abcam

ab275208

Alexa Fluor® 647 Anti-CD46 antibody [EPR23242-171]

Recombinant | RabMAb | KO Validated

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	EPR23242-171
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

Flow Cyt

Tested

Species	Human
Dilution info	1/2500
Notes	-

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
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 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

	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

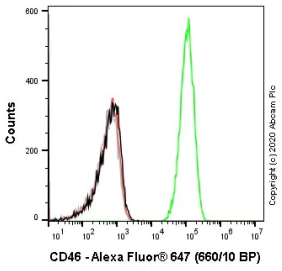
We do not recommend this combination. It is not covered by our product promise.

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.

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1 product image



Flow Cytometry - Alexa Fluor® 647 Anti-CD46 antibody [EPR23242-171] (ab275208)

CD46 Flow Cytometry staining using rabbit Anti-CD46 antibody

Flow cytometry overlay histogram showing wild-type HAP1 (green line) and CD46 knockout HAP1 cells stained with ab275208 (red line). The cells were incubated in 1x PBS containing 10% normal goat serum to block non-specific protein-protein interaction followed by the antibody (ab275208) ($1x10^6$ in 100µL at 0.2µg/mL) for 30 min at 4°C.
Isotype control antibody Rabbit IgG (monoclonal) Alexa Fluor® 647 was used at the same concentration and conditions as the primary antibody (wild-type HAP1 - black line, CD46 knockout HAP1 - grey line). Unlabelled sample was also used as a control (this line is not shown for the purpose of simplicity).

Acquisition of >5000 events were collected using a 40 mW Red laser (638nm) and 660/10 bandpass filter.

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