

Synaptotagmin 1 luminal domain

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

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized, fluorescence-labeled with AcidiFluor Orange . 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 : 100 up to 1 : 500 IHC: not tested yet IHC-P/FFPE: not tested yet EM: N/A ELISA: N/A FACS: not tested yet
Label	AcidiFluor Orange
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.
Remarks	This antibody is intended to be used for direct labeling of recycling synapses in primary neuronal cultures. The pH sensitive dye regains its fluorescence after the reacidification of the synaptic vesicle lumen.

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.