abcam

Product datasheet

Anti-C3 antibody ab11887

1 Abreviews 11 References 4 Images

Overview

Product name	Anti-C3 antibody
Description	Rabbit polyclonal to C3
Host species	Rabbit
Specificity	This polyclonal antibody detects a band approximately 120 kDa in Western blot under reducing conditions, corresponding to the C3 alpha chain.
Tested applications	**Suitable for:** IHC-FoFr, IHC-P, IHC-Fr, WB
Species reactivity	**Reacts with:** Mouse, Rat
Immunogen	Unfortunately, this information is considered to be commercially sensitive
Positive control	IHC-P: Mouse kidney tissue. IHC-Fr: Mouse spleen and retina tissue. WB: Fibrotic mouse liver lysate.

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
Clonality	Polyclonal
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab11887** 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
IHC-FoFr		Use at an assay dependent concentration.
IHC-P		Use at an assay dependent concentration.

Application	Abreviews	Notes
IHC-Fr		1/10.
WB	★★★★☆	1/100. Detects a band of approximately 120 kDa under reducing conditions.

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.

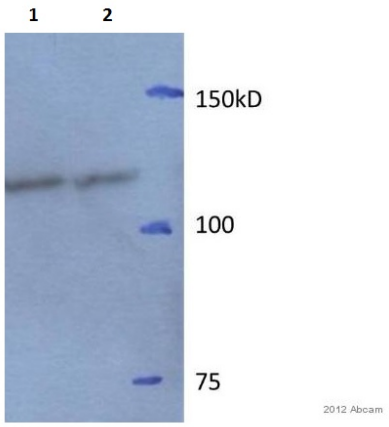
Post-translational modifications

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 extracelllular medium.

Cellular localization

Secreted.

Images



Western blot - Anti-C3 antibody (ab11887)

Image courtesy of an AbReview submitted by Mr Hao Wu

Lane 1 : Anti-C3 antibody (ab11887) at 1/100 dilution

Lane 2 : Anti-C3 antibody (ab11887) at 1000 cells

All lanes : Fibrotic mouse liver lysate

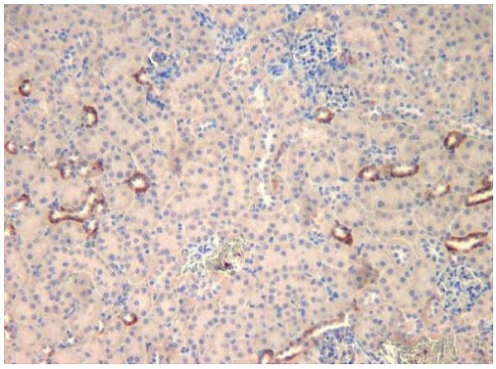
Lysates/proteins at 20 µg per lane.

Secondary

Lane 1 : Goat anti-rabbit IgG at 1/5000 dilution

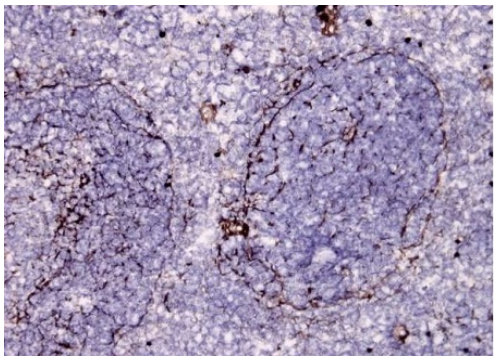
Developed using the ECL technique.

Exposure time: 1 minute



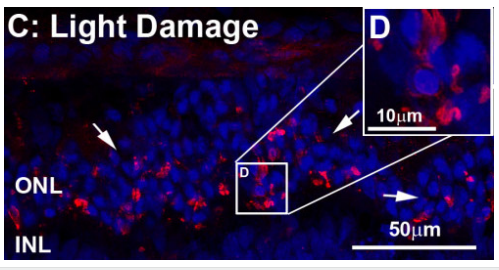
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-C3 antibody (ab11887)

Positive staining of paraffin embedded mouse kidney tissue with ab11887 at 100x dilution.



Immunohistochemistry (Frozen sections) - Anti-C3 antibody (ab11887)

Positive staining of frozen mouse spleen tissue with ab11887 at 20x dilution.



Immunohistochemistry (Frozen sections) - Anti-C3 antibody (ab11887)

Image from Rutar M et al., Journal of Neuroinflammation 2012, 9:257, 26 November 2012. Fig 5.; doi: 10.1186/1742-2094-9-257.

Immunohistochemical analysis of rat retina tissue after bright continuous white light exposure, staining C3 with ab11887.

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