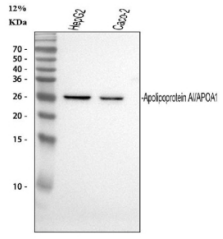
APOA1 Antibody / Apolipoprotein A [clone 17G5] (FY12602)

Catalog No.	Formulation	Size
FY12602	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1
Clone Name	17G5
Purity	Affinity-chromatography
Buffer	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
UniProt	P02647
Applications	ELISA : 1-5ug/ml (Capture) Western Blot : 0.25-0.5ug/ml
Limitations	This APOA1 antibody is available for research use only.



Western blot analysis of APOA1 using anti-APOA1 antibody. Electrophoresis was performed on a 12% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human HepG2 whole cell lysates, Lane 2: human CACO-2 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-APOA1 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an ECL Plus Western Blotting Substratewith Tanon 5200 system. Western blot probed with anti-APOA1 shows a major band at ~25 kDa, lower than the predicted ~31 kDa, consistent with the known anomalous migration of the amphipathic APOA1 protein on SDS-PAGE.

Description

APOA1 antibody detects Apolipoprotein A-I, the major protein component of high-density lipoprotein (HDL) that mediates cholesterol transport and lipid metabolism. APOA1 facilitates reverse cholesterol transport by binding cellular cholesterol

and phospholipids, delivering them to the liver for excretion. The APOA1 antibody is widely used in cardiovascular, metabolic, and lipid biology research to study HDL function, atherosclerosis prevention, and lipid-protein interactions.

APOA1 is encoded by the APOA1 gene located on human chromosome 11q23.3. The protein is approximately 243 amino acids long and synthesized mainly in the liver and small intestine. APOA1 circulates in plasma as part of HDL particles, where it activates lecithin-cholesterol acyltransferase (LCAT), an enzyme that esterifies free cholesterol, promoting HDL maturation. It plays a central role in maintaining lipid balance and preventing lipid accumulation in arterial walls.

The APOA1 antibody detects a 28 kilodalton band by western blot and exhibits strong cytoplasmic and extracellular staining in hepatic and intestinal tissues. APOA1 interacts with ATP-binding cassette transporters ABCA1 and ABCG1 to facilitate cholesterol efflux from peripheral cells. It also exhibits antioxidant and anti-inflammatory functions by neutralizing oxidized lipids and modulating cytokine signaling, contributing to cardiovascular protection.

Mutations or decreased expression of APOA1 lead to hypoalphalipoproteinemia and increased risk of coronary artery disease. Conversely, elevated APOA1 levels correlate with improved lipid clearance and reduced atherosclerotic plaque formation. In addition to lipid transport, APOA1 influences glucose metabolism, immune modulation, and amyloid aggregation prevention.

As a multifunctional lipid carrier and protective factor in cardiovascular health, APOA1 serves as both a biomarker and therapeutic target for metabolic disorders. NSJ Bioreagents provides a validated APOA1 antibody optimized for western blot, supporting research into HDL biology, cholesterol regulation, and cardiovascular disease prevention.

Application Notes

Optimal dilution of the APOA1 antibody should be determined by the researcher.

Immunogen

E. coli-derived mouse Apolipoprotein A I recombinant protein (Position: D25-Q264) was used as the immunogen for the APOA1 antibody.

Storage

After reconstitution, the APOA1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.