**Synapsin 1/2**

**Cat.No. 106 002; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)**

**Data Sheet**

<table>
<thead>
<tr>
<th>Reconstitution/Storage</th>
<th>200 µl antiserum, lyophilized. For reconstitution add 200 µl H₂O, then aliquot and store at -20°C until use.</th>
</tr>
</thead>
</table>
| Applications           | WB: 1 : 1000 (AP staining)  
IP: yes  
ICC: 1 : 500  
IHC: 1 : 500  
IHC-P/FFPE: 1 : 500  
ELISA: yes (see remarks) |
| Immunogen              | Synthetic peptide corresponding to AA 2 to 28 from rat Synapsin1 (UniProt Id: P099951) |
| Reactivity             | Reacts with: human (P17600, Q92777), rat (P09951, Q63537), mouse (O88935, Q64332), hamster, cow, zebrafish.  
Other species not tested yet.  
[zebrafish image](Image 33x519 to 179x575) |
| Specificity            | Specific for synapsins 1a/b and 2a/b. (K.O. verified) |
| matching control       | 106-0P |
| Remarks                | ELISA: Suitable as detector antibody for sandwich-ELISA with cat. no. 106 001 as capture antibody (protocol for sandwich-ELISA). |

**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 hypcoccus. Synapsins are major phosphoproteins and are substrates for several protein kinases such as PKA, CaMKI and CaMK II. Synapsin 1 is widely used as reference substrate for calmodulin-dependent protein kinases.

**Selected References SYSY Antibodies**

Liprin-α2 promotes the presynaptic recruitment and turnover of RIM1/CASK to facilitate synaptic transmission. Spangler SA, Schmitz SK, Kevenaar JT, de Graaff E, de Wit H, Demmers J, Toonen RF, Hoogenraad CC  
**ICC; WB, tested species: rat**

**WB, IHC, tested species: mouse**

Extensive remodeling of the presynaptic cytomatrix upon homeostatic adaptation to network activity silencing. Lazarevic V, Schöne C, Heine M, Gundelfinger ED, Fejtova A  
**WB, IHC**

Synapsin-dependent reserve pool of synaptic vesicles supports replenishment of the readily releasable pool under intense synaptic transmission. Vasileva M, Horstmann H, Geumann C, Giltler D, Kuner T  
**ELISA**

Vezatin is Required for the Maturation of the Neuromuscular Synapse. Koppell N, Friese MB, Cardasis HL, Neubert TA, Burden SJ  
**IHC; tested species: mouse**

The Journal of cell biology (2019) :  
**IHC; tested species: mouse**

Synaptic-like Vesicles Facilitate Pioneer Axon Invasion. Nichols EL, Smith CJ  
Current biology : CB (2019) :  
**IHC; tested species: zebrafish**

**ICC; tested species: rat**

Analysis of Synapses in Cerebral Organoids. Yakoub AM, Sadek M  
**IHC; tested species: human**

**ICC; tested species: rat**

SUML1-conjugation is altered during normal aging but not by increased amyloid burden. Stankova T, Piepko L, Bayer TA, Jahn O, Tirard M  
**ICC; tested species: mouse**

Newly produced synaptic vesicle proteins are preferentially used in synaptic transmission. Truckenbrodt S, Viplav A, Jähne S, Vogts A, Denker A, Wildhagen H, Fornasier EF, Rizzoli SO  
The EMBO journal (2018) :  
**ICC; tested species: rat**

**IHC; tested species: human**

**ICC; tested species: mouse**

Inhibition of colony-stimulating factor 1 receptor early in disease ameliorates motor deficits in SCA1 mice. Qu W, Johnson A, Kim JH, Lukowicz A, Svedberg D, Cvetanovic M  
**WB; tested species: mouse**

The EMBO journal (2018) :  
**ICC; tested species: mouse**

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