abcam

ab300156

Anti-Iba1 antibody [EPR16588] - Microglia marker - Rat IgG2a (Chimeric)

Rat recombinant monoclonal Iba1 EPR16588 antibody. Suitable for IHC-P and Flow Cyt (intracellular). Reacts with human, mouse and rat samples.

This antibody is the chimeric Rat version of clone EPR16588, available in rabbit as ab178846 with over 750 publications. Same clone, same staining pattern, different species antibody backbone.
Learn more about chimeric antibodies

Lab Essentials | Recombinant | 20ul selling size

Key facts

Isotype	IgG2a
Host species	Rat
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR16588
Purification technique	Ion exchange chromatography
Concentration	1.027 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/10000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Mouse
Dilution info	1/10000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/10000
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/1000

Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information AIF1

Function	Actin-binding protein that enhances membrane ruffling and RAC activation. Enhances the actin-bundling activity of LCP1. Binds calcium. Plays a role in RAC signaling and in phagocytosis. May play a role in macrophage activation and function. Promotes the proliferation of vascular smooth muscle cells and of T-lymphocytes. Enhances lymphocyte migration. Plays a role in vascular inflammation.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Find all reagents to label astrocytes in our "Microglia markers guide".

This rat monoclonal chimeric antibody has been engineered from RabMab parent antibody (ab178846). By necessity, some rabbit sequence is retained as part of the variable domain. When multiplexing with other rabbit-derived antibodies, using across absorbed Fc-reactive secondary antibodies are recommended.

ab300156 does not react in: WB with human, mouse, and rat samples; ICC-IF with human tissues.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Iba1 also known as Allograft Inflammatory Factor 1 (AIF-1) is a 17 kDa protein notable for its involvement in immune responses. It is expressed mainly in microglia and macrophages key components of the central nervous system's immune system. Researchers often use Iba1 in Western blots and immunohistochemistry (IHC) to study microglial activation. The protein's expression is a strong marker of microglial activation making it a focal point in neuroinflammation studies. Anti-Iba1 antibodies have gained popularity for their effectiveness in identifying microglia in brain tissue sections through Iba1 staining techniques.
Biological function summary	Iba1 modulates actin bundling facilitating changes in microglial morphology and motility. It does not form part of a multiprotein complex but is significantly involved in cytoskeletal dynamics. This protein's expression increases during brain injury indicating its role in response to neural trauma. Iba1 has calcium-binding properties which suggest that it might interact with proteins involved in calcium signaling pathways.
Pathways	Calcium signaling and actin cytoskeletal rearrangement are significant biological processes that involve Iba1. Within these pathways Iba1 interacts closely with other actin-binding proteins that affect microglial movement and morphology. Such interactions illustrate how Iba1 helps microglia navigate and respond to changes within the brain environment.
Associated diseases and disorders	Iba1 is often associated with neurodegenerative diseases like Alzheimer's disease and amyotrophic lateral sclerosis (ALS). In these conditions elevated Iba1 levels mark increased microglial activity which correlates with disease progression. Connections with proteins such as amyloid-beta in Alzheimer's disease suggest its role in mediating inflammatory responses and linking inflammation to disease pathology.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

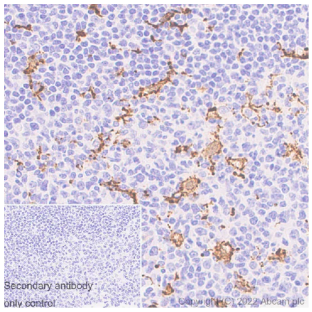
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

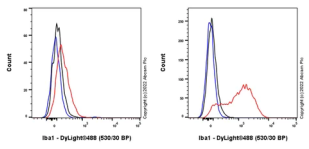
9 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Iba1 antibody [EPR16588] - Microglia marker - Rat IgG2a (Chimeric) (ab300156)

Iba1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human tonsil using rat Anti-Iba1 antibody

