SYSY Antibodies

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Bassoon

Cat.No. 141 111; 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 (AP staining) (see remarks) **IP**: not tested yet **ICC**: 1 : 500 **IHC**: 1 : 500 **IHC-P (FFPE)**: 1 : 200 up to 1 : 1000 **DNA-PAINT**: external data (see remarks)
Clone	179H11
Subtype	IgG2a (κ light chain)
Immunogen	Recombinant protein corresponding to residues near the central region of rat Bassoon. (UniProt Id: O88778)
Reactivity	Reacts with: mouse (O88737), rat (O88778), human (Q9UPA5). Other species not tested yet.
Specificity	specific for Bassoon K.O. validated PubMed: 33811381
Remarks	**WB**: Due to the large size of this protein, we recommend NuPAGE 3-8% Tris-Acetate gels for SDS-PAGE. **DNA-PAINT**: This antibody has been successfully applied and published for this method by customers (see application-specific references).

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 141 111

Functional synapses between neurons and small cell lung cancer.
Sakthivelu V, Schmitt A, Odenthal F, Ndoci K, Touet M, Shaib AH, Chihab A, Wani GA, Nieper P, Hartmann GG, Pintelon I, et al.
Nature (2025) 6468087: 1243-1253. . **ICC; tested species: mouse**

Spatial proteomics in neurons at single-protein resolution.
Unterauer EM, Shetab Boushehri S, Jevdokimenko K, Masullo LA, Ganji M, Sograte-Idrissi S, Kowalewski R, Strauss S, Reinhardt SCM, Perovic A, Marr C, et al.
Cell (2024) 1877: 1785-1800.e16. . **DNA_PAINT; tested species: rat**

Kv3.3 subunits control presynaptic action potential waveform and neurotransmitter release at a central excitatory synapse.
Richardson A, Ciampani V, Stancu M, Bondarenko K, Newton S, Steinert JR, Pilati N, Graham BP, Kopp-Scheinpflug C, Forsythe ID
eLife (2022) 11: . . **IHC; tested species: mouse**

Genetic disruption of bassoon in two mutant mouse lines causes divergent retinal phenotypes.
Ryl M, Urbasik A, Gierke K, Babai N, Joachimsthaler A, Feigenspan A, Frischknecht R, Stallwitz N, Fejtová A, Kremers J, von Wittgenstein J, et al.
FASEB journal : official publication of the Federation of American Societies for Experimental Biology (2021) 355: e21520. . **WB; KO verified; tested species: mouse**

Loss of Bassoon in telencephalic excitatory neurons stabilizes non-aversive memories and strengthens aversive associations in social and non-social contexts.
Zoicas I, Sucu B, Kornhuber J, Fejtova A
Neurobiology of disease (2026) 222: 107362. . **IHC; tested species: mouse**

Activity-dependent extracellular proteolytic cascade cleaves the ECM component brevican to promote structural plasticity.
Singh JB, Perelló-Amorós B, Schneeberg J, Mirzapourdelavar H, Seidenbecher CI, Fejtová A, Dityatev A, Frischknecht R
EMBO reports (2025) : . . **IHC; tested species: rat**

Loss of microglial MCT4 leads to defective synaptic pruning and anxiety-like behavior in mice.
Monsorno K, Ginggen K, Ivanov A, Buckinx A, Lalive AL, Tchenio A, Benson S, Vendrell M, D'Alessandro A, Beule D, Pellerin L, et al.
Nature communications (2023) 141: 5749. . **WB; tested species: mouse**

The first synapse in vision in the aging mouse retina.
Gierke K, Lux UT, Regus-Leidig H, Brandstätter JH
Frontiers in cellular neuroscience (2023) 17: 1291054. . **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

Access the online factsheet including applicable protocols at https://sysy.com/product/141111 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.