SANTA CRUZ BIOTECHNOLOGY, INC.

ACBP (C-9): sc-376853

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, insect, plant and yeast. DBI, the gene encoding human ACBP, which maps to chromosome 2, 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. DBI 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.

CHROMOSOMAL LOCATION

Genetic locus: DBI (human) mapping to 2q14.2.

SOURCE

ACBP (C-9) is a mouse monoclonal antibody raised against amino acids 1-87 representing full length ACBP of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ACBP (C-9) is available conjugated to agarose (sc-376853 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376853 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376853 PE), fluorescein (sc-376853 FITC), Alexa Fluor® 488 (sc-376853 AF488), Alexa Fluor® 546 (sc-376853 AF546), Alexa Fluor® 594 (sc-376853 AF594) or Alexa Fluor® 647 (sc-376853 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376853 AF680) or Alexa Fluor® 790 (sc-376853 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

ACBP (C-9) is recommended for detection of ACBP short and long isoforms 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 ACBP siRNA (h): sc-40310, ACBP siRNA (m): sc-40311, ACBP shRNA Plasmid (h): sc-40310-SH, ACBP shRNA Plasmid (m): sc-40311-SH, ACBP shRNA (h) Lentiviral Particles: sc-40310-V and ACBP shRNA (m) Lentiviral Particles: sc-40311-V.

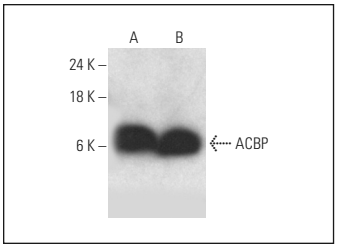
Molecular Weight of ACBP: 10 kDa.

Positive Controls: ACBP (h): 293T Lysate: sc-116768, Hep G2 cell lysate: sc-2227 or U-87 MG cell lysate: sc-2411.

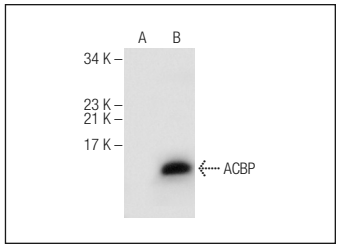
RECOMMENDED SUPPORT REAGENTS

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



ACBP (C-9): sc-376853. Western blot analysis of ACBP expression in Hep G2 (**A**) and U-87 MG (**B**) whole cell lysates.



ACBP (C-9): sc-376853. Western blot analysis of ACBP expression in non-transfected: sc-117752 (**A**) and human ACBP transfected: sc-116768 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Bravo-San Pedro, J.M., et al. 2019. Acyl-CoA-binding protein is a lipogenic factor that triggers food intake and obesity. Cell Metab. 30: 754-767.e9.
2. Kumar, A., et al. 2020. Mefloquine binding to human acyl-CoA binding protein leads to redox stress-mediated apoptotic death of human neuroblastoma cells. Neurotoxicology 77: 169-180.
3. Anagnostopoulos, G., et al. 2022. An obesogenic feedforward loop involving PPARγ, acyl-CoA binding protein and $GABA_A$ receptor. Cell Death Dis. 13: 356.
4. Xiang, L., et al. 2022. DNA G-quadruplex structure participates in regulation of lipid metabolism through acyl-CoA binding protein. Nucleic Acids Res. 50: 6953-6967.

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.

PROTOCOLS

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