

# Ly-GDI (C-20): sc-6047

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: ARHGDI B (human) mapping to 12p12.3, ARHGDI A (human) mapping to 17q25.3; Arhgdib (mouse) mapping to 6 G1, Arhgdia (mouse) mapping to 11 E2.

## SOURCE

Ly-GDI (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Ly-GDI of human origin.

## 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-6047 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Ly-GDI (C-20) is recommended for detection of Ly-GDI and, to a lesser extent, Rho GDI $\alpha$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Ly-GDI (C-20) is also recommended for detection of Ly-GDI and, to a lesser extent, Rho GDI $\alpha$  in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of Ly-GDI: 27 kDa.

Positive Controls: Ly-GDI (m): 293T Lysate: sc-121444, U-937 cell lysate: sc-2239 or BJAB whole cell lysate: sc-2207.

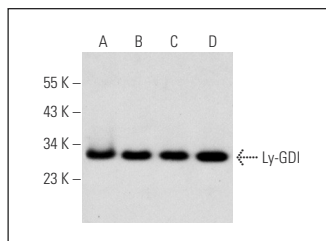
## STORAGE

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

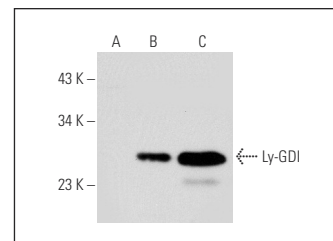
## RESEARCH USE

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

## DATA



Ly-GDI (C-20): sc-6047. Western blot analysis of Ly-GDI expression in BJAB (A), Jurkat (B), U-937 (C) and WEHI-3 (D) whole cell lysates.



Ly-GDI (C-20): sc-6047. Western blot analysis of Ly-GDI expression in non-transfected 293T: sc-117752 (A), mouse Ly-GDI transfected 293T: sc-121444 (B) and U-937 (C) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Rickers, A., et al. 1998. Inhibition of CPP32 blocks surface IgM-mediated apoptosis and D4-GDI cleavage in human BL60 Burkitt lymphoma cells. *Eur. J. Immunol.* 28: 296-304.
- Mathas, S., et al. 2000. Anti-CD20- and B-cell receptor-mediated apoptosis: evidence for shared intracellular signaling pathways. *Cancer Res.* 60: 7170-7176.
- Dib, K., et al. 2003. Downregulation of Rac activity during  $\beta_2$  integrin-mediated adhesion of human neutrophils. *J. Biol. Chem.* 278: 24181-24188.
- Zhou, X., et al. 2004. Nuclear translocation of cleaved Ly-GDI dissociated from Rho and Rac during Trp53-dependent ionizing radiation-induced apoptosis of thymus cells *in vitro*. *Radiat. Res.* 162: 287-295.
- Ota, T., et al. 2004. Ly-GDI functions in cancer metastasis by anchoring Rho proteins to the cell membrane. *Mol. Carcinog.* 39: 206-220.
- Russell, M.C., et al. 2007. The hedgehog signaling pathway in the mouse ovary. *Biol. Reprod.* 77: 226-236.
- Wu, W., et al. 2009. CARD9 facilitates microbe-elicited production of reactive oxygen species by regulating the Ly-GDI-Rac1 complex. *Nat. Immunol.* 10: 1208-1214.
- Braun, M., et al. 2009. Down-regulation of microfilament network-associated proteins in leukocytes of breast cancer patients: potential application to predictive diagnosis. *Cancer Genomics Proteomics* 6: 31-40.
- Duan, W., et al. 2013. Ectopic expression of miR-34a enhances radiosensitivity of non-small cell lung cancer cells, partly by suppressing the Ly-GDI signaling pathway. *J. Radiat. Res.* 54: 611-619.



Try **Ly-GDI (G-12): sc-376473** or **Ly-GDI (D-7): sc-271108**, our highly recommended monoclonal alternatives to Ly-GDI (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **Ly-GDI (G-12): sc-376473**.