SANTA CRUZ BIOTECHNOLOGY, INC.

Rim2 (63-M7): sc-100842

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

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.

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

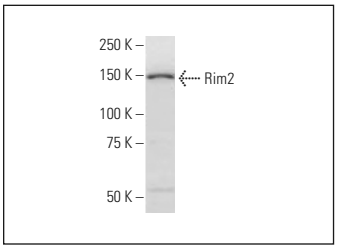
Rim2 (63-M7) is recommended for detection of Rim2 of mouse, rat and human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:5000), immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution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

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.