

## Bassoon

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

### Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For <b>reconstitution</b> add 100 µl H <sub>2</sub> O, 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	<b>WB:</b> 1 : 1000 (AP staining) (see remarks) <b>IP:</b> not tested yet <b>ICC:</b> 1 : 500 <b>IHC:</b> 1 : 1000 up to 1 : 5000 <b>IHC_P:</b> not tested yet <b>DNA_PAINT:</b> yes
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	<b>WB:</b> Due to its large size, bassoon requires special gel-electrophoresis and Western blot protocols for visualization by immunoblotting. Excellent results can be obtained with the 4-12% TRIS-glycine gradient gels from anamed or NuPAGE 3-8% TRIS-Acetate gradient gels from invitrogen.

**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<sup>2+</sup> 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<sup>2+</sup> 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**

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**

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

Molecular definition of distinct active zone protein machineries for Ca<sup>2+</sup> channel clustering and synaptic vesicle priming.  
Emperador-Melero J, Andersen JW, Metzbow 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, Schmid 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**

GABAergic-like dopamine synapses in the brain.  
Kim HJ, Hwang B, Reva M, Lee J, Lee BE, Lee Y, Cho EJ, Jeong M, Lee SE, Myung K, Baik JH, et al.  
Cell reports (2023) 4210: 113239. . **IHC; tested species: mouse**

AMPA and GABAA receptor nanodomains assemble in the absence of synaptic neurotransmitter release.  
Ramsay HJ, Gookin SE, Ramsey AM, Karemo DJ, Crosby KC, Stich DG, Olah SS, Actor-Engel HS, Smith KR, Kennedy MJ  
Frontiers in molecular neuroscience (2023) 16: 1232795. . **ICC; tested species: rat**

The transcription regulator Lmo3 is required for the development of medial ganglionic eminence derived neurons in the external globus pallidus.  
Biswas S, Chan CS, Rubenstein JLR, Gan L  
Developmental biology (2023) : . . **IHC; tested species: mouse**

An abundance of free regulatory (19S) proteasome particles regulates neuronal synapses.  
Sun C, Desch K, Nassim-Assir B, Giandomenico SL, Nemcova P, Langer JD, Schuman EM  
Science (New York, N.Y.) (2023) 3806647: eadf2018. . **ICC; tested species: rat**

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 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 at 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.