SANTA CRUZ BIOTECHNOLOGY, INC.

Rab 1 (FL-205): sc-28566

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 Ras p21. 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

1. Pfeffer, S.R. 1992. GTP-binding proteins in intracellular transport. Trends Cell Biol. 2: 41-46.
2. Chavrier, P., Simons, K. and Zerial, M. 1992. The complexity of the Rab and Rho GTP-binding protein subfamilies revealed by a PCR cloning approach. Gene 112: 261-264.
3. Takizawa, P. and Malhotra, V. 1993. Coatomers and SNAREs in promoting membrane traffic. Cell 75: 593-596.
4. Novick, P. and Brennwald, P. 1993. Friends and family: the role of the Rab GTPases in vesicular traffic. Cell 75: 597-601.
5. Ferro-Novick, S. and Novick. P. 1993. The role of GTP-binding proteins in transport along the exocytic pathway. Ann. Rev. Cell. Biol. 9: 575-599.
6. Chen, Y., et al. 1993. Expression and localization of two low molecular weight GTP-binding proteins, Rab8 and Rab10, by epitope tag. Proc. Natl. Acad. Sci. USA 90: 6508-6512.

CHROMOSOMAL LOCATION

Genetic locus: RAB1A (human) mapping to 2p14; Rab1 (mouse) mapping to 11 A3.1, Rab1b (mouse) mapping to 19 A.

SOURCE

Rab 1 (FL-205) is a rabbit polyclonal antibody raised against amino acids 1-205 representing full length Rab 1A 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.

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.

APPLICATIONS

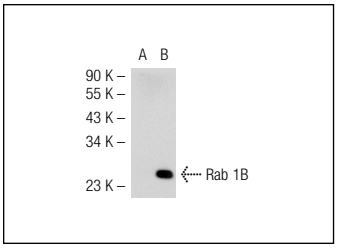
Rab 1 (FL-205) is recommended for detection of Rab 1A, 1B and 1C; partially cross reactive with other Rab family members of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Rab 1 (FL-205) is also recommended for detection of Rab 1A, 1B and 1C; partially cross reactive with other Rab family members in additional species, including equine, canine, bovine, porcine and avian.

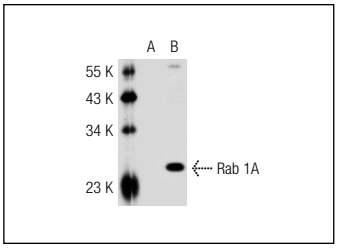
Molecular Weight of Rab 1: 23 kDa

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, Rab 1A (m): 293T Lysate: sc-125876 or human platelet whole cell lysate: sc-363773.

DATA



Rab 1 (FL-205): sc-28566. Western blot analysis of Rab 1B expression in non-transfected: sc-117752 (**A**) and mouse Rab 1B transfected: sc-122884 (**B**) 293T whole cell lysates.



Rab 1 (FL-205): sc-28566. Western blot analysis of Rab 1A expression in non-transfected: sc-117752 (**A**) and mouse Rab 1A transfected: sc-125876 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Filipeanu, C.M., et al. 2004. Regulation of the cell surface expression and function of angiotensin II type 1 receptor by Rab 1-mediated endoplasmic reticulum-to-Golgi transport in cardiac myocytes. J. Biol. Chem. 279: 41077-41084.
2. Lotz, G.P., et al. 2008. A novel HSP90 chaperone complex regulates intracellular vesicle transport. J. Cell. Sci. 121: 717-723.
3. Tinsley, R.B., et al. 2009. Dopamine D2 receptor knockout mice develop features of Parkinson disease. Ann. Neurol. 66: 472-484.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.