abcam

Product datasheet

Human AACT ELISA Kit ab217779

Recombinant SimpleStep ELISA

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Overview

Product name Human AACT ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Plasma	5			4.3%

Inter-assay

Sample	n	Mean	SD	CV%
Plasma	3			4%

Sample type Cell culture supernatant, Milk, Serum, Cell culture extracts, Tissue Extracts, Hep Plasma, EDTA Plasma, Cit plasma

Assay type Sandwich (quantitative)

Sensitivity 327 pg/ml

Range 1176 pg/ml - 40000 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Serum	108	96% - 118%
Cell culture extracts	98	91% - 105%
Tissue Extracts	96	87% - 102%
Cell culture media	109	103% - 112%
Hep Plasma	108	101% - 115%
EDTA Plasma	106	102% - 111%

Sample type	Average %	Range
Cit plasma	99	84% - 112%

Assay time 1h 30m

Assay duration One step assay

Species reactivity
Reacts with: Human
Does not react with: Cow

Product overview
Human AACT ELISA Kit (ab217779) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of AACT protein in cell culture extracts, cell culture supernatant, cit plasma, edta plasma, hep plasma, milk, serum, and tissue extracts. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human AACT with 327 pg/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
AACT (Alpha 1-antichymotrypsin) can inhibit neutrophil cathepsin G and mast cell chymase, both of which can convert angiotensin-1 to the active angiotensin-2. AACT is synthesized in the liver and like the related alpha-1-antitrypsin, its concentration increases in the acute phase of inflammation or infection. AACT is also found in the amyloid plaques from the hippocampus of Alzheimer disease brains. Defects in AACT may be a cause of chronic obstructive pulmonary disease (COPD).

Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.
It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

Platform Pre-coated microplate (12 x 8 well strips)

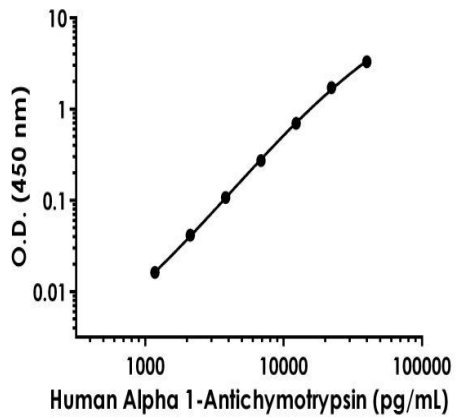
Properties

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

Components	1 x 96 tests
10X Human AACT Capture Antibody	1 x 600µl
10X Human AACT Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml
Antibody Diluent CPI - HAMA Blocker (ab193969)	1 x 6ml
Human AACT Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

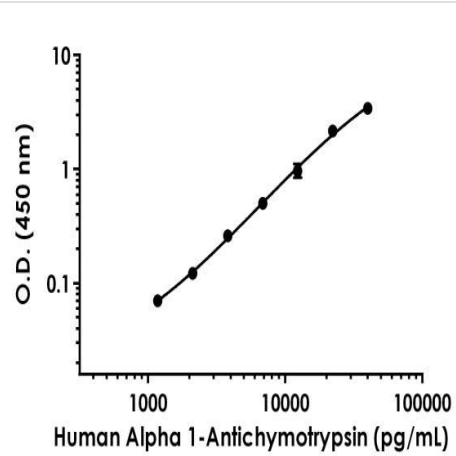
Function	Although its physiological function is unclear, it can inhibit neutrophil cathepsin G and mast cell chymase, both of which can convert angiotensin-1 to the active angiotensin-2.
Tissue specificity	Plasma. Synthesized in the liver. Like the related alpha-1-antitrypsin, its concentration increases in the acute phase of inflammation or infection. Found in the amyloid plaques from the hippocampus of Alzheimer disease brains.
Involvement in disease	Defects in SERPINA3 may be a cause of chronic obstructive pulmonary disease (COPD) [MIM:107280].
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.
Cellular localization	Secreted.

Images



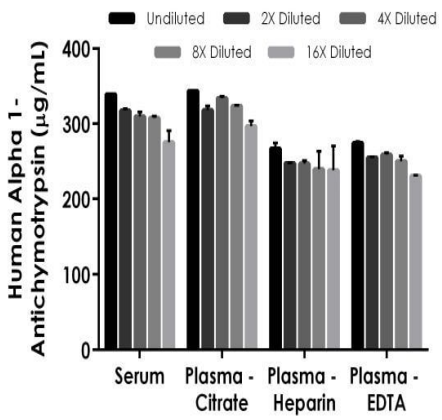
Example of human Alpha 1-antichymotrypsin standard curve in Sample Diluent NS.

Background-subtracted data values (mean +/- SD) are graphed.



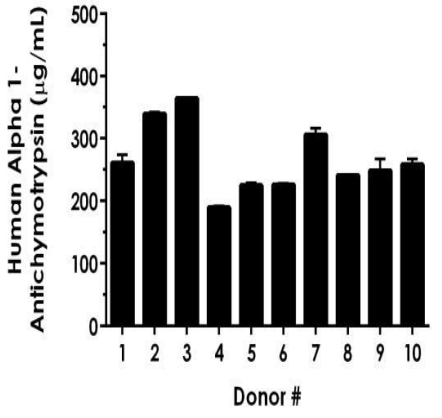
Example of human Alpha 1-antichymotrypsin standard curve in 1X Cell Extraction Buffer PTR.

Background-subtracted data values (mean +/- SD) are graphed.



