abcam

ab79520

Anti-CD59 antibody [p282 (H19)]

Key facts

Isotype	IgG2a
Host species	Mouse
Storage buffer	pH: 7.2 Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Full Length Protein corresponding to Human CD59. The exact immunogen used to generate this antibody is proprietary information. Database link P13987
Clone number	p282 (H19)
Purification technique	Affinity purification Protein A
Light chain type	kappa

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	10 µg/mL
Notes	-

Expected

Species	Baboon
Dilution info	10 µg/mL
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	2 µg for 10^6 Cells
Notes	ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Expected

Species	Baboon
Dilution info	2 µg for 10^6 Cells
Notes	ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Target data

See full target information CD59

Function	Potent inhibitor of the complement membrane attack complex (MAC) action, which protects human cells from damage during complement activation (PubMed:11882685, PubMed:1698710, PubMed:2475111, PubMed:2475570, PubMed:2606909, PubMed:9053451). Acts by binding to the beta-haipins of C8 (C8A and C8B) components of the assembling MAC, forming an intermolecular beta-sheet that prevents incorporation of the multiple copies of C9 required for complete formation of the osmolytic pore (PubMed:11882685, PubMed:1698710, PubMed:36797260). The soluble form from urine retains its specific complement binding activity, but exhibits greatly reduced ability to inhibit complement membrane attack complex (MAC) assembly on cell membranes.

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
Storage information	Avoid freeze / thaw cycle

Supplementary info

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

Activity summary	CD59 also known as protectin is a protein with a molecular mass of approximately 18-25 kDa. It is widely expressed on the surface of many human cells including red blood cells and various types of leukocytes. CD59 serves as an inhibitor of the complement membrane attack complex (MAC) preventing cell lysis caused by terminal complement proteins. Through this mechanism it regulates complement activation and maintains cell integrity by halting the formation of MAC.
Biological function summary	One important feature of CD59 is its role as a glycosylphosphatidylinositol (GPI)-anchored protein involved in safeguarding cells from complement-mediated damage. It does not exist within a larger complex but functions at the cell surface to inhibit the assembly of complement components C5b-9 which form the MAC. This ability to inhibit MAC is essential in maintaining self-tissue from unintended damage during immune responses.
Pathways	CD59 participates in the regulation of the complement cascade specifically within the terminal pathway. The complement system serves as a bridge between innate and adaptive immunity contributing to processes like opsonization and cell lysis. CD59's inhibitory action directly impacts pathways that utilize terminal components such as C5b. Effective CD59 function prevents excessive complement activation ensuring that an immune response does not damage host tissues. It links closely with other complement regulatory proteins like CD55 which also mitigate complement cascade activation.
Associated diseases and disorders	Deficiencies or malfunctions in CD59 have notable implications. Paroxysmal nocturnal hemoglobinuria (PNH) is a disorder where lack of CD59 expression on blood cells leads to their increased destruction due to unregulated complement activity. Furthermore CD59's dysfunction or inadequacy also associates with atypical hemolytic uremic syndrome (aHUS) which involves mutant complement regulatory proteins causing overactivation of the complement system. These associations highlight the importance of CD59 in both maintaining cellular health and preventing pathophysiological conditions related to complement overactivity.

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.

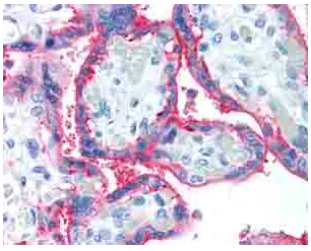
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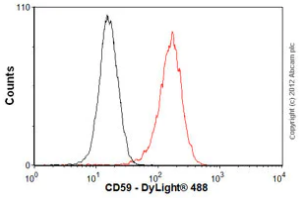
2 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CD59 antibody [p282 (H19)] (ab79520)

CD59 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-CD59 antibody

Paraffin embedded human placenta tissue stained for CD59 using ab79520 at 10 µg/ml in immunohistochemical analysis.



Flow Cytometry - Anti-CD59 antibody [p282 (H19)] (ab79520)

CD59 Flow Cytometry staining using mouse Anti-CD59 antibody

Overlay histogram showing Jurkat cells stained with ab79520 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab79520, 0.5µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2a [ICIGG2A] (ab91361, 1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in Jurkat cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.

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