SYSY Antibodies

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SNAP25

Cat.No. 111 308; Recombinant Guinea pig antibody, 50 µg recombinant IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg purified recombinant IgG, lyophilized. 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 : 1000 up to 1 : 10000 (AP staining) **IP**: not tested yet **ICC**: 1 : 500 up to 1 : 1000 **IHC**: not tested yet **IHC-P (FFPE)**: 1 : 200 up to 1 : 1000
Clone	Gp71.1
Subtype	IgG2 (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 (P60881-1), mouse (P60879), vertebrates, invertebrates, zebrafish. No signal: Drosophila melanogaster. 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
Remarks	This antibody is a chimeric antibody based on the well-known monoclonal mouse antibody clone 71.1. The constant regions of the heavy and light chains have been replaced by Guinea pig specific sequences. Therefore, the antibody can be used with standard anti-Guinea pig secondary reagents. The antibody has been expressed in mammalian cells.

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

Background

SNAP25 (**sy**naptosome-**a**ssociated **p**rotein 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 111 308

Munc13-1 restoration mitigates presynaptic pathology in spinal muscular atrophy.
Moradi M, Weingart J, Deng C, Nasouti M, Briese M, Jablonka S, Sauer M, Sendtner M
Nature communications (2025) 161: 8724. . **ICC; tested species: mouse**

Selected General References

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

Regional and developmental brain expression patterns of SNAP25 splice variants.
Prescott GR et al. BMC Neurosci (2011) PubMed:21526988

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

A structural change occurs upon binding of syntaxin to SNAP-25.
Fasshauer D et al. J. Biol. Chem. (1997) PubMed:9020186

The synaptic vesicle cycle: a cascade of protein-protein interactions.
Südhof TC et al. Nature (1995) PubMed:7791897

Genetic and electrophysiological studies of Drosophila syntaxin-1A demonstrate its role in nonneuronal secretion and neurotransmission.
Schulze KL et al. Cell (1995) PubMed:7834751

Synaptic vesicles and exocytosis.
Jahn R et al. Annu. Rev. Neurosci. (1994) PubMed:8210174

Botulinum neurotoxin A selectively cleaves the synaptic protein SNAP-25.
Blasi J et al. Nature (1993) PubMed:8103915

Access the online factsheet including applicable protocols at https://sysy.com/product/111308 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.