SYSY Antibodies

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Synaptoporin (p38-2)

Cat.No. 102 002; 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 : 100 up to 1 : 1000 **IHC**: 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.
Specificity	K.O. validated PubMed: 31090538
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 102 002

Synapse type-specific proteomic dissection identifies IgSF8 as a hippocampal CA3 microcircuit organizer.
Apóstolo N, Smukowski SN, Vanderlinden J, Condomitti G, Rybakin V, Ten Bos J, Trobiani L, Portegies S, Vennekens KM, Gounko NV, Comoletti D, et al.
Nature communications (2020) 111: 5171. . **WB, ICC, IHC; tested species: mouse**

Aβ-induced mitochondrial dysfunction in neural progenitors controls KDM5A to influence neuronal differentiation.
Kim DK, Jeong H, Bae J, Cha MY, Kang M, Shin D, Ha S, Hyeon SJ, Kim H, Suh K, Choi MS, et al.
Experimental & molecular medicine (2022) : . . **WB, IHC; tested species: mouse**

Lowering Synaptogyrin-3 expression rescues Tau-induced memory defects and synaptic loss in the presence of microglial activation.
Largo-Barrientos P, Apóstolo N, Creemers E, Callaerts-Vegh Z, Swerts J, Davies C, McInnes J, Wierda K, De Strooper B, Spires-Jones T, de Wit J, et al.
Neuron (2021) : . . **ICC, IHC; tested species: mouse**

Epac2 Mediates cAMP-Dependent Potentiation of Neurotransmission in the Hippocampus.
Fernandes HB, Riordan S, Nomura T, Remmers CL, Kraniotis S, Marshall JJ, Kukreja L, Vassar R, Contractor A
The Journal of neuroscience : the official journal of the Society for Neuroscience (2015) 3516: 6544-53. . **WB, IHC**

B-ephrin reverse signaling is required for NMDA-independent long-term potentiation of mossy fibers in the hippocampus.
Armstrong JN, Saganich MJ, Xu NJ, Henkemeyer M, Heinemann SF, Contractor A
The Journal of neuroscience : the official journal of the Society for Neuroscience (2006) 2613: 3474-81. . **WB, IHC**

Serum response factor controls neuronal circuit assembly in the hippocampus.
Knöll B, Kretz O, Fiedler C, Alberti S, Schütz G, Frotscher M, Nordheim A
Nature neuroscience (2006) 92: 195-204. . **EM; tested species: mouse**

KLF7 orchestrates hippocampal development through neurogenesis and Draxin-mediated neuronal migration.
Liu Y, Hong W, Zhou Y, Zhang A, Gong P, Qi G, Song X, Wang Z, Shi X, Qi C, Qin S, et al.
Development (Cambridge, England) (2025) 15220: . . **IHC; tested species: mouse**

Septin 3 regulates memory and L-LTP-dependent extension of endoplasmic reticulum into spines.
Ageta-Ishihara N, Fukazawa Y, Arima-Yoshida F, Okuno H, Ishii Y, Takao K, Konno K, Fujishima K, Ageta H, Hioki H, Tsuchida K, et al.
Cell reports (2025) : 115352. . **IHC; tested species: mouse**

Human stem cell-derived GABAergic interneuron development reveals early emergence of subtype diversity and gradual electrochemical maturation.
Bershteyn M, Zhou H, Fuentealba L, Chen C, Subramanyam G, Cherkowsky D, Sevilla ES, Hampel P, Salvatierra J, Sezan M, Maury Y, et al.
Neuron (2025) : . . **IHC; tested species: mouse**

Gαo1 and Gαo1/Gαo2 deletion differentially affect hippocampal mossy fiber tract anatomy and neuronal morphogenesis.
Höltje M, Wolkowicz A, Brunk I, Baron J, Ahnert-Hilger G
Journal of neurochemistry (2024) : . . **IHC; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/102002 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.