SANTA CRUZ BIOTECHNOLOGY, INC.

ACCβ (W-20): sc-26823

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

REFERENCES

1. Ha, J., et al. 1996. Cloning of human acetyl-CoA carboxylase β and its unique features. Proc. Natl. Acad. Sci. USA 93: 11466-11470.
2. Kim, K.H. 1997. Regulation of mammalian acetyl-coenzyme A carboxylase. Annu. Rev. Nutr. 17: 77-99.
3. Dean, D., et al. 2000. Exercise diminishes the activity of acetyl-CoA carboxylase in human muscle. Diabetes 49: 1295-1300.
4. Abu-Elheiga, L., et al. 2000. The subcellular localization of acetyl-CoA carboxylase 2. Proc. Natl. Acad. Sci. USA 97: 1444-1449.
5. 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.
6. LocusLink Report (LocusID: 32). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: Acacb (rat) mapping to 12q16.

SOURCE

ACCβ (W-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ACCβ of rat origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-26823 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

RESEARCH USE

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

APPLICATIONS

ACCβ (W-20) is recommended for detection of ACCβ of rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Molecular Weight of ACCβ: 275-280 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

PROTOCOLS

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