SANTA CRUZ BIOTECHNOLOGY, INC.

apoB (C1.4): sc-13538

BACKGROUND

Post-transcriptional editing of apolipoprotein B (apoB) mRNA is regulated by APOBEC1 (also designated human (or rat) small intestinal apolipoprotein B mRNA editing protein, HEPR, or REPR) in hepatic cells to achieve a steady state proportion of edited and unedited RNA molecules. Two forms of apoB are known to circulate in the plasma of mammals. ApoB-100 is a protein primarily synthesized in the liver as a structural component of very-low-density lipoprotein particles. A truncated form of apoB-100, apoB-48, is synthesized in the small intestine and contains the amino-terminal 2,152 amino acids of the larger protein. This organ-specific partitioning of apoB production is the result of RNA editing of a common apoB gene.

CHROMOSOMAL LOCATION

Genetic locus: APOB (human) mapping to 2p24.1.

SOURCE

apoB (C1.4) is a mouse monoclonal antibody directed towards the N-terminal amino acids 97-526 of apoB-100.

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.

apoB (C1.4) is available conjugated to agarose (sc-13538 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-13538 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-13538 PE), fluorescein (sc-13538 FITC), Alexa Fluor® 488 (sc-13538 AF488), Alexa Fluor® 546 (sc-13538 AF546), Alexa Fluor® 594 (sc-13538 AF594) or Alexa Fluor® 647 (sc-13538 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-13538 AF680) or Alexa Fluor® 790 (sc-13538 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

apoB (C1.4) is recommended for detection of apoB-100 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); may cross-react with proteolytic degradation products, ApoB-75 and ApoB-26.

Suitable for use as control antibody for apoB siRNA (h): sc-41180, apoB shRNA Plasmid (h): sc-41180-SH and apoB shRNA (h) Lentiviral Particles: sc-41180-V.

Molecular Weight of apoB: 512 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, human esophagus extract: sc-363760 or human plasma extract: sc-364374.

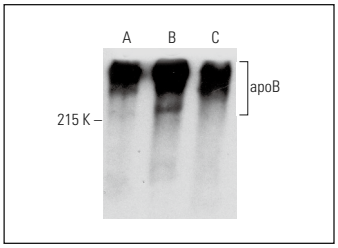
STORAGE

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

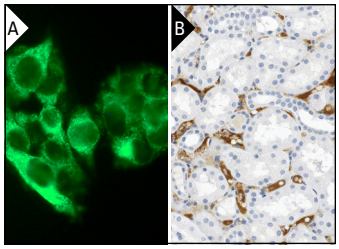
RESEARCH USE

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

DATA



apoB (C1.4) HRP: sc-13538 HRP. Direct western blot analysis of apoB expression in human esophagus (**A**) and human plasma (**B**) tissue extracts and Hep G2 whole cell lysate (**C**).



apoB (C1.4): sc-13538. Immunofluorescence staining of methanol-fixed Hep G2 cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in glomeruli. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Manthey, K.C., et al. 2005. Riboflavin deficiency impairs oxidative folding and secretion of apolipoprotein B-100 in Hep G2 cells, triggering stress response systems. J. Nutr. 135: 978-982.
2. Chu, H.L., et al. 2013. Synthesis of apolipoprotein B lipoparticles to deliver hydrophobic/amphiphilic materials. ACS Appl. Mater. Interfaces 5: 7509-7516.
3. Klein, W., et al. 2015. Defining a conformational consensus motif in cotransin-sensitive signal sequences: a proteomic and site-directed mutagenesis study. PLoS ONE 10: e0120886.
4. Lo Giudice, M.C., et al. 2016. *In situ* characterization of nanoparticle biomolecular interactions in complex biological media by flow cytometry. Nat. Commun. 7: 13475.
5. Lara, S., et al. 2017. Identification of receptor binding to the biomolecular corona of nanoparticles. ACS Nano 11: 1884-1893.
6. Lipps, C., et al. 2019. Non-invasive approach for evaluation of pulmonary hypertension using extracellular vesicle-associated small non-coding RNA. Biomolecules 9: 666.
7. Brennan, K., et al. 2020. A comparison of methods for the isolation and separation of extracellular vesicles from protein and lipid particles in human serum. Sci. Rep. 10: 1039.
8. Wang, B., et al. 2021. Hepatitis C virus induces oxidation and degradation of apolipoprotein B to enhance lipid accumulation and promote viral production. PLoS Pathog. 17: e1009889.

PROTOCOLS

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