

Product datasheet

Anti-C3 antibody [11H9] ab11862

★★★★☆ 3 Abreviews 25 References 2 Images

Overview

Product name	Anti-C3 antibody [11H9]
Description	Rat monoclonal [11H9] to C3
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: ELISA, ICC/IF, WB, Flow Cyt, IHC-Fr, IP
Species reactivity	Reacts with: Mouse Does not react with: Human
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.

Properties

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 Constituents: PBS, 0.1% BSA
Purity	Protein G purified
Purification notes	0.2 µm filtered
Clonality	Monoclonal
Clone number	11H9
Isotype	IgG2a

Applications

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
ELISA		Use a concentration of 0.5 µg/ml. Use as coating antibody at 0.5 ug/well in PBS.
ICC/IF		Use at an assay dependent concentration.
WB	★★★★★	1/50. Predicted molecular weight: 187 kDa.
Flow Cyt		1/50. ab18450 - Rat monoclonal IgG2a, is suitable for use as an isotype control with this antibody.
IHC-Fr		1/50. Fix tissue sections in acetone.
IP		1/50.

Target

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.

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.

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.

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.

Contains 1 NTR domain.

Post-translational modifications

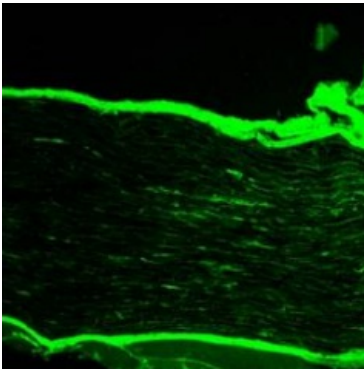
C3b is rapidly split in two positions by factor I and a cofactor to form iC3b (inactivated C3b) and C3f which is released. Then iC3b is slowly cleaved (possibly by factor I) to form C3c (beta chain + alpha' chain fragment 1 + alpha' chain fragment 2), C3dg and C3f. Other proteases produce other fragments such as C3d or C3g.

Phosphorylation sites are present in the extracellular medium.

Cellular localization

Secreted.

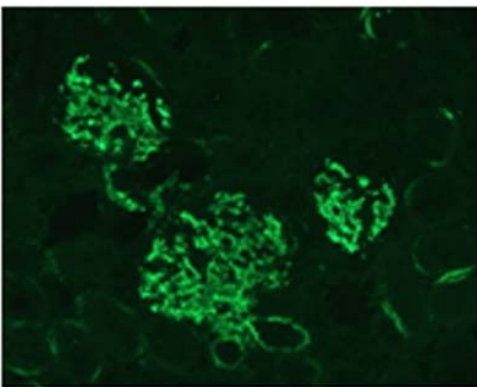
Images



Immunohistochemical analysis of mouse sciatic nerve section, labelling C3 with ab11862. Mice were intracardially perfused with 4% paraformaldehyde/PBS solution. Following dissection, the sciatic nerve section was embedded and cro-sectioned and immunostained with ab11862 at 1/100.

Immunohistochemistry (Frozen sections) - Anti-C3 antibody [11H9] (ab11862)

Image cropped from Chiu et al., Proceedings of the National Academy of Science, 49, 20960-5. Fig. 4c.; DOI: 10.1073/pnas.0911405106



ab11862 staining C3 in murine kidney cells by Immunocytochemistry/ Immunofluorescence.

C3 protein fragments deposited on kidney cells of MPL-Ipr mouse. Glomerular staining pattern.

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

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