


Product datasheet

Anti-alpha 1 Antitrypsin antibody [EPR9090] ab166610

Recombinant RabMAb

★★★★★ [1 Abreviews](#) [3 References](#) [3 Images](#)

Overview

Product name	Anti-alpha 1 Antitrypsin antibody [EPR9090]
Description	Rabbit monoclonal [EPR9090] to alpha 1 Antitrypsin
Host species	Rabbit
Tested applications	Suitable for: WB, ICC/IF Unsuitable for: IHC-P or IP
Species reactivity	Reacts with: Human Predicted to work with: Mouse, Rat 
Immunogen	Recombinant fragment corresponding to Human alpha 1 Antitrypsin.
Positive control	WB: Human serum and fetal liver lysates. ICC/IF: 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>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.5% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR9090
Isotype	IgG

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab166610 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)	1/1000 - 1/10000. Detects a band of approximately 52 kDa (predicted molecular weight: 46 kDa).
ICC/IF		1/100.

Application notes

Is unsuitable for IHC-P or IP.

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.

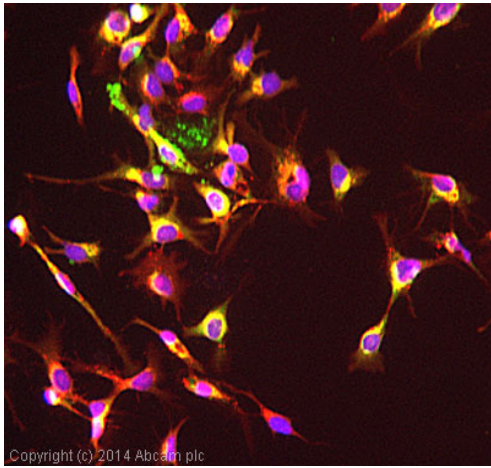
Post-translational modifications

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

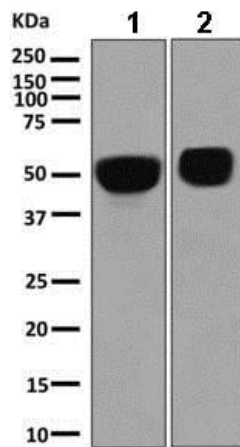
Secreted. Endoplasmic reticulum. The S and Z allele are not secreted effectively and accumulate intracellularly in the endoplasmic reticulum and Secreted, extracellular space, extracellular matrix.

Images



Immunocytochemistry/ Immunofluorescence - Anti-alpha 1 Antitrypsin antibody [EPR9090] (ab166610)

ab166610 stained HepG2 cells. The cells were 100% methanol fixed for 5 minutes at -20°C and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1hour at room temperature to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab166610 at 1/100 dilution) overnight at +4°C. The secondary antibody (pseudo-colored green) was Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed (**ab150081**) used at a 1/1000 dilution for 1hour at room temperature. Alexa Fluor® 594 WGA was used to label plasma membranes (pseudo-colored red) at a 1/200 dilution for 1hour at room temperature. DAPI was used to stain the cell nuclei (pseudo-colored blue) at a concentration of 1.43µM for 1hour at room temperature.



Western blot - Anti-alpha 1 Antitrypsin antibody [EPR9090] (ab166610)

All lanes : Anti-alpha 1 Antitrypsin antibody [EPR9090] (ab166610) at 1/1000 dilution

Lane 1 : Human serum lysate

Lane 2 : Fetal liver lysate

Lysates/proteins at 10 µg per lane.

Secondary

All lanes : HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 46 kDa

Observed band size: 52 kDa

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-alpha 1 Antitrypsin antibody [EPR9090]
(ab166610)

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

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