Immunohistochemical analysis of paraffin-embedded Human tonsil tissue labeling Iba1 with ab300156 at 1/10000 (0.108 ug/ml) followed by a ready to use LeicaDS9800 (Bond Polymer Refine Detection). Positive staining on human tonsil. The section was incubated with ab300156 for 30 mins at room temperature, followed by anti-Rat IgG antibody (ab102248) for 8 mins during the LeicaDS9800 kit staining procedure. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond Polymer Refine Detection).Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins

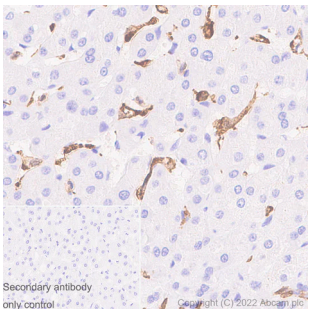


Flow Cytometry (Intracellular) - Anti-Iba1 antibody [EPR16588] - Microglia marker - Rat IgG2a (Chimeric) (ab300156)

Iba1 Flow Cytometry (Intracellular) staining using rat Anti-Iba1 antibody

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized MCF7 (Human breast adenocarcinoma epithelial cell) / THP-1 (Human monocytic leukemia monocyte) cells labelling Iba1 with ab300156 at 1/1000 dilution (0.1ug) (Red) compared with a Rat

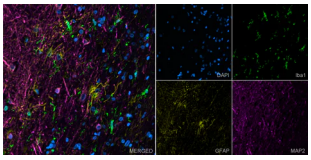
monoclonal IgG (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). A Goat Anti-Rat IgG Fc (DyLight 488, ab96971) at 1/2000 dilution was used as the secondary antibody. Negative control: MCF7 (PMID: 30386176)



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Iba1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human liver using rat Anti-Iba1 antibody

Immunohistochemical analysis of paraffin-embedded Human liver tissue labeling Iba1 with ab300156 at 1/10000 (0.108 ug/ml) followed by a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection). Positive staining on Kupffer cells in the human liver. The section was incubated with ab300156 for 30 mins at room temperature, followed by anti-Rat IgG antibody (ab102248) for 8 mins during the LeicaDS9800 kit staining procedure. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection).Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Iba1 antibody [EPR16588] - Microglia marker - Rat IgG2a (Chimeric) (ab300156)

Iba1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human cerebral cortex using rat Anti-Iba1 antibody

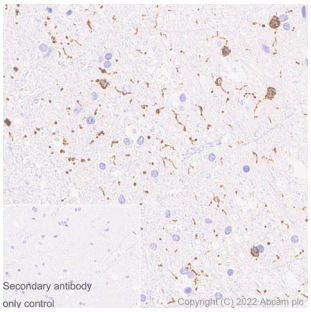
Composite multiplex immunofluorescence staining of Iba1, GFAP and MAP2 staining in a section of formalin-fixed paraffin-embedded human cerebral cortex*.

Performed on a Leica BOND. The section was pre-treated using heat mediated antigen retrieval with Sodium citrate (Ph6.0) using retrieval settings of 100°C for 20 minutes. The section was then incubated at room temperature for 1 hour with ab300156 at 1µg/ml dilution (shown in green), ab183830 at 1µg/ml (shown in magenta), and ab302644 at 1µg/ml (shown in yellow). Then incubated for 1 hour with ab150161 Goat F(ab')2 Anti-Rat IgG Fc (Alexa Fluor® 488) preadsorbed 1/1000, ab150083 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 647) preadsorbed 1/1000, and ab150134 Donkey Anti-Goat IgG H&L (Alexa Fluor® 555) preadsorbed 1/1000. Nuclear DNA was labelled with DAPI (shown in blue). The section was then mounted using Dako Fluorescence Mounting Medium ®.

Image was taken with the EVOS™ S1000 Spatial Imaging System (ThermoFisher Scientific) with spectral unmixing and minor subsequent contrast adjustment.

For other IHC staining systems (automated and non-automated), customers should optimize variable parameters such as antigen retrieval conditions, antibody concentrations and incubation times.

