SYSY Antibodies

Rudolf-Wissell-Str. 28a
37079 Göttingen, Germany
Phone: +49 551-50556-0
Fax: +49 551-50556-384
E-mail: sales@sysy.com
Web: www.sysy.com

Bassoon

Cat.No. 141 011; 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) **IP**: not tested yet **ICC**: 1 : 100 up to 1 : 500 **IHC**: not recommended **IHC-P**: 1 : 500 **ELISA**: yes
Clone	219E1
Subtype	IgG2b (κ light chain)
Immunogen	Recombinant protein corresponding to residues near the carboxy terminus of rat Bassoon. (UniProt Id: O88778)
Reactivity	Reacts with: rat (O88778), mouse (O88737). Other species not tested yet.
Specificity	Specific for Bassoon
Matching control	141-0P
Remarks	**WB**: Due to the large size of this protein, we recommend NuPAGE 3-8% Tris-Acetate gels for SDS-PAGE. **ICC**: 2% formaldehyde/PFA fixation is recommended. **ELISA**: The ELISA-protocol for membrane proteins is required. Suitable as capture antibody for sandwich-ELISA. Please refer to the protocol for suitable detector 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 141 011

Postsynaptic Y654 dephosphorylation of β-catenin modulates presynaptic vesicle turnover through increased n-cadherin-mediated transsynaptic signaling.
Chen CY, Chen YT, Wang JY, Huang YS, Tai CY
Developmental neurobiology (2017) 771: 61-74. . **WB, IP**

eIF4B phosphorylation at Ser504 links synaptic activity with protein translation in physiology and pathology.
Bettegazzi B, Bellani S, Roncon P, Guarnieri FC, Bertero A, Codazzi F, Valtorta F, Simonato M, Grohovaz F, Zacchetti D
Scientific reports (2017) 71: 10563. . **ICC; tested species: rat**

Remodelling of spared proprioceptive circuit involving a small number of neurons supports functional recovery.
Hollis ER, Ishiko N, Pessian M, Tolentino K, Lee-Kubli CA, Calcutt NA, Zou Y
Nature communications (2015) 6: 6079. . **IHC**

Real-time visualization of structural dynamics of synapses in live cells in vivo.
Son S, Nagahama K, Lee J, Jung K, Kwak C, Kim J, Noh YW, Kim E, Lee S, Kwon HB, Heo WD, et al.
Nature methods (2024) : . . **ICC; tested species: rat**

Membrane compression by synaptic vesicle exocytosis triggers ultrafast endocytosis.
Ogunmowo TH, Jing H, Raychaudhuri S, Kusick GF, Imoto Y, Li S, Itoh K, Ma Y, Jafri H, Dalva MB, Chapman ER, et al.
Nature communications (2023) 141: 2888. . **ICC; tested species: mouse**

Plasticity-Related Gene 5 Is Expressed in a Late Phase of Neurodifferentiation After Neuronal Cell-Fate Determination.
Gross I, Brandt N, Vonk D, Köper F, Wöhlbrand L, Rabus R, Witt M, Heep A, Plösch T, Hipp MS, Bräuer AU, et al.
Frontiers in cellular neuroscience (2022) 16: 797588. . **ICC; tested species: mouse**

Dynamin is primed at endocytic sites for ultrafast endocytosis.
Imoto Y, Raychaudhuri S, Ma Y, Fenske P, Sandoval E, Itoh K, Blumrich EM, Matsubayashi HT, Mamer L, Zarebidaki F, Söhl-Kielczynski B, et al.
Neuron (2022) 11017: 2815-2835.e13. . **ICC; tested species: mouse**

A short isoform of STIM1 confers frequency-dependent synaptic enhancement.
Ramesh G, Jarzembowski L, Schwarz Y, Poth V, Konrad M, Knapp ML, Schwär G, Lauer AA, Grimm MOW, Alansary D, Bruns D, et al.
Cell reports (2021) 3411: 108844. . **ICC; tested species: mouse**

Rapid 3D Enhanced Resolution Microscopy Reveals Diversity in Dendritic Spinule Dynamics, Regulation, and Function.
Zaccard CR, Shapiro L, Martin-de-Saavedra MD, Pratt C, Myczek K, Song A, Forrest MP, Penzes P
Neuron (2020) : . . **ICC; tested species: mouse**

Neurexins cluster Ca2+ channels within the presynaptic active zone.
Luo F, Sclip A, Jiang M, Südhof TC
The EMBO journal (2020) 397: e103208. . **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

Access the online factsheet including applicable protocols at https://sysy.com/product/141011 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 a 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.