

Product datasheet

Mouse Apolipoprotein E ELISA Kit ab215086

SimpleStep ELISA[®]

★★★★☆ 1 Abreviews 3 Images

Overview

Product name Mouse Apolipoprotein E ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Serum	8			7.5%

Inter-assay

Sample	n	Mean	SD	CV%
Serum	3			9%

Sample type Serum, Hep Plasma, EDTA Plasma, Cit plasma

Assay type Sandwich (quantitative)

Sensitivity 130 pg/ml

Range 312.5 pg/ml - 20000 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Serum	102	97% - 115%
Hep Plasma	100	91% - 109%
EDTA Plasma	89	80% - 102%
Cit plasma	101	97% - 103%

Assay time 1h 30m

Assay duration One step assay

Species reactivity **Reacts with:** Mouse

Does not react with: Cow

Product overview

Apolipoprotein E *in vitro* SimpleStep ELISA (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of Apolipoprotein E protein in mouse serum and plasma.

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 substrate 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.

Notes

Apolipoprotein E is a glycoprotein synthesized mainly in the liver and the brain and is a component of most lipoproteins with the exception of low-density lipoproteins (LDL). Apolipoprotein E mediates the binding, internalization, and catabolism of lipoprotein particles. Additionally, it can serve as a ligand for the LDL (Apolipoprotein B/E) receptor and for the specific Apolipoprotein E receptor (chylomicron remnant) of hepatic tissues. Mouse Apolipoprotein E consists of an 18 amino acid (aa) signal peptide and a 293 aa mature chain. Human and rat Apolipoprotein E are 71% and 92% identical to mouse Apolipoprotein E, respectively.

Platform

Pre-coated microplate (12 x 8 well strips)

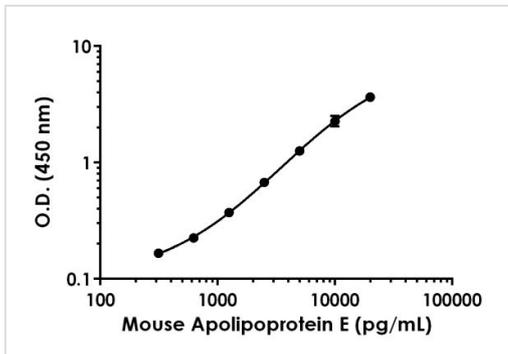
Properties

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

Components	1 x 96 tests
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent 5BI	1 x 6ml
10X Mouse Apolipoprotein E Capture Antibody	1 x 600µl
10X Mouse Apolipoprotein E Detector Antibody	1 x 600µl
Mouse Apolipoprotein E 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

