SYSY Antibodies

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IBA1

Cat.No. 234 308; Recombinant Guinea pig antibody, 50 µg recombinant IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg purified recombinant IgG, lyophilized. Albumin and azide were added for stabilization. For **reconstitution** add 50 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**: yes **ICC**: 1 : 500 **IHC**: 1 : 500 (see remarks) **IHC-P (FFPE)**: 1 : 1000
Clone	Gp311H9
Subtype	IgG2 (κ light chain)
Immunogen	Synthetic peptide corresponding to residues near the carboxy terminus of rat IBA1 (UniProt Id: P55009)
Reactivity	Reacts with: mouse (Q9EQW9), rat (P55009), human (P55008), monkey. Other species not tested yet.
Matching control	234-0P
Remarks	This antibody is a chimeric antibody based on the monoclonal mouse antibody clone 311H9. The constant regions of the heavy and light chains have been replaced by Guinea pig specific sequences. Therefore, the antibody can be used with standard anti-Guinea pig secondary reagents. The antibody has been expressed in mammalian cells. **IHC**: Antigen retrieval with citrate buffer pH 6 is tolerated.

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

Background

Ionized calcium-**b**inding adaptor **m**olecule **1** (**IBA1**) or **a**llograft **i**nflammatory **f**actor**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).

For more information on protein expression pattern, please refer to the overview image in our SYSY Antibodies ATLAS.

Selected References for 234 308

The RhoA-ROCK1/ROCK2 Pathway Exacerbates Inflammatory Signaling in Immortalized and Primary Microglia.
Glotfelty EJ, Tovar-Y-Romo LB, Hsueh SC, Tweedie D, Li Y, Harvey BK, Hoffer BJ, Karlsson TE, Olson L, Greig NH
Cells (2023) 1210: . . **ICC, IHC; tested species: mouse**

Quercetin Protects Against Global Cerebral ischemia□reperfusion Injury by Inhibiting Microglial Activation and Polarization.
Wang N, Li F, Du J, Hao J, Wang X, Hou Y, Luo Z
Journal of inflammation research (2024) 17: 1281-1293. . **WB, IHC; tested species: rat**

Endothelial epigenetic senescence driven microglial activation mediates cardio-retinal neuroinflammation in heart failure.
Wang M, Zhang S, Aziz T, Zhang S, Wu X, Li G, Wang Y
Theranostics (2026) 1614: 8055-8076. . **ICC, IHC; tested species: human,mouse**

Electroacupuncture Pretreatment Alleviates Myocardial Ischemia-Reperfusion Injury by Inhibiting Engulfment by Microglia in the Lateral Hypothalamus.
Zhou X, Yang P, Dong C, Chang H, Zhang F, Shu Q, Wei N, Zhang B, Wu Y, Shao W, Cai R, et al.
CNS neuroscience & therapeutics (2025) 319: e70595. . **WB, IHC; tested species: mouse**

Microglia drive synaptic and functional connectivity deficits in the Ts65Dn mouse model of Down syndrome by affecting inhibition.
Tiberi A, Montagni E, Borgonovo G, Coulomb E, Restani L, Mascaro ALA, Capsoni S, Cattaneo A
Acta neuropathologica communications (2025) 141: 21. . **ICC, IHC; tested species: mouse**

Microglia Gravitate toward Amyloid Plaques Surrounded by Externalized Phosphatidylserine via TREM2.
Park JC, Han JW, Lee W, Kim J, Lee SE, Lee D, Choi H, Han J, Kang YJ, Diep YN, Cho H, et al.
Advanced science (Weinheim, Baden-Wurttemberg, Germany) (2024) : e2400064. . **ICC, IHC; tested species: human,mouse**

Targeting the glycine-rich domain of TDP-43 with antibodies prevents its aggregation in vitro and reduces neurofilament levels in vivo.
Riemenschneider H, Simonetti F, Sheth U, Katona E, Roth S, Hutten S, Farny D, Michaelsen M, Nuscher B, Schmidt MK, Flatley A, et al.
Acta neuropathologica communications (2023) 111: 112. . **IHC-P; tested species: mouse**

The transition from monocyte to tissue-resident macrophage requires DHPS.
Carrizo GE, Lin P, Lee SH, Shenderov K, Blériot C, Cha M, Schimmelpfennig L, Shen Z, van Teijlingen Bakker N, Grzes KM, Kelly B, et al.
Nature (2026) : . . **IHC-P; tested species: mouse**

Amyloid Plaques Ameliorate Memory Deficits and Hippocampal Neuron Loss in an Aβ4-42-Driven Alzheimer's Disease Mouse Model.
Zampar S, Fricke M, Kremser F, Talucci I, Maric HM, Klafki HW, Rostagno A, Jahn O, Weggen S, Ghiso J, Wirths O, et al.
Molecular neurobiology (2026) 631: . . **IHC-P; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/234308 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.