

Product datasheet

Human APOC3 ELISA Kit ab238268

SimpleStep ELISA

[5 Images](#)

Overview

Product name Human APOC3 ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Breast milk	8			2%

Inter-assay

Sample	n	Mean	SD	CV%
Breast milk	3			0.8%

Sample type

Cell culture supernatant, Milk, Urine, Serum, Hep Plasma, EDTA Plasma, Cit plasma, Cerebral Spinal Fluid

Assay type

Sandwich (quantitative)

Sensitivity

235 pg/ml

Range

0.7 ng/ml - 8 ng/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Cell culture supernatant	104	91% - 110%
Milk	96	87% - 101%
Urine	95	93% - 97%
Serum	119	112% - 128%
Cell culture media	91	85% - 98%

Sample type	Average %	Range
Hep Plasma	108	102% - 114%
EDTA Plasma	117	103% - 130%
Cit plasma	105	95% - 116%
Cerebral Spinal Fluid	101	86% - 101%

Assay time

1h 30m

Assay duration

One step assay

Species reactivity

Reacts with: Human

Does not react with: Cow

Product overview

APOC3 *in vitro* SimpleStep ELISA® (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of APOC3 protein in human serum, plasma, milk, urine, cerebrospinal fluid, and cell culture supernatants.

The SimpleStep ELISA® employs an affinity tag labeled capture antibody and a reporter conjugated detector antibody which immunocapture the sample analyte in solution. This entire complex (capture antibody/analyte/detector antibody) is in turn immobilized via immunoaffinity of an anti-tag antibody coating the well. To perform the assay, samples or standards are added to the wells, followed by the antibody mix. After incubation, the wells are washed to remove unbound material. TMB Development Solution is added and during incubation is catalyzed by HRP, generating blue coloration. This reaction is then stopped by addition of Stop Solution completing any color change from blue to yellow. Signal is generated proportionally to the amount of bound analyte and the intensity is measured at 450 nm. Optionally, instead of the endpoint reading, development of TMB can be recorded kinetically at 600 nm.

APOC3 (Apolipoprotein C-III) is a component of triglyceride-rich very low density lipoproteins (VLDL) and high density lipoproteins (HDL) in plasma. APOC3 functions in triglyceride homeostasis. Intracellularly, APOC3 promotes hepatic very low density lipoprotein 1 (VLDL1) assembly and secretion. Extracellularly, APOC3 attenuates hydrolysis and clearance of triglyceride-rich lipoproteins (TRLs). It impairs the lipolysis of TRLs by inhibiting lipoprotein lipase and the hepatic uptake of TRLs by remnant receptors.

Platform

Pre-coated microplate (12 x 8 well strips)

Properties

Storage instructions

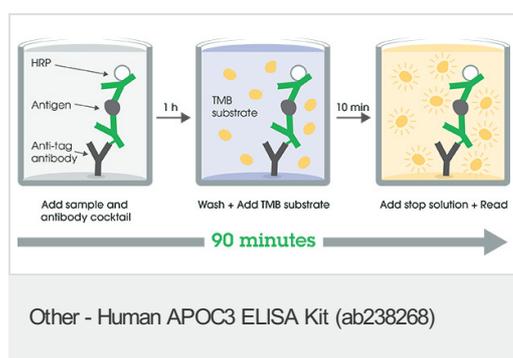
Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Human APOC3 Capture Antibody	1 x 600µl
10X Human APOC3 Detector Antibody	1 x 600µl

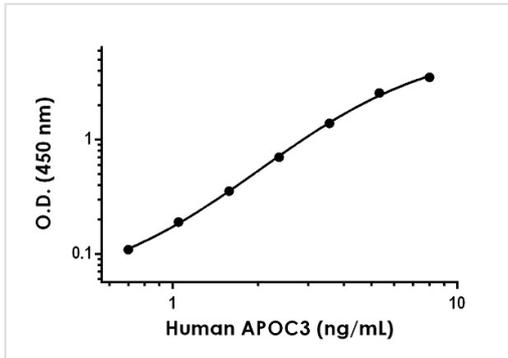
Components	1 x 96 tests
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent 5BI	1 x 6ml
Human APOC3 Lyophilized Purified Protein	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

