

## Product datasheet

### Anti-C4b antibody [EPR11203-27] ab181241

Recombinant RabMAb

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#### Overview

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product name</b>        | Anti-C4b antibody [EPR11203-27]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Description</b>         | Rabbit monoclonal [EPR11203-27] to C4b                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Host species</b>        | Rabbit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Specificity</b>         | The immunogen used for this product shares 96% homology with C4a. Cross-reactivity with this protein has not been confirmed experimentally.                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Tested applications</b> | <b>Suitable for:</b> WB, IHC-P, ICC/IF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Species reactivity</b>  | <b>Reacts with:</b> Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Immunogen</b>           | Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Positive control</b>    | ICC/IF: HepG2 cells; IHC: Human liver tissue; WB: HepG2 whole cell lysate. Human plasma and serum lysates. Human liver, heart and testis tissue lysates.                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>General notes</b>       | <p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> <li>- High batch-to-batch consistency and reproducibility</li> <li>- Improved sensitivity and specificity</li> <li>- Long-term security of supply</li> <li>- Animal-free production</li> </ul> <p>For more information <a href="#">see here</a>.</p> <p>Our RabMAb<sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to <a href="#">RabMAb<sup>®</sup> patents</a>.</p> |

#### Properties

|                             |                                                                                                                                   |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <b>Form</b>                 | Liquid                                                                                                                            |
| <b>Storage instructions</b> | Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle. |
| <b>Storage buffer</b>       | Preservative: 0.01% Sodium azide<br>Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA                          |
| <b>Purity</b>               | Protein A purified                                                                                                                |
| <b>Clonality</b>            | Monoclonal                                                                                                                        |
| <b>Clone number</b>         | EPR11203-27                                                                                                                       |

Isotype

IgG

## Applications

### The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab181241 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                                                                                                                                                   |
|-------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| WB          |           | 1/10000. Detects a band of approximately 90,190 kDa (predicted molecular weight: 193 kDa).<br>For unpurified use at 1/1000-1/2000 dilution              |
| IHC-P       |           | 1/75. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.<br>For unpurified use at 1/250 |
| ICC/IF      |           | 1/100. <b>For unpurified use at 1/500</b>                                                                                                               |

## Target

### Function

C4 plays a central role in the activation of the classical pathway of the complement system. It is processed by activated C1 which removes from the alpha chain the C4a anaphylatoxin. The remaining alpha chain fragment C4b is the major activation product and is an essential subunit of the C3 convertase (C4b2a) and the C5 convertase (C3bC4b2a) enzymes of the classical complement pathway.

Derived from proteolytic degradation of complement C4, C4a 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.

### Sequence similarities

Contains 1 anaphylatoxin-like domain.  
Contains 1 NTR domain.

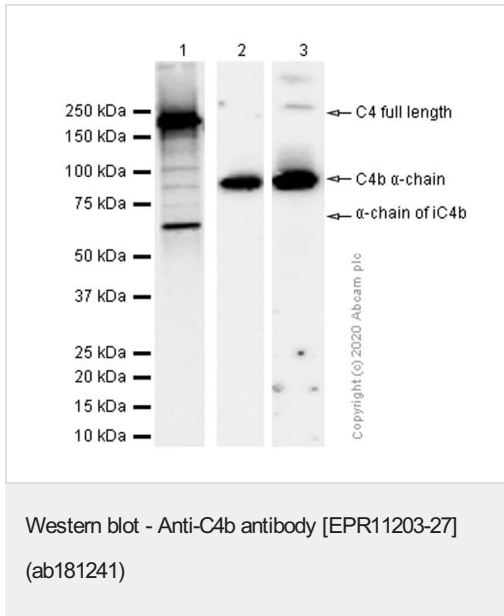
### Post-translational modifications

Prior to secretion, the single-chain precursor is enzymatically cleaved to yield the non-identical chains (alpha, beta and gamma). During activation, the alpha chain is cleaved by C1 into C4a and C4b, and C4b stays linked to the beta and gamma chains. Further degradation of C4b by C1 into the inactive fragments C4c and C4d blocks the generation of C3 convertase.

### Cellular localization

Secreted.

