

Mouse alpha-1-antitrypsin ELISA Kit ab267809

Recombinant SimpleStep ELISA<sup>®</sup>

1 References 4 Images

Overview

Product name Mouse alpha-1-antitrypsin ELISA Kit

Detection method Colorimetric

Precision Intra-assay

Sample	n	Mean	SD	CV%
Serum	8			3.7%

Inter-assay

Sample	n	Mean	SD	CV%
Serum	4			4.7%

Sample type Serum, Cell culture media, Hep Plasma, EDTA Plasma, Cit plasma

Assay type Sandwich (quantitative)

Sensitivity 65 ng/ml

Range 104.7 ng/ml - 6700 ng/ml

Recovery Sample specific recovery

Sample type	Average %	Range
Serum	113	108% - 117%
Cell culture media	90	88% - 93%
Hep Plasma	108	103% - 112%
EDTA Plasma	102	86% - 116%
Cit plasma	111	104% - 118%

Assay time 1h 30m

Assay duration One step assay

**Species reactivity****Reacts with:** Mouse**Product overview**

Mouse alpha-1-antitrypsin ELISA Kit (ab267809) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of alpha-1-antitrypsin protein in cell culture media, edta plasma, hep plasma, serum, and cit plasma. It uses our proprietary SimpleStep ELISA® technology. Quantitate Mouse alpha-1-antitrypsin with 65 ng/ml sensitivity.

SimpleStep ELISA® technology employs capture antibodies conjugated to an affinity tag that is recognized by the monoclonal antibody used to coat our SimpleStep ELISA® plates. This approach to sandwich ELISA allows the formation of the antibody-analyte sandwich complex in a single step, significantly reducing assay time. See the SimpleStep ELISA® protocol summary in the image section for further details. Our SimpleStep ELISA® technology provides several benefits:

- Single-wash protocol reduces assay time to 90 minutes or less
- High sensitivity, specificity and reproducibility from superior antibodies
- Fully validated in biological samples
- 96-wells plate breakable into 12 x 8 wells strips

A 384-well SimpleStep ELISA® microplate ([ab203359](#)) is available to use as an alternative to the 96-well microplate provided with SimpleStep ELISA® kits.

**Notes**

Mouse Alpha-1-antitrypsin is an 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).

**Platform**

Pre-coated microplate (12 x 8 well strips)

**Properties****Storage instructions**

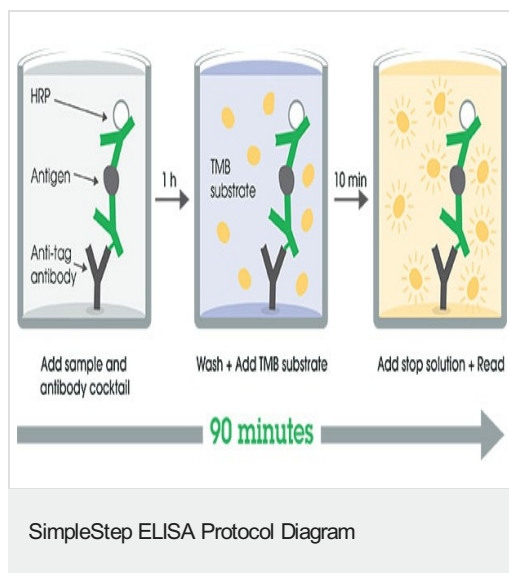
Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Mouse alpha-1-antitrypsin Capture Antibody	1 x 600µl
10X Mouse alpha-1-antitrypsin Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent 4BR	1 x 6ml
Mouse alpha-1-antitrypsin Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 50ml

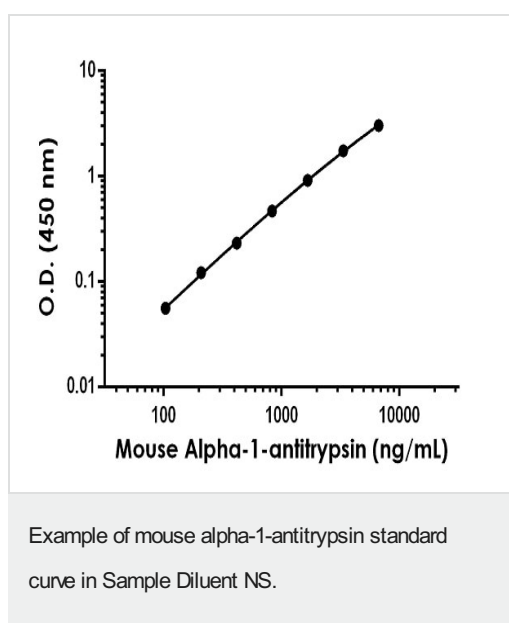
Components	1 x 96 tests
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

<b>Function</b>	<p>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.</p> <p>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).</p>
<b>Tissue specificity</b>	Ubiquitous. Expressed in leukocytes and plasma.
<b>Involvement in disease</b>	Alpha-1-antitrypsin deficiency
<b>Sequence similarities</b>	Belongs to the serpin family.
<b>Domain</b>	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.
<b>Post-translational modifications</b>	<p>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.</p> <p>Proteolytic processing may yield the truncated form that ranges from Asp-30 to Lys-418.</p>
<b>Cellular localization</b>	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.

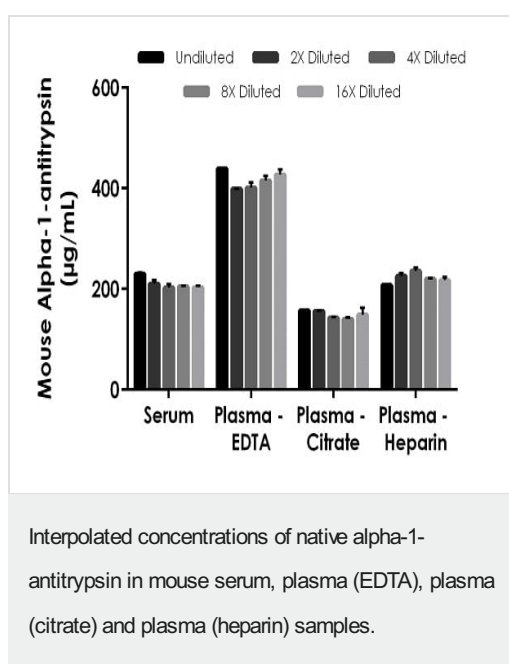
## Images



SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



The alpha-1-antitrypsin standard curve was prepared as described in Section 10. Raw data values are shown in the table. Background-subtracted data values (mean  $\pm$  SD) are graphed.



The concentrations of alpha-1-antitrypsin were measured in duplicates, interpolated from the alpha-1-antitrypsin standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 2.5%, plasma (EDTA) 1:133, plasma (citrate), and plasma (heparin) 3%. The interpolated dilution factor corrected values are plotted (mean  $\pm$  SD,  $n=2$ ). The mean alpha-1-antitrypsin concentration was determined to be 210  $\mu\text{g/mL}$  in serum, 416  $\mu\text{g/mL}$  in plasma (EDTA), 149  $\mu\text{g/mL}$  in plasma (citrate), and 221  $\mu\text{g/mL}$  in plasma (heparin).

Powered by  
recombinant antibodies



**Research with confidence**  
Consistent and reproducible results



**Long-term and scalable supply**  
Recombinant technology



**Success from the first experiment**  
Confirmed specificity



**Ethical standards compliant**  
Animal-free production

Sandwich ELISA - Mouse alpha-1-antitrypsin ELISA  
Kit (ab267809)

To learn more about the advantages of recombinant antibodies see [here](#).

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

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