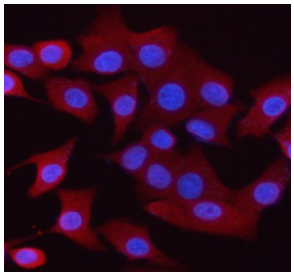
SYNGR1 Antibody / Synaptogyrin 1 (FY12688)

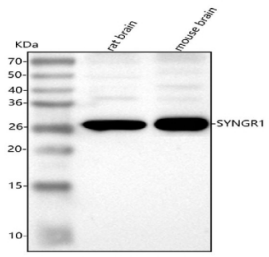
Catalog No.	Formulation	Size
FY12688	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

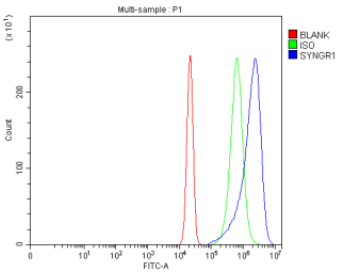
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	O43759
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry : 5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This SYNGR1 antibody is available for research use only.



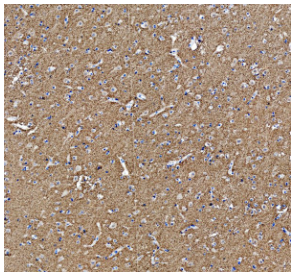
Immunofluorescent staining of Synaptogyrin 1 using anti-Synaptogyrin 1 antibody (red). Synaptogyrin 1 was detected in an immunocytochemical section of cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-Synaptogyrin 1 antibody overnight at 4oC. Cy3 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI nuclear stain (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



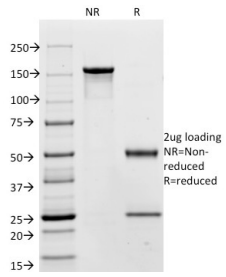
Western blot analysis of Synaptogyrin 1 using anti-SYNGR1 antibody. Lane 1: rat brain tissue lysates, Lane 2: mouse brain tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-SYNGR1 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. The expected molecular weight of Synaptogyrin 1 is at 25 kDa.



Flow Cytometry analysis of RT4 cells using anti-Synaptogyrin 1 antibody. Overlay histogram showing RT4 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-Synaptogyrin 1 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 (Red line) was also used as a control.



SYNGR1 Antibody Human Cerebral Cortex IHC. Immunohistochemical staining of FFPE human cerebral cortex tissue with SYNGR1 antibody at 2 ug/ml. Heat-induced epitope retrieval (HIER) was performed by boiling tissue sections in pH 8 EDTA buffer prior to staining. SYNGR1 immunoreactivity is observed predominantly within the cytoplasm of cortical neurons and throughout the surrounding neuropil, consistent with the expected localization of this synaptic vesicle membrane protein involved in synaptic vesicle trafficking and neurotransmitter release. Cell nuclei are counterstained with hematoxylin (blue).



Description

SYNGR1 antibody targets Synaptogyrin 1, an integral membrane protein of synaptic vesicles that modulates neurotransmitter release and vesicle recycling. Encoded by the SYNGR1 gene on chromosome 22q13.1, Synaptogyrin 1 belongs to the synaptogyrin family of small transmembrane proteins highly conserved among vertebrates. It contains four transmembrane domains with both N- and C-termini facing the cytoplasm and interacts with synaptophysin and vesicular transport machinery. Synaptogyrin 1 contributes to the organization of presynaptic vesicle pools and may influence the kinetics of neurotransmitter exocytosis.

Synaptogyrin 1 is abundantly expressed in neurons throughout the central and peripheral nervous systems, particularly within the hippocampus, cortex, and cerebellum. It colocalizes with synaptophysin at presynaptic terminals and has been implicated in modulating short-term synaptic plasticity. Genetic studies suggest that SYNGR1 plays a role in neuropsychiatric conditions including schizophrenia and bipolar disorder, where altered expression affects synaptic connectivity. By maintaining the balance between vesicle docking and endocytosis, Synaptogyrin 1 ensures efficient neurotransmission under repetitive stimulation.

The SYNGR1 antibody is widely used in neuroscience research to identify synaptic vesicles and study presynaptic organization. Immunohistochemical staining with this antibody shows punctate labeling along axons and synaptic terminals, corresponding to vesicle-rich regions. In western blot analysis, Synaptogyrin 1 appears as a 25 kilodalton band. Its high conservation allows cross-reactivity among mammalian species, making the antibody suitable for studies in human, mouse, and rat tissues. By labeling presynaptic vesicles, the SYNGR1 antibody facilitates mapping of synaptic networks and quantitative analysis of synapse density across brain regions.

Beyond basic neuroscience, Synaptogyrin 1 has clinical relevance. Expression profiling in neurodegenerative diseases such as Alzheimer's and Parkinson's reveals synaptic protein loss correlating with disease progression. Reduced SYNGR1 expression has also been linked to cognitive decline and altered synaptic activity in psychiatric disorders. Functionally, Synaptogyrin 1 may influence neurotransmitter transporter trafficking, including those for serotonin and dopamine. The antibody thus supports a broad range of studies spanning molecular synaptic physiology, disease biomarker discovery, and neural circuit mapping. NSJ Bioreagents offers a validated SYNGR1 antibody optimized for its applications, ensuring accurate detection of this essential synaptic vesicle protein.

Learn more about proteins involved in synaptic vesicle trafficking, neurotransmitter release and nervous system function on our Neuroscience Antibodies page.

Application Notes

Optimal dilution of the SYNGR1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human Synaptogyrin 1 recombinant protein (Position: S42-Y233) was used as the immunogen for the SYNGR1 antibody.

Storage

After reconstitution, the SYNGR1 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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