SYSY Antibodies

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IBA1

Cat.No. 234 013; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. 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**: not tested yet **ICC**: 1 : 1000 **IHC**: 1 : 1000 up to 1 : 5000 **IHC-P (FFPE)**: 1 : 1000
Immunogen	Synthetic peptide corresponding to residues near the carboxy terminus of mouse IBA1 (UniProt Id: Q9EQW9)
Reactivity	Reacts with: rat (P55009), mouse (O70200), human (P55008). Other species not tested yet.
Specificity	K.O. validated

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 234 013

Astrocyte-derived extracellular vesicles regulate proopiomelanocortin neurons and modify food intake and glucose metabolism.
Collado-Perez R, Gómez-Romero A, Stutz B, Jiménez-Hernaiz M, García-Piqueras J, Canelles S, Belsham DD, Fernández-Alfonso MS, Fernández-Marcos PJ, Argente J, Horvath TL, et al.
Metabolism: clinical and experimental (2026) 185: 156792. . **WB; tested species: mouse**

Peptidoglycan accumulates in distinct brain regions and cell types over lifetime but is absent in newborns.
Zeiher C, Kuhrt H, Rifflet A, Winter K, Boon L, Stassart RM, Nutma E, Middeldorp J, Strating IM, Boneca IG, Bechmann I, et al.
Brain, behavior, and immunity (2024) 123: 799-812. . **IHC-P; tested species: human**

Heterogeneity of neurons reprogrammed from spinal cord astrocytes by the proneural factors Ascl1 and Neurogenin2.
Kempf J, Knelles K, Hersbach BA, Petrik D, Riedemann T, Bednarova V, Janjic A, Simon-Ebert T, Enard W, Smialowski P, Götz M, et al.
Cell reports (2021) 363: 109409. . **ICC; tested species: mouse**

Undisturbed climbing fiber pruning in the cerebellar cortex of CX3 CR1-deficient mice.
Kaiser N, Pätz C, Brachtendorf S, Eilers J, Bechmann I
Glia (2020) : . . **IHC; tested species: mouse**

A novel Mediterranean diet-inspired supplement reduces hippocampal amyloid deposits and microglial activation through the modulation of the microbiota gut-brain axis in 5xFAD mice.
Connell E, Le Gall G, McArthur S, Lang L, Breeze B, Liaquat M, Pontifex MG, Sami S, Pourtau L, Gaudout D, Müller M, et al.
Gut microbes (2026) 181: 2614030. . **IHC; tested species: mouse**

Doxorubicin administration modulates cancer-related fatigue in a time-of-day-dependent manner.
Kastelein A, Kelters IR, On AC, Jiao H, Arenas SM, Derks RJE, Sánchez-López E, Smits AM, Angeli F, Guglielmo M, Sluijter JPG, et al.
Brain, behavior, and immunity (2026) 139: 106962. . **IHC; tested species: mouse**

Marked differences in the effects of levetiracetam and its analogue brivaracetam on microglial, astrocytic, and neuronal density in the rat model of kainic acid-induced temporal lobe epilepsy.
Kelemen K, Sárosi M, Csüdör Á, Orbán-Kis K, Kelemen H, Bába L, Gáll Z, Horváth E, Katona I, Szilágyi T
Frontiers in pharmacology (2025) 16: 1553545. . **IHC; tested species: rat**

Neuropeptide CRH prevents premature differentiation of OPCs following CNS injury and in early postnatal development.
Ries C, Stark T, Boulat B, Ruhwedel T, Delling JP, Infante AM, von Poblotzki JT, Ulivi A, von Mücke-Heim IA, Chang S, Sakimura K, et al.
Cell reports (2025) 4411: 116474. . **IHC; tested species: mouse**

Time-restricted feeding provides limited microglial immunometabolic improvements in diet-induced obese rats.
Jiao H, Jermei J, Liang X, van der Zande HJP, Vrieling F, Rumanova VS, Dorscheidt M, Wang A, Foppen E, Ignacio B, Stenvers DJ, et al.
Cell reports (2025) 4410: 116380. . **IHC; tested species: rat**

Access the online factsheet including applicable protocols at https://sysy.com/product/234013 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.