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Synapsin I Antibody

Affinity purified rabbit polyclonal antibody
Catalog # AN1233

Specification

Synapsin I Antibody - Product Information

Application	**WB, IF**
Primary Accession	P17599
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**polyclonal**
Calculated MW	**78 KDa**

Synapsin I Antibody - Additional Information

Gene ID	**281510**
Gene Name	**SYN1**

Other Names
Synapsin-1, Synapsin I, SYN1

Target/Specificity
Native protein purified from bovine brain.

Dilution
WB~~ 1:1000
IF~~ 1:1000

Format
Prepared from rabbit serum by affinity purification using a column to which the native protein was coupled.

Antibody Specificity
Specific for the ~78k synapsin I doublet in Western blots of rat brainextracts. Immunolabeling blocked by preadsorption of antibody with the protein used togenerate the antibody.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Synapsin I Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

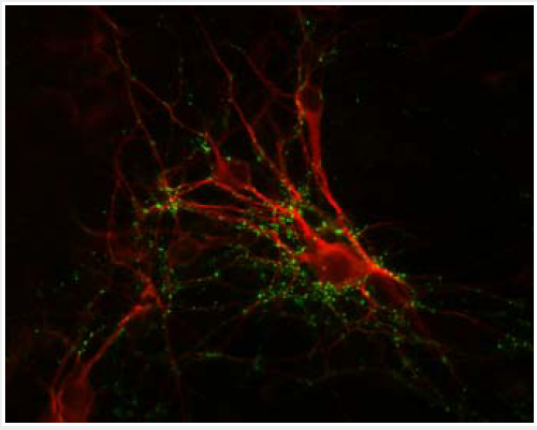
Shipping
Blue Ice

Synapsin I Antibody - Protocols

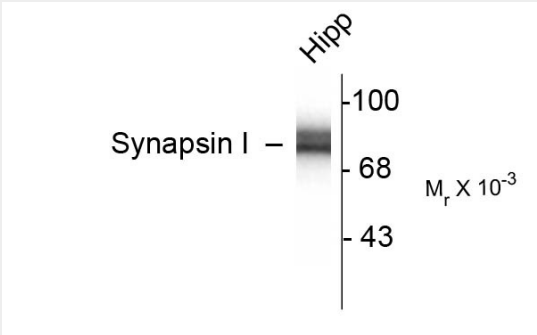
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Synapsin I Antibody - Images



Western blot of 10 ug of rat hippocampal (Hipp) lysate showing specific immunolabeling of the ~78k synapsin I doublet protein.



Immunostaining of cultured rat caudate neurons showing punctate distribution of synapsin in green and MAP in red. Cells and photo courtesy of QBMCellScience.

Synapsin I Antibody - Background

Synapsin I plays a key role in synaptic plasticity in brain (Feng et al., 2002; Nayak et al., 1996). This effect is due in large part to the ability of the synapsins to regulate the availability of synaptic vesicles for release. In addition to its role in plasticity, the expression of synapsin I is a precise indicator of synapse formation (Moore and Bernstein, 1989; Stone et al., 1994). Thus, synapsin I immunocytochemistry provides a valuable tool for the study of synaptogenesis. The role of synapsin in synaptic plasticity and in synaptogensis is regulated by phosphorylation (Jovanovic et al., 2001; Kao et al., 2002).

Synapsin I Antibody - References

Feng J, Chi P, Blanpied TA, Xu YM, Magarinos AM, Ferreira A, Takahashi RH, Kao HT, McEwen BS, Ryan TA, Augustine GJ, Greengard P (2002) Regulation of neurotransmitter release by synapsin III. J Neurosci 22:4372-4380.

Jovanovic JN, Sihra TS, Nairn AC, Hemmings HC, Jr., Greengard P, Czernik AJ (2001) Opposing changes in phosphorylation of specific sites in synapsin I during Ca2+-dependent glutamate release in isolated nerve terminals. J Neurosci 21:7944-7953.

Kao HT, Song HJ, Porton B, Ming GL, Hoh J, Abraham M, Czernik AJ, Pieribone VA, Poo MM, Greengard P (2002) A protein kinase A-dependent molecular switch in synapsins regulates neurite outgrowth. Nature Neurosci 5:431-437.

Moore RY, Bernstein M (1989) Synaptogenesis in the rat suprachiasmatic nucleus demonstrated by electron microscopy and synapsin I immunoreactivity. J Neurosci 9:2151-2162.

Nayak AS, Moore CI, Browning MD (1996) CaM kinase II phosphorylation of the presynaptic protein synapsin is persistently increased during expression of long-term potentiation. Proc Natl Acad Sci (USA) 93:15451-15456.

Stone LM, Browning MD, Finger TE (1994) Differential distribution of the synapsins in the rat olfactory bulb. J Neurosci 14:301-309.

Kurtis D. Davies, Susan M. Goebel-Goody, Steven J. Coultrap, and Michael D. Browning (2008) Long Term Synaptic Depression That Is Associated with GluR1 Dephosphorylation but Not -Amino-3-hydroxy-5-methyl-4-isoxazolepropionic Acid (AMPA) Receptor Internalization J. Biol. Chem., 283: 33138 - 33146.

Note: Dr. Michael Browning, co-author of the cited papers is the President and founder PhosphoSolutions.