

Synaptotagmin 2 lumenal domain

Cat.No. 105 223CpH; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen, fluorescence-labeled with CypHer5E. Rabbit serum albumin was added for stabilization. For reconstitution add 50 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 IHC: not tested yet IHC-P/FFPE: not tested yet
Label	CypHer5E
Immunogen	Synthetic peptide corresponding to AA 1 to 11 from mouse Synaptotagmin2 (UniProt Id: P46097)
Reactivity	Reacts with: rat (P29101), mouse (P46097). Other species not tested yet.
Specificity	Specific for synaptotagmin 2.
Remarks	These antibodies 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 2 is an integral membrane glycoprotein of neuronal synaptic vesicles. It is very similar to synaptotagmin 1 but shows a partly complementary expression pattern in the CNS. Synaptotagmin 2 lacks a CAMK II/PKC phosphorylation site which is present in synaptotagmin 1. Recently synaptotagmin 2 has been shown to be an alternative Ca²⁺ sensor for fast secretion.

Selected General References

- Synaptotagmin-2 is essential for survival and contributes to Ca²⁺ triggering of neurotransmitter release in central and neuromuscular synapses.
Pang ZP, Melicoff E, Padgett D, Liu Y, Teich AF, Dickey BF, Lin W, Adachi R, Südhof TC
The Journal of neuroscience : the official journal of the Society for Neuroscience (2006) 26(52): 13493-504.
- Genetic analysis of synaptotagmin 2 in spontaneous and Ca²⁺-triggered neurotransmitter release.
Pang ZP, Sun J, Rizo J, Maximov A, Südhof TC
The EMBO journal (2006) 25(10): 2039-50.
- WNK1 phosphorylates synaptotagmin 2 and modulates its membrane binding.
Lee BH, Min X, Heise CJ, Xu BE, Chen S, Shu H, Luby-Phelps K, Goldsmith EJ, Cobb MH
Molecular cell (2004) 15(5): 741-51.
- Synaptotagmin II could confer Ca²⁺ sensitivity to phagocytosis in human neutrophils.
Lindmark IM, Karlsson A, Serrander L, Francois P, Lew D, Rasmusson B, Stendahl O, Nüsse O
Biochimica et biophysica acta (2002) 1590(1-3): 159-66.
- Amino acid residues before the hydrophobic region which are critical for membrane translocation of the N-terminal domain of synaptotagmin II.
Kida Y, Sakaguchi M, Fukuda M, Mikoshiba K, Mihara K
FEBS letters (2001) 507(3): 341-5.
- Synaptotagmin II negatively regulates Ca²⁺-triggered exocytosis of lysosomes in mast cells.
Baram D, Adachi R, Medalia O, Tuvim M, Dickey BF, Mekori YA, Sagi-Eisenberg R
The Journal of experimental medicine (1999) 189(10): 1649-58.
- Synaptotagmin II. A novel differentially distributed form of synaptotagmin.
Geppert M, Archer BT, Südhof TC
The Journal of biological chemistry (1991) 266(21): 13548-52.