SYSY Antibodies

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Munc18-1

Cat.No. 116 002; 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 (AP staining) **IP**: yes **ICC**: 1 : 500 up to 1 : 1000 **IHC**: 1 : 500 **IHC-P (FFPE)**: 1 : 500 **ELISA**: yes (see remarks)
Immunogen	Synthetic peptide corresponding to AA 580 to 594 from rat Munc18-1 (UniProt Id: P61765)
Reactivity	Reacts with: human (P61764), rat (P61765), mouse (O08599), cow. Other species not tested yet.
Specificity	K.O. validated PubMed: 32073399
Matching control	116-0P
Remarks	**ELISA**: The ELISA-protocol for membrane proteins is required. Suitable as detector antibody for sandwich-ELISA. Please refer to the protocol for suitable capture antibodies.

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 116 002

Liprin-α2 promotes the presynaptic recruitment and turnover of RIM1/CASK to facilitate synaptic transmission.
Spangler SA, Schmitz SK, Kevenaar JT, de Graaff E, de Wit H, Demmers J, Toonen RF, Hoogenraad CC
The Journal of cell biology (2013) 2016: 915-28. . **WB, ICC**

Munc-18 associates with syntaxin and serves as a negative regulator of exocytosis in the pancreatic beta -cell.
Zhang W, Efanov A, Yang SN, Fried G, Kolare S, Brown H, Zaitsev S, Berggren PO, Meister B
The Journal of biological chemistry (2000) 27552: 41521-7. . **IP, IHC**

MAFA and MAFB regulate exocytosis-related genes in human β-cells.
Cataldo LR, Singh T, Achanta K, Bsharat S, Prasad RB, Luan C, Renström E, Eliasson L, Artner I
Acta physiologica (Oxford, England) (2022) 2342: e13761. . **WB, IHC; tested species: mouse**

Endophilin-A coordinates priming and fusion of neurosecretory vesicles via intersectin.
Gowrisankaran S, Houy S, Del Castillo JGP, Steubler V, Gelker M, Kroll J, Pinheiro PS, Schwitters D, Halbsgut N, Pechstein A, van Weering JRT, et al.
Nature communications (2020) 111: 1266. . **WB, ICC; tested species: mouse**

Dysregulation of the SNARE-binding protein Munc18-1 impairs BDNF secretion and synaptic neurotransmission: a novel interventional target to protect the aging brain.
Lee YI, Kim YG, Pyeon HJ, Ahn JC, Logan S, Orock A, Joo KM, Lőrincz A, Deák F
GeroScience (2019) : . . **WB, IHC; KD verified; tested species: mouse**

Autism and Schizophrenia-Associated CYFIP1 Regulates the Balance of Synaptic Excitation and Inhibition.
Davenport EC, Szulc BR, Drew J, Taylor J, Morgan T, Higgs NF, López-Doménech G, Kittler JT
Cell reports (2019) 268: 2037-2051.e6. . **WB, ICC; tested species: mouse**

Abrogating Munc18-1-SNARE complex interaction has limited impact on exocytosis in PC12 cells.
Malintan NT, Nguyen TH, Han L, Latham CF, Osborne SL, Wen PJ, Lim SJ, Sugita S, Collins BM, Meunier FA
The Journal of biological chemistry (2009) 28432: 21637-46. . **WB, ICC; tested species: rat**

Membrane Location of Syntaxin-Binding Protein 1 Is Correlated with Poor Prognosis of Lung Adenocarcinoma.
Wang X, Fu G, Wen J, Chen H, Zhang B, Zhu D
The Tohoku journal of experimental medicine (2020) 2504: 263-270. . **IHC-P; tested species: human**

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**

CIRBP regulates mitochondrial respiratory function and modulates neuronal developmental abnormalities induced by perinatal hypoxia.
Guan R, Zou Y, Wang T, Zhu X, Li M, Zhao F, Chen J, Aschner M, Zhang J, Luo W
Free radical biology & medicine (2025) 237: 21-36. . **WB; tested species: mouse**

Dynamic recruitment of Munc13 primes docked secretory granules for exocytosis.
Echeverry S, Saras J, Lund PE, Dunevall J, Gandasi NR, Barg S
Cell reports (2025) 4410: 116301. . **ICC; tested species: rat**

Access the online factsheet including applicable protocols at https://sysy.com/product/116002 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.