

apoA-I (A5.4): sc-13549

BACKGROUND

Apolipoproteins are protein components of plasma lipoproteins. The human apoA-I gene encodes a single chain, 243 amino acid protein which promotes cholesterol efflux from tissues to the liver for excretion. Apolipoprotein A-I is the major protein component of high density lipoprotein (HDL) in the plasma. It can function as a cofactor for lecithin cholesterolacyltransferase (LCAT), which is responsible for the formation of most plasma cholesteryl esters. The human apoA-II gene encodes the second most abundant protein of HDL particles, where it influences plasma levels of free fatty acids (FFA). The human apoA-IV gene encodes a 396 amino acid preprotein, which after proteolytic processing is secreted from the intestine in association with chylomicron particles. ApoA-IV is a potent activator of LCAT *in vitro*. The human apoA-V gene encodes a 366 amino acid protein that is believed to be an important determinant of plasma triglyceride levels.

REFERENCES

- Vergnes, L., et al. 1997. The apolipoprotein A-I/C-III/A-IV gene cluster: apoC-III and apoA-IV expression is regulated by two common enhancers. *Biochim. Biophys. Acta* 1348: 299-310.
- Qin, S., et al. 2000. Phospholipid transfer protein gene knock-out mice have low high density lipoprotein levels, due to hypercatabolism and accumulate apoA-IV-rich lamellar lipoproteins. *J. Lipid Res.* 41: 269-276.
- Fournier, N., et al. 2000. Human apoA-IV overexpression in transgenic mice induces cAMP-stimulated cholesterol efflux from J774 macrophages to whole serum. *Arterioscler. Thromb. Vasc. Biol.* 20: 1283-1292.
- Deeg, M.A., et al. 2001. GPI-specific phospholipase D associates with an apoA-I- and apoA-IV-containing complex. *J. Lipid Res.* 42: 442-451.
- Nazih, H., et al. 2001. Butyrate stimulates apoA-IV-containing lipoprotein secretion in differentiated Caco-2 cells: role in cholesterol efflux. *J. Cell. Biochem.* 83: 230-238.
- Verges, B., et al. 2001. Increased plasma apoA-IV level is a marker of abnormal postprandial lipemia: a study in normoponderal and obese subjects. *J. Lipid Res.* 42: 2021-2029.
- Ezeh, B., et al. 2003. Plasma distribution of apoA-IV in patients with coronary artery disease and healthy controls. *J. Lipid Res.* 44: 1523-1529.
- Gallagher, J.W., et al. 2004. apoA-IV tagged with the ER retention signal KDEL perturbs the intracellular trafficking and secretion of apoB. *J. Lipid Res.* 45: 1826-1834.

CHROMOSOMAL LOCATION

Genetic locus: APOA1 (human) mapping to 11q23.3.

SOURCE

apoA-I (A5.4) is a mouse monoclonal antibody raised against amino acids 113-243 of apoA-I of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

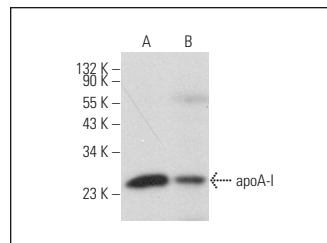
apoA-I (A5.4) is recommended for detection of apoA-I of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for apoA-I siRNA (h): sc-41177, apoA-I shRNA Plasmid (h): sc-41177-SH and apoA-I shRNA (h) Lentiviral Particles: sc-41177-V.

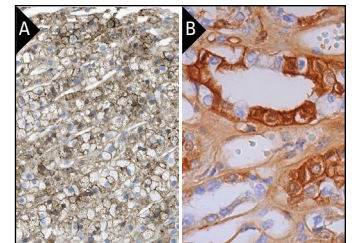
Molecular Weight of apoA-I: 28 kDa.

Positive Controls: human liver extract: sc-363766, human stomach extract: sc-363780 or HeLa whole cell lysate: sc-2200.

DATA



apoA-I (A5.4): sc-13549. Western blot analysis of apoA-I expression in human stomach (A) and human liver (B) tissue extracts.



apoA-I (A5.4): sc-13549. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing membrane and cytoplasmic staining of cortical cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic and membrane staining of cells in tubules (B).

SELECT PRODUCT CITATIONS

- Elam, M.B., et al. 2010. Dysregulation of sterol regulatory element binding protein-1c in livers of morbidly obese women is associated with altered suppressor of cytokine signaling-3 and signal transducer and activator of transcription-1 signaling. *Metab. Clin. Exp.* 59: 587-598.
- Mallikarjuna, K., et al. 2010. Comparative proteomic analysis of differentially expressed proteins in primary retinoblastoma tumors. *Proteomics Clin. Appl.* 4: 449-463.
- Lara, S., et al. 2017. Identification of receptor binding to the biomolecular corona of nanoparticles. *ACS Nano* 11: 1884-1893.
- Castagnola, V., et al. 2018. Biological recognition of graphene nanoflakes. *Nat. Commun.* 9: 1577.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.