

Human Apolipoprotein AI ELISA Kit ab189576

SimpleStep ELISA

7 References 5 Images

Overview

Product name Human Apolipoprotein AI ELISA Kit

Detection method Colorimetric

Precision Intra-assay

Sample	n	Mean	SD	CV%
Overall	5			2.1%

Inter-assay

Sample	n	Mean	SD	CV%
Overall	3			2.9%

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

Assay type Sandwich (quantitative)

Sensitivity 59 pg/ml

Range 0.313 ng/ml - 20 ng/ml

Recovery Sample specific recovery

Sample type	Average %	Range
Serum	115	111% - 122%
Tissue Culture Media	89	85% - 92%
Hep Plasma	95	76% - 111%
EDTA Plasma	112	108% - 115%
Cit plasma	119	117% - 123%

Assay time 1h 30m

Assay duration One step assay

Species reactivity**Reacts with:** Human**Does not react with:** Goat, Cow, Pig**Product overview**

Human Apolipoprotein AI ELISA Kit (ab189576) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Apolipoprotein AI protein in cell culture supernatant, cit plasma, edta plasma, hep plasma, and serum. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Apolipoprotein AI with 59 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

Apolipoprotein AI (ApoA1) is secreted by the liver and small intestine and is a major protein of plasma HDL (high density lipoprotein). APOA-I participates in the reverse transport of cholesterol from tissues to the liver for excretion by promoting cholesterol efflux from tissues and by acting as a cofactor for the lecithin cholesterol acyltransferase (LCAT). Defects in APOA1I are associated with several diseases associated with low HDL levels (HDL1 and HDL2) and amyloidosis (AMYL8).

Platform

Microplate

Properties**Storage instructions**

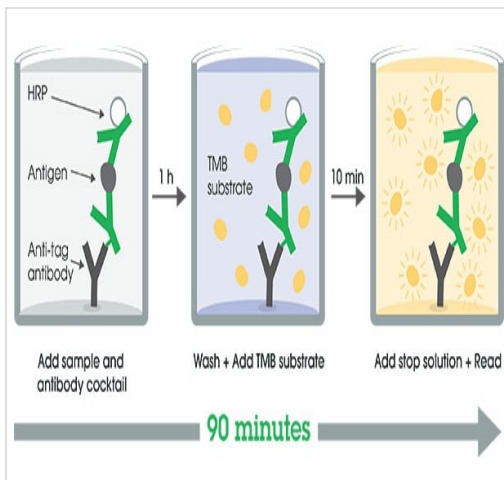
Store at +4°C. Please refer to protocols.

Components	1 x 96 tests	10 x 96 tests
10X Human APOA1 Capture Antibody	1 x 600µl	10 x 600µl
10X Human APOA1 Detector Antibody	1 x 600µl	10 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml	1 x 200ml
Antibody Diluent 5BI	1 x 6ml	10 x 6ml
Human APOA1 Lyophilized Recombinant Protein	2 vials	20 vials
Plate Seals	1 unit	10 units
Sample Diluent NS (ab193972)	1 x 50ml	2 x 250ml

Components	1 x 96 tests	10 x 96 tests
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit	10 units
Stop Solution	1 x 12ml	1 x 120ml
TMB Development Solution	1 x 12ml	1 x 120ml

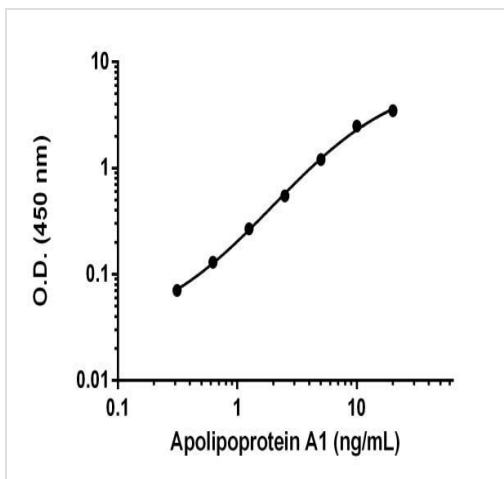
Function	Participates in the reverse transport of cholesterol from tissues to the liver for excretion by promoting cholesterol efflux from tissues and by acting as a cofactor for the lecithin cholesterol acyltransferase (LCAT). As part of the SPAP complex, activates spermatozoa motility.
Tissue specificity	Major protein of plasma HDL, also found in chylomicrons. Synthesized in the liver and small intestine.
Involvement in disease	<p>Defects in APOA1 are a cause of high density lipoprotein deficiency type 2 (HDLD2) [MIM:604091]; also known as familial hypoalphalipoproteinemia (FHA). Inheritance is autosomal dominant.</p> <p>Defects in APOA1 are a cause of the low HDL levels observed in high density lipoprotein deficiency type 1 (HDLD1) [MIM:205400]; also known as analphalipoproteinemia or Tangier disease (TGD). HDLD1 is a recessive disorder characterized by the absence of plasma HDL, accumulation of cholesteryl esters, premature coronary artery disease, hepatosplenomegaly, recurrent peripheral neuropathy and progressive muscle wasting and weakness. In HDLD1 patients, ApoA-I fails to associate with HDL probably because of the faulty conversion of pro-ApoA-I molecules into mature chains, either due to a defect in the converting enzyme activity or a specific structural defect in Tangier ApoA-I.</p> <p>Defects in APOA1 are the cause of amyloid polyneuropathy-nephropathy Iowa type (AMYLIOWA) [MIM:107680]; also known as amyloidosis van Allen type or familial amyloid polyneuropathy type III. AMYLIOWA is a hereditary generalized amyloidosis due to deposition of amyloid mainly constituted by apolipoprotein A1. The clinical picture is dominated by neuropathy in the early stages of the disease and nephropathy late in the course. Death is due in most cases to renal amyloidosis. Severe peptic ulcer disease can occur in some and hearing loss is frequent. Cataracts is present in several, but vitreous opacities are not observed.</p> <p>Defects in APOA1 are a cause of amyloidosis type 8 (AMYL8) [MIM:105200]; also known as systemic non-neuropathic amyloidosis or Ostertag-type amyloidosis. AMYL8 is a hereditary generalized amyloidosis due to deposition of apolipoprotein A1, fibrinogen and lysozyme amyloids. Viscera are particularly affected. There is no involvement of the nervous system. Clinical features include renal amyloidosis resulting in nephrotic syndrome, arterial hypertension, hepatosplenomegaly, cholestasis, petechial skin rash.</p>
Sequence similarities	Belongs to the apolipoprotein A1/A4/E family.
Post-translational modifications	<p>Palmitoylated.</p> <p>Phosphorylation sites are present in the extracellular medium.</p>
Cellular localization	Secreted.

