SANTA CRUZ BIOTECHNOLOGY, INC.

ACOT7 (C-2): sc-376808

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Acyl-CoA thioesterases (ACOTs) are a group of enzymes that catalyze the hydrolysis of acyl-CoA to form coenzyme A (CoA) and a free fatty acid. Through their catalytic activity, ACOTs are able to regulate the level of fatty acids and acyl-CoAs within the cell. ACOT7 (acyl-CoA thioesterase 7), also known as BACH (brain acyl-CoA hydrolase), LACH or CTE-II, is a 380 amino acid protein that is expressed as six alternatively spliced isoforms which localize to either the cytoplasm or the mitochondria. Functioning as a homodimer that contains two acyl coenzyme A hydrolase domains, ACOT7 plays an important role in regulating acyl-CoA levels within the body and is thought to specifically participate in proper brain physiology and function. Decreased ACOT7 expression may be associated with mesial temporal lobe epilepsy, a form of focal epilepsy that is characterized by simple or complex seizures.

REFERENCES

1. Yamada, J., et al. 1999. Purification, molecular cloning, and genomic organization of human brain long-chain acyl-CoA hydrolase. J. Biochem. 126: 1013-1019.
2. Yamada, J., et al. 2002. Human brain acyl-CoA hydrolase isoforms encoded by a single gene. Biochem. Biophys. Res. Commun. 299: 49-56.
3. Kuramochi, Y., et al. 2002. Characterization of mouse homolog of brain acyl-CoA hydrolase: molecular cloning and neuronal localization. Brain Res. Mol. Brain Res. 98: 81-92.

CHROMOSOMAL LOCATION

Genetic locus: ACOT7 (human) mapping to 1p36.31; Acot7 (mouse) mapping to 4 E2.

SOURCE

ACOT7 (C-2) is a mouse monoclonal antibody raised against amino acids 81-380 mapping at the C-terminus of ACOT7 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.

ACOT7 (C-2) is available conjugated to agarose (sc-376808 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376808 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376808 PE), fluorescein (sc-376808 FITC), Alexa Fluor® 488 (sc-376808 AF488), Alexa Fluor® 546 (sc-376808 AF546), Alexa Fluor® 594 (sc-376808 AF594) or Alexa Fluor® 647 (sc-376808 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376808 AF680) or Alexa Fluor® 790 (sc-376808 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

ACOT7 (C-2) is recommended for detection of ACOT7 of mouse, rat and 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), 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 ACOT7 siRNA (h): sc-88501, ACOT7 siRNA (m): sc-105035, ACOT7 shRNA Plasmid (h): sc-88501-SH, ACOT7 shRNA Plasmid (m): sc-105035-SH, ACOT7 shRNA (h) Lentiviral Particles: sc-88501-V and ACOT7 shRNA (m) Lentiviral Particles: sc-105035-V.

Molecular Weight of ACOT7 isoforms B/A-X/A-Xi: 42/27/31 kDa.

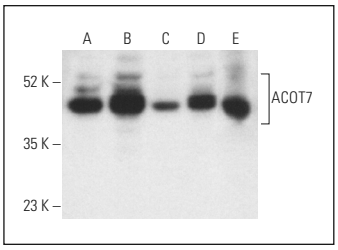
Molecular Weight of ACOT7 isoforms A/C/D: 37/39/37 kDa.

Positive Controls: PC-3 cell lysate: sc-2220, mouse brain extract: sc-2253 or Jurkat whole cell lysate: sc-2204.

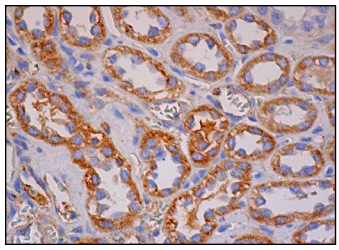
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



ACOT7 (C-2): sc-376808. Western blot analysis of ACOT7 expression in Jurkat (**A**), SK-MEL-28 (**B**), Caco-2 (**C**) and PC-3 (**D**) whole cell lysates and mouse brain tissue extract (**E**). Detection reagent used: m-IgGκ BP-HRP: sc-516102.



ACOT7 (C-2): sc-376808. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

1. Ersoy, B.A., et al. 2017. Thioesterase-mediated control of cellular calcium homeostasis enables hepatic ER stress. J. Clin. Invest. 128: 141-156.

RESEARCH USE

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