

## Product datasheet

# Anti-alpha 1 Antitrypsin antibody [EPR17087-50] ab207303

Recombinant RabMAb

★★★★☆ 2 Abreviews 2 References 7 Images

### Overview

<b>Product name</b>	Anti-alpha 1 Antitrypsin antibody [EPR17087-50]
<b>Description</b>	Rabbit monoclonal [EPR17087-50] to alpha 1 Antitrypsin
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> IHC-P, WB, IP, ICC/IF
<b>Species reactivity</b>	<b>Reacts with:</b> Human
<b>Immunogen</b>	Full length native protein (purified) corresponding to Human alpha 1 Antitrypsin. Database link: <a href="#">P01009</a>
<b>Positive control</b>	WB: Human liver, heart, kidney, spleen and fetal liver lysates. IHC-P: Human hepatocellular carcinoma and liver tissues. ICC/IF: HepG2 and K562 cells. IP: HepG2 whole cell lysate.
<b>General notes</b>	

Our RabMAb<sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to [RabMab<sup>®</sup> patents](#).

This product is a [recombinant rabbit monoclonal antibody](#).

### 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 Constituents: PBS, 0.05% BSA, 40% Glycerol
<b>Purity</b>	Protein A purified
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	EPR17087-50
<b>Isotype</b>	IgG

## Applications

Our [Abpromise guarantee](#) covers the use of **ab207303** 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-P	★★★★☆	1/400. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
WB		1/5000. Detects a band of approximately 51, 55 kDa (predicted molecular weight: 46 kDa).
IP		1/20.
ICC/IF		1/50.

## Target

### Function

Inhibitor of serine proteases. Its primary target is elastase, but it also has a moderate affinity for plasmin and thrombin. Irreversibly inhibits trypsin, chymotrypsin and plasminogen activator. The aberrant form inhibits insulin-induced NO synthesis in platelets, decreases coagulation time and has proteolytic activity against insulin and plasmin.

Short peptide from AAT: reversible chymotrypsin inhibitor. It also inhibits elastase, but not trypsin. Its major physiological function is the protection of the lower respiratory tract against proteolytic destruction by human leukocyte elastase (HLE).

### Tissue specificity

Ubiquitous. Expressed in leukocytes and plasma.

### Involvement in disease

Alpha-1-antitrypsin deficiency

### Sequence similarities

Belongs to the serpin family.

### Domain

The reactive center loop (RCL) extends out from the body of the protein and directs binding to the target protease. The protease cleaves the serpin at the reactive site within the RCL, establishing a covalent linkage between the carboxyl group of the serpin reactive site and the serine hydroxyl of the protease. The resulting inactive serpin-protease complex is highly stable.

### Post-translational modifications

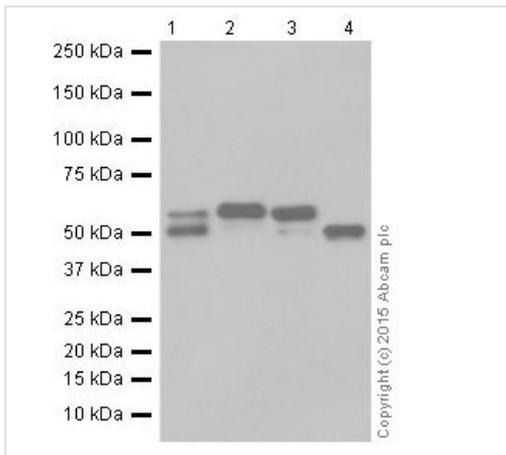
N-glycosylated. Differential glycosylation produces a number of isoforms. N-linked glycan at Asn-107 is alternatively di-antennary, tri-antennary or tetra-antennary. The glycan at Asn-70 is di-antennary with trace amounts of tri-antennary. Glycan at Asn-271 is exclusively di-antennary. Structure of glycans at Asn-70 and Asn-271 is Hex5HexNAc4. The structure of the antennae is Neu5Ac(alpha1-6)Gal(beta1-4)GlcNAc attached to the core structure Man(alpha1-6)[Man(alpha1-3)]Man(beta1-4)GlcNAc(beta1-4)GlcNAc. Some antennae are fucosylated, which forms a Lewis-X determinant.

Proteolytic processing may yield the truncated form that ranges from Asp-30 to Lys-418.

### Cellular localization

Secreted. Endoplasmic reticulum. The S and Z allele are not secreted effectively and accumulate intracellularly in the endoplasmic reticulum and Secreted, extracellular space, extracellular matrix.

