

Rab 27b (C-20): sc-22993

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 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

1. Ramalho, J.S., et al. 2001. Chromosomal mapping, gene structure and characterization of the human and murine RAB27B gene. *BMC Genet.* 2: 2.
2. Yi, Z., et al. 2002. The Rab27a/granuphilin complex regulates the exocytosis of Insulin-containing dense-core granules. *Mol. Cell. Biol.* 22: 1858-1867.
3. Barral, D.C., et al. 2002. Functional redundancy of Rab27 proteins and the pathogenesis of Griscelli syndrome. *J. Clin. Invest.* 110: 247-257.
4. Zhao, S., et al. 2002. Involvement of Rab27b in the regulated secretion of pituitary hormones. *Endocrinology* 143: 1817-1824.

CHROMOSOMAL LOCATION

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

SOURCE

Rab 27b (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Rab 27b of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-22993 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

Rab 27b (C-20) 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), 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).

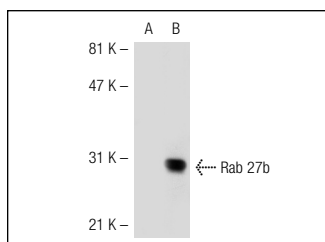
Suitable for use as control antibody for Rab 27b siRNA (h): sc-41836, Rab 27b siRNA (m): sc-41837, Rab 27b shRNA Plasmid (h): sc-41836-SH, Rab 27b shRNA Plasmid (m): sc-41837-SH, Rab 27b shRNA (h) Lentiviral Particles: sc-41836-V and Rab 27b shRNA (m) Lentiviral Particles: sc-41837-V.

Positive Controls: Rab 27b (h): 293T Lysate: sc-114535.

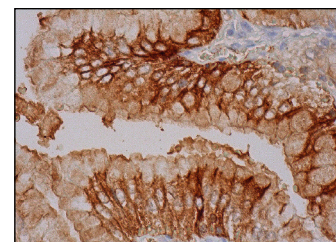
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), 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). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



Rab 27b (C-20): sc-22993. Western blot analysis of Rab 27b expression in non-transfected: sc-117752 (A) and human Rab 27b transfected: sc-114535 (B) 293T whole cell lysates.



Rab 27b (C-20): sc-22993. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lower stomach tissue showing membrane and cytoplasmic staining of glandular cells.

PROTOCOLS

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