

Anti-Phospho-Ser9 Synapsin I Antibody

Product Data Sheet · P/N 74110 Rev 01 · Reissued 2026-09-19 (layout only)

Product code	Pack size
P40028-100	100 µL
Host Species	Rabbit (Polyclonal)
Mr (kDa)	78

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 synaptogenesis 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).

Immunogen

Phosphopeptide corresponding to amino acid residues surrounding the phospho-Ser9 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 Ser9 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.

Physical State

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

IHC: 1:1000 1:500

Purification Method

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

Storage/Stability

Stable at -20 °C for at least 1 year.

For long term storage -20 °C is recommended

Shipping Conditions

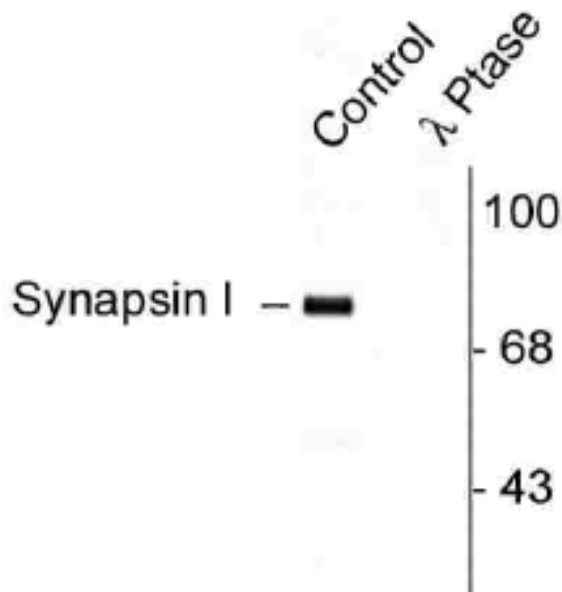
Domestic: Blue Ice

International: Blue Ice or Dry Ice

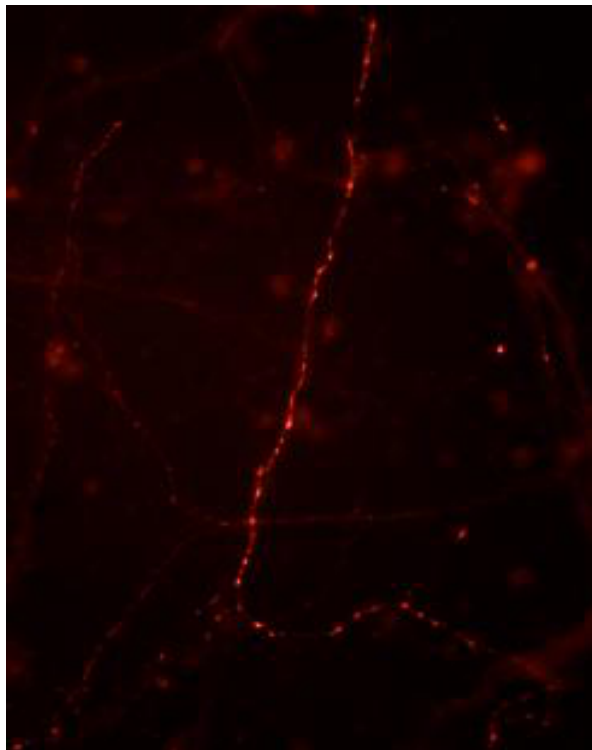
References

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.



Immunostaining Cultured mouse caudate neurons showing synapsin I when phosphorylated at Ser9



Western Blot Rat cortex lysate showing specific immunolabeling of ~78k synapsin I phosphorylated at Ser9 (Control). Immunolabeling is completely eliminated by treatment with λ - Phosphatase, lane 2.

For research use or further manufacturing only. Not for use in diagnostic procedures, or for human or animal consumption.