 and suppressed by LIS1. *Sci. Rep.* 12: 16493.

## RESEARCH USE

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