abcam

ab318140

Anti-CD59 antibody [EPR28954-50]

Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR28954-50
Purification technique	Affinity purification Protein A
Concentration	0.483 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

WB

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

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	Conditional Ambient
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

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.

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.

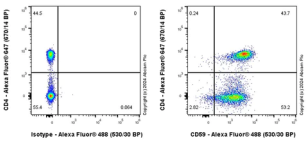
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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5 product images

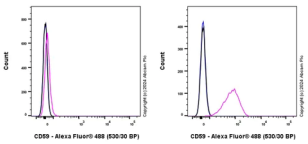


Flow Cytometry - Anti-CD59 antibody [EPR28954-50] (ab318140)

Flow cytometric analysis of Human PBMC (human peripheral blood mononuclear cell) cells labelling CD59 with ab318140 at 1/500 dilution (0.1ug) / Right compared with a Rabbit monoclonal IgG (ab172730) / Left isotype control and an unlabelled control (cells without incubation with primary antibody and secondary antibody) (Blue).

Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) at 1/5000 dilution was used as the secondary antibody.

Cells were co-stained with anti-CD4 conjugated to Alexa Fluor®647.
Gated on viable cells.

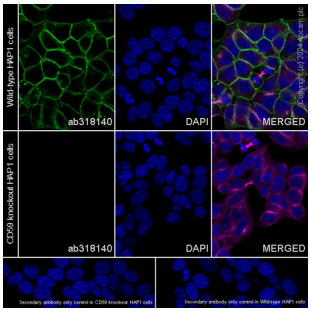


Flow Cytometry - Anti-CD59 antibody [EPR28954-50] (ab318140)

Flow cytometric analysis of Daudi (human Burkitt's lymphoma lymphoblast, Left) / BxPC-3 (human pancreas adenocarcinoma epithelial cell, Right) cells labelling CD59 with ab318140 at 1/500 dilution (0.1 ug)/Magenta 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, ab150081) at 1/5000 dilution was used as the secondary antibody.

Low expression: Daudi(PMID: 2475570)
Gated on viable cell.



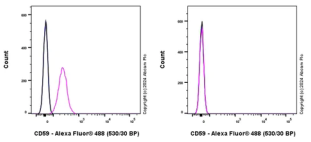
Immunocytochemistry/ Immunofluorescence - Anti-CD59 antibody [EPR28954-50] (ab318140)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized CD59 KO HAP1 (CD59 knockout human chronic myelogenous leukemia near-haploid cell) cells labelling CD59 with ab318140 at 1/100 (4.83 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2ug/ml dilution (Green).

Confocal image showing mainly membranous staining in parental HAP1 cell line and negative staining in CD59 KO HAP1 (shown in green).
The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2ug/ml dilution.

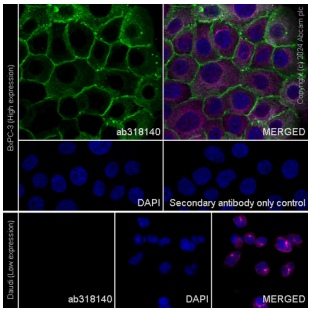


Flow Cytometry - Anti-CD59 antibody [EPR28954-50] (ab318140)

Flow cytometric analysis of Wild-type HAP1(human chronic myelogenous leukemia near-haploid cell, Left) / CD59 knockout HAP1(Right) cells labelling CD59 with ab318140 at 1/500 dilution (0.1 ug)/Magenta 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, ab150081) at 1/5000 dilution was used as the secondary antibody.

Gated on viable cell.



Immunocytochemistry/ Immunofluorescence - Anti-CD59 antibody [EPR28954-50] (ab318140)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized BxPC-3 (human pancreas adenocarcinoma epithelial cell) cells labelling CD59 with ab318140 at 1/100 (4.83 ug/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2ug/ml dilution (Green).

Confocal image showing membranous and weak cytoplasmic staining in BxPC-3 cell line (shown in green).
Low expression: Daudi (PMID:2475570)
The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5ug/ml dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2ug/ml dilution.

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