SANTA CRUZ BIOTECHNOLOGY, INC.

ACOT1/2 (F-2): sc-373917

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. ACOT1 (acyl-CoA thioesterase 1, also known as CTE1) and ACOT2 (acyl-CoA thioesterase 2, also known as PTE2) are members of the ACOT family and exhibit different cellular localization, with ACOT1 existing as a monomer in the cytoplasm and ACOT2 localized primarily to mitochondria. Characteristic of most ACOT proteins, ACOT1 and ACOT2 catalyze the conversion of Palmitoyl-CoA and water to free CoA and palmitate, a reaction that is important for the regulation of intercellular fatty acid levels. ACOT2 is expressed as multiple alternatively spliced isoforms and, like ACOT1, is encoded by a gene which maps to human chromosome 14.

CHROMOSOMAL LOCATION

Genetic locus: ACOT1/ACOT2 (human) mapping to 14q24.3.

SOURCE

ACOT1/2 (F-2) is a mouse monoclonal antibody raised against amino acids 249-324 mapping within an internal region of ACOT1 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.

ACOT1/2 (F-2) is available conjugated to agarose (sc-373917 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-373917 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373917 PE), fluorescein (sc-373917 FITC), Alexa Fluor® 488 (sc-373917 AF488), Alexa Fluor® 546 (sc-373917 AF546), Alexa Fluor® 594 (sc-373917 AF594) or Alexa Fluor® 647 (sc-373917 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373917 AF680) or Alexa Fluor® 790 (sc-373917 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

ACOT1/2 (F-2) is recommended for detection of ACOT1 and ACOT2 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), 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).

Molecular Weight of ACOT1: 46 kDa.

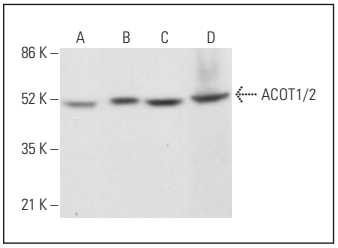
Molecular Weight of ACOT2: 53 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or HUV-EC-C whole cell lysate: sc-364180.

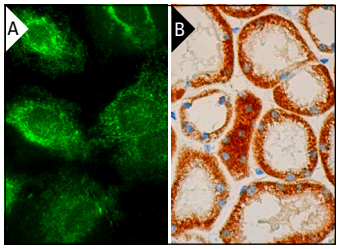
RECOMMENDED SUPPORT REAGENTS

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



ACOT1/2 (F-2): sc-373917. Western blot analysis of ACOT1/2 expression in HeLa (**A**), Hep G2 (**B**), HUV-EC-C (**C**) and T-47D (**D**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



ACOT1/2 (F-2): sc-373917. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (**B**).

SELECT PRODUCT CITATIONS

1. Wang, W., et al. 2017. TRIM37, a novel E3 ligase for PEX5-mediated peroxisomal matrix protein import. J. Cell Biol. 216: 2843-2858.
2. Filip, R., et al. 2021. Profiling of microRNA targets using activity-based protein profiling: linking enzyme activity to microRNA-185 function. Cell Chem. Biol. 28: 202-212.e6.
3. Desrochers, G.F., et al. 2022. microRNA-27b regulates hepatic lipase enzyme LIPC and reduces triglyceride degradation during hepatitis C virus infection. J. Biol. Chem. 298: 101983.

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.