SYSY Antibodies

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

Synaptojanin1 C-terminus

Cat.No. 145 003; 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 : 200 up to 1 : 2000 (AP staining) (see remarks) **IP**: not tested yet **ICC**: yes **IHC**: yes **IHC-P**: not tested yet
Immunogen	Synthetic peptide corresponding to AA 1292 to 1308 from rat Synaptojanin1 (UniProt Id: Q62910-1)
Reactivity	Reacts with: rat (Q62910), mouse (Q8CHC4), hamster. Other species not tested yet.
Specificity	Recognizes all isoforms of synaptojanin 1.
Matching control	145-0P
Remarks	

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

Background

Synaptojanin 1 is a phosphoinositide phosphatase which exists in two tissue specific isoforms (170 and 145 kDa). The 145 kDa isoform is predominantly expressed in the nervous system. It has a three domain structure with an N-terminal part homologous to the yeast Sac 1p protein, a central inositol 5-phosphatase domain and a C-terminal SH3 binding domain. Synaptojanin is involved in clathrin mediated synaptic vesicle recycling and binds to endophilin and amphiphysin.
Six isoforms are described so far and two splice variants of the 145 kDa isoform. The predominant one contains a 16 AA insert at position 1140-1155.

Selected References for 145 003

Evidence for a Clathrin-independent mode of endocytosis at a continuously active sensory synapse.
Fuchs M, Brandstätter JH, Regus-Leidig H
Frontiers in cellular neuroscience (2014) 8: 60. . **IHC, EM; tested species: rat**

Composition of isolated synaptic boutons reveals the amounts of vesicle trafficking proteins.
Wilhelm BG, Mandad S, Truckenbrodt S, Kröhnert K, Schäfer C, Rammner B, Koo SJ, Claßen GA, Krauss M, Haucke V, Urlaub H, et al.
Science (New York, N.Y.) (2014) 3446187: 1023-8. . **ICC, IHC; tested species: mouse,rat**

Molecular anatomy of the hair cell's ribbon synapse.
Uthaiah RC, Hudspeth AJ
The Journal of neuroscience : the official journal of the Society for Neuroscience (2010) 3037: 12387-99. . **WB**

Synaptic AP2 CCV life cycle regulation by the Eps15, ITSN1, Sgip1/AP2, synaptojanin1 interactome.
Mishra R, Sengül GF, Candiello E, Schu P
Scientific reports (2021) 111: 8007. . **WB; tested species: mouse**

Proteomic Analysis After Status Epilepticus Identifies UCHL1 as Protective Against Hippocampal Injury.
Reynolds JP, Jimenez-Mateos EM, Cao L, Bian F, Alves M, Miller-Delaney SF, Zhou A, Henshall DC
Neurochemical research (2017) 427: 2033-2054. . **WB**

Human autoantibodies to amphiphysin induce defective presynaptic vesicle dynamics and composition.
Werner C, Pauli M, Doose S, Weishaupt A, Haselmann H, Grünewald B, Sauer M, Heckmann M, Toyka KV, Asan E, Sommer C, et al.
Brain : a journal of neurology (2016) 139Pt 2: 365-79. . **ICC; tested species: rat**

Synaptic function is modulated by LRRK2 and glutamate release is increased in cortical neurons of G2019S LRRK2 knock-in mice.
Beccano-Kelly DA, Kuhlmann N, Tatarnikov I, Volta M, Munsie LN, Chou P, Cao LP, Han H, Tapia L, Farrer MJ, Milnerwood AJ, et al.
Frontiers in cellular neuroscience (2014) 8: 301. . **WB; tested species: mouse**

Efficient synaptic vesicle recycling after intense exocytosis concomitant with the accumulation of non-releasable endosomes at early developmental stages.
Bartolomé-Martín D, Ramírez-Franco J, Castro E, Sánchez-Prieto J, Torres M
Journal of cell science (2012) 125Pt 2: 422-34. . **WB; tested species: rat**

SNX18 shares a redundant role with SNX9 and modulates endocytic trafficking at the plasma membrane.
Park J, Kim Y, Lee S, Park JJ, Park ZY, Sun W, Kim H, Chang S
Journal of cell science (2010) 123Pt 10: 1742-50. . **WB**

Sorting nexin 9 interacts with dynamin 1 and N-WASP and coordinates synaptic vesicle endocytosis.
Shin N, Lee S, Ahn N, Kim SA, Ahn SG, YongPark Z, Chang S
The Journal of biological chemistry (2007) 28239: 28939-50. . **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. .

Access the online factsheet including applicable protocols at https://sysy.com/product/145003 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.