SYSY Antibodies

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Munc18-1

Cat.No. 116 011; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. Albumin and azide were added for stabilization. For **reconstitution** add 100 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 : 5000 (AP staining) (see remarks) **IP**: yes **ICC**: 1 : 1000 **IHC**: not recommended **IHC-P (FFPE)**: not recommended **ELISA**: yes (see remarks)
Clone	131.1
Subtype	IgG2a (κ light chain)
Immunogen	Full-length rat Munc18-1 recombinant protein (UniProt Id: P61765)
Reactivity	Reacts with: rat (P61765), mouse (O08599). Other species not tested yet.
Specificity	Specific for Munc 18-1 with a minor cross-reactivity to Munc 18-2.
Remarks	**WB**: This antibody detects two smaller bands (possible degradation products) of unkown identity. **ELISA**: The ELISA-protocol for membrane proteins is required. Suitable as capture antibody for sandwich-ELISA. Please refer to the protocol for suitable detector 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 116 011

Super-resolution imaging reveals the nanoscale organization of metabotropic glutamate receptors at presynaptic active zones.
Siddig S, Aufmkolk S, Doose S, Jobin ML, Werner C, Sauer M, Calebiro D
Science advances (2020) 616: eaay7193. . **IHC; tested species: mouse**

The effects of antidepressant treatment in prenatally stressed rats support the glutamatergic hypothesis of stress-related disorders.
Marrocco J, Reynaert ML, Gatta E, Gabriel C, Mocaër E, Di Prisco S, Merega E, Pittaluga A, Nicoletti F, Maccari S, Morley-Fletcher S, et al.
The Journal of neuroscience : the official journal of the Society for Neuroscience (2014) 346: 2015-24. . **WB; tested species: rat**

Dendritic position is a major determinant of presynaptic strength.
de Jong AP, Schmitz SK, Toonen RF, Verhage M
The Journal of cell biology (2012) 1972: 327-37. . **ICC**

Enhanced hippocampal LTP but normal NMDA receptor and AMPA receptor function in a rat model of CDKL5 deficiency disorder.
Simões de Oliveira L, O'Leary HE, Nawaz S, Loureiro R, Davenport EC, Baxter P, Louros SR, Dando O, Perkins E, Peltier J, Trost M, et al.
Molecular autism (2024) 151: 28. . **WB; tested species: rat**

Light-dependent regulation of neurotransmitter release from rod photoreceptor ribbon synapses involves an interplay of Complexin 4 and Transducin with the SNARE complex.
Lux UT, Meyer J, Jahn O, Davison A, Babai N, Gießl A, Wartenberg A, Sticht H, Brose N, Reim K, Brandstätter JH, et al.
Frontiers in molecular neuroscience (2024) 17: 1308466. . **WB; tested species: mouse**

Single synapse glutamate imaging reveals multiple levels of release mode regulation in mammalian synapses.
Farsi Z, Walde M, Klementowicz AE, Paraskevopoulou F, Woehler A
iScience (2021) 241: 101909. . **ICC; tested species: rat**

Age-dependent neurological phenotypes in a mouse model of PRRT2-related diseases.
Aj F, T M, C I, C BM, Kj N, H L, A N, Sm V, Y-H F, Lj P
Neurogenetics (2021) : . . **WB; tested species: mouse**

Maternal stress programs accelerated aging of the basal ganglia motor system in offspring.
Marrocco J, Verhaeghe R, Bucci D, Di Menna L, Traficante A, Bouwalerh H, Van Camp G, Ghiglieri V, Picconi B, Calabresi P, Ravasi L, et al.
Neurobiology of stress (2020) 13: 100265. . **WB; tested species: rat**

The reduction in glutamate release is predictive of cognitive and emotional alterations that are corrected by the positive modulator of AMPA receptors S 47445 in perinatal stressed rats.
Morley-Fletcher S, Zuena AR, Mairesse J, Gatta E, Van Camp G, Bouwalerh H, Riozzi B, Battaglia G, Pittaluga A, Olivero G, Mocaer E, et al.
Neuropharmacology (2018) 135: 284-296. . **WB; tested species: rat**

Riluzole attenuates the efficacy of glutamatergic transmission by interfering with the size of the readily releasable neurotransmitter pool.
Lazarevic V, Yang Y, Ivanova D, Fejtova A, Svenningsson P
Neuropharmacology (2018) : . . **ICC; tested species: rat**

Access the online factsheet including applicable protocols at https://sysy.com/product/116011 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.