

Rab GDI α (47-E): sc-81907

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 GDI3) 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.

REFERENCES

1. Nishimura, N., Nakamura, H., Takai, Y. and Sano, K. 1994. Molecular cloning and characterization of two Rab GDI species from rat brain: brain-specific and ubiquitous types. *J. Biol. Chem.* 269: 14191-14198.
2. Nishimura, N., Goji, J., Nakamura, H., Orita, S., Takai, Y. and Sano, K. 1995. Cloning of a brain-type isoform of human Rab GDI and its expression in human neuroblastoma cell lines and tumor specimens. *Cancer Res.* 55: 5445-5450.
3. Araki, K., Nakanishi, H., Hirano, H., Kato, M., Sasaki, T. and Takai, Y. 1995. Purification and characterization of Rab GDI β from rat brain. *Biochem. Biophys. Res. Commun.* 211: 296-305.
4. Bachner, D., Sedlacek, Z., Korn, B., Hameister, H. and Poustka, A. 1995. Expression patterns of two human genes coding for different Rab GDP-dissociation inhibitors (GDIs), extremely conserved proteins involved in cellular transport. *Hum. Mol. Genet.* 4: 701-708.
5. Sedlacek, Z., Shimeld, S.M., Munstermann, E. and Poustka, A. 1999. The amphioxus Rab GDP-dissociation inhibitor (GDI) gene is neural-specific: implications for the evolution of chordate Rab GDI genes. *Mol. Biol. Evol.* 16: 1231-1237.

CHROMOSOMAL LOCATION

Genetic locus: GDI1 (human) mapping to Xq28; Gdi1 (mouse) mapping to X A7.3.

SOURCE

Rab GDI α (47-E) is a mouse monoclonal antibody raised against recombinant Rab GDI α of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Rab GDI α (47-E) is recommended for detection of Rab 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Rab GDI α siRNA (h): sc-41838, Rab GDI α siRNA (m): sc-41839, Rab GDI α shRNA Plasmid (h): sc-41838-SH, Rab GDI α shRNA Plasmid (m): sc-41839-SH, Rab GDI α shRNA (h) Lentiviral Particles: sc-41838-V and Rab GDI α shRNA (m) Lentiviral Particles: sc-41839-V.

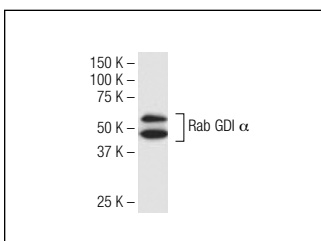
Molecular Weight of Rab GDI α : 55 kDa.

Positive Controls: IMR-32 whole cell lysate: sc-2409.

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, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Rab GDI α (47-E): sc-81907. Western blot analysis of Rab GDI α expression in IMR-32 whole cell lysate.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.