Function	Inhibits lipoprotein lipase and hepatic lipase and decreases the uptake of lymph chylomicrons by hepatic cells. This suggests that it delays the catabolism of triglyceride-rich particles.
Tissue specificity	Constitutes 50% of the protein fraction of VLDL and 2% of that of HDL. Synthesized predominantly in liver and to a lesser degree in intestine.
Involvement in disease	Defects in APOC3 may be a cause of hyperalphalipoproteinemia (HYPALIP) [MIM:143470]. Affected individuals show high levels of alpha-lipoprotein (high density lipoprotein/HDL).
Sequence similarities	Belongs to the apolipoprotein C3 family.
Post-translational modifications	O-linked glycan consists of Gal-GalNAc disaccharide, further modified with up to 3 sialic acid residues. O-glycosylated on Thr-94 with a core 1 or possibly core 8 glycan.
Cellular localization	Secreted.

Images

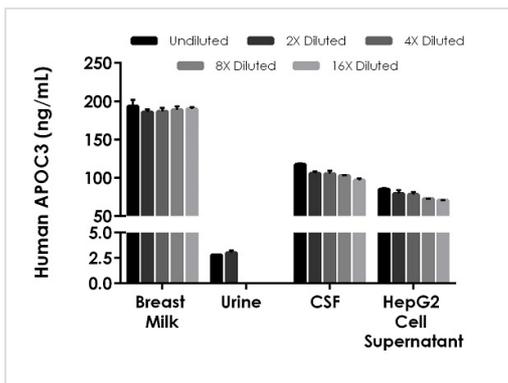


SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



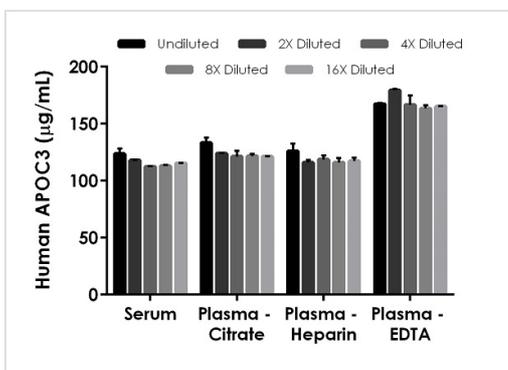
Example of human APOC3 standard curve in Sample Diluent NS.

The APOC3 standard curve was prepared as described in Section 10. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.



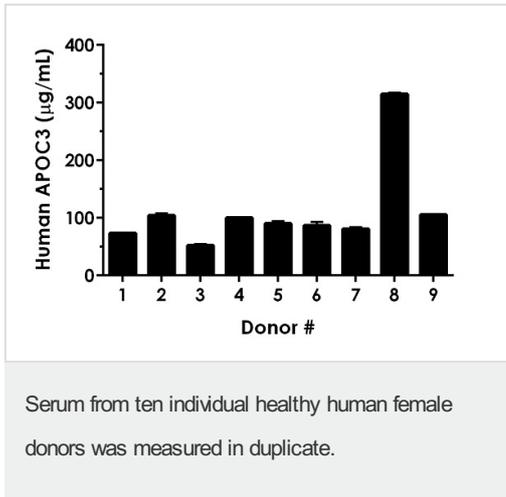
Interpolated concentrations of native APOC3 in human breast milk (de-fatted), urine, cerebrospinal fluid (CSF), and HepG2 cell culture supernatant samples.

The concentrations of APOC3 were measured in duplicates, interpolated from the APOC3 standard curves and corrected for sample dilution. Undiluted samples are as follows: breast milk 3.33%, urine 50%, CSF 4.44%, and HepG2 supernatant 5%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean APOC3 concentration was determined to be 188.8 ng/mL in neat breast milk, 2.895 ng/mL in neat urine, 105.5 ng/mL in neat cerebrospinal fluid, and 77.04 ng/mL in neat HepG2 cell culture supernatant.



Interpolated concentrations of native APOC3 in human serum, and plasma samples.

The concentrations of APOC3 were measured in duplicates, interpolated from the APOC3 standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 1:20,000, plasma (citrate) 1:20,000, plasma (heparin) 1:20,000, and plasma (EDTA) 1:20,000. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean APOC3 concentration was determined to be 116.4 µg/mL in neat serum, 124.3 µg/mL in neat plasma (citrate), 118.8 µg/mL in neat plasma (heparin), and 168.4 µg/mL in neat plasma (EDTA).



Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean APOC3 concentration was determined to be 111.9 µg/mL with a range of 52.19 – 314.5 µg/mL.

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