

Synapsin 3

Cat.No. 106 303; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Rabbit serum albumin was added for stabilization. For reconstitution add 50 µl H ₂ O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	WB: 1 : 1000 (AP staining) IP: not tested yet ICC: 1 : 500 up to 1 : 1000 IHC: 1 : 500 up to 1 : 1000 IHC-P/FFPE: 1 : 1000
Immunogen	Synthetic peptide corresponding to AA 417 to 434 from mouse Synapsin3 (UniProt Id: Q8JZP2-1)
Reactivity	Reacts with: rat (O70441), mouse (Q8JZP2). Other species not tested yet.
Specificity	Specific for synapsins 3, no cross-reactivity to synapsin 1 and synapsin 2. (K.O. verified)

TO BE USED IN VITRO / FOR RESEARCH ONLY NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Synapsins are neuron-specific phosphoproteins that are exclusively associated with small synaptic vesicles, with little or no expression in other tissues including neuroendocrine cells. In mammals, three distinct synapsin genes (synapsin 1, 2 and 3) encode more than eight neuronal isoforms. Synapsin 1 is one of the most specific markers of synapses throughout the central and peripheral nervous system. In addition to synaptic nerve terminals, the protein is also present in certain sensory nerve endings. It is expressed in two splice variants (synapsin 1a and synapsin 1b). Synapsin 1 interacts with vesicle membranes as well as with actin and spectrin. Synapsin 2 is expressed in the nervous system and also two splice variants were described so far, while **synapsin 3** shows a more restricted expression pattern and is mainly found in the hippocampus. Synapsins are major phosphoproteins and are substrates for several protein kinases such as PKA, CaMK I and CaMK II. Synapsin 1 is widely used as reference substrate for calmodulin-dependent protein kinases.

Selected References SYSY Antibodies

Phosphorylation by PKA and Cdk5 Mediates the Early Effects of Synapsin III in Neuronal Morphological Maturation.
Piccini A, Perlini LE, Cancedda L, Benfenati F, Giovedi S
The Journal of neuroscience : the official journal of the Society for Neuroscience (2015) 35(38): 13148-59. **ICC, WB; KO verified**

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Penney J, Seo J, Kritskiy O, Elmsaouri S, Gao F, Pao PC, Su SC, Tsai LH
The Journal of neuroscience : the official journal of the Society for Neuroscience (2017) 37(36): 8655-8666. **ICC; tested species: mouse**

Selected General References

A phospho-switch controls the dynamic association of synapsins with synaptic vesicles.
Hosaka M, Hammer RE, Südhof TC
Neuron (1999) 24(2): 377-87.

Synapsin-dependent reserve pool of synaptic vesicles supports replenishment of the readily releasable pool under intense synaptic transmission.
Vasileva M, Horstmann H, Geumann C, Gitler D, Kuner T
The European journal of neuroscience (2012) 36(8): 3005-20.

Essential functions of synapsins I and II in synaptic vesicle regulation.
Rosahl TW, Spillane D, Missler M, Herz J, Selig DK, Wolff JR, Hammer RE, Malenka RC, Südhof TC
Nature (1995) 375(6531): 488-93.

The synaptic vesicle cycle: a cascade of protein-protein interactions.
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