Pel-Freez® BIOLOGICALS

205 North Arkansas Street
Rogers, AR 72756

PRODUCT DATA SHEET

Product Name: **ANTI-PHOSPHO-Ser^{9} SYNAPSIN I ANTIBODY**

Product Code: P40028-100

Pack Size: 100 µL

Description: 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). Serine 9 is the site on synapsin I that is phosphorylated by cAMP-dependent protein kinase and by calcium calmodulin kinase I (Czernik et al., 1987). Phosphorylation of this site is thought to regulate synaptic vesicle function and neurite outgrowth (Kao et al., 2002).

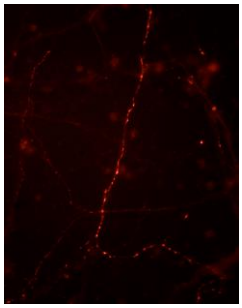
Physical State: Liquid; Buffer contents: 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg per mL BSA and 50% glycerol

Storage/Stability: Stable at -20 °C for at least 1 year. For long term storage -20 °C is recommended

Purification Method: Prepared from rabbit serum by affinity purification via sequential chromatography on phospho- and dephosphopeptide affinity columns.

Shipping Conditions: Domestic: Blue Ice
International: Blue Ice or Dry Ice

Immunostaining
Cultured mouse caudate neurons showing synapsin I when phosphorylated at Ser^{9}



Host Species: Rabbit (Polyclonal)

***Mr* (kDa):** 78

Immunogen: Phosphopeptide corresponding to amino acid residues surrounding the phospho-Ser^{9} of synapsin I. Specific for ~78k synapsin I doublet protein phosphorylated at Ser9. The antibody also weakly labels the ~55k synapsin II protein which has a similar phosphorylation site to that of Ser^{9} on synapsin I. Immunolabeling is blocked by preadsorption of the antibody with the phosphopeptide used as antigen but not by the corresponding dephosphopeptide.

Species Reactivity: The antibody has been directly tested for reactivity in Western blots with rat tissue. It is anticipated that the antibody will react with human, mouse, bovine, Xenopus and zebra fish tissues based on the fact that these species have 100% homology with the amino acid sequence used as antigen.

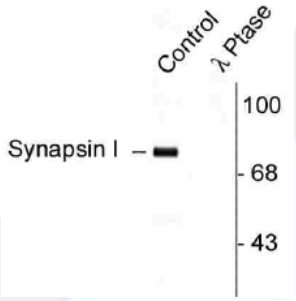
Recommended Antibody Dilutions:

WB: 1:1000
IHC: 1:500

References:

1) Czernik AJ et al. (1987) *Proc Natl Acad Sci (USA)* 84:7518-7522.
2) Feng J et al. (2002) *J Neurosci* 22:4372-4380.
3) Jovanovic JN et al. (2001) *J Neurosci* 21:7944-7953.
4) Kao HT et al. (2002) *Nature Neurosci* 5:431-437.
5) Moore RY et al. (1989) *J Neurosci* 9:2151-2162.
6) Nayak AS et al. (1996) *Proc Natl Acad Sci (USA)* 93:15451-15456.
7) Stone LM et al. (1994) *J Neurosci* 14:301-309.

Western Blot
Rat cortex lysate showing specific immunolabeling of ~78k synapsin I phosphorylated at Ser^{9} (Control). Immunolabeling is completely eliminated by treatment with λ-Phosphatase, lane 2.



Application Key: **WB – Western Blot** **IF – Immunofluorescence** **IHC – Immunohistochemistry** **IP - Immunoprecipitation**

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P/N: 74110 Rev 01