

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: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

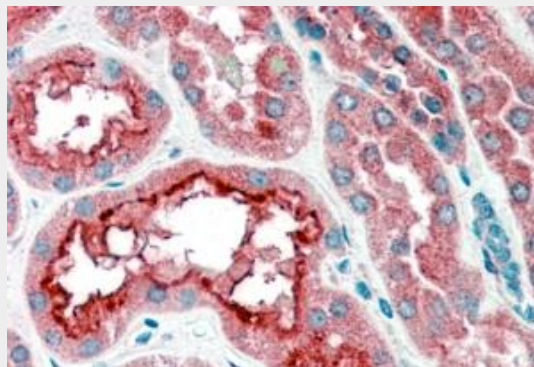
Strong expression in kidney and heart, and lower in liver and skeletal muscle

Goat Anti-CPT1A Antibody - Protocols

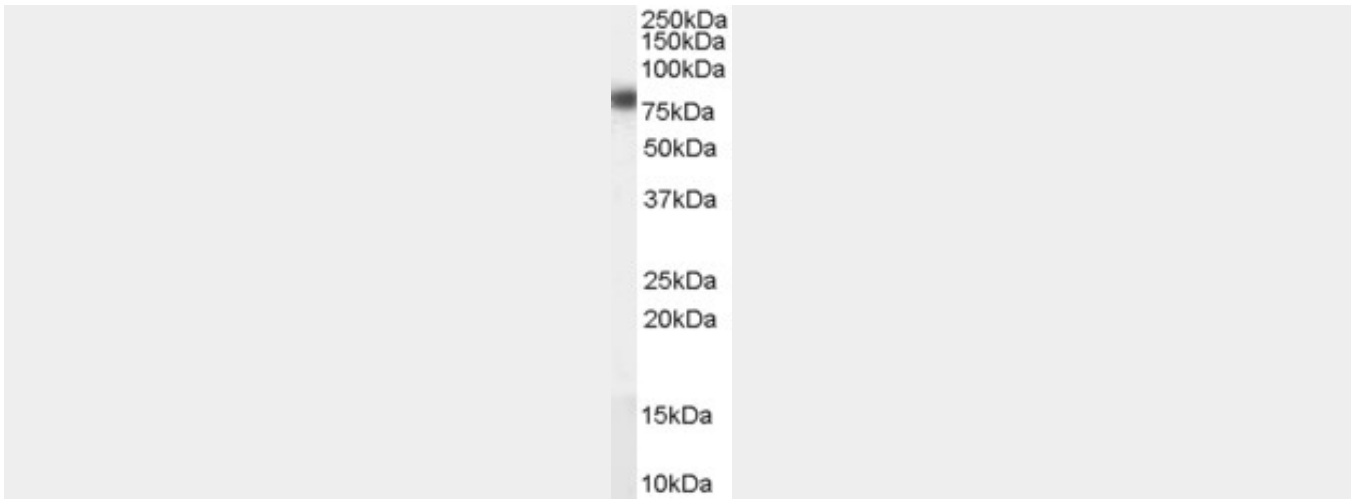
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow 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 Thiazolidinedione-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.