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rabphilin-3A (m): 293T Lysate: sc-122930

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 Rab 3A/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 Rab 3A is a negative regulator of exocytosis. Although rabphilin-3A associates with Rab 3A, they seem to influence exocytosis independently of each other. Rabphilin-3A effects are likely mediated through interactions with an unknown factor that recognizes the Rab 3 binding domain.

REFERENCES

1. Chung, S.H., Song, W.J., Kim, K., Bednarski, J.J., Chen, J., Prestwich, G.D. and Holz, R.W. 1998. The C2 domains of rabphilin-3A specifically bind phosphatidylinositol 4,5-bisphosphate containing vesicles in a Ca²⁺-dependent manner. *J. Biol. Chem.* 273: 10240-10248.
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 PC-12 cells of Rab 3 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. and Rizo, J. 1999. Structure of the Janus-faced C2B domain of rabphilin. *Nat. Cell Biol.* 1: 106-112.
4. Joberty, G., Stabila, P.F., Coppola, T., Macara, I.G. and Regazzi, R. 1999. High affinity Rab 3 binding is dispensable for rabphilin-dependent potentiation of stimulated secretion. *J. Cell Sci.* 112: 3579-3587.
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 (mouse) mapping to 5 F.

PRODUCT

rabphilin-3A (m): 293T Lysate represents a lysate of mouse rabphilin-3A transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

rabphilin-3A (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive rabphilin-3A antibodies. Recommended use: 10-20 µl per lane.

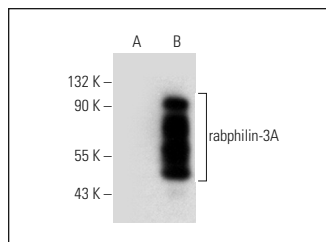
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

rabphilin-3A (E-3): sc-398621 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse rabphilin-3A expression in rabphilin-3A transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



rabphilin-3A (E-3): sc-398621. Western blot analysis of rabphilin-3A expression in non-transfected: sc-117752 (A) and mouse rabphilin-3A transfected: sc-122930 (B) 293T whole cell lysates.

RESEARCH USE

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