RDSYSTEMS a biotechne brand

DESCRIPTION	ESCRIPTION					
Species Reactivity	Human/Mouse					
Specificity	Detects human Acetyl-CoA Carboxylase α/ACACA in direct ELISAs.					
Source	Monoclonal Mouse IgG _{2B} Clone # 738421					
Purification	Protein A or G purified from hybridoma culture supernatant					
Immunogen	<i>E. coli-</i> derived recombinant human Acetyl-CoA Carboxylase α/ACACA Pro1185-Phe1352 Accession # Q13085					
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.					

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

	Recommended Concentration	Sample
Western Blot	1 μg/mL	See Below

Data

Western Blot											
	A431	HCT-113	HepG2	C2C12		Detection of Human and Mouse Acetyl-CoA Carboxylase α/ACACA by Western Blot. Western blot shows lysates of A431 human epithelial carcinoma					
kDa 203 —	-	I	-	1	— ACACA	CACA cell line, HCT-116 human colorectal carcinoma cell line, HepG2 human hepatocellular carcinoma cell line, and C2C12 mouse myoblast cell line. PVDF membrane was probed with 1 µg/mL of Mouse Anti-Human/Mouse					
117 —						Antibody (Catalog # MAB6898) follo	Acetyl-CoA Carboxylase α/ACACA Monoclonal Antibody (Catalog # MAB6898) followed by HRP-				
77 —	-		_	_		conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for Acetyl-CoA Carboxylase α/ACACA at approximately					
52 —						250 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.					
36 —	-	•				Group 1.					

PREPARATION AND STORAGE Reconstitution Sterile PBS to a final concentration of 0.5 mg/mL. Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles. • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C • 70 °C under sterile conditions.

BACKGROUND

ACAC-A (Acetyl-CoA carboxylase alpha/1; also ACC-1 and biotin carboxylase) is a 260-265 kDa cytoplasmic, phosphorylated biotinyl-enzyme. It is widely expressed, and found to be concentrated in hepatocytes, adipocytes and lactating mammary epithelium. It is one of two gene products (ACAC-B/beta being the other) that catalyze the formation of malonyl-CoA from acetyl-CoA. The formation of malonyl-CoA by ACAC-A is a rate-limiting step in fatty acid synthesis; malonyl-CoA formed by ACAC-B acts as a regulator of CPT-1 during fatty acid oxidation. Human ACAC-A is 2346 amino acids (aa) in length. It contains an N-terminal acetylated Met, one ATP-Grasp domain (aa 275-466) with an embedded biotin carboxylation domain (aa 117-618), a biotinyl-binding region (aa 752-818), and a carboxylarsferase domain (aa 1698-2194). There are at least 17 utilized phosphorylation sites, and two acetylated Lys. ACAC-A exists as either a dimer or higher-order oligomer. Multiple splice variants exist. One possesses an alternative start site at Met79, a second utilizes an alternative start site 37 aa upstream of the standard site, and a third (called PIII) shows a 17 aa substitution for aa 1-75. Over aa 1185-1352, human ACAC-A shares 95% aa identity with mouse ACAC-A, and 97% aa identity with both ovine and bovine ACAC-A.

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