

Product datasheet

Anti-alpha 1 Antitrypsin antibody ab231093

1 References 7 Images

Overview

Product name	Anti-alpha 1 Antitrypsin antibody
Description	Rabbit polyclonal to alpha 1 Antitrypsin
Host species	Rabbit
Tested applications	Suitable for: IHC-P, WB
Species reactivity	Reacts with: Mouse
Immunogen	<p>Recombinant full length protein (His-tag) corresponding to Mouse alpha 1 Antitrypsin aa 25-413. Expressed in E.coli.</p> <p>Sequence:</p> <p>MGHHHHHSGSEFEDVQETDTSQKDQSPASHEIATNLGD FAISLYRELVH QSNTSNIFFSPVSIATAFAMLSLGSKGDTHQTILEGLQFNLT QTSEADIH KSFQHLLQTLNRPDSELQLSTGNGLFVNNDLKLVEKFLEE AKNHYQAEVF SVNFAESEEEAKKVINDFVEKGTQGKIAEAVKKLDQDTVFA LANYILFKGK WKKPFDPEENTEEAEFHVDESTTVKVPMMTLGMLHVHH CSTLSSWLLMD YAGNATAVFLLPDDGKMQHLEQTLSEKELISKFLLNRRRRL AQIHFPRLSI SGEYNLKTLMSPGLITRIFNNGADLSGITEENAPLKLKSAVH KAVLTIDE TGTEAAAVTVLQMVPMSMPPILRFDHPFLFIIFEEHTQSPIF LGKVVDPT HK</p>

Database link: [P07758](#)

 [Run BLAST with](#)

 [Run BLAST with](#)

Positive control IHC-P: Mouse liver tissue. WB: Mouse heart, liver, kidney and testis lysates; Recombinant mouse alpha 1 Antitrypsin protein.

General notes Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough.

Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.

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.

In preparation for this, we have started to update the applications & species that this product is Abpromise guaranteed for.

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.

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: 7.40 Preservative: 0.02% Sodium azide Constituents: PBS, 50% Glycerol
Purity	Immunogen affinity purified
Purification notes	ab231093 was purified by antigen-specific affinity chromatography followed by Protein A affinity chromatography.
Clonality	Polyclonal
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab231093** 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		Use a concentration of 5 - 20 µg/ml.
WB		Use a concentration of 0.2 - 2 µg/ml. Predicted molecular weight: 46 kDa.

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

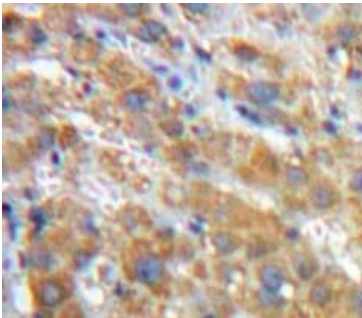
N-glycosylated. Differential glycosylation produces a number of isoforms. N-linked glycan at Asn-107 is alternatively di-antennary, tri-antennary or tetra-antennary. The glycan at Asn-70 is di-antennary with trace amounts of tri-antennary. Glycan at Asn-271 is exclusively di-antennary. Structure of glycans 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

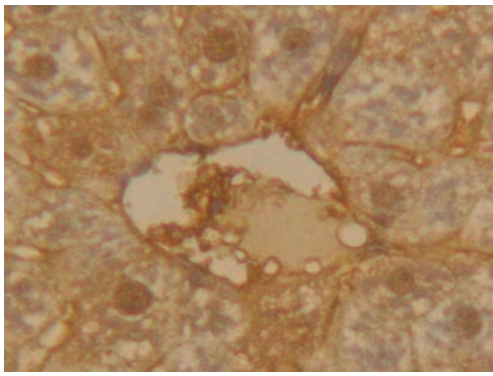
Secreted. Endoplasmic reticulum. The S and Z allele are not secreted effectively and accumulate intracellularly in the endoplasmic reticulum and Secreted, extracellular space, extracellular matrix.

Images



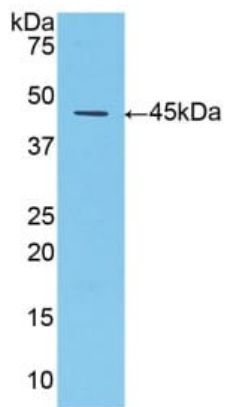
Formalin-fixed, paraffin-embedded mouse liver tissue stained for alpha 1 Antitrypsin using ab231093 at 20 µg/ml in immunohistochemical analysis. DAB staining.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-alpha 1 Antitrypsin antibody (ab231093)



