abcam

ab31630

Anti-CD68 antibody [ED1]

Anti-CD68 antibody [ED1] (ab31630) is a mouse monoclonal antibody detecting CD68 in **Flow Cytometry (Intra)**. Suitable for **Rat**.

- Over 400 publications
- Trusted since 2006

Lab Essentials

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing CD68 protein. The exact immunogen used to generate this antibody is proprietary information.
Clone number	ED1
Purification technique	Affinity purification Protein A
Specificity	ab31630 recognises a single chain glycoprotein of 110kD that is expressed predominantly on the lysosomal membrane of myeloid cells. Weak cell surface expression also occurs. The antigen is expressed by the majority of tissue macrophages and weakly by peripheral blood granulocytes. Studies have shown that the antigen recognised by ED1 is the rat homologue of human CD68.
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from tissue culture supernatant.

Reactivity data

Flow Cyt (Intra)

Tested

Species	Rat
Dilution info	1/50 - 1/100
Notes	Use 10µl of the suggested working dilution to label 10^6 cells in 100µl. ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Target data

See full target information Cd68

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

Product Specifications

Anti-CD68 antibody [ED1] (ab31630) is a mouse monoclonal antibody and is validated for use in Flow Cyt (Intra) in rat samples.
Anti-CD68 antibody [ED1] (ab31630) specifically detects CD68 (UniProt ID: P34810; Molecular weight: 35kDa) and is sold in 125 µg selling sizes.

Quality and Validation

Abcam's high quality validation processes ensure Anti-CD68 antibody [ED1] (ab31630) has high sensitivity and specificity.
Anti-CD68 antibody [ED1] (ab31630) has been cited over 403 times in peer reviewed journals and is trusted by the scientific community.
Anti-CD68 antibody [ED1] (ab31630) has 20 independent reviews from customers.

Target Information

CD68 is a transmembrane glycoprotein predominantly expressed on macrophages, playing a crucial role in phagocytosis and antigen presentation. It is involved in various pathological conditions, including neuroinflammatory diseases, where it helps clear cellular debris and modulate immune response. CD68 expression is associated with several diseases, particularly those involving macrophage activity, including, cancer, neuroinflammation, Granular cell tumor and histiocytic sarcoma.

This product should be stored undiluted.

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

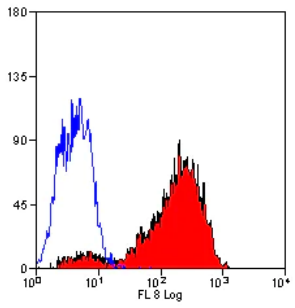
We do not recommend this combination. It is not covered by our product promise.

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:
Terms & Conditions.

2 product images



Flow Cytometry (Intracellular) - Anti-CD68 antibody [ED1] (ab31630)

CD68 Flow Cytometry (Intracellular) staining using mouse Anti-CD68 antibody

Staining of rat peritoneal macrophages with Alexa Fluor®647 conjugated mouse anti rat CD68, clone ED1 (ab31630, red filled histogram) following permeabilization with Leucoperm.

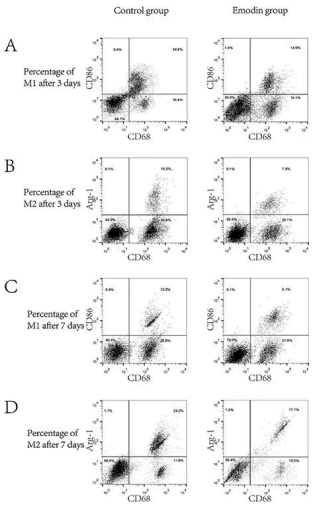


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Flow Cytometry - Anti-CD68 antibody [ED1] (ab31630)

CD68 Flow Cytometry staining using mouse Anti-CD68 antibody

CD68 flow cytometry using Anti-CD68 antibody [ED1] ab31630. IPublication image and figure legend from Xia, Z., Wang, J., et al., 2021, Braz J Med Biol Res, PubMed 34320121.

Emodin modulated in vivo M1 and M2 polarization of macrophages in implanted polyvinyl alcohol (PVA) sponges. A-D, The implanted PVA sponges were removed and assessed for M1 (A and C) and M2 (B and D) populations at 3 days (A and B) and 7 days (C and D) after implantation. The percentages of M1 and M2 macrophages and total macrophages in sponge exudates were determined by flow cytometry using the indicated markers. Representative flow profiles are shown (left), and the percentages of M1/M2 populations are summarized (right). Data are reported as means±SE for n=3 for each group. *P,0.05, **P<0.01, ***P<0.001 vs the Control group (two-tailed t-test).

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