

Goat Anti-PCK1 / PEPCKC (internal region) Antibody
Peptide-affinity purified goat antibody
Catalog # AF1796a

Specification

Goat Anti-PCK1 / PEPCKC (internal region) Antibody - Product Information

Application	WB
Primary Accession	P35558
Other Accession	NP_002582 , 5105
Reactivity	Human
Host	Goat
Clonality	Polyclonal
Concentration	100ug/200ul
Isotype	IgG
Calculated MW	69195

Goat Anti-PCK1 / PEPCKC (internal region) Antibody - Additional Information

Gene ID 5105

Other Names

Phosphoenolpyruvate carboxykinase, cytosolic [GTP], PEPCK-C, 4.1.1.32, PCK1, PEPCK1

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-PCK1 / PEPCKC (internal region) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-PCK1 / PEPCKC (internal region) Antibody - Protein Information

Name PCK1 {ECO:0000303|PubMed:8490617, ECO:0000312|HGNC:HGNC:8724}

Function

Cytosolic phosphoenolpyruvate carboxykinase that catalyzes the reversible decarboxylation and phosphorylation of oxaloacetate (OAA) and acts as the rate-limiting enzyme in gluconeogenesis (PubMed:24863970, PubMed:26971250, PubMed:28216384, PubMed:30193097). Regulates cataplerosis and anaplerosis, the processes that control the levels of metabolic

intermediates in the citric acid cycle (PubMed:24863970, PubMed:26971250, PubMed:28216384, PubMed:30193097). At low glucose levels, it catalyzes the cataplerotic conversion of oxaloacetate to phosphoenolpyruvate (PEP), the rate-limiting step in the metabolic pathway that produces glucose from lactate and other precursors derived from the citric acid cycle (PubMed:30193097). At high glucose levels, it catalyzes the anaplerotic conversion of phosphoenolpyruvate to oxaloacetate (PubMed:30193097). Acts as a regulator of formation and maintenance of memory CD8(+) T-cells: up-regulated in these cells, where it generates phosphoenolpyruvate, via gluconeogenesis (By similarity). The resultant phosphoenolpyruvate flows to glycogen and pentose phosphate pathway, which is essential for memory CD8(+) T-cells homeostasis (By similarity). In addition to the phosphoenolpyruvate carboxykinase activity, also acts as a protein kinase when phosphorylated at Ser-90: phosphorylation at Ser-90 by AKT1 reduces the binding affinity to oxaloacetate and promotes an atypical serine protein kinase activity using GTP as donor (PubMed:32322062). The protein kinase activity regulates lipogenesis: upon phosphorylation at Ser-90, translocates to the endoplasmic reticulum and catalyzes phosphorylation of INSIG proteins (INSIG1 and INSIG2), thereby disrupting the interaction between INSIG proteins and SCAP and promoting nuclear translocation of SREBP proteins (SREBF1/SREBP1 or SREBF2/SREBP2) and subsequent transcription of downstream lipogenesis-related genes (PubMed:32322062).

Cellular Location

Cytoplasm, cytosol. Endoplasmic reticulum Note=Phosphorylation at Ser-90 promotes translocation to the endoplasmic reticulum.

Tissue Location

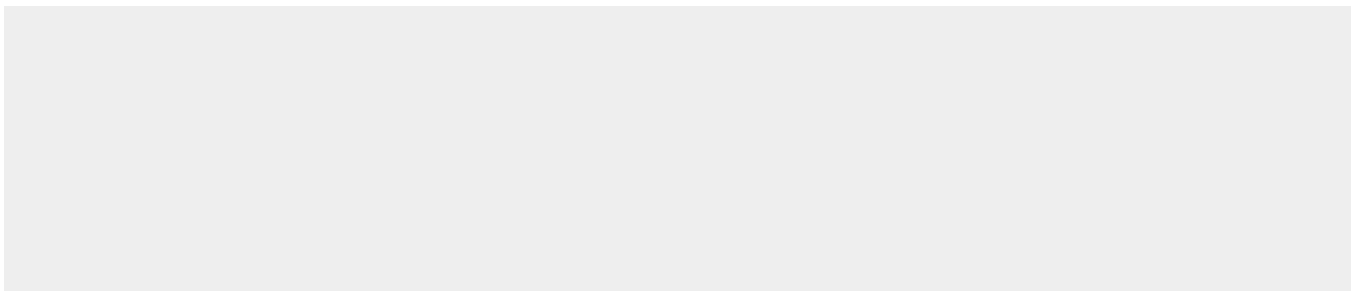
Major sites of expression are liver, kidney and adipocytes.

