SYSY Antibodies

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IBA1

Cat.No. 234 009; Recombinant chicken antibody, 50 µg recombinant IgY (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg purified recombinant IgY, lyophilized. Albumin and azide were added for stabilization. For **reconstitution** add 50 µl H_2O to get a 1mg/ml solution in TBS. 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 up to 1 : 2000 (AP staining) **IP**: not tested yet **ICC**: 1 : 500 up to 1 : 1000 **IHC**: 1 : 500 up to 1 : 1000 (see remarks) **IHC-P (FFPE)**: 1 : 200 up to 1 : 1000 **ExM**: external data (see remarks)
Clone	Ch311H9
Subtype	IgY (λ light chain)
Immunogen	Synthetic peptide corresponding to residues near the carboxy terminus of rat IBA1 (UniProt Id: P55009)
Reactivity	Reacts with: rat (P55009), mouse (Q9EQW9), human (P55008), ape. 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 The constant regions of the heavy and light chains have been replaced by chicken specific sequences. Therefore, the antibody can be used with standard anti-chicken secondary reagents. The antibody has been expressed in mammalian cells. **IHC**: Antigen retrieval with formic acid is tolerated. **ExM**: 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

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 234 009

Dietary targeting of TRPM8 rewires macrophage immunometabolism reducing colitis severity.
Cicia D, Biscu F, Iannotti FA, Miraglia M, Ferrante C, Iaccarino N, Cadenas de Miguel S, Chiavaroli A, Schiano Moriello A, De Cicco P, Nanì MF, et al.
Cell death & disease (2025) 161: 343. . **ICC, IHC; tested species: mouse**

Changes in glial cell phenotypes precede overt neurofibrillary tangle formation, correlate with markers of cortical cell damage, and predict cognitive status of individuals at Braak III-IV stages.
Taddei RN, Sanchez-Mico MV, Bonnar O, Connors T, Gaona A, Denbow D, Frosch MP, Gómez-Isla T
Acta neuropathologica communications (2022) 101: 72. . **IHC-P, EXM; tested species: human**

A Microglia-Astrocyte Signaling Axis Regulates Astrocyte Piezo1 Expression and Inflammatory Responses.
Bai Y, Choi HB, Wendt S, Towriss M, Lin AJ, Groten CJ, Cui I, Nygaard HB, MacVicar BA
Glia (2026) 749: e70199. . **ICC, IHC; tested species: mouse,rat**

Granzyme K+ CD8 T cells slow tauopathy progression by targeting microglia.
Mason HD, Latour YL, Boughter CT, Johnson KR, Maric D, Dorrier CE, Guedes VA, Lai C, Duncker PC, Johnson AM, Manglani M, et al.
Nature immunology (2025) 267: 1152-1167. . **IHC, IHC-P; tested species: human,mouse**

Lymphoid gene expression supports neuroprotective microglia function.
Ayata P, Crowley JM, Challman MF, Sahasrabuddhe V, Gratuze M, Werneburg S, Ribeiro D, Hays EC, Durán-Laforet V, Faust TE, Hwang P, et al.
Nature (2025) : . . **ICC, IHC; tested species: mouse**

Human adult hippocampal neurogenesis is shaped by neuropsychiatric disorders, demographics, and lifestyle-related factors.
Márquez-Valadez B, Gallardo-Caballero M, Llorens-Martín M
Cell stem cell (2025) 3210: 1577-1594.e5. . **IHC_FR; tested species: human**

Activity-dependent protein synthesis in neurons requires microglial-metabolic coupling.
Adler D, Martín-Ávila A, Cheng E, Oliveira MM, Zhang M, Evans HT, Yuan D, Sam R, Zhang ND, Selles MC, Mosto O, et al.
Cell metabolism (2026) : . . **IHC; tested species: mouse**

The Neuroameliorative Effects of Enzymatically Modified Isoquercitrin and Sodium R-lipoate on the Rotenone rat Model of Parkinson's Disease.
Hassouna I, Hassanein OH, El-Elaimy IA, Ibrahim HM
Neurochemical research (2026) 512: . . **IHC-P; tested species: rat**

Distinct Transcriptional States of TDP-43 Pathology in an Alzheimer's Disease Mouse Model.
Liu JC, Liu WJ, Yu LQ, Li J, Sun YY, Li S, Ma QH
Neuroscience bulletin (2026) : . . **IHC; tested species: mouse**

Access the online factsheet including applicable protocols at https://sysy.com/product/234009 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.