abcam

ab270140

Alexa Fluor® 647 Anti-CD16 antibody [EPR22409-124]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 647
Excitation/Emission	Ex: 650nm, Em: 665nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR22409-124
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC

Tested

Species	Human
Dilution info	1/100
Notes	This product gave a positive signal in human PMBCs fixed with 4% formaldehyde (10 min) and 80% methanol (5 min).

Flow Cyt

Tested

Species	Human
Dilution info	1/500
Notes	-

ICC/IF

Expected

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

IHC-P

Expected

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

Target data

See full target information FCGR3B

Function	Receptor for the Fc region of immunoglobulins gamma. Low affinity receptor. Binds complexed or aggregated IgG and also monomeric IgG. Contrary to III-A, is not capable to mediate antibody-dependent cytotoxicity and phagocytosis. May serve as a trap for immune complexes in the peripheral circulation which does not activate neutrophils.

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, Store in the dark

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

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.

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Supplementary info

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

Activity summary	CD16 also known as FCGR3A or CD16A protein is a low-affinity receptor for the Fc region of IgG. It weighs approximately 50-70 kDa and exists on the surface of several immune cells such as natural killer (NK) cells some populations of T cells and macrophages. The expression of CD16 mediates various cellular responses including antibody-dependent cellular cytotoxicity (ADCC) where it acts by engaging with immune complexes. Researchers often use anti-CD16 antibodies in flow cytometry to analyze the presence and quantity of CD16-expressing cells.
Biological function summary	This receptor plays a significant role in immune system regulation by contributing to the activation of immune effector cells. CD16 is not part of a larger complex but it operates in concert with CD3 proteins to trigger intracellular signaling pathways upon engagement with its ligand. Its function is important for the antibody-dependent clearance of infected or malignant cells from the body representing an essential linkage between innate and adaptive immunity.
Pathways	Signaling involving CD16 is integrated into the immune response mechanisms that include the Fc gamma receptor-mediated phagocytosis pathway. This pathway involves interactions with IgG antibodies and complements the activity of other Fc gamma receptors such as CD32 and CD64. Through these interactions CD16 enhances phagocytic activity and stimulates the secretion of cytokines and chemokines important for orchestrating an effective immune response.
Associated diseases and disorders	CD16 plays an important role in conditions like autoimmune diseases and certain cancers. Its expression and function are important in the pathophysiology of systemic lupus erythematosus where an imbalance in immune complex clearance leads to tissue damage. In oncology CD16 aids in the immune system's recognition and elimination of tumor cells working alongside proteins such as CD3 in modulating the body's anti-tumor response. Understanding CD16's involvement in these diseases helps in developing therapeutic strategies that harness the immune system's power such as monoclonal antibody therapies targeting CD16.

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

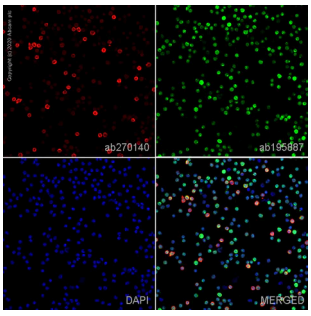
We do not recommend this combination. It is not covered by our product promise.

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

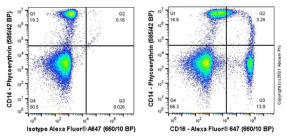


Immunocytochemistry - Alexa Fluor® 647 Anti-CD16 antibody [EPR22409-124] (ab270140)

CD16 Immunocytochemistry staining using rabbit Anti-CD16 antibody

Immunofluorescence staining of CD16 in a subset of human PBMCs (human peripheral blood mononuclear cells) using ab270140. The cells were fixed with 4% formaldehyde (10 min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab270140 at 1/100 dilution (shown in red) and ab195887, Mouse monoclonal to alpha Tubulin (Alexa Fluor® 488), at 1/250 dilution (shown in green). Nuclear DNA was labelled with DAPI (shown in blue).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

This product also gave a positive signal under the same testing conditions in cells fixed with 80% methanol (5 min).



Flow Cytometry - Alexa Fluor® 647 Anti-CD16 antibody [EPR22409-124] (ab270140)

CD16 Flow Cytometry staining using rabbit Anti-CD16 antibody

Flow cytometry staining of human peripheral blood mononuclear cells (PBMCs) with ab270140 (right) or Rabbit IgG (monoclonal) Alexa Fluor® 647 isotype (left). PBMCs were incubated for 30 min on ice in 1x PBS containing 10µg/mL human IgG and 10% normal goat serum to block FC receptors and non-specific protein-protein interaction followed by the antibody (ab270140) or Rabbit IgG (monoclonal) Alexa Fluor® 647 isotype (100 µL at 1µg/mL (1/500)) for 30 min on ice. The cells were simultaneously stained with CD14.
Acquisition of >30000 events were collected using a 40 mW Red laser (638nm) and 660/10 bandpass filter. Events were gated on live single cells.

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