abcam

ab259273

Anti-CD47 antibody [EPR23002-67] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
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	EPR23002-67
Purification technique	Affinity purification Protein A
Concentration	0.958 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Human
Dilution info	-

Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	-

WB

Not recommended

Species	Human
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information CD47

Function	Adhesive protein that mediates cell-to-cell interactions (PubMed:11509594, PubMed:15383453). Acts as a receptor for thrombospondin THBS1 and as modulator of integrin signaling through the activation of heterotrimeric G proteins (PubMed:19004835, PubMed:7691831, PubMed:8550562). Involved in signal transduction, cardiovascular homeostasis, inflammation, apoptosis, angiogenesis, cellular self-renewal, and immunoregulation (PubMed:11509594, PubMed:15383453, PubMed:19004835, PubMed:27742621, PubMed:32679764, PubMed:7691831, PubMed:8550562). Plays a role in modulating pulmonary endothelin EDN1 signaling (PubMed:27742621). Modulates nitrous oxide (NO) signaling, in response to THBS1, hence playing a role as a pressor agent, supporting blood pressure (By similarity). Plays an important role in memory formation and synaptic plasticity in the hippocampus (By similarity). Receptor for SIRPA, binding to which prevents maturation of immature dendritic cells and inhibits cytokine production by mature dendritic cells (PubMed:11509594). Interaction with SIRPG mediates cell-cell adhesion, enhances superantigen-dependent T-cell-mediated proliferation and costimulates T-cell activation (PubMed:15383453). Positively modulates FAS-dependent apoptosis in T-cells, perhaps by enhancing FAS clustering (By similarity). Plays a role in suppressing angiogenesis and may be involved in metabolic dysregulation during normal aging (PubMed:32679764). In response to THBS1, negatively modulates wound healing (By similarity). Inhibits stem cell self-renewal, in response to THBS1, probably by regulation of the stem cell transcription factors POU5F1/OCT4, SOX2, MYC/c-Myc and KLF4 (By similarity). May play a role in membrane transport and/or integrin dependent signal transduction (PubMed:7691831). May prevent premature elimination of red blood cells (By similarity).

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

ab259273 is the carrier-free version of ab256495.

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.

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	CD47 also referred to as integrin-associated protein carries a molecular weight of approximately 50 kDa. This protein is broadly expressed across various cell types notably on erythrocytes leukocytes and endothelial cells. Its transmembrane glycoprotein structure allows it to perform various cellular functions. CD47 interacts with specific ligands prominently SIRPα which are present on immune cells such as macrophages and dendritic cells. The engagement of CD47 with these ligands plays a major role in cellular signaling processes.
Biological function summary	CD47 functions as a "don't eat me" signal inhibiting phagocytosis by binding to SIRPα on macrophages. This protein is also important for cell adhesion and migration and can modulate interactions with integrins. While not a part of a large complex CD47 associates with various cytoskeletal and membrane proteins to maintain cellular architecture and transmission of mechanical forces. Additionally its interaction with thrombospondins influences angiogenesis and nitric oxide signaling.
Pathways	CD47 is extensively involved in the regulation of the immune response and angiogenesis. The interaction between CD47 and SIRPα plays a part in the regulation of macrophage activity impacting the immune signaling pathway. CD47 also interacts with integrins allowing it to contribute to the angiogenesis pathway which is critical in the formation of new blood vessels. These interactions help coordinate complex cellular responses and maintain tissue homeostasis.
Associated diseases and disorders	CD47 levels have associations with cancer and chronic inflammatory diseases. In cancer CD47 overexpression can allow tumor cells to evade the immune response by downregulating phagocytosis through SIRPα interaction. Therapeutically targeting CD47 using agents like anti-CD47 antibodies shows potential for enhancing anti-tumor immunity. Additionally CD47 is involved in atherosclerosis where its interaction with thrombospondin-1 contributes to disease pathogenesis by affecting nitric oxide signaling and vascular remodeling.

