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CPT1C Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP16195b

Product Information

Application	WB, E
Primary Accession	Q8TCG5
Other Accession	NP_001129524.1, NP_689572.1
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Canine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB35596
Calculated MW	90989
Antigen Region	596-625

Additional Information

Gene ID	126129
Other Names	Carnitine O-palmitoyltransferase 1, brain isoform, CPT1-B, CPT IC, Carnitine O-palmitoyltransferase I, brain isoform, CPTI-B, Carnitine palmitoyltransferase 1C, CPT1C, CATL1
Target/Specificity	This CPT1C antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 596-625 amino acids from the C-terminal region of human CPT1C.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CPT1C Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CPT1C (HGNC:18540)
Synonyms	CATL1

Function	Palmitoyl thioesterase specifically expressed in the endoplasmic reticulum of neurons. Modulates the trafficking of the glutamate receptor, AMPAR, to plasma membrane through depalmitoylation of GRIA1 (PubMed:30135643). Also regulates AMPR trafficking through the regulation of SACM1L phosphatidylinositol-3-phosphatase activity by interaction in a malonyl-CoA dependent manner (By similarity). Binds malonyl-CoA and couples malonyl-CoA to ceramide levels, necessary for proper spine maturation and contributing to systemic energy homeostasis and appetite control (PubMed:16651524). Binds to palmitoyl-CoA, but does not have carnitine palmitoyltransferase 1 catalytic activity or at very low levels (PubMed:25751282, PubMed:30135643).
Cellular Location	Cell projection, dendrite. Cell projection, axon. Endoplasmic reticulum membrane; Multi-pass membrane protein. Note=Localized in the soma and dendritic and axonal projections.
Tissue Location	Expressed predominantly in brain and testis. Expressed in motor neurons.

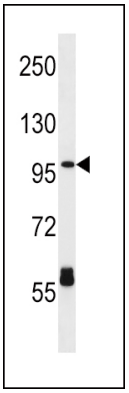
Background

The Cpt1 family of proteins are outer mitochondrial membrane proteins that regulate the entry into, and oxidation of fatty acids by, mitochondria. Malonyl-CoA, an intermediate in fatty acid synthesis, has been implicated as a regulatory component of the energy sensing system that feeds into hypothalmic neurons to impart energy homeostasis. Malonyl-CoA levels in the hypothalamus are dynamically regulated by fasting and feeding, altering subsequent feeding behaviour. Cpt1c, the brain-specific carnitine O-palmitoyltransferase 1, is thought to relay information about malonyl-CoA levels in hypothalamic neurons that express orexigenic and anorexigenic neuropeptides that regulate food intake and peripheral energy expenditure. Unlike other Cpt1 proteins, Cpt1c binds Malonyl-CoA but does not catalyse the transfer of the malonyl group from CoA to carnitine.

References

Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Talmud, P.J., et al. Am. J. Hum. Genet. 85(5):628-642(2009)
Roomets, E., et al. Invest. Ophthalmol. Vis. Sci. 49(4):1660-1664(2008)
Sierra, A.Y., et al. J. Biol. Chem. 283(11):6878-6885(2008)
Price, N., et al. Genomics 80(4):433-442(2002)

Images



CPT1C Antibody (C-term) (Cat. #AP16195b) western blot analysis in HL-60 cell line lysates (35ug/lane).This demonstrates the CPT1C antibody detected the CPT1C protein (arrow).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.