abcam

Product datasheet

Native human alpha 1 Antitrypsin protein (Active) ab91136

2 References 2 Images

Description

Product name	Native human alpha 1 Antitrypsin protein (Active)
Biological activity	When tested with active-site titrated porcine pancreatic trypsin using Na-Benzoyl-L-Arginine-para-Nitroanilide Hydrochloride (L-BAPNA) as substrate, it is 75-100% inhibitory.
Purity	> 95 % SDS-PAGE.
Expression system	Native
Accession	P01009
Protein length	Full length protein
Animal free	No
Nature	Native
Species	Human
Predicted molecular weight	52 kDa

Specifications

Our **Abpromise guarantee** covers the use of **ab91136** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	Western blot Functional Studies SDS-PAGE
Form	Lyophilized
Additional notes	Protein Determination: Extinction Coefficient (E) 0.1% at 280nm, 1cm pathway = 0.433 Prepared from plasma shown to be non reactive for HBsAg, anti-HCV, anti-HBc, and negative for anti-HIV 1 & 2 by FDA approved tests.

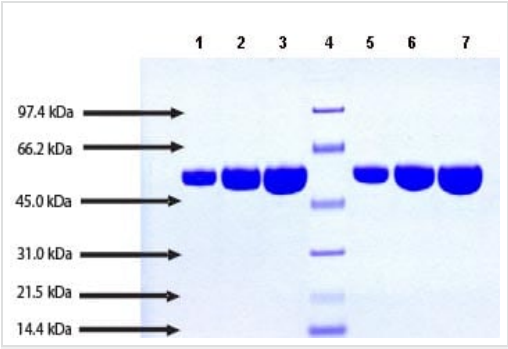
Preparation and Storage

Stability and Storage	Shipped at 4°C. Store at -80°C. pH: 6.50 Constituents: 0.492% Sodium phosphate, 1.74% Sodium chloride This product is an active protein and may elicit a biological response in vivo, handle with caution.
Reconstitution	Reconstitute with distilled water. Once reconstituted, ab91136 is stable for one week at 4°C.

General Info

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



SDS-PAGE - Native human alpha 1 Antitrypsin protein (ab91136)

SDS-PAGE: 4-12% Bis-Tris NuPAGE gel

Lane 1. 5 µg ab91136 (reduced/heated)
Lane 2. 10 µg ab91136 (reduced/heated)
Lane 3. 20 µg ab91136 (reduced/heated)
Lane 4. Molecular weight markers
Lane 5. 5 µg ab91136 (non-reduced/no heat)
Lane 6. 10 µg ab91136 (non-reduced/no heat)
Lane 7. 20 µg ab91136 (non-reduced/no heat)

Western blot - Native human alpha 1 Antitrypsin protein (ab91136)

Anti-alpha 1 Antitrypsin antibody [B9] (**ab9399**) at 1 µg/ml + Native human alpha 1 Antitrypsin protein (Active) (ab91136) at 0.1 µg

Secondary
Goat Anti-Mouse IgG H&L (HRP) preadsorbed (**ab97040**) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Exposure time: 30 seconds

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

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