SANTA CRUZ BIOTECHNOLOGY, INC.

CPT1-C (B-1): sc-514555

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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, CPTIC 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.

CHROMOSOMAL LOCATION

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

SOURCE

CPT1-C (B-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 8-27 within an N-terminal cytoplasmic domain of CPT1-C of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CPT1-C (B-1) is available conjugated to agarose (sc-514555 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514555 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514555 PE), fluorescein (sc-514555 FITC), Alexa Fluor® 488 (sc-514555 AF488), Alexa Fluor® 546 (sc-514555 AF546), Alexa Fluor® 594 (sc-514555 AF594) or Alexa Fluor® 647 (sc-514555 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514555 AF680) or Alexa Fluor® 790 (sc-514555 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514555 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

CPT1-C (B-1) is recommended for detection of CPT1-C 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).

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.

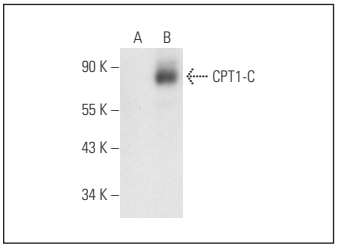
Molecular Weight of CPT1-C isoform 1/2/3: 91/90/81 kDa.

Positive Controls: CPT1-C (h3): 293T Lysate: sc-113596.

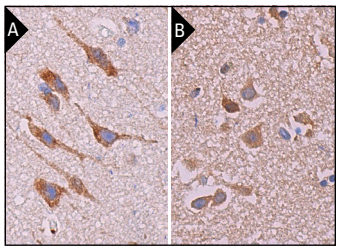
STORAGE

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

DATA



CPT1-C (B-1): sc-514555. 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.



CPT1-C (B-1): sc-514555. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing cytoplasmic staining of neuronal cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human hippocampus tissue showing cytoplasmic staining of neuronal cells and glial cells (**B**).

SELECT PRODUCT CITATIONS

1. Liu, B.L., et al. 2018. Effect of the Shensong Yangxin Capsule on energy metabolism in Angiotensin II-induced cardiac hypertrophy. Chin. Med. J. 131: 2287-2296.
2. Kuter, K., et al. 2019. Astrocyte support is important for the compensatory potential of the nigrostriatal system neurons during early neurodegeneration. J. Neurochem. 148: 63-79.
3. Jung, T.W., et al. 2020. Administration of kynurenic acid reduces hyperlipidemia-induced inflammation and Insulin resistance in skeletal muscle and adipocytes. Mol. Cell. Endocrinol. 518: 110928.
4. Valença, I., et al. 2020. Prostate cancer proliferation is affected by the subcellular localization of MCT2 and accompanied by significant peroxisomal alterations. Cancers 12: 3152.
5. Alshammari, G.M., et al. 2021. Quercetin prevents cadmium chloride-induced hepatic steatosis and fibrosis by downregulating the transcription of miR-21. Biofactors 47: 489-505.
6. Wang, C.Y., et al. 2022. Mutant p53-microRNA-200c-ZEB2-axis-induced CPT1C elevation contributes to metabolic reprogramming and tumor progression in basal-like breast cancers. Front. Oncol. 12: 940402.
7. Maneechote, C., et al. 2022. Modulating mitochondrial dynamics attenuates cardiac ischemia-reperfusion injury in prediabetic rats. Acta Pharmacol. Sin. 43: 26-38.
8. Choi, S.W., et al. 2023. Adipokine gremlin-1 promotes hepatic steatosis via upregulation of ER stress by suppressing autophagy-mediated signaling. J. Cell. Physiol. 238: 966-975.

RESEARCH USE

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