

## Munc18-2

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

### Data Sheet

Reconstitution/ Storage	200 µl antiserum, lyophilized. For <b>reconstitution</b> add 200 µl H <sub>2</sub> O, 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	<b>WB:</b> 1 : 1000 up to 1 : 5000 (AP staining) <b>IP:</b> not tested yet <b>ICC:</b> external data (see remarks) <b>IHC:</b> external data (see remarks) <b>IHC-P:</b> 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.
Remarks	This antibody detects two smaller bands (possible degradation products) of unknown identity. <b>ICC:</b> 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. <b>IHC:</b> 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**

A novel association between platelet filamin A and soluble N-ethylmaleimide sensitive factor attachment proteins regulates granule secretion.

Golla K, Paul M, Lengyel 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/granophilin-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

A rat brain Sec1 homologue related to Rop and UNC18 interacts with syntaxin.

Garcia EP et al. Proc. Natl. Acad. Sci. U.S.A. (1994) PubMed:8134339

Synaptic vesicle fusion complex contains unc-18 homologue bound to syntaxin.

Hata Y et al. Nature (1993) PubMed:8247129

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 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 at 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.