

Synaptotagmin 1/2 cytoplasmic tail

Cat.No. 105 002; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

Data Sheet

Reconstitution/Storage	200 µl antiserum, lyophilized. For reconstitution add 200 µl H ₂ O, then aliquot and store at -20°C until use.
Applications	WB: 1 : 1000 (AP staining) IP: yes ICC: 1 : 500 up to 1 : 1000 IHC: 1 : 200 up to 1 : 500 IHC-P/FFPE: yes ELISA: yes (see remarks)
Immunogen	Synthetic peptide corresponding to AA 120 to 131 from rat Synaptotagmin1 (UniProt Id: P21707)
Reactivity	Reacts with: human (P21579), rat (P21707), mouse (P46096), cow, chicken, goldfish, zebrafish. Other species not tested yet. zebrafish image
Specificity	Some cross-reactivity to synaptotagmin 2.
matching control	105-0P
Remarks	ELISA: Suitable as detector antibody for sandwich-ELISA with cat. no. 105 011 as capture antibodies (protocol for sandwich-ELISA).

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 References SYSY Antibodies

Borna disease virus blocks potentiation of presynaptic activity through inhibition of protein kinase C signaling.

Volmer R, Monnet C, Gonzalez-Dunia D

PLoS pathogens (2006) 2(3): e19. **ICC, WB; tested species: rat**

Dishevelled proteins are associated with olfactory sensory neuron presynaptic terminals.

Rodriguez-Gil DJ, Hu W, Greer CA

PloS one (2013) 8(2): e56561. **IHC; tested species: mouse**

APC/CCdh1-Rock2 pathway controls dendritic integrity and memory.

Bobo-Jiménez V, Delgado-Esteban M, Angibaud J, Sánchez-Morán I, de la Fuente A, Yajeya J, Nägerl UV, Castillo J, Bolaños JP, Almeida A

Proceedings of the National Academy of Sciences of the United States of America (2017) 114(17): 4513-4518. **WB**

Critical role of JSAP1 and JLP in axonal transport in the cerebellar Purkinje cells of mice.

Sato T, Ishikawa M, Yoshihara T, Nakazato R, Higashida H, Asano M, Yoshioka K

FEBS letters (2015) 589(19 Pt B): 2805-11. **IHC**

Membrane-tethered monomeric neuroligin LNS-domain triggers synapse formation.

Gokce O, Südhof TC

The Journal of neuroscience : the official journal of the Society for Neuroscience (2013) 33(36): 14617-28. **WB; tested species: mouse**

Developmental control of synaptic receptivity.

Barker AJ, Koch SM, Reed J, Barres BA, Ullian EM

The Journal of neuroscience : the official journal of the Society for Neuroscience (2008) 28(33): 8150-60. **ICC; tested species: rat**

Unique luminal localization of VGAT-C terminus allows for selective labeling of active cortical GABAergic synapses.

Martens H, Weston MC, Boulland JL, Grønborg M, Grosche J, Kacza J, Hoffmann A, Matteoli M, Takamori S, Harkany T, Chaudhry FA, et al.

The Journal of neuroscience : the official journal of the Society for Neuroscience (2008) 28(49): 13125-31. **WB; tested species: rat**

Synaptotagmin I and II are present in distinct subsets of central synapses.

Fox MA, Sanes JR

The Journal of comparative neurology (2007) 503(2): 280-96. **WB; tested species: zebrafish**

SV2B regulates synaptotagmin 1 by direct interaction.

Lazzell DR, Belizaire R, Thakur P, Sherry DM, Janz R

The Journal of biological chemistry (2004) 279(50): 52124-31. **WB; tested species: mouse**

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.