abcam

ab273588

Anti-CD46 antibody [EPR23242-171] - BSA and Azide free

Recombinant | RabMAb | KO Validated

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	EPR23242-171
Purification technique	Affinity purification Protein A
Concentration	0.948 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-

Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information CD46

Function Acts as a cofactor for complement factor I, a serine protease which protects autologous cells against complement-mediated injury by cleaving C3b and C4b deposited on host tissue. May be involved in the fusion of the spermatozoa with the oocyte during fertilization. Also acts as a costimulatory factor for T-cells which induces the differentiation of CD4+ into T-regulatory 1 cells. T-regulatory 1 cells suppress immune responses by secreting interleukin-10, and therefore are thought to prevent autoimmunity. (Microbial infection) A number of viral and bacterial pathogens seem to bind MCP in order to exploit its immune regulation property and directly induce an immunosuppressive phenotype in T-cells. (Microbial infection) Acts as a receptor for Adenovirus subgroup B2 and Ad3. (Microbial infection) Acts as a receptor for cultured Measles virus. (Microbial infection) Acts as a receptor for Herpesvirus 6/HHV-6. (Microbial infection) May act as a receptor for pathogenic bacteria Neisseria and Streptococcus pyogenes (PubMed:11260136, PubMed:11971006, PubMed:7708671, PubMed:9379894).

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

ab273588 is the carrier-free version of ab273583.

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	CD46 also known as membrane cofactor protein (MCP) is a type I membrane protein with a molecular weight around 50-70 kDa due to glycosylation variability. This protein serves as a regulatory component in the complement system which protects host cells from damage by complement components. CD46 is widely expressed on almost all nucleated human cells. It plays a role in inactivating C3b and C4b components of the complement cascade preventing autologous complement-mediated damage. The gene coding for CD46 is located on chromosome 1q32 a region known for encoding several complement regulatory proteins.
Biological function summary	Beyond its complement regulatory role CD46 acts in immune response modulation and reproduction. It forms a part of a protein complex that involves members such as decay-accelerating factor and complement receptor 1. CD46 also engages in intracellular signaling that affects T cell function and differentiation. In the

	reproductive context it participates in sperm-oocyte fusion and has a role in trophoblast fusion during placental formation.
Pathways	CD46 integrates into various signaling pathways including the complement and T cell receptor signaling pathways. In the complement pathway CD46 interacts with C3b and factor I promoting cleavage and inactivation of C3b leading to pathway regulation. Involvement in the T cell receptor pathway hints that CD46 signaling protects against overactive immune responses by promoting a switch to a regulatory T cell phenotype which can modulate immunity and prevent autoimmunity.
Associated diseases and disorders	CD46 has connections with autoimmune conditions and infectious diseases. For instance alterations in CD46 expression or function can contribute to atypical hemolytic uremic syndrome where dysregulation of the complement pathway occurs. Additionally certain pathogens like Neisseria gonorrhoeae utilize CD46 as a receptor for infection. CD46's interaction with proteins such as C3b connects it directly to complement-related conditions highlighting its importance in maintaining immune system balance.

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

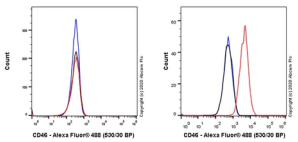
We do not recommend this combination. It is not covered by our product promise.

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



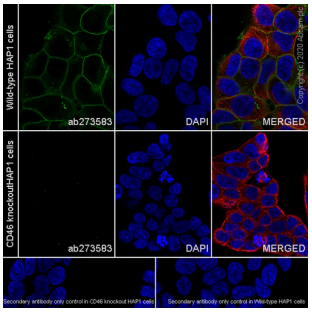
Flow Cytometry - Anti-CD46 antibody [EPR23242-171] - BSA and Azide free (ab273588)

CD46 Flow Cytometry staining using rabbit Anti-CD46 antibody

Flow cytometric analysis of parental HAP1 (Wildtype control Human chronic myelogenous leukemia near-haploid cell line, Right) / CD46 KO HAP1 (Left) cells labelling CD46 with ab273583 at 1/500 dilution (0.1ug) (Red) 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, ab150077) at 1/2000 dilution was used as the secondary antibody.

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 (ab273583).

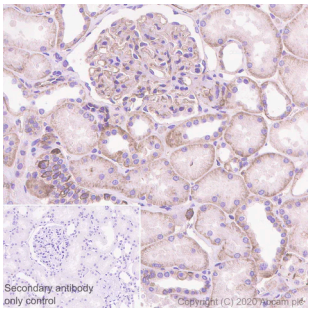


Immunocytochemistry/ Immunofluorescence - Anti-CD46 antibody [EPR23242-171] - BSA and Azide free (ab273588)

CD46 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CD46 antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized CD46 KO HAP1 cells labelling CD46 with ab273583 at 1/250 dilution, followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 dilution (Green). Confocal image showing strong membranous and weak cytoplasmic staining in wild-type HAP1 cells, and no staining in CD46 knockout HAP1 cells. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The Nuclear counterstain was DAPI (Blue).
Secondary antibody only control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab273583).



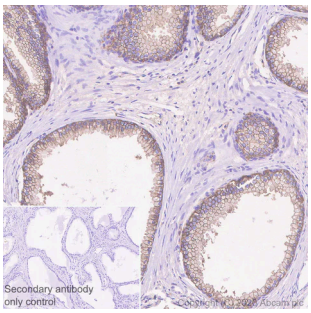
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD46 antibody [EPR23242-171] - BSA and Azide free (ab273588)

CD46 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD46 antibody

Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling CD46 with ab273583 at 1/100 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Membranous and cytoplasmic staining on human kidney (PMID: 30185663). The section was incubated with ab273583 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument.Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab273583).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD46 antibody [EPR23242-171] - BSA and Azide free (ab273588)

CD46 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-CD46 antibody

Immunohistochemical analysis of paraffin-embedded Human prostatic hyperplasia tissue labeling CD46 with ab273583 at 1/100 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Membranous and cytoplasmic staining on human prostatic hyperplasia (PMID: 30185663). The section was incubated with ab273583 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab273583).

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