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APOE Antibody (C-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7587b

Specification

APOE Antibody (C-term) - Product Information

Application	WB, IHC-P,E
Primary Accession	P02649
Other Accession	P18287, P10517
Reactivity	Human, Mouse
Predicted	Monkey, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit Ig
Antigen Region	263-292

APOE Antibody (C-term) - Additional Information

Gene ID 348

Other Names
Apolipoprotein E, Apo-E, APOE

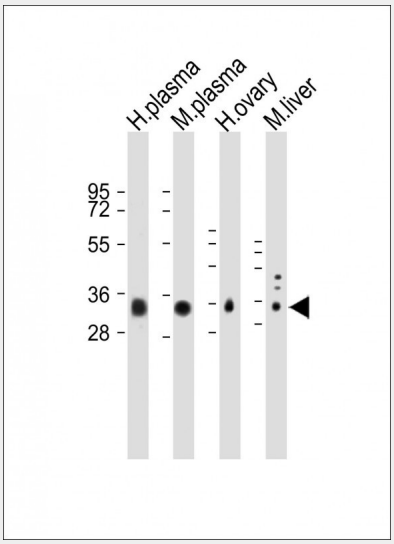
Target/Specificity
This APOE antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 263-292 amino acids from the C-terminal region of human APOE.

Dilution
WB~~1:1000
IHC-P~~1:10~50

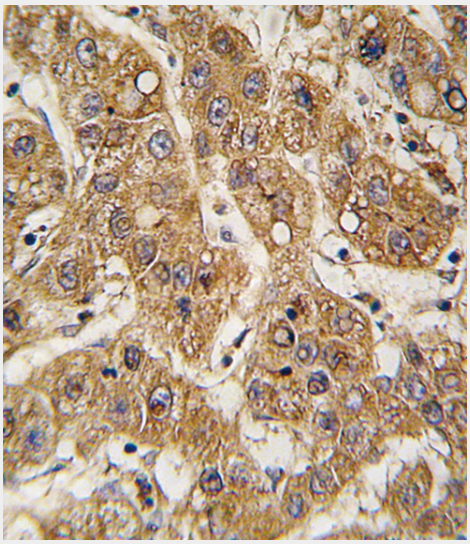
Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
APOE Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.



All lanes : Anti-APOE Antibody (C-term) at 1:1000 dilution Lane 1: Human plasma lysate Lane 2: Mouse plasma lysate Lane 3: Human ovary lysate Lane 4: Mouse liver lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 36 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Formalin-fixed and paraffin-embedded human hepatocarcinoma tissue reacted with

APOE Antibody (C-term) - Protein Information

Name APOE (HGNC:613)

Function
APOE is an apolipoprotein, a protein associating with lipid particles, that mainly functions in lipoprotein-mediated lipid transport between organs via the plasma and interstitial fluids (PubMed:6860692, PubMed:1911868, PubMed:14754908). APOE is a core component of plasma lipoproteins and is involved in their production, conversion and clearance (PubMed:6860692, PubMed:2762297, PubMed:1911868, PubMed:1917954, PubMed:9395455, PubMed:14754908, PubMed:23620513). Apoliproteins are amphipathic molecules that interact both with lipids of the lipoprotein particle core and the aqueous environment of the plasma (PubMed:6860692, PubMed:2762297, PubMed:9395455). As such, APOE associates with chylomicrons, chylomicron remnants, very low density lipoproteins (VLDL) and intermediate

APOE antibody (C-term) (Cat.#AP7587b), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

APOE Antibody (C-term) - Background

Chylomicron remnants and very low density lipoprotein (VLDL) remnants are rapidly removed from the circulation by receptor-mediated endocytosis in the liver. Apolipoprotein E, a main apoprotein of the chylomicron, binds to a specific receptor on liver cells and peripheral cells. ApoE is essential for the normal catabolism of triglyceride-rich lipoprotein constituents. The APOE gene is mapped to chromosome 19 in a cluster with APOC1 and APOC2. Defects in apolipoprotein E 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.

APOE Antibody (C-term) - References

Wood,K.C., Appl Physiol Nutr Metab 33 (4), 761-768 (2008) Pemberton,L., (er) HIV Med. (2008) In press Sundermann,E.E., (er) Horm Behav (2008) In press Christensen,H.,(er) BMC Geriatr 8, 14 (2008)

density lipoproteins (IDL) but shows a preferential binding to high-density lipoproteins (HDL) (PubMed:6860692, PubMed:1911868). It also binds a wide range of cellular receptors including the LDL receptor/LDLR, the LDL receptor-related proteins LRP1, LRP2 and LRP8 and the very low-density lipoprotein receptor/VLDLR that mediate the cellular uptake of the APOE-containing lipoprotein particles (PubMed:2762297, PubMed:1917954, PubMed:7768901, PubMed:8939961, PubMed:12950167, PubMed:20030366, PubMed:2063194, PubMed:8756331, PubMed:20303980, PubMed:1530612, PubMed:7635945). Finally, APOE has also a heparin-binding activity and binds heparan- sulfate proteoglycans on the surface of cells, a property that supports the capture and the receptor-mediated uptake of APOE-containing lipoproteins by cells (PubMed:9395455, PubMed:<a href="http://www.uniprot.org/ci

