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Anti-ACAT1 Antibody [KO/KD Validated]

Catalog # AP50955

Product Information

Application	WB, IHC, IF/IC
Primary Accession	P24752
Reactivity	Human, Mouse, Rat, Mk
Host	Rabbit
Clonality	Polyclonal
Calculated MW	45200

Additional Information

Gene ID	38
Other Names	ACAT; MAT; Acetyl-CoA acetyltransferase mitochondrial; Acetoacetyl-CoA thiolase; T2
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human ACAT1. The exact sequence is proprietary.
Dilution	WB~~ 1:1000 IHC~~1:100~500 IF/IC~~N/A
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

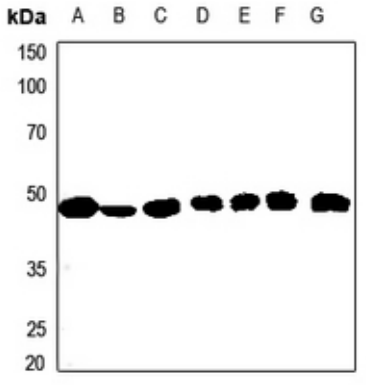
Protein Information

Name	ACAT1
Synonyms	ACAT, MAT
Function	This is one of the enzymes that catalyzes the last step of the mitochondrial beta-oxidation pathway, an aerobic process breaking down fatty acids into acetyl-CoA (PubMed:1715688, PubMed:7728148, PubMed:9744475). Using free coenzyme A/CoA, catalyzes the thiolytic cleavage of medium- to long-chain 3-oxoacyl-CoAs into acetyl-CoA and a fatty acyl-CoA shortened by two carbon atoms (PubMed:1715688, PubMed:7728148, PubMed:9744475). The activity of the enzyme is reversible and it can also catalyze the condensation of two acetyl-CoA molecules into acetoacetyl-CoA (PubMed:17371050). Thereby, it plays a major role in ketone body metabolism (PubMed:1715688, PubMed:17371050, PubMed:7728148, PubMed:9744475).
Cellular Location	Mitochondrion.

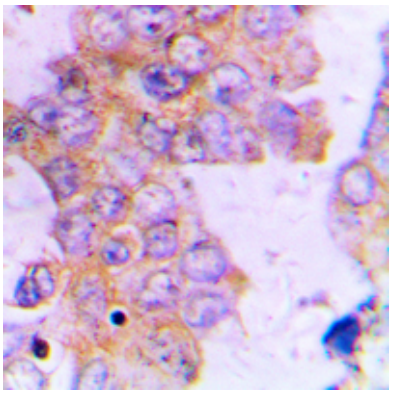
References

Fukao T.,et al.J. Clin. Invest. 86:2086-2092(1990).
Kano M.,et al.Gene 109:285-290(1991).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Mural R.J.,et al.Submitted (JUL-2005) to the EMBL/GenBank/DDBJ databases.
Aboulaich N.,et al.Biochem. J. 383:237-248(2004).

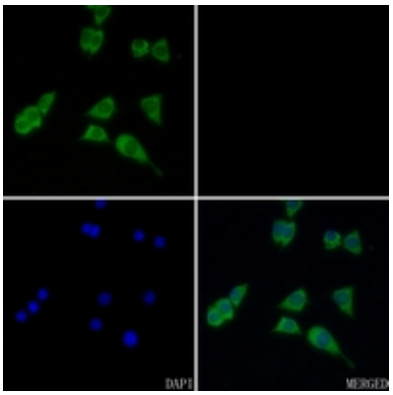
Images



Western blot analysis of ACAT1 expression in HEK293T (A), Hela (B), H446 (C), mouse lung (D), mouse liver (E), rat lung (F), rat liver (G) whole cell lysates. (Predicted band size: 45 kD; Observed band size: 45 kD)

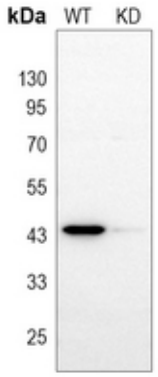


Immunohistochemical analysis of ACAT1 staining in human lung cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Immunofluorescent analysis of ACAT1 staining in C6 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a hidified chamber. Cells were washed with PBST and incubated with a AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark. Phalloidin - AF594 was used to stain Actin filaments (red). DAPI was used to stain the cell nuclei (blue).

Western blot analysis of ACAT1 expression in wild type (WT) and knockdown (KD) HeLa cell lysates.



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