SANTA CRUZ BIOTECHNOLOGY, INC.

Rho GDI (E-1): sc-373883

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., 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 $p21^{rho}$ 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. RhoGDIγ: 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.

SOURCE

Rho GDI (E-1) 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_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Rho GDI (E-1) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

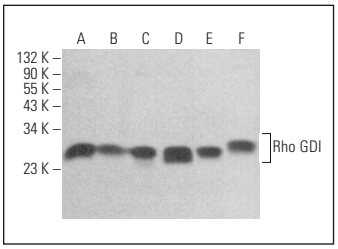
Molecular Weight of Rho GDI: 30 kDa.

Positive Controls: Rho GDIα (h2): 293 Lysate: sc-112194, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

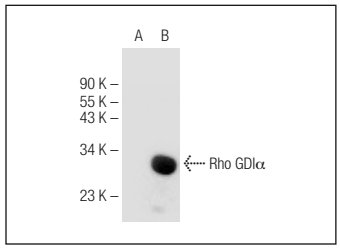
RECOMMENDED SUPPORT REAGENTS

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.

DATA



Rho GDI (E-1): sc-373883. Western blot analysis of Rho GDI expression in K-562 (**A**), U-937 (**B**), Jurkat (**C**), HL-60 (**D**), Ramos (**E**) and HEL 92.1.7 (**F**) whole cell lysates.



Rho GDI (E-1): sc-373883. Western blot analysis of Rho GDIα expression in non-transfected: sc-110760 (**A**) and human Rho GDIα transfected: sc-112194 (**B**) 293 whole cell lysates.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.