Synaptophysin 1

Cat.No. 101 004; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

**Data Sheet**

**Applications**

<table>
<thead>
<tr>
<th>Reconstitution/Storage</th>
<th>WB: 1 : 1000 (AP staining)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IP: yes</td>
</tr>
<tr>
<td></td>
<td>ICC: 1 : 1000</td>
</tr>
<tr>
<td></td>
<td>IHC: 1 : 500</td>
</tr>
<tr>
<td></td>
<td>IHC-P/FPPFE: 1 : 200</td>
</tr>
</tbody>
</table>

**Immunogen**

Synthetic peptide corresponding to AA 301 to 313 from human Synaptophysin1

**Reactivity**

Reacts with: human (P08247), rat (P07825), mouse (Q62277), hamster, cow, chicken, frog. Other species not tested yet.

**Specificity**

Specific for synaptophysin 1, no cross-reactivity to other synaptophysins.

**matching control**

101-0P

---

**Selected References SYSY Antibodies**

Plektin-regulated autophagy of synaptic vesicles reveals a pathogenic mechanism in motoneuron disease.


Amot and Yap1 regulate neuronal dendritic tree complexity and locomotor coordination in mice.


A novel method for culturing stellate astrocytes reveals spatially distinct Ca2+ signaling and vesicle recycling in astrocytic processes.

Wolfs AC, Ahmed S, Awasthi A, Stahlberg MA, Rajput A, Magruder DS, Bonn S, Dean C


T cells promote microglia-mediated synaptic elimination and cognitive dysfunction during recovery from neuropathogenic flaviviruses.


Nature neuroscience (2019). **HIC, tested species: mouse**

Fibrinogen Induces Microglia-Mediated Spine Elimination and Cognitive Impairment in an Alzheimer’s Disease Model.


Neuron (2019). **HIC, tested species: mouse**

Quantifying the Heterogeneous Distribution of a Synaptic Protein in the Mouse Brain Using Immunofluorescence.

Wallrafn R, Dresbach T, Viotti JS

Journal of visualized experiments: JoVE (2019) (143):. **HIC, tested species: mouse**

A practical guide to optimization in X10 expansion microscopy.

Truckenbrodt S, Sommer C, Rizzioli S, Dand JG

Molecular neurobiology (2019). **IC, tested species: rat**

NETO1 Regulates Postsynaptic Kainate Receptors in CA3 Interneurons During Circuit Maturation.

Orav E, Dowaw J, Huupponen J, Iaia T, Laure SE

Neuron (2019). **HIC, tested species: mouse**

Critical role for piccolio in synaptic vesicle retrieval.

Ackermann F, Schink KO, Bruno C, Izválek Z, Harmia FK, Rosenmund C, Garner CC

eLife (2019) 8:. **ICC, tested species: rat**

A Comprehensive Structure-Function Study of Neuronin3 Disease-Causing Alleles during Human Pancreas and Intestinal Organoid Development.


Developmental cell (2019). **ICC, tested species: human**

High-throughput microscopy exposes a pharmacological window in which dual leucine zipper kinase inhibition preserves neuronal network connectivity.


Noncoding deletions reveal a gene that is critical for intestinal function.


Single excitatory axons form clustered synapses onto CA1 pyramidal cell dendrites.

Bloss EB, Cembrowski MS, Karsh B, Colonell J, Fetter RD, Spruston N


The Presynaptic Protein Mover Is Differentially Expressed Across Brain Areas and Synapse Types.

Wallrafn R, Dresbach T


Changes in the Synaptic Proteome in Tauopathy and Rescue of Tau-Induced Synapse Loss by C1q Antibodies.


Hypoxia activates a neuretoplerigic pathway from the paraventricular nucleus of the hypothalamus to the nucleus tractus solitarii.

Ruelle BC, Klutho PJ, Baines CP, Heesch CM, Hassel EM


---

**TO BE USED IN VITRO / FOR RESEARCH ONLY**

NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Synaptophysin 1, also referred to as p38-1, is a membrane glycoprotein of synaptic vesicles that is ubiquitously expressed in all neurons and in many endocrine cells. It is currently the widely used marker for nerve terminals and probably the best marker for the pathologist in differentiating neuroendocrine tumors. Synaptophysin 1 has four transmembrane domains with both N- and C-terminus facing the cytoplasm. It binds to synaptobrevin and synaptobrevin 2 in detergent extracts but its function has not been elucidated completely. It forms a complex with dynamin at high Ca²⁺ concentration suggesting an involvement in synaptic vesicle endocytosis. As typical for synaptic vesicle proteins, synaptophysin 1 represents a small protein family with two additional members, synaptoporin (synaptophysin 2) and panthophysin. Like synaptophysin 1, synaptoporin is widely expressed in neurons and colocalizes with synaptophysin 1 on synaptic vesicles whereas panthophysin is expressed in all tissues.