

Product datasheet

Anti-Prothrombin antibody [EPR20159] ab208589

Recombinant RabMAb

1 References 4 Images

Overview

Product name	Anti-Prothrombin antibody [EPR20159]
Description	Rabbit monoclonal [EPR20159] to Prothrombin
Host species	Rabbit
Tested applications	Suitable for: ICC/IF, Flow Cyt, WB
Species reactivity	Reacts with: Human
Immunogen	Recombinant fragment within Human Prothrombin aa 300 to the C-terminus. The exact sequence is proprietary. Database link: P00734
Positive control	WB: Human plasma and fetal liver lysate; HepG2 whole cell lysate. ICC/IF: HepG2 cells. Flow Cyt: HepG2 cells.
General notes	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production <p>For more information see here.</p> <p>Our RabMAb[®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb[®] patents.</p> <p>Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough.</p> <p>Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.</p> <p>We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications & species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise[™] guarantee.</p> <p>In preparation for this, we have started to update the applications & species that this product is Abpromise guaranteed for.</p> <p>We are also updating the applications & species that this product has been "predicted to work with," however this information is not covered by our Abpromise guarantee.</p>

Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.

Please check that this product meets your needs before purchasing. 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, as well as customer reviews and Q&As.

Properties

Form	Liquid
Storage instructions	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.
Storage buffer	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR20159
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab208589** 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		1/100.
Flow Cyt		1/600.
WB		1/1000. Detects a band of approximately 72, 52, 33 kDa (predicted molecular weight: 70 kDa).

Target

Function	Thrombin, which cleaves bonds after Arg and Lys, converts fibrinogen to fibrin and activates factors V, VII, VIII, XIII, and, in complex with thrombomodulin, protein C. Functions in blood homeostasis, inflammation and wound healing.
Tissue specificity	Expressed by the liver and secreted in plasma.
Involvement in disease	Defects in F2 are the cause of factor II deficiency (FA2D) [MIM:613679]. It is a very rare blood coagulation disorder characterized by mucocutaneous bleeding symptoms. The severity of the bleeding manifestations correlates with blood factor II levels. Genetic variations in F2 may be a cause of susceptibility to ischemic stroke (ISCHSTR) [MIM:601367]; also known as cerebrovascular accident or cerebral infarction. A stroke is an acute neurologic event leading to death of neural tissue of the brain and resulting in loss of motor,

sensory and/or cognitive function. Ischemic strokes, resulting from vascular occlusion, is considered to be a highly complex disease consisting of a group of heterogeneous disorders with multiple genetic and environmental risk factors.

Defects in F2 are a cause of susceptibility to thrombosis (THR) [MIM:188050]. It is a multifactorial disorder of hemostasis characterized by abnormal platelet aggregation in response to various agents and recurrent thrombi formation. Note=A common genetic variation in the 3-prime untranslated region of the prothrombin gene is associated with elevated plasma prothrombin levels and an increased risk of venous thrombosis.

Sequence similarities

Belongs to the peptidase S1 family.
Contains 1 Gla (gamma-carboxy-glutamate) domain.
Contains 2 kringle domains.
Contains 1 peptidase S1 domain.

Post-translational modifications

The gamma-carboxyglutamyl residues, which bind calcium ions, result from the carboxylation of glutamyl residues by a microsomal enzyme, the vitamin K-dependent carboxylase. The modified residues are necessary for the calcium-dependent interaction with a negatively charged phospholipid surface, which is essential for the conversion of prothrombin to thrombin.

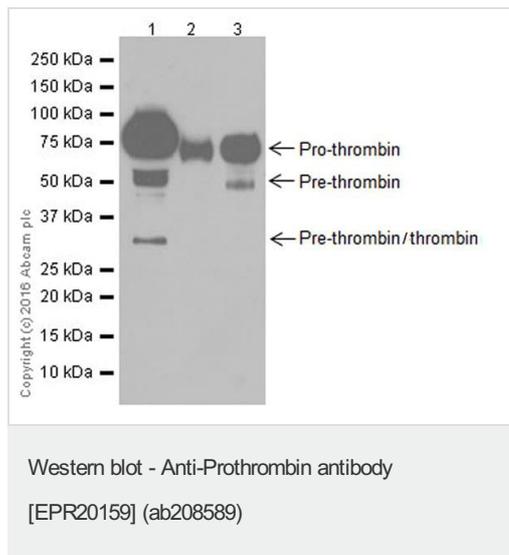
Cellular localization

Secreted > extracellular space.

