SANTA CRUZ BIOTECHNOLOGY, INC.

SCAP (9D5): sc-13553

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 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.

SOURCE

SCAP (9D5) is a mouse monoclonal antibody raised against amino acids 540-707 of SCAP of hamster origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SCAP (9D5) is available conjugated to agarose (sc-13553 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-13553 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-13553 PE), fluorescein (sc-13553 FITC), Alexa Fluor® 488 (sc-13553 AF488), Alexa Fluor® 546 (sc-13553 AF546), Alexa Fluor® 594 (sc-13553 AF594) or Alexa Fluor® 647 (sc-13553 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-13553 AF680) or Alexa Fluor® 790 (sc-13553 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

SCAP (9D5) is recommended for detection of SCAP of hamster origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Molecular Weight of SCAP: 150 kDa.

Positive Controls: CHO-K1 cell lysate: sc-3809.

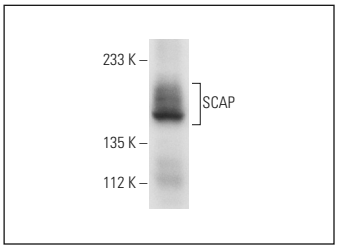
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

STORAGE

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

DATA



SCAP (9D5): sc-13553. Western blot analysis of SCAP expression in CHO-K1 whole cell lysate.

SELECT PRODUCT CITATIONS

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3. Miyata, S., et al. 2015. Xanthohumol improves diet-induced obesity and fatty liver by suppressing sterol regulatory element-binding protein (SREBP) activation. J. Biol. Chem. 290: 20565-20579.
4. Teixeira, G.R., et al. 2020. Physical resistance training-induced changes in lipids metabolism pathways and apoptosis in prostate. Lipids Health Dis. 19: 14.
5. Zheng, Z.G., et al. 2021. Discovery of a potent SCAP degrader that ameliorates HFD-induced obesity, hyperlipidemia and Insulin resistance via an autophagy-independent lysosomal pathway. Autophagy 17: 1592-1613.
6. Esquejo, R.M., et al. 2021. Dipyridamole inhibits lipogenic gene expression by retaining SCAP-SREBP in the endoplasmic reticulum. Cell Chem. Biol. 28: 169-179.e7.
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8. Wakana, Y., et al. 2021. The ER cholesterol sensor SCAP promotes CARTS biogenesis at ER-Golgi membrane contact sites. J. Cell Biol. 220: e202002150.
9. Seidu, T., et al. 2021. DHT causes liver steatosis via transcriptional regulation of SCAP in normal weight female mice. J. Endocrinol. 250: 49-65.
10. Zha, K. and Ye, Q. 2021. Golgi a-mannosidase II mediates the formation of vascular smooth muscle foam cells under inflammatory stress. Folia Histochem. Cytobiol. 59: 134-143.

RESEARCH USE

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