abcam

ab243560

Anti-CD55 antibody [EPR22362-255] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR22362-255
Purification technique	Affinity purification Protein A
Concentration	0.993 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	-

Notes	-

WB

Not recommended

Species	Human
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
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 conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab243560 is the carrier-free version of ab243231.

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.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

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.

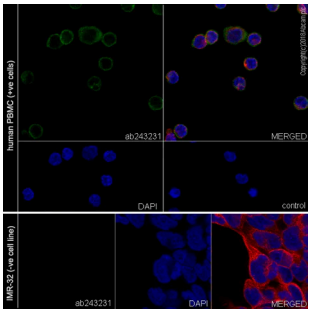
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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3 product images



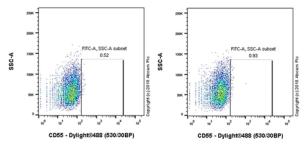
Immunocytochemistry/ Immunofluorescence - Anti-CD55 antibody [EPR22362-255] - BSA and Azide free (ab243560)

CD55 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CD55 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized human peripheral blood mononuclear cells labeling CD55 with ab243231 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing Membranous staining in human PBMC cells. The nuclear counter stain is DAPI (blue). Tubulin is detected with Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) (ab195889) at 1/200 dilution.
Control: Used PBS instead of primary antibody, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.

Negative control: IMR-32 (PMID: 27043658).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab243231).

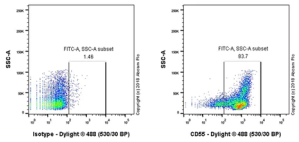


Flow Cytometry - Anti-CD55 antibody [EPR22362-255] - BSA and Azide free (ab243560)

CD55 Flow Cytometry staining using rabbit Anti-CD55 antibody

Flow cytometric analysis of IMR-32 (human neuroblastoma neuroblast cell line) cells labeling CD55 with ab243231 at 1/500 (Right panel) compared with Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (Left panel). Goat anti rabbit IgG (Dylight ® 488), at 1/2000 dilution was used as the secondary antibody. Gated on viable cells.
Negative control: IMR-32 (PMID: 27043658 and 15699172).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab243231).



Flow Cytometry - Anti-CD55 antibody [EPR22362-255] - BSA and Azide free (ab243560)

CD55 Flow Cytometry staining using rabbit Anti-CD55 antibody

Flow cytometric analysis of human peripheral blood mononuclear cells labeling CD55 with ab243231 at 1/500 (Right panel) compared with Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (Left panel). Goat anti rabbit IgG (Dylight ® 488), at 1/2000 dilution was used as the secondary antibody. Gated on viable cells.
Relative levels of CD55 expression on monocytes (SSC high population) and lymphocyte (main population, SSC low) subsets was described in the literature (PMID: 16999828).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab243231).

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