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SCAP Antibody (N-term)

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM8668b

Product Information

Application	WB, E
Primary Accession	Q12770
Reactivity	Human
Host	Mouse
Clonality	monoclonal
Isotype	IgG1,κ
Clone Names	1992C245.37.16
Calculated MW	139729

Additional Information

Gene ID	22937
Other Names	Sterol regulatory element-binding protein cleavage-activating protein, SCAP, SREBP cleavage-activating protein, SCAP, KIAA0199
Target/Specificity	This SCAP antibody is generated from a mouse immunized with a KLH conjugated synthetic peptide between 49-83 amino acids from the N-terminal region of human SCAP.
Dilution	WB~~1:4000 E~~Use at an assay dependent concentration.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	SCAP Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SCAP {ECO:0000303|PubMed:10570913, ECO:0000312|HGNC:HGNC:30634}
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).
Cellular Location	Endoplasmic reticulum membrane; Multi-pass membrane protein. Golgi apparatus membrane; Multi-pass membrane protein. Cytoplasmic vesicle, COPII-coated vesicle membrane {ECO:0000250|UniProtKB:P97260}; Multi-pass membrane protein. Note=Moves from the endoplasmic reticulum to the Golgi in the absence of sterols (PubMed:26311497). Requires the presence of SPRING1 for proper localization to endoplasmic reticulum (PubMed:32111832). {ECO:0000250|UniProtKB:P97260, ECO:0000269|PubMed:26311497, ECO:0000269|PubMed:32111832}

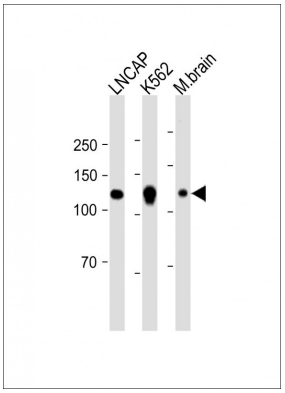
Background

Escort protein required for cholesterol as well as lipid homeostasis. Regulates export of the SCAP/SREBF complex from the ER upon low cholesterol. Formation of a ternary complex with INSIG at high sterol concentrations leads to masking of an ER-export signal in SCAP and retention of the complex in the ER. Low sterol concentrations trigger release of INSIG, a conformational change in the SSC domain of SCAP, unmasking of the ER export signal, recruitment into COPII-coated vesicles, transport to the Golgi complex, proteolytic cleavage of SREBF in the Golgi, release of the transcription factor fragment of SREBF from the membrane, its import into the nucleus and up-regulation of LDLR, INSIG1 and the mevalonate pathway (By similarity).

References

Nakajima T.,et al.J. Hum. Genet. 44:402-407(1999).
Nagase T.,et al.DNA Res. 3:17-24(1996).
Nakajima D.,et al.DNA Res. 9:99-106(2002).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Otsuki T.,et al.DNA Res. 12:117-126(2005).

Images



All lanes: Anti-SCAP Antibody (N-term) at 1:1000 dilution Lane 1: LNCAP whole cell lysate Lane 2: K562 whole cell lysate Lane 3: Mouse brain lysate Lysates/proteins at 20 µg per lane. Secondary: Goat Anti-Mouse IgG, (H+L), Peroxidase conjugated (ASP1613) at 1/8000 dilution. Observed band size: 130 KDa Blocking/Dilution buffer: 5% NFDM/TBST.