

Rab 27a (D-4): sc-136996

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 G_S , 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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- Zhao, S., et al. 2002. Involvement of Rab 27b in the regulated secretion of pituitary hormones. *Endocrinology* 143: 1817-1824.
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- Wu, X., et al. 2002. Rab 27a is an essential component of melanosome receptor for Myosin Va. *Mol. Biol. Cell* 13: 1735-1749.
- Chen, Y., et al. 2002. Rab 27b association with melanosomes: dominant negative mutants disrupt melanosomal movement. *J. Invest. Dermatol.* 118: 933-940.
- 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.

CHROMOSOMAL LOCATION

Genetic locus: RAB27A (human) mapping to 15q21.3; Rab27a (mouse) mapping to 9 D.

SOURCE

Rab 27a (D-4) is a mouse monoclonal antibody raised against amino acids 162-221 mapping at the C-terminus of Rab 27a of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

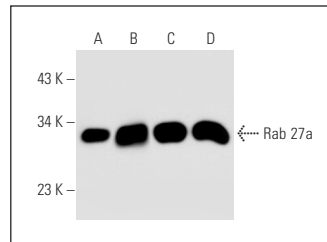
Rab 27a (D-4) is recommended for detection of Rab 27a of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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 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: Rab 27a (m): 293T Lysate: sc-122891, SK-MEL-28 cell lysate: sc-2236 or C32 whole cell lysate: sc-2205.

DATA



Rab 27a (D-4): sc-136996. Western blot analysis of Rab 27a expression in non-transfected 293T: sc-117752 (A), mouse Rab 27a transfected 293T: sc-122891 (B), C32 (C) and SK-MEL-28 (D) whole cell lysates.

SELECT PRODUCT CITATIONS

- Boucher, J.M., et al. 2018. Rab 27a regulates human perivascular adipose progenitor cell differentiation. *Cardiovasc. Drugs Ther.* 32: 519-530.

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.