

Human alpha 1 Antitrypsin ELISA Kit (SERPINA1) ab108798

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Overview

Product name	Human alpha 1 Antitrypsin ELISA Kit (SERPINA1)				
Detection method	Colorimetric				
Precision	Intra-assay				
	Sample	n	Mean	SD	CV%
	Overall				6%
	Inter-assay				
	Sample	n	Mean	SD	CV%
	Overall				10.6%
Sample type	Serum, Plasma				
Assay type	Competitive				
Sensitivity	= 0.12 µg/ml				
Range	0.625 µg/ml - 40 µg/ml				
Recovery	97 %				
Assay time	3h 00m				
Assay duration	Multiple steps standard assay				
Species reactivity	Reacts with: Human				
Product overview	alpha 1 Antitrypsin (SERPINA1) Human <i>in vitro</i> competitive ELISA (Enzyme-Linked Immunosorbent Assay) kit (ab108798) is designed for the quantitative measurement of alpha 1 antitrypsin levels in plasma and serum.				

An alpha 1 antitrypsin specific antibody has been precoated onto 96-well plates and blocked. Standards or test samples are added to the wells and subsequently biotinylated alpha 1 Antitrypsin is added and then followed by washing with wash buffer. Streptavidin-Peroxidase Complex is added and unbound conjugates are washed away with wash buffer. TMB is then used to visualize Streptavidin-Peroxidase enzymatic reaction. TMB is catalyzed by Streptavidin-Peroxidase to produce a blue color product that changes into yellow after adding acidic stop

solution. The density of yellow coloration is inversely proportional to the amount of alpha 1 antitrypsin captured in plate.

Get results in 90 minutes with Human alpha 1 Antitrypsin ELISA Kit (SERPINA1) ([ab189579](#)) from our SimpleStep ELISA® range.

The entire kit may be stored at -20°C for long term storage before reconstitution - Avoid repeated freeze-thaw cycles.

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Platform Microplate

Properties

Storage instructions Store at -20°C. Please refer to protocols.

Components	1 x 96 tests
100X Streptavidin-Peroxidase Conjugate	1 x 80µl
10X Diluent N Concentrate	1 x 30ml
20X Wash Buffer Concentrate	1 x 30ml
1X Biotinylated Human alpha 1 Antitrypsin (Lyophilized)	1 vial
alpha 1 Antitrypsin Microplate (12 x 8 well strips)	1 unit
alpha 1 Antitrypsin Standard	1 vial
Chromogen Substrate	1 x 7ml
Sealing Tapes	3 units
Stop Solution	1 x 11ml

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

Post-translational
modifications

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.

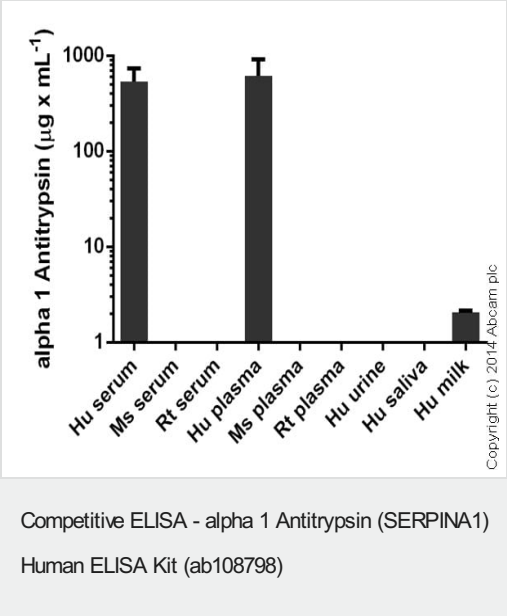
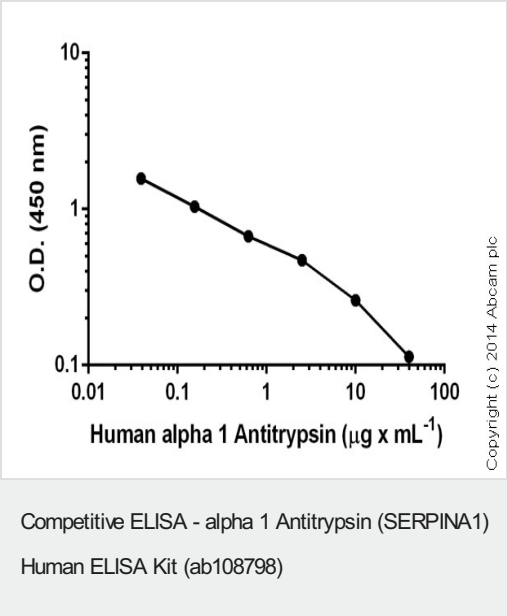
N-glycosylated. Differential glycosylation produces a number of isoforms. N-linked glycan at Asn-107 is alternatively di-antennary, tri-antennary or tetra-antennary. The glycan at Asn-70 is di-antennary with trace amounts of tri-antennary. Glycan at Asn-271 is exclusively di-antennary. Structure of glycans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



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