SANTA CRUZ BIOTECHNOLOGY, INC.

SREBP-1 (F-10): sc-365514

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 leucine 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 (F-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1119-1147 at the C-terminus of SREBP-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-365514 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

SREBP-1 (F-10) is recommended for detection of SREBP-1 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), 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).

SREBP-1 (F-10) is also recommended for detection of SREBP-1 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 siRNA (r): sc-156126, SREBP-1 shRNA Plasmid (h): sc-36557-SH, SREBP-1 shRNA Plasmid (m): sc-36558-SH, SREBP-1 shRNA Plasmid (r): sc-156126-SH, SREBP-1 shRNA (h) Lentiviral Particles: sc-36557-V, SREBP-1 shRNA (m) Lentiviral Particles: sc-36558-V and SREBP-1 shRNA (r) Lentiviral Particles: sc-156126-V.

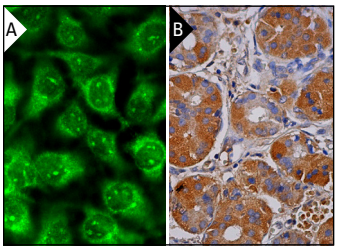
Molecular Weight of SREBP-1 precursor: 125 kDa.

Molecular Weight of mature SREBP-1: 68 kDa.

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 (F-10): sc-365514. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human salivary gland tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Trogen, G., et al. 2018. Transgenic overexpression of CTRP3 prevents alcohol-induced hepatic triglyceride accumulation. Am. J. Physiol. Endocrinol. Metab. 315: E949-E960.
2. Ni, H., et al. 2019. ErbB4 acts as a suppressor in colitis and its associated carcinoma by negatively regulating cholesterol metabolism. Carcinogenesis 40: 680-686.
3. Martins, F.F., et al. 2020. Eicosapentaenoic and docosapentaenoic acids lessen the expression of PPARγ/Cidec affecting adipogenesis in cultured 3T3-L1 adipocytes. Acta Histochem. 122: 151504.
4. Zhang, X., et al. 2020. Smurf1 aggravates non-alcoholic fatty liver disease by stabilizing SREBP-1c in an E3 activity-independent manner. FASEB J. 34: 7631-7643.
5. Xu, Y., et al. 2021. PPARα agonist WY-14,643 induces adipose atrophy and fails to blunt chronic ethanol-induced hepatic fat accumulation in mice lacking adipose FGFR1. Biochem. Pharmacol. 192: 114678.
6. Wu, Y.K., et al. 2022. Sulforaphane ameliorates non-alcoholic fatty liver disease in mice by promoting FGF21/FGFR1 signaling pathway. Acta Pharmacol. Sin. 43: 1473-1483.
7. Chen, L., et al. 2023. Sciadonic acid attenuates high-fat diet-induced obesity in mice with alterations in the gut microbiota. Food Funct. 14: 2870-2880.

RESEARCH USE

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

CONJUGATES

See **SREBP-1 (A-4): sc-365513** for SREBP-1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.