abcam

ab53444

Anti-CD68 antibody [FA-11]

Anti-CD68 antibody [FA-11] (ab53444) is a rat monoclonal antibody detecting CD68 in **Flow Cytometry (Intra), ICC/IF**. Suitable for **Mouse**.

- Over 310 publications
- Trusted since 2007

Lab Essentials | Recombinant

Key facts

Isotype	IgG2a
Host species	Rat
Storage buffer	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	FA-11
Purification technique	Affinity purification Protein A
Concentration	1.041 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant.

Reactivity data

ICC/IF

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/100
Notes	Membrane permeabilisation is required for this application. ab18450 - Rat monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

IHC-Fr

Not recommended

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information Cd68

Function	Could play a role in phagocytic activities of tissue macrophages, both in intracellular lysosomal metabolism and extracellular cell-cell and cell-pathogen interactions. Binds to tissue- and organ-specific lectins or selectins, allowing homing of macrophage subsets to particular sites. Rapid recirculation of CD68 from endosomes and lysosomes to the plasma membrane may allow macrophages to crawl over selectin-bearing substrates or other cells.

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

Notes

Anti-CD68 antibody [FA-11] (ab53444) is a rat recombinant monoclonal antibody and is validated for use in Flow Cyt (Intra), ICC/IF in dog, human, mouse, rat samples.

Anti-CD68 antibody [FA-11] (ab53444) has been cited over 312 times in peer reviewed journals and is trusted by the scientific community.

Abcam's high quality manufacturing and validation processes ensure Anti-CD68 antibody [FA-11] (ab53444) has high sensitivity and specificity alongside high lot-to-lot consistency and reproducibility.

Anti-CD68 antibody [FA-11] (ab53444) has 24 independent reviews from customers.

Anti-CD68 antibody [FA-11] (Anti-Macrosialin antibody) (ab53444) specifically detects CD68 (UniProt ID: P34810; Molecular weight: 35kDa) and is sold in 100 µg and 1 mg selling sizes.

Conjugation-ready, carrier free format available for antibody clone FA-11 - ab237968.

Antibody clone FA-11 is also available pre-conjugated to a variety of labels for your convenience - Alexa Fluor® 405, Alexa Fluor® 488, Alexa Fluor® 647, HRP, PE, PerCP, APC (ab199571, ab201844, ab201845, ab216526, ab216701, ab220509, ab221251).

CD68 is a transmembrane glycoprotein predominantly expressed on macrophages, playing a crucial role in the immune system. It is involved in phagocytosis and antigen presentation, making it essential for immune responses. CD68 is expressed in various macrophage subtypes, including M1 (pro-inflammatory) and M2 (anti-inflammatory), contributing to both inflammation and tissue repair. In the central nervous system, CD68 is a marker for microglia, the brain's immune cells, and is involved in clearing cellular debris and modulating inflammatory responses. Its expression levels can influence the progression of neurodegenerative diseases and other immunological conditions.

Although some customers have had success with this antibody in IHC-P, we are unable to obtain positive results in this application and so cannot recommend it for IHC-P. We batch test the antibody in IHC-Fr.

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

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.

Supplementary info

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

Activity summary	CD68 is a glycoprotein that functions as a scavenger receptor. It plays an important role in the regulation of cellular debris and apoptotic cell clearance. Researchers often refer to it as KP1 or macrosialin in the literature. CD68 with a molecular weight of approximately 110 kDa is highly expressed in macrophages and monocytes. The mucin-like structure of CD68 allows it to be heavily glycosylated which aids in its function. Researchers detect CD68 in tissues through methods like immunohistochemistry (IHC) immunofluorescence and CD68 staining and it is widely used as a macrophage marker in research.
Biological function summary	CD68 facilitates functions associated with the innate immune response. It serves as an important part of macrophages which contribute to immune surveillance and tissue homeostasis. Though it primarily operates on its own in some contexts CD68 might assist in forming complexes with other receptors to modulate phagocytic activity. This target is significant in atherosclerotic plaque stability as macrophages engulf lipids and cell debris through processes facilitated by CD68.
Pathways	CD68 is involved in pathways connected to inflammation and phagocytosis. The CD68 protein works closely with other scavenger receptors like CD36 to mediate uptake of oxidized low-density lipoproteins (oxLDL) in the lipid metabolism pathway. Additionally CD68 engagement can influence the toll-like receptor (TLR) signaling pathways thereby linking innate immunity and inflammatory responses critical for host defense and disease progression.
Associated diseases and disorders	CD68 is associated with atherosclerosis and multiple sclerosis. In atherosclerosis its role becomes evident as it accumulates in macrophages within the plaques making it a marker of disease severity. In multiple sclerosis CD68 expression in macrophages and microglia indicates active demyelination and inflammation. It also relates to proteins such as CD36 in atherosclerosis where both mediate the uptake of modified LDL contributing to foam cell formation in plaques.

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.

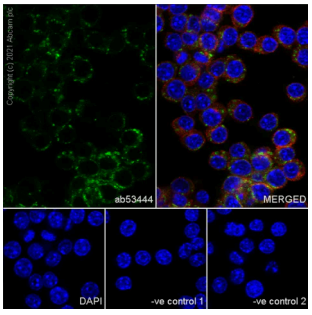
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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:
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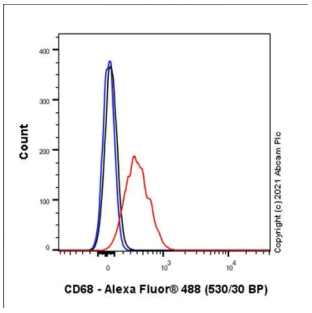
2 product images



Immunocytochemistry/ Immunofluorescence - Anti-CD68 antibody [FA-11] (ab53444)

CD68 Immunocytochemistry/ Immunofluorescence staining using rat Anti-CD68 antibody

RAW 264.7 cells were fixed in 4% PFA and permeabilized with 0.1% Triton X-100. Primary antibody, ab53444 at 1:50 was incubated overnight at 4° C, followed by AlexaFluor® 488-conjugated Goat anti-Rat secondary antibody (ab150157) at 1/1000 dilution at RT for 45 min. ab179513 Anti-beta Tubulin, used as a counterstain at 1/200 dilution, was co-incubated with ab53444 overnight at 4° C, followed by Alexa Fluor® 594 Goat Anti-Rabbit secondary (ab150080) at 1/1000 dilution at RT for 45 min. Nucleus were visualized using DAPI. Confocal image showing cytoplasmic staining in RAW 264.7 cell line.



Flow Cytometry (Intracellular) - Anti-CD68 antibody [FA-11] (ab53444)

Flow Cytometry analysis of 4% paraformaldehyde-fixed RAW 264.7 (Mouse Abelson murine leukemia virus-induced tumor macrophage) cells labelling CD68 with ab53444 at a 1/100 dilution (1 µg) (Red) compared to Rat monoclonal IgG - Isotype Control (Black) and cells without incubation with primary antibody and secondary antibody (Blue). Goat F(ab)2 Anti-Rat IgG Fc (Alexa Fluor® 488, ab150161) at 1/2000 dilution was used as the secondary antibody.

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