SANTA CRUZ BIOTECHNOLOGY, INC.

ACCβ (A-10): sc-390522

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 exressed in heart and skeletal muscle. The catalytic core of ACCβ is homologous to that of the ACCα, except for an additional peptide of about 150 amino acids at the N terminus.

REFERENCES

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2. Kim, K.H. 1997. Regulation of mammalian acetyl-coenzyme A carboxylase. Annu. Rev. Nutr. 17: 77-99.
3. Dean, D., Daugaard, J.R., Young, M.E., Saha, A., Vavvas, D., Asp, S., Kiens, B., Kim, K.H., Witters, L., Richter, E.A. and Ruderman, N. 2000. Exercise diminishes the activity of acetyl-CoA carboxylase in human muscle. Diabetes 49: 1295-1300.
4. Abu-Elheiga, L., Brinkley, W.R., Zhong, L., Chirala, S.S., Woldegiorgis, G. and Wakil, S.J. 2000. The subcellular localization of acetyl-CoA carboxylase 2. Proc. Natl. Acad. Sci. USA 97: 1444-1449.
5. Lee, J.J., Moon, Y.A., Ha, J.H., Yoon, D.J., Ahn, Y.H. and Kim, K.S. 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 (mouse) mapping to 5 F.

SOURCE

ACCβ (A-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 84-109 of ACCβ of rat origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390522 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

ACCβ (A-10) is recommended for detection of ACCβ of mouse and rat 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 ACCβ siRNA (m): sc-140800, ACCβ shRNA Plasmid (m): sc-140800-SH and ACCβ shRNA (m) Lentiviral Particles: sc-140800-V.

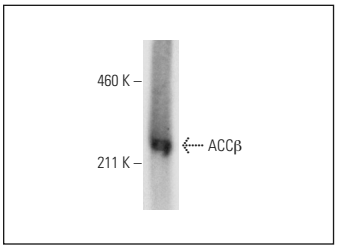
Molecular Weight of ACCβ: 275-280 kDa.

Positive Controls: rat liver extract: sc-2395.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



ACCβ (A-10): sc-390522. Western blot analysis of ACCβ expression in rat liver tissue extract.

STORAGE

Store at 4° 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 for detailed protocols and support products.