

Rho GDI α (B-10): sc-13120

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 α , also known as ARHGDI α or GDI α 1, is a 204 amino acid member of the Rho GDI family of proteins. Localized to the cytoplasm, Rho GDI α inhibits the dissociation of GDP from Rho proteins, thereby preventing GTP from binding to and subsequently activating Rho proteins. In humans, Rho GDI α can be phosphorylated at Ser101 by p21-activated kinase (α PAK), an event that inhibits Rho GDI α activity and may result in positive feedback regulation of certain Rho GDI α target proteins.

REFERENCES

1. Leffers, H., et al. 1993. Identification of two human Rho GDP dissociation inhibitor proteins whose overexpression leads to disruption of the Actin cytoskeleton. *Exp. Cell Res.* 209: 165-174.
2. Wagner, T., et al. 1997. A somatic cell hybrid panel for distal 17q: GDI α 1 maps to 17q25.3. *Cytogenet. Cell Genet.* 76: 172-175.

CHROMOSOMAL LOCATION

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

SOURCE

Rho GDI α (B-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 166-198 at the C-terminus of Rho GDI α of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_{2b}$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Rho GDI α (B-10) is available conjugated to agarose (sc-13120 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP.

Blocking peptide available for competition studies, sc-13120 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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 for detailed protocols and support products.

APPLICATIONS

Rho GDI α (B-10) is recommended for detection of Rho GDI α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

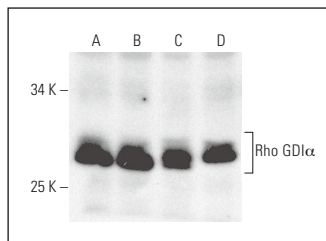
Rho GDI α (B-10) is also recommended for detection of Rho GDI α in additional species, including equine and canine.

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

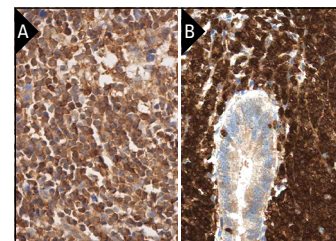
Molecular Weight of Rho GDI α : 30 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, KNRK whole cell lysate: sc-2214 or NIH/3T3 whole cell lysate: sc-2210.

DATA



Rho GDI α (B-10): sc-13120. Western blot analysis of Rho GDI α expression in Jurkat (A), HL-60 (B), NIH/3T3 (C) and KNRK (D) whole cell lysates.



Rho GDI α (B-10): sc-13120. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing cytoplasmic staining of cells in germinal and non-germinal centers (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing cytoplasmic staining of lymphoid cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

1. Lacy, P., et al. 2003. Divergence of mechanisms regulating respiratory burst in blood and sputum eosinophils and neutrophils from atopic subjects. *J. Immunol.* 170: 2670-2679.
2. Keller-Pinter, A., et al. 2017. The phosphomimetic mutation of syndecan-4 binds and inhibits Tiam1 modulating Rac1 activity in PDZ interaction-dependent manner. *PLoS ONE* 12: e0187094.
3. Gorbunova, E.E., et al. 2021. Binding of the andes virus nucleocapsid protein to RhoGDI induces the release and activation of the permeability factor RhoA. *J. Virol.* 95: e0039621.

RESEARCH USE

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