Form

Cleaved into the following 4 chains: 1. Activation peptide fragment 1 2. Activation peptide fragment 2 3. Thrombin light chain 4. Thrombin heavy chain

Images



All lanes : Anti-Prothrombin antibody [EPR20159] (ab208589) at 1/1000 dilution

Lane 1 : Human plasma at 20 µg

Lane 2 : Human fetal liver lysate at 20 µg

Lane 3 : HepG2 (Human liver hepatocellular carcinoma cell line) whole cell lysate at 10 µg

Secondary

All lanes : VeriBlot for IP Detection Reagent (HRP) (ab131366) at 1/4000 dilution

Predicted band size: 70 kDa

Observed band size: 33,52,72 kDa

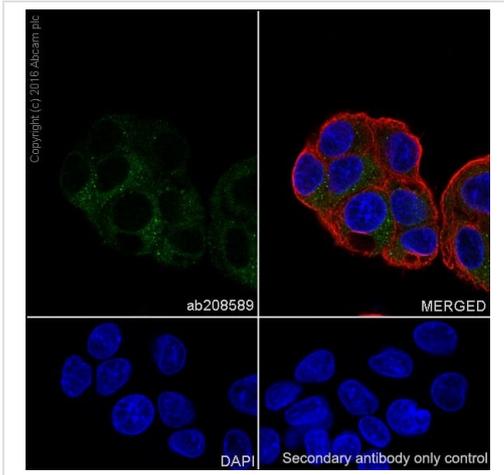
[why is the actual band size different from the predicted?](#)

Exposure time: 3 minutes

Blocking/Dilution buffer: 5% NFDm/TBST.

Prothrombin is proteolytically cleaved into different fragments. The fragments profile is consistent with what has been described in the

literature (PMID: 17637839; PMID: 21131592; PMID: 16734589).



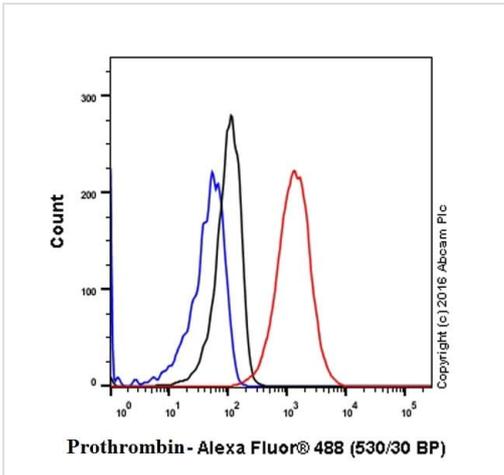
Immunocytochemistry/ Immunofluorescence - Anti-Prothrombin antibody [EPR20159] (ab208589)

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HepG2 (Human liver hepatocellular carcinoma cell line) cells labeling Prothrombin with ab208589 at 1/100 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green).

Confocal image showing cytoplasmic staining on HepG2 cell line.

The nuclear counter stain is DAPI (blue). Tubulin is detected with ab195889 (Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594)) at 1/200 dilution (red).

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) at 1/1000 dilution.



Flow Cytometry - Anti-Prothrombin antibody [EPR20159] (ab208589)

Flow cytometric analysis of 4% paraformaldehyde-fixed HepG2 (Human liver hepatocellular carcinoma cell line) cells labeling Prothrombin with ab208589 at 1/600 dilution (red) compared with a rabbit monoclonal IgG isotype control (ab172730; black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (Alexa Fluor® 488) at 1/2000 dilution was used as the secondary antibody.

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-Prothrombin antibody [EPR20159] (ab208589)

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

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