Anti-Phospho-Ser\textsuperscript{549} Synapsin I

**Catalog Number:** p1560-549  
**Size:** 100 µl

**Product Description:** Affinity purified rabbit polyclonal antibody

**Applications:**  
**WB:** 1:1000  
**IHC:** 1:500

**Antigen:** Phosphopeptide corresponding to amino acid residues surrounding the phospho-Ser\textsuperscript{549} of rat synapsin I.

**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, non-human primate, bovine and canine tissues based on the fact that these species have 100% homology with the amino acid sequence used as antigen.

**Biological Significance:** 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. The role of synapsin in synaptic plasticity and in synaptogenesis is regulated by phosphorylation (Jovanovic et al., 2001; Kao et al., 2002). Ser\textsuperscript{549} along with Ser\textsuperscript{62} and Ser\textsuperscript{67} are the sites of synapsin I that are phosphorylated by MAP kinase (Jovanovic et al., 1996). Phosphorylation and subsequent dephosphorylation of this site is thought to play a key role in synaptic vesicle trafficking.

**Left:** Immunostaining of cultured mouse caudate neurons showing synapsin I when phosphorylated at Ser\textsuperscript{549}. Cells and photo courtesy of QBMCellScience.  
**Right:** Western blot of rat cortex lysate showing specific immunolabeling of the ~78k synapsin I phosphorylated at Ser\textsuperscript{549} (Control). Phosphospecificity is shown in the second lane (\textit{lambda}-phosphatase: \textit{\lambda}-Ptase). The blot is identical to the control except that it was incubated in \textit{\lambda}-Ptase (1200 units for 30 min) before being exposed to the phospho Ser\textsuperscript{549} synapsin I antibody. The immunolabeling is completely eliminated by treatment with \textit{\lambda}-Ptase.

**WB** = Western Blot  
**IF** = Immunofluorescence  
**IHC** = Immunohistochemistry  
**IP** = Immunoprecipitation

**Packaging:** 100 µl in 10 mM HEPES (pH 7.5), 150 mM NaCl 100 µg per ml BSA and 50% glycerol. Adequate amount of material to conduct 10-mini Western Blots.

**Storage and Stability:** Store at –20°C; stable for at least one year.

**Shipment:** Domestic - Blue Ice; International - Blue Ice or Dry Ice.
**Purification Method:** Prepared from rabbit serum by affinity purification via sequential chromatography on phospho- and dephospho-peptide affinity columns.

**Antibody Specificity:** Specific for ~78k synapsin I doublet phosphorylated at Ser\(^{549}\). Immunolabeling of the synapsin I band is blocked by \(\lambda\)-phosphatase treatment.

**Quality Control Tests:** Western blots performed on each lot.

**References:**