

Ly-GDI (E-7): sc-374525

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 α , Ly-GDI (also known as Rho GDI β and previously known as GDI/D4) and Rho GDI γ . 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. 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 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.

CHROMOSOMAL LOCATION

Genetic locus: ARHGDI β (human) mapping to 12p12.3; Arhgdib (mouse) mapping to 6 G1.

SOURCE

Ly-GDI (E-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 159-189 near the C-terminus of Ly-GDI of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-374525 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.

APPLICATIONS

Ly-GDI (E-7) is recommended for detection of Ly-GDI of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Ly-GDI (E-7) is also recommended for detection of Ly-GDI in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Ly-GDI siRNA (h): sc-35826, Ly-GDI siRNA (m): sc-35827, Ly-GDI shRNA Plasmid (h): sc-35826-SH, Ly-GDI shRNA Plasmid (m): sc-35827-SH, Ly-GDI shRNA (h) Lentiviral Particles: sc-35826-V and Ly-GDI shRNA (m) Lentiviral Particles: sc-35827-V.

Molecular Weight of Ly-GDI: 27 kDa.

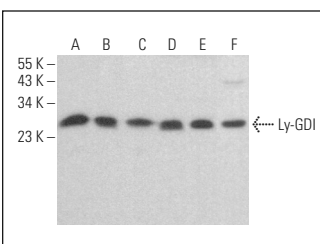
Positive Controls: BJAB whole cell lysate: sc-2207, Jurkat whole cell lysate: sc-2204 or Ramos cell lysate: sc-2216.

RECOMMENDED SUPPORT REAGENTS

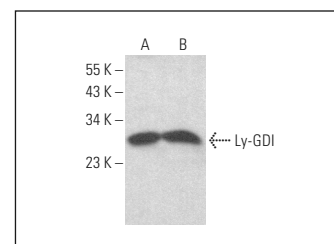
To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



Ly-GDI (E-7): sc-374525. Western blot analysis of Ly-GDI expression in Jurkat (A), K-562 (B), U-937 (C), HL-60 (D), Ramos (E) and WEHI-3 (F) whole cell lysates.



Ly-GDI (E-7): sc-374525. Western blot analysis of Ly-GDI expression in BJAB (A) and NAMALWA (B) whole cell lysates.

RESEARCH USE

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



See **Ly-GDI (G-12): sc-376473** for Ly-GDI antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.