

**CPT1A Antibody (C-term) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP2524b****Specification**

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**CPT1A Antibody (C-term) Blocking Peptide - Product Information**Primary Accession [P50416](#)**CPT1A Antibody (C-term) Blocking Peptide - Additional Information****Gene ID** 1374**Other Names**

Carnitine O-palmitoyltransferase 1, liver isoform, CPT1-L, Carnitine O-palmitoyltransferase I, liver isoform, CPT I, CPTI-L, Carnitine palmitoyltransferase 1A, CPT1A, CPT1

**Target/Specificity**

The synthetic peptide sequence used to generate the antibody [AP2524b](/product/products/AP2524b) was selected from the C-term region of human CPT1A . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**CPT1A Antibody (C-term) Blocking Peptide - Protein Information****Name** CPT1A ([HGNC:2328](#))**Synonyms** CPT1**Function**

Catalyzes the transfer of the acyl group of long-chain fatty acid-CoA conjugates onto carnitine, an essential step for the mitochondrial uptake of long-chain fatty acids and their subsequent beta-oxidation in the mitochondrion (PubMed: [11350182](http://www.uniprot.org/citations/11350182), PubMed: [14517221](http://www.uniprot.org/citations/14517221), PubMed: [16651524](http://www.uniprot.org/citations/16651524), PubMed: [9691089](http://www.uniprot.org/citations/9691089)). Also possesses a lysine succinyltransferase activity that can regulate enzymatic activity of substrate proteins such as ENO1 and metabolism independent of its classical carnitine O-palmitoyltransferase activity

(PubMed:<a href="http://www.uniprot.org/citations/29425493" target="\_blank">29425493</a>). Plays an important role in hepatic triglyceride metabolism (By similarity). Also plays a role in inducible regulatory T-cell (iTreg) differentiation once activated by butyryl-CoA that antagonizes malonyl- CoA-mediated CPT1A repression (By similarity). Sustains the IFN-I response by recruiting ZDHCC4 to palmitoylate MAVS at the mitochondria leading to MAVS stabilization and activation (PubMed:<a href="http://www.uniprot.org/citations/38016475" target="\_blank">38016475</a>). Promotes ROS-induced oxidative stress in liver injury via modulation of NFE2L2 and NLRP3-mediated signaling pathways (By similarity).

**Cellular Location**

Mitochondrion outer membrane; Multi-pass membrane protein

**Tissue Location**

Strong expression in kidney and heart, and lower in liver and skeletal muscle

**CPT1A Antibody (C-term) Blocking Peptide - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

**CPT1A Antibody (C-term) Blocking Peptide - Images****CPT1A Antibody (C-term) Blocking Peptide - Background**

The mitochondrial oxidation of long-chain fatty acids is initiated by the sequential action of carnitine palmitoyltransferase I (which is located in the outer membrane and is detergent-labile) and carnitine palmitoyltransferase II (which is located in the inner membrane and is detergent-stable), together with a carnitine-acylcarnitine translocase. CPT I is the key enzyme in the carnitine-dependent transport across the mitochondrial inner membrane and its deficiency results in a decreased rate of fatty acid beta-oxidation.

**CPT1A Antibody (C-term) Blocking Peptide - References**

Rasmussen, B.B., et al., J. Clin. Invest. 110(11):1687-1693 (2002). Ogawa, E., et al., J. Hum. Genet. 47(7):342-347 (2002). Cook, G.A., et al., Am. J. Med. Sci. 318(1):43-48 (1999). IJlst, L., et al., J. Clin. Invest. 102(3):527-531 (1998). Britton, C.H., et al., Genomics 40(1):209-211 (1997).