SYSY Antibodies

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Mint1

Cat.No. 144 103; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. 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 (AP staining) **IP**: not tested yet **ICC**: 1 : 200 up to 1 : 500 **IHC**: 1 : 200 **IHC-P (FFPE)**: not tested yet
Immunogen	Recombinant protein corresponding to AA 2 to 265 from rat Mint1 (UniProt Id: O35430)
Reactivity	Reacts with: rat (O35430), mouse (B2RUJ5). Other species not tested yet.
Matching control	144-1P

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

Background

Mints (also referred to as X11-like proteins) are adaptor-proteins that consist of divergent N-terminal sequences and conserved C-terminal PTB and PDZ domains.
Three isoforms (**Mint 1**, 2 and 3) have been described. Mint 1 exclusively binds to the synaptic protein CASK via its N-terminal sequence. Munc18-1 has been shown to be an interaction partner of Mint 1 and 2. The more C-terminal located PTB and PDZ domains present in all Mint isoforms bind to widely distributed proteins like APP, presenilins and Ca2+ channels.
A Mint 1 knock out had no obvious effect on brain achitecture and development, nor was synaptic plasticity in excitatory synapses affected. In inhibitory synapses of knock out strains the release of gamma-aminobutyric acid (GABA) was impaired.

Selected References for 144 103

Molecular profiling of synaptic vesicle docking sites reveals novel proteins but few differences between glutamatergic and GABAergic synapses.
Boyken J, Grønborg M, Riedel D, Urlaub H, Jahn R, Chua JJ
Neuron (2013) 782: 285-97. . **WB**

Liprin-α proteins are master regulators of human presynapse assembly.
Marcó de la Cruz B, Campos J, Molinaro A, Xie X, Jin G, Wei Z, Acuna C, Sterky FH
Nature neuroscience (2024) : . . **WB; tested species: human**

BACE1 controls synaptic function through modulating release of synaptic vesicles.
Das B, Singh N, Yao AY, Zhou J, He W, Hu X, Yan R
Molecular psychiatry (2021) 2611: 6394-6410. . **WB; tested species: mouse**

A role for Sec8 in oligodendrocyte morphological differentiation.
Anitei M, Ifrim M, Ewart MA, Cowan AE, Carson JH, Bansal R, Pfeiffer SE
Journal of cell science (2006) 119Pt 5: 807-18. . **WB; tested species: rat**

Selected General References

Mint1, a Munc-18-interacting protein, is expressed in insulin-secreting beta-cells.
Zhang W et al. Biochem. Biophys. Res. Commun. (2004) PubMed:15240107

A multiprotein trafficking complex composed of SAP97, CASK, Veli, and Mint1 is associated with inward rectifier Kir2 potassium channels.
Leonoudakis D et al. J. Biol. Chem. (2004) PubMed:14960569

A role for Mints in transmitter release: Mint 1 knockout mice exhibit impaired GABAergic synaptic transmission.
Ho A et al. Proc. Natl. Acad. Sci. U.S.A. (2003) PubMed:12547917

Regulation of APP-dependent transcription complexes by Mint/X11s: differential functions of Mint isoforms.
Biederer T et al. J. Neurosci. (2002) PubMed:12196555

CASK participates in alternative tripartite complexes in which Mint 1 competes for binding with caskin 1, a novel CASK-binding protein.
Tabuchi K et al. J. Neurosci. (2002) PubMed:12040031

Amyloid precursor protein associates independently and collaboratively with PTB and PDZ domains of mint on vesicles and at cell membrane.
Okamoto M et al. Neuroscience (2001) PubMed:11440799

Modulation of amyloid precursor protein metabolism by X11alpha /Mint-1. A deletion analysis of protein-protein interaction domains.
Mueller HT et al. J. Biol. Chem. (2000) PubMed:11010978

Access the online factsheet including applicable protocols at https://sysy.com/product/144103 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.