

Product datasheet

Human Lipoprotein A ELISA Kit ab212165

Recombinant SimpleStep ELISA

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Overview

Product name Human Lipoprotein A ELISA Kit

Detection method Colorimetric

Precision	Intra-assay				
	Sample	n	Mean	SD	CV%
	Serum	5			1.8%

	Inter-assay				
	Sample	n	Mean	SD	CV%
	Serum	3			2%

Sample type Urine, Serum, Hep Plasma, EDTA Plasma, Cit plasma, Cerebral Spinal Fluid

Assay type Sandwich (quantitative)

Sensitivity 2.5 ng/ml

Range 17.2 ng/ml - 1100 ng/ml

Recovery	Sample specific recovery		
	Sample type	Average %	Range
	Cell culture supernatant	102	99% - 105%
	Urine	107	107% - 108%
	Serum	99	97% - 103%
	Hep Plasma	104	100% - 107%
	EDTA Plasma	104	101% - 108%
	Cit plasma	102	99% - 105%

Sample type	Average %	Range
Cerebral Spinal Fluid	109	108% - 110%

Assay time

1h 30m

Assay duration

One step assay

Species reactivity

Reacts with: Human

Does not react with: Cow

Product overview

Human Lipoprotein A ELISA Kit (ab212165) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Lipoprotein A protein in cerebral spinal fluid, serum, urine, cit plasma, edta plasma, and hep plasma. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Lipoprotein A with 2.5 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

Lipoprotein A is an atherogenic lipoprotein particle formed by an assembly of LDL particles and apo(a) bound to apoB-100 component of LDL. Apolipoprotein A, the main constituent of Lipoprotein A, has serine proteinase activity and is capable of autoproteolysis. Apolipoprotein A has 4,548 amino acids, variable sizes from 200 to 700 kDa, multiple isoforms, and structural homology with plasminogen. It competes with plasminogen for its binding site, inhibiting tissue-type plasminogen activator 1 and leading to reduced fibrinolysis. High levels of Lipoprotein A in the blood is a risk factor for myocardial infarction (MI), coronary heart disease (CHD), cerebrovascular disease (CVD), atherosclerosis, thrombosis, and stroke.

Platform

Pre-coated microplate (12 x 8 well strips)

Properties

Storage instructions

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

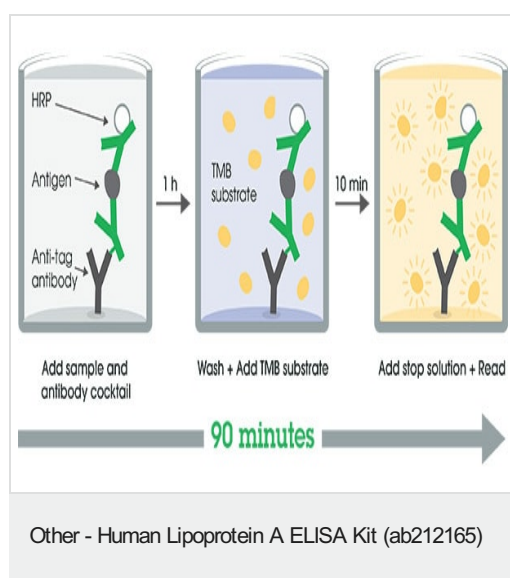
Components	1 x 96 tests	1 x 96 tests
10X Human Lipoprotein A Capture Antibody	1 x 600µl	1 x 600µl
10X Human Lipoprotein A Detector Antibody	1 x 600µl	1 x 600µl

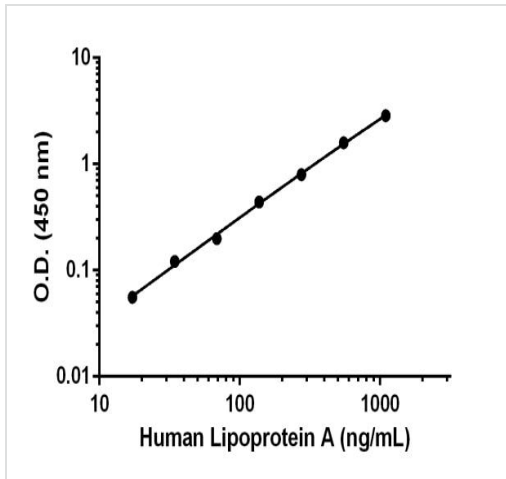
Components	1 x 96 tests	1 x 96 tests
10X Wash Buffer PT (ab206977)	1 x 20ml	1 x 20ml
Antibody Diluent CPI2	1 x 6ml	0 x 0ml
Human Lipoprotein A Lyophilized Recombinant Protein	2 vials	2 vials
Plate Seals	1 unit	1 unit
Sample Diluent NS (ab193972)	1 x 50ml	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit	1 unit
Stop Solution	1 x 12ml	1 x 12ml
TMB Development Solution	1 x 12ml	1 x 12ml

