

**Synapsin I Antibody**  
**Affinity purified rabbit polyclonal antibody**  
**Catalog # AN1233****Specification**

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**Synapsin I Antibody - Product Information**

Application	WB, IF
Primary Accession	<a href="#">P17599</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	polyclonal
Calculated MW	78 KDa

**Synapsin I Antibody - Additional Information**

Gene ID	281510
Gene Name	SYN1
<b>Other Names</b>	
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 brain extracts. Immunolabeling blocked by preadsorption of antibody with the protein used to generate 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**

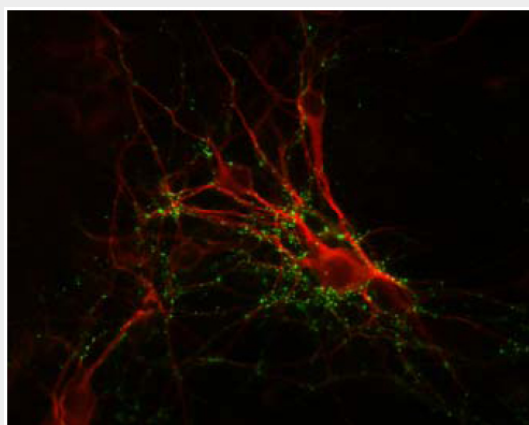
Blue Ice

**Synapsin I Antibody - Protocols**

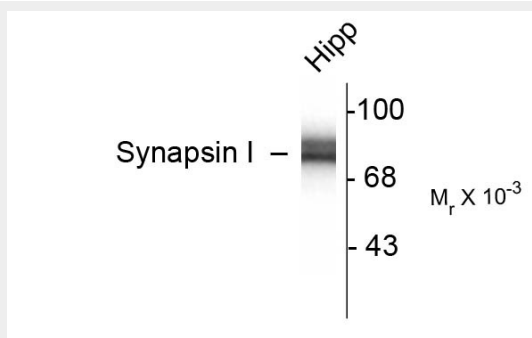
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [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 synaptogenesis 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  $Ca^{2+}$ -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 synapsin I 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 I 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  $\alpha$ -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.