

Rab 21 (m): 293T Lysate: sc-122885

BACKGROUND

The Ras-related superfamily of guanine nucleotide binding proteins includes the R-Ras, Rap, Ral/Rec and Rho/Rab subfamilies. Increasing data suggests an important role for Rab proteins in either endocytosis or in biosynthetic protein transport. The process of transporting newly synthesized proteins from the endoplasmic reticulum to various stacks of the Golgi complex and to secretory vesicles involves the movement of carrier vesicles and requires Rab protein function. Rab proteins are also an integral part of endocytic pathways. Rab 21 is a ubiquitously expressed member of the Rab family of proteins and localizes to the Golgi membrane, where it participates in endosomal trafficking of integrins. More specifically, Rab 21 associates with the cytoplasmic domains of Integrin α chains and is essential for integrin-mediated cell motility and cell adhesion. The overexpression of Rab 21 induces the endosomal traffic of integrins and promotes cell migration and cancer cell adhesion.

REFERENCES

1. Opdam, F.J., et al. 2000. Expression of Rab small GTPases in epithelial Caco-2 cells: Rab21 is an apically located GTP-binding protein in polarised intestinal epithelial cells. *Eur. J. Cell Biol.* 79: 308-316.
2. Simpson, J.C., et al. 2004. A role for the small GTPase Rab 21 in the early endocytic pathway. *J. Cell Sci.* 117: 6297-6311.
3. Khurana, T., et al. 2005. A Rab21/LIM-only/CH-LIM complex regulates phagocytosis via both activating and inhibitory mechanisms. *EMBO J.* 24: 2254-2264.
4. Pellinen, T., et al. 2006. Small GTPase Rab 21 regulates cell adhesion and controls endosomal traffic of β 1 Integrins. *J. Cell Biol.* 173: 767-780.
5. Zhang, X., et al. 2006. Varp is a Rab21 guanine nucleotide exchange factor and regulates endosome dynamics. *J. Cell Sci.* 119: 1053-1062.
6. Pal'gova, I.V., et al. 2007. Multiadaptor proteins RanBP9 and 4.1 protein family members as putative interaction partners for VARP, a Rab 21 GTPase guanine nucleotide exchange factor. *Mol. Biol.* 41: 1009-1013.
7. Zhu, G., et al. 2007. Structure of the APPL1 BAR-PH domain and characterization of its interaction with Rab5. *EMBO J.* 26: 3484-3493.
8. Delprato, A. and Lambright, D.G. 2007. Structural basis for Rab GTPase activation by VPS9 domain exchange factors. *Nat. Struct. Mol. Biol.* 14: 406-412.

CHROMOSOMAL LOCATION

Genetic locus: Rab21 (mouse) mapping to 10 D2.

PRODUCT

Rab 21 (m): 293T Lysate represents a lysate of mouse Rab 21 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

Rab 21 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive Rab 21 antibodies. Recommended use: 10-20 μ l per lane.

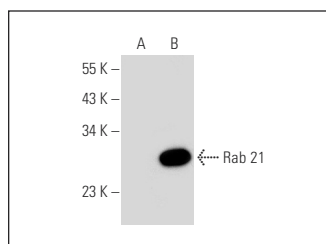
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Rab 21 (B16K): sc-81917 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse Rab 21 expression in Rab 21 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



Rab 21 (B16K): sc-81917. Western blot analysis of Rab 21 expression in non-transfected: sc-117752 (A) and mouse Rab 21 transfected: sc-122885 (B) 293T whole cell lysates.

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.