SANTA CRUZ BIOTECHNOLOGY, INC.

Rim4 (T-13): sc-85887

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 thought to regulate neutrotransmitter release through its interaction with Rab 3 and other synaptic proteins. The mammalian genome contains four Rim genes that encode six forms of Rim: Rim1α, 2α, 2β, 2γ, 3γ and 4γ. Rim1α and 2α are composed of an N-terminal zinc finger, which contains the Rab 3 binding site, a central PDZ domain and two C-terminal C2 domains. Rin2β is identical to Rim2α, but lacks the N-terminal zinc-finger region. Rim2γ, 3γ and 4γ lack the N-terminal zinc finger and PDZ domain, and consist of only the C-terminal C2 domain with neighboring sequences. Rim4γ, also known as Rab 3-interacting molecule 4, regulating synaptic membrane exocytosis protein 4 or RIM4, is a 269 amino acid protein that localizes to the cell junction and regulates synaptic membrane exocytosis.

REFERENCES

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3. Wang, Y., et al. 2002. A family of Rim-binding proteins regulated by alternative splicing: Implications for the genesis of synaptic active zones. Proc. Natl. Acad. Sci. USA 99: 14464-14469.
4. Wang, Y. and Südhof, T.C. 2003. Genomic definition of Rim proteins: evolutionary amplification of a family of synaptic regulatory proteins (small star, filled). Genomics 81: 126-137.
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6. Kaeser, P.S. and Südhof, T.C. 2005. Rim function in short- and long-term synaptic plasticity. Biochem. Soc. Trans. 33: 1345-1349.
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8. Fejtova, A. and Gundelfinger, E.D. 2006. Molecular organization and assembly of the presynaptic active zone of neurotransmitter release. Results Probl. Cell Differ. 43: 49-68.
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CHROMOSOMAL LOCATION

Genetic locus: RIMS4 (human) mapping to 20q13.12; Rims4 (mouse) mapping to 2 H3.

SOURCE

Rim4 (T-13) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of Rim4 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-85887 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Rim4 (T-13) is recommended for detection of Rim4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 RIM1 and RIM2.

Rim4 (T-13) is also recommended for detection of Rim4 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Rim4 siRNA (h): sc-76406, Rim4 siRNA (m): sc-152967, Rim4 shRNA Plasmid (h): sc-76406-SH, Rim4 shRNA Plasmid (m): sc-152967-SH, Rim4 shRNA (h) Lentiviral Particles: sc-76406-V and Rim4 shRNA (m) Lentiviral Particles: sc-152967-V.

Molecular Weight of Rim4: 29 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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.