10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-Apolipoprotein E (GOAT) Antibody
APOLIPOPROTEIN E Antibody
Catalog # ASR5075

Specification

Anti-Apolipoprotein E (GOAT) Antibody - Product Information

Host	**Goat**
Conjugate	**Unconjugated**
Target Species	**Human**
Reactivity	**Rat, Human**
Clonality	**Polyclonal**
Application	**WB, IHC, E, IP, I, LCI**
Application Note	**Apolipoprotein E antibodies have been tested by western blot and used for indirect trapping ELISA for quantitation of antigen in serum using a standard curve, for immunoprecipitation and for western blotting for highly sensitive qualitative analysis.**
Physical State	**Liquid (sterile filtered)**
Buffer	**0.125 M Sodium Borate, 0.075 M Sodium Chloride, 0.005 M EDTA, pH 8.0**
Immunogen	**Apolipoprotein Type E was isolated from human plasma by density gradient centrifugation followed by HPLC purification.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-Apolipoprotein E (GOAT) Antibody - Additional Information

Gene ID 348

Other Names
348

Purity
Anti-Apolipoprotein E has been prepared by immunoaffinity chromatography using immobilized antigens followed by extensive cross-adsorption against other apoLipoproteins and human serum proteins to remove any unwanted specificities. Typically less than 1% cross-reactivity against other types of apoLipoprotein was detected by ELISA against purified standards. This antibody reacts with human apoLipoprotein E and has negligible cross-reactivity with Type A-1 A-II, B, C-I, C-II, C-III and J apoLipoproteins. Specific cross-reaction of anti-apoLipoprotein antibodies with antigens from other species has not been determined. Non-specific cross-reaction of anti-apoLipoprotein antibodies with other human serum proteins is negligible.

Storage Condition
Store vial at 4° C prior to opening. This product is stable at 4° C as an undiluted liquid. Dilute only prior to immediate use. For extended storage, mix with an equal volume of glycerol, aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-Apolipoprotein E (GOAT) Antibody - 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:14754908, PubMed:1911868, PubMed:6860692). APOE is a core component of plasma lipoproteins and is involved in their production, conversion and clearance (PubMed:14754908, PubMed:1911868, PubMed:1917954, PubMed:23620513, PubMed:2762297, PubMed:6860692, PubMed:9395455). Apolipoproteins are amphipathic molecules that interact both with lipids of the lipoprotein particle core and the aqueous environment of the plasma (PubMed:2762297, PubMed:6860692, PubMed:9395455). As such, APOE associates with chylomicrons, chylomicron remnants, very low density lipoproteins (VLDL) and intermediate density lipoproteins (IDL) but shows a preferential binding to high-density lipoproteins (HDL) (PubMed:1911868, PubMed:6860692). 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:12950167, PubMed:1530612, PubMed:1917954, PubMed:20030366, PubMed:20303980, PubMed:2063194, PubMed:2762297, PubMed:7635945, PubMed:7768901, PubMed:8756331, PubMed:8939961). 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:23676495, PubMed:7635945, PubMed:9395455, PubMed:9488694). A main function of APOE is to mediate lipoprotein clearance through the uptake of chylomicrons, VLDLs, and HDLs by hepatocytes (PubMed:1911868, PubMed:1917954, PubMed:<a href="http://www.uniprot.org/citations/23676495"

target="_blank">23676495, PubMed:29516132, PubMed:9395455). 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:2762297, PubMed:29516132). By participating in the lipoprotein-mediated distribution of lipids among tissues, APOE plays a critical role in plasma and tissues lipid homeostasis (PubMed:1917954, PubMed:2762297, PubMed: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:14754908, PubMed:23620513, PubMed:9395455). First, it is functionally associated with ABCA1 in the biogenesis of HDLs in tissues (PubMed:14754908, PubMed:23620513). Second, it is enriched in circulating HDLs and mediates their uptake by hepatocytes (PubMed:9395455). APOE also plays an important role in lipid transport in the central nervous system, regulating neuron survival and sprouting (PubMed:25173806, PubMed:8939961). APOE is also involved in innate and adaptive immune responses, controlling for instance the survival of myeloid-derived suppressor cells (By similarity). Binds to the immune cell receptor LILRB4 (PubMed:30333625). 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:28111074).

Cellular Location
Secreted. Secreted, extracellular space. Secreted, extracellular space, extracellular matrix. Extracellular vesicle. Endosome, multivesicular body. 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). Colocalizes with CD63 and PMEL at exosomes and in intraluminal vesicles within multivesicular endosomes

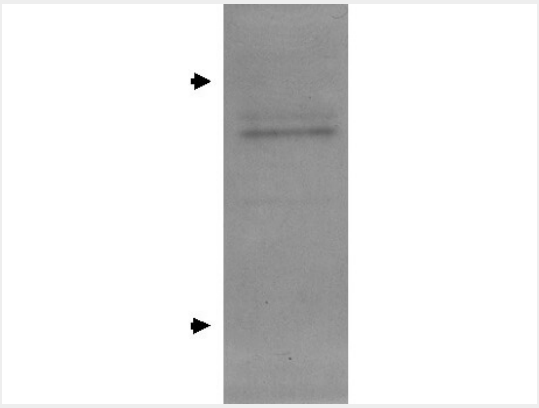
Tissue Location
Produced by several tissues and cell types and mainly found associated with lipid particles in the plasma, the interstitial fluid and lymph (PubMed:25173806). Mainly synthesized by liver hepatocytes (PubMed:25173806). Significant quantities are also produced in brain, mainly by astrocytes and glial cells in the cerebral cortex, but also by neurons in frontal cortex and hippocampus (PubMed:10027417, PubMed:3115992). 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)

Anti-Apolipoprotein E (GOAT) Antibody - 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

Anti-Apolipoprotein E (GOAT) Antibody - Images



Western Blot of goat Anti Apolipoprotein E Antibody. Lane 1: rat glial whole cell lysate. Load: 40 µg per lane. Primary antibody: Apolipoprotein E antibody at 1:1000 for overnight at 4°C. Secondary antibody: HRP goat secondary antibody at 1:200 for 45 min at RT. Block: 3%BLOTTO overnight at 4°C. Predicted/Observed size: 36 kDa, 35-36 kDa for APO-E. MW markers arrows at 25kDa and 37kDa. Other band(s): ~55kDa.

Anti-Apolipoprotein E (GOAT) Antibody - Background

Anti Apolipoprotein E Antibody recognizes the gene product of APOE. Apolipoprotein E is found in the chylomicron and IDLs that binds to a specific receptor on liver cells and peripheral cells. Apolipoprotein E is essential for the normal catabolism of triglyceride-rich lipoprotein constituents. This antibody is suitable for cardiovascular research.