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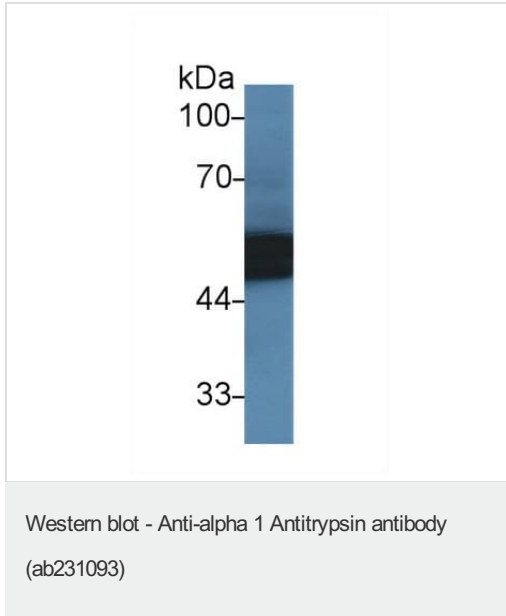
Paraffin-embedded mouse liver tissue stained for alpha 1 Antitrypsin using ab231093 at 20 µg/ml in immunohistochemical analysis. DAB staining.



Western blot - Anti-alpha 1 Antitrypsin antibody (ab231093)

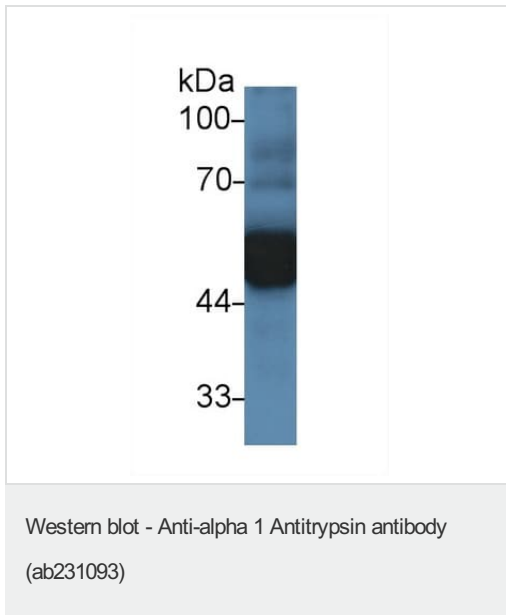
Anti-alpha 1 Antitrypsin antibody (ab231093) at 2 µg/ml + Recombinant mouse alpha 1 Antitrypsin protein

Predicted band size: 46 kDa



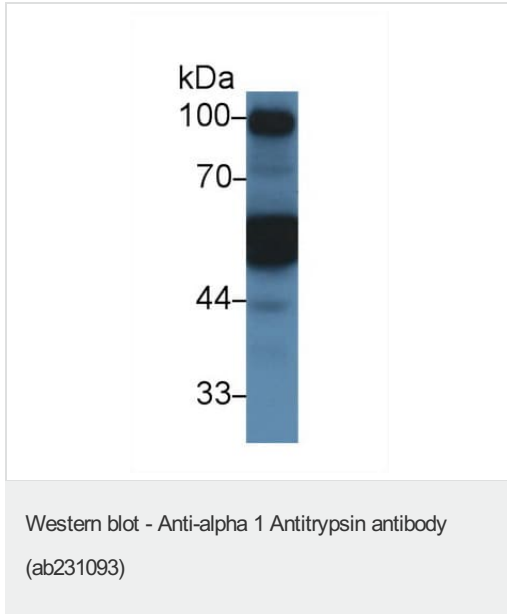
Anti-alpha 1 Antitrypsin antibody (ab231093) at 2 μ g/ml + Mouse heart lysate

Predicted band size: 46 kDa



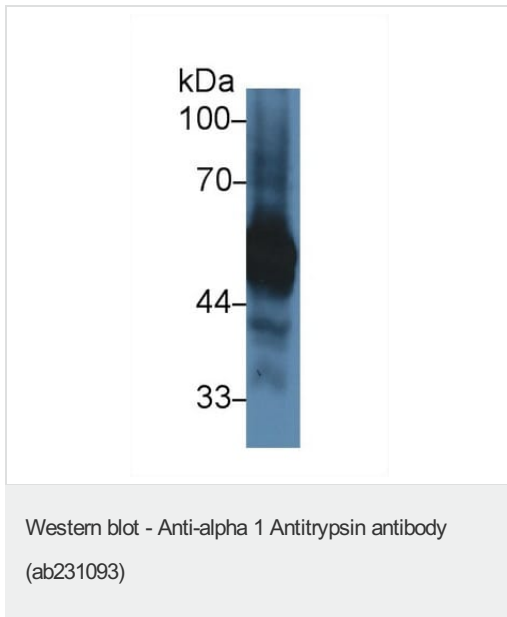
Anti-alpha 1 Antitrypsin antibody (ab231093) at 2 μ g/ml + Mouse liver lysate

Predicted band size: 46 kDa



Anti-alpha 1 Antitrypsin antibody (ab231093) at 2 μ g/ml + Mouse kidney lysate

Predicted band size: 46 kDa



Anti-alpha 1 Antitrypsin antibody (ab231093) at 2 μ g/ml + Mouse testis lysate

Predicted band size: 46 kDa

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