

**CPT1A Antibody (C-term)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP2524b****Specification**

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**CPT1A Antibody (C-term) - Product Information**

Application	WB, IHC-P,E
Primary Accession	<a href="#">P50416</a>
Reactivity	Bovine, Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	88368
Antigen Region	606-636

**CPT1A Antibody (C-term) - 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**

This CPT1A antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 606-636 amino acids from the C-terminal region of human CPT1A.

**Dilution**

WB~~1:1000

IHC-P~~1:50~100

E~~Use at an assay dependent concentration.

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

**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**

CPT1A Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

**CPT1A Antibody (C-term) - 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](#), PubMed:[14517221](#), PubMed:[16651524](#), PubMed:[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:[29425493](#)). 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:[38016475](#)). 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

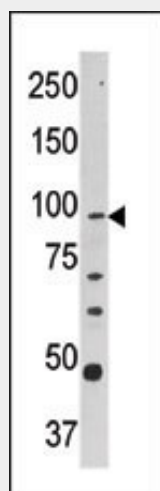
Strong expression in kidney and heart, and lower in liver and skeletal muscle

## CPT1A Antibody (C-term) - Protocols

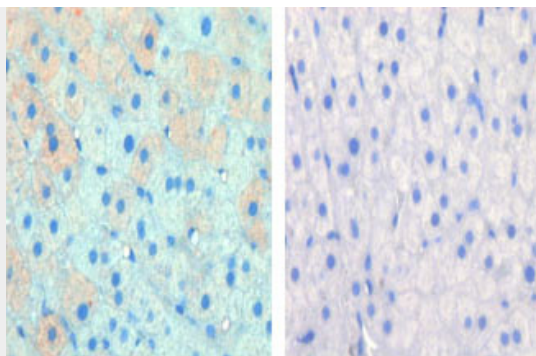
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## CPT1A Antibody (C-term) - Images



Western blot analysis of anti-CPT1A Pab (Cat. #AP2524b) in Y79 cell line lysate (35ug/lane). CPT1A (arrow) was detected using the purified Pab.



Left image is paraformaldehyde-fixed and paraffin-embedded cow lactating with CPT1A Pab (Cat. #AP2524b), which was peroxidase-conjugated to the secondary antibody, followed by AEC staining, right image is contrast, did not add the antibody. This data was kindly offered by Hideaki Hayashi, University of Bern, Switzerland.

#### **CPT1A Antibody (C-term) - 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) - 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).

#### **CPT1A Antibody (C-term) - Citations**

- [Molecular adaptation in adipose tissue in response to overfeeding with a high-fat diet under sedentary conditions in South Asian and Caucasian men.](#)