

# Rab 3A (K-15): sc-308

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

## SOURCE

Rab 3A (K-15) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within the C-terminus of Rab 3A 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.

Blocking peptide available for competition studies, sc-308 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Rab 3A (K-15) is recommended for detection of Rab 3A 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), immunohistochemistry (including paraffin-embedded sections) (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 3A (K-15) is also recommended for detection of Rab 3A in additional species, including equine, canine, bovine and porcine.

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: Rab 3A (h): 293T Lysate: sc-177816, rat brain extract: sc-2392 or mouse brain extract: sc-2253.

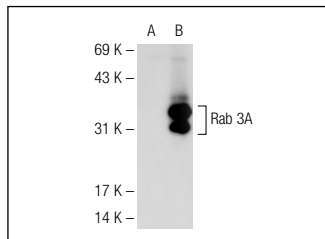
## RESEARCH USE

For research use only, not for use in diagnostic procedures.

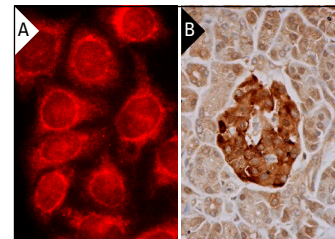
## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



Rab 3A (K-15): sc-308. Western blot analysis of Rab 3A expression in non-transfected: sc-117752 (A) and human Rab 3A transfected: sc-177816 (B) 293T whole cell lysates.



Rab 3A (K-15): sc-308. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic and nuclear staining of exocrine glandular cells and islets of Langerhans (B).

## SELECT PRODUCT CITATIONS

1. Park, J.B., et al. 1997. Ca<sup>2+</sup>/calmodulin causes Rab 3A to dissociate from synaptic membranes. *J. Biol. Chem.* 272: 20857-20865.
2. Klengel, R., et al. 1997. Differential expression of Rab 3 isoforms during differentiation of pancreatic acinar cell line AR42J. *Biochem. Biophys. Res. Commun.* 236: 719-722.
3. Yaekura, K., et al. 2003. Insulin secretory deficiency and glucose intolerance in Rab 3A null mice. *J. Biol. Chem.* 278: 9715-9721.
4. Sastre, M., et al. 2003. Nonsteroidal anti-inflammatory drugs and peroxisome proliferator-activated receptor-γ agonists modulate immunostimulated processing of amyloid precursor protein through regulation of β-secretase. *J. Neurosci.* 23: 9796-9804.
5. Tomoda, T., et al. 2004. Role of Unc51.1 and its binding partners in CNS axon outgrowth. *Genes Dev.* 18: 541-558.
6. De Blas, G.A., et al. 2005. Dynamics of SNARE assembly and disassembly during sperm acrosomal exocytosis. *PLoS Biol.* 3: e323.
7. Sharma, M., et al. 2007. IQ-domain GTPase-activating protein 1 regulates β-catenin at membrane ruffles and its role in macropinocytosis of N-cadherin and adenomatous polyposis coli. *J. Biol. Chem.* 282: 8545-8556.
8. Núñez, E., et al. 2009. Subcellular localization of the neuronal glycine transporter GLYT2 in brainstem. *Traffic* 10: 829-843.
9. Usami, Y., et al. 2011. DJ-1 associates with synaptic membranes. *Neurobiol. Dis.* 43: 651-662.

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Try **Rab 3A (C-7): sc-365069** or **Rab 3A (D-1): sc-271735**, our highly recommended monoclonal alternatives to Rab 3A (K-15).