SYSY Antibodies

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Munc18-2

Cat.No. 116 102; Polyclonal rabbit antibody, 200 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For **reconstitution** add 200 µl H_2O, 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 : 1000 up to 1 : 5000 (AP staining) **IP**: not tested yet **ICC**: external data (see remarks) **IHC**: external data (see remarks) **IHC-P (FFPE)**: not tested yet
Immunogen	Recombinant protein corresponding to AA 1 to 593 from mouse Munc18-2 (UniProt Id: Q64324)
Reactivity	Reacts with: rat (Q62753), mouse (Q64324). Other species not tested yet.
Specificity	Specific for Munc 18-2 with weak cross-reactivity to Munc18-1 and 3. K.O. validated PubMed: 42570027
Remarks	This antibody detects two smaller bands (possible degradation products) of unkown identity. **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. **IHC**: 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.

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

Background

Munc 18 is an abundant neuronal protein that tightly binds to the synaptic fusion protein syntaxin 1. It is highly homologous to the C. elegans unc-18 gene product, and weakly related to the yeast sec1, sly1, and slp1 genes.
There are three munc 18 isoforms in mammals. **Munc 18-1** or 18a, also referred to as **rb-sec1**, **n-sec1**, **stxbp1** and **p67**, is primarily expressed in neurons. **Munc 18-2** or 18b, also referred to as **stxbp2**, and Munc 18-3 or 18c are expressed ubiquitously.

Selected References for 116 102

Involvement of complexin 2 in docking, locking and unlocking of different SNARE complexes during sperm capacitation and induced acrosomal exocytosis.
Tsai PS, Brewis IA, van Maaren J, Gadella BM
PloS one (2012) 73: e32603. . **WB, ICC; tested species: pig**

Proteomic analysis reveals the composition of glutamatergic organelles of auditory inner hair cell.
Cepeda AP, Ninov M, Neef J, Parfentev I, Kusch K, Reisinger E, Jahn R, Moser T, Urlaub H
Molecular & cellular proteomics : MCP (2023) : 100704. . **IHC; tested species: mouse**

Functional differences of Munc18 isoforms reflect their affinities for the exocytosis site.
Liu L, Echeverry S, Omar-Hmeadi M, Česnokova I, Lund PE, Saras J, Barg S
Cellular and molecular life sciences : CMLS (2026) 831: . . **WB; KO verified; tested species: rat**

A novel association between platelet filamin A and soluble N-ethylmaleimide sensitive factor attachment proteins regulates granule secretion.
Golla K, Paul M, Lengyell TC, Simpson EM, Falet H, Kim H
Research and practice in thrombosis and haemostasis (2023) 74: 100019. . **WB; tested species: mouse**

Munc18-1 is essential for neuropeptide secretion in neurons.
Puntman DC, Arora S, Farina M, Toonen RF, Verhage M
The Journal of neuroscience : the official journal of the Society for Neuroscience (2021) : . . **WB; tested species: mouse**

Platelet-specific deletion of SNAP23 ablates granule secretion, substantially inhibiting arterial and venous thrombosis in mice.
Williams CM, Li Y, Brown E, Poole AW
Blood advances (2018) 224: 3627-3636. . **WB; tested species: mouse**

Selected General References

Molecular identification of two novel Munc-18 isoforms expressed in non-neuronal tissues.
Tellam JT et al. J. Biol. Chem. (1995) PubMed:7890715

Slp4-a/granuphilin-a interacts with syntaxin-2/3 in a Munc18-2-dependent manner.
Fukuda M et al. J. Biol. Chem. (2005) PubMed:16186111

Evidence of a role for Munc18-2 and microtubules in mast cell granule exocytosis.
Martin-Verdeaux S et al. J. Cell. Sci. (2003) PubMed:12482918

Munc18-2, a functional partner of syntaxin 3, controls apical membrane trafficking in epithelial cells.
Riento K et al. J. Biol. Chem. (2000) PubMed:10788461

A novel ubiquitous form of Munc-18 interacts with multiple syntaxins. Use of the yeast two-hybrid system to study interactions between proteins involved in membrane traffic.
Hata Y et al. J. Biol. Chem. (1995) PubMed:7768895

n-Sec1: a neural-specific syntaxin-binding protein.
Pevsner J et al. Proc. Natl. Acad. Sci. U.S.A. (1994) PubMed:8108429

Access the online factsheet including applicable protocols at https://sysy.com/product/116102 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.