

## Rim2 (C-14): sc-98109

### BACKGROUND

Rab3, a neural/neuroendocrine-specific member of the Rab family, is involved in  $Ca^{2+}$ -regulated exocytosis. Rab3 functions in an inhibitory capacity by controlling the recruitment of secretory vesicles into a releasable pool at the plasma membrane. Rim (rab3 interacting molecule), a putative effector protein for Rab3s, 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 Rab3-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  $\beta$ -cells. Rab3 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

1. Wang, Y., et al. 1997. Rim is a putative Rab3 effector in regulating synaptic-vesicle fusion. *Nature* 388: 593-598.
2. Coppola, T., et al. 1999. Disruption of Rab3-calmodulin interaction, but not other effector interactions, prevents Rab3 inhibition of exocytosis. *EMBO J.* 18: 5885-5891.
3. Ozaki, N., et al. 2000. cAMP-GEFII is a target of cAMP in regulated exocytosis. *Nat. Cell Biol.* 2: 805-811.
4. Wang, Y., et al. 2000. The RIM/NIM family of neuronal C2 domain proteins. Interactions with Rab3 and a new class of Src homology 3 domain proteins. *J. Biol. Chem.* 275: 20043-20044.
5. Izzi, M., et al. 2000. The Rab3-interacting molecule RIM is expressed in pancreatic beta-cells and is implicated in Insulin exocytosis. *FEBS Letts.* 474: 66-70.
6. Haynes, L.P., et al. 2001. A direct inhibitory role for the Rab3-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.

### SOURCE

Rim2 (C-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Rim2 of human origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-98109 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

Rim2 (C-14) is recommended for detection of Rim2 of 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); non cross-reactive with isoforms 2, RimL3a or RimL3c.

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

Molecular Weight of Rim2: 160 kDa.

### 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](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **Rim2 (63-M7): sc-100842**, our highly recommended monoclonal alternative to Rim2 (C-14).