

apoE (K-14): sc-31822

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 ER α -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. 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.
4. Orth, M., et al. 1996. Clearance of postprandial lipoproteins in normolipemics: role of the apolipoprotein E phenotype. *Biochim. Biophys. Acta* 1303: 22-30.
5. 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 α -mediated pathway. *J. Biol. Chem.* 272: 33360-33366.

CHROMOSOMAL LOCATION

Genetic locus: APOE (human) mapping to 19q13.32; Apoe (mouse) mapping to 7 A3.

SOURCE

apoE (K-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of apoE of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-31822 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

apoE (K-14) is recommended for detection of precursor and mature apoE of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

apoE (K-14) is also recommended for detection of precursor and mature apoE in additional species, including canine and bovine.

Suitable for use as control antibody for apoE siRNA (h): sc-29708, apoE siRNA (m): sc-29709, apoE shRNA Plasmid (h): sc-29708-SH, apoE siRNA (m): sc-29709-SH, apoE shRNA (h) Lentiviral Particles: sc-29708-V and apoE siRNA (m) Lentiviral Particles; sc-29709-V.

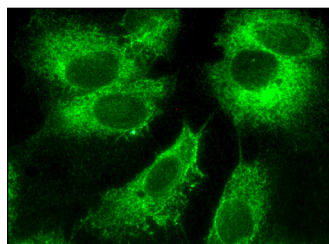
Molecular Weight of apoE: 36 kDa.

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

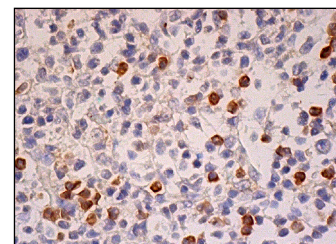
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



apoE (K-14): sc-31822. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic localization.



apoE (K-14): sc-31822. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing cytoplasmic staining of subset of cells in germinal and non-germinal centers.

SELECT PRODUCT CITATIONS

1. Dahabreh, D.F. and Medh, J.D. 2012. Activation of peroxisome proliferator activated receptor- γ results in an atheroprotective apolipoprotein profile in HepG2 cells. *Adv. Biol. Chem.* 2: 218-225.

RESEARCH USE

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