

## Synaptotagmin 1 luminal domain

Cat.No. 105 311C2; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

### Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized, fluorescence-labeled with Oyster® 488. Rabbit serum albumin was added for stabilization. For reconstitution add 100 µl H <sub>2</sub> 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	<b>WB:</b> N/A <b>IP:</b> N/A <b>ICC:</b> 1 : 50 up to 1 : 300 <b>IHC:</b> not tested yet <b>IHC-P/FFPE:</b> not tested yet
Label	Oyster 488
Clone	604.2
Subtype	IgG1 (κ light chain)
Immunogen	Synthetic peptide corresponding to AA 1 to 12 from rat Synaptotagmin1 (UniProt Id: P21707)
Epitop	Epitop: AA 1 to 12 from rat Synaptotagmin1 (UniProt Id: P21707)
Reactivity	Reacts with: rat (P21707). No signal: mouse, zebrafish. Other species not tested yet.
Specificity	Specific for rat synaptotagmin 1, no cross-reactivity to other synaptotagmins.
Remarks	This antibody is intended to be used for direct labeling of recycling synapses in primary neuronal cultures.

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

### NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

**Synaptotagmin 1** also known as **p65**, is an integral membrane glycoprotein of neuronal synaptic vesicles and secretory granules of neuroendocrine cells that is widely (but not ubiquitously) expressed in the central and peripheral nervous system. It has a variable N-terminal domain that is exposed to the lumen of the vesicle and a conserved cytoplasmic tail that contains two Ca<sup>2+</sup>-binding C2-domains. Ca<sup>2+</sup>-binding to synaptotagmin triggers exocytosis of synaptic vesicles, thus linking Ca<sup>2+</sup>-influx during depolarization to neurotransmitter release. Luminal antibodies were used in living neurons to label synaptic vesicles from the outside via endocytotic uptake.

### Selected References SYSY Antibodies

Use-dependent inhibition of synaptic transmission by the secretion of intravesicularly accumulated antipsychotic drugs. Tischbirek CH, Wenzel EM, Zheng F, Huth T, Amato D, Trapp S, Denker A, Welzel O, Lueke K, Svetlitchny A, Rauh M, et al. Neuron (2012) 74(5): 830-44. **UPTAKE**

Photoconversion of FM1-43 reveals differences in synaptic vesicle recycling and sensitivity to pharmacological disruption of actin dynamics in individual synapses. Rampérez A, Bartolome-Martin D, García-Pascual A, Sanchez-Prieto J, Torres M ACS chemical neuroscience (2019) : . **UPTAKE; tested species: rat**

### Selected General References

RAB3 and synaptotagmin: the yin and yang of synaptic membrane fusion. Geppert M, Südhof TC Annual review of neuroscience (1998) 21: 75-95.

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.

Synaptotagmin I: a major Ca<sup>2+</sup> sensor for transmitter release at a central synapse. Geppert M, Goda Y, Hammer RE, Li C, Rosahl TW, Stevens CF, Südhof TC Cell (1994) 79(4): 717-27.

Synaptotagmin: a calcium sensor on the synaptic vesicle surface. Brose N, Petrenko AG, Südhof TC, Jahn R Science (New York, N.Y.) (1992) 256(5059): 1021-5.

Phospholipid binding by a synaptic vesicle protein homologous to the regulatory region of protein kinase C. Perin MS, Fried VA, Mignery GA, Jahn R, Südhof TC Nature (1990) 345(6272): 260-3.