Phospho-Synapsin I (S603) Antibody

Antigen Affinity-purified Polyclonal Rabbit IgG
Catalog Number: PPS036

DESCRIPTION

Species Reactivity	Human/Mouse/Rat/Bovine/Canine/Chicken/Zebrafish
Specificity	This antibody is specific for the 78 kDa Synapsin I phosphorylated at S603 in Western blots of rat brain lysates.
Source	Polyclonal Rabbit IgG
Purification	Antigen Affinity-purified
Immunogen	Phosphopeptide corresponding to amino acid residues surrounding the phospho-S603 of Synapsin I
Formulation	100 µL in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg/mL BSA and 50% glycerol. See Certificate of Analysis for details.

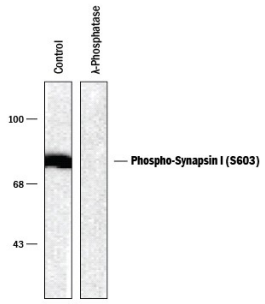
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1:1000 dilution	See Below

DATA

Western Blot



Detection of Phospho-Synapsin I (S603) by Western Blot. Western blot of rat brain lysate showing specific immunolabeling of the ~78 kDa Synapsin I phosphorylated at S603 (Control). The phosphospecificity of this labeling is demonstrated by treatment with 1200 U of λ Phosphatase (λ PPase) for 30 minutes before being exposed to the Anti-Phospho-Synapsin I (S603). The immunolabeling is completely eliminated by treatment with λ PPase.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	For long-term storage, ≤ -20° C is recommended. Product is stable at ≤ -20° C for at least 1 year.

BACKGROUND

Synapsin I is an 85 kDa neuron-specific, O-GlcNAcylated phosphoprotein that interacts with synaptic vesicles and regulates neurotransmitter release. It is concentrated in presynaptic terminals where it anchors synaptic vesicles to the underlying cytoskeleton. Phosphorylation at various sites reduces Synapsin I binding to neurosecretory vesicles, making them available for neurotransmitter release. Rat Synapsin I is 704 amino acids (aa) in length and contains five domains, named A-E/F. Domains A-D lie between aa 1-655, while E and F are alternate splice forms. Domain A (28 aa) regulates neurotransmitter release in a phosphorylation-dependent manner. Domains C (328 aa) and E (49 aa) anchor to actin in the synaptic region. Domains B (84 aa) and D (235 aa) promote actin and secretory vesicle interaction, and actin nucleation. Phosphorylation of S603 and S566 in domain D, and S9 in domain A, reduces the affinity of Synapsin I for actin and secretory vesicles.

References:

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4. McCaffery, C.A. and L.J. DeGennaro (1986) EMBO J. **5**:3167.
5. Cole, R.N. and G.W. Hart (1999) J. Neurochem. **73**:418.

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