SANTA CRUZ BIOTECHNOLOGY, INC.

CPTI (H-40): sc-98834

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The mitochondrial β-oxidation of long-chain fatty acids is initiated by the sequential action of carnitine palmitoyltransferase (CPT) I (outer membrane and detergent labile) and II (inner membrane and detergent stable), together with carnitine carrier. CPTI catalyzes the first reaction in the transport of long-chain fatty acids from the cytoplasm to the mitochondrion, a rate-limiting step in β-oxidation. Two types of CPTI are known, the liver (CPTIA) and muscle (CPTIB) isoforms. The muscle type protein is specially expressed in heart and skeletal muscle. Membrane-bound CPTI, but not CPTII, is inhibited reversibly by malonyl-coenzyme A (CoA). Unlike CPTII, CPTI requires membrane integrity for catalytic function. In addition, glutamic acid 3 and histidine 5 are necessary for malonyl-CoA inhibition and binding to liver CPTI, but not for catalytic activity.

CHROMOSOMAL LOCATION

Genetic locus: CPT1A (human) mapping to 11q13.3; Cpt1a (mouse) mapping to 19 A.

SOURCE

CPTI (H-40) is a rabbit polyclonal antibody raised against amino acids 277-316 mapping within an internal region of CPTI of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

CPTI (H-40) is recommended for detection of CPTI of mouse, rat and human 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), 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).

CPTI (H-40) is also recommended for detection of CPTI in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for CPTI siRNA (h): sc-40376, CPTI siRNA (m): sc-40377, CPTI siRNA (r): sc-156134, CPTI shRNA Plasmid (h): sc-40376-SH, CPTI shRNA Plasmid (m): sc-40377-SH, CPTI shRNA Plasmid (r): sc-156134-SH, CPTI shRNA (h) Lentiviral Particles: sc-40376-V, CPTI shRNA (m) Lentiviral Particles: sc-40377-V and CPTI shRNA (r) Lentiviral Particles: sc-156134-V.

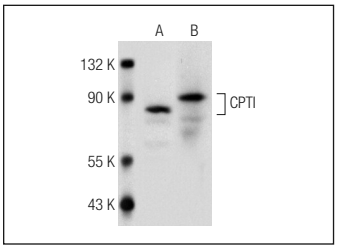
Molecular Weight of CPTI: 86/90-94 kDa.

Positive Controls: mouse heart extract: sc-2254, Hep G2 cell lysate: sc-2227 or PC-12 cell lysate: sc-2250.

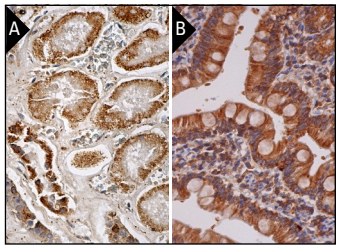
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



CPTI (H-40): sc-98834. Western blot analysis of CPTI expression in PC-12 whole cell lysate (**A**) and mouse heart tissue extract (**B**).



CPTI (H-40): sc-98834. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Zhu, L., et al. 2011. Lipid in the livers of adolescents with nonalcoholic steatohepatitis: combined effects of pathways on steatosis. Metab. Clin. Exp. 60: 1001-1011.
2. Soares, V.M., et al. 2012. Early life overfeeding decreases acylated ghrelin circulating levels and upregulates GHSR1a signaling pathway in white adipose tissue of obese young mice. Regul. Pept. 174: 6-11.
3. Romic, S., et al. 2014. Gender differences in the expression and cellular localization of lipin 1 in the hearts of fructose-fed rats. Lipids 49: 655-663.
4. Tepav evi , S., et al. 2015. Cardiac fatty acid uptake and metabolism in the rat model of polycystic ovary syndrome. Endocrine 50: 193-201.

RESEARCH USE

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