

Anti-PCK1 Rabbit Monoclonal Antibody
Catalog # ABO15442**Specification****Anti-PCK1 Rabbit Monoclonal Antibody - Product Information**

Application	WB, IHC
Primary Accession	P35558
Host	Rabbit
Isotype	IgG
Reactivity	Human
Clonality	Monoclonal
Format	Liquid

Description

Anti-PCK1 Rabbit Monoclonal Antibody . Tested in WB, IHC applications. This antibody reacts with Human.

Anti-PCK1 Rabbit Monoclonal Antibody - Additional Information

Gene ID 5105

Other Names

Phosphoenolpyruvate carboxykinase, cytosolic [GTP], PEPCK-C, 4.1.1.32, Serine-protein kinase PCK1, 2.7.11.-, PCK1 {