

Synaptotagmin 1 luminal domain

Cat.No. 105 311CR1; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized, fluorescence-labeled with Chromeo® 488. Rabbit serum albumin was added for stabilization. For reconstitution add 100 µl H ₂ 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.
Applications	WB: N/A IP: N/A ICC: 1 : 50 up to 1 : 300 IHC: not tested yet IHC-P/FFPE: not tested yet
Label	Chromeo 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 Ca²⁺-binding C2-domains. Ca²⁺-binding to synaptotagmin triggers exocytosis of synaptic vesicles, thus linking Ca²⁺-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 Ca²⁺ 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.