## Images



Western blot - Anti-alpha 1 Antitrypsin antibody [EPR17087-50] (ab207303)

**All lanes** : Anti-alpha 1 Antitrypsin antibody [EPR17087-50] (ab207303) at 1/5000 dilution

**Lane 1** : Human liver lysate

**Lane 2** : Human heart lysate

**Lane 3** : Human kidney lysate

**Lane 4** : Human spleen lysate

Lysates/proteins at 20 µg per lane.

### Secondary

**All lanes** : Goat Anti-Rabbit IgG Peroxidase Conjugate, specific to the non-reduced form of IgG at 1/10000 dilution

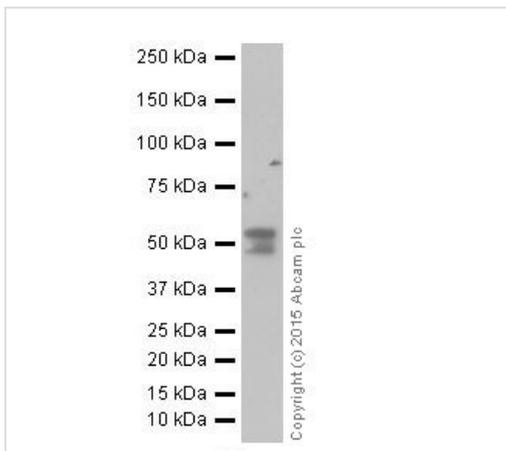
**Predicted band size:** 46 kDa

**Observed band size:** 51,55 kDa

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

**Exposure time:** 1 minute

Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot - Anti-alpha 1 Antitrypsin antibody [EPR17087-50] (ab207303)

Anti-alpha 1 Antitrypsin antibody [EPR17087-50] (ab207303) at 1/5000 dilution + Human fetal liver lysate at 10 µg

### Secondary

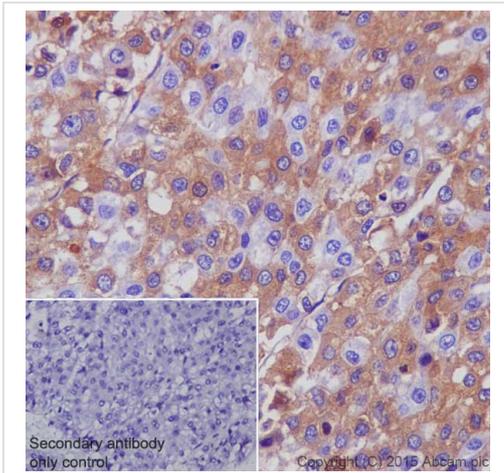
Goat Anti-Rabbit IgG Peroxidase Conjugate, specific to the non-reduced form of IgG. at 1/10000 dilution

**Predicted band size:** 46 kDa

**Observed band size:** 51,55 kDa [why is the actual band size different from the predicted?](#)

**Exposure time:** 1 minute

Blocking/Dilution buffer: 5% NFDM/TBST.

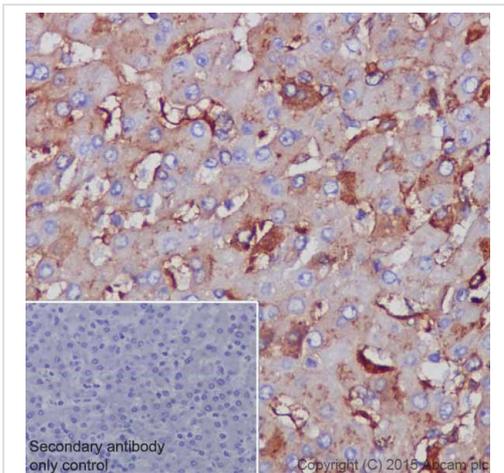


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-alpha 1 Antitrypsin antibody [EPR17087-50] (ab207303)

Immunohistochemical analysis of paraffin-embedded human hepatocellular carcinoma tissue labeling alpha 1 Antitrypsin with ab207303 at 1/400 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution. Cytoplasmic staining on cancer cells of human hepatocellular carcinoma is observed. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

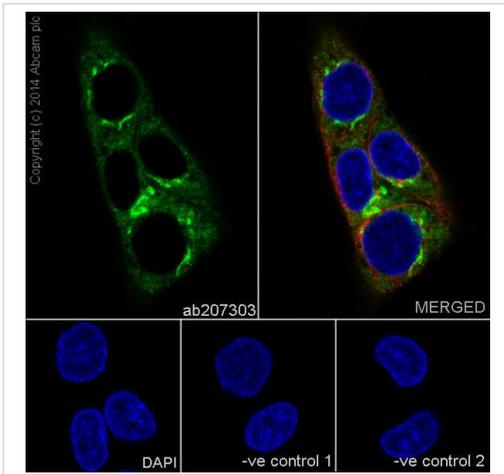


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-alpha 1 Antitrypsin antibody [EPR17087-50] (ab207303)

