SANTA CRUZ BIOTECHNOLOGY, INC.

Rho GDI (G-3): sc-365190

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 GDIα, Ly-GDI (also known as Rho GDIβ and previously known as GDI/D4) and Rho GDIγ. 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. and McCormick, F. 1987. A cytoplasmic protein stimulates normal N-Ras p21 GTPase, but does not affect oncogenic mutants. Science 238: 542-545.
2. Bourne, H.R., et al. 1990. The GTPase superfamily: a conserved switch for diverse cell functions. Nature 348: 125-132.
3. Hall, A. 1990. The cellular functions of small GTP-binding proteins. Science 249: 635-640.
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.

SOURCE

Rho GDI (G-3) is a mouse monoclonal antibody raised against amino acids 1-100 mapping at the N-terminus of Rho GDIα of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Rho GDI (G-3) is available conjugated to agarose (sc-365190 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365190 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365190 PE), fluorescein (sc-365190 FITC), Alexa Fluor® 488 (sc-365190 AF488), Alexa Fluor® 546 (sc-365190 AF546), Alexa Fluor® 594 (sc-365190 AF594) or Alexa Fluor® 647 (sc-365190 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365190 AF680) or Alexa Fluor® 790 (sc-365190 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

Rho GDI (G-3) is recommended for detection of Rho GDIα, Ly-GDI (Rho GDIβ) and Rho GDIγ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

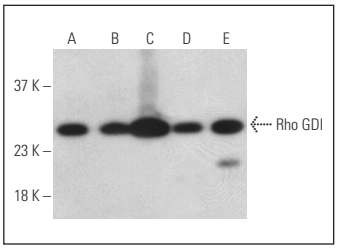
Moleuclar Weight of Rho GDIα: 30 kDa.

Positive Controls: EOC 20 whole cell lysate: sc-364187, K-562 whole cell lysate: sc-2203 or MCF7 whole cell lysate: sc-2206.

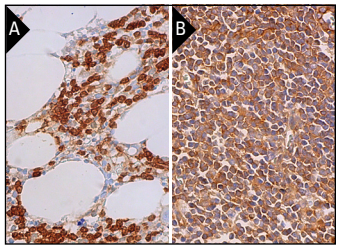
RECOMMENDED SUPPORT REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Rho GDI (G-3) HRP: sc-365190 HRP. Direct western blot analysis of Rho GDI expression in MCF7 (**A**), K-562 (**B**), EOC 20 (**C**), Neuro-2A (**D**) and C6 (**E**) whole cell lysates.



Rho GDI (G-3): sc-365190. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing cytoplasmic staining of hematopoietic cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing cytoplasmic staining of cells in non-germinal center (**B**).

SELECT PRODUCT CITATIONS

1. Dogan, A.E., et al. 2022. PACT establishes a post-transcriptional brake on mitochondrial biogenesis by promoting the maturation of miR-181c. J. Biol. Chem. 298: 102050.
2. Yildirim, A.D., et al. 2022. ER stress-induced sphingosine-1-phosphate lyase phosphorylation potentiates the mitochondrial unfolded protein response. J. Lipid Res. E-published.

STORAGE

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