SYSY Antibodies

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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_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 : 1000 (AP staining) **IP**: yes (see remarks) **ICC**: external data (see remarks) **IHC**: not tested yet **IHC-P (FFPE)**: not tested yet **DNA-PAINT**: external data (see remarks)
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. **ICC**: This antibody has been successfully applied and published for this method by customers (see application-specific references). It has not been validated using our standard protocols. **DNA-PAINT**: 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

SNAP23 (**syn**aptosome-**a**ssociated **p**rotein 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 hippocampalneurons.
Asraf H, Bogdanovic M, Gottesman N, Sekler I, Aizenman E, Hershfinkel 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 SYSY antibodies and control proteins/peptides are shipped lyophilized (vacuum freeze-dried). In this form, they remain stable 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. **Do not freeze lyophilized antibodies**. Temperatures below 0°C may impair performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long-term storage of lyophilized fluorophore-conjugates may cause aggregation.
- **Control peptides** should be stored at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- **Do not use frost-free ("no-frost") freezers.** These units periodically warm to remove ice buildup, causing freeze–thaw cycles that can damage antibodies.
- Store vials in areas with minimal temperature fluctuation - preferably toward the back of the freezer, not on the door.
- Aliquot reconstituted antibodies and store at –20°C to –80°C.
- Avoid very small aliquots (<20 µL), as evaporation and adsorption to tube surfaces can reduce antibody concentration and activity.
- Use the smallest practical storage vial to minimize surface area.
- Adding glycerol to a final concentration of 50% prevents freezing at -20°C, allowing storage in liquid form and effectively avoiding freeze–thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C

Monoclonal Antibodies

- **Ascites and hybridoma supernatant:** Store at -20°C to -80°C
  Prolonged storage at 4°C is not recommended, as proteases present in ascites may degrade antibodies.
- **Purified IgG:** Store at -20°C to -80°C
  Adding a carrier protein (e.g., BSA) enhances long-term stability.
  Many SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

Polyclonal Antibodies

- **Crude antisera:** Can be stored at 4°C with antimicrobials added, but -20°C to -80°C is preferred
- **Affinity-purified antibodies:** Less stable than antisera; store at -20°C to -80°C
  Adding a carrier protein such as BSA improves long-term stability.
  Most SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

Fluorescence-labeled Antibodies

- Store as a liquid with 1:1 (v/v) glycerol at -20°C, and protect from light exposure

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All purified SYSY antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the volume of deionized water specified in the corresponding datasheet. If a larger final volume is desired, first add the recommended amount of water, then adjust with PBS and, if needed, add a stabilizing carrier protein (e.g., BSA) to a final concentration of 2%. Some SYSY antibodies already contain albumin; please take this into account before adding additional carrier protein.

For complete reconstitution, carefully remove the vial cap. After adding water, briefly vortex the solution. To collect the liquid at the bottom of the vial, place the vial inside a 50 ml centrifuge tube padded with paper and centrifuge briefly.

- If desired, small amounts of azide or thimerosal may be added to prevent microbial growth. This is particularly recommended when storing an aliquot at 4°C.
- After reconstitution of fluorescence-labeled antibodies, add glycerol 1:1 (v/v) to achieve a final concentration of 50%. This prevents freezing at –20°C and keeps the antibody in liquid form, effectively avoiding freeze–thaw cycles.
- Glycerol may also be added to unlabeled primary antibodies as a general measure to prevent freeze–thaw damage.
- For further guidance, please refer to our **storage tips** and recommendations for reconstituted antibodies, control peptides, and control proteins.