

# Rab 5A (3A4): sc-130010

## BACKGROUND

The Ras-related superfamily of guanine nucleotide binding proteins, which includes the R-Ras, Rap, Ral/Rec and Rho/Rab subfamilies, exhibits 30-60% homology with Rasp21. Accumulating data suggests an important role for Rab proteins, either in endocytosis or in biosynthetic protein transport. The transport of newly synthesized proteins from the endoplasmic reticulum to various stacks of the Golgi complex and to secretory vesicles involves at each stage the movement of carrier vesicles, a process that appears to involve Rab protein function. The possibility that Rab proteins might also direct the exocytosis from secretory vesicles to the plasma membrane is supported by the observation that in yeast, the Sec4 protein, which is 40% homologous to Rab proteins, is associated with secretory vesicles. At least eight members of the Rab subfamily have been identified, each of which is found at a particular stage of a membrane transport pathway.

## REFERENCES

- Zahraoui, A., et al. 1989. The human Rab genes encode a family of GTP-binding proteins related to yeast Ypt1 and Sec4 products involved in secretion. *J. Biol. Chem.* 264: 12394-12401.
- Chavrier, P., et al. 1992. The complexity of the Rab and Rho GTP-binding protein subfamilies revealed by a PCR cloning approach. *Gene* 112: 261-264.
- Baldini, G., et al. 1992. Cloning of a Rab 3 isotype predominately expressed in adipocytes. *Proc. Natl. Acad. Sci. USA* 89: 5049-5052.
- Chen, Y., et al. 1993. Expression and localization of two low molecular weight GTP-binding proteins, Rab 8 and Rab 10, by epitope tag. *Proc. Natl. Acad. Sci. USA* 90: 6508-6512.
- Torti, M., et al. 1993. Association of the low molecular weight GTP-binding protein Rap 2B with the cytoskeleton during platelet aggregation. *Proc. Natl. Acad. Sci. USA* 90: 7553-7557.
- Karniguian, A., et al. 1993. Identification of small GTP-binding Rab proteins in human platelets: thrombin-induced phosphorylation of Rab 3B, Rab 6, and Rab 8 proteins. *Proc. Natl. Acad. Sci. USA* 90: 7647-7651.
- Takizawa, P., et al. 1993. Coatomers and SNAREs in promoting membrane traffic. *Cell* 75: 593-596.
- Novick, P., et al. 1993. Friends and family: the role of the Rab GTPases in vesicular traffic. *Cell* 75: 597-601.
- Ferro-Novick, S., et al. 1993. The role of GTP-binding proteins in transport along the exocytic pathway. *Annu. Rev. Cell Biol.* 9: 575-599.

## CHROMOSOMAL LOCATION

Genetic locus: RAB5A (human) mapping to 3p24.3; Rab5a (mouse) mapping to 17 C.

## SOURCE

Rab 5A (3A4) is a mouse monoclonal antibody raised against full-length recombinant Rab 5a of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>2b</sub> in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

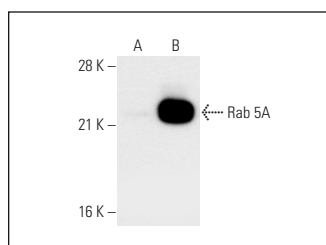
Rab 5A (3A4) is recommended for detection of Rab 5A of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Rab 5A siRNA (h): sc-36344, Rab 5A siRNA (m): sc-36345, Rab 5A shRNA Plasmid (h): sc-36344-SH, Rab 5A shRNA Plasmid (m): sc-36345-SH, Rab 5A shRNA (h) Lentiviral Particles: sc-36344-V and Rab 5A shRNA (m) Lentiviral Particles: sc-36345-V.

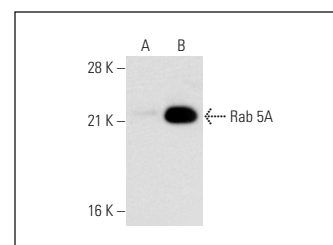
Molecular Weight of Rab 5A: 25 kDa.

Positive Controls: Rab 5A (m): 293T Lysate: sc-122910, HL-60 whole cell lysate: sc-2209 or HeLa whole cell lysate: sc-2200.

## DATA



Rab 5A (3A4): sc-130010. Western blot analysis of Rab 5A expression in non-transfected: sc-117752 (A) and mouse Rab 5A transfected: sc-122910 (B) 293T whole cell lysates.



Rab 5A (3A4): sc-130010. Western blot analysis of Rab 5A expression in non-transfected: sc-117752 (A) and mouse Rab 5A transfected: sc-122911 (B) 293T 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.



See **Rab 5 (D-11): sc-46692** for Rab 5 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.