SYSY Antibodies

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Synaptogyrin1

Cat.No. 103 011; Monoclonal mouse antibody, 50 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg purified IgG, lyophilized. 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 (AP staining) **IP**: yes (see remarks) **ICC**: external data (see remarks) **IHC**: external data (see remarks) **IHC-P (FFPE)**: external data (see remarks) **ELISA**: yes (see remarks)
Clone	80.1
Subtype	IgG1 (κ light chain)
Immunogen	Recombinant protein corresponding to AA 170 to 234 from rat Synaptogyrin1 (UniProt Id: Q62876)
Reactivity	Reacts with: human (O43759), rat (Q62876), mouse (O55100), hamster. No signal: zebrafish. Other species not tested yet.
Specificity	Specific for synaptogyrin 1 with a weak side-reactivity towards tubulin.
Remarks	**IP**: In immunoprecipitation (but not in other assays) tubulin coprecipitates with synaptogyrin 1 in about equal proportions. This is due to a direct binding of the antibody to tubulin. **ICC**: This antibody has been successfully used and published for this application by customers (see application-specific references). It is not compatible with our standard protocols. **IHC**: This antibody has been successfully used and published for this application by customers (see application-specific references). It is not compatible with our standard protocols. **IHC-P (FFPE)**: This antibody has been successfully used and published for this application by customers (see application-specific references). It is not compatible with our standard protocols. **ELISA**: The ELISA-protocol for membrane proteins is required. Suitable as capture antibody for sandwich-ELISA. Please refer to the protocol for suitable detector antibodies.

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

Background

Synaptogyrins are tyrosine-phosphorylated proteins with two neuronal (**synaptogyrin 1** and 3) and one ubiquitous, synaptogyrin 2 or cellugyrin isoform.
Synaptogyrins are integral membrane proteins and localize to the membrane of small vesicles.
Synaptogyrin 1 and 3 are expressed in the brain whereby the latter shows a more restricted expression pattern with high levels in the mossy fiber region of the hippocampus, substantia nigra pars reticulata, pallidum, and deep cerebellar nuclei.
Synaptogyrin 2/cellugyrin, a close relative, is expressed in all tissues, for instance, in distinct populations of GLUT 4 containing vesicles.

Selected References for 103 011

Structure of synaptogyrin (p29) defines novel synaptic vesicle protein.
Stenius K, Janz R, Südhof TC, Jahn R
The Journal of cell biology (1995) 1316 Pt 2: 1801-9. . **WB, ICC**

Distinctive alteration of presynaptic proteins in the outer molecular layer of the dentate gyrus in Alzheimer's disease.
Haytural H, Jordà-Siquier T, Winblad B, Mulle C, Tjernberg LO, Granholm AC, Frykman S, Barthet G
Brain communications (2021) 32: fcab079. . **IHC-P; tested species: human**

The expression pattern and assembly profile of synaptic membrane proteins in ribbon synapses of the developing mouse retina.
von Kriegstein K, Schmitz F
Cell and tissue research (2003) 3112: 159-73. . **IHC**

How to Make an Active Zone: Unexpected Universal Functional Redundancy between RIMs and RIM-BPs.
Acuna C, Liu X, Südhof TC
Neuron (2016) 914: 792-807. . **WB**

Endosomal sorting of readily releasable synaptic vesicles.
Hoopmann P, Punge A, Barysch SV, Westphal V, Bückers J, Opazo F, Bethani I, Lauterbach MA, Hell SW, Rizzoli SO
Proceedings of the National Academy of Sciences of the United States of America (2010) 10744: 19055-60. .

Selected General References

Essential roles in synaptic plasticity for synaptogyrin I and synaptophysin I.
Janz R et al. Neuron (1999) PubMed:10595519

Cellugyrin, a novel ubiquitous form of synaptogyrin that is phosphorylated by pp60c-src.
Janz R et al. J. Biol. Chem. (1998) PubMed:9446595

The synaptic vesicle cycle: a cascade of protein-protein interactions.
Südhof TC et al. Nature (1995) PubMed:7791897

Synaptic vesicles and exocytosis.
Jahn R et al. Annu. Rev. Neurosci. (1994) PubMed:8210174

Access the online factsheet including applicable protocols at https://sysy.com/product/103011 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.