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

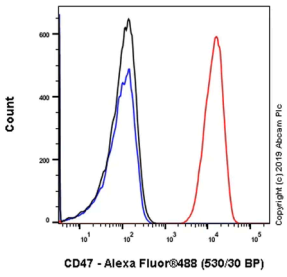
We do not recommend this combination. It is not covered by our product promise.

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.

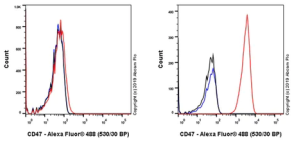
4 product images



Flow Cytometry - Anti-CD47 antibody [EPR23002-67] - BSA and Azide free (ab259273)

CD47 Flow Cytometry staining using rabbit Anti-CD47 antibody

Flow cytometric analysis of Human peripheral blood mononuclear cell (PBMC) cells labelling CD47 with ab256495 at 1/500 compared with a Rabbit monoclonal IgG (ab172730) / Black isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat anti rabbit IgG (Alexa Fluor® 488, ab150097) at 1/5000 dilution was used as the secondary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab256495).



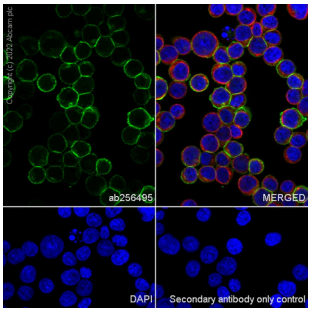
Flow Cytometry - Anti-CD47 antibody [EPR23002-67] - BSA and Azide free (ab259273)

CD47 Flow Cytometry staining using rabbit Anti-CD47 antibody

Flow cytometric analysis of HepG2 (Human hepatocellular carcinoma, Left) / U-937 (Human monocyte histiocytic lymphoma, Right) cells labelling CD47 with ab256495 at 1/500 compared with a Rabbit monoclonal IgG (ab172730) / Black isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue). Goat anti rabbit IgG (Alexa Fluor® 488, ab150097) at 1/5000 dilution was used as the secondary antibody.
Low expression control: HepG2 (PMID: 25721088, 30415063).

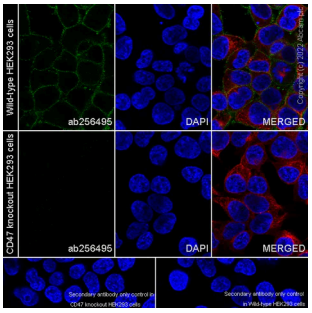
Gated on viable cells.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab256495).



Immunocytochemistry/ Immunofluorescence - Anti-CD47 antibody [EPR23002-67] - BSA and Azide free (ab259273)

Immunocytochemistry analysis of Jurkat (human T cell leukemia T lymphocyte) cells labelling CD47 with ab256495 at 1:100 (5.62 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% TritonX-100. Cells were counterstained with Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) (ab195889) at 1/200 (2.5µg/ml) dilution. Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed (ab150081) was used as the secondary antibody at 1:1000 (2 ug/ml) dilution. DAPI (blue) was used as nuclear counterstain. Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed (ab150081) was used as the secondary antibody only control. Confocal image showing membranous staining in Jurkat cell line. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab256495).



Immunocytochemistry/ Immunofluorescence - Anti-CD47 antibody [EPR23002-67] - BSA and Azide free (ab259273)

Immunocytochemistry analysis of CD47 KO HEK293T (ab266324) cells labelling CD47 with ab256495 at 1:100 (5.62 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% TritonX-100. Cells were counterstained with Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) (ab195889) at 1/200 (2.5µg/ml) dilution. Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed (ab150081) was used as the secondary antibody at 1:1000 (2 ug/ml) dilution. DAPI (blue) was used as nuclear counterstain. Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed (ab150081) was used as the secondary antibody only control. Confocal image showing membranous staining in Parental HEK293 cell line, no staining in CD47 KO HEK293T cell line. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab256495).

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