SANTA CRUZ BIOTECHNOLOGY, INC.

Ly-GDI (G-12): sc-376473

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.

CHROMOSOMAL LOCATION

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

SOURCE

Ly-GDI (G-12) 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 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Ly-GDI (G-12) is available conjugated to agarose (sc-376473 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376473 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376473 PE), fluorescein (sc-376473 FITC), Alexa Fluor® 488 (sc-376473 AF488), Alexa Fluor® 546 (sc-376473 AF546), Alexa Fluor® 594 (sc-376473 AF594) or Alexa Fluor® 647 (sc-376473 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376473 AF680) or Alexa Fluor® 790 (sc-376473 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376473 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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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 (G-12) 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 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).

Ly-GDI (G-12) 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.

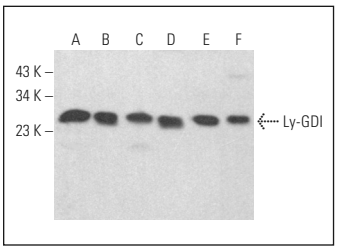
Molecular Weight of Ly-GDI: 27 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

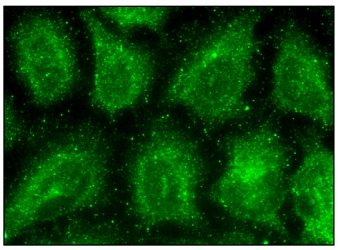
RECOMMENDED SUPPORT REAGENTS

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



Ly-GDI (G-12): sc-376473. Western blot analysis of Ly-GDI expression in Jurkat (**A**), K-562 (**B**), U-937 (**C**), HL-60 (**D**), HEL 92.1.7 (**E**) and WEHI-3 (**F**) whole cell lysates.



Ly-GDI (G-12): sc-376473. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Liu, Y., et al. 2018. Unconventional myosin VIIA promotes melanoma progression. J. Cell Sci. 131: jcs209924.
2. Chen, Y., et al. 2021. Silencing of METTL3 effectively hinders invasion and metastasis of prostate cancer cells. Theranostics 11: 7640-7657.

RESEARCH USE

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