Images



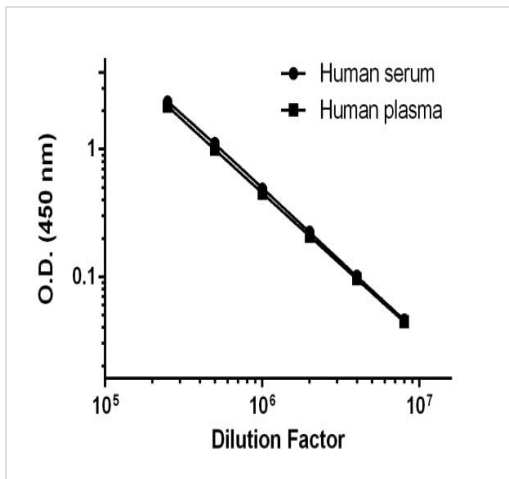
Other - Human Apolipoprotein A1 ELISA Kit
(ab189576)

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.



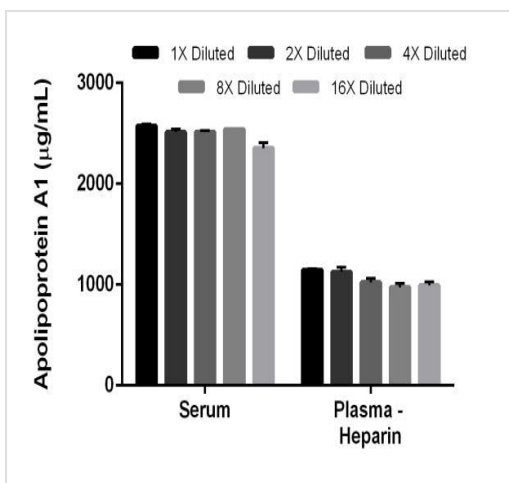
Example of Apolipoprotein A1 standard curve.

Background-subtracted data values (mean \pm SD) are graphed.



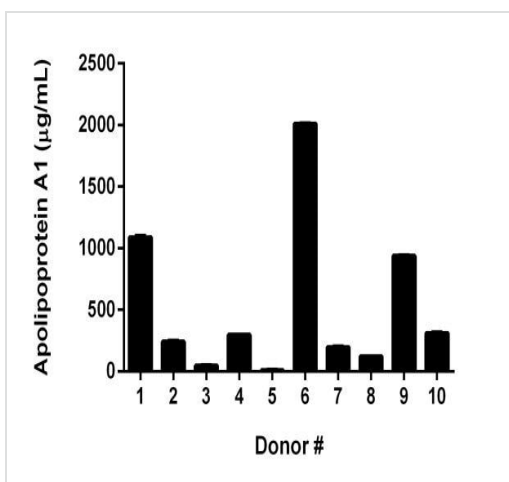
Titration of Human serum and plasma (citrate)

Human serum and plasma (citrate) diluted 2.5×10^5 –fold to 8×10^6 –fold in Sample Diluent NS. Background subtracted data from duplicate measurements are plotted.



Interpolated concentrations of Apolipoprotein A1 in Human serum

Interpolated concentrations of Apolipoprotein A1 in Human serum and plasma heparin. The concentrations of Apolipoprotein A1 were measured in duplicate and interpolated from the Apolipoprotein A1 standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean \pm SD, $n=2$). The mean Apolipoprotein A1 concentration was determined to be 2500 $\mu\text{g/mL}$ in serum and 1053 $\mu\text{g/mL}$ in plasma heparin.



Interpolated concentrations of Apolipoprotein A1 in Human serum from 10 donors.

Interpolated concentrations of Apolipoprotein A1 in Human serum from 10 donors. Serum from 10 apparently healthy male donors was measured in duplicate. The mean Apolipoprotein A1 concentration was determined to be 526 $\mu\text{g/mL}$ with a range of 9.8-2011 $\mu\text{g/mL}$.

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