SYSY Antibodies

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Synaptoporin (p38-2)

Cat.No. 102 003; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin and azide were added for stabilization. For **reconstitution** add 50 µl H_2O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C to -80°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 up to 1 : 5000 (AP staining) **IP**: yes **ICC**: 1 : 500 up to 1 : 1000 **IHC**: 1 : 200 up to 1 : 500 **IHC-P (FFPE)**: 1 : 500
Immunogen	Synthetic peptide corresponding to residues near the carboxy terminus of rat Synaptoporin (UniProt Id: P22831)
Reactivity	Reacts with: rat (P22831), mouse (Q8BGN8), hamster, human (Q8TBG9). Other species not tested yet.
Matching control	102-1P

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

Background

Synaptoporin, also known as **synaptophysin2** and **p38-2**, is highly homologous to synaptophysin1 but encoded by a different gene. Like synaptopysin1, synaptoporin contains four transmembrane regions and a short cytoplasmic tail. Unlike synaptophysin1, it is not glycosylated.
The distributions of synaptophysin1 and synaptoporin are different. Synaptophysin1 is more uniformly expressed whereas synaptoporin is particularly enriched in mossy fiber synapses in the hippocampus. It is thus an excellent marker for subsets of synapses.

For more information on protein expression pattern, please refer to the overview image in our SYSY Antibodies ATLAS.

Selected References for 102 003

Synaptophysin density underestimates synapse counts in the human brain - An anatomical study on synaptoporin protein expression.
Woelfle S, Schön M, Pedro MT, Wagner J, Shiban E, Hong B, Tsoy Y, Boeckers TM
Neurobiology of disease (2026) 227: 107503. . **WB, IHC; tested species: human**

Non-canonical function of ADAM10 in presynaptic plasticity.
Bär J, Fanutza T, Reimann CC, Seipold L, Grohe M, Bolter JR, Delfs F, Bucher M, Gee CE, Schweizer M, Saftig P, et al.
Cellular and molecular life sciences : CMLS (2024) 811: 342. . **IHC; tested species: mouse**

Midazolam prevents the adverse outcome of neonatal asphyxia.
Welzel B, Schmidt R, Johne M, Löscher W
Annals of neurology (2022) : . . **IHC; tested species: rat**

Scopolamine prevents aberrant mossy fiber sprouting and facilitates remission of epilepsy after brain injury.
Meller S, Käufer C, Gailus B, Brandt C, Löscher W
Neurobiology of disease (2021) : 105446. . **IHC; tested species: rat**

Layer-Specific Vesicular Glutamate Transporter 1 Immunofluorescence Levels Delineate All Layers of the Human Hippocampus Including the Stratum lucidum.
Woelfle S, Boeckers TM
Frontiers in cellular neuroscience (2021) 15: 789903. . **IHC; tested species: human**

Neuronal BIN1 Regulates Presynaptic Neurotransmitter Release and Memory Consolidation.
De Rossi P, Nomura T, Andrew RJ, Masse NY, Sampathkumar V, Musial TF, Sudwarts A, Recupero AJ, Le Metayer T, Hansen MT, Shim HN, et al.
Cell reports (2020) 3010: 3520-3535.e7. . **IHC; tested species: mouse**

Ultrastructural Correlates of Presynaptic Functional Heterogeneity in Hippocampal Synapses.
Maus L, Lee C, Altas B, Sertel SM, Weyand K, Rizzoli SO, Rhee J, Brose N, Imig C, Cooper BH
Cell reports (2020) 3011: 3632-3643.e8. . **IHC; tested species: mouse**

Ultrastructural Imaging of Activity-Dependent Synaptic Membrane-Trafficking Events in Cultured Brain Slices.
Imig C, López-Murcia FJ, Maus L, García-Plaza IH, Mortensen LS, Schwark M, Schwarze V, Angibaud J, Nägerl UV, Taschenberger H, Brose N, et al.
Neuron (2020) : . . **IHC; tested species: mouse**

BACE1 partial deletion induces synaptic plasticity deficit in adult mice.
Lombardo S, Chiacchiaretta M, Tarr A, Kim W, Cao T, Sigal G, Rosahl TW, Xia W, Haydon PG, Kennedy ME, Tesco G, et al.
Scientific reports (2019) 91: 19877. . **IHC; tested species: mouse**

Early tissue damage and microstructural reorganization predict disease severity in experimental epilepsy.
Janz P, Schwaderlapp N, Heining K, Häussler U, Korvink JG, von Elverfeldt D, Hennig J, Egert U, LeVan P, Haas CA
eLife (2017) 6: . . **IHC; tested species: human**

Access the online factsheet including applicable protocols at https://sysy.com/product/102003 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.