SANTA CRUZ BIOTECHNOLOGY, INC.

apoE (13F4B5): sc-130506

BACKGROUND

Apolipoprotein-E (apoE) is a protein component of plasma lipoproteins that mediates the binding, internalization and catabolism of lipoprotein particles. It can serve as a ligand for several lipoprotein receptors, including the LDL (apoB/E) receptor and the hepatic apoE (chylomicron remnant) receptor. apoE is produced in most organs and occurs in all plasma lipoprotein fractions, constituting 10-20% of VLDL (very low density lipoprotein) and 1-2% of HDL (high density lipoprotein). Three major isoforms of apoE have been described in human (E2, E3 and E4), which differ by only one or two amino acids. Estrogen receptor has been shown to upregulate apoE gene expression via the ERα-mediated pathway, indicating a potential role for apoE in atherosclerosis. This is consistent with studies in mice in which plasma apoE levels were raised, thereby protecting the mice from diet-induced atherosclerosis. apoE has also been shown to be a potent inhibitor of proliferation, and thus may play a role in angiogenesis, tumor cell growth and metastasis.

REFERENCES

1. Mahley, R.W. 1988. Apolipoprotein E: cholesterol transport protein with expanding role in cell biology. Science 240: 622-630.
2. Shimano, H., et al. 1992. Overexpression of apolipoprotein E in transgenic mice: marked reduction in plasma lipoproteins except high density lipoprotein and resistance against diet-induced hypercholesterolemia. Proc. Natl. Acad. Sci. USA 89: 1750-1754.
3. Vogel, T., et al. 1994. Apolipoprotein E: a potent inhibitor of endothelial and tumor cell proliferation. J. Cell. Biochem. 54: 299-308.
4. de Knijff, P., et al. 1994. Genetic heterogeneity of apolipoprotein E and its influence on plasma lipid and lipoprotein levels. Hum. Mutat. 4: 178-194.
5. Orth, M., et al. 1996. Clearance of postprandial lipoproteins in normolipemics: role of the apolipoprotein E phenotype. Biochim. Biophys. Acta 1303: 22-30.
6. Srivastava, R.A., et al. 1997. Estrogen up-regulates apolipoprotein E (apoE) gene expression by increasing apoE mRNA in the translating pool via the estrogen receptor A-mediated pathway. J. Biol. Chem. 272: 33360-33366.

CHROMOSOMAL LOCATION

Genetic locus: APOE (human) mapping to 19q13.32.

SOURCE

apoE (13F4B5) is a mouse monoclonal antibody raised against purified apoE of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

apoE (13F4B5) is recommended for detection of all common apoE isoforms 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with apoA-I, apoA-II, apoA-IV, apoC-II or apoC-III.

Suitable for use as control antibody for apoE siRNA (h): sc-29708, apoE shRNA Plasmid (h): sc-29708-SH and apoE shRNA (h) Lentiviral Particles: sc-29708-V.

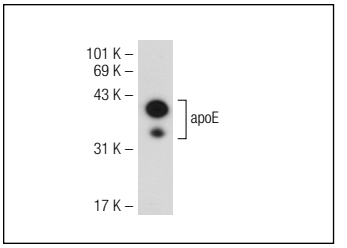
Molecular Weight of apoE: 36 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

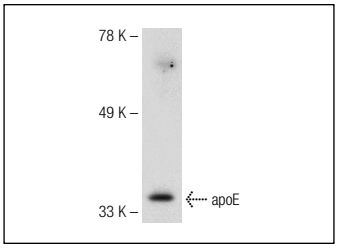
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

DATA



apoE (13F4B5): sc-130506. Western blot analysis of apoE expression in Hep G2 whole cell lysate.



apoE (13F4B5): sc-130506. Western blot analysis of apoE expression in human platelet whole cell lysate.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.