

Rab 27b (1596CT245.254.49): sc-517602

BACKGROUND

The Rab family of low molecular weight GTPases are critical regulators of vesicular transport. Rab proteins cycle between an active GTP-bound state, which recruits specific effector proteins, and an inactive GDP-bound state. Two members of this family, Rab 27a and Rab 27b, have overlapping functions, but differ in tissue specificity. Rab 27a is widely expressed with significant expression in pancreatic islets and pituitary tissue, and low expression in brain. Rab 27b is also expressed in pituitary tissue, but is more significantly expressed in brain and spleen. Rab 27a regulates diverse processes involving lysosome-related organelles, including melanosome motility in melanocytes and lytic granule release in cytotoxic T lymphocytes. Mutations in the Rab 27a gene result in Griscelli syndrome (GS) or the corresponding mouse model, ashen, a rare autosomal recessive disorder characterized by hypopigmentation, prolonged bleeding times and platelet storage pool deficiency. In GS, Rab 27a is not available to mediate the recruitment of melanosomes via the Actin motor, Myosin Va. The human Rab 27b gene maps to chromosome 18q21.2 and encodes a protein that is involved in pituitary hormone secretion. Rab 27b may be functionally redundant to Rab 27a, as it can rescue Rab 27a mutants.

REFERENCES

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2. Barral, D.C., et al. 2002. Functional redundancy of Rab 27 proteins and the pathogenesis of Griscelli syndrome. *J. Clin. Invest.* 110: 247-257.
3. Zhao, S., et al. 2002. Involvement of Rab 27b in the regulated secretion of pituitary hormones. *Endocrinology* 143: 1817-1824.
4. Strom, M., et al. 2002. A family of Rab 27-binding proteins. Melanophilin links Rab 27a and Myosin Va function in melanosome transport. *J. Biol. Chem.* 277: 25423-25430.
5. Wu, X., et al. 2002. Rab 27a is an essential component of melanosome receptor for Myosin Va. *Mol. Biol. Cell* 13: 1735-1749.
6. Yi, Z., et al. 2002. The Rab 27a/granuphilin complex regulates the exocytosis of Insulin-containing dense-core granules. *Mol. Cell. Biol.* 22: 1858-1867.
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CHROMOSOMAL LOCATION

Genetic locus: RAB27B (human) mapping to 18q21.2; Rab27b (mouse) mapping to 18 E2.

SOURCE

Rab 27b (1596CT245.254.49) is a mouse monoclonal antibody raised against recombinant Rab 27b of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Rab 27b (1596CT245.254.49) is recommended for detection of Rab 27b of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for Rab 27b siRNA (h): sc-41836, Rab 27b siRNA (m): sc-41837, Rab 27b shRNA Plasmid (h): sc-41836-SH, Rab 27b shRNA Plasmid (m): sc-41837-SH, Rab 27b shRNA (h) Lentiviral Particles: sc-41836-V and Rab 27b shRNA (m) Lentiviral Particles: sc-41837-V.

Molecular Weight of Rab 27b: 25 kDa.

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.

SELECT PRODUCT CITATIONS

1. Record, M., et al. 2022. Targeting the liver X receptor with dendrogenin A differentiates tumour cells to secrete immunogenic exosome-enriched vesicles. *J. Extracell. Vesicles* 11: e12211.

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.

PROTOCOLS

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