

Anti-Phospho-Ser⁶⁰³ Synapsin I Antibody



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Catalog #: p1560-603

Size: 100 µl

Cite this Antibody: PhosphoSolutions Cat# p1560-603, RRID:AB_2492247

Host	Applications	Species Tested	Species Reactivity*	Molecular Weight
Rabbit	WB 1:1000	H, M, R	B, X, Z	~78 kDa

Product Description: Affinity purified rabbit polyclonal antibody.

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). Serine 603 is the site on synapsin I that is phosphorylated by calcium calmodulin kinase II and by p21-activated kinases (Sakurada et al., 2002; Czernik et al., 1987). Phosphorylation of this site is thought to regulate synaptic vesicle function (Nayak et al., 1996; Bahler and Greengard, 1987; McGuinness et al., 1989).

Antigen: Phosphopeptide corresponding to amino acid residues surrounding the phospho-Ser⁶⁰³ of rat synapsin I.

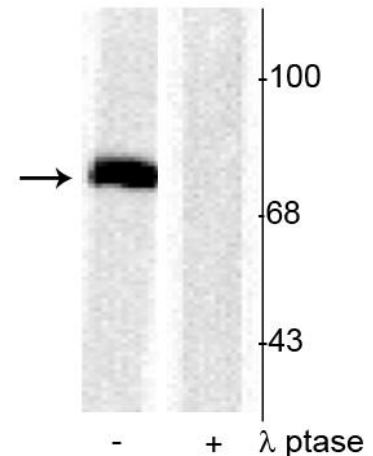
Antibody Specificity: Specific for endogenous levels of the ~78 kDa synapsin I doublet phosphorylated at Ser⁶⁰³. Immunolabeling is completely eliminated by treatment with λ-Ptase.

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

Quality Control Tests: Western blots performed on each lot.

Packaging: 100 µl in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg BSA per ml and 50% glycerol.

Storage and Stability: Shipped on blue ice. Storage at -20°C is recommended, as aliquots may be taken without freeze/thawing due to presence of 50% glycerol. Stable for at least 1 year at -20°C.



Western blot of rat cortical lysate showing specific immunolabeling of the ~78 kDa synapsin I phosphorylated at Ser⁶⁰³ in the first lane (-). Phosphospecificity is shown in the second lane (+) where the immunolabeling is completely eliminated by blot treatment with *lambda* phosphatase (*lambda*-Ptase, 1200 units for 30 minutes).

Product Specific References:

Magupalli, V. G., Mochida, S., Yan, J., Jiang, X., Westenbroek, R. E., Nairn, A. C., Scheuer, T. & Catterall, W. A. (2013). Ca²⁺-independent activation of Ca²⁺/calmodulin-dependent protein kinase II bound to the C-terminal domain of CaV2.1 calcium channels. *Journal of Biological Chemistry*, 288(7), 4637-4648.

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General References:

Bahler M, Greengard P (1987) Synapsin I bundles F-actin in a phosphorylation-dependent manner. *Nature (London)* 326:704-707.

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Sakurada K, Kato H, Nagumo H, Hiraoka H, Furuya K, Ikuhara T, Yamakita Y, Fukunaga K, Miyamoto E, Matsumura F, Matsuo YI, Naito Y, Sasaki Y (2002) Synapsin I is phosphorylated at Ser603 by p21-activated kinases (PAKs) in vitro and in PC12 cells stimulated with bradykinin. *J Biol Chem* 277:45473-45479.

**Dr. Michael Browning co-author of the cited paper above is the President and founder of PhosphoSolutions.