abcam

ab16911

Anti-F4/80 antibody [BM8]

Anti-F4/80 antibody [BM8] (ab16911) is a rat monoclonal antibody detecting F4/80 in **Flow Cytometry, IHC-Fr**. Suitable for **Human, Mouse**.

- Over 150 publications
- Trusted since 2005

Lab Essentials

Key facts

Isotype	IgG2a
Host species	Rat
Storage buffer	Preservative: 0.02% Sodium azide Constituents: PBS, 0.1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing Adgre1 protein. The exact immunogen used to generate this antibody is proprietary information. Database link Q61549
Clone number	BM8
Purification technique	Affinity purification Protein G
Specificity	The monoclonal antibody BM8 recognizes a 125 kDa extracellular macrophage membrane molecule, highly restricted to mature macrophage subpopulations residing in tissue. This antibody does not cross react with any of the following cell types from Mouse: granulocytes, mast cells, platelets, lymphocytes, fibroblasts or endothelial cells.
Concentration	0.1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Provided as a 0.2µm filtered antibody solution.

Reactivity data

ICC

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

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

Flow Cyt

Tested

Species	Mouse
Dilution info	1/50
Notes	(Methanol fixed cells) ab18450 - Rat monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Species	Human
Dilution info	1/50
Notes	(Methanol fixed cells) ab18450 - Rat monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

IHC-Fr

Tested

Species	Mouse

Dilution info	1/50
Notes	See Schaller et al. Fixation with acetone for 10 min at RT is recommended as is an incubation with 0.02 M sodium azide in PBS containing 0.1 % H2O2 for 10 min at RT to destroy endogenous peroxidase

Expected

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

Target data

See full target information Adgre1

Function	Orphan receptor involved in cell adhesion and probably in cell-cell interactions specifically involving cells of the immune system. May play a role in regulatory T-cells (Treg) development.

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

Anti-F4/80 antibody [BM8] (ab16911) is a rat monoclonal antibody and is validated for use in Flow Cyt, ICC, IHC in mouse samples.

Anti-F4/80 antibody [BM8] (ab16911) has been cited over 152 times in peer reviewed journals and is trusted by the scientific community.

Abcam's high quality validation processes ensure Anti-F4/80 antibody [BM8] (ab16911) has high sensitivity and

specificity.

Anti-F4/80 antibody [BM8] (ab16911) has 12 independent reviews from customers.

Anti-F4/80 antibody [BM8] (ab16911) specifically detects F4/80 (UniProt ID: Q14246; Molecular weight: 95kDa) and is sold in 100 µg selling sizes.

Antibody clone BM8 is also available pre-conjugated to a variety of labels for your convenience - Biotin, FITC, PE (ab15694, ab60343, ab125148).

F4/80 is a well-established marker for murine macrophages, playing a significant role in the immune system. It is involved in various immunological processes, including tissue homeostasis, inflammation, and immune responses. F4/80 is expressed on different macrophage subtypes, which can influence the progression of diseases such as autoimmune disorders, infections, and cancer. Its expression helps in identifying and isolating macrophages for research, aiding in the understanding of their roles in health and disease. It has been recently implicated as a key biomarker in some autoimmune diseases like IBD.

ab16911 is the only macrophage marker that is able to distinguish non-destructive from destructive inflammation prcoesses in the pancreas. Furthermore it is a unique histological marker of the progression from peri-insulitis to beta-cell and diabetes in a mouse diabetes model.

Supplementary info

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

Activity summary	F4/80 also known as Emr1 (Epidermal growth factor module-containing mucin-like hormone receptor 1) is a well-characterized surface protein with a mass of approximately 160 kDa. This protein is recognized as a marker for murine macrophages. F4/80 is heavily expressed on cells of the monocyte and macrophage lineage particularly in tissue-resident macrophages found in organs like the liver spleen and lung. Its expression is vital for identifying macrophages in various types of immunological studies including F4/80 staining and macrophage marker analysis.
Biological function summary	F4/80 plays a role in modulating the immune response by interacting with other cell surface molecules. While not part of a larger protein complex F4/80 influences macrophage functions such as phagocytosis and cytokine production. Its expression contributes to the regulation of tissue homeostasis and inflammation. The protein is critical in maintaining the macrophage population required for reliable immune surveillance and response to pathogens.
Pathways	F4/80 is an integral part of the immunological and inflammatory signaling pathways. It interacts with TLRs (Toll-like receptors) and other cell surface molecules that sense microbial components therefore helping in the initiation of innate immune responses. F4/80 is connected to proteins like cytokine receptors which play roles in mediating and resolving inflammatory signals important for maintaining balanced immune activity.
Associated diseases and disorders	F4/80 is associated with conditions like chronic inflammation and autoimmune disorders. Its expression levels can often correlate with disease state impacting diseases such as rheumatoid arthritis and liver fibrosis. In these conditions F4/80 interacts with proteins like TNF-alpha and IL-1beta which are involved in

inflammatory processes. Understanding F4/80's role can help uncover therapeutic targets aimed at modulating macrophage functions to treat these disorders effectively.

