

ACC β (H-220): sc-50387

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 α (ACC1) is the rate-limiting enzyme in the biogenesis of long-chain fatty acids, and ACC β (ACC2) is thought to control mitochondrial fatty acid oxidation. These two isoforms of ACC control the amount of fatty acids in the cells. ACC β 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 mitochondria. The gene encoding ACC β maps to human chromosome 12 and encodes a mitochondrial protein expressed in heart and skeletal muscle. The catalytic core of ACC β is homologous to that of ACC α , except for an additional peptide of about 150 amino acids at the N-terminus.

REFERENCES

- Ha, J., et al. 1996. Cloning of human acetyl-CoA carboxylase β and its unique features. *Proc. Natl. Acad. Sci. USA* 93: 11466-11470.
- Kim, K.H. 1997. Regulation of mammalian acetyl-coenzyme A carboxylase. *Annu. Rev. Nutr.* 17: 77-99.
- Dean, D., et al. 2000. Exercise diminishes the activity of acetyl-CoA carboxylase in human muscle. *Diabetes* 49: 1295-1300.
- Abu-Elheiga, L., et al. 2000. The subcellular localization of acetyl-CoA carboxylase 2. *Proc. Natl. Acad. Sci. USA* 97: 1444-1449.
- Lee, J.J., et al. 2001. Cloning of human acetyl-CoA carboxylase β promoter and its regulation by muscle regulatory factors. *J. Biol. Chem.* 276: 2576-2585.
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CHROMOSOMAL LOCATION

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

SOURCE

ACC β (H-220) is a rabbit polyclonal antibody raised against amino acids 146-220 mapping near the N-terminus of ACC β of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4 $^{\circ}$ C, ****DO 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 or our catalog for detailed protocols and support products.

APPLICATIONS

ACC β (H-220) is recommended for detection of ACC β of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

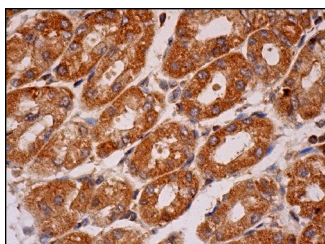
Suitable for use as control antibody for ACC β siRNA (h): sc-43597, ACC β shRNA Plasmid (h): sc-43597-SH and ACC β shRNA (h) Lentiviral Particles: sc-43597-V.

Molecular Weight of ACC β : 275-280 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz MarkerTM compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz MarkerTM Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruzTM Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruzTM: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



ACC β (H-220): sc-50387. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic staining of glandular cells.

RESEARCH USE

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

MONOS
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Try **ACC β (F-9): sc-377313**, our highly recommended monoclonal alternative to ACC β (H-220).