abcam

ab240245

Anti-C3 antibody [EPR2988] - 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	EPR2988
Purification technique	Affinity purification Protein A
Specificity	Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.
Concentration	0.993 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human

Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab199376 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information C3

Function

Precursor of non-enzymatic components of the classical, alternative, lectin and GZMK complement pathways, which consist in a cascade of proteins that leads to phagocytosis and breakdown of pathogens and signaling that strengthens the adaptive immune system. Complement C3b. Non-enzymatic component of C5 convertase (PubMed:28264884, PubMed:31507604, PubMed:3653927, PubMed:3897448). Generated following cleavage by C3 convertase, it covalently attaches to the surface of pathogens, where it acts as an opsonin that marks the surface of antigens for removal (PubMed:28264884, PubMed:31507604, PubMed:3653927, PubMed:3897448, PubMed:833545, PubMed:8349625). Complement C3b binds covalently via its reactive thioester, to cell surface carbohydrates or immune aggregates (PubMed:6903192). Together with complement C4b, it then recruits the serine protease complement C2b to form the C5 convertase, which cleaves and activate C5, the next component of the complement pathways (PubMed:12878586, PubMed:18204047, PubMed:2387864). In the alternative complement pathway, recruits the serine protease CFB to form the C5 convertase that cleaves and activates C5 (PubMed:624565, PubMed:6554279). C3a anaphylatoxin. Mediator of local inflammatory process released following cleavage by C3 convertase (PubMed:6968751, PubMed:37169960, PubMed:37852260). Acts by binding to its receptor, C3AR1, activating G protein-coupled receptor signaling, promoting the phosphorylation,

ARRB2-mediated internalization and endocytosis of C3AR1 (PubMed:8702752, PubMed:37169960, PubMed:37852260). C3a anaphylatoxin stimulates the activation of immune cells such as mast cells and basophilic leukocytes to release inflammation agents, such as cytokines, chemokines and histamine, which promote inflammation development (PubMed:23383423). Also acts as potent chemoattractant for the migration of macrophages and neutrophils to the inflamed tissues, resulting in neutralization of the inflammatory triggers by multiple ways, such as phagocytosis and generation of reactive oxidants (PubMed:23383423, PubMed:342601, PubMed:5778786). Acylation stimulating protein. Adipogenic hormone that stimulates triglyceride synthesis and glucose transport in adipocytes, regulating fat storage and playing a role in postprandial triglyceride clearance (PubMed:10432298, PubMed:15833747, PubMed:16333141, PubMed:19615750, PubMed:2909530, PubMed:8376604, PubMed:9059512). Appears to stimulate triglyceride synthesis via activation of the PLC, MAPK and AKT signaling pathways (PubMed:16333141). Acts by binding to its receptor, C5AR2, activating G protein-coupled receptor signaling, promoting the phosphorylation, ARRB2-mediated internalization and endocytosis of C5AR2 (PubMed:11773063, PubMed:12540846, PubMed:19615750). In contrast to C3a anaphylatoxin peptide, does not show pro-inflammatory activity (PubMed:37852260). C3-beta-c. Acts as a chemoattractant for neutrophils in chronic inflammation.

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

ab240245 is the carrier-free version of ab181147.

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	Complement component 3 (C3) commonly known as C3 complement is a central protein in the complement system which plays a significant role in immune response. C3b a fragment of C3 is produced when C3 undergoes cleavage. C3 is a large protein with a mass of approximately 185 kDa. The liver primarily secretes C3 into the bloodstream. It circulates in the plasma and is found in high concentration making it one of the most abundant components of the complement system.
Biological function summary	Complement component C3 forms part of the innate immune system by promoting opsonization which enhances phagocytosis of pathogens. C3b binds to pathogens' surfaces facilitating their recognition by phagocytes. C3 as part of a complex with C3 convertase also has a role in amplifying the activation of the complement cascade. The proteolytic cleavage of C3 into C3b and C3a leads to the activation of other components forming the membrane attack complex and orchestrating inflammation.
Pathways	The complement component C3 functions within both the classical and alternative complement pathways. It acts as a convergence point where the complement activation pathways meet. C3 is activated into C3b and C3a which are key to amplifying the cascade. Furthermore C3 interacts with proteins such as factor B and factor D in the alternative pathway and C4 and C2 in the classical pathway facilitating the formation of C3 convertase necessary for pathway progression.
Associated diseases and disorders	Complement C3 shows associations with immune-related and inflammatory diseases. Deficiencies or malfunctions of complement C3 can lead to increased susceptibility to infections due to impaired opsonization and clearance of pathogens. Additionally overactivation of the complement system involving C3 can contribute to autoimmune disorders such as systemic lupus erythematosus. Other proteins linked to these diseases include C4 in lupus and factor H in age-related macular degeneration which controls complement pathway activation.

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.

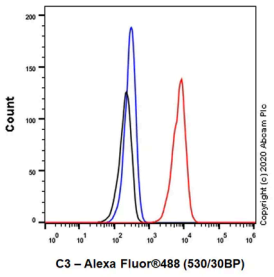
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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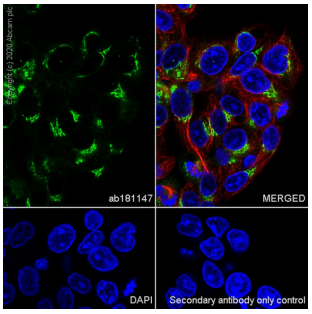
3 product images



Flow Cytometry (Intracellular) - Anti-C3 antibody [EPR2988] - BSA and Azide free (ab240245)

C3 Flow Cytometry (Intracellular) staining using rabbit Anti-C3 antibody

Intracellular Flow Cytometry analysis of HepG2 (Human hepatocellular carcinoma epithelial cell) cells labeling C3 with purified ab181147 at 1/20 dilution (5µg/mL) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181147).

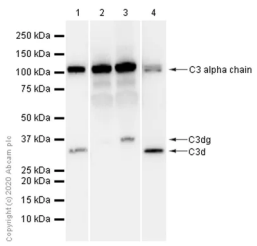


Immunocytochemistry/ Immunofluorescence - Anti-C3 antibody [EPR2988] - BSA and Azide free (ab240245)

C3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-C3 antibody

Immunocytochemistry/ Immunofluorescence analysis of HepG2 (Human hepatocellular carcinoma epithelial cell) cells labeling C3 with purified ab181147 at 1/250 dilution (0.4 µg/mL). Cells were fixed in 100% Methanol and permeabilized with None. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 (2.5 µg/mL). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1/1000 (2 µg/mL) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary

antibody was used as the secondary antibody only control.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181147).



Western blot - Anti-C3 antibody [EPR2988] - BSA and Azide free (ab240245)

The molecular weights observed are consistent with what have been described in the literature (PMID: 23619360).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab181147).

All lanes:
Western blot - Anti-C3 antibody [EPR2988] (ab181147) at 1/1000 dilution

Lane 1:
HepG2 (Human hepatocellular carcinoma epithelial cell) whole cell lysate at 20 µg

Lane 2:
Human plasma lysate at 20 µg

Lane 3:
Human serum lysate at 20 µg

Lane 4:
Human spinal cord lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Predicted band size: 187 kDa

Observed band size: 115 kDa, 34 kDa, 40 kDa

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