SANTA CRUZ BIOTECHNOLOGY, INC.

SCAP (C-20): sc-9675

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The transcription factors SREBPs (sterol regulatory element binding proteins) span the ER membrane, and in response to sterol depletion, the N-terminal domain of SREBPs are proteolytically activated, released from the membrane and then translocated to the nucleus where they induce the expression of genes regulating cholesterol metabolism. This proteolytic activation requires the sequential cleavage of SREBPs at Site-1, within the lumen of the ER, followed by cleavage at Site-2, within the first transmembrane domain. The cleavage at Site-1 separates the N-terminal and C-terminal domains of the protein and it requires the serine protease S1P (Site-1 protease). Site-2 Protease is subsequently processed by a putative zinc metalloprotease, S2P, which releases the activated N-terminal domain for nuclear translocation. This proteolytic pathway is tightly regulated by sterol levels and is under the control of SCAP (SREBP cleavage-activating protein). SCAP, a sterol sensor, is latently bound to the C-terminal regulatory domains of the SREBPs, and it regulates cleavage of SREBPs at Site-1. Sterol levels influence the activity of SCAP, as SCAP is activated only in sterol-depleted cells, and it is inhibited by sterol accumulation.

CHROMOSOMAL LOCATION

Genetic locus: SCAP (human) mapping to 3p21.31; Scap (mouse) mapping to 9 F2.

SOURCE

SCAP (C-20) is an affinity purified goat polyclonal antibody raised against an epitope mapping at the C-terminus of SCAP of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-9675 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

SCAP (C-20) is recommended for detection of SCAP 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).

SCAP (C-20) is also recommended for detection of SCAP in additional species, including equine, canine, bovine and porcine.

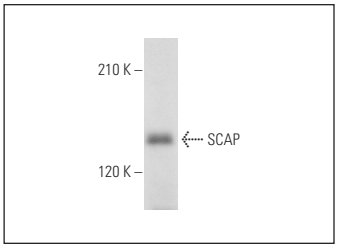
Suitable for use as control antibody for SCAP siRNA (h): sc-36462, SCAP siRNA (m): sc-36463, SCAP shRNA Plasmid (h): sc-36462-SH, SCAP shRNA Plasmid (m): sc-36463-SH, SCAP shRNA (h) Lentiviral Particles: sc-36462-V and SCAP shRNA (m) Lentiviral Particles: sc-36463-V.

Molecular Weight of SCAP: 150 kDa.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



SCAP (C-20): sc-9675. Western blot analysis of SCAP expression in mouse heart tissue extract.

SELECT PRODUCT CITATIONS

1. Pallottini, V., et al. 2006. Modified HMG-CoA reductase and LDLr regulation is deeply involved in age-related hypercholesterolemia. J. Cell. Biochem. 98: 1044-1053.
2. Yellaturu, C.R., et al. 2009. Insulin enhances posttranslational processing of nascent SREBP-1c by promoting its phosphorylation and association with COPII vesicles. J. Biol. Chem. 107: 7518-7532.
3. Yellaturu, C.R., et al. 2009. Insulin enhances the biogenesis of nuclear sterol regulatory element-binding protein (SREBP)-1c by posttranscriptional down-regulation of Insig-2A and its dissociation from SREBP cleavage-activating protein (SCAP).SREBP-1c complex. J. Biol. Chem. 284: 31726-31734.
4. Trapani, L., et al. 2010. Hypercholesterolemia and 3-hydroxy-3-methyl-glutaryl coenzyme A reductase regulation in aged female rats. Exp. Gerontol. 45: 119-128.
5. Trapani, L., et al. 2011. Short- and long-term regulation of 3-hydroxy 3-methylglutaryl coenzyme A reductase by a 4-methylcoumarin. Biochimie 93: 1165-1171.
6. Prade, E., et al. 2012. Bile acids down-regulate caveolin-1 in esophageal epithelial cells through sterol responsive element-binding protein. Mol. Endocrinol. 26: 819-832.

STORAGE

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