

**Goat Anti-CPT1A Antibody**  
**Peptide-affinity purified goat antibody**  
**Catalog # AF1274a****Specification**

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**Goat Anti-CPT1A Antibody - Product Information**

Application	WB, IHC, E
Primary Accession	<a href="#">P50416</a>
Other Accession	<a href="#">NP_001027017</a> , <a href="#">1374</a>
Reactivity	Human
Host	Goat
Clonality	Polyclonal
Concentration	100ug/200ul
Isotype	IgG
Calculated MW	88368

**Goat Anti-CPT1A Antibody - Additional Information****Gene ID** 1374**Other Names**

Carnitine O-palmitoyltransferase 1, liver isoform, CPT1-L, 2.3.1.21, Carnitine O-palmitoyltransferase I, liver isoform, CPT I, CPTI-L, Carnitine palmitoyltransferase 1A, CPT1A, CPT1

**Dilution**

WB~~1:1000  
IHC~~1:100~500  
E~~N/A

**Format**

0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

Goat Anti-CPT1A Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**Goat Anti-CPT1A Antibody - 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:<a href="http://www.uniprot.org/citations/11350182" target="\_blank">11350182</a>, PubMed:<a href="http://www.uniprot.org/citations/14517221" target="\_blank">14517221</a>, PubMed:<a href="http://www.uniprot.org/citations/16651524" target="\_blank">16651524</a>, PubMed:<a href="http://www.uniprot.org/citations/9691089" target="\_blank">9691089</a>). 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

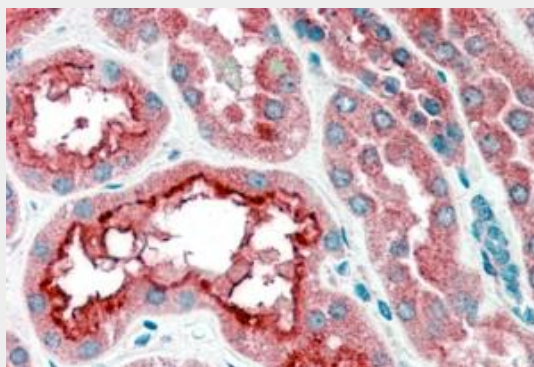
Strong expression in kidney and heart, and lower in liver and skeletal muscle

### Goat Anti-CPT1A Antibody - 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](#)

### Goat Anti-CPT1A Antibody - Images



AF1274a (4 µg/ml) staining of paraffin embedded Human Kidney. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.



AF1274a (0.1 µg/ml) staining of human liver lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

### Goat Anti-CPT1A Antibody - 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. Alternatively spliced transcript variants encoding different isoforms have been found for this gene.

### Goat Anti-CPT1A Antibody - References

Carnitine palmitoyltransferase 1A (CPT1A) P479L prevalence in live newborns in Yukon, Northwest Territories, and Nunavut. Collins SA, et al. Mol Genet Metab, 2010 Jul 24. PMID 20696606.

Variation at the NFATC2 Locus Increases the Risk of Thiazolinedione-Induced Edema in the Diabetes REduction Assessment with ramipril and rosiglitazone Medication (DREAM) Study. Bailey SD, et al. Diabetes Care, 2010 Jul 13. PMID 20628086.

Physiogenomic analysis of statin-treated patients: domain-specific counter effects within the ACACB gene on low-density lipoprotein cholesterol? Ruaño G, et al. Pharmacogenomics, 2010 Jul. PMID 20602615.

MicroRNA-370 controls the expression of microRNA-122 and Cpt1alpha and affects lipid metabolism. Iliopoulos D, et al. J Lipid Res, 2010 Jun. PMID 20124555.

Gene-centric association signals for lipids and apolipoproteins identified via the HumanCVD BeadChip. Talmud PJ, et al. Am J Hum Genet, 2009 Nov. PMID 19913121.