Apolipoprotein E (APO-E) ELISA Kit for Mouse

PRODUCT OVERVIEW

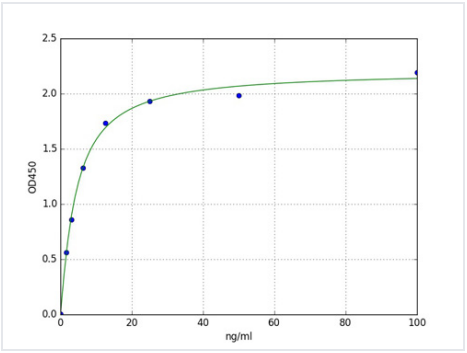
Product Name	Apolipoprotein E (APO-E), ELISA Kit
Full Product Name	Mouse Apolipoprotein E ELISA Kit
Product Gene Name	APO-E elisa kit
Product Synonym Names	APO-E (Apolipoprotein E)/Apo-E/MGC1571/apolipoprotein E3
Species Reactivity	Mouse
Assay Type	Sandwich ELISA, Double Antibody
Samples	Serum, Plasma, Cell Culture Supernatant, cell or tissue lysate, Other liquid samples
Detection Range	1.563-100ng/ml
Sensitivity	0.938ng/ml
Preparation and Storage	Store entire kit at 2-8C for short-term. For longer-term, please store the microplate & standard at -20C, while the remaining reagents can be stored at 2-8C
Molecular Weight	36,154 Da
OMIM	104310
ISO Certification	Manufactured in an ISO 13485:2003 and EN ISO 13485:2012 Certified Laboratory.
Related Product Information for APO-E elisa kit	Principle of the Assay||This kit was based on sandwich enzyme-linked immune-sorbent assay technology. Anti-APO-E antibody was pre-coated onto 96-well plates. And the biotin conjugated anti- APO-E antibody was used as detection antibodies. The standards, test samples and biotin conjugated detection antibody were added to the wells subsequently, and wash with wash buffer. HRP-Streptavidin was added and unbound conjugates were washed away with wash buffer. TMB substrates were used to visualize HRP enzymatic reaction. TMB was catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the APO-E amount of sample captured in plate. Read the O.D. absorbance at 450nm in a microplate reader, and then the concentration of APO-E can be calculated.
Other Notes	Small volumes of APO-E elisa kit vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for APO-E purchase	MBS762783 is a ready-to-use microwell, strip plate ELISA (enzyme-linked immunosorbent assay) Kit for analyzing the presence of the Apolipoprotein E (APO-E) ELISA Kit target analytes in biological samples. The concentration gradients of the kit standards or positive controls render a theoretical kit detection range in biological research samples containing APO-E. The ELISA analytical biochemical technique of the MBS762783 kit is based on APO-E antibody-APO-E antigen interactions (immunosorbency) and an HRP colorimetric detection system to detect APO-E antigen targets in samples. The ELISA Kit is designed to detect native, not recombinant, APO-E. Appropriate sample types may include undiluted body fluids and/or tissue homogenates, secretions. Quality control assays assessing reproducibility identified the intra-assay CV (%) and inter-assay CV(%).

Typical Data & Standard Curve

Results of a typical standard run of a APO-E ELISA Kit are shown below. This standard curve was generated at our lab for demonstration purpose only. Each user should obtain their own standard curve as per experiment. (N/A=not applicable)

X	ng/ml	0	1.563	3.125	6.25	12.5	25	50	100
Y	OD450	0.011	0.089	0.155	0.288	0.540	0.963	1.594	2.333

Typical Testing Data of APO-E elisa kit



Typical Standard Curve of APO-E elisa kit

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for APO-E. It may not necessarily be applicable to this product.

