

Human Apolipoprotein B ELISA Kit ab190806

リコンビナント SimpleStep ELISA

9 References 画像数 8

製品の概要

製品名	Human Apolipoprotein B ELISA Kit				
検出方法	Colorimetric				
再現性	Intra-Assay (同時再現性)				
サンプル		N	平均値	SD	CV%
Human serum		8			5.9%
					Inter-Assay (日差再現性)
サンプル		N	平均値	SD	CV%
Human serum		3			2.4%
サンプルの種類	Serum, Hep Plasma, EDTA Plasma, Cit plasma				
アッセイタイプ	Sandwich (quantitative)				
検出感度	5.28 ng/ml				
検出範囲	18.75 ng/ml - 1200 ng/ml				
添加回収試験	特定サンプルでの回収試験				
サンプルの種類		平均 %		測定範囲	
Serum		84		81% - 87%	
Hep Plasma		114		104% - 120%	
EDTA Plasma		90		85% - 98%	
Cit plasma		86		81% - 97%	
全工程の試験時間	1h 30m				
ステップ	One step assay				
種交差性	交差種: Human				

製品の概要

As of December 5, 2019, Human Apolipoprotein B (APOB) ELISA kit has been re-developed. We have identified new recombinant monoclonal antibodies to provide improved performance and consistency.

Human Apolipoprotein B ELISA Kit (ab190806) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Apolipoprotein B protein in cit plasma, edta plasma, hep plasma, and serum. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Apolipoprotein B with 5.28 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.

特記事項

Apolipoproteins are proteins that bind lipids to form lipoproteins, which carry fats and cholesterol in the bloodstream. Apolipoproteins provide structural support to these lipoproteins, may act as ligands for specific cell surface receptors or may modulate the activity of metabolic enzymes that act on lipoproteins. A major class of apolipoproteins is ApoB, which is found in two forms: ApoB-100 (550 kDa) and ApoB-48 (264 kDa). ApoB-48 is made from the N-terminal 48% of the Apolipoprotein B-100 protein due to a post-transcriptional mRNA editing by the ApoB mRNA editing enzyme ApoBec1. ApoBec1 causes a C to U transition, replacing a CAA glutamine encoding codon for a UAA stop codon and generating ApoB-48. ApoBec1 is expressed in the intestine but not the liver, thus ApoB-48 is secreted by the intestine to become the building block of chylomicrons, while ApoB-100 is secreted by the liver to become a component of very low-density lipoproteins (VLDLs), intermediate-density lipoproteins (IDLs), and low-density lipoproteins (LDLs). Importantly, ApoB is also post-translationally palmitoylated; palmitoylation is necessary for proper assembly of lipoproteins (including proper assembly of the hydrophobic core). Furthermore, ApoB-100 operates on the surface of LDLs to allow binding to the LDL receptor and transport for breakdown of LDLs.

Mutations in the *Apolipoprotein B* gene can cause several diseases. First, in familial hypobetalipoproteinemia (FHBL), mutations in the *Apolipoprotein B* gene cause production of abnormally short lengths of ApoB protein, lowering the amount of lipoproteins and hence decreasing the body's capacity to transport and absorb fat and fat-soluble vitamins. Second, in a form of inherited hypercholesterolemia called familial defective ApoB-100 (FDB), mutations in the *Apolipoprotein B* gene prevent LDLs from effectively binding to their receptors. As a result, fewer LDLs are removed from the blood, leading to hypercholesterolemia, distribution and buildup of cholesterol into tissues such as the skin and arteries, and an increased risk of coronary artery disease (CAD).

試験プラットフォーム

Microplate

製品の特性

保存方法

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

内容	1 x 96 tests
10X Human Apolipoprotein B (ApoB) Capture Antibody	1 x 600µl
10X Human Apolipoprotein B (ApoB) Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1ml
Antibody Diluent 5BI	1 x 6ml
Denaturant	1 x 500µl
Human Apolipoprotein B (ApoB) 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

機能

Apolipoprotein B is a major protein constituent of chylomicrons (apo B-48), LDL (apo B-100) and VLDL (apo B-100). Apo B-100 functions as a recognition signal for the cellular binding and internalization of LDL particles by the apoB/E receptor.

関連疾患

Hypobetalipoproteinemia, familial, 1
Familial ligand-defective apolipoprotein B-100
Defects in APOB associated with defects in other genes (polygenic) can contribute to hypocholesterolemia.

配列類似性

Contains 1 vitellogenin domain.

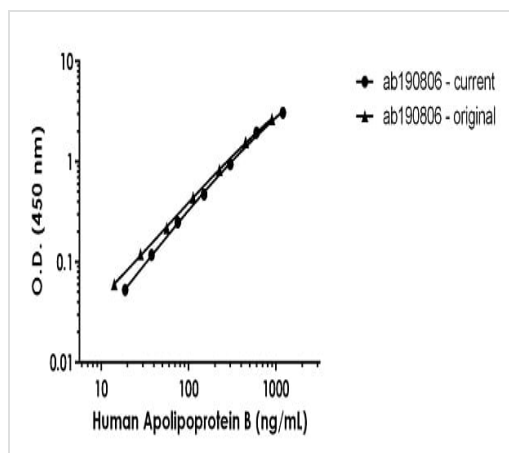
翻訳後修飾

Palmitoylated; structural requirement for proper assembly of the hydrophobic core of the lipoprotein particle.

