SANTA CRUZ BIOTECHNOLOGY, INC.

SCAP (H-295): sc-11355

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 translocate 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 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.

REFERENCES

1. Hua, X., et al. 1996. Regulated cleavage of sterol regulatory element binding proteins requires sequences on both sides of the endoplasmic reticulum membrane. J. Biol. Chem. 271: 10379-10384.
2. Rawson, R.B., et al. 1997. Complementation cloning of S2P, a gene encoding a putative metalloprotease required for intramembrane cleavage of SREBPs. Mol. Cell 1: 47-57.
3. Sakai, J., et al. 1998. Molecular identification of the sterol-regulated luminal protease that cleaves SREBPs and controls lipid composition of animal cells. Mol. Cell 2: 505-514.
4. Sakai, J., et al. 1998. Cleavage of sterol regulatory element-binding proteins (SREBPs) at Site-1 requires interaction with SREBP cleavage-activating protein. Evidence from *in vivo* competition studies. J. Biol. Chem. 273: 5785-5793.

CHROMOSOMAL LOCATION

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

SOURCE

SCAP (H-295) is a rabbit polyclonal antibody raised against amino acids 979-1278 mapping within a C-terminal cytoplasmic domain 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.

STORAGE

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

APPLICATIONS

SCAP (H-295) 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 (H-295) 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.

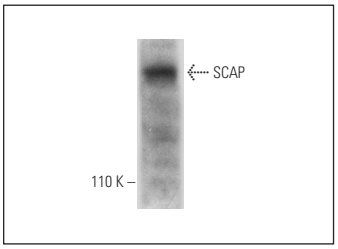
Molecular Weight of SCAP: 150 kDa.

Positive Controls: c4 whole cell lysate: sc-364186.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



SCAP (H-295): sc-11355. Western blot analysis of SCAP expression in c4 whole cell lysate.

RESEARCH USE

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

PROTOCOLS

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