

## Synaptotagmin 1 luminal domain

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

### Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. 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. Then aliquot and store at -20°C until use.
Applications	<b>WB:</b> 1 : 1000 (AP staining) <b>IP:</b> yes <b>ICC:</b> 1 : 100 up to 1 : 500 <b>IHC:</b> 1 : 500 (rat only) <b>IHC-P/FFPE:</b> not tested yet
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 References SYSY Antibodies

Expression and secretion of synaptic proteins during stem cell differentiation to cortical neurons. Nazir FH, Becker B, Brinkmalm A, Höglund K, Sandelius Å, Bergström P, Satir TM, Öhrfelt A, Blennow K, Agholme L, Zetterberg H, et al.

Neurochemistry international (2018) : . **WB, ICC; tested species: human**

Control of exocytosis by synaptotagmins and otoferlin in auditory hair cells.

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C-terminal calcium binding of α-synuclein modulates synaptic vesicle interaction.

Lautenschläger J, Stephens AD, Fusco G, Ströhl F, Curry N, Zacharopoulou M, Michel CH, Laine R, Nespovitya N, Fantham M, Pinotsi D, et al.

Nature communications (2018) 9(1): 712. **ICC; tested species: rat**

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Hassouna I, Ott C, Wüstefeld L, Offen N, Neher RA, Mitkovski M, Winkler D, Sperling S, Fries L, Goebbels S, Vreja IC, et al.  
Molecular psychiatry (2016) 21(12): 1752-1767. **ICC**

Simultaneous monitoring of presynaptic transmitter release and postsynaptic receptor trafficking reveals an enhancement of presynaptic activity in metabotropic glutamate receptor-mediated long-term depression.

Xu W, Tse YC, Dobie FA, Baudry M, Craig AM, Wong TP, Wang YT  
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Phospholipid binding by a synaptic vesicle protein homologous to the regulatory region of protein kinase C.

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Nature (1990) 345(6272): 260-3.