abcam

Product datasheet

# Anti-C3 antibody [11H9] ab11862

4 Abreviews 48 References 1 Image

## Overview

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| **Product name** | Anti-C3 antibody [11H9] |
| **Description** | Rat monoclonal [11H9] to C3/C3b |
| **Host species** | Rat |
| **Specificity** | This antibody recognizes both intact C3 and its cleaved products C3b, iC3b, C3d and C3dg. The mature protein C3 has a molecular weight of approximately 190 kDa. The complement factor C3 consists of an alpha- and a beta-chain, linked by disulfide bond. C3 convertase activates C3 by cleaving the alpha chain, releasing C3a anaphylotoxin and generating C3b (alpha chain and beta chain). C3b has a molecular weight of approximately 185 kDa. C3b is rapidly split in two positions by factor I and a cofactor to form iC3b (inactivated C3b) and C3f which is released. iC3b has a molecular weight of approximately 182 kDa. Does not cross react with C4. |
| **Tested applications** | **Suitable for:** ICC/IF |
| **Species reactivity** | **Reacts with:** Mouse |
| **Immunogen** | C57BL/6 thymocytes saturated with rat anti-Thy-1 monoclonal antibody of IgG2b subclass (RmT1). |
| **General notes** | In response to recent customer complaints for IHC-P with paraffin embedded sections we no longer guarantee this application.<br><br>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.<br><br>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As |

## Properties

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| **Form** | Liquid |
| **Storage instructions** | Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles. |
| **Storage buffer** | Preservative: 0.02% Sodium azide<br>Constituents: PBS, 0.1% BSA |
| **Purity** | Protein G purified |

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| **Purification notes** | 0.2 µm filtered |
| **Clonality** | Monoclonal |
| **Clone number** | 11H9 |
| **Isotype** | IgG2a |

## Applications

**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab11862 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

| Application | Abreviews | Notes |
|---|---|---|
| **ICC/IF** | | Use at an assay dependent concentration. |

## Target

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| **Function** | C3 plays a central role in the activation of the complement system. Its processing by C3 convertase is the central reaction in both classical and alternative complement pathways. After activation C3b can bind covalently, via its reactive thioester, to cell surface carbohydrates or immune aggregates.<br>Derived from proteolytic degradation of complement C3, C3a anaphylatoxin is a mediator of local inflammatory process. It induces the contraction of smooth muscle, increases vascular permeability and causes histamine release from mast cells and basophilic leukocytes. |
| **Tissue specificity** | Plasma. |
| **Involvement in disease** | Defects in C3 are the cause of complement component 3 deficiency (C3D) [MIM:120700]. A rare defect of the complement classical pathway. Patients develop recurrent, severe, pyogenic infections because of ineffective opsonization of pathogens. Some patients may also develop autoimmune disorders, such as arthralgia and vasculitic rashes, lupus-like syndrome and membranoproliferative glomerulonephritis.<br>Genetic variation in C3 is associated with susceptibility to age-related macular degeneration type 9 (ARMD9) [MIM:611378]. ARMD is a multifactorial eye disease and the most common cause of irreversible vision loss in the developed world. In most patients, the disease is manifest as ophthalmoscopically visible yellowish accumulations of protein and lipid that lie beneath the retinal pigment epithelium and within an elastin-containing structure known as Bruch membrane.<br>Defects in C3 are a cause of susceptibility to hemolytic uremic syndrome atypical type 5 (AHUS5) [MIM:612925]. An atypical form of hemolytic uremic syndrome. It is a complex genetic disease characterized by microangiopathic hemolytic anemia, thrombocytopenia, renal failure and absence of episodes of enterocolitis and diarrhea. In contrast to typical hemolytic uremic syndrome, atypical forms have a poorer prognosis, with higher death rates and frequent progression to end-stage renal disease. Note=Susceptibility to the development of atypical hemolytic uremic syndrome can be conferred by mutations in various components of or regulatory factors in the complement cascade system. Other genes may play a role in modifying the phenotype. |
| **Sequence similarities** | Contains 1 anaphylatoxin-like domain.<br>Contains 1 NTR domain. |
| **Post-translational modifications** | C3b is rapidly split in two positions by factor I and a cofactor to form iC3b (inactivated C3b) and C3f which is released. Then iC3b is slowly cleaved (possibly by factor I) to form C3c (beta chain + |

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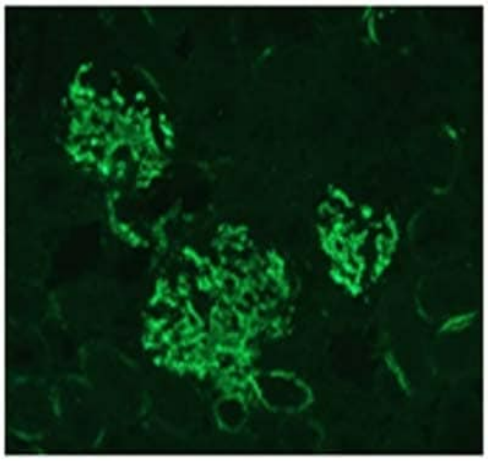
| | alpha' chain fragment 1 + alpha' chain fragment 2), C3dg and C3f. Other proteases produce other fragments such as C3d or C3g.<br>Phosphorylation sites are present in the extracelllular medium. |
| **Cellular localization** | Secreted. |

## Images



Immunocytochemistry/ Immunofluorescence - Anti-C3 antibody [11H9] (ab11862)

ab11862 staining C3 in murine kidney cells by Immunocytochemistry/ Immunofluorescence.
C3 protein fragments deposited on kidney cells of MPL-lpr mouse.
Glomerular staining pattern.



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