abcam

ab272400

Anti-C5a-R antibody [EPR23278-117] - 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	EPR23278-117
Purification technique	Affinity purification Protein A
Concentration	1.014 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-

Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information C5AR1

Function	Receptor for the chemotactic and inflammatory peptide anaphylatoxin C5a, stimulating chemotaxis, granule enzyme release, intracellular calcium release and superoxide anion production (PubMed:10636859, PubMed:15153520, PubMed:1847994, PubMed:29300009, PubMed:36806352, PubMed:7622471, PubMed:8182049, PubMed:9553099). Ligand binding causes a conformation change that triggers signaling via guanine nucleotide-binding proteins (G proteins) and modulates the activity of downstream effectors, such as adenylate cyclase (PubMed:36806352, PubMed:37852260). C5AR1 is coupled to G(i)/G(o) (GNAI1 or GNAO1) G alpha proteins and mediates inhibition of adenylate cyclase (PubMed:36806352, PubMed:37852260). The ligand interacts with at least two sites on the receptor: a high-affinity site on the extracellular N-terminus, and a second site in the transmembrane region which activates downstream signaling events (PubMed:7622471, PubMed:8182049, PubMed:9553099).

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

ab272400 is the carrier-free version of ab252435.

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	C5a-R also known as CD88 or C5aR1 is a protein found primarily on the surface of immune cells like macrophages and neutrophils. Its mass is approximately 45 kDa. C5a-R functions as a G protein-coupled receptor (GPCR) and binds the complement component C5a a powerful inflammatory peptide. The receptor is expressed in various tissues but primarily in the immune system where it plays a significant role in immune responses and inflammatory processes.
Biological function summary	C5a-R functions as a mediator of inflammation and immune responses. It is a part of the complement system a complex of proteins involved in innate immunity. Upon binding to C5a this receptor initiates a signaling cascade that leads to the recruitment and activation of immune cells at sites of inflammation. It amplifies the inflammatory response leading to cell chemotaxis degranulation and the production of pro-inflammatory cytokines.
Pathways	C5a-R plays an important role in the complement and immune pathways. It interacts closely with the C5 protein which is a core component of the complement pathway. This receptor also connects to other immune system proteins such as the

	C3 and C4 proteins through the cascade. Together these interactions help defend against pathogenic infections and maintain immune homeostasis.
Associated diseases and disorders	C5a-R is associated with conditions like rheumatoid arthritis and sepsis. In rheumatoid arthritis the receptor's activation by C5a contributes to chronic inflammation and joint damage. During sepsis overactivation of C5a-R can lead to excessive inflammation and tissue damage. The receptor's involvement in these diseases is often linked with other proteins in the complement system such as C3a and C4a which also play roles in modulating inflammation and immune responses.

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

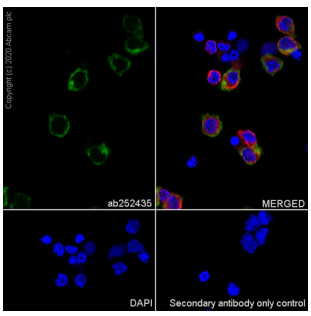
We do not recommend this combination. It is not covered by our product promise.

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.

5 product images



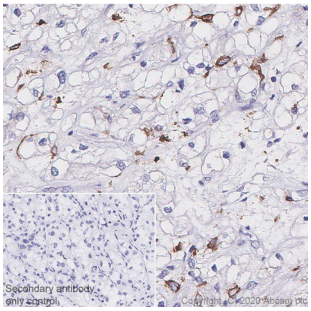
Immunocytochemistry/ Immunofluorescence - Anti-C5a-R antibody [EPR23278-117] - BSA and Azide free (ab272400)

C5a-R Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-C5a-R antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized human PBMCs labelling C5a-R with ab252435 at 1/50 dilution, followed by ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 2 µg/ml dilution (Green). Confocal image showing cytoplamic and membranous staining in subsets of human PBMC. ab195889 Anti-alpha

Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 2.5 µg/ml dilution (Red). The nuclear counterstain was DAPI (Blue). Secondary antibody only control: Secondary antibody is ab150077 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1000 2 µg/ml dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab252435).



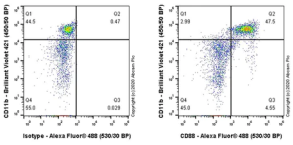
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-C5a-R antibody [EPR23278-117] - BSA and Azide free (ab272400)

C5a-R Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-C5a-R antibody

Immunohistochemical analysis of paraffin-embedded clear cell carcinoma of human kidney tissue labeling C5a-R with ab252435 at 1/2000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Membranous staining on scattered cells in clear cell carcinoma of human kidney is observed. The section was incubated with ab252435 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

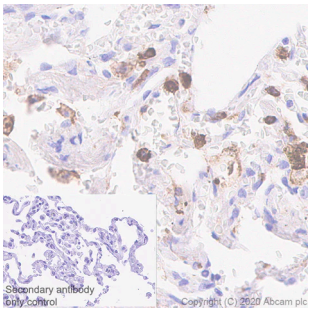
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab252435).



Flow Cytometry - Anti-C5a-R antibody [EPR23278-117] - BSA and Azide free (ab272400)

C5a-R Flow Cytometry staining using rabbit Anti-C5a-R antibody

Flow cytometric analysis of human peripheral blood mononuclear cell (PBMC) cells labelling C5a-R with ab252435 at 1/500 dilution (0.1µg)/ Right panel, compared with a Rabbit monoclonal IgG (ab172730) / Left panel, isotype control. Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody. Cells were stained with rabbit IgG (Left) or ab252435 (Right). Then stained with anti-CD11b conjugated to BV421. Gated on viable cells.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab252435).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-C5a-R antibody [EPR23278-117] - BSA and Azide free (ab272400)

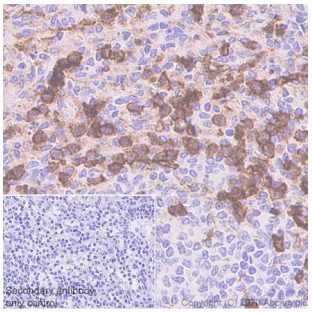
C5a-R Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-C5a-R antibody

Immunohistochemical analysis of paraffin-embedded human lung tissue labeling C5a-R with ab252435 at 1/2000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Cytoplasmic staining on macrophages in human lung (PMID: 10027407) is

observed. The section was incubated with ab252435 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab252435).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-C5a-R antibody [EPR23278-117] - BSA and Azide free (ab272400)

C5a-R Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-C5a-R antibody

Immunohistochemical analysis of paraffin-embedded human spleen tissue labeling C5a-R with ab252435 at 1/2000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Cytoplasmic and membranous staining on mainly neutrophils in human spleen (PMID: 22691190) is observed. The section was incubated with ab252435 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab252435).

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