SANTA CRUZ BIOTECHNOLOGY, INC.

apoE (WU E-4): sc-53570

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 one to two amino acids. Estrogen receptor has been shown to upregulate apoE gene expression via the ERa-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.

CHROMOSOMAL LOCATION

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

SOURCE

apoE (WU E-4) is a mouse monoclonal antibody raised against apoE of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

apoE (WU E-4) is available conjugated to agarose (sc-53570 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-53570 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53570 PE), fluorescein (sc-53570 FITC), Alexa Fluor® 488 (sc-53570 AF488), Alexa Fluor® 546 (sc-53570 AF546), Alexa Fluor® 594 (sc-53570 AF594) or Alexa Fluor® 647 (sc-53570 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53570 AF680) or Alexa Fluor® 790 (sc-53570 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

apoE (WU E-4) is recommended for detection of apoE of mouse, rat and 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 apoE siRNA (h): sc-29708, apoE siRNA (m): sc-29709, apoE shRNA Plasmid (h): sc-29708-SH, apoE shRNA Plasmid (m): sc-29709-SH, apoE shRNA (h) Lentiviral Particles: sc-29708-V and apoE shRNA (m) Lentiviral Particles: sc-29709-V.

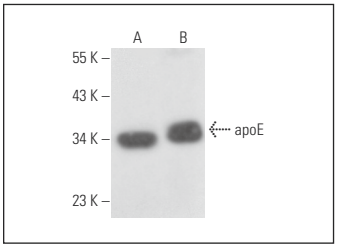
Molecular Weight of apoE: 36 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, human liver extract: sc-363766 or human platelet extract: sc-363773.

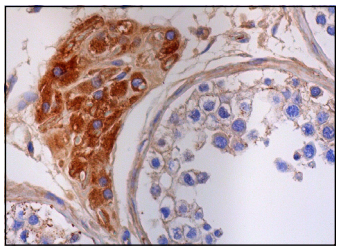
STORAGE

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

DATA



apoE (WU E-4): sc-53570. Western blot analysis of apoE expression in human liver tissue extract (**A**) and Hep G2 whole cell lysate (**B**).



apoE (WU E-4): sc-53570. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of Leydig cells.

SELECT PRODUCT CITATIONS

1. Davidson, W.S., et al. 2016. The effects of apolipoprotein B depletion on HDL subspecies composition and function. J. Lipid Res. 57: 674-686.
2. Lee, M., et al. 2017. A novel inhibitor IDPP interferes with entry and egress of HCV by targeting glycoprotein E1 in a genotype-specific manner. Sci. Rep. 7: 44676.
3. Lehti, S., et al. 2018. Extracellular lipids accumulate in human carotid arteries as distinct three-dimensional structures and have proinflammatory properties. Am. J. Pathol. 188: 525-538.
4. Britton, L.J., et al. 2018. Iron inhibits the secretion of apolipoprotein E in cultured human adipocytes. Cell. Mol. Gastroenterol. Hepatol. 6: 215-217.e8.
5. Molinari, C., et al. 2020. The role of BDNF on aging-modulation markers. Brain Sci. 10: 285.
6. Li, X., et al. 2021. Astrocytic apoE reprograms neuronal cholesterol metabolism and histone-acetylation-mediated memory. Neuron 109: 957-970.e8.
7. Bianchi, L., et al. 2021. Nusinersen modulates proteomics profiles of cerebrospinal fluid in spinal muscular atrophy type 1 patients. Int. J. Mol. Sci. 22: 4329.
8. Lindner, K., et al. 2022. Isoform- and cell-state-specific lipidation of apoE in astrocytes. Cell Rep. 38: 110435.
9. Colardo, M., et al. 2022. NGF modulates cholesterol metabolism and stimulates apoE secretion in glial cells conferring neuroprotection against oxidative stress. Int. J. Mol. Sci. 23: 4842.
10. Vantaggiato, L., et al. 2023. BAL proteomic signature of lung adenocarcinoma in IPF patients and its transposition in serum samples for less invasive diagnostic procedures. Int. J. Mol. Sci. 24: 925.

RESEARCH USE

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