abcam

ab269296

Alexa Fluor® 700 Anti-CD46 antibody [MEM-258]

Anti-CD46 antibody [MEM-258] conjugated to Alexa Fluor® 700 - suitable for flow cytometry, and reacts with human samples. Clone [MEM-258] is a mouse monoclonal antibody cited in 41 publications.

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Key facts

Isotype	IgG1
Host species	Mouse
Conjugation	Alexa Fluor® 700
Excitation/Emission	Ex: 702nm, Em: 723nm
Storage buffer	pH: 7.4 Preservative: 0.1% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing CD46 protein. The exact immunogen used to generate this antibody is proprietary information. Database link P15529
Clone number	MEM-258
Purification technique	Size-exclusion chromatography
Specificity	ab269296 ecognizes an extracellular epitope on SCR4 (the membrane-proximal SCR) domain of CD46.
Purification notes	The purified antibody is conjugated with Alexa Fluor® 700 under optimum conditions. The conjugate is purified by size-exclusion chromatography.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	4 µL for 10^6 Cells
Notes	Or 100 µL of whole blood.

Predicted

Species	Cow
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	Store in the dark

Notes

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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

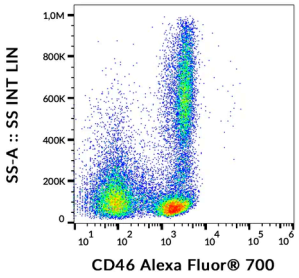
We do not recommend this combination. It is not covered by our product promise.

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1 product image



Flow Cytometry - Alexa Fluor® 700 Anti-CD46 antibody [MEM-258] (ab269296)

CD46 Flow Cytometry staining using mouse Anti-CD46 antibody

Flow cytometry analysis (surface staining) of human peripheral blood cells labeling CD46 with ab269296.

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