

## Synapsin 3

Cat.No. 106 304; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

### Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For reconstitution add 100 µl H <sub>2</sub> O, then aliquot and store at -20°C until use.
Applications	<b>WB:</b> 1 : 1000 (AP staining) <b>IP:</b> not tested yet <b>ICC:</b> 1 : 500 <b>IHC:</b> 1 : 500 <b>IHC-P/FFPE:</b> not tested yet
Immunogen	Synthetic peptide corresponding to AA 417 to 434 from mouse Synapsin3 (UniProt Id: Q8JZP2-1)
Reactivity	Reacts with: mouse (Q8JZP2), rat (O70441). 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 General References

A phospho-switch controls the dynamic association of synapsins with synaptic vesicles.

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Synapsin-dependent reserve pool of synaptic vesicles supports replenishment of the readily releasable pool under intense synaptic transmission.

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

Südhof TC  
Nature (1995) 375(6533): 645-53.

Synaptic vesicles and exocytosis.

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Annual review of neuroscience (1994) 17: 219-46.