SANTA CRUZ BIOTECHNOLOGY, INC.

Rim2 (63-M7): sc-100842

BACKGROUND

Rab 3, a neural/neuroendocrine-specific member of the Rab family, is involved in Ca^{2+}-regulated exocytosis. Rab 3 functions in an inhibitory capacity by controlling the recruitment of secretory vesicles into a releasable pool at the plasma membrane. Rim (Rab 3 interacting molecule), a putative effector protein for Rab 3s, is composed of an N-terminal zinc finger motif and C-terminal PDZ and C2 domains. Rim exists as two variants, Rim1 and Rim2, produced by alternative splicing. The 3'-end of the Rim2 gene produces an independent mRNA that encodes a smaller protein referred to as Nim2, which like Rim, also regulates exocytosis. Rim serves as a Rab 3-dependent regulator of synaptic-vesicle fusion by forming a GTP-dependent complex between synaptic plasma membranes and docked synaptic vesicles. Both Rim1 and Rim2 can bind to cAMP-GEFII, which is a direct target of cAMP in regulated exocytosis and is responsible for cAMP-dependent, PKA-dependent exocytosis. Rim also localizes on the plasma membrane of INS-1E cells and pancreatic β cells. Rab 3 binding domain of Rim enhances glucose-stimulated secretion in intact cells and Ca^{2+}-stimulated exocytosis in permeabilized cells, suggesting that Rim may also play a regulatory role in Insulin secretion.

REFERENCES

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3. Ozaki, N., Shibasaki, T., Kashima, Y., Miki, T., Takahashi, K., Ueno, H., Sunaga, Y., Yano, H., Matsuura, Y., Iwanaga, T., Takai, Y. and Seino, S. 2000. cAMP-GEFII is a target of cAMP in regulated exocytosis. Nat. Cell Biol. 2: 805-811.
4. Wang, Y., Sugita, S. and Sudhof, T.C. 2000. The Rim/NIM family of neuronal C2 domain proteins. Interactions with Rab 3 and a new class of Src homology 3 domain proteins. J. Biol. Chem. 275: 20043-20044.
5. Iezzi, M., Regazzi, R. and Wollheim, C.B. 2000. The Rab 3-interacting molecule Rim is expressed in pancreatic β-cells and is implicated in Insulin exocytosis. FEBS Lett. 474: 66-70.
6. Haynes, L.P., Evans, G.J., Morgan, A. and Burgoyne, R.D. 2001. A direct inhibitory role for the Rab 3-specific effector, Noc2, in Ca^{2+}-regulated exocytosis in neuroendocrine cells. J. Biol. Chem. 27: 9726-9732.

CHROMOSOMAL LOCATION

Genetic locus: RIMS2 (human) mapping to 8q22.3; Rims2 (mouse) mapping to 15 B3.1.

SOURCE

Rim2 (63-M7) is a mouse monoclonal antibody raised against recombinant Rim2 of human origin.

PRODUCT

Each vial contains 200 µl ascites containing IgM with < 0.1% sodium azide.

APPLICATIONS

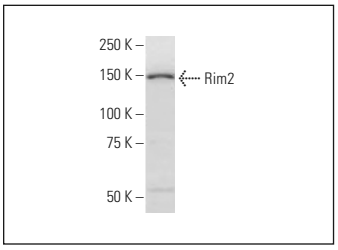
Rim2 (63-M7) is recommended for detection of Rim2 of mouse, rat and human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:5000), immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution to be determined by researcher, dilution range 1:100-1:5000).

Suitable for use as control antibody for Rim2 siRNA (h): sc-77790, Rim2 siRNA (m): sc-152965, Rim2 shRNA Plasmid (h): sc-77790-SH, Rim2 shRNA Plasmid (m): sc-152965-SH, Rim2 shRNA (h) Lentiviral Particles: sc-77790-V and Rim2 shRNA (m) Lentiviral Particles: sc-152965-V.

Molecular Weight of Rim2: 160 kDa.

Positive Controls: PC-12 cell lysate: sc-2250.

DATA



Rim2 (63-M7): sc-100842. Western blot analysis of Rim2 expression in PC-12 whole cell lysate.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

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.