abcam

ab190103

Anti-SCAP antibody

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human SCAP aa 600 to C-terminus conjugated to Keyhole Limpet Haemocyanin. The exact immunogen used to generate this antibody is proprietary information. Database link Q12770
Purification technique	Affinity purification Immunogen
Concentration	0.4 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Predicted

Species	Mouse, Rat, Cow, Pig, Chinese hamster

Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	5 µg/mL
Notes	-

Predicted

Species	Mouse, Rat, Cow, Pig, Chinese hamster
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

Predicted

Species	Mouse, Rat, Cow, Pig, Chinese hamster
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	10-50 µg/mg of lysate

Notes	ab171870 - Rabbit polyclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse, Rat, Cow, Pig, Chinese hamster
Dilution info	-
Notes	-

Target data

See full target information SCAP

Function	Escort protein required for cholesterol as well as lipid homeostasis (By similarity). Regulates export of the SCAP-SREBP complex from the endoplasmic reticulum to the Golgi upon low cholesterol, thereby regulating the processing of sterol regulatory element-binding proteins (SREBPs) SREBF1/SREBP1 and SREBF2/SREBP2 (PubMed:26311497). At high sterol concentrations, formation of a ternary complex with INSIG (INSIG1 or INSIG2) leads to mask the ER export signal in SCAP, promoting retention of the complex in the endoplasmic reticulum (By similarity). Low sterol concentrations trigger release of INSIG, a conformational change in the SSD domain of SCAP, unmasking of the ER export signal, promoting recruitment into COPII-coated vesicles and transport of the SCAP-SREBP to the Golgi: in the Golgi, SREBPs are then processed, releasing the transcription factor fragment of SREBPs from the membrane, its import into the nucleus and up-regulation of LDLR, INSIG1 and the mevalonate pathway (PubMed:26311497). Binds cholesterol via its SSD domain (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	SCAP also known as SREBP cleavage-activating protein is an important player in lipid homeostasis. SCAP has a molecular mass of approximately 150 kDa. It locates in the endoplasmic reticulum and Golgi apparatus within cells. The protein facilitates the movement of sterol regulatory element-binding proteins (SREBPs) from the endoplasmic reticulum to the Golgi. This action activates SREBPs by enabling their cleavage which is necessary for cholesterol and lipid synthesis regulation.
Biological function summary	SCAP acts as a cholesterol sensor when paired with SREBPs in a complex. The SCAP-SREBP complex remains inactive within the endoplasmic reticulum at high cholesterol concentrations. When cholesterol levels decrease SCAP aids in the transport of SREBPs to the Golgi apparatus. This transport triggers proteolytic activation of SREBPs which then migrate to the nucleus to promote gene expression for lipid metabolism.
Pathways	SCAP is instrumental in the cholesterol biosynthesis and lipid metabolic pathways. The protein interacts closely with SREBPs in these pathways to regulate lipid balance within cells. In particular SCAP's action is linked with the insulin signaling pathway aiding in the coordination of growth factor-mediated lipid synthesis. This highlights its importance in the control of lipid-related gene transcription together with proteins like Insig which anchor the SCAP-SREBP complex under high cholesterol levels.
Associated diseases and disorders	SCAP plays a role in metabolic syndrome and cardiovascular diseases. Dysregulation of SCAP can lead to abnormal cholesterol levels contributing to atherosclerosis and other lipid disorders. The function of SCAP connects to proteins like HMG-CoA reductase in these conditions as it co-regulates the synthesis of cholesterol. Understanding SCAP's role in these diseases may open new therapeutic strategies for managing cholesterol-related disorders.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

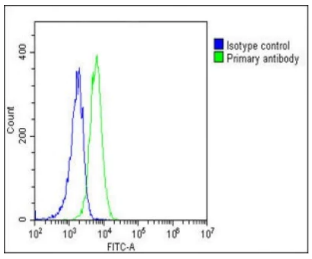
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

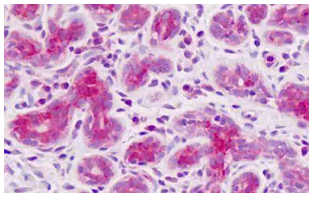
5 product images



Flow Cytometry (Intracellular) - Anti-SCAP antibody (ab190103)

SCAP Flow Cytometry (Intracellular) staining of K562 (human erythroleukemia cell line) cells using rabbit Anti-SCAP antibody

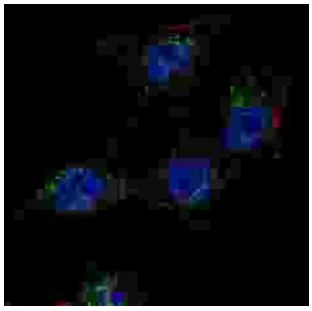
Overlay histogram showing K562 cells stained with ab190103 (green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then incubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (ab190103, 1:25 dilution) for 60 min at 37°C. The secondary antibody used was Goat-Anti-Rabbit IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed at 1/200 dilution for 40 min at 37°C. Isotype control antibody (blue line) was rabbit IgG1 (1µg/1x10^6 cells) used under the same conditions. Acquisition of >10, 000 events was performed.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SCAP antibody (ab190103)

SCAP Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-SCAP antibody

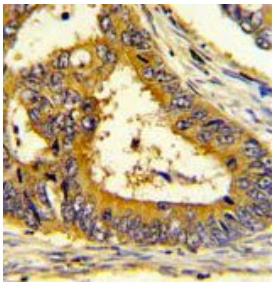
Immunohistochemical analysis of formalin-fixed, paraffin-embedded Human breast tissue labeling SCAP with ab190103 at 5 µg/ml.



Immunocytochemistry/ Immunofluorescence - Anti-SCAP antibody (ab190103)

SCAP Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-SCAP antibody

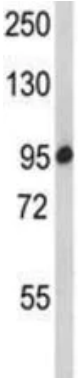
Immunofluorescent analysis of HeLa cells (4% PFA-fixed, 20min; Triton X-100 permeabilized, 0.2%, 30 min) labeling SCAP with ab190103 at 1/100 dilution for 2h RT. For secondary antibody, Alexa Fluor 488 conjugated donkey anti-rabbit antibody (green) was used (1/1000, 1h). Nuclei were counterstained with Hoechst 33342 (blue) (10 ug/ml, 5 min).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SCAP antibody (ab190103)

SCAP Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-SCAP antibody

Immunohistochemical analysis of formalin-fixed, paraffin-embedded Human colon carcinoma tissue labeling SCAP with ab190103 at 5µg/ml dilution followed by peroxidase-conjugated secondary antibody and DAB staining.



Western blot - Anti-SCAP antibody (ab190103)

All lanes:
Western blot - Anti-SCAP antibody (ab190103) at 1/1000 dilution

All lanes:
K562 cell lysate at 35 µg

Predicted band size: 140 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.