

CPT1A Antibody (C-term)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP14666b

Specification

CPT1A Antibody (C-term) - Product Information

Application	WB,E
Primary Accession	P50416
Other Accession	NP_001027017.1 , NP_001867.2
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	88368
Antigen Region	728-756

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 728-756 amino acids from the C-terminal region of human CPT1A.

Dilution

WB~~1:1000

E~~Use at an assay dependent concentration.

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

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

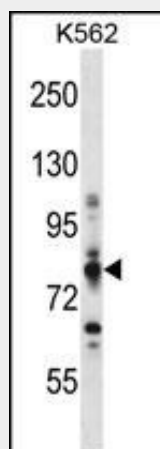
Strong expression in kidney and heart, and lower in liver and skeletal muscle

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



CPT1A Antibody (C-term) (Cat. #AP14666b) western blot analysis in K562 cell line lysates (35ug/lane). This demonstrates the CPT1A antibody detected the CPT1A protein (arrow).

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. Alternatively spliced transcript variants encoding different isoforms have been found for this gene.

CPT1A Antibody (C-term) - References

Gessner, B.D., et al. Pediatrics 126(5):945-951(2010)
Collins, S.A., et al. Mol. Genet. Metab. 101 (2-3), 200-204 (2010) :
Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)
Song, S., et al. Mol. Cell. Endocrinol. 325 (1-2), 54-63 (2010) :
Ruano, G., et al. Pharmacogenomics 11(7):959-971(2010)

CPT1A Antibody (C-term) - Citations

- [IMM-H007, a new therapeutic candidate for nonalcoholic fatty liver disease, improves hepatic steatosis in hamsters fed a high-fat diet.](#)