

## Synaptogyrin1

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

### Data Sheet

Reconstitution/Storage	50 µg purified IgG, lyophilized. For <b>reconstitution</b> add 50 µl H <sub>2</sub> O 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	<b>WB:</b> 1 : 1000 (AP staining) <b>IP:</b> yes (see remarks) <b>ICC:</b> external data (see remarks) <b>IHC:</b> external data (see remarks) <b>IHC-P:</b> external data (see remarks) <b>ELISA:</b> 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	<b>IP:</b> 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. <b>ICC:</b> 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. <b>IHC:</b> 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. <b>IHC-P:</b> 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. <b>ELISA:</b> The ELISA-protocol for membrane proteins is required. Suitable as capture antibody for sandwich-ELISA. Please refer to the protocol for suitable detector antibodies.

## 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, Mülle 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 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 at 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.