SYSY Antibodies

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Bassoon

Cat.No. 141 003; 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 : 100 up to 1 : 1000 (AP staining) (see remarks) **IP**: not tested yet **ICC**: 1 : 200 up to 1 : 2000 **IHC**: 1 : 200 (see remarks) **IHC-P (FFPE)**: 1 : 500 **ExM**: external data (see remarks) **ELISA**: yes (see remarks)
Immunogen	Recombinant protein corresponding to residues near the carboxy terminus of rat Bassoon. (UniProt Id: O88778)
Reactivity	Reacts with: rat (O88778), mouse (O88737). No signal: chicken. Other species not tested yet.
Specificity	Specific for Bassoon
Remarks	**WB**: Due to the large size of this protein, we recommend NuPAGE 3-8% Tris-Acetate gels for SDS-PAGE. **IHC**: 141 013 and 141 118 produce stronger and cleaner signals. Overall, they have a better signal to noise ratio. **ExM**: This antibody has been successfully applied and published for this method by customers (see application-specific references). **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

Bassoon is a large protein which consists of an N-terminal Zn^{2+} finger and several piccolo-bassoon homology domains (PBH-domains). It is generally found together with piccolo, a related huge multi-domain protein of the CAZ (cytoskeletal matrix assembled at active zones).
Bassoon was suggested to be a scaffolding element of the presynapse but deletion experiments in mice have shown that bassoon is also involved in synaptic vesicle cycling. Probably bassoon interacts with other protein factors via its Zn^{2+} domain but the potential partners have not been determined yet.

Selected References for 141 003

Filamin A organizes γ-aminobutyric acid type B receptors at the plasma membrane.
Jobin ML, Siddig S, Koszegi Z, Lanoiselée Y, Khayenko V, Sungkaworn T, Werner C, Seier K, Misigaiski C, Mantovani G, Sauer M, et al.
Nature communications (2023) 141: 34. . **EXM, ICC; tested species: mouse**

The presynaptic protein bassoon is a biofluid biomarker of synaptic pathology in multiple sclerosis.
Woo MS, Rothammer N, Bal LC, Krisp C, Kreutzfeldt M, Witt S, Maleska Maceski A, Siebels B, Raich L, Mayer C, Winschel I, et al.
EBioMedicine (2026) 128: 106282. . **ELISA; tested species: mouse**

Epitope-preserving magnified analysis of proteome (eMAP).
Park J, Khan S, Yun DH, Ku T, Villa KL, Lee JE, Zhang Q, Park J, Feng G, Nedivi E, Chung K, et al.
Science advances (2021) 746: eabf6589. . **CLARITY; tested species: mouse,marmoset**

How to Make an Active Zone: Unexpected Universal Functional Redundancy between RIMs and RIM-BPs.
Acuna C, Liu X, Südhof TC
Neuron (2016) 914: 792-807. . **WB**

Expression of Ttyh1, a member of the Tweety family in neurons in vitro and in vivo and its potential role in brain pathology.
Stefaniuk M, Swiech L, Dzwonek J, Lukasiuk K
Journal of neurochemistry (2010) 1155: 1183-94. . **IHC; tested species: rat**

Bidirectional control of vesicular GABA release, LTP, and amotivation by GluN2D-selective allosteric modulators and ketamine.
Oláh VJ, Witteveen IF, Banke TG, Leahy AM, Keable R, Perszyk RE, Khayat CT, Nguyen TT, Bixler BJ, Ghinger FG, Vullhorst D, et al.
Cell reports (2026) 458: 117707. . **IHC; tested species: mouse**

Light-microscopy-based connectomic reconstruction of mammalian brain tissue.
Tavakoli MR, Lyudchik J, Januszewski M, Vistunou V, Agudelo Dueñas N, Vorlaufer J, Sommer C, Kreuzinger C, Oliveira B, Cenameri A, Novarino G, et al.
Nature (2025) 6428067: 398-410. . **EXM; tested species: mouse**

Synaptic pruning following NMDAR-dependent LTD preferentially affects isolated synapses.
Camus C, Leval L, Villicana-Munoz V, Jelinkova S, Compans B, Gambino F, Herzog E, Choquet D, Hosy E
iScience (2025) 2810: 113093. . **ICC; tested species: rat**

Increased excitatory synapse size in hippocampal place cells compared to silent cells.
Heredi J, Olah G, Sumegi M, Paul Lukacs I, Aldahabi M, Újfalussy BB, Makara JK, Nusser Z
Proceedings of the National Academy of Sciences of the United States of America (2025) 12223: e2505322122. . **IHC; tested species: mouse**

Combined expansion and STED microscopy reveals altered fingerprints of postsynaptic nanostructure across brain regions in ASD-related SHANK3-deficiency.
Delling JP, Bauer HF, Gerlach-Arbeiter S, Schön M, Jacob C, Wagner J, Pedro MT, Knöll B, Boeckers TM
Molecular psychiatry (2024) 2910: 2997-3009. . **EXM; tested species: human,mouse**

Presynaptic Rac1 in the hippocampus selectively regulates working memory.
Kim J, Bustamante E, Sotonyi P, Maxwell N, Parameswaran P, Kent JK, Wetsel WC, Soderblom EJ, Rácz B, Soderling SH
eLife (2024) 13: . . **ICC; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/141003 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.