

## Product datasheet

# Recombinant Human alpha 1 Antitrypsin protein ab79181

[1 Image](#)

### Description

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<b>Product name</b>	Recombinant Human alpha 1 Antitrypsin protein
<b>Purity</b>	> 90 % SDS-PAGE. ab79181 is purified using conventional chromatography techniques.
<b>Expression system</b>	Escherichia coli
<b>Protein length</b>	Full length protein
<b>Animal free</b>	No
<b>Nature</b>	Recombinant
<b>Species</b>	Human
<b>Sequence</b>	MEDPQGDAAQ KTDTSHHQD HPTFNKITPN LAEFASFSLYR QLAHQSNSTN IFFSPVSIAT AFAMLSLGTK ADTHDEILEG LNFNLTEIPE AQIHEGFQEL LRTLNPDSQ LQLTTGNGLF LSEGLKLVDK FLEDVKKLYH SEAFTVNFGD TEEAKKQIND YVEKGTQGKI VDLVKELDRD TVFALVNYF FKGKWERPFE VKDTEEDFH VDQVTTVKVP MMKRLGMFNI QHCKKLSSWV LLMKYLGNAT AIFFLPDEGK LQHLENELTH DIITKFLNE DRRSASLHLP KLSITGTYDL KSVLGQLGIT KVFSNGADLS GVTEEAPLKL SKAVHKAVLT IDEKGTEAAG AMFLEAIPMS IPPEVKFNKP FVFLMIDQNT KSPLFMGKVV NPTQK

### Specifications

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Our **Abpromise guarantee** covers the use of **ab79181** in the following tested applications.

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

<b>Applications</b>	SDS-PAGE
<b>Form</b>	Liquid

### Preparation and Storage

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**Stability and Storage** Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw

cycles.

pH: 7.50

Constituents: 0.0154% DTT, 0.242% Tris, 0.0584% EDTA, 10% Glycerol (glycerin, glycerine)

## 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

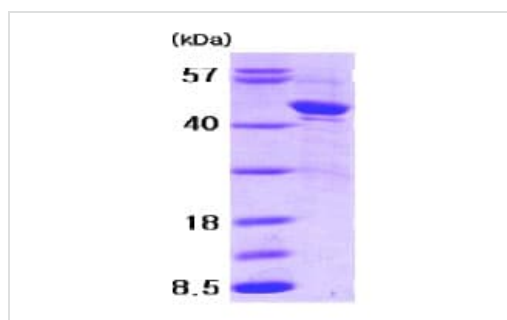
N-glycosylated. Differential glycosylation produces a number of isoforms. N-linked glycan at Asn-107 is alternatively di-antennary, tri-antennary or tetra-antennary. The glycan at Asn-70 is di-antennary with trace amounts of tri-antennary. Glycan at Asn-271 is exclusively di-antennary. Structure of glycans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



15% SDS-PAGE showing ab79181 at approximately 44kDa (3µg).

SDS-PAGE - Recombinant Human alpha 1  
Antitrypsin protein (ab79181)

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

### **Our Abpromise to you: Quality guaranteed and expert technical support**

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- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
  
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

### **Terms and conditions**

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