## Images



**All lanes :** Anti-C4b antibody [EPR11203-27] (ab181241) at 1/10000 dilution (purified)

**Lane 1 :** HepG2 (Human hepatocellular carcinoma epithelial cell) whole cell lysate at 15 µg

**Lane 2 :** Human plasma lysate at 15 µg

**Lane 3 :** Human serum lysate at 20 µg

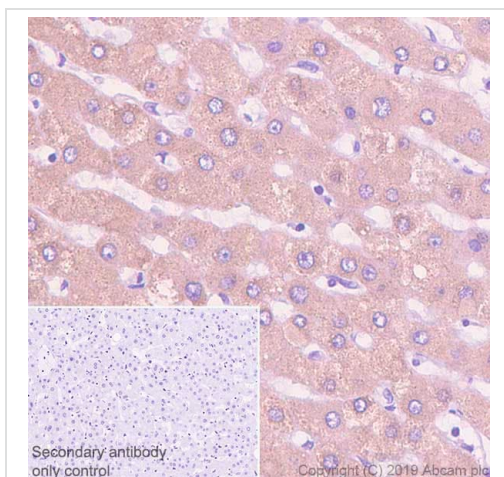
### Secondary

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

**Predicted band size:** 193 kDa

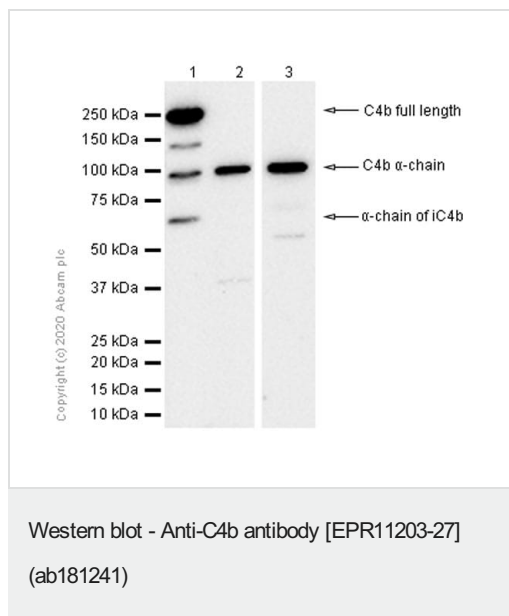
**Observed band size:** 200,70,93 kDa

The molecular weights observed are consistent with what have been described in the literature (PMID: 15632414, 31178241 and 30210498).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human liver tissue sections labeling C4b with purified ab181241 at 1/75 dilution (9.53 µg/mL). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-C4b antibody [EPR11203-27] (ab181241)



**All lanes :** Anti-C4b antibody [EPR11203-27] (ab181241) at 1/10000 dilution (purified)

**Lane 1 :** Human liver lysate

**Lane 2 :** Human heart lysate

**Lane 3 :** Human testis lysate

Lysates/proteins at 20 µg per lane.

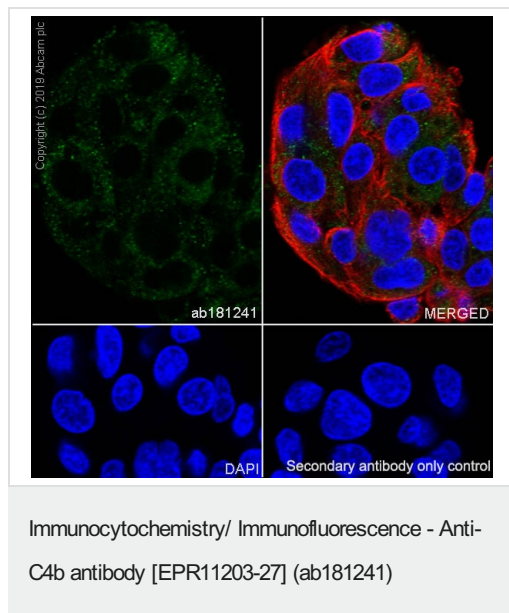
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**All lanes :** Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

**Predicted band size:** 193 kDa

**Observed band size:** 200,70,93 kDa

The molecular weights observed are consistent with what have been described in the literature (PMID: 15632414, 31178241 and 30210498).



Immunocytochemistry/ Immunofluorescence analysis of HepG2 (Human hepatocellular carcinoma epithelial cell) cells labeling C4b with purified ab181241 at 1/100 dilution (10 µg/mL). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% TritonX-100. 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.

### Why choose a recombinant antibody?



**Research with confidence**  
Consistent and reproducible results



**Long-term and scalable supply**  
Recombinant technology



**Success from the first experiment**  
Confirmed specificity



**Ethical standards compliant**  
Animal-free production

Anti-C4b antibody [EPR11203-27] (ab181241)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

### Our Abpromise to you: Quality guaranteed and expert technical support

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