Relevance

Lipoprotein(a) (Lp(a)) is a lipoprotein subclass assembled in the blood from low density lipoprotein (LDL) molecules and apolipoprotein-a (apo-a). Lp(a) recruits inflammatory cells through interaction with Mac-1 integrin. High Lp(a) in blood is a risk factor for coronary heart disease, cerebrovascular disease, atherosclerosis, thrombosis, and stroke. Lp(a) concentrations may be affected by disease states, but are only moderately affected by diet, exercise and other environmental factors. Lipid-reducing drugs have no effect on Lp(a) concentration. High Lp(a) predicts risk of early atherosclerosis similar to high LDL, but in advanced atherosclerosis, Lp(a) is a risk factor independent of LDL, indicating a coagulant risk of plaque thrombosis. Apo(a) contains domains that are very similar to plasminogen (PLG). Lp(a) accumulates in the vessel wall and inhibits binding of PLG to the cell surface, reducing plasmin generation which increases clotting. This inhibition also promotes proliferation of smooth muscle cells. These unique features of Lp(a) suggest a role in the generation of clots and atherosclerosis.

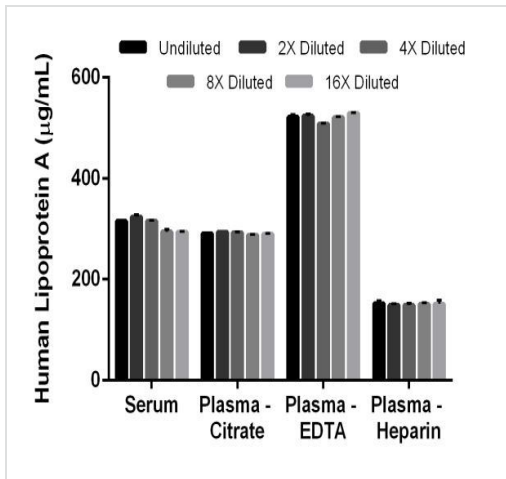
Images





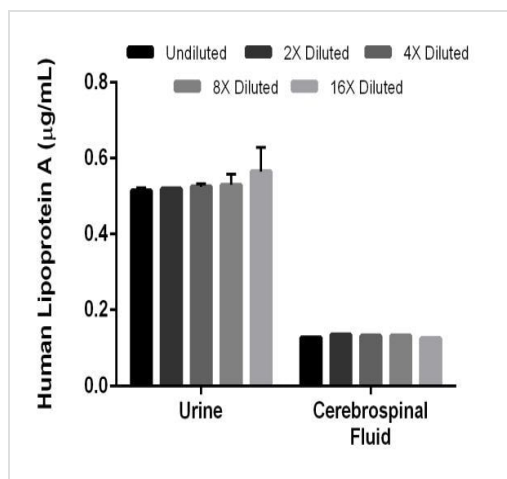
Background-subtracted data values (mean \pm SD) are graphed.

Example of human Lipoprotein A standard curve in Sample Diluent NS.



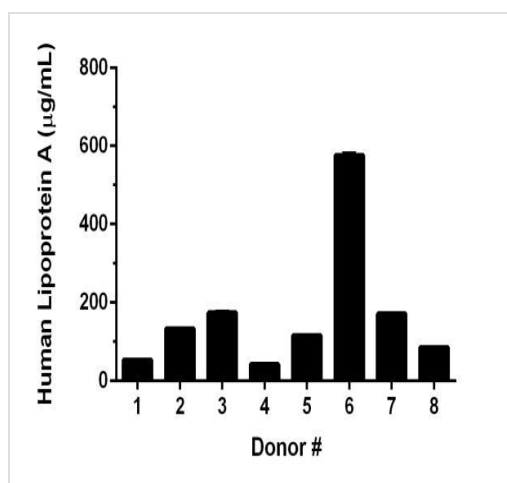
The concentrations of Lipoprotein A were measured in duplicate, interpolated from the Lipoprotein A standard curve, and corrected for sample dilution. Undiluted samples are as follows: serum 0.25%, plasma (citrate) 0.25%, plasma (heparin) 0.25% and plasma (EDTA) 0.125%. The interpolated dilution factor corrected values are plotted (mean \pm SD, $n=2$). The mean Lipoprotein A concentration was determined to be 309 $\mu\text{g/mL}$ in serum, 291 $\mu\text{g/mL}$ in plasma (citrate), 520 $\mu\text{g/mL}$ in plasma (EDTA), and 150 $\mu\text{g/mL}$ in plasma (Heparin).

Interpolated concentrations of native Lipoprotein A in human serum and plasma samples.



Interpolated concentrations of native Lipoprotein A in human urine and cerebrospinal fluid samples.

The concentrations of Lipoprotein A were measured in duplicates, interpolated from the Lipoprotein A standard curves and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean \pm SD, $n=2$). The mean Lipoprotein A concentration was determined to be 500 ng/mL in urine, and 130 ng/mL in cerebrospinal fluid.



Serum from eight individual human male donors was measured in duplicate.

Interpolated dilution factor corrected values are plotted (mean \pm SD, $n=2$). The mean Lipoprotein A concentration was determined to be 169 $\mu\text{g/mL}$ with a range of 42 – 576 $\mu\text{g/mL}$.

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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 - Human Lipoprotein A ELISA Kit
(ab212165)

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

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