SANTA CRUZ BIOTECHNOLOGY, INC.

SREBP-1 (C-20): sc-366

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The low density lipoprotein (LDL) receptor mediates the endocytic uptake of cholesterol-carrying lipoproteins, thereby controlling cholesterol levels in cells and plasma. Transcription of the LDL receptor gene is controlled by a ten base pair sequence in the 5' flanking region, designated sterol regulatory element 1 (SRE-1). When cellular sterol stores are depleted, the element is activated, the gene is transcribed and the cellular uptake of LDL increases. A set of SRE-binding proteins (SREBPs) have been identified, including two basic helix-loop-helix leuicine zipper (bHLH-Zip) transcription factors, designated SREBP-1 and SREBP-2. SREBP-1 (also designated ADD1, for adipocyte determination and differentiation factor) is synthesized as a precursor that is attached to the nuclear envelope and endoplasmic reticulum. In sterol-depleted cells, the membrane-bound precursor is cleaved to generate a soluble NH_2-terminal fragment that translocates to the nucleus to activate transcription. Sterols inhibit the cleavage of SREBP-1.

CHROMOSOMAL LOCATION

Genetic locus: SREBF1 (human) mapping to 17p11.2; Srebf1 (mouse) mapping to 11 B2.

SOURCE

SREBP-1 (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of SREBP-1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-366 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SREBP-1 (C-20) is recommended for detection of SREBP-1 p125 and p68 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

SREBP-1 (C-20) is also recommended for detection of SREBP-1 p125 and p68 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for SREBP-1 siRNA (h): sc-36557, SREBP-1 siRNA (m): sc-36558, SREBP-1 shRNA Plasmid (h): sc-36557-SH, SREBP-1 shRNA Plasmid (m): sc-44327-SH, SREBP-1 shRNA (h) Lentiviral Particles: sc-36557-V and SREBP-1 shRNA (m) Lentiviral Particles: sc-36558-V.

Molecular Weight of SREBP-1 precursor/p125: 125 kDa.

Molecular Weight of mature SREBP-1/p68: 68 kDa.

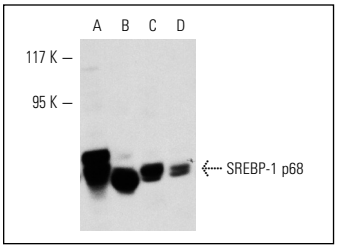
RESEARCH USE

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

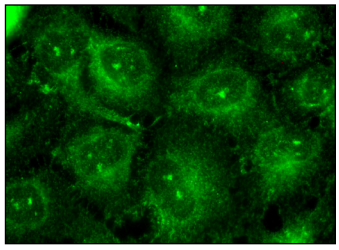
STORAGE

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

DATA



SREBP-1 (C-20): sc-366. Western blot analysis of SREBP-1 expression in NIH/3T3 nuclear extract (**A**) and KNRK (**B**), LNCaP (**C**) and Hep G2 (**D**) whole cell lysates.



SREBP-1 (C-20): sc-366 Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

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2. Yamaguchi, K., et al. 2010. Blockade of interleukin-6 signaling enhances hepatic steatosis but improves liver injury in methionine choline-deficient dietfed mice. Lab. Invest. 90: 1169-1178.
3. Fèvre, C., et al. 2011. The metabolic cascade leading to eicosanoid precursors—desaturases, elongases, and phospholipases A2—is altered in Zucker fatty rats. Biochim. Biophys. Acta 1811: 409-417.
4. Taghibiglou, C., et al. 2011. Sterol regulatory element binding protein-1 (SREBP1) activation in motor neurons in excitotoxicity and amyotrophic lateral sclerosis (ALS): Indip, a potential therapeutic peptide. Biochem. Biophys. Res. Commun. 413: 159-163.
5. Kuhla, A., et al. 2011. Aging is associated with a shift of fatty metabolism toward lipogenesis. J. Gerontol. A Biol. Sci. Med. Sci. 66: 1192-1200.
6. Janevski, M., et al. 2012. Fructose containing sugars modulate mRNA of lipogenic genes ACC and FAS and protein levels of transcription factors ChREBP and SREBP1c with no effect on body weight or liver fat. Food Funct. 3: 141-149.
7. Turner E.C. and Kinsella, B.T. 2012. Regulation of the human prostacyclin receptor gene by the cholesterol-responsive SREBP1. J. Lipid Res. 53: 2390-2404.