**Synaptotagmin 1 luminal domain**

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

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**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 |
| 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. |

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**Selected References**

**SYSY Antibodies**

*Alternative Splicing of P/Q-Type Ca²⁺ Channels Shapes Presynaptic Plasticity.*  
Thalhammer A, Contestabile A, Ermoluk YS, Ng T, Volynski KE, Soong TW, Goda Y, Cingolani LA  
**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.*  
Martíneu M, Somasundaram A, Grimm JH, Gruber TÖ, Choquet D, Taraska JW, Lavis LD, Perrais 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 Ca²⁺ 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  

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**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 Ca²⁺-binding C2-domains. Ca²⁺-binding to synaptotagmin triggers exocytosis of synaptic vesicles, thus linking Ca²⁺-influx during depolarization to neurotransmitter release. Lumenal antibodies were used in living neurons to label synaptic vesicles from the outside via endocytotic uptake.