SYSY Antibodies

Rudolf-Wissell-Str. 28a
37079 Göttingen, Germany
Phone: +49 551-50556-0
Fax: +49 551-50556-384
E-mail: sales@sysy.com
Web: www.sysy.com

Amphiphysin

Cat.No. 120 002; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For **reconstitution** add 200 µl H_2O, 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 **IHC**: 1 : 400 **IHC-P (FFPE)**: not tested yet
Immunogen	Synthetic peptide corresponding to AA 2 to 15 from rat Amphiphysin (UniProt Id: O08838)
Reactivity	Reacts with: human (P49418), rat (O08838), mouse (Q7TQF7), hamster, cow, chicken. Other species not tested yet.
Matching control	120-0P

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

Background

Amphiphysin, a dominant autoantigen in paraneoplastic Stiff-man syndrome, is a neuronal protein highly concentrated in nerve terminals. It is an abundant presynaptic protein that interacts via its COOH-terminal src homology 3 (SH3) domain with the GTPase dynamin and the inositol-5-phosphatase synaptojanin and additionally directly to clathrin.
Amphiphysin, dynamin and synaptojanin have a putative role in synaptic vesicle recycling and undergo rapid dephosphorylation in synaptosomes stimulated by a depolarizing stimulus. Two isoforms are known which seem to act in concert as a heterodimer.

Selected References for 120 002

Composition of isolated synaptic boutons reveals the amounts of vesicle trafficking proteins.
Wilhelm BG, Mandad S, Truckenbrodt S, Kröhnert K, Schäfer C, Rammner B, Koo SJ, Claßen GA, Krauss M, Haucke V, Urlaub H, et al.
Science (New York, N.Y.) (2014) 3446187: 1023-8. . **WB, ICC, IHC; tested species: mouse,rat**

Evidence for a Clathrin-independent mode of endocytosis at a continuously active sensory synapse.
Fuchs M, Brandstätter JH, Regus-Leidig H
Frontiers in cellular neuroscience (2014) 8: 60. . **IHC, EM; tested species: rat**

Trafficking proteins show limited differences in mobility across different postsynaptic spines.
Mougios N, Opazo F, Rizzoli SO, Reshetniak S
iScience (2023) 262: 105971. . **ICC; tested species: rat**

Loss of the parkinsonism-associated protein FBXO7 in glutamatergic forebrain neurons in mice leads to abnormal motor behavior and synaptic defects.
Wang J, Joseph S, Vingill S, Dere E, Tatenhorst L, Ronnenberg A, Lingor P, Preisinger C, Ehrenreich H, Schulz JB, Stegmüller J, et al.
Journal of neurochemistry (2023) : . . **IHC; tested species: mouse**

Mutations in Parkinsonism-linked endocytic proteins synaptojanin1 and auxilin have synergistic effects on dopaminergic axonal pathology.
Ng XY, Wu Y, Lin Y, Yaqoob SM, Greene LE, De Camilli P, Cao M
NPJ Parkinson's disease (2023) 91: 26. . **ICC; tested species: mouse**

A novel synaptopathy-defective synaptic vesicle protein trafficking in the mutant CHMP2B mouse model of frontotemporal dementia.
Clayton EL, Bonnycastle K, Isaacs AM, Cousin MA, Schorge S
Journal of neurochemistry (2022) 1603: 412-425. . **WB; tested species: mouse**

Modes and regulation of endocytic membrane retrieval in mouse auditory hair cells.
Neef J, Jung S, Wong AB, Reuter K, Pangrsic T, Chakrabarti R, Kügler S, Lenz C, Nouvian R, Boumil RM, Frankel WN, et al.
The Journal of neuroscience : the official journal of the Society for Neuroscience (2014) 343: 705-16. . **IHC; tested species: mouse**

Point mutation in syntaxin-1A causes abnormal vesicle recycling, behaviors, and short term plasticity.
Watanabe Y, Katayama N, Takeuchi K, Togano T, Itoh R, Sato M, Yamazaki M, Abe M, Sato T, Oda K, Yokoyama M, et al.
The Journal of biological chemistry (2013) 28848: 34906-19. . **WB; tested species: mouse**

Role of the clathrin terminal domain in regulating coated pit dynamics revealed by small molecule inhibition.
von Kleist L, Stahlschmidt W, Bulut H, Gromova K, Puchkov D, Robertson MJ, MacGregor KA, Tomilin N, Tomlin N, Pechstein A, Chau N, et al.
Cell (2011) 1463: 471-84. . **ICC; tested species: mouse**

A pathologic cascade leading to synaptic dysfunction in alpha-synuclein-induced neurodegeneration.
Scott DA, Tabarean I, Tang Y, Cartier A, Masliah E, Roy S
The Journal of neuroscience : the official journal of the Society for Neuroscience (2010) 3024: 8083-95. . **ICC**

Access the online factsheet including applicable protocols at https://sysy.com/product/120002 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.