abcam

ab23890

PE Anti-CD64 antibody [10.1]

Anti-CD64 antibody [10.1] conjugated to PE - suitable for flow cytometry, and reacts with human samples. Clone [10.1] is a mouse monoclonal antibody and one of the most commonly used clones for flow cytometry.

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Key facts

Isotype	IgG1
Host species	Mouse
Conjugation	PE
Excitation/Emission	Ex: 480;565nm, Em: 578nm
Storage buffer	pH: 7.3 Preservative: 0.1% Sodium azide Constituents: PBS, 0.48% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing FCGR1A protein. The exact immunogen used to generate this antibody is proprietary information. Database link P12314
Clone number	10.1
Purification technique	Affinity purification Protein G
Specificity	ab23890 recognises CD64, a high affinity receptor for IgG.

Reactivity data

Flow Cyt

Expected

Species	Human

Dilution info	5 µL for 10^6 Cells
Notes	ab91357 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

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

Notes

F/P ratio of 1

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.

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