

Rab 27a (E-4): sc-136995

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 18q21.2, and encodes a protein that is involved in pituitary hormone secretion. Rab27b may be functionally redundant to Rab27a, as it can rescue Rab27a mutants.

CHROMOSOMAL LOCATION

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

SOURCE

Rab 27a (E-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 µg IgG_{2a} lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

Rab 27a (E-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 µg per 100-500 µg 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.

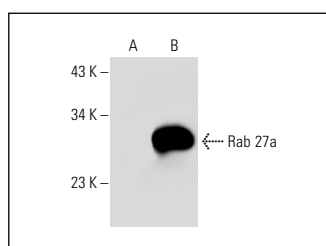
Positive Controls: Rab 27a (m2): 293T Lysate: sc-122892, MCF7 whole cell lysate: sc-2206 or KNRK whole cell lysate: sc-2214.

RECOMMENDED SUPPORT REAGENTS

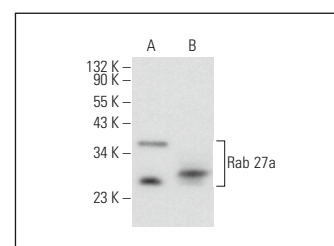
To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgGλ BP-HRP: sc-516132 or m-IgGλ BP-HRP (Cruz Marker): sc-516132-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.
- 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- 3) Immunofluorescence: use m-IgGλ BP-FITC: sc-516185 or m-IgGλ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Rab 27a (E-4): sc-136995. Western blot analysis of Rab 27a expression in non-transfected: sc-117752 (A) and mouse Rab 27a transfected: sc-122892 (B) 293T whole cell lysates.



Rab 27a (E-4): sc-136995. Western blot analysis of Rab 27a expression in MCF7 (A) and KNRK (B) whole cell lysates. Detection reagent used: m-IgGλ BP-HRP (Cruz Marker): sc-516132-CM.

SELECT PRODUCT CITATIONS

1. Noguchi, S., et al. 2016. Analysis of microRNA-203 function in CREB/MITF/RAB27a pathway: comparison between canine and human melanoma cells. *Vet. Comp. Oncol.* 14: 384-394.
2. Stephens, D.C., et al. 2019. Spatiotemporal organization and protein dynamics involved in regulated exocytosis of MMP-9 in breast cancer cells. *J. Gen. Physiol.* 151: 1386-1403.

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 for detailed protocols and support products.