

Synaptotagmin 5/9

Cat.No. 105 053; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Rabbit serum albumin was added for stabilization. For reconstitution add 50 µl H ₂ O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C until use.
Applications	WB: 1 : 1000 (AP staining) IP: not tested yet ICC: 1 : 500 IHC: 1 : 500 up to 1 : 1000 IHC-P/FFPE: 1 : 500
Immunogen	Recombinant protein corresponding to AA 50 to 108 from mouse Synaptotagmin5 (UniProt Id: Q9R0N5)
Reactivity	Reacts with: rat (P47861), mouse (Q9R0N5). Other species not tested yet.
Specificity	Specific for synaptotagmin 5 (UniProt Id: Q9R0N5) sometimes referred to as synaptotagmin 9. Does not detect (UniProt Id: Q9R0N9); (K.O. verified)

TO BE USED IN VITRO / FOR RESEARCH ONLY
NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Up to now at least 17 synaptotagmins have been identified. Two different synaptotagmins were independently termed **Synaptotagmin 5** by two research groups (see Li et al., 1995 and Craxton & Goeder, 1995). The groups refer to the respective other protein as **Synaptotagmin 9**. The synaptotagmin described by Craxton & Goeder is expressed in different tissues like kidney, heart, lung and adipose tissue but shows its highest expression level in brain, where it predominantly locates to an enriched synaptic vesicle fraction. Like other synaptotagmins it contains one transmembrane and two cytosolic C2 domains.

Selected References SYSY Antibodies

Axonal and dendritic synaptotagmin isoforms revealed by a pHluorin-syt functional screen.
Dean C, Dunning FM, Liu H, Bomba-Warczak E, Martens H, Bharat V, Ahmed S, Chapman ER
Molecular biology of the cell (2012) 23(9): 1715-27. **WB, ICC**

Synaptotagmin oligomerization is essential for calcium control of regulated exocytosis.
Bello OD, Jouannot O, Chaudhuri A, Stroeve E, Coleman J, Volynski KE, Rothman JE, Krishnakumar SS
Proceedings of the National Academy of Sciences of the United States of America (2018) 115(32): E7624-E7631. **WB; tested species: rat**

A novel method for culturing stellate astrocytes reveals spatially distinct Ca²⁺ signaling and vesicle recycling in astrocytic processes.

Wolfes AC, Ahmed S, Awasthi A, Stahlberg MA, Rajput A, Magruder DS, Bonn S, Dean C
The Journal of general physiology (2017) 149(1): 149-170. **WB**

Sex-specific regulation of follicle-stimulating hormone secretion by synaptotagmin 9.
Roper LK, Briguglio JS, Evans CS, Jackson MB, Chapman ER
Nature communications (2015) 6: 8645. **ICC**

Selected General References

Ca²⁺-dependent and -independent activities of neural and non-neural synaptotagmins.
Li C, Ullrich B, Zhang JZ, Anderson RG, Brose N, Südhof TC
Nature (1995) 375(6532): 594-9.

Synaptotagmin V and IX isoforms control Ca²⁺ -dependent insulin exocytosis.
Iezzi M, Kouri G, Fukuda M, Wollheim CB
Journal of cell science (2004) 117(Pt 15): 3119-27.

Synaptotagmin V is targeted to dense-core vesicles that undergo calcium-dependent exocytosis in PC12 cells.
Saegusa C, Fukuda M, Mikoshiba K
The Journal of biological chemistry (2002) 277(27): 24499-505.

Alternative splicing of synaptotagmins involving transmembrane exon skipping.
Craxton M, Goedert M
FEBS letters (1999) 460(3): 417-22.

Identification of a nonneuronal isoform of synaptotagmin.
Hudson AW, Birnbaum MJ
Proceedings of the National Academy of Sciences of the United States of America (1995) 92(13): 5895-9.

Synaptotagmin V: a novel synaptotagmin isoform expressed in rat brain.
Craxton M, Goedert M
FEBS letters (1995) 361(2-3): 196-200.