SANTA CRUZ BIOTECHNOLOGY, INC.

Rab 3A (D-1): sc-271735

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 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

1. 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.
2. 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.
3. Baldini, G., et al. 1992. Cloning of a Rab3 isotype predominately expressed in adipocytes. Proc. Natl. Acad. Sci. USA 89: 5049-5052.
4. Takizawa, P., et al. 1993. Coatomers and SNAREs in promoting membrane traffic. Cell 75: 593-596.
5. Novick, P., et al. 1993. Friends and family: the role of the Rab GTPases in vesicular traffic. Cell 75: 597-601.
6. 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.
7. 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.

CHROMOSOMAL LOCATION

Genetic locus: RAB3A (human) mapping to 19p13.11; Rab3a (mouse) mapping to 8 B3.3.

SOURCE

Rab 3A (D-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 195-220 within the C-terminus of Rab 3A of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271735 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Rab 3A (D-1) is recommended for detection of Rab 3A 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 3A siRNA (h): sc-36342, Rab 3A siRNA (m): sc-36343, Rab 3A shRNA Plasmid (h): sc-36342-SH, Rab 3A shRNA Plasmid (m): sc-36343-SH, Rab 3A shRNA (h) Lentiviral Particles: sc-36342-V and Rab 3A shRNA (m) Lentiviral Particles: sc-36343-V.

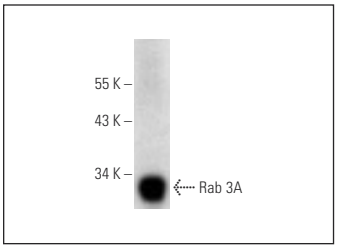
Molecular Weight of Rab 3A: 31 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, NIH/3T3 whole cell lysate: sc-2210 or rat brain extract: sc-2392.

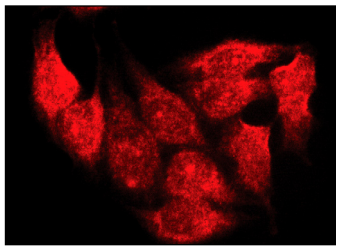
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Rab 3A (D-1): sc-271735. Western blot analysis of Rab 3A expression in IMR-32 whole cell lysate.



Rab 3A (D-1): sc-271735. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization.

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.