

Synapsin 1/2

Cat.No. 106 006; Polyclonal chicken antibody, 200 µl antibody (lyophilized)

Data Sheet

Reconstitution/Storage	200 µl antibody, lyophilized. For reconstitution add 200 µl H ₂ O, then aliquot and store at -20°C until use.
Applications	WB: 1 : 1000 (AP staining) IP: not tested yet ICC: 1 : 500 IHC: 1 : 500 IHC-P/FFPE: 1 : 500
Immunogen	Synthetic peptide corresponding to AA 2 to 28 from rat Synapsin1 (UniProt Id: P09951)
Reactivity	Reacts with: human (P17600, Q92777), rat (P09951, Q63537), mouse (O88935, Q64332). Other species not tested yet.
Specificity	Specific for synapsins 1a/b and 2a/b.
matching control	106-0P

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

Changes in the Synaptic Proteome in Tauopathy and Rescue of Tau-Induced Synapse Loss by C1q Antibodies.
Dejanovic B, Huntley MA, De Mazière A, Meilandt WJ, Wu T, Srinivasan K, Jiang Z, Gandham V, Friedman BA, Ngu H, Foreman O, et al.

Neuron (2018) : . **ICC, IHC; tested species: mouse**

Hippocampal Memory Recovery After Acute Stress: A Behavioral, Morphological and Molecular Study.
Aguayo FI, Tejos-Bravo M, Díaz-Véliz G, Pacheco A, García-Rojo G, Corrales W, Olave FA, Aliaga E, Ulloa JL, Avalos AM, Román-Albasini L, et al.

Frontiers in molecular neuroscience (2018) 11: 283. **WB; tested species: rat**

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.

Südhof TC

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

Synaptic vesicles and exocytosis.

Jahn R, Südhof TC

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