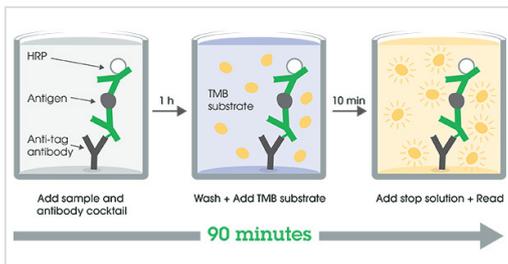
Function	Mediates the binding, internalization, and catabolism of lipoprotein particles. It can serve as a ligand for the LDL (apo B/E) receptor and for the specific apo-E receptor (chylomicron remnant) of hepatic tissues.
Tissue specificity	Occurs in all lipoprotein fractions in plasma. It constitutes 10-20% of very low density lipoproteins (VLDL) and 1-2% of high density lipoproteins (HDL). APOE is produced in most organs. Significant quantities are produced in liver, brain, spleen, lung, adrenal, ovary, kidney and muscle.
Involvement in disease	<p>Defects in APOE are a cause of hyperlipoproteinemia type 3 (HLPP3) [MIM:107741]; also known as familial dysbetalipoproteinemia. Individuals with HLPP3 are clinically characterized by xanthomas, yellowish lipid deposits in the palmar crease, or less specific on tendons and on elbows. The disorder rarely manifests before the third decade in men. In women, it is usually expressed only after the menopause. The vast majority of the patients are homozygous for APOE*2 alleles. More severe cases of HLPP3 have also been observed in individuals heterozygous for rare APOE variants. The influence of APOE on lipid levels is often suggested to have major implications for the risk of coronary artery disease (CAD). Individuals carrying the common APOE*4 variant are at higher risk of CAD.</p> <p>Genetic variations in APOE are associated with Alzheimer disease type 2 (AD2) [MIM:104310]. It is a late-onset neurodegenerative disorder characterized by progressive dementia, loss of cognitive abilities, and deposition of fibrillar amyloid proteins as intraneuronal neurofibrillary tangles, extracellular amyloid plaques and vascular amyloid deposits. The major constituent of these plaques is the neurotoxic amyloid-beta-APP 40-42 peptide (s), derived proteolytically from the transmembrane precursor protein APP by sequential secretase processing. The cytotoxic C-terminal fragments (CTFs) and the caspase-cleaved products such as C31 derived from APP, are also implicated in neuronal death. Note=The APOE*4 allele is genetically associated with the common late onset familial and sporadic forms of Alzheimer disease. Risk for AD increased from 20% to 90% and mean age at onset decreased from 84 to 68 years with increasing number of APOE*4 alleles in 42 families with late onset AD. Thus APOE*4 gene dose is a major risk factor for late onset AD and, in these families, homozygosity for APOE*4 was virtually sufficient to cause AD by age 80. The mechanism by which APOE*4 participates in pathogenesis is not known.</p> <p>Defects in APOE are a cause of sea-blue histiocyte disease (SBHD) [MIM:269600]; also known as sea-blue histiocytosis. This disorder is characterized by splenomegaly, mild thrombocytopenia and, in the bone marrow, numerous histiocytes containing cytoplasmic granules which stain bright blue with the usual hematologic stains. The syndrome is the consequence of an inherited metabolic defect analogous to Gaucher disease and other sphingolipidoses.</p> <p>Defects in APOE are a cause of lipoprotein glomerulopathy (LPG) [MIM:611771]. LPG is an uncommon kidney disease characterized by proteinuria, progressive kidney failure, and distinctive lipoprotein thrombi in glomerular capillaries. It mainly affects people of Japanese and Chinese origin. The disorder has rarely been described in Caucasians.</p>
Sequence similarities	Belongs to the apolipoprotein A1/A4/E family.
Post-translational modifications	<p>Synthesized with the sialic acid attached by O-glycosidic linkage and is subsequently desialylated in plasma. O-glycosylated with core 1 or possibly core 8 glycans. Thr-307 is a minor glycosylation site compared to Ser-308.</p> <p>Glycated in plasma VLDL of normal subjects, and of hyperglycemic diabetic patients at a higher level (2-3 fold).</p> <p>Phosphorylation sites are present in the extracellular medium.</p>
Cellular localization	Secreted.

Images



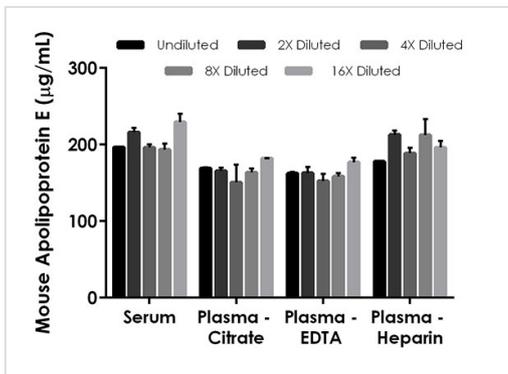
Example of mouse Apolipoprotein E standard curve in Sample Diluent NS.

Background-subtracted data values (mean +/- SD) are graphed.



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.

Other - Mouse Apolipoprotein E ELISA Kit (ab215086)



Interpolated concentrations of native Apolipoprotein E in mouse serum and plasma samples.

The concentrations of Apolipoprotein E were measured in duplicates, interpolated from the Apolipoprotein E standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 1:56,000, plasma (citrate) 1:56,000, plasma (EDTA) 1:7,000 and plasma (heparin) 1:56,000. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Apolipoprotein E concentration was determined to be 155.61 µg/mL in neat serum, 135.57 µg/mL in neat plasma (citrate), 132.0 µg/mL in neat plasma (EDTA), and 161.3 µg/mL in neat plasma (heparin).

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