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## ACAA2 Recombinant Monoclonal Antibody

Product Code	CSB-RA978277A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P42765
Immunogen	A synthesized peptide derived from human ACAA2
Species Reactivity	Human, Mouse
Tested Applications	ELISA, WB, IHC, IF; Recommended dilution: WB:1:500-1:2000, IHC:1:50-1:200, IF:1:50-1:200
Relevance	In the production of energy from fats, 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 (Probable). Using free coenzyme A/CoA, catalyzes the thiolytic cleavage of medium- to long-chain unbranched 3-oxoacyl-CoAs into acetyl-CoA and a fatty acyl-CoA shortened by two carbon atoms (Probable). Also catalyzes the condensation of two acetyl-CoA molecules into acetoacetyl-CoA and could be involved in the production of ketone bodies (Probable). Also displays hydrolase activity on various fatty acyl-CoAs (PubMed:25478839). Thereby, could be responsible for the production of acetate in a side reaction to beta-oxidation (Probable). Abolishes BNIP3-mediated apoptosis and mitochondrial damage (PubMed:18371312). {ECO:0000269 PubMed:18371312, ECO:0000269 PubMed:25478839}.
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Product Type	Recombinant Antibody
Immunogen Species	Homo sapiens (Human)
Research Area	Cardiovascular; Tags & Cell Markers; Metabolism; Signal transduction
Gene Names	ACAA2
Clone No.	12F4
Image	

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## **CUSABIO TECHNOLOGY LLC**



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Western Blot Positive WB detected in: MCF-7 whole cell lysate, A549 whole cell lysate, Mouse thymus All lanes: ACAA2 antibody at 1:2000 Secondarv Goat polyclonal to rabbit IgG at 1/50000 dilution Predicted band size: 42 kDa

Observed band size: 42 kDa



IHC image of CSB-RA978277A0HU diluted at 1:100 and staining in paraffin-embedded human colon cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a Goat anti-rabbit polymer IgG labeled by HRP and visualized using 0.05% DAB.



Immunofluorescence staining of Hela cell with CSB-RA978277A0HU at 1:50, counter-stained with DAPI. The cells were fixed in 4% formaldehyde and blocked in 10% normal Goat Serum. The cells were then incubated with the antibody overnight at 4°C. The secondary antibody was Alexa Fluor 570-congugated AffiniPure Goat Anti-Rabbit IgG(H+L).

## Description

The ACAA2 recombinant monoclonal antibody is produced through genetic engineering by cloning and expressing the ACAA2 monoclonal antibodyencoding gene. To generate the ACAA2 monoclonal antibody, a synthesized peptide derived from human ACAA2 protein was used as an immunogen. Affinity chromatography is employed to purify the obtained ACAA2 recombinant monoclonal antibody, ensuring high purity. This ACAA2 recombinant monoclonal antibody specifically recognizes and binds to the ACAA2 protein and has been validated for use in human samples. Its quality and specificity were tested through multiple applications such as ELISA, WB, IHC, and IF.

The ACAA2 protein mainly catalyzes the beta-oxidation of fatty acids in the mitochondria, which involves the degradation of fatty acids to generate energy for various cellular processes. ACAA2 specifically catalyzes the formation of acetyl-CoA from long-chain acyl-CoA substrates, which is essential for fatty acid oxidation and energy metabolism. Additionally, ACAA2 plays a critical role in the regulation of lipid metabolism, lipid droplet formation, and lipid signaling pathways. Mutations in ACAA2 have been associated with various metabolic



disorders, including hypoglycemia, hyperammonemia, and Reye syndrome.