SANTA CRUZ BIOTECHNOLOGY, INC.

ACBP (S-20): sc-23474

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Long chain acyl-CoA esters (LCAs) act as both substrates and intermediates in metabolism, and as regulators of various intracellular functions. Acyl-CoA binding protein (ACBP) specifically binds to LCA with high affinity and regulates its availability. ACBP is structurally and functionally conserved among a diverse group of organisms, including human, rat, frog, insects, plants and yeast. The gene encoding human ACBP maps to chromosome 2, and is highly expressed in liver, soleus muscle, and heart. The ACBP protein is also abundant in cells with a high level of lipogenesis and *de novo* fatty acid synthesis. Expression of ACBP is significantly induced during adipocyte differentiation. ACBP is a target gene for proliferator-activated receptor (PPAR) γ, and is directly activated by PPARγ/RXRα and PPARα/RXRα, but not by PPARδ/RXRα. In addition to acyl-CoA binding and transport, ACBP is also implicated in γ-aminobutyric acid type A receptor binding, steroidogenesis, and peptide hormone release.

REFERENCES

1. Knudsen, J. 1990. Acyl-CoA-binding protein (ACBP) and its relation to fatty acid-binding protein (FABP): an overview. Mol. Cell. Biochem. 98: 217-223.
2. Knudsen, J., et al. 1993. The function of acyl-CoA-binding protein (ACBP)/diazepam binding inhibitor (DBI). Mol. Cell. Biochem. 123: 129-138.
3. Gersuk, V.H., et al. 1995. Molecular cloning and chromosomal localization of a pseudogene related to the human acyl-CoA binding protein/diazepam binding inhibitor. Genomics 25: 469-476.
4. Swinnen, J.V., et al. 1998. Identification of diazepam-binding Inhibitor/Acyl-CoA-binding protein as a sterol regulatory element-binding protein-responsive gene. J. Biol. Chem. 273: 19938-19944.
5. Knudsen, J., et al. 2000. Role of acyl-CoA binding protein in acyl-CoA metabolism and acyl-CoA-mediated cell signaling. J. Nutr. 130: 294S-298S.
6. Helledie, T., et al. 2002. The gene encoding the Acyl-CoA-binding protein is activated by peroxisome proliferator-activated receptor gamma through an intronic response element functionally conserved between humans and rodents. J. Biol. Chem. 277: 26821-26830.

CHROMOSOMAL LOCATION

Genetic locus: Dbi (mouse) mapping to 1 E2.3.

SOURCE

ACBP (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of ACBP of mouse 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-23474 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

ACBP (S-20) is recommended for detection of ACBP of mouse and rat origin by Western Blotting (starting dilution 1:200, 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).

ACBP (S-20) is also recommended for detection of ACBP in additional species, including bovine.

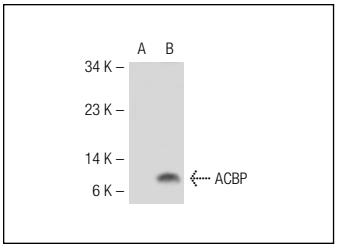
Suitable for use as control antibody for ACBP siRNA (m): sc-40311, ACBP shRNA Plasmid (m): sc-40311-SH and ACBP shRNA (m) Lentiviral Particles: sc-40311-V.

Positive Controls: ACBP (m): 293T Lysate: sc-118194.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



ACBP (S-20): sc-23474. Western blot analysis of ACBP expression in non-transfected: sc-117752 (**A**) and mouse ACBP transfected: sc-118194 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. McIntosh, A.L., et al. 2013. Liver fatty acid binding protein gene-ablation exacerbates weight gain in high-fat fed female mice. Lipids 48: 435-448.

STORAGE

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