

## IBA1

Cat.No. 234 017; Monoclonal rat antibody, 100 µg purified IgG (lyophilized)

### Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. Albumin and azide were added for stabilization. For <b>reconstitution</b> add 100 µl H <sub>2</sub> O 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	<b>WB:</b> 1 : 1000 up to 1 : 2000 (AP staining) <b>IP:</b> not tested yet <b>ICC:</b> 1 : 500 up to 1 : 1000 <b>IHC:</b> 1 : 500 up to 1 : 1000 (see remarks) <b>IHC-P (FFPE):</b> 1 : 200 up to 1 : 1000
Clone	134G9
Subtype	IgG2b (λ light chain)
Immunogen	Synthetic peptide corresponding to residues near the carboxy terminus of mouse IBA1 (UniProt Id: Q9EQW9)
Reactivity	Reacts with: mouse (Q9EQW9), rat (P55009), human (P55008). Other species not tested yet.
Remarks	<b>IHC:</b> Antigen retrieval with formic acid is tolerated.

**TO BE USED IN VITRO / FOR RESEARCH ONLY**  
**NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS**

## Background

Ionized calcium-binding adaptor molecule **1 (IBA1)** or allograft inflammatory factor**1 (AIF-1)** is an EF hand calcium binding protein which is expressed by cells of the monocyte/macrophage lineage and by germ cells in the testis (1). In mice, IBA1/AIF-1 can be regarded a "pan-macrophage marker" because, except for alveolar macrophages, all subpopulations of macrophages express IBA1/AIF-1 (1). In human gliomas IBA1 defines a distinct subset of tumor-associated activated macrophages/microglial cells (2). Microglia represent the resident macrophages in the nervous system and are the smallest of the glial cells with cell bodies of only 2-5 µm in diameter. In the CNS IBA1 upregulation is associated with neuroinflammatory response (3).

### Selected References for 234 017

Influenza A Virus (H1N1) Infection Induces Microglial Activation and Temporal Dysbalance in Glutamatergic Synaptic Transmission.  
Düsedau HP, Steffen J, Figueiredo CA, Boehme JD, Schultz K, Erck C, Korte M, Faber-Zuschratter H, Smalla KH, Dieterich D, Kröger A, et al.  
mBio (2021) 125: e0177621. . **IHC, IHC-P; tested species: mouse**

Protocol for differentiation and efficient AAV-mediated gene delivery to hiPSC-derived microglia for functional studies.  
Heiss CN, Mihai A, Fruhwürth S, Björefeldt A  
STAR protocols (2026) 72: 104455. . **ICC; tested species: human**

IDO1 modulates pain sensitivity and comorbid anxiety in chronic migraine through microglial activation and synaptic pruning.  
Hu J, Ji WJ, Liu GY, Su XH, Zhu JM, Hong Y, Xiong YF, Zhao YY, Li WP, Xie W  
Journal of neuroinflammation (2025) 221: 42. . **IHC; tested species: mouse**

### Selected General References

Allograft inflammatory factor-1/Ionized calcium-binding adapter molecule 1 is specifically expressed by most subpopulations of macrophages and spermatids in testis.  
Köhler C et al. Cell Tissue Res. (2007) PubMed:17874251

Allograft inflammatory factor-1 defines a distinct subset of infiltrating macrophages/microglial cells in rat and human gliomas.  
Deininger MH et al. Acta Neuropathol. (2000) PubMed:11078219

Microglia: intrinsic immuneffector cell of the brain.  
Gehrmann J et al. Brain Res. Brain Res. Rev. (1995) PubMed:7550361

Access the online factsheet including applicable protocols at <https://sysy.com/product/234017> 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.