

SNAP25

Cat.No. 111 011; Monoclonal mouse antibody, 50 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg purified IgG, lyophilized. Albumin and azide were added for stabilization. For reconstitution add 50 µl H ₂ 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	WB: 1 : 1000 up to 1 : 10000 (AP staining) IP: yes (see remarks) ICC: 1 : 500 up to 1 : 1000 IHC: not recommended IHC-P: 1 : 2000 EM: external data (see remarks)
Clone	71.1
Subtype	IgG1 (κ light chain)
Immunogen	Full-length recombinant rat SNAP25B protein (UniProt Id: P60881-1)
Epitop	AA 20 to 40 from rat SNAP25B (UniProt Id: P60881-1)
Reactivity	Reacts with: human (P60880), rat (P60881), mouse (P60879), vertebrates, invertebrates, zebrafish. Other species not tested yet.
Specificity	Detects both splice variants SNAP 25A and B. Recognizes the Botulinum neurotoxin A and E cleavage products. K.O. validated PubMed: 31794878
Remarks	IP: Immunoprecipitation not quantitative, appears to depend on the binding status of the protein. EM: This antibody has been successfully applied and published for this method by customers (see application-specific references).

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

Background

SNAP25 (synaptosome-associated protein of 25 kD) is a highly conserved protein anchored to the cytosolic face of membranes via palmitoyl side chains in the middle of the molecule. SNAP25 is the target of Botulinum neurotoxins A and E which cleave off 9 and 26 amino acids, respectively, from the C-terminus.

SNAP25 is part of the exocytotic fusion complex (v-SNARE) of neurons where it assembles with syntaxin1 and synaptobrevin. It is abundantly localized on the neuronal plasmalemma and on recycling vesicles including synaptic vesicles. It is also expressed in neuroendocrine cells. There are two splice-variants, SNAP25A and 25B.

Selected References for 111 011

CaV2.2 Gates Calcium-Independent but Voltage-Dependent Secretion in Mammalian Sensory Neurons.

Chai Z, Wang C, Huang R, Wang Y, Zhang X, Wu Q, Wang Y, Wu X, Zheng L, Zhang C, Guo W, et al. Neuron (2017) 966: 1317-1326.e4. . **WB, IP, ICC; tested species: rat**

SNARE protein SNAP25 regulates the chloride-transporter KCC2 in neurons.

Raveendran VA, Serranilla M, Asgarihafshejani A, de Saint-Rome M, Cherednychenko M, Mullany S, Mitchell JA, Pressey JC, Woodin MA
iScience (2024) 2711: 111156. . **ICC, IHC; KD verified; tested species: mouse**

Deficiency of PKA-mediated SNAP-25b phosphorylation destabilizes exocytotic fusion pores and reduces the interactions of t-SNAREs.

Hsiao YT, Su YL, Chen PC, Huang CT, Hsieh YY, Chiang N, Lin YC, Lu JC, Wang CT
The Journal of physiology (2025) : . . **WB, ICC; tested species: rat**

The phosphoprotein Synapsin Ia regulates the kinetics of dense-core vesicle release.

Yang HJ, Chen PC, Huang CT, Cheng TL, Hsu SP, Chen CY, Lu JC, Wang CT
The Journal of neuroscience : the official journal of the Society for Neuroscience (2021) : . . **WB, ICC; tested species: rat**

Aggregation of mutant cysteine string protein-α via Fe-S cluster binding is mitigated by iron chelators.

Naseri NN, Ergel B, Kharel P, Na Y, Huang Q, Huang R, Dolzhanskaya N, Burré J, Velinov MT, Sharma M
Nature structural & molecular biology (2020) 272: 192-201. . **WB, IP; tested species: mouse**

Endophilin-A coordinates priming and fusion of neurosecretory vesicles via intersectin.

Gowrisankaran S, Houy S, Del Castillo JGP, Steubler V, Gelker M, Kroll J, Pinheiro PS, Schwitters D, Halbsgut N, Pechstein A, van Weering JRT, et al.
Nature communications (2020) 111: 1266. . **WB, ICC; tested species: mouse**

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, WB; tested species: rat**

SV31 is a Zn²⁺-binding synaptic vesicle protein.

Barth J, Zimmermann H, Volkandt W
Journal of neurochemistry (2011) 1184: 558-70. . **WB, ICC**

Distinct axo-somato-dendritic distributions of three potassium channels in CA1 hippocampal pyramidal cells.

Kirizis T, Kerti-Szigeti K, Lorincz A, Nusser Z
The European journal of neuroscience (2014) 3911: 1771-83. . **EM; tested species: rat**

Botulinum neurotoxin Light Chain/A1 uses fast synaptic vesicle cycling to cleave plasma membrane bound SNAP-25.

Gardner A, Sneller M, Tepp WH, Barbieri JT, Pellett S
Communications biology (2025) 81: 1383. . **WB; tested species: mouse**

Access the online factsheet including applicable protocols at <https://sysy.com/product/111011> 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.