細胞内局在

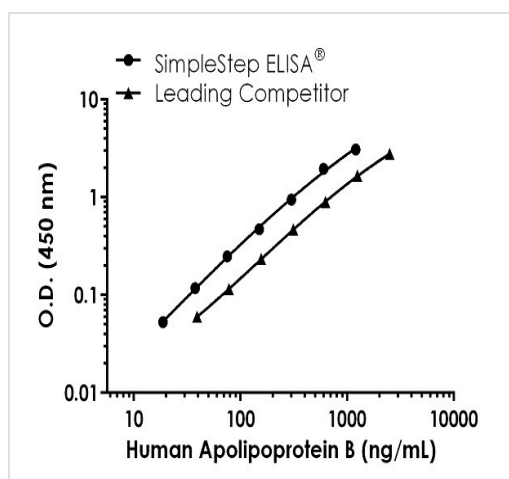
Cytoplasm. Secreted.

画像



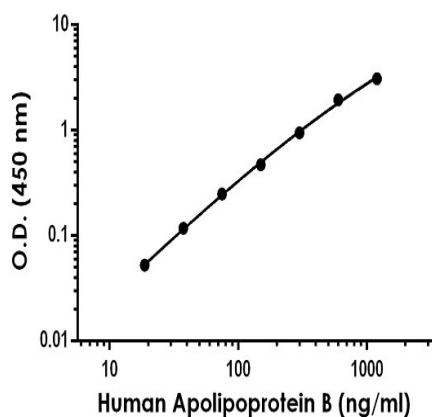
Standard Curve comparison between the original human MMP3 SimpleStep ELISA kit and current human MMP3 SimpleStep ELISA kit.

Human Apolipoprotein B comparison



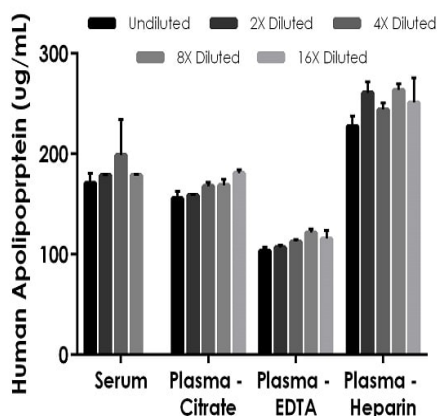
Standard Curve comparison between human Apolipoprotein B SimpleStep ELISA kit and traditional ELISA kit from leading competitor. SimpleStep ELISA kit shows increased sensitivity.

Human Apolipoprotein B standard curve comparison



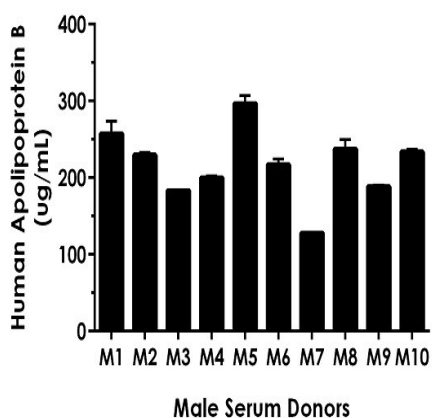
Example of human Apolipoprotein B standard curve in Sample Diluent NS + 1X Enhancer.

The Apolipoprotein B 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.



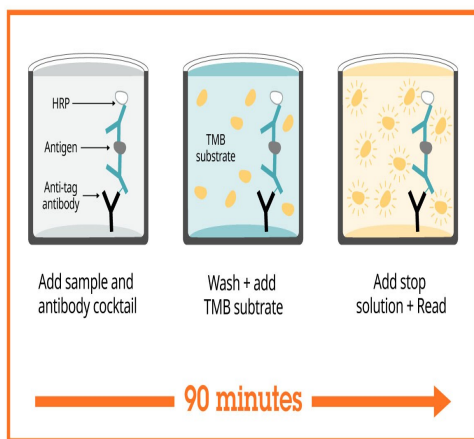
Interpolated concentrations of native Apolipoprotein B in human serum and plasma samples.

The concentrations of Apolipoprotein B were measured in duplicates, interpolated from the Apolipoprotein B standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 0.5%, plasma (citrate) 0.5%, plasma (EDTA) 0.5%, and plasma (heparin) 0.5%. The interpolated dilution factor corrected values are plotted (mean \pm SD, $n=2$). The mean Apolipoprotein B concentration was determined to be 181.94 ug/mL in serum, 166.45 ug/mL in plasma (citrate) and 112.11 ug/mL plasma (EDTA), and 249.45 ug/mL plasma (heparin).



0.5% Serum from ten individual healthy human male donors was measured in duplicate.

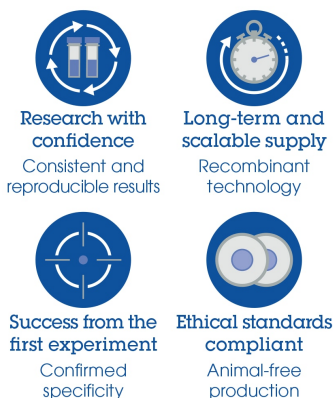
Interpolated dilution factor corrected values are plotted (mean \pm SD, $n=2$). The mean Apolipoprotein B concentration was determined to be 217.38 ug/mL with a range of 127.53 – 304.1 ug/mL.



Sandwich ELISA - Human Apolipoprotein B ELISA
Kit (ab190806)

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.

Powered by
recombinant antibodies



Sandwich ELISA - Human Apolipoprotein B ELISA
Kit (ab190806)

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

Get more done with
SimpleStep ELISA



Sandwich ELISA - Human Apolipoprotein B ELISA
Kit (ab190806)

To learn more about the advantages of SimpleStep ELISA® kits see [here](#).

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