

Rab 27A (C-20): sc-22990

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, Rab27a and Rab27b, have overlapping functions, but differ in tissue specificity. Rab27a is widely expressed with significant expression in pancreatic islets and pituitary tissue, and low expression in brain. Rab27b is also expressed in pituitary tissue, but is more significantly expressed in brain and spleen. Rab27a regulates diverse processes involving lysosome-related organelles, including melanosome motility in melanocytes and lytic granule release in cytotoxic T lymphocytes. Mutations in the Rab27a 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, Rab27a is not available to mediate the recruitment of melanosomes via the actin motor, myosin Va. The human Rab27b gene maps to chromosome 15q21.3, and encodes a protein that is involved in pituitary hormone secretion. Rab27b may be functionally redundant to Rab27a, as it can rescue Rab27a 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. Barral, D.C., et al. 2002. Functional redundancy of Rab27 proteins and the pathogenesis of Griscelli syndrome. *J. Clin. Invest.* 110: 247-257.
3. Zhao, S., et al. 2002. Involvement of Rab27b in the regulated secretion of pituitary hormones. *Endocrinology* 143: 1817-1824.
4. Strom, M., et al. 2002. A family of Rab27-binding proteins. Melanophilin links Rab27a and myosin Va function in melanosome transport. *J. Biol. Chem.* 277: 25423-25430.
5. Wu, X., et al. 2002. Rab27a is an essential component of melanosome receptor for Myosin va. *Mol. Biol. Cell* 13: 1735-1749.

CHROMOSOMAL LOCATION

Genetic locus: Rab27A (human) mapping to 15q21.3; Rab27a (mouse) mapping to 9 D.

SOURCE

Rab 27A (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Rab 27A 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-22990 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

Rab 27a (C-20) is recommended for detection of Rab 27a 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).

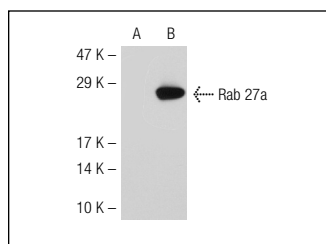
Rab 27a (C-20) is also recommended for detection of Rab 27a in additional species, including equine.

Suitable for use as control antibody for Rab 27a siRNA (h): sc-41834, Rab 27a siRNA (m): sc-41835, Rab 27a shRNA Plasmid (h): sc-41834-SH, Rab 27a shRNA Plasmid (m): sc-41835-SH, Rab 27a shRNA (h) Lentiviral Particles: sc-41834-V and Rab 27a shRNA (m) Lentiviral Particles: sc-41835-V.

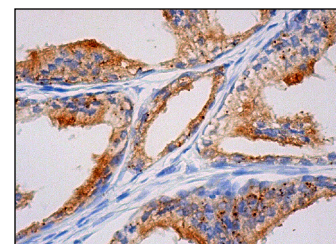
Molecular Weight of Rab 27a: 25 kDa.

Positive Controls: SK-MEL-28 cell lysate: sc-2236, Rab 27a (m): 293T Lysate: sc-122891 or C32 whole cell lysate: sc-2205.

DATA



Rab 27a (C-20): sc-22990. Western blot analysis of Rab 27a expression in non-transfected: sc-117752 (A) and mouse Rab 27a transfected: sc-122891 (B) 293T whole cell lysates.



Rab 27a (C-20): sc-22990. Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing cytoplasmic staining of glandular cells.

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 or our catalog for detailed protocols and support products.

MONOS
Satisfaction
Guaranteed

Try **Rab 27a (E-8): sc-74586** or **Rab 27a (D-4): sc-136996**, our highly recommended monoclonal alternatives to Rab 27a (C-20).