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

Synaptoporin

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**: 1 : 500
Immunogen	Synthetic peptide corresponding to AA 250 to 263 from 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 **synaptophysin 2** and **p38-2**, is highly homologous to synaptophysin 1 but encoded by a different gene. Like synaptopysin 1, synaptoporin contains four transmembrane regions and a short cytoplasmic tail. Unlike synaptophysin 1, it is not glycosylated.
The distributions of synaptophysin 1 and synaptoporin are different. Synaptophysin 1 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.

Selected References for 102 003

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**

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**

Selected General References

The synaptic vesicle cycle: a cascade of protein-protein interactions.
Südhof TC
Nature (1995) 3756533: 645-53. .

Synaptic vesicles and exocytosis.
Jahn R, Südhof TC
Annual review of neuroscience (1994) 17: 219-46. .

Relative properties and localizations of synaptic vesicle protein isoforms: the case of the synaptophysins.
Fykse EM, Takei K, Walch-Solimena C, Geppert M, Jahn R, De Camilli P, Südhof TC
The Journal of neuroscience : the official journal of the Society for Neuroscience (1993) 1311: 4997-5007. .

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 our antibodies and control proteins / peptides are shipped lyophilized (vacuum freeze-dried) and are stable in this form 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. **They must not be stored in the freezer when still lyophilized!** Temperatures below zero may cause loss of performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long term storage (several months) may lead to aggregation.
- **Control peptides** should be kept at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- The storage freezer must not be of the frost-free variety ("no-frost freezer"). This cycle between freezing and thawing (to reduce frost-build-up), which is exactly what should be avoided. For the same reason, antibody vials should be placed in an area of the freezer that has minimal temperature fluctuations, for instance towards the back rather than on a door shelf.
- Aliquot the antibody and store frozen (-20°C to -80°C). Avoid very small aliquots (below 20 µl) and use the smallest storage vial or tube possible. The smaller the aliquot, the more the stock concentration is affected by evaporation and adsorption of the antibody to the surface of the storage vial or tube. Adsorption of the antibody to the surface leads to a substantial loss of activity.
- The addition of glycerol to a final concentration of 50% lowers the freezing point of your stock and keeps your antibody at -20°C in liquid state. This efficiently avoids freeze and thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C.

Monoclonal Antibodies

- **Ascites** and **hybridoma supernatant** should be stored at -20°C up to -80°C. **Prolonged storage at 4°C is not recommended!** Unlike serum, ascites may contain proteases that will degrade the antibodies.
- **Purified IgG** should be stored at -20°C up to -80°C. Adding a carrier protein like BSA will increase long term stability. Many of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Polyclonal Antibodies

- **Crude antisera**: With anti-microbials added, they may be stored at 4°C. However, frozen storage (-20°C up to -80°C) is preferable.
- **Affinity purified antibodies**: Less robust than antisera. Storage at -20°C up to -80°C is recommended. Adding a carrier protein like BSA will increase long term stability. Most of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Fluorescence-labeled Antibodies

- Store as a liquid with 1 : 1 (v/v) glycerol at -20°C. Protect these antibodies from light exposure.

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All our purified antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the amount of deionized water given in the respective datasheet. If higher volumes are preferred, add water as mentioned above and then the desired amount of PBS and a stabilizing carrier protein (e.g. BSA) to a final concentration of 2%. Some of our antibodies already contain albumin. Take this into account when adding more carrier protein.
  For complete reconstitution, carefully remove the lid. After adding water, briefly vortex the solution. You can spin down the liquid by placing the vial into a 50 ml centrifugation tube filled with paper.
- If desired, add small amounts of azide or thimerosal to prevent microbial growth. This is especially recommended if you want to keep an aliquot a 4°C.
- After reconstitution of fluorescence-labeled antibodies, add 1 : 1 (v/v) glycerol to a final concentration of 50%. This lowers the freezing point of your stock and keeps your antibody in liquid state at -20°C.
- Glycerol may also be added to unlabeled primary antibodies. It is a suitable way to avoid freeze-thaw cycles.
- Please refer to our **tips and hints for subsequent storage** of reconstituted antibodies and control peptides and proteins.