SYSY Antibodies

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Bassoon

Cat.No. 141 004; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For **reconstitution** add 100 µl H_2O, 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	**WB**: 1 : 1000 (AP staining) (see remarks) **IP**: not tested yet **ICC**: 1 : 500 **IHC**: 1 : 1000 up to 1 : 5000 **IHC-P (FFPE)**: not tested yet **DNA-PAINT**: external data (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. **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 141 004

Suppression of guanylyl cyclase (beta1 subunit) expression impairs neurite outgrowth and synapse maturation in cultured cerebellar granule cells.
López-Jiménez ME, Bartolomé-Martín D, Sánchez-Prieto J, Torres M
Cell death and differentiation (2009) 169: 1266-78. . **ICC, WB; tested species: rat**

Neuronal BIN1 Regulates Presynaptic Neurotransmitter Release and Memory Consolidation.
De Rossi P, Nomura T, Andrew RJ, Masse NY, Sampathkumar V, Musial TF, Sudwarts A, Recupero AJ, Le Metayer T, Hansen MT, Shim HN, et al.
Cell reports (2020) 3010: 3520-3535.e7. . **ICC, IHC; tested species: mouse**

Precision Mapping of Amyloid-β Binding Reveals Perisynaptic Localization and Spatially Restricted Plasticity Deficits.
Actor-Engel HS, Schwartz SL, Crosby KC, Sinnen BL, Prikhodko O, Ramsay HJ, Bourne JN, Winborn CS, Lucas A, Smith KR, Dell'Acqua ML, et al.
eNeuro (2021) : . . **ICC, IHC; tested species: rat**

Planar cell polarity signaling components are a direct target of β-amyloid-associated degeneration of glutamatergic synapses.
Feng B, Freitas AE, Gorodetski L, Wang J, Tian R, Lee YR, Grewal AS, Zou Y
Science advances (2021) 734: . . **ICC, IHC; tested species: mouse**

Molecular definition of distinct active zone protein machineries for Ca2+ channel clustering and synaptic vesicle priming.
Emperador-Melero J, Andersen JW, Metzbower SR, Levy AD, Dharmasri PA, de Nola G, Blanpied TA, Kaeser PS
bioRxiv : the preprint server for biology (2023) : . . **DNA_PAINT; tested species: mouse**

Protecting RNA quality for spatial transcriptomics while improving immunofluorescent staining quality.
Hahn N, Bens M, Kempfer M, Reißig C, Schmidl L, Geis C
Frontiers in neuroscience (2023) 17: 1198154. . **IHC_FR; 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**

Alzheimer's Protection by PLCγ2 Compacts Plaques, Redistributes Microglia, and Protects Synapses in AppNL -G-F Mice.
Bevan RJ, Maguire E, Mackinnon E, Salis E, Phillips T, Simonazzi E, Vassileva M, Allen ND, Williams J, Taylor PR
Glia (2026) 748: e70192. . **IHC; tested species: mouse**

The Astrocytic Zinc Transporter ZIP12 Is a Synaptic Protein That Contributes to Synaptic Zinc Levels in the Mouse Auditory Cortex.
Manning A, Mendelson BZ, Bender PTR, Bainer K, Ruby R, Shifflett VR, Dariano DF, Webb BA, Geldenhuys WJ, Anderson CT
The Journal of neuroscience : the official journal of the Society for Neuroscience (2025) 4513: . . **IHC; tested species: mouse**

Microglial Extracellular Vesicles Mediate C1q Deposition at the Pre-Synapse and Promote Synaptic Pruning.
D'Arrigo G, Cutugno G, Golia MT, Sironi F, Lombardi M, Colombo SF, Frigerio R, Cretich M, Gagni P, Battocchio E, Barone C, et al.
Journal of extracellular vesicles (2025) 1412: e70173. . **ICC; tested species: mouse**

Input-Specific Localization of NMDA Receptor GluN2 Subunits in Thalamocortical Neurons.
Topolski MA, Gilmore BL, Khondaker R, Michniak JA, Studtmann C, Chen Y, Wagner GN, Pozo-Aranda AE, Farris S, Swanger SA
Journal of neurochemistry (2025) 1693: e70049. . **IHC; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/141004 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.