## SANTA CRUZ BIOTECHNOLOGY, INC.

# ACCβ (F-9): sc-377313



### BACKGROUND

Acetyl-CoA carboxylase (ACC) is a complex multifunctional enzyme system, which catalyzes the carboxylation of acetyl-CoA to malonyl-CoA, the rate-limiting step in fatty acid synthesis. Exercise diminishes the activity of acetyl-CoA carboxylase in human muscle. ACC $\alpha$  (ACC1) is the rate-limiting enzyme in the biogenesis of long-chain fatty acids, and ACC $\beta$  (ACC2) is thought to control mitochondrial fatty acid oxidation. These two isoforms of ACC control the amount of fatty acids in the cells. ACC- $\beta$  is thought to control fatty acid oxidation by means of the ability of malonyl-CoA to inhibit carnitine-palmitoyl-CoA transferase I, the rate-limiting step in fatty acid uptake and oxidation by mitochondrial protein exressed in heart and skeletal muscle. The catalytic core of ACC $\beta$  is homologous to that of the ACC $\alpha$ , except for an additional peptide of about 150 amino acids at the N terminus.

#### **CHROMOSOMAL LOCATION**

Genetic locus: ACACB (human) mapping to 12q24.11.

#### SOURCE

ACC $\beta$  (F-9) is a mouse monoclonal antibody raised against amino acids 146-220 mapping near the N-terminus of ACC $\beta$  of human origin.

### PRODUCT

Each vial contains 200  $\mu g$  IgG\_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ACCβ (F-9) is available conjugated to agarose (sc-377313 AC), 500 μg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377313 HRP), 200 μg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377313 PE), fluorescein (sc-377313 FITC), Alexa Fluor<sup>®</sup> 488 (sc-377313 AF488), Alexa Fluor<sup>®</sup> 546 (sc-377313 AF546), Alexa Fluor<sup>®</sup> 594 (sc-377313 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-377313 AF647), 200 μg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-377313 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-377313 AF790), 200 μg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## **RESEARCH USE**

For research use only, not for use in diagnostic procedures.

#### **APPLICATIONS**

ACC $\beta$  (F-9) is recommended for detection of ACC $\beta$  of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ACC $\beta$  siRNA (h): sc-43597, ACC $\beta$  shRNA Plasmid (h): sc-43597-SH and ACC $\beta$  shRNA (h) Lentiviral Particles: sc-43597-V.

Molecular Weight of ACC<sub>β</sub>: 275-280 kDa.

Positive Controls: human liver extract: sc-363766 or human skeletal muscle extract: sc-363776.

#### **RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG K BP-HRP: sc-516102 or m-IgG K BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG K BP-FITC: sc-516140 or m-IgG K BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

#### DATA



ACCB (F-9): sc-3/7313. Western blot analysis of ACC expression in human liver (**A**) and human skeletal muscle (**B**) tissue extracts.

## **SELECT PRODUCT CITATIONS**

- Glatzel, D.K., et al. 2018. Acetyl-CoA carboxylase 1 regulates endothelial cell migration by shifting the phospholipid composition. J. Lipid Res. 59: 298-311.
- Filon, M.J., et al. 2022. Prostate cancer cells demonstrate unique metabolism and substrate adaptability acutely after androgen deprivation therapy. Prostate 82: 1547-1557.
- He, Y., et al. 2024. Curcumin supplementation alleviates hepatic fat content associated with modulation of gut microbiota-dependent bile acid metabolism in patients with nonalcoholic simple fatty liver disease: a randomized controlled trial. Am. J. Clin. Nutr. 120: 66-79.

#### **STORAGE**

Store at 4° C, \*\*D0 NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

#### **PROTOCOLS**

See our web site at www.scbt.com for detailed protocols and support products.

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