

rabphilin-3A (M-15): sc-14688

BACKGROUND

The carboxy-terminal of rabphilin-3A consists of two C2 domains, A and B, and the amino-terminal (residues 45-170) contains a cysteine-rich region with two zinc finger motifs. Rabphilin-3A belongs to a family of other carboxy-terminal type (C-type) tandem C2 proteins, which includes synaptotagmins and Doc2. Rabphilin is expressed in neuroendocrine cells and co-localizes with Rab3A on synaptic vesicles and chromaffin granules. Rabphilin-3A binds Rab3a/GTP/Mg⁺ within amino-terminal residues 45 and 170. Rabphilin-3A binds calcium ions and phosphatidylinositol 4,5-bisphosphate containing lipid vesicles within its C2 domains. Rabphilin-3A is a positive regulator of calcium dependent exocytosis, while Rab3a is a negative regulator of exocytosis. Although rabphilin-3A associates with Rab3a, they seem to influence exocytosis independently of each other. Rabphilin-3A effects are likely mediated through interactions with an unknown factor that recognizes the Rab3 binding domain.

REFERENCES

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2. Chung S.H., Joberty, G., Gelino, E.A., Macara, I.G. and Holz, R.W. 1999. Comparison of the effects on secretion in chromaffin and PC12 cells of Rab3 family members and mutants. Evidence that inhibitory effects are independent of direct interaction with rabphilin-3. *J. Biol. Chem.* 274: 18113-18120.
3. Ubach, J., Garcia, J., Nittler, M.P., Sudhof, T.C., Rizo, J. 1999. Structure of the Janus-faced C2B domain of rabphilin. *Nat. Cell Biol.* 1: 106-112.
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5. Fukuda, M. and Mikoshiba, K. 2001. Synaptogmin-like protein 1-3: a novel family of C-terminal-type tandem C2 proteins. *Biochem. Biophys. Res. Commun.* 281: 1226-1233.

CHROMOSOMAL LOCATION

Genetic locus: RPH3A (human) mapping to 12q24.13; Rph3a (mouse) mapping to 5 F.

SOURCE

rabphilin-3A (M-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of rabphilin-3A of mouse 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-14688 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

rabphilin-3A (M-15) is recommended for detection of rabphilin-3A of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

rabphilin-3A (M-15) is also recommended for detection of rabphilin-3A in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for rabphilin-3A siRNA (h): sc-106476, rabphilin-3AL siRNA (m): sc-152672, rabphilin-3A shRNA Plasmid (h): sc-106476-SH, rabphilin-3AL shRNA Plasmid (m): sc-152672-SH, rabphilin-3A shRNA (h) Lentiviral Particles: sc-106476-V and rabphilin-3AL shRNA (m) Lentiviral Particles: sc-152672-V.

Molecular Weight of rabphilin-3A: 77 kDa.

Positive Controls: Rat brain extract: sc-2392.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.