ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Human Apolipoprotein E (ApoE) Antibodies

Cat. # APOE11-S	**Goat** Anti-Human ApoE antiserum # 1	**SIZE**: 100 ul
Cat. # APOE11-C	Human ApoE protein Western Blot +ve control	**SIZE**: 100 ul

Apolipoprotein E (apo E), a component of lipoproteins produced by the liver and in circulating macrophages, plays a critical role in the reverse transport of cholesterol to the liver via the circulation. ApoE is also expressed in the brain and in response to injury in both the peripheral and central nervous systems. **ApoE** is a single polypeptide chain of 299 amino acids (~34 kDa) consisting of two independently folded functional domains. T he C-terminal domain contains the major lipid-binding region. The N-terminal domain exists in the lipid-free state as a four-helix bundle of amphipathic α-helices and contains the LDLR-binding region (amino acids 136–150 in helix), which coincides with a heparin-binding site. Humans and mice lacking apoE cannot clear remnant lipoproteins from the plasma and are at increased risk for atherosclerosis. ApoE is a high-affinity ligand for the low density lipoprotein receptor (LDLR) family and for cell-surface heparan sulfate proteoglycans. Defective binding of apoE to receptors causes cholesterol-rich lipoprotein particles to accumulate in the plasma and is the mechanism of type III hyperlipoproteinemia, a genetic disorder characterized by elevated plasma cholesterol and triglyceride levels and accelerated coronary artery disease. In humans, apoE has three major isoforms: **Apo E2** (Cys112, Cys158), **Apo E3** (Cys112, Arg158), **Apo E4** (Arg112, Arg158), products of alleles at a single gene locus. Although apoE4 is neither necessary nor sufficient to cause AD, inheritance of apoE4 is a significant risk factor for late onset AD, decreasing the age of onset and the duration of disease. Due primarily to this genetic linkage, the role of apoE in the pathogenesis AD is being actively studied.

Source of Antigen, Antibodies, and positive controls

Antigen	Purified human ApoE protein
Ab Host/type	Goat, Polyclonal antiserum # APOE11-S
2-Ab	**Rabbit Anti-goat IgG-HRP conjugate** Cat # 30220 (AP, biotin, FITC conjugates also available)
-ve control IgG	# 20011-1, Goat (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

For Western blot +ve control, purified human ApoE protein 34 Kda (**Cat # APOE11-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **APOE11**-C for good visibility with antibody Cat # **APOE11**-S. Store at –20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **APOE11**-C solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified, undiluted)
100 ul/vial solution lyophilized powder contains 0.05% sodium azide **Reconstitute powder** 100 ul PBS

Recommended Usage

Western Blotting 1:1K for neat serum using Chemiluminescence technique). Human ApoE is approx. ~34 kDa (1).

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry & Immunofluorescence: We recommend a dilution of 1:200 to 1:500 (1).

Specificity & Cross-reactivity

The APOE11-S reacts with all isoforms (E2, E3, and E4). Antibody crossreactivity in various species is not established. APOE11-C protein control should be used a positive control.

General References:

1. Alzheimer' Reports (1998)1, 119-128, Neuroscience Lett. (1992) 135, 235-238; Acta Neuropathologica (1996) 92, 378-385; Kelly ME et al (1994) cell Immunol. 159, 124; Mahley RW et al (1988) Science 240, 622; Rall SC et al (1986) Methods Enzymol. 128, 273

*This product is for In vitro research use only.

Related material available from ADI

Ant-Beta amyloid 1-40, 1-42, APP, Parkin, Synucleins (α, β, γ), Presenilins 1, 2, ERAB

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