

CPT1-C (N-18): sc-139479

BACKGROUND

The mitochondrial β -oxidation of long-chain fatty acids is initiated by the sequential action of CPT (carnitine palmitoyltransferase) I and II, together with carnitine carrier. CPTI catalyzes the first reaction in the transport of long-chain fatty acids from the cytoplasm to mitochondria, a rate-limiting step in β -oxidation. CPT1-C (carnitine palmitoyltransferase 1C), also known as CATL1, CPT1P, CPT1C or CPTI-B, is an 803 amino acid multi-pass membrane protein involved in lipid metabolism. Expressed primarily in testis and brain, CPT1-C belongs to the carnitine/choline acetyltransferase family and catalyzes the conversion of palmitoyl-CoA and L-Carnitine to CoA and L-palmitoylcarnitine. CPT1-C exists as three alternatively spliced isoforms that are encoded by a gene that maps to human chromosome 19q13.33.

REFERENCES

- Price, N., et al. 2002. A novel brain-expressed protein related to carnitine palmitoyltransferase I. *Genomics* 80: 433-442.
- Bonnefont, J.P., et al. 2004. Carnitine palmitoyltransferases 1 and 2: biochemical, molecular and medical aspects. *Mol. Aspects Med.* 25: 495-520.
- Wolfgang, M.J., et al. 2006. The role of hypothalamic malonyl-CoA in energy homeostasis. *J. Biol. Chem.* 281: 37265-37269.
- Wolfgang, M.J., et al. 2006. The brain-specific carnitine palmitoyltransferase-1c regulates energy homeostasis. *Proc. Natl. Acad. Sci. USA* 103: 7282-7287.
- Online Mendelian Inheritance in Man, OMIM[™]. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 608846. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Sierra, A.Y., et al. 2008. CPT1c is localized in endoplasmic reticulum of neurons and has carnitine palmitoyltransferase activity. *J. Biol. Chem.* 283: 6878-6885.

CHROMOSOMAL LOCATION

Genetic locus: CPT1C (human) mapping to 19q13.33.

SOURCE

CPT1-C (N-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an N-terminal cytoplasmic domain of CPT1-C of human origin.

PRODUCT

Each vial contains 100 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-139479 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

CPT1-C (N-18) is recommended for detection of CPT1-C of human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with CPTI or CPTI-M.

CPT1-C (N-18) is also recommended for detection of CPT1-C in additional species, including equine and canine.

Suitable for use as control antibody for CPT1-C siRNA (h): sc-97702, CPT1-C shRNA Plasmid (h): sc-97702-SH and CPT1-C shRNA (h) Lentiviral Particles: sc-97702-V.

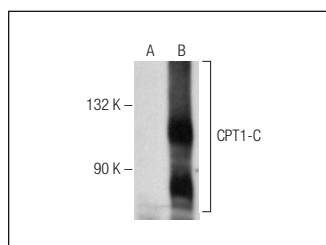
Molecular Weight of CPT1-C isoforms 1/2/3: 91/90/81 kDa.

Positive Controls: CPT1-C (h): 293T Lysate: sc-113596.

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.

DATA



CPT1-C (N-18): sc-139479. Western blot analysis of CPT1-C expression in non-transfected: sc-117752 (A) and human CPT1-C transfected: sc-113596 (B) 293T whole cell lysates.

RESEARCH USE

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

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Try **CPT1-C (B-1): sc-514555**, our highly recommended monoclonal alternative to CPT1-C (N-18).