abcam

ab153696

Anti-Iba1 antibody - Microglia marker

Lab Essentials

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7 Preservative: 0.025% Proclin 300 Constituents: PBS, 20% Glycerol (glycerin, glycerine)
Form	Liquid
Clonality	Polyclonal
Immunogen	Recombinant Fragment Protein within Human AIF1. The exact immunogen used to generate this antibody is proprietary information. Database link P55008
Purification technique	Affinity purification Immunogen
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse
Dilution info	1/100 - 1/1000
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Species	Rat

Dilution info	1/100 - 1/1000
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Species	Human
Dilution info	1/100 - 1/1000
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

IP

Tested

Species	Human
Dilution info	1/100 - 1/500
Notes	-

Expected

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

Flow Cyt

Tested

Species	Mouse
Dilution info	1/50 - 1/200
Notes	ab171870 - Rabbit polyclonal IgG, is suitable for use as an isotype control with this antibody.

Species	Human
Dilution info	1/50 - 1/200
Notes	ab171870 - Rabbit polyclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

WB

Tested

Species	Mouse
Dilution info	1/500 - 1/10000
Notes	For ab153696 Abcam recommends blocking in 5% milk for cleanest results in WB. Blocking with BSA gives slightly higher background.

Species	Rat
Dilution info	1/500 - 1/10000
Notes	For ab153696 Abcam recommends blocking in 5% milk for cleanest results in WB. Blocking with BSA gives slightly higher background.

Species	Human
Dilution info	1/500 - 1/10000
Notes	For ab153696 Abcam recommends blocking in 5% milk for cleanest results in WB. Blocking with BSA gives slightly higher background.

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/1000
Notes	**Not suitable for mouse**

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 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".

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

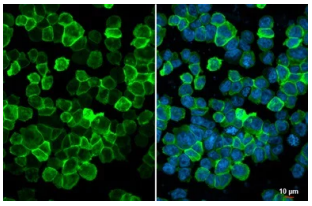
We do not recommend this combination. It is not covered by our product promise.

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.

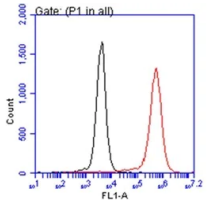
11 product images



Immunocytochemistry/ Immunofluorescence - Anti-Iba1 antibody - Microglia marker (ab153696)

Iba1 Immunocytochemistry/ Immunofluorescence staining of THP-1 cells using rabbit Anti-Iba1 antibody

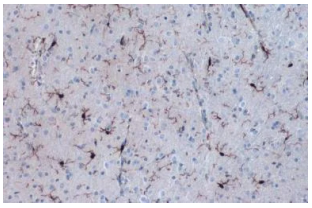
Immunofluorescence analysis of THP-1 cells fixed in 4% paraformaldehyde at RT for 15 min labelling Iba1 protein at cell periphery using ab153696 at a 1/500 dilution (Green). DAPI was used for nuclear staining.



Flow Cytometry - Anti-Iba1 antibody - Microglia marker (ab153696)

Iba1 Flow Cytometry staining of THP-1 cell using rabbit Anti-Iba1 antibody

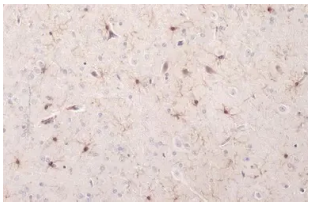
Flow cytometry analysis of THP-1 cells detecting Iba1 using ab153696 at a 1/50 dilution (Red). Unlabelled sample was used as a control (Black).
Acquisition of 20,000 events were collected for FACS analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Iba1 antibody - Microglia marker (ab153696)

Iba1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Iba1 antibody

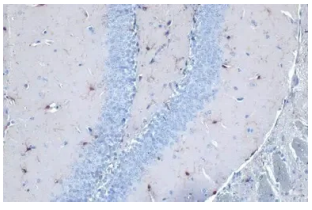
Immunohistochemistry of paraffin-embedded rat cerebellum tissue staining Iba1 protein with ab153696 at 1/1000 dilution.
Performed with heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Iba1 antibody - Microglia marker (ab153696)

Iba1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Rat Brain tissue using rabbit Anti-Iba1 antibody

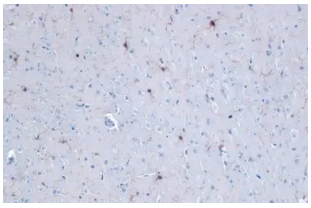
Immunohistochemical analysis of paraffin-embedded rat brain tissue stained for Iba1 protein at cell membrane and cytoplasm with ab153696 at a 1/500 dilution.
Antigen Retrieval: Citrate buffer, pH 6.0, 15 min.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Iba1 antibody - Microglia marker (ab153696)

Iba1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse Brain tissue using rabbit Anti-Iba1 antibody

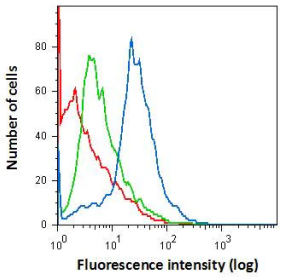
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Antigen Retrieval: Citrate buffer, pH 6.0, 15 min.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Iba1 antibody - Microglia marker (ab153696)

Iba1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse Brain tissue using rabbit Anti-Iba1 antibody

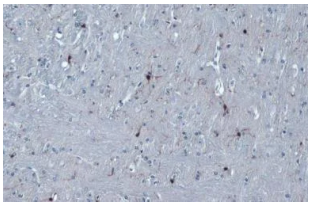
Immunohistochemical analysis of paraffin-embedded mouse brain tissue stained for Iba1 protein at cell membrane and cytoplasm with ab153696 at a 1/500 dilution.
Antigen Retrieval: Citrate buffer, pH 6.0, 15 min.



