SANTA CRUZ BIOTECHNOLOGY, INC.

Rab GDI α/β (E-5): sc-374649

BACKGROUND

Rab proteins, a family of Ras-related small GTP-binding proteins, play a key role in regulating intracellular vesicle trafficking. Rab GDP dissociation inhibitor (Rab GDI or GDI2) forms a soluble complex with Rab proteins and thereby prevents the exchange of GDP for GTP. In mammals, there exist two major isoforms, Rab GDI α (also known as XAP-4) and Rab GDI β. While the mammalian Rab GDI β-genes are ubiquitously expressed, the Rab GDI α genes are predominantly brain-specific. Since it is expressed predominantly in neural and sensory tissues, Rab GDI α may serve a specific function in neural signal transmission. The gene sequences for the Rab GDI proteins are extremely conserved in evolution, with substantial homology preserved across three eukaryotic kingdoms.

CHROMOSOMAL LOCATION

Genetic locus: GDI1 (human) mapping to Xq28, GDI2 (human) mapping to 10p15.1; Gdi1 (mouse) mapping to X A7.3, Gdi2 (mouse) mapping to 13 A1.

SOURCE

Rab GDI α/β (E-5) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of Rab GDI α of human origin.

PRODUCT

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

Rab GDI α/β (E-5) is available conjugated to agarose (sc-374649 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374649 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374649 PE), fluorescein (sc-374649 FITC), Alexa Fluor® 488 (sc-374649 AF488), Alexa Fluor® 546 (sc-374649 AF546), Alexa Fluor® 594 (sc-374649 AF594) or Alexa Fluor® 647 (sc-374649 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374649 AF680) or Alexa Fluor® 790 (sc-374649 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

Rab GDI α/β (E-5) is recommended for detection of Rab GDI α and Rab GDI β 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), 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).

Molecular Weight of Rab GDI α: 55 kDa.

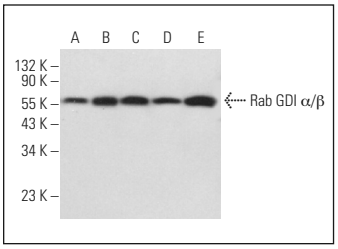
Molecular Weight of Rab GDI β: 50 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, Neuro-2A whole cell lysate: sc-364185 or HeLa whole cell lysate: sc-2200.

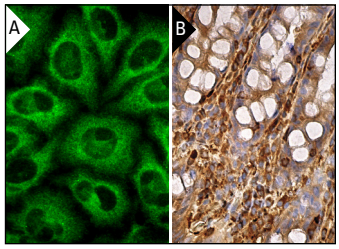
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Rab GDI α/β (E-5): sc-374649. Western blot analysis of Rab GDI α/β expression in HeLa (**A**), NCI-H1299 (**B**), MCF7 (**C**), NIH/3T3 (**D**) and Neuro-2A (**E**) whole cell lysates.



Rab GDI α/β (E-5): sc-374649. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human rectum tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Court, H., et al. 2017. Regulation of NOTCH signaling by RAB7 and RAB8 requires carboxyl methylation by ICMT. J. Cell Biol. 216: 4165-4182.
2. Cong, X.X., et al. 2020. Rab5a activates IRS1 to coordinate IGF-Akt-mTOR signaling and myoblast differentiation during muscle regeneration. Cell Death Differ. 27: 2344-2362.
3. Moissoglu, K., et al. 2020. RNA localization and co-translational interactions control RAB13 GTPase function and cell migration. EMBO J. 39: e104958.
4. Ahearn, I.M., et al. 2021. NRAS is unique among Ras proteins in requiring ICMT for trafficking to the plasma membrane. Life Sci. Alliance 4: e202000972.

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.