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**: not recommended **ELISA**: yes
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 our antibodies and control proteins / peptides are shipped lyophilized (vacuum freeze-dried) and are stable in this form 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. **They must not be stored in the freezer when still lyophilized!** Temperatures below zero may cause loss of performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long term storage (several months) may lead to aggregation.
- **Control peptides** should be kept at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- The storage freezer must not be of the frost-free variety ("no-frost freezer"). This cycle between freezing and thawing (to reduce frost-build-up), which is exactly what should be avoided. For the same reason, antibody vials should be placed in an area of the freezer that has minimal temperature fluctuations, for instance towards the back rather than on a door shelf.
- Aliquot the antibody and store frozen (-20°C to -80°C). Avoid very small aliquots (below 20 µl) and use the smallest storage vial or tube possible. The smaller the aliquot, the more the stock concentration is affected by evaporation and adsorption of the antibody to the surface of the storage vial or tube. Adsorption of the antibody to the surface leads to a substantial loss of activity.
- The addition of glycerol to a final concentration of 50% lowers the freezing point of your stock and keeps your antibody at -20°C in liquid state. This efficiently avoids freeze and thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C.

Monoclonal Antibodies

- **Ascites** and **hybridoma supernatant** should be stored at -20°C up to -80°C. **Prolonged storage at 4°C is not recommended!** Unlike serum, ascites may contain proteases that will degrade the antibodies.
- **Purified IgG** should be stored at -20°C up to -80°C. Adding a carrier protein like BSA will increase long term stability. Many of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Polyclonal Antibodies

- **Crude antisera**: With anti-microbials added, they may be stored at 4°C. However, frozen storage (-20°C up to -80°C) is preferable.
- **Affinity purified antibodies**: Less robust than antisera. Storage at -20°C up to -80°C is recommended. Adding a carrier protein like BSA will increase long term stability. Most of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Fluorescence-labeled Antibodies

- Store as a liquid with 1 : 1 (v/v) glycerol at -20°C. Protect these antibodies from light exposure.

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All our purified antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the amount of deionized water given in the respective datasheet. If higher volumes are preferred, add water as mentioned above and then the desired amount of PBS and a stabilizing carrier protein (e.g. BSA) to a final concentration of 2%. Some of our antibodies already contain albumin. Take this into account when adding more carrier protein.
  For complete reconstitution, carefully remove the lid. After adding water, briefly vortex the solution. You can spin down the liquid by placing the vial into a 50 ml centrifugation tube filled with paper.
- If desired, add small amounts of azide or thimerosal to prevent microbial growth. This is especially recommended if you want to keep an aliquot a 4°C.
- After reconstitution of fluorescence-labeled antibodies, add 1 : 1 (v/v) glycerol to a final concentration of 50%. This lowers the freezing point of your stock and keeps your antibody in liquid state at -20°C.
- Glycerol may also be added to unlabeled primary antibodies. It is a suitable way to avoid freeze-thaw cycles.
- Please refer to our **tips and hints for subsequent storage** of reconstituted antibodies and control peptides and proteins.