Flow Cytometry - Anti-Iba1 antibody - Microglia marker (ab153696)

Iba1 Flow Cytometry staining using rabbit Anti-Iba1 antibody

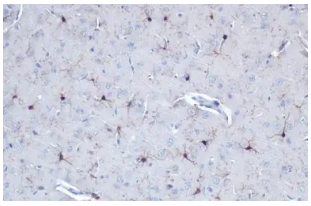
Flow cytometic analysis of primary murine microglia cells labeling Iba1 with ab153696 at 1.0 µg per 4×10^5 cells (blue), Rabbit IgG (green) , Unstained (red).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Iba1 antibody - Microglia marker (ab153696)

Iba1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Iba1 antibody

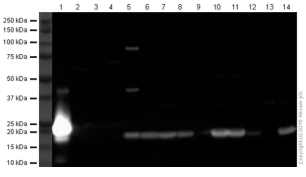
Immunohistochemistry of paraffin-embedded mouse cerebellum tissue staining Iba1 protein with ab153696 at 1/1000 dilution.
Performed with heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Iba1 antibody - Microglia marker (ab153696)

Iba1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Rat Brain tissue using rabbit Anti-Iba1 antibody

Immunohistochemical analysis of paraffin-embedded rat brain tissue stained for Iba1 protein at cell membrane and cytoplasm with ab153696 at a 1/500 dilution.
Antigen Retrieval: Citrate buffer, pH 6.0, 15 min.



Western blot - Anti-Iba1 antibody - Microglia marker (ab153696)

Iba1 Western blot staining using rabbit Anti-Iba1 antibody

BLOCKED IN 3% MILK. For ab153696 Abcam recommends blocking in milk for cleaner blots with reduced background, in comparison to BSA.
This blot was produced using a 4-12% Bis-Tris gel under the MOPS buffer system. The gel was run at 200V for 60 minutes before being transferred onto a nitrocellulose membrane at 30V for 70 minutes. The membrane was then blocked for an hour before being incubated with ab153696 (anti-Iba1 antibody; 1/500 dilution) for 18 hours at 4°C. Antibody binding was detected using HRP-

labelled anti-Rabbit IgG for 1 hour at room temperature and visualised using ECL development solution ab133406.
All lanes:
Western blot - Anti-Iba1 antibody - Microglia marker (ab153696) at 1/500 dilution

Lane 1:
Human Iba1 full length recombinant protein at 0.1 µg

Lane 2:
HEK293 whole cell lysate at 20 µg

Lane 3:
A431 whole cell lysate at 20 µg

Lane 4:
NIH3T3 whole cell lysate at 30 µg

Lane 5:
Human spleen tissue lysate at 20 µg

Lane 6:
Mouse spleen tissue lysate at 30 µg

Lane 7:
Rat spleen tissue lysate at 30 µg

Lane 8:
U937 whole cell lysate at 30 µg

Lane 9:
MOLT4 whole cell lysate at 30 µg

Lane 10:
THP1 whole cell lysate at 30 µg

Lane 11:
THP1 whole cell lysate, PMA treated at 30 µg

Lane 12:
Raw 264.7 whole cell lysate at 30 µg

Lane 13:
C6 whole cell lysate at 30 µg

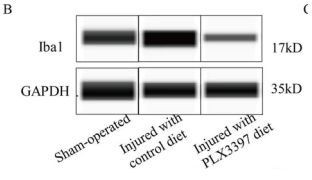
Lane 14:
NR8383 whole cell lysate at 30 µg

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 16 kDa

Exposure time: 1min



Western blot - Anti-Iba1 antibody - Microglia marker (ab153696)

Iba1 Western blot staining using rabbit Anti-Iba1 antibody

Iba1 western blot using anti-Iba1 antibody ab153696. Publication image and figure legend from Fu, H., Zhao, Y., et al., 2020, Cell Death Dis, PubMed 32661227.

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ab153696 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab153696 please see the product overview.

CSF1R inhibition reduces microglial accumulation induced by SCI.a Schematics of experimental design showing the timeline of microglia depletion, spinal cord crush injury, and sacrifice. b Western blot analysis of spinal cord homogenates from sham-operated, injured with control or PLX3397-treated mice (n = 4 per group) for steady state levels of the microglia marker Iba1. c Quantification of b showing a robust increase in levels of Iba1 expression at 7 days following SCI. CSF1R inhibition reverses the increase induced by SCI. d–f Representative immunofluorescence images of mouse spinal cord sections showing Iba1+ microglia. The changes in number of Iba1+ microglia consist with the changes of Iba1 expression levels. Data are expressed as mean ± SD. Scale bars: e, f in f 100 μm.

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