



CPTI-L (L-12): sc-20515

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.

REFERENCES

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3. Woeltje, K.F., et al. 1990. Inter-tissue and inter-species characteristics of the mitochondrial carnitine palmitoyltransferase enzyme system. *J. Biol. Chem.* 265: 10714-10719.
4. Britton, C.H., et al. 1995. Human liver mitochondrial carnitine palmitoyltransferase I: characterization of its cDNA and chromosomal localization and partial analysis of the gene. *Proc. Natl. Acad. Sci. USA* 92: 1984-1988.
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6. Zhu, H., et al. 1997. Functional studies of yeast-expressed human heart muscle carnitine palmitoyltransferase I. *Arch. Biochem. Biophys.* 347: 53-61.
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SOURCE

CPTI-L (L-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CPTI-L of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-20515 P, (100 μ g 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

CPTI-L (L-12) is recommended for detection of CPTI-L of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 CPTI-L siRNA (h): sc-40380.

Molecular Weight of CPTI-L: 90-94 kDa.

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) 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.

STORAGE

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

PROTOCOLS

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