

## Synaptotagmin 1 luminal domain

Cat.No. 105 103C2; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

### Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen, fluorescence-labeled with Oyster® 488. Rabbit serum albumin was added for stabilization. For reconstitution add 50 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 : 100 up to 1 : 500 <b>IHC:</b> not tested yet <b>IHC-P/FFPE:</b> not tested yet
Label	Oyster 488
Immunogen	Synthetic peptide corresponding to AA 1 to 8 from mouse Synaptotagmin1 (UniProt Id: P46096)
Reactivity	Reacts with: rat (P21707), mouse (P46096). Other species not tested yet. For unknown reasons antibodies raised against the luminal N-terminus of Synaptotagmin 1 show a strong preference for the rat protein.
Specificity	Specific for synaptotagmin 1, no cross-reactivity to synaptotagmin 2.
matching control	105-10P
Remarks	This antibody can be used for labeling of recycling synaptic vesicles by adding to living neurons or as a marker for exocytosis in isolated nerve terminals.

### 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 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.