Human Apolipoprotein E/ApoE Alexa Fluor® 647-conjugated Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF4144R
100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Apolipoprotein E/ApoE in direct ELISAs and Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human Apolipoprotein E3/ApoE3 Lys19-His317 Accession # P02649
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

Western Blot	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

ApoE is a major protein component of serum LDL, VLDL, HDL, and chylomicrons. It is produced predominantly by hepatocytes, macrophages, and non-neuronal cells in the CNS. ApoE-containing particles transport triglycerides and cholesterol to peripheral tissues for cellular uptake and catabolism (1-4). Mature human ApoE is a 37 kDa glycoprotein that consists of an N-terminal domain composed of four bundled α-helices, plus a hinge region and an extended α-helical C-terminal domain (2, 5). Its amphipathic nature and flexible structure enables it to adopt dramatically different conformations upon lipid association (2). ApoE is monomeric in lipid particles, although it forms oligomers when lipid-free (6). ApoE3 is the most abundant of the three common alleles in human; ApoE2 and ApoE4 differ by single aa substitutions (1). Mature human ApoE shares 71% aa sequence identity with mouse and rat ApoE. LDL receptor family proteins preferentially bind and internalize the lipid-bound form of ApoE with the exception of VLDLR which also efficiently internalizes lipid-free ApoE (7, 8). Lipoprotein uptake is facilitated by the initial binding of ApoE to cell surface heparan sulfate proteoglycans (HSPG) (9). Receptor/HSPG binding and lipid interactions primarily involve the N- and C-terminal regions of ApoE, respectively (2). Recycled lipid-free ApoE is formed into HDL particles through interactions with the lipid transporter ABCA1 (10). High cellular sterol content activates the nuclear hormone receptor LXR which promotes increased ApoE synthesis and increased sterol efflux, while low sterol content induces LDL R expression with increased sterol uptake and decreased ApoE production (11). ApoE3 dampens the TNF-α induced inflammatory response in vascular endothelial cells (12). In the CNS, ApoE blocks production of the amyloid Aβ peptide by inhibiting the γ-secretase cleavage of APP (13). It also complexes with Aβ and promotes Aβ internalization *via* LRP2 (14, 15).

PRODUCT SPECIFIC NOTICES

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