SANTA CRUZ BIOTECHNOLOGY, INC.

apoE (D-15): sc-31824

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., Yamada, N., Katsuki, M., Shimada, M., Gotoda, T., Harada, K., Murase, T., Fukazawa, C., Takaku, F. and Yakazi, Y. 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., Guo, N.H., Guy, R., Drezlich, N., Krutzch, H.C., Blake, D.A., Panet, A. and Roberts, D.D. 1994. Apolipoprotein E: a potent inhibitor of endothelial and tumor cell proliferation. J. Cell. Biochem. 54: 299-308.
4. de Knijff, P., van den Maagdenberg, A.M., Frants, R.R. and Havekes, L.M. 1994. Genetic heterogeneity of apolipoprotein E and its influence on plasma lipid and lipoprotein levels. Hum. Mutat. 4: 178-194.
5. Orth, M., Wahl, S., Hanisch, M., Friedrich, I., Wieland, H. and Luley, C. 1996. Clearance of postprandial lipoproteins in normolipemics: role of the apolipoprotein E phenotype. Biochim. Biophys. Acta 1303: 22-30.
6. Srivastava, R.A., Srivastava, N., Averna, M., Lin, R.C., Korach, K.S., Lubahn, D.B. and Schonfeld, G. 1997. Estrogen upregulates apolipoprotein E (apoE) gene expression by increasing apoE mRNA in the translating pool via the estrogen receptor α-mediated pathway. J. Biol. Chem. 272: 33360-33366.

CHROMOSOMAL LOCATION

Genetic locus: Apoe (mouse) mapping to 7 A3.

SOURCE

apoE (D-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of apoE of mouse origin.

STORAGE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-31824 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

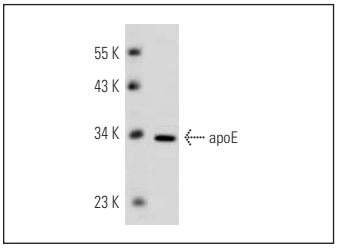
apoE (D-15) is recommended for detection of precursor and mature apoE of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1–2 µg per 100–500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for apoE siRNA (m): sc-29709, apoE shRNA Plasmid (m): sc-29709-SH and apoE shRNA (m) Lentiviral Particles: sc-29709-V.

Molecular Weight of apoE: 36 kDa.

Positive Controls: rat liver extract: sc-2395.

DATA



apoE (D-15): sc-31824. Western blot analysis of apoE expression in mouse PBL whole cell lysate.

SELECT PRODUCT CITATIONS

1. Chatterji, B. and Borlak, J. 2009. A 2-DE MALDI-TOF study to identify disease regulated serum proteins in lung cancer of c-Myc transgenic mice. Proteomics 9: 1044-1056.

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.