abcam

ab288733

Anti-CD64 antibody [AT170-2] - BSA and Azide free

Recombinant

Key facts

Isotype	IgG
Host species	Mouse
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	AT170-2
Purification technique	Affinity purification Protein A
Concentration	1.031 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/50
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1/100
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Target data

See full target information FCGR1A

Function	High affinity receptor for the Fc region of immunoglobulins gamma. Functions in both innate and adaptive immune responses. Mediates IgG effector functions on monocytes triggering antibody-dependent cellular cytotoxicity (ADCC) of virus-infected cells.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab288733 is the carrier-free version of ab288731

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

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody

preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	CD64 also known as Fc gamma receptor 1a (FCGR1A) is a high-affinity receptor for the Fc region of immunoglobulin G (IgG). This receptor weighs approximately 72 kDa and is expressed on the surface of immune cells such as macrophages monocytes and activated neutrophils. CD64 protein plays an important role in immune responses by binding to antibodies and mediating processes such as phagocytosis and antibody-dependent cellular cytotoxicity (ADCC). Researchers often use anti-CD64 antibodies and CD64 markers to study its expression in various cellular contexts especially in flow cytometry.
Biological function summary	CD64 expression involves the binding of IgG which serves as a pivotal mechanism to facilitate phagocytosis and clearance of opsonized pathogens. CD64 does not operate solely; it is part of a larger receptor family that includes other Fc gamma receptors like CD16 and CD32. The regulation of CD64 differs from its relatives due to its higher affinity for IgG. This attribute enables CD64 to play a more significant role in triggering immune responses especially during infections and inflammatory processes.
Pathways	CD64 participates in the immune response pathway and is critical in the regulation of inflammatory responses. Key proteins interacting with CD64 in these pathways include the aforementioned CD16 and CD32 forming a network that ensures efficient immune system activation. The interaction with IgG and subsequent signal transduction underpin the receptor's functionality in these pathways harmonizing innate and adaptive immune responses.
Associated diseases and disorders	CD64 expression correlates strongly with autoimmune disorders and inflammatory conditions. The receptor's role in orchestrating immune cell activation makes it relevant in diseases such as rheumatoid arthritis and sepsis. In rheumatoid arthritis CD64 interacts with immune complexes intensifying inflammation through enhancement of phagocytic activity. In sepsis increased CD64 marker expression on neutrophils can serve as a diagnostic indicator. Related proteins like CD16 and CD32 also participate in these disorders by modulating immune complex handling and cellular activation.

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.

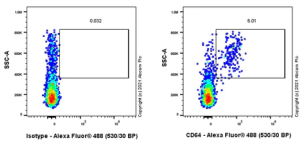
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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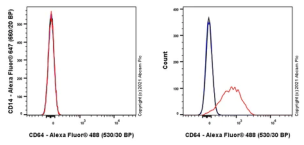
3 product images



Flow Cytometry - Anti-CD64 antibody [AT170-2] - BSC and Azide free (ab288733)

CD64 Flow Cytometry staining using mouse Anti-CD64 antibody

This data was developed using ab288731 the same antibody clone in a different buffer formulation.
Flow cytometric analysis of human peripheral blood mononuclear cell (PBMC) cells labelling CD64 with ab288731 at 1/100 dilution (1µg) (Right), compared with a Mouse monoclonal IgG (Left) isotype control. Goat anti-Mouse IgG (Alexa Fluor® 488, ab150113) at 1/5000 dilution was used as the secondary antibody. Gated on viable cells.

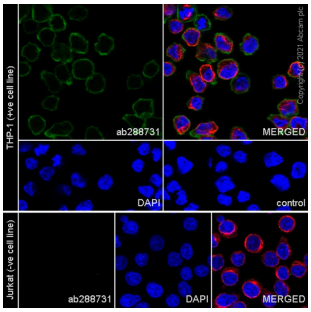


Flow Cytometry - Anti-CD64 antibody [AT170-2] - BSA and Azide free (ab288733)

CD64 Flow Cytometry staining using mouse Anti-CD64 antibody

This data was developed using ab288731 the same antibody clone in a different buffer formulation.
Flow cytometric analysis of Jurkat (Human T cell leukemia T lymphocyte) (Left) / THP-1 (Human monocytic leukemia monocyte) (Right) cells labelling CD64 with ab288731 at 1/100 dilution (1µg) (Red) compared with a Mouse monoclonal IgG (Black) isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat anti-Mouse IgG (Alexa Fluor® 488, ab150113) at 1/5000 dilution was used as the secondary antibody. Gated on viable cells.

Negative control: Jurkat.



Immunocytochemistry/ Immunofluorescence - Anti-CD64 antibody [AT170-2] - BSA and Azide free (ab288733)

CD64 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-CD64 antibody

This data was developed using ab288731 the same antibody clone in a different buffer formulation.
Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized THP-1 cells labelling CD64 with ab288731 at 1/50 (19.32 µg/ml) dilution, followed by ab150117 Goat Anti-Mouse IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green). ab179513 Anti-beta Tubulin rabbit monoclonal antibody was used to counterstain tubulin at 1/200 dilution, followed by ab150088 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 594) preadsorbed at a 1/1000 dilution (Red). The nuclear counterstain was DAPI (Blue).

Confocal image showing membraneous staining in THP-1 cell line.

Negative control: Jurkat (PMID: 14758545).

Secondary antibody only control: Secondary antibody is ab150117 Goat Anti-Mouse IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution.

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