Synaptotagmin 1 luminal domain

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

**Data Sheet**

<table>
<thead>
<tr>
<th>Reconstitution/Storage</th>
<th>100 µg purified IgG, lyophilized. For reconstitution add 100 µl H2O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.</th>
</tr>
</thead>
</table>
| Applications           | **WB**: 1 : 1000  
                          | IP: yes  
                          | **ICC**: 1 : 50 up to 1 : 300  
                          | **IHC**: 1 : 500  
                          | **IHC-P/FFPE**: not tested yet |
| 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^{2+}-binding C2-domains. Ca^{2+}-binding to synaptotagmin triggers exocytosis of synaptic vesicles, thus linking Ca^{2+}-influx during depolarization to neurotransmitter release. Lumenal antibodies were used in living neurons to label synaptic vesicles from the outside via endocytotic uptake.

**Selected References SYSY Antibodies**

Alternative Splicing of P/Q-Type Ca^{2+} Channels Shapes Presynaptic Plasticity.
Thalhammer A, Contestabile A, Ermolyuk YS, Ng T, Volynski KE, Soong TW, Goda Y, Cingolani LA  

Newly produced synaptic vesicle proteins are preferentially used in synaptic transmission.
The EMBO journal (2018) : . **ICC, UPTAKE; tested species: rat**

Calcium-dependent interaction of the cytoplasmic region of synaptotagmin with membranes. Autonomous function of a single C2-homologous domain.
Chapman ER, Jahn R  

Semisynthetic fluorescent pH sensors for imaging exocytosis and endocytosis.
Martineau M, Somasundaram A, Grimm JB, Gruber TD, Choquet D, Choquet D, Taraska JW, Lavir LD, Perrius D  

Endosomal sorting of readily releasable synaptic vesicles.

**Selected General References**

RAB3 and synaptotagmin: the yin and yang of synaptic membrane fusion.
Geppert M, Südhof TC  

The synaptic vesicle cycle: a cascade of protein-protein interactions.
Südhof TC  

Synaptic vesicles and exocytosis.
Jahn R, Südhof TC  

Synaptotagmin I: a major Ca^{2+} sensor for transmitter release at a central synapse.
Geppert M, Goda Y, Hammer RE, Li C, Rosahl TW, Stevens CF, Südhof TC  

Synaptotagmin: a calcium sensor on the synaptic vesicle surface.
Brose N, Petrenko AG, Südhof TC, Jahn R  

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  