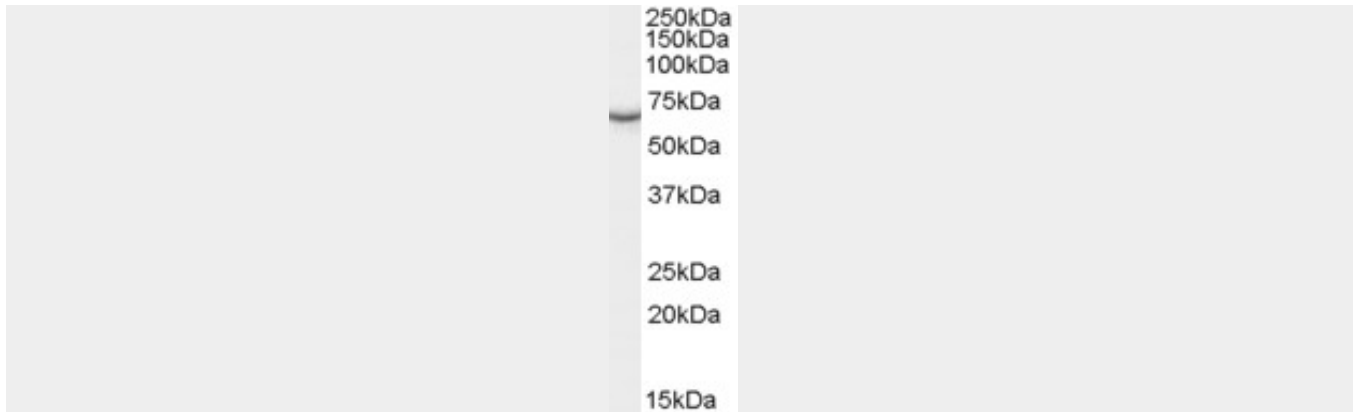
Goat Anti-PCK1 / PEPCKC (internal region) Antibody - Protocols

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-PCK1 / PEPCKC (internal region) Antibody - Images





AF1796a (0.5 µg/ml) staining of Human Kidney lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

Goat Anti-PCK1 / PEPCKC (internal region) Antibody - Background

This gene is a main control point for the regulation of gluconeogenesis. The cytosolic enzyme encoded by this gene, along with GTP, catalyzes the formation of phosphoenolpyruvate from oxaloacetate, with the release of carbon dioxide and GDP. The expression of this gene can be regulated by insulin, glucocorticoids, glucagon, cAMP, and diet. Defects in this gene are a cause of cytosolic phosphoenolpyruvate carboxykinase deficiency. A mitochondrial isozyme of the encoded protein also has been characterized.

Goat Anti-PCK1 / PEPCKC (internal region) Antibody - References

COMMON VARIANTS IN 40 GENES ASSESSED FOR DIABETES INCIDENCE AND RESPONSE TO METFORMIN AND LIFESTYLE INTERVENTIONS IN THE DIABETES PREVENTION PROGRAM. Jablonski KA, et al. *Diabetes*, 2010 Aug 3. PMID 20682687.

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.

Intermediate phenotypes identify divergent pathways to Alzheimer's disease. Shulman JM, et al. *PLoS One*, 2010 Jun 21. PMID 20574532.

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.