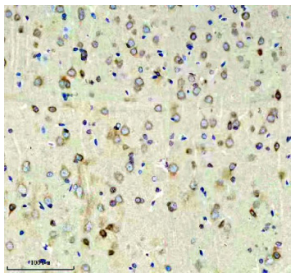
RIMS1 Antibody / Regulating synaptic membrane exocytosis protein 1 (FY12788)

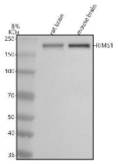
Catalog No.	Formulation	Size
FY12788	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

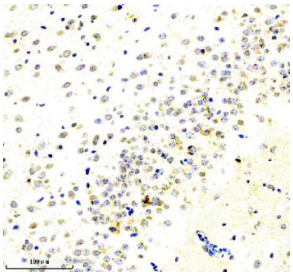
Availability	1-2 days
Species Reactivity	Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q86UR5,Q99NE5
Applications	Western Blot: 0.25-0.5ug/ml Immunohistochemistry: 2-5ug/ml ELISA: 0.1-0.5ug/ml
Limitations	This RIMS1 antibody is available for research use only.



Immunohistochemical staining of RIM1/RIMS1 using anti-RIMS1 antibody. RIM1/RIMS1 was detected in a paraffin-embedded section of mouse brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-RIMS1 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



Western blot analysis of RIM1/RIMS1 using anti-RIMS1 antibody. Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: rat brain tissue lysates, Lane 2: mouse brain tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-RIMS1 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. A specific band was detected for RIM1/RIMS1 at approximately 189 kDa. The expected molecular weight of RIM1/RIMS1 is at 189 kDa.



Immunohistochemical staining of RIM1/RIMS1 using anti-RIM1/RIMS1 antibody. RIMS1 was detected in a paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-RIMS1 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.

Description

RIMS1 antibody detects Regulating synaptic membrane exocytosis protein 1, a presynaptic scaffold protein essential for synaptic vesicle priming and neurotransmitter release. Encoded by the RIMS1 gene on chromosome 6q13, this protein belongs to the RIM (Regulating synaptic membrane exocytosis) family and functions as a central organizer of the active zone at presynaptic terminals. RIMS1 coordinates synaptic vesicle docking with calcium-triggered exocytosis by linking voltage-gated calcium channels to synaptic vesicle proteins and cytoskeletal components.

Structurally, RIMS1 contains zinc finger, PDZ, C2A, and C2B domains that mediate interactions with Munc13, RAB3A, ELKS, liprins, and calcium channels. Through these interactions, RIMS1 facilitates vesicle tethering, calcium channel clustering, and efficient neurotransmitter release. It localizes to the cytoplasmic face of active zones in excitatory and inhibitory neurons, where it serves as a molecular hub integrating presynaptic signaling and vesicle dynamics.

The RIMS1 antibody is used in neurobiology and synaptic physiology research to study synaptic vesicle trafficking, neurotransmitter release, and presynaptic organization. Western blot analysis typically identifies a 175-180 kilodalton band corresponding to RIMS1, while immunofluorescence reveals punctate staining at presynaptic terminals. This antibody supports studies of neuronal communication, synaptic plasticity, and calcium-dependent exocytosis.

Mutations in RIMS1 are associated with cone-rod dystrophy and autism spectrum disorders, highlighting its importance in both neuronal development and sensory transmission. RIMS1 deficiency disrupts synaptic organization and impairs neurotransmitter release efficiency. The RIMS1 antibody is a key reagent for analyzing synaptic machinery and presynaptic protein complexes. NSJ Bioreagents validates this antibody for western blotting and immunohistochemistry, ensuring reliable detection in neuronal and synaptic research.

Application Notes

Optimal dilution of the RIMS1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human RIM1/RIMS1 recombinant protein (Position: K49-E1456) was used as the immunogen for the RIMS1 antibody.

Storage

After reconstitution, the RIMS1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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