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

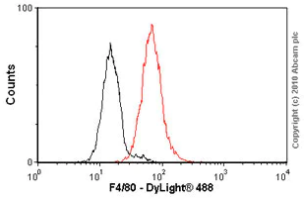
We do not recommend this combination. It is not covered by our product promise.

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.

6 product images

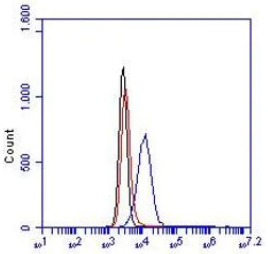


Flow Cytometry - Anti-F4/80 antibody [BM8] (ab16911)

F4/80 Flow Cytometry staining using rat Anti-F4/80 antibody

Overlay histogram showing HeLa cells stained with ab16911 (red line). The cells were fixed with methanol (5 min) and incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab16911, 1/10 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-rat IgG (Fc) (ab96971) at 1/250 dilution for 30 min at 22°C. Isotype control antibody (black line) was rat IgG2a [aRTK2758] (ab18450, 2µg/1x10^6 cells cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a significantly decreased signal in HeLa cells fixed with 4% paraformaldehyde (10 min) used under the same conditions.

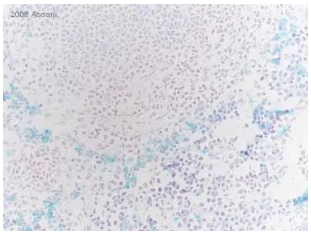
Please note that Abcam does not have data for use of this antibody on non-fixed cells. We welcome any customer feedback.



Flow Cytometry - Anti-F4/80 antibody [BM8] (ab16911)

F4/80 Flow Cytometry staining using rat Anti-F4/80 antibody

Detection of F4/80 in RAW cells. Red, black and blue line represent the isotype control, cells only and ab16911 at 10 µg/ml, respectively.

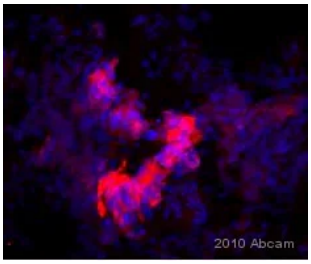


This image is courtesy of a customer review submitted by Miss Silke Vorwald

Immunohistochemistry (Frozen sections) - Anti-F4/80 antibody [BM8] (ab16911)

F4/80 Immunohistochemistry (Frozen sections) staining using rat Anti-F4/80 antibody

ab16911 staining mouse spleen tissue sections by immunohistochemistry (frozen sections). Sections were paraformaldehyde fixed without permeabilization and blocked in 1% serum for 10 minutes at 20°C. The primary antibody was used undiluted and incubated with sample for 16 hour at 20°C. A Biotin conjugated goat polyclonal to rat Ig, diluted 1/500 was used as the secondary antibody.

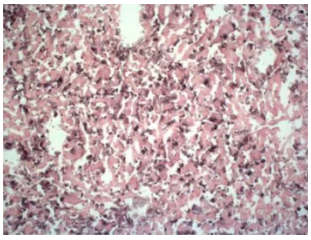


This image is courtesy of an anonymous customer review

Immunocytochemistry - Anti-F4/80 antibody [BM8] (ab16911)

F4/80 Immunocytochemistry staining using rat Anti-F4/80 antibody

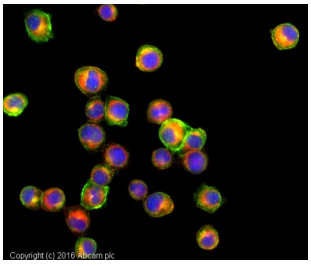
ab16911 staining F4/80 in Mouse brain cells by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with acetone and blocked with 5% BSA for 1 hour at 20°C. Samples were incubated with primary antibody (1/250) for 16 hours at 4°C. An Alexa Fluor®568-conjugated Goat anti-rat IgG polyclonal (1/1000) was used as the secondary antibody.



Immunohistochemistry (Frozen sections) - Anti-F4/80 antibody [BM8] (ab16911)

F4/80 Immunohistochemistry (Frozen sections) staining using rat Anti-F4/80 antibody

ab16911 staining F4/80 on macrophages in mouse liver tissue by Immunohistochemistry (Frozen sections).



Immunocytochemistry - Anti-F4/80 antibody [BM8] (ab16911)

F4/80 Immunocytochemistry staining using rat Anti-F4/80 antibody

ab16911 stained RAW246.7 cells. The cells were 100% methanol fixed for 5 minutes at -20°C and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1hour at room temperature to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab16911 at 1in50 dilution) overnight at +4°C. The secondary antibody (pseudo-colored green) was Goat Anti-Rat IgG H&L (Alexa Fluor® 488) preadsorbed (ab150165) used at a 1/1000 dilution for 1hour at room temperature. Alexa Fluor® 594 WGA was used to label plasma membranes (pseudo-colored red) at a 1/200 dilution for 1hour at

room temperature. DAPI was used to stain the cell nuclei (pseudo-colored blue) at a concentration of 1.43µM for 1hour at room temperature.

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