SYSY Antibodies

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Bassoon

Cat.No. 141 013; 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) (see remarks) **IP**: not tested yet **ICC**: 1 : 500 up to 1 : 1000 **IHC**: 1 : 500 **IHC-P (FFPE)**: 1 : 500
Immunogen	Recombinant protein corresponding to residues corresponding to central region rat Bassoon. (UniProt Id: O88778)
Reactivity	Reacts with: rat (O88778), mouse (O88737). 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.

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 141 013

Synaptic and functional alterations in the development of mutant huntingtin expressing hiPSC-derived neurons.
Dinamarca MC, Colombo L, Tousiaki NE, Müller M, Pecho-Vrieseling E
Frontiers in molecular biosciences (2022) 9: 916019. . **ICC; tested species: human**

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**

Pre- and postsynaptic nanostructures increase in size and complexity after induction of long-term potentiation.
Clavet-Fournier V, Lee C, Wegner W, Brose N, Rhee J, Willig KI
iScience (2024) 271: 108679. . **ICC; tested species: rat**

Presenilin-mediated cleavage of APP regulates synaptotagmin-7 and presynaptic plasticity.
Barthet G, Jordà-Siquier T, Rumi-Masante J, Bernadou F, Müller U, Mulle C
Nature communications (2018) 91: 4780. . **IHC; tested species: mouse**

Selected General References

Functional regions of the presynaptic cytomatrix protein bassoon: significance for synaptic targeting and cytomatrix anchoring.
Dresbach T et al. Mol. Cell. Neurosci. (2003) PubMed:12812759

Unitary assembly of presynaptic active zones from Piccolo-Bassoon transport vesicles.
Shapira M et al. Neuron (2003) PubMed:12718858

Functional inactivation of a fraction of excitatory synapses in mice deficient for the active zone protein bassoon.
Altrock WD et al. Neuron (2003) PubMed:12628169

The presynaptic active zone protein bassoon is essential for photoreceptor ribbon synapse formation in the retina.
Dick O et al. Neuron (2003) PubMed:12628168

Localization of the presynaptic cytomatrix protein Piccolo at ribbon and conventional synapses in the rat retina: comparison with Bassoon.
Dick O et al. J. Comp. Neurol. (2001) PubMed:11596050

Membrane association of presynaptic cytomatrix protein bassoon.
Sanmartí-Vila L et al. Biochem. Biophys. Res. Commun. (2000) PubMed:10944438

Bassoon, a novel zinc-finger CAG/glutamine-repeat protein selectively localized at the active zone of presynaptic nerve terminals.
tom Dieck S et al. J. Cell Biol. (1998) PubMed:9679147

Access the online factsheet including applicable protocols at https://sysy.com/product/141013 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.