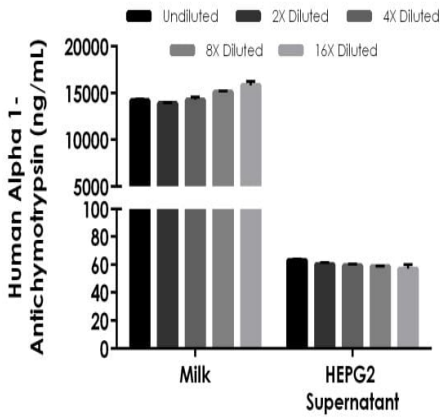
Interpolated concentrations of native Alpha 1-antichymotrypsin in human serum, and plasma samples.

The concentrations of Alpha 1-antichymotrypsin were measured in duplicates, interpolated from the Alpha 1-antichymotrypsin standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 1:10,000, plasma (citrate) 1:10,000, plasma (heparin) 1:10,000 and plasma (EDTA) 1:10,000. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Alpha 1-antichymotrypsin concentration was determined to be 310 µg/mL in serum, 323 µg/mL in plasma (citrate) 248 µg/mL in plasma (heparin) and 254 µg/mL in plasma (EDTA).



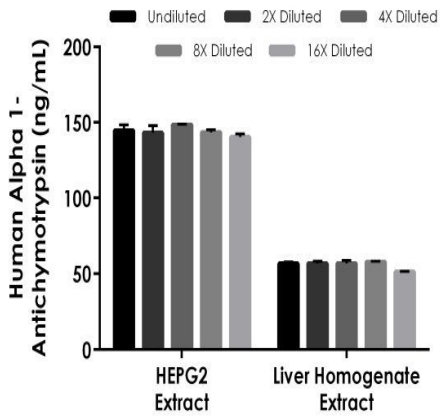
Serum from ten individual healthy human female donors was measured in duplicate.

Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Alpha 1-antichymotrypsin concentration was determined to be 266 µg/mL with a range of 190 – 364 µg/mL.



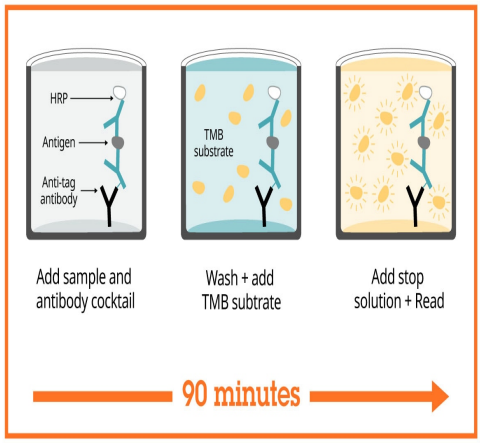
Interpolated concentrations of native Alpha 1-antichymotrypsin in human milk and HEPG2 cell culture supernatant samples.

The concentrations of Alpha 1-antichymotrypsin were measured in duplicates, interpolated from the Alpha 1-antichymotrypsin standard curves and corrected for sample dilution. Undiluted samples are as follows: milk 1:500 and HEPG2 supernatant 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Alpha 1-antichymotrypsin concentration was determined to be 14,672 ng/mL in milk and 60 ng/mL in HEPG2 cell culture supernatant.



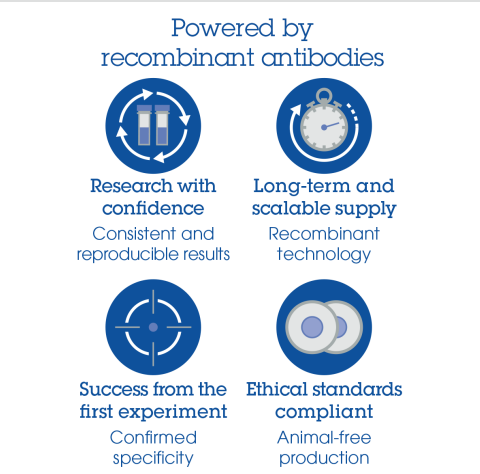
Interpolated concentrations of native Alpha 1-antichymotrypsin in human HEPG2 cell extract and human liver homogenate extract based on a 50 µg/mL extract load.

The concentrations of Alpha 1-antichymotrypsin were measured in duplicate and interpolated from the Alpha 1-antichymotrypsin standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Alpha 1-antichymotrypsin concentration was determined to be 144 ng/mL in HEPG2 cell extract and 56 ng/mL in human liver homogenate extract.



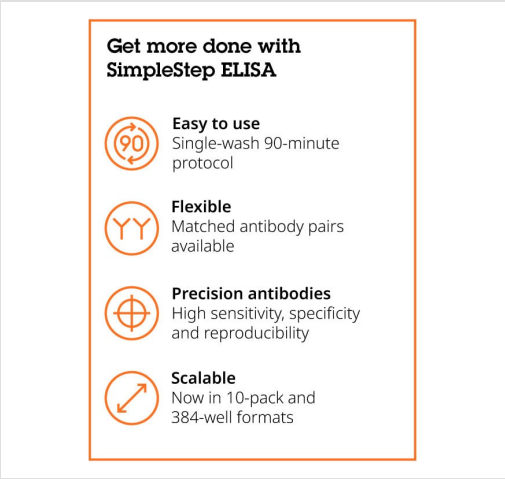
Sandwich ELISA - Human AACT ELISA Kit (ab217779)

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.



Sandwich ELISA - Human AACT ELISA Kit (ab217779)

To learn more about the advantages of recombinant antibodies see **here**.



Sandwich ELISA - Human AACT ELISA Kit (ab217779)

To learn more about the advantages of SimpleStep ELISA® kits see **here**.

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