Immunohistochemical analysis of paraffin-embedded human liver tissue labeling alpha 1 Antitrypsin with ab207303 at 1/400 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution. Cytoplasmic staining on human liver is observed. Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



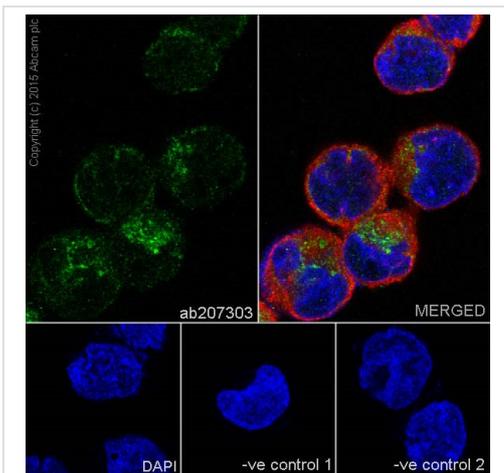
Immunocytochemistry/ Immunofluorescence - Anti-alpha 1 Antitrypsin antibody [EPR17087-50] (ab207303)

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HepG2 (Human liver hepatocellular carcinoma) cells labeling alpha 1 Antitrypsin with ab207303 at 1/50 dilution, followed by Goat Anti-Rabbit IgG H&L (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 Anti-alpha Tubulin mouse mAb (ab7291) at 1/1000 dilution, followed by Goat Anti-Mouse Alexa Fluor® 594 (ab150120) secondary antibody at 1/1000 dilution (red).

The negative controls are as follows:

-ve control 1: ab207303 at 1/50 dilution, followed by Goat Anti-Mouse Alexa Fluor® 594 (ab150120) secondary antibody at 1/1000 dilution.

-ve control 2: Anti-alpha Tubulin mouse mAb (ab7291) at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-alpha 1 Antitrypsin antibody [EPR17087-50] (ab207303)

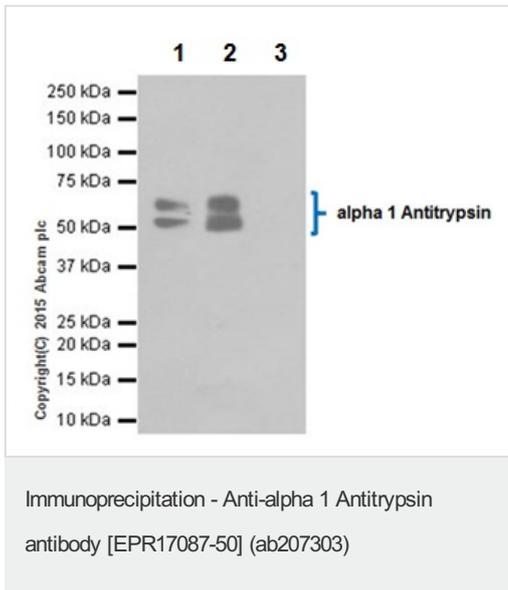
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized K562 (Human chronic myelogenous leukemia cells from bone marrow) cells labeling alpha 1 Antitrypsin with ab207303 at 1/50 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic staining on K562 cell line. The nuclear counter stain is DAPI (blue).

Tubulin is detected with Anti-alpha Tubulin mouse mAb (ab7291) at 1/1000 dilution, followed by Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary at 1/1000 dilution (red).

The negative controls are as follows:

-ve control 1: ab207303 at 1/50 dilution followed by Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) (ab150120) secondary at 1/1000 dilution.

-ve control 2: Anti-alpha Tubulin mouse mAb (ab7291) at 1/1000 dilution followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) at 1/1000 dilution.



alpha 1 Antitrypsin was immunoprecipitated from 1mg of HepG2 (Human liver hepatocellular carcinoma) whole cell lysate with ab207303 at 1/20 dilution. Western blot was performed from the immunoprecipitate using ab207303 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/10000 dilution.

Lane 1: HepG2 whole cell lysate 10ug (Input).

Lane 2: ab207303 IP in HepG2 whole cell lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab207303 in HepG2 whole cell lysate.

Blocking and dilution buffer and concentration: 5% NFDm/TBST.

Exposure time: 3 seconds.

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

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