# Human apolipoprotein B100 (Apo-B100) ELISA Kit

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|---|---|
| **Product Code** | CSB-E08100h |
| **Protein Biological Process 2** | Lipogenesis and lipometabolism |
| **Abbreviation** | APOB |
| **Protein Biological Process 1** | Apolipoprotein |
| **Target Name** | apolipoprotein B (including Ag(x) antigen) |
| **Uniprot No.** | P04114 |
| **Alias** | FLDB, LDLCQ4, apoB-100\|apoB-48\|apolipoprotein B\|apolipoprotein B48 |
| **Product Type** | ELISA Kit |
| **Immunogen Species** | Homo sapiens (Human) |
| **Protein Biological Process 3** | Cholesterol metabolism |
| **Sample Types** | serum, plasma, cell culture supernates, saliva, urine |
| **Detection Range** | 78 ng/mL-5000 ng/mL |
| **Sensitivity** | 19.5 ng/mL |
| **Assay Time** | 1-5h |
| **Sample Volume** | 50-100ul |
| **Detection Wavelength** | 450 nm |
| **Lead Time** | 3-5 working days after you place the order, and it takes another 3-5 days for delivery via DHL or FedEx. |
| **Research Area** | Cardiovascular |
| **Gene Names** | APOB |
| **Tag Info** | quantitative |
| **Protein Description** | Competitive |

**Description**

The human APOB100 ELISA Kit is intended to measure human APOB100 in serum, plasma, cell culture supernates, saliva, or urine. This assay employs the competitive inhibition enzyme immunoassay technique and enzyme-substrate chromogenic reaction to quantify human APOB100 concentration. The intensity of the colored product is negatively proportional to the concentration of APOB100 present in the sample. This human APOB100 ELISA kit has high specificity and excellent sensitivity.

APOB100 is synthesized in the liver in human that is required for normal removal and metabolism of low-density lipoproteins (LDL). It is the core protein

of the LDL and controls its internalization by binding to the LDL receptor. It is an autoantigen that drives the production of pathogenic Th1 cells with proinflammatory cytokine secretion. Mutations in APOB100 can cause familial hypercholesterolemia. APOB100 has a central role in the development of atherosclerosis. Through the recognition of APOB100 by macrophages, LDL accumulates in plaques within the arterial walls, inducing a prolonged activation of inflammatory responses and resulting in enlargement and weakening of the plaques.

**Target Details**

This gene product is the main apolipoprotein of chylomicrons and low density lipoproteins. It occurs in plasma as two main isoforms, apoB-48 and apoB-100: the former is synthesized exclusively in the gut and the latter in the liver. The intestinal and the hepatic forms of apoB are encoded by a single gene from a single, very long mRNA. The two isoforms share a common N-terminal sequence. The shorter apoB-48 protein is produced after RNA editing of the apoB-100 transcript at residue 2180 (CAA->UAA), resulting in the creation of a stop codon, and early translation termination. Mutations in this gene or its regulatory region cause hypobetalipoproteinemia, normotriglyceridemic hypobetalipoproteinemia, and hypercholesterolemia due to ligand-defective apoB, diseases affecting plasma cholesterol and apoB levels.

**Product Precision**

Intra-assay Precision (Precision within an assay): CV%<8%

Three samples of known concentration were tested twenty times on one plate to assess.

Inter-assay Precision (Precision between assays): CV%<10%

Three samples of known concentration were tested in twenty assays to assess.

**Linearity**

To assess the linearity of the assay, samples were spiked with high concentrations of human Apo-B100 in various matrices and diluted with the Sample Diluent to produce samples with values within the dynamic range of the assay.

| ? | Sample | Serum(n=4) |
|---|---|---|
| 1:200 | Average % | 96 |
| | Range % | 92-102 |
| 1:400 | Average % | 95 |
| | Range % | 91-99 |
| 1:800 | Average % | 104 |
| | Range % | 102-108 |
| 1:1600 | Average % | 87 |
| | Range % | 81-92 |

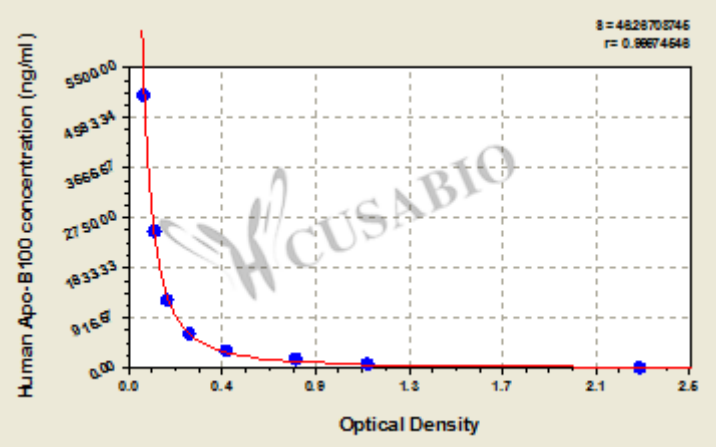
**Recovery**

The recovery of human Apo-B100 spiked to levels throughout the range of the assay in various matrices was evaluated. Samples were diluted prior to assay as directed in the Sample Preparation section.

| Sample Type | Average % Recovery | Range |
|---|---|---|
| Serum (n=5) | 95 | 92-102 |
| EDTA plasma (n=4) | 90 | 87-94 |

**Typical**

These standard curves are provided for demonstration only. A standard curve should be generated for each set of samples assayed.




| ng/ml | OD1 | OD2 | Average |
|---|---|---|---|
| 5000 | 0.074 | 0.073 | 0.074 |
| 2500 | 0.118 | 0.121 | 0.120 |
| 1250 | 0.182 | 0.172 | 0.177 |
| 625 | 0.272 | 0.284 | 0.278 |
| 312 | 0.451 | 0.442 | 0.447 |
| 156 | 0.770 | 0.754 | 0.762 |
| 78 | 1.122 | 1.054 | 1.088 |
| 0 | 2.371 | 2.270 | 2.321 |