abcam

ab1422

Anti-CD55 antibody [MEM-118]

Key facts

Isotype	IgM
Host species	Mouse
Storage buffer	pH: 8 Preservative: 0.097% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Cell preparation containing CD55 protein. The exact immunogen used to generate this antibody is proprietary information. Database link P08174
Clone number	MEM-118
Purification technique	Proprietary technique
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from TCS. Purified by precipitation and chromatography. Purity >95% by SDS-PAGE.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	10 µg/mL
Notes	ab91545 - Mouse monoclonal IgM, is suitable for use as an isotype control with this antibody.

Predicted

Species	Primates
Dilution info	-
Notes	-

Target data

See full target information CD55

Function	This protein recognizes C4b and C3b fragments that condense with cell-surface hydroxyl or amino groups when nascent C4b and C3b are locally generated during C4 and c3 activation. Interaction of daf with cell-associated C4b and C3b polypeptides interferes with their ability to catalyze the conversion of C2 and factor B to enzymatically active C2a and Bb and thereby prevents the formation of C4b2a and C3bBb, the amplification convertases of the complement cascade (PubMed:7525274). Inhibits complement activation by destabilizing and preventing the formation of C3 and C5 convertases, which prevents complement damage (PubMed:28657829). (Microbial infection) Acts as a receptor for Coxsackievirus A21, coxsackieviruses B1, B3 and B5. (Microbial infection) Acts as a receptor for Human enterovirus 70 and D68 (Probable). (Microbial infection) Acts as a receptor for Human echoviruses 6, 7, 11, 12, 20 and 21.

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

Notes

This product was changed from ascites to tissue culture supernatant on 24th Januray 2018. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our

scientific support team.

Supplementary info

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

Activity summary	CD55 also known as Decay-Accelerating Factor (DAF) is a glycoprotein that regulates the complement cascade. This protein typically weighs around 70 kDa. It is expressed in many cells including epithelial and endothelial cells and is often present on the surface of blood cells. CD55 plays an important role in protecting cells against lysis by inhibiting the formation and stability of C3 and C5 convertases which ultimately prevent cell destruction by the complement system.
Biological function summary	CD55 helps maintain immune homeostasis by preventing the complement-mediated damage to host tissues. It functions as a member of the regulators of complement activation (RCA) family. While not necessarily part of a larger protein complex its function is related to other regulatory proteins such as CD46 and CD59 which cooperate to regulate complement activity. The DAF protein's immunology function is instrumental in ensuring that self-cells are not inadvertently attacked by the body's immune system.
Pathways	CD55 significantly impacts the complement pathway which is a central component of the innate immune system. It directly interacts with complement components C3 and C5 accelerating their decay and disassembly. Through this pathway CD55 has a working relationship with other complement regulatory proteins like Factor H which also aids in controlling complement activation on the cell surface.
Associated diseases and disorders	A dysfunctional CD55 can relate to conditions such as paroxysmal nocturnal hemoglobinuria (PNH) and atypical hemolytic uremic syndrome (aHUS). In PNH the absence or insufficiency of CD55 (and CD59) on red blood cells leads to complement-mediated lysis causing hemolytic anemia. In aHUS impaired regulation of the complement system including abnormalities in CD55 function exacerbates symptoms. CD55's role is therefore important in preventing these complement-related disorders and preserving cellular integrity in the human body.

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.

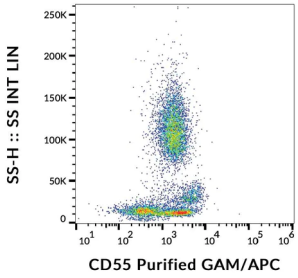
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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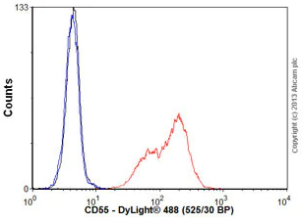
2 product images



Flow Cytometry - Anti-CD55 antibody [MEM-118] (ab1422)

CD55 Flow Cytometry staining of Human peripheral blood cells using mouse Anti-CD55 antibody

Flow cytometry analysis of human peripheral blood cells labelling CD55 with ab1422.



Flow Cytometry - Anti-CD55 antibody [MEM-118] (ab1422)

CD55 Flow Cytometry staining using mouse Anti-CD55 antibody

Human peripheral blood lymphocytes stained with ab1422 (red line). Human whole blood was processed using a modified protocol based on Chow *et al*, 2005 (PMID: 16080188). In brief, human whole blood was fixed in 4% formaldehyde (methanol-free) for 10 min at 22°C. Red blood cells were then lyzed by the addition of Triton X-100 (final concentration - 0.1%) for 15 min at 37°C. For experimentation, cells were treated with 50% methanol (-20°C) for 15 min at 4°C. Cells were then incubated with the antibody (ab1422, 1µg/1x10^6 cells) for 30 min at 4°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgM (mu chain) (ab97007) at 1/500 dilution for 30 min at 4°C. Isotype control antibody (black line) was mouse IgM [ICIGM] (ab91545, 1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >30,000 total events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter. Gating strategy - peripheral blood lymphocytes.

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