tations/9488694"
target="_blank">9488694,
PubMed:<a href="http://www.uniprot.org/ci
tations/23676495"
target="_blank">23676495,
PubMed:<a href="http://www.uniprot.org/ci
tations/7635945"
target="_blank">7635945). A main
function of APOE is to mediate lipoprotein
clearance through the uptake of
chylomicrons, VLDLs, and HDLs by
hepatocytes (PubMed:<a href="http://www.
uniprot.org/citations/1911868"
target="_blank">1911868,
PubMed:<a href="http://www.uniprot.org/ci
tations/1917954"
target="_blank">1917954,
PubMed:<a href="http://www.uniprot.org/ci
tations/9395455"
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PubMed:<a href="http://www.uniprot.org/ci
tations/23676495"
target="_blank">23676495,
PubMed:<a href="http://www.uniprot.org/ci
tations/29516132"
target="_blank">29516132). APOE is
also involved in the biosynthesis by the
liver of VLDLs as well as their uptake by
peripheral tissues ensuring the delivery of
triglycerides and energy storage in muscle,
heart and adipose tissues (PubMed:<a href
="http://www.uniprot.org/citations/2762297
" target="_blank">2762297,
PubMed:<a href="http://www.uniprot.org/ci
tations/29516132"
target="_blank">29516132). By
participating in the lipoprotein-mediated
distribution of lipids among tissues, APOE
plays a critical role in plasma and tissues
lipid homeostasis (PubMed:<a href="http://
www.uniprot.org/citations/2762297"
target="_blank">2762297,
PubMed:<a href="http://www.uniprot.org/ci
tations/1917954"
target="_blank">1917954,
PubMed:<a href="http://www.uniprot.org/ci
tations/29516132"
target="_blank">29516132). APOE is
also involved in two steps of reverse
cholesterol transport, the HDLs-mediated
transport of cholesterol from peripheral
tissues to the liver, and thereby plays an
important role in cholesterol homeostasis
(PubMed:<a href="http://www.uniprot.org/c
itations/9395455"
target="_blank">9395455,
PubMed:<a href="http://www.uniprot.org/ci

tations/14754908"
target="_blank">14754908,
PubMed:<a href="http://www.uniprot.org/ci
tations/23620513"
target="_blank">23620513). First, it is
functionally associated with ABCA1 in the
biogenesis of HDLs in tissues (PubMed:<a h
ref="http://www.uniprot.org/citations/14754
908" target="_blank">14754908,
PubMed:<a href="http://www.uniprot.org/ci
tations/23620513"
target="_blank">23620513). Second,
it is enriched in circulating HDLs and
mediates their uptake by hepatocytes
(PubMed:<a href="http://www.uniprot.org/c
itations/9395455"
target="_blank">9395455). APOE also
plays an important role in lipid transport in
the central nervous system, regulating
neuron survival and sprouting (PubMed:<a
href="http://www.uniprot.org/citations/8939
961" target="_blank">8939961,
PubMed:<a href="http://www.uniprot.org/ci
tations/25173806"
target="_blank">25173806). APOE in
also involved in innate and adaptive
immune responses, controlling for instance
the survival of myeloid-derived suppressor
cells (By similarity). APOE, may also play a
role in transcription regulation through a
receptor-dependent and
cholesterol-independent mechanism, that
activates MAP3K12 and a non-canonical
MAPK signal transduction pathway that
results in enhanced AP-1-mediated
transcription of APP (PubMed:<a href="http
://www.uniprot.org/citations/28111074"
target="_blank">28111074).

Cellular Location
Secreted. Secreted, extracellular space.
Secreted, extracellular space, extracellular
matrix Note=In the plasma, APOE is
associated with chylomicrons, chylomicrons
remnants, VLDL, LDL and HDL lipoproteins
(PubMed:1911868, PubMed:8340399). Lipid
poor oligomeric APOE is associated with the
extracellular matrix in a calcium- and
heparan-sulfate proteoglycans- dependent
manner (PubMed:9488694). Lipidation
induces the release from the extracellular
matrix (PubMed:9488694).

Tissue Location
Produced by several tissues and cell types
and mainly found associated with lipid
particles in the plasma, the interstitial fluid

and lymph (PubMed:25173806). Mainly synthesized by liver hepatocytes (PubMed:25173806). Significant quantities are also produced in brain, mainly by astrocytes and glial cells in the cerebral cortex, but also by neurons in frontal cortex and hippocampus (PubMed:3115992, PubMed:10027417). It is also expressed by cells of the peripheral nervous system (PubMed:10027417, PubMed:25173806). Also expressed by adrenal gland, testis, ovary, skin, kidney, spleen and adipose tissue and macrophages in various tissues (PubMed:25173806)

APOE Antibody (C-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

APOE Antibody (C-term) - Citations

- ApoE-fragment/Aβ heteromers in the brain of patients with Alzheimer's disease.
- Apolipoprotein E interacts with hepatitis C virus nonstructural protein 5A and determines assembly of infectious particles.
- Using differential solubilization and 2-D gel electrophoresis to visualize increased numbers of proteins in the human cortex and caudate nucleus and putamen.