

Synaptotagmin1/2 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. Antibodies should be stored at +4°C when still lyophilized. Do not freeze! For detailed information, see back of the data sheet.
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): 1 : 400 ELISA:
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. [[105002-zebrafish-ihc.jpg]]
Specificity	Some cross-reactivity to synaptotagmin 2.
Matching control	105-0P

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

Background

Synaptotagmin1 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 for 105 002

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) 23: e19. . **ICC, WB; tested species: rat**

Spatial proteomics in neurons at single-protein resolution. Unterauer EM, Shetab Boushehri S, Jevdokimenko K, Masullo LA, Ganji M, Sograte-Idrissi S, Kowalewski R, Strauss S, Reinhardt SCM, Perovic A, Marr C, et al. Cell (2024) 1877: 1785-1800.e16. . **DNA_PAINT; tested species: rat**

Dishevelled proteins are associated with olfactory sensory neuron presynaptic terminals. Rodriguez-Gil DJ, Hu W, Greer CA. PloS one (2013) 82: e56561. . **IHC; tested species: mouse**

Human MAPT knockin mouse models of frontotemporal dementia for the neurodegenerative research community. Morito T, Qi M, Kamano N, Sasaguri H, Bez S, Foiani M, Duff K, Benner S, Endo T, Hama H, Kurokawa H, et al. Cell reports methods (2025) 54: 101024. . **WB; tested species: mouse**

Microglia-synapse engulfment via PtdSer-TREM2 ameliorates neuronal hyperactivity in Alzheimer's disease models. Rueda-Carrasco J, Sokolova D, Lee SE, Childs T, Jurčáková N, Crowley G, De Schepper S, Ge JZ, Lachica JI, Toomey CE, Freeman OJ, et al. The EMBO journal (2023) 4219: e113246. . **ICC; tested species: rat**

Suggestion of creatine as a new neurotransmitter by approaches ranging from chemical analysis and biochemistry to electrophysiology.

Bian X, Zhu J, Jia X, Liang W, Yu S, Li Z, Zhang W, Rao Y. eLife (2023) 12: . . **WB; tested species: mouse**

Implication of synaptotagmins 4 and 7 in activity-dependent somatodendritic dopamine release in the ventral midbrain. Delignat-Lavaud B, Ducrot C, Kouwenhoven W, Feller N, Trudeau LÉ. Open biology (2022) 123: 210339. . **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) 11417: 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) 58919 Pt B: 2805-11. . **IHC**

Membrane-tethered monomeric neurexin LNS-domain triggers synapse formation. Gokce O, Südhof TC

The Journal of neuroscience : the official journal of the Society for Neuroscience (2013) 3336: 14617-28. . **WB; tested species: mouse**

Access the online factsheet including applicable protocols at <https://sysy.com/product/105002> or scan the QR-code.



FAQ - How should I store my antibody?

Shipping Conditions

- All SYSY antibodies and control proteins/peptides are shipped lyophilized (vacuum freeze-dried). In this form, they remain stable without loss of quality at ambient temperatures for several weeks.

Storage of Sealed Vials after Delivery

- **Unlabeled** and **biotin-labeled antibodies** and **control proteins** should be stored at **4°C** before reconstitution. **Do not freeze lyophilized antibodies.** Temperatures below 0°C may impair performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long-term storage of lyophilized fluorophore-conjugates may cause aggregation.
- **Control peptides** should be stored at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- **Do not use frost-free (“no-frost”) freezers.** These units periodically warm to remove ice buildup, causing freeze–thaw cycles that can damage antibodies.
- Store vials in areas with minimal temperature fluctuation - preferably toward the back of the freezer, not on the door.
- Aliquot reconstituted antibodies and store at -20°C to -80°C.
- Avoid very small aliquots (<20 µL), as evaporation and adsorption to tube surfaces can reduce antibody concentration and activity.
- Use the smallest practical storage vial to minimize surface area.
- Adding glycerol to a final concentration of 50% prevents freezing at -20°C, allowing storage in liquid form and effectively avoiding freeze–thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C

Monoclonal Antibodies

- **Ascites and hybridoma supernatant:** Store at -20°C to -80°C. Prolonged storage at 4°C is not recommended, as proteases present in ascites may degrade antibodies.
- **Purified IgG:** Store at -20°C to -80°C. Adding a carrier protein (e.g., BSA) enhances long-term stability. Many SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

Polyclonal Antibodies

- **Crude antisera:** Can be stored at 4°C with antimicrobials added, but -20°C to -80°C is preferred
- **Affinity-purified antibodies:** Less stable than antisera; store at -20°C to -80°C. Adding a carrier protein such as BSA improves long-term stability. Most SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

Fluorescence-labeled Antibodies

- Store as a liquid with 1:1 (v/v) glycerol at -20°C, and protect from light exposure

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All purified SYSY antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the volume of deionized water specified in the corresponding datasheet. If a larger final volume is desired, first add the recommended amount of water, then adjust with PBS and, if needed, add a stabilizing carrier protein (e.g., BSA) to a final concentration of 2%. Some SYSY antibodies already contain albumin; please take this into account before adding additional carrier protein.

For complete reconstitution, carefully remove the vial cap. After adding water, briefly vortex the solution. To collect the liquid at the bottom of the vial, place the vial inside a 50 ml centrifuge tube padded with paper and centrifuge briefly.

- If desired, small amounts of azide or thimerosal may be added to prevent microbial growth. This is particularly recommended when storing an aliquot at 4°C.
- After reconstitution of fluorescence-labeled antibodies, add glycerol 1:1 (v/v) to achieve a final concentration of 50%. This prevents freezing at -20°C and keeps the antibody in liquid form, effectively avoiding freeze–thaw cycles.
- Glycerol may also be added to unlabeled primary antibodies as a general measure to prevent freeze–thaw damage.
- For further guidance, please refer to our **storage tips** and recommendations for reconstituted antibodies, control peptides, and control proteins.