ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Human Apolipoprotein A-IV (ApoA4) protein and antibodies

Cat. # APOA45-A	Goat Anti-Human ApoA-IV protein IgG, aff pure	**SIZE**: 100 ul
Cat. # APOA45-N-100	Purified Human ApoA-IV protein	**SIZE**: 100 ug
Cat. # APOA45-C	Purified Human ApoA-IV protein control for WB	**SIZE**: 100 ul

Apolipoproteins are proteins that bind to fats (lipids). They form lipoproteins, which transport dietary fats through the bloodstream. Dietary fats are digested in the intestine and carried to the liver. Fats are also synthesized in the liver itself. Fats are stored in fat cells (adipocytes). Fats are metabolized as needed for energy in the skeletal muscle, heart, and other organs and are secreted in breast milk. Apolipoproteins also serve as enzyme co-factors, receptor ligands, and lipid transfer carriers that regulate the metabolism of lipoproteins and their uptake in tissues.

Apolipoprotein A-IV (also known as apoA-IV, apoAIV, or apoA4) is plasma protein that is coded by gene on chromosome 11 in close linkage to APOA1 and APOC3. The primary translation product of the APOA4 gene is a 396-residue preprotein, which undergoes proteolytic processing to yield apo A-IV, a 376-reside mature O-linked glycoprotein. In most mammals, including humans, apo A-IV synthesis is confined to the intestine; however in mice and rats hepatic synthesis also occurs. Apo A-IV is secreted into circulation on the surface of newly synthesized chylomicron particles. Intestinal fat absorption dramatically increases the synthesis and secretion of apo A-IV. Although its primary function in human lipid metabolism has not been established, apo A-IV has been found to: 1) activate lecithin-cholesterol acyltransferase and cholesterylester transfer protein in vitro; 2) play a role in the regulation of appetite and satiety in rodent models; 3) display anti-oxidant and anti-atherogenic properties in vitro and in rodent models; 4) modulate the efficiency of enterocyte and hepatic transcellular lipid transport in vitro[3]. Human apo A-IV deficiency has not been reported.

Source of Antigen, Antibodies, and positive controls

Cat #APOA45-N-100

Human ApoA4 was prepared from fresh, non-frozen plasma shown to be non reactive for HbsAG, anti-HCV, anti-HBc, and negative for anti-HIV 1 & 2 by FDA approved tests. It is >90% pure by SDS-PAGE, mol wt 46 kda. It is supplied at 1 mg/ml (see lot sp concn on the vial) in 1 mM Na Bicarbonate buffer, pH 8.2, or lyophilized in the same buffer. Reconstitute in water or other buffers at 1mg/ml and store at -20oC or below. Stability is ~1 year.

Antigen	A synthetic peptide: C-KEKESQDKTLSLP, 359-371 of Human APOA4 (protein accession #P06727, refs 1) designated control peptide (APOA45-P)
Ab Host/type	Goat, Poly IgG # **APOA45-A**
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

Cat# APOA45-C

For Western blot +ve control, purified human ApoA4 protein (Cat # **APOA45-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **APOA45-C** for good visibility with antibody Cat # **APOA45**-A. 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 **APOA45**-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

IgG purified
100 ul/vial solution lyophilized powder contains 0.05% sodium azide
Reconstitute powder 100 ul PBS

Recommended Usage

Western Blotting 1-3 ug/ml using Chemiluminescence technique). Human ApoB is approx. ~550 kDa (1).

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

Histochemistry & Immunofluorescence: not tested. We recommend a antibody testing at 5-20 ug/ml.

Specificity & Cross-reactivity

Human APOA45-P is 100% conserved in chimp and baboon. The antibody reacts with human ApoA4 in ELISA and Western. Antibody crossreactivity in various species is not established. APOA45-C protein control should be used a positive control.

General References: Karathanasis SK, (1986). Proc. Natl. Acad. Sci. U.S.A. 83 (22): 8457–61; Elshourbagy NA, (1987 J. Biol. Chem. 262 (17): 7973–81Luo CC (1986). J.Mol Biol. 187, 325–340; Deeg, M A (2001) J. Lipid Res.42: 442–51

*This product is for In vitro research use only.

Related material available from ADI

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

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