Synapsin 1
Cat.No. 106 104; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

Data Sheet

<table>
<thead>
<tr>
<th>Reconstitution/Storage</th>
<th>100 µl antiserum, lyophilized. For reconstitution add 100 µl H₂O, then aliquot and store at -20°C until use.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applications</td>
<td>WB: 1 : 1000 (AP staining)\n                          IP: not tested yet\n                          ICC: 1 : 500 up to 1 : 1000\n                          IHC: 1 : 500 up to 1 : 1000\n                          IHC-P/FFPE: 1 : 500\n                          EM: yes</td>
</tr>
<tr>
<td>Immunogen</td>
<td>Synthetic peptide corresponding to AA 445 to 462 from mouse Synapsin1 (UniProt Id: O88935)</td>
</tr>
<tr>
<td>Reactivity</td>
<td>Reacts with: mouse (O88935), rat (P09951).\n                          Other species not tested yet.</td>
</tr>
<tr>
<td>Specificity</td>
<td>Specific for synapsins 1a and 1b, no cross-reactivity to synapsin 2a/b.\n                          (K.O. verified)</td>
</tr>
</tbody>
</table>

Selected References SYSY Antibodies
Short-term plasticity at cerebellar granule cell to molecular layer interneuron synapses expands information processing.
Dorgans K, Demais V, Bailly Y, Poulain B, Isope P, Doussau F
eLife (2019) 8: . \nICC, EM; tested species: mouse

Plug-and-Play Protein Modification Using Homology-Independent Universal Genome Engineering.
Neuron (2019) : . \nICC, tested species: mouse

Selected General References
A phospho-switch controls the dynamic association of synapsins with synaptic vesicles.
Hosaka M, Hammer RE, Südhof TC

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

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

Synaptic vesicles and exocytosis.
Jahn R, Südhof TC

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 hypocampus. 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.