SYSY Antibodies

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IBA1

Cat.No. 234 011; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. Albumin and azide were added for stabilization. For **reconstitution** add 100 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 : 500 up to 1 : 1000 **IP**: yes **ICC**: 1 : 500 up to 1 : 2000 **IHC**: 1 : 500 up to 1 : 2000 **IHC-P**: 1 : 100 up to 1 : 2000
Clone	311H9H4
Subtype	IgG2a (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

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).

Selected References for 234 011

Age-associated microglial transcriptome leads to diminished immunogenicity and dysregulation of MCT4 and P2RY12/P2RY13 related functions.
Škandík M, Friess L, Vázquez-Cabrera G, Keane L, Grabert K, Cruz De Los Santos M, Posada-Pérez M, Baleviciute A, Cheray M, Joseph B
Cell death discovery (2025) 111: 16. . **IHC-P; tested species: human**

Exacerbated Age-Related Hippocampal Alterations of Microglia Morphology, β-Amyloid and Lipofuscin Deposition and Presenilin Overexpression in Per1-/--Mice.
Börner JH, Rawashdeh O, Rami A
Antioxidants (Basel, Switzerland) (2021) 109: . . **IHC; tested species: mouse**

Transplantation of Wild-Type Hematopoietic Stem and Progenitor Cells Improves Disease Phenotypes in a Mucopolysaccharidosis IIIC Mouse Model.
Badell-Grau RA, Pakravesh K, Thai KE, Son F, Chen R, Rainaldi J, Duong K, Losay P, Sivakumar A, Khare V, Corl AN, et al.
Cell transplantation (2025) 34: 9636897251323966. . **IHC; tested species: mouse**

Low-Intensity Physical Exercise is Associated with Improved Myelination and Reduced Microglial Activation in a Cuprizone-Induced Demyelination Model.
Hahn KR, Hwang IK, Yoo DY
Neurochemical research (2025) 503: 182. . **IHC; tested species: mouse**

TAF15 downregulation contributes to the benefits of physical training on dendritic spines and working memory in aged mice.
He Y, Liu B, Yang FY, Yang Q, Xu B, Liu L, Chen Y
Aging cell (2024) : e14244. . **IHC; tested species: mouse**

Neuroanatomical and cognitive biomarkers of alpha-synuclein propagation in a mouse model of synucleinopathy prior to onset of motor symptoms.
Tullo S, Miranda AS, Del Cid-Pellitero E, Lim MP, Gallino D, Attaran A, Patel R, Novikov V, Park M, Beraldo FH, Luo W, et al.
Journal of neurochemistry (2024) 1688: 1546-1564. . **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/234011 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 a 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.