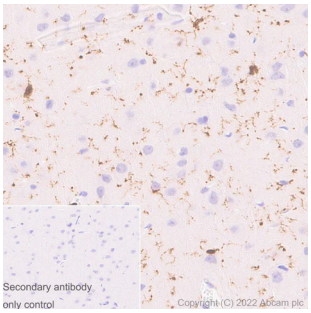
*Tissue obtained from the Human Research Tissue Bank, supported by the NIHR Cambridge Biomedical Research Centre.



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Iba1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human cerebrum using rat Anti-Iba1 antibody

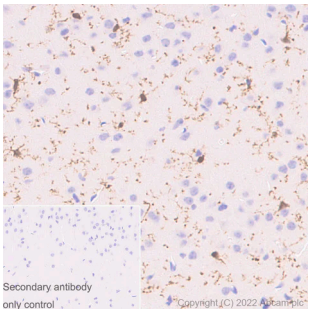
Immunohistochemical analysis of paraffin-embedded Human cerebrum tissue labeling Iba1 with ab300156 at 1/10000 (0.108 ug/ml) followed by a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection). Positive staining on microglia in the human cerebrum. The section was incubated with ab300156 for 30 mins at room temperature, followed by anti-Rat IgG antibody (ab102248) for 8 mins during the LeicaDS9800 kit staining procedure. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection).Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



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Iba1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Rat cerebrum using rat Anti-Iba1 antibody

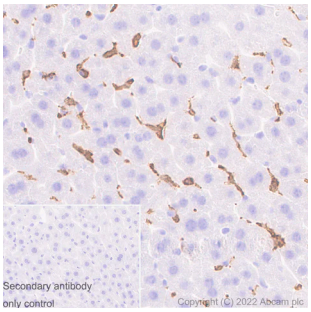
Immunohistochemical analysis of paraffin-embedded Rat cerebrum tissue labeling Iba1 with ab300156 at 1/10000 (0.108 ug/ml) followed by a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection). Positive staining on microglia in the rat cerebrum. The section was incubated with ab300156 for 30 mins at room temperature, followed by anti-Rat IgG antibody (ab102248) for 8 mins during the LeicaDS9800 kit staining procedure. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection).Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



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Iba1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse cerebrum using rat Anti-Iba1 antibody

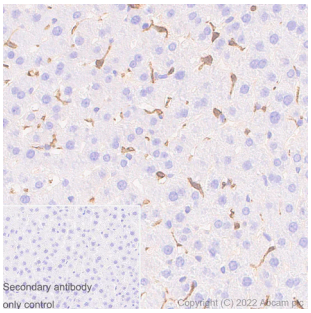
Immunohistochemical analysis of paraffin-embedded Mouse cerebrum tissue labeling Iba1 with ab300156 at 1/10000 (0.108 ug/ml) followed by a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection). Positive staining on microglia in the mouse cerebrum. The section was incubated with ab300156 for 30 mins at room temperature, followed by anti-Rat IgG antibody (ab102248) for 8 mins during the LeicaDS9800 kit staining procedure. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection).Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



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Iba1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse liver using rat Anti-Iba1 antibody

Immunohistochemical analysis of paraffin-embedded Mouse liver tissue labeling Iba1 with ab300156 at 1/10000 (0.108 ug/ml) followed by a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection). Positive staining on Kupffer cells in the mouse liver. The section was incubated with ab300156 for 30 mins at room temperature, followed by anti-Rat IgG antibody (ab102248) for 8 mins during the LeicaDS9800 kit staining procedure. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection).Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Iba1 antibody [EPR16588] - Microglia marker - Rat IgG2a (Chimeric) (ab300156)

Iba1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Rat liver using rat Anti-Iba1 antibody

Immunohistochemical analysis of paraffin-embedded Rat liver tissue labeling Iba1 with ab300156 at 1/10000 (0.108 ug/ml) followed by a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection). Positive staining on Kupffer cells in the rat liver. The section was incubated with ab300156 for 30 mins at room temperature, followed by anti-Rat IgG antibody (ab102248) for 8 mins during the LeicaDS9800 kit staining procedure. The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond☒ Polymer Refine Detection).Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.