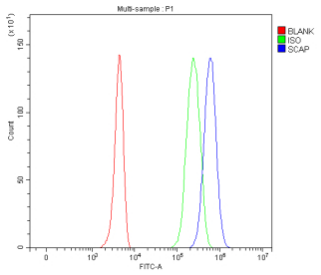
SCAP Antibody / SREBP cleavage-activating protein (FY12361)

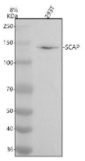
Catalog No.	Formulation	Size
FY12361	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

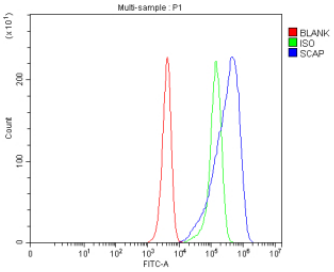
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q12770
Applications	Western Blot: 0.25-0.5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This SCAP antibody is available for research use only.



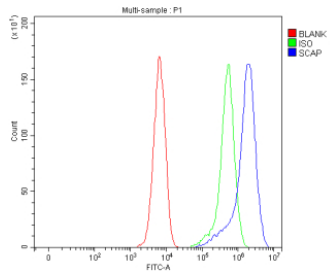
Flow Cytometry analysis of 293T cells using anti-SCAP antibody. Overlay histogram showing 293T cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-SCAP antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of SCAP using anti-SCAP antibody. Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human 293T whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-SCAP antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. The expected molecular weight of SCAP is ~140 kDa.



Flow Cytometry analysis of HEPA1-6 cells using anti-SCAP antibody. Overlay histogram showing HEPA1-6 cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-SCAP antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Flow Cytometry analysis of C6 cells using anti-SCAP antibody. Overlay histogram showing C6 cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-SCAP antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

Description

The SCAP antibody targets SREBP cleavage-activating protein, a key membrane-bound regulator of cholesterol and lipid homeostasis encoded by the SCAP gene. This protein acts as a sterol sensor that governs the trafficking and activation of sterol regulatory element-binding proteins (SREBPs), transcription factors that control lipid biosynthesis. SREBP cleavage-activating protein monitors cellular sterol levels and facilitates the transport of SREBPs from the endoplasmic reticulum (ER) to the Golgi for proteolytic activation. The SCAP antibody provides an essential tool for studying the molecular regulation of lipid metabolism and cholesterol signaling.

SREBP cleavage-activating protein contains multiple transmembrane domains and a sterol-sensing domain that binds cholesterol. Under high-cholesterol conditions, SCAP associates with insulin-induced gene (INSIG) proteins in the ER, retaining SREBPs in an inactive state. When sterol levels fall, this interaction is disrupted, allowing SCAPÂ–SREBP complexes to move to the Golgi. There, site-1 and site-2 proteases release the active SREBP transcription factor, which then migrates to the nucleus to induce lipid metabolism genes. The SCAP antibody enables researchers to track this dynamic process, quantifying SCAP expression and subcellular localization under various lipid conditions.

As a central regulator of lipid homeostasis, SREBP cleavage-activating protein plays critical roles in energy balance, membrane synthesis, and metabolic adaptation. Dysregulation of SCAP contributes to disorders such as hyperlipidemia, fatty liver disease, obesity, and atherosclerosis. The SCAP antibody supports investigation of these metabolic conditions by detecting protein expression in liver, adipose tissue, and other lipid-synthesizing organs. In cellular studies, it aids analysis of sterol-dependent trafficking and SREBP activation using immunoblotting and immunofluorescence techniques.

In addition to cholesterol regulation, SCAP participates in broader metabolic pathways influenced by insulin signaling and nutrient status. Altered SCAP activity has been linked to metabolic reprogramming in cancer cells, where enhanced lipid biosynthesis supports rapid proliferation. The SCAP antibody can be used to study these mechanisms and assess the impact of pharmacologic SCAP inhibition on lipid synthesis and growth control. Western blotting and immunohistochemistry using this antibody reveal SCAP's distribution across the ER and Golgi, providing a spatial understanding of its sterol-sensing function.

NSJ Bioreagents supplies the SCAP antibody with validated specificity and consistent performance for applications in molecular biology, metabolism, and disease research. By enabling precise detection of SREBP cleavage-activating protein, this reagent supports detailed study of lipid metabolism and its regulation. The SCAP antibody remains a key tool for uncovering how sterol sensing and SREBP activation maintain lipid balance in normal physiology and metabolic disorders.

Application Notes

Optimal dilution of the SCAP antibody should be determined by the researcher.

Immunogen

E.coli-derived human SCAP recombinant protein (Position: F1224-D1279) was used as the immunogen for the SCAP antibody.

Storage

After reconstitution, the SCAP antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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