abcam

Product datasheet

Recombinant Human Apolipoprotein E ab55210

1 References 3 Images

Description

Product name	Recombinant Human Apolipoprotein E
Purity	> 90 % SDS-PAGE. Purified by affinity chromatography Endotoxin level: < 0.1 ng per µg of ApoE2
Expression system	Escherichia coli
Accession	P02649
Protein length	Full length protein
Animal free	No
Nature	Recombinant
Species	Human
Sequence	MKVEQAVETE PEPELRQQTE WQSGQRWELA LGRFWDYLRW VQTLSEQVQE ELLSSQVTQE LRALMDETMK ELKAYKSELE EQLTPVAEET RARLSKELQA AQARLGADME DVCGRLVQYR GEVQAMLGQS TEELRVRLAS HLRKLRKRLL RDADDLQKCL AVYQAGAREG AERGLSAIRE RLGPLVEQGR VRAATVGSLA GQPLQERAQA WGERLRARME EMGSRTRDRL DEVKEQVAEV RAKLEEQAQQ IRLQAEAFQA RLKSWFEPLV EDMQRQWAGL VEKVQAAVGT SAAPVPSDNH
Predicted molecular weight	34 kDa

Specifications

Our **Abpromise guarantee** covers the use of **ab55210** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	SDS-PAGE Western blot HPLC
Form	Lyophilized
Additional notes	This product is for the isoform APOE2

Preparation and Storage

Stability and Storage

Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.

pH: 7.8
Constituents: 0.328% Sodium phosphate, 0.0077% (R*,R*)-1,4-Dimercaptobutan-2,3-diol

Reconstitution

Centrifuge the vial prior to opening. Reconstitute in 20 mM Sodium Phosphate, pH 7.8 + 0.5 mM DTT to a concentration of 0.1-1.0 mg/mL. Do not vortex. This solution can be stored at 2-8°C for up to 1 week. For extended storage, it is recommended to further dilute in a buffer (e.g. PBS) containing a carrier protein (example 0.1% BSA) and store in working aliquots at -20°C to -80°C.

General Info

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

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.
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.
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.
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.
Sequence similarities	Belongs to the apolipoprotein A1/A4/E family.
Post-translational modifications	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. Glycated in plasma VLDL of normal subjects, and of hyperglycemic diabetic patients at a higher level (2-3 fold). Phosphorylation sites are present in the extracelllular medium.
Cellular localization	Secreted.

Images

Western blot - Recombinant Human Apolipoprotein E (ab55210)

Anti-Apolipoprotein E antibody (**ab85311**) at 1 µg/ml + Recombinant Human Apolipoprotein E (ab55210) at 0.1 µg

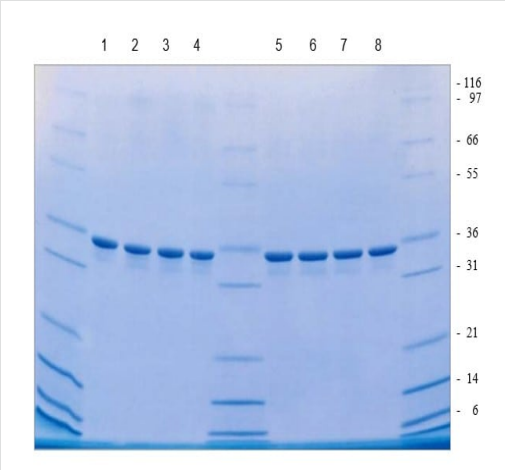
Secondary

Goat Anti-Rabbit IgG H&L (HRP) preadsorbed (**ab97080**) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Exposure time: 4 minutes

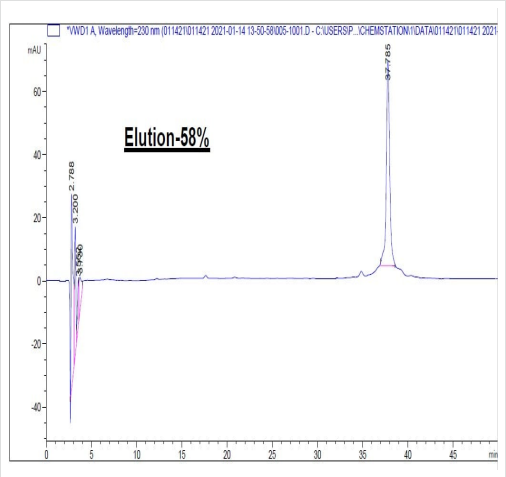


SDS-PAGE - Recombinant Human Apolipoprotein E (ab55210)

SDS-PAGE gel with 4 - 20% Tris-glycine gel. All lanes contain Human ApoE2.

Lanes 1-4: Unreduced

Lanes 5-8: Reduced



HPLC analysis of ab55210

HPLC - Recombinant Human Apolipoprotein E (ab55210)

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