

SNAP25

Cat.No. 111 002; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For reconstitution add 200 µl H ₂ O, then aliquot and store at -20°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 : 10000 (AP staining) IP: yes ICC: 1 : 500 IHC: 1 : 200 IHC-P: 1 : 500 ELISA: yes (see remarks)
Immunogen	Synthetic peptide corresponding to AA 192 to 206 from human SNAP25 (UniProt Id: P60880)
Reactivity	Reacts with: human (P60880), rat (P60881), mouse (P60879), hamster, chicken, goldfish, zebrafish. Other species not tested yet.
Matching control	111-0P
Remarks	Recognizes the Botulinum neurotoxin A cleavage product with reduced affinity. Does not detect the neurotoxin E cleavage product. Recognizes splice variants SNAP 25A and B. ELISA: Suitable as detector antibody for sandwich-ELISA with cat. no. 111 111 as capture antibody. The ELISA-protocol for membrane proteins is recommended.

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 111 002

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) 96: 1317-1326.e4. . **WB, IP, ICC; tested species: rat**

An ancient duplication of exon 5 in the Snap25 gene is required for complex neuronal development/function. Johansson JU, Ericsson J, Janson J, Beraki S, Stanić D, Mandić SA, Wikström MA, Hökfelt T, Ogren SO, Rozell B, Berggren PO, et al. PLoS genetics (2008) 411: e1000278. . **WB, IHC; tested species: mouse**

C3N nanodots inhibits Aβ peptides aggregation pathogenic path in Alzheimer's disease. Yin X, Zhou H, Zhang M, Su J, Wang X, Li S, Yang Z, Kang Z, Zhou R Nature communications (2023) 141: 5718. . **WB, IHC; tested species: mouse**

Pulse-Chase Proteomics of the App Knockin Mouse Models of Alzheimer's Disease Reveals that Synaptic Dysfunction Originates in Presynaptic Terminals. Hark TJ, Rao NR, Castillon C, Basta T, Smukowski S, Bao H, Upadhyay A, Bomba-Warczak E, Nomura T, O'Toole ET, Morgan GP, et al. Cell systems (2020) : . . **WB, IHC; tested species: mouse**

Lysosomal dysfunction disrupts presynaptic maintenance and restoration of presynaptic function prevents neurodegeneration in lysosomal storage diseases. Sambri I, D'Alessio R, Ezhova Y, Giuliano T, Sorrentino NC, Cacace V, De Risi M, Cataldi M, Annunziato L, De Leonibus E, Fraldi A, et al. EMBO molecular medicine (2017) 91: 112-132. . **WB, ICC; tested species: mouse**

Neuronal and glial differentiation during lizard (Gallotia galloti) visual system ontogeny. Romero-Alemán MM, Monzón-Mayor M, Santos E, Lang DM, Yanes C The Journal of comparative neurology (2012) 52010: 2163-84. . **WB, IHC**

Synapsin-dependent reserve pool of synaptic vesicles supports replenishment of the readily releasable pool under intense synaptic transmission. Vasileva M, Horstmann H, Geumann C, Gitler D, Kuner T The European journal of neuroscience (2012) 368: 3005-20. . **ELISA**

The lipid transporter ORP2 regulates synaptic neurotransmitter release via two distinct mechanisms. Weber-Boyvat M, Kroll J, Trimbuch T, Olkkonen VM, Rosenmund C Cell reports (2022) 4113: 111882. . **WB; tested species: mouse**

Plasma membrane flipping of Syntaxin-2 regulates its inhibitory action on insulin granule exocytosis. Kang F, Xie L, Qin T, Miao Y, Kang Y, Takahashi T, Liang T, Xie H, Gaisano HY Nature communications (2022) 131: 6512. . **WB; tested species: mouse, human**

Bassoon controls synaptic vesicle release via regulation of presynaptic phosphorylation and cAMP. Montenegro-Venegas C, Guhathakurta D, Pina-Fernandez E, Andres-Alonso M, Plattner F, Gundelfinger ED, Fejtova A EMBO reports (2022) 238: e53659. . **WB; tested species: mouse**

Access the online factsheet including applicable protocols at <https://sysy.com/product/111002> 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.