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ACACA Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP17139b

Product Information

Application	WB, E
Primary Accession	Q13085
Other Accession	P11497, Q5SWU9, Q9TTS3, NP_942133.1, NP_942131.1
Reactivity	Human
Predicted	Bovine, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB37458
Calculated MW	265554
Antigen Region	2010-2039

Additional Information

Gene ID	31
Other Names	Acetyl-CoA carboxylase 1, ACC1, ACC-alpha, Biotin carboxylase, ACACA, ACAC, ACC1, ACCA
Target/Specificity	This ACACA antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 2010-2039 amino acids from the C-terminal region of human ACACA.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
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	ACACA Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ACACA (HGNC:84)
Synonyms	ACAC, ACC1, ACCA

Function	Cytosolic enzyme that catalyzes the carboxylation of acetyl- CoA to malonyl-CoA, the first and rate-limiting step of de novo fatty acid biosynthesis (PubMed:20457939, PubMed:20952656, PubMed:29899443). This is a 2 steps reaction starting with the ATP-dependent carboxylation of the biotin carried by the biotin carboxyl carrier (BCC) domain followed by the transfer of the carboxyl group from carboxylated biotin to acetyl-CoA (PubMed:20457939, PubMed:20952656, PubMed:29899443).
Cellular Location	Cytoplasm, cytosol {ECO:0000250|UniProtKB:Q5SWU9}
Tissue Location	Expressed in brain, placenta, skeletal muscle, renal, pancreatic and adipose tissues; expressed at low level in pulmonary tissue; not detected in the liver

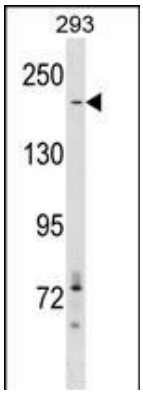
Background

Acetyl-CoA carboxylase (ACC) is a complex multifunctional enzyme system. ACC is a biotin-containing enzyme which catalyzes the carboxylation of acetyl-CoA to malonyl-CoA, the rate-limiting step in fatty acid synthesis. There are two ACC forms, alpha and beta, encoded by two different genes. ACC-alpha is highly enriched in lipogenic tissues. The enzyme is under long term control at the transcriptional and translational levels and under short term regulation by the phosphorylation/dephosphorylation of targeted serine residues and by allosteric transformation by citrate or palmitoyl-CoA. Multiple alternatively spliced transcript variants divergent in the 5' sequence and encoding distinct isoforms have been found for this gene.

References

Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Ruano, G., et al. Pharmacogenomics 11(7):959-971(2010)
Rose, J.E., et al. Mol. Med. 16 (7-8), 247-253 (2010) :
Kim, C.W., et al. Proc. Natl. Acad. Sci. U.S.A. 107(21):9626-9631(2010)
Zhao, L.F., et al. Endocr. J. 57(4):317-324(2010)

Images



ACACA Antibody (C-term) (Cat. #AP17139b) western blot analysis in 293 cell line lysates (35ug/lane).This demonstrates the ACACA antibody detected the ACACA protein (arrow).