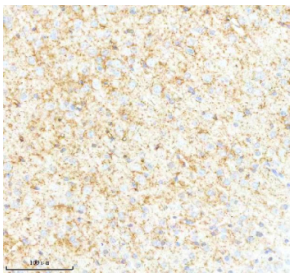
SYNPR Antibody / Synaptoporin (FY12036)

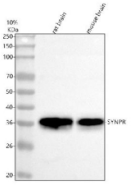
Catalog No.	Formulation	Size
FY12036	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

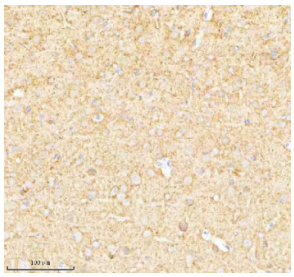
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q8TBG9
Localization	Cytoplasmic vesicle, secretory vesicle, synaptic vesicle membrane
Applications	Western Blot: 0.25-0.5ug/ml Immunohistochemistry: 2-5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This SYNPR antibody is available for research use only.



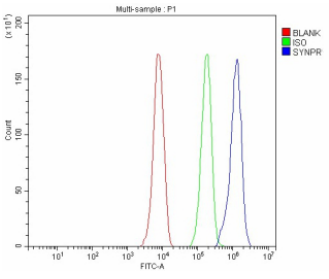
IHC analysis of SYNPR using anti-SYNPR antibody. SYNPR was detected in a paraffin-embedded section of mouse brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-SYNPR 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 SYNPR using anti-SYNPR antibody. 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-SYNPR 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 enhanced chemiluminescent. Expected size of SYNPR ~29â€‰kDa (per UniProt Q8TBG9). In our cell lysates we observe a band at ~37â€‰kDa. This upward shift may reflect post-translational modifications, membrane association effects, or detection of an alternative splice/processed form of SYNPR.



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Flow Cytometry analysis of HepG2 cells using anti-SYNPR antibody. Overlay histogram showing HepG2 cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-SYNPR antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

Description

SYNPR antibody detects Synaptoporin, encoded by the SYNPR gene. Synaptoporin is a synaptic vesicle protein belonging to the synaptophysin family and is highly enriched in hippocampal mossy fiber terminals. SYNPR antibody provides researchers with a specific reagent to study synaptic vesicle biology, neurotransmission, and neural circuit regulation.

Synaptoporin is a small integral membrane protein that shares structural similarity with synaptophysin but has distinct expression patterns. Research using SYNPR antibody has shown that Synaptoporin localizes to presynaptic vesicles, where it contributes to vesicle cycling and exocytosis. Its enrichment in specific hippocampal circuits highlights its specialized role in regulating excitatory neurotransmission.

Studies with SYNPR antibody have revealed that Synaptoporin is particularly abundant in mossy fiber terminals of granule cells projecting to CA3 pyramidal neurons. This selective localization has made SYNPR a useful marker for hippocampal circuitry studies. Its presence supports efficient vesicle recycling, ensuring sustained neurotransmitter release during high-frequency stimulation.

Synaptoporin has also been implicated in synaptic plasticity. Research using SYNPR antibody has demonstrated that altered expression or distribution of Synaptoporin correlates with changes in long-term potentiation and synaptic remodeling. This suggests that Synaptoporin contributes to the molecular basis of learning and memory by supporting plastic synaptic responses.

Dysregulation of Synaptoporin is associated with neurological disease. Studies with SYNPR antibody have linked altered expression to epilepsy and neurodegenerative disorders, where synaptic dysfunction is a hallmark. These associations emphasize the relevance of SYNPR to both basic neuroscience and pathology.

SYNPR antibody is widely used in immunohistochemistry, immunofluorescence, and western blotting. Immunohistochemistry highlights localization in hippocampal circuits, immunofluorescence reveals colocalization with synaptic vesicle markers, and western blotting quantifies protein levels in neuronal tissue. These applications make SYNPR antibody indispensable for neuroscience research.

By supplying validated SYNPR antibody reagents, NSJ Bioreagents supports studies into synaptic vesicle biology, hippocampal circuitry, and neurological disease. Detection of Synaptoporin provides researchers with insight into how specialized synaptic proteins regulate neurotransmission and plasticity.

Application Notes

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

Immunogen

E.coli-derived human Synaptoporin/SYNPR recombinant protein (Position: M1-I265) was used as the immunogen for the SYNPR antibody.

Storage

After reconstitution, the SYNPR 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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