10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Goat Anti-CPT1A Antibody

Peptide-affinity purified goat antibody
Catalog # AF1274a

Specification

Goat Anti-CPT1A Antibody - Product Information

Application	**IHC, WB**
Primary Accession	P50416
Other Accession	NP_001027017, 1374
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

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, PubMed:14517221, PubMed:16651524, PubMed:9691089). Possesses also 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). Plays also 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

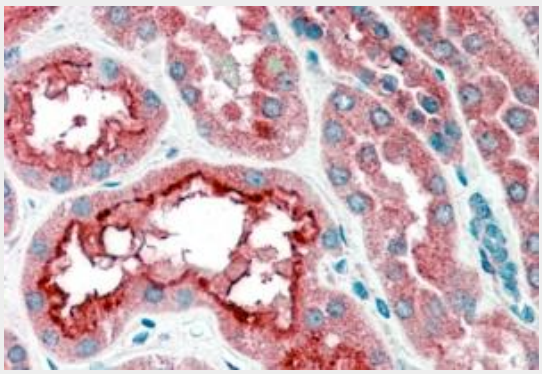
Tissue Location
Strong expression in kidney and heart, and lower in liver and skeletal muscle

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 Cytomety
- 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.

10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

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 Thiazolinedinedione-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? Rua□o 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.