NCBI GI #	705044152
NCBI GeneID	348
NCBI Accession #	NP_001289620.1
UniProt Secondary Accession #	Q9P2S4; B2RC15; C0JYY5
UniProt Related Accession #	P02649
GenBank Nucleotide #	NM_001302691.1
NCBI Official Full Name	apolipoprotein E isoform b
NCBI Official Synonym Full Names	apolipoprotein E
NCBI Official Symbol	APOE
NCBI Official Synonym Symbols	AD2; LPG; APO-E; LDLCQ5
UniProt Protein Name	Apolipoprotein E
Protein Family	Apolipoprotein
UniProt Gene Name	APOE
UniProt Synonym Gene Names	Apo-E
UniProt Entry Name	APOE_HUMAN
NCBI Protein Information	apolipoprotein E
NCBI Summary for APO-E	The protein encoded by this gene is a major apoprotein of the chylomicron. It binds to a specific liver and peripheral cell receptor, and is essential for the normal catabolism of triglyceride-rich lipoprotein constituents. This gene maps to chromosome 19 in a cluster with the related apolipoprotein C1 and C2 genes. Mutations in this gene result in familial dysbetalipoproteinemia, or type III hyperlipoproteinemia (HLP III), in which increased plasma cholesterol and triglycerides are the consequence of impaired clearance of chylomicron and VLDL remnants. Alternative splicing results in multiple transcript variants. [provided by RefSeq, Nov 2014]

UniProt Comments for APO-E	APOE: 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. Defects in APOE are a cause of hyperlipoproteinemia type 3 (HLPP3); 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. Genetic variations in APOE are associated with Alzheimer disease type 2 (AD2). 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. 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. Defects in APOE are a cause of sea-blue histiocyte disease (SBHD); 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. Defects in APOE are a cause of lipoprotein glomerulopathy (LPG). 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. Belongs to the apolipoprotein A1/A4/E family. Protein type: Secreted, signal peptide; Lipid-binding; Secreted Chromosomal Location of Human Ortholog: 19q13.2 Cellular Component: cell soma; chylomicron; cytoplasm; dendrite; early endosome; endoplasmic reticulum; extracellular matrix; extracellular region; extracellular space; Golgi apparatus; membrane; nucleus; plasma membrane Molecular Function: antioxidant activity; beta-amyloid binding; cholesterol binding; cholesterol transporter activity; heparin binding; identical protein binding; lipid binding; lipid transporter activity; low-density lipoprotein receptor binding; metal chelating activity; phospholipid binding; protein binding; protein homodimerization activity; tau protein binding Biological Process: artery morphogenesis; cellular calcium ion homeostasis; cGMP-mediated signaling; cholesterol biosynthetic process; cholesterol catabolic process; cholesterol efflux; cholesterol homeostasis; cholesterol metabolic process; cytoskeleton organization and biogenesis; fat-soluble vitamin metabolic process; fatty acid homeostasis; G-protein coupled receptor protein signaling pathway; intracellular transport; lipoprotein biosynthetic process; lipoprotein catabolic process; lipoprotein metabolic process; long-chain fatty acid transport; maintenance of cellular localization; negative regulation of blood coagulation; negative regulation of blood vessel endothelial cell migration; negative regulation of cholesterol biosynthetic process; negative regulation of endothelial cell proliferation; negative regulation of inflammatory response; negative regulation of lipid biosynthetic process; negative regulation of MAP kinase activity; negative regulation of neuron apoptosis; neurite regeneration; nitric oxide mediated signal transduction; phospholipid efflux; phototransduction, visible light; positive regulation of cGMP biosynthetic process; positive regulation of lipid biosynthetic process; positive regulation of low-density lipoprotein receptor catabolic process; positive regulation of membrane protein ectodomain proteolysis; positive regulation of nitric-oxide synthase activity; protein import; receptor-mediated endocytosis; regulation of axon extension; regulation of Cdc42 protein signal transduction; regulation of gene expression; regulation of neuronal synaptic plasticity; response to dietary excess; response to reactive oxygen species; retinoid metabolic process; reverse cholesterol transport; synaptic transmission, cholinergic; triacylglycerol catabolic process; triacylglycerol metabolic process; vasodilation; virus assembly; vitamin metabolic process Disease: Alzheimer Disease 2; Alzheimer Disease 4; Lipoprotein Glomerulopathy; Macular Degeneration, Age-related, 1; Sea-blue Histiocyte Disease

Research Articles on APO-E	**1.** We report an association between APOE4 and neurocognitive function five years following cardiac surgery.
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