

Product datasheet

Anti-alpha 1 Antitrypsin antibody [AAT/1378] - BSA and Azide free ab218933

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Overview

Product name	Anti-alpha 1 Antitrypsin antibody [AAT/1378] - BSA and Azide free
Description	Mouse monoclonal [AAT/1378] to alpha 1 Antitrypsin - BSA and Azide free
Host species	Mouse
Tested applications	Suitable for: WB, IHC-P
Species reactivity	Reacts with: Human
Immunogen	Recombinant fragment within Human alpha 1 Antitrypsin. The exact sequence is proprietary. Database link: P01009
Positive control	Jurkat and A549 cell line lysates; Human tonsil tissue
General notes	<p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>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, along with publications, customer reviews and Q&As</p>

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 Constituent: 100% PBS
Carrier free	Yes
Purity	Protein G purified
Clonality	Monoclonal
Clone number	AAT/1378
Isotype	IgG1

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab218933 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		Use a concentration of 0.5 - 1 µg/ml. Predicted molecular weight: 46 kDa.
IHC-P		Use a concentration of 0.5 - 1 µg/ml. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

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

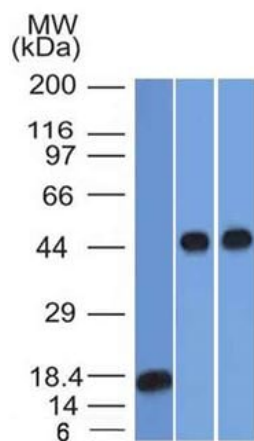
N-glycosylated. Differential glycosylation produces a number of isoforms. N-linked glycan at Asn-107 is alternatively di-antennary, tri-antennary or tetra-antennary. The glycan at Asn-70 is di-antennary with trace amounts of tri-antennary. Glycan at Asn-271 is exclusively di-antennary. Structure of glycans 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 [AAT/1378] - BSA and Azide free (ab218933)

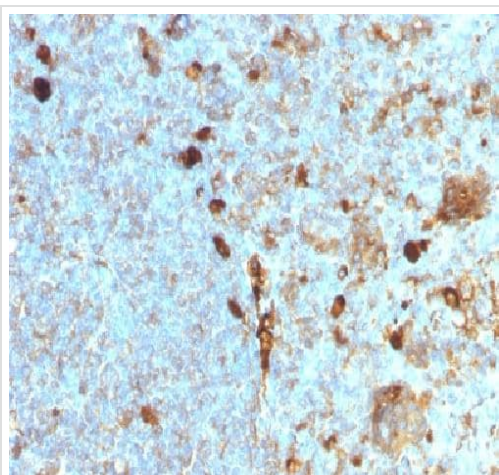
All lanes : Anti-alpha 1 Antitrypsin antibody [AAT/1378] - BSA and Azide free (ab218933) at 1 µg/ml

Lane 1 : Recombinant Human alpha-1-Antitrypsin Protein Fragment

Lane 2 : Jurkat Cell Line Lysate

Lane 3 : A549 Cell Line Lysate

Predicted band size: 46 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-alpha 1 Antitrypsin antibody [AAT/1378] - BSA and Azide free (ab218933)

Immunohistochemical analysis of formalin fixed, paraffin embedded Human tonsil tissue labeling alpha 1 Antitrypsin with ab218933 at 1 µg/mL.

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

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