

Synaptophysin 1

Cat.No. 101 011C3; Monoclonal mouse antibody, 50 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg purified IgG, lyophilized, fluorescence-labeled with Oyster® 550. Rabbit serum albumin was added for stabilization. For reconstitution add 50 µl H ₂ O to get a 1mg/ml solution in PBS. Either add 1:1 (v/v) glycerol, then aliquot and store at -20°C until use, or store aliquots at -80°C without additives. Reconstitute immediately upon receipt! Avoid bright light when working with the antibody to minimize photo bleaching of the fluorescent dye. The mounting agent Aquatex® (Merck Chemicals) is not compatible with Oyster dyes!
Applications	WB: N/A IP: N/A ICC: 1 : 100 up to 1 : 1000 IHC: 1 : 500 up to 1 : 1000 IHC-P/FFPE: not tested yet
Label	Oyster 550
Clone	7.2
Subtype	IgG1 (λ 1 light chain)
Immunogen	Recombinant protein corresponding to AA 1 to 307 from rat Synaptophysin1 (UniProt Id: P07825)
Epitop	Epitop: AA 219 to 307 from rat Synaptophysin1 (UniProt Id: P07825)
Reactivity	Reacts with: human (P08247), rat (P07825), mouse (Q62277), mammals. Weaker signal: zebrafish, other vertebrates. Other species not tested yet.
Specificity	Specific for synaptophysin 1, no cross-reactivity to other synaptophysins. (K.O. verified)
Remarks	Widely used as marker for nerve terminals and neuroendocrine tumors. For still unknown reason, neuronal synaptophysin is better recognised than neuroendocrine synaptophysin. If this is a problem, the polyclonal rabbit antibody, cat. no. 101 002, is recommended.

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 most 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 1 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.

Selected References SYSY Antibodies

Impaired excitatory drive to spinal GABAergic neurons of neuropathic mice.
Leitner J, Westerholz S, Heinke B, Forsthuber L, Wunderbaldinger G, Jäger T, Gruber-Schoffnegger D, Braun K, Sandkühler J
PloS one (2013) 8(8): e73370. **IHC; tested species: mouse**

Synapse formation and function is modulated by the amyloid precursor protein.
Priller C, Bauer T, Mitteregger G, Krebs B, Kretschmar HA, Herms J
The Journal of neuroscience : the official journal of the Society for Neuroscience (2006) 26(27): 7212-21. **ICC**

Transient oxytocin signaling primes the development and function of excitatory hippocampal neurons.
Ripamonti S, Ambrozkiwicz MC, Guzzi F, Gravati M, Biella G, Bormuth I, Hammer M, Tuffly LP, Sigler A, Kawabe H, Nishimori K, et al.
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