SYSY Antibodies

Rudolf-Wissell-Str. 28a
37079 Göttingen, Germany
Phone: +49 551-50556-0
Fax: +49 551-50556-384
E-mail: sales@sysy.com
Web: www.sysy.com

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 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 up to 1 : 2000 (AP-staining) **IP**: not tested yet **ICC**: 1 : 500 up to 1 : 1000 **IHC**: 1 : 500 up to 1 : 1000 **IHC_P**: 1 : 200 up to 1 : 1000 **EXM**: 1 : 100
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 The constant regions of the heavy and light chains have been replaced by chicken specific sequences.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.

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 234 009

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**

Meningeal macrophages protect against viral neuroinfection.
Rebejac J, Eme-Scolan E, Arnaud Paroutaud L, Kharbouche S, Teleman M, Spinelli L, Gallo E, Roussel-Queval A, Zarubica A, Sansoni A, Bardin Q, et al.
Immunity (2022) 5511: 2103-2117.e10. . **IHC; tested species: monkey**

Microglia regulate sleep through calcium-dependent modulation of norepinephrine transmission.
Ma C, Li B, Silverman D, Ding X, Li A, Xiao C, Huang G, Worden K, Muroy S, Chen W, Xu Z, et al.
Nature neuroscience (2024) : . . **IHC; tested species: mouse**

Microglia maintain structural integrity during fetal brain morphogenesis.
Lawrence AR, Canzi A, Bridlance C, Olivié N, Lansonneur C, Catale C, Pizzamiglio L, Kloeckner B, Silvin A, Munro DAD, Fortoul A, et al.
Cell (2024) : . . **IHC; tested species: mouse**

Spatial Transcriptomics-correlated Electron Microscopy maps transcriptional and ultrastructural responses to brain injury.
Androvic P, Schifferer M, Perez Anderson K, Cantuti-Castelvetri L, Jiang H, Ji H, Liu L, Gouna G, Berghoff SA, Besson-Girard S, Knoferle J, et al.
Nature communications (2023) 141: 4115. . **IHC; tested species: mouse**

Control of hippocampal synaptic plasticity by microglia-dendrite interactions depends on genetic context in mouse models of Alzheimer's disease.
Heuer SE, Keezer KJ, Hewes AA, Onos KD, Graham KC, Howell GR, Bloss EB
Alzheimer's & dementia : the journal of the Alzheimer's Association (2023) : . . **IHC; tested species: mouse**

HSP27 induced glaucomatous damage in mice of young and advanced age.
Erb C, Reinehr S, Theiss C, Dick HB, Joachim SC
Frontiers in cellular neuroscience (2023) 17: 1257297. . **IHC; tested species: mouse**

Activation of β2-Adrenergic Receptors in Microglia Alleviates Neuropathic Hypersensitivity in Mice.
Damo E, Agarwal A, Simonetti M
Cells (2023) 122: . . **IHC; tested species: mouse**

Lipofuscin-like autofluorescence within microglia and its impact on studying microglial engulfment.
Stillman JM, Mendes Lopes F, Lin JP, Hu K, Reich DS, Schafer DP
Nature communications (2023) 141: 7060. . **IHC; tested species: mouse**

Prenatal opioid exposure inhibits microglial sculpting of the dopamine system selectively in adolescent male offspring.
Smith CJ, Lintz T, Clark MJ, Malacon KE, Abiad A, Constantino NJ, Kim VJ, Jo YC, Alonso-Caraballo Y, Bilbo SD, Chartoff EH, et al.
Neuropsychopharmacology : official publication of the American College of Neuropsychopharmacology (2022) 4710: 1755-1763. . **IHC; tested species: rat**

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 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.