

Rab 1A (G-10): sc-377201

BACKGROUND

The Ras-related superfamily of guanine nucleotide binding proteins, which includes the R-Ras, Rap, Ral/Rec and Rho/Rab subfamilies exhibit 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.

CHROMOSOMAL LOCATION

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

SOURCE

Rab 1A (G-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 171-209 within the C-terminus of Rab 1A 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-377201 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Rab 1A (G-10) is recommended for detection of Rab 1A 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).

Rab 1A (G-10) is also recommended for detection of Rab 1A in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Rab 1A siRNA (h): sc-41808, Rab 1A siRNA (m): sc-41809, Rab 1A shRNA Plasmid (h): sc-41808-SH, Rab 1A shRNA Plasmid (m): sc-41809-SH, Rab 1A shRNA (h) Lentiviral Particles: sc-41808-V and Rab 1A shRNA (m) Lentiviral Particles: sc-41809-V.

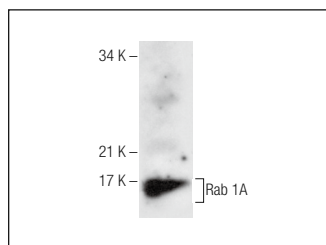
Molecular Weight of Rab 1A: 23 kDa.

Positive Controls: mouse eye extract: sc-364241, rat eye extract: sc-364805 or NIH/3T3 whole cell lysate: sc-2210.

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 1A (G-10): sc-377201. Western blot analysis of Rab 1A expression in rat eye tissue extract.

SELECT PRODUCT CITATIONS

- Hiraoka, E., et al. 2019. Breast cancer cell motility is promoted by 14-3-3γ. *Breast Cancer* 26: 581-593.
- Zhang, Z.D., et al. 2022. RNF115 inhibits the post-ER trafficking of TLRs and TLRs-mediated immune responses by catalyzing K11-linked ubiquitination of Rab 1A and Rab 13. *Adv. Sci.* 9: e2105391.
- Jiang, C., et al. 2022. Autophagy induced by Rab1a-ULK1 interaction promotes porcine reproductive and respiratory syndrome virus replication. *Virus Res.* 323: 198989.
- Xue, M., et al. 2023. Loss of BCAA catabolism enhances Rab1A-mTORC1 signaling activity and promotes tumor proliferation in NSCLC. *Transl. Oncol.* 34: 101696.

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.