

SNAP23

Cat.No. 111 213; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin was 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 (AP staining) IP: yes (see remarks) ICC: not tested yet IHC: not tested yet IHC-P: not tested yet
Immunogen	Recombinant protein corresponding to AA 86 to 210 from mouse SNAP23 (UniProt Id: O09044)
Reactivity	Reacts with: rat (O70377), mouse (O09044). Other species not tested yet.
Remarks	IP: This antibody is most efficient and recommended for immunoprecipitation.

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

Background

SNAP23 (synaptosome-associated protein of 23 kDa) is an ubiquitously expressed isoform and functional homologue of SNAP25. It is resistant to cleavage by BoNT/A and E. The protein is part of the exocytotic fusion complex (v-SNARE) where it assembles with syntaxin1 and synaptobrevin. SNAP23 is able to function in regulated exocytosis. Both isoforms may have their own specific binding partners and discrete, albeit mechanistically similar, functional roles within the cell.

Selected References for 111 213

EHD2 regulates plasma membrane integrity and downstream insulin receptor signalling events. Neuhaus M, Fryklund C, Taylor H, Borreguero-Muñoz A, Kopietz F, Ardalani H, Rogova O, Stirrat L, Bremner SK, Spégel P, Bryant NJ, et al. *Molecular biology of the cell* (2023) : mbcE23030078. . **WB, ICC; tested species: mouse**

SNAP23 regulates KCC2 membrane insertion and activity following mZnR/GPR39 activation in hippocampal neurons. Asraf H, Bogdanovic M, Gottesman N, Sekler I, Aizenman E, Hershinkel M *iScience* (2022) 252: 103751. . **IP, DNA_PAINT; tested species: mouse**

Selected General References

Mechanisms of synaptic vesicle exocytosis. Lin RC et al. *Annu. Rev. Cell Dev. Biol.* (2000) PubMed:11031229

Membrane fusion and exocytosis. Jahn R et al. *Annu. Rev. Biochem.* (1999) PubMed:10872468

SNAP-23 is not cleaved by botulinum neurotoxin E and can replace SNAP-25 in the process of insulin secretion. Sadoul K et al. *J. Biol. Chem.* (1997) PubMed:9407084

Botulinum neurotoxin B inhibits insulin-stimulated glucose uptake into 3T3-L1 adipocytes and cleaves cellubrevin unlike type A toxin which failed to proteolyze the SNAP-23 present. Chen F et al. *Biochemistry* (1997) PubMed:9153412

Identification of a novel syntaxin- and synaptobrevin/VAMP-binding protein, SNAP-23, expressed in non-neuronal tissues. Ravichandran V et al. *J. Biol. Chem.* (1996) PubMed:8663154

The N-ethylmaleimide-sensitive fusion protein and alpha-SNAP induce a conformational change in syntaxin. Hanson PI et al. *J. Biol. Chem.* (1995) PubMed:7622514

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

Mechanisms of intracellular protein transport. Rothman JE et al. *Nature* (1994) PubMed:7969419

Access the online factsheet including applicable protocols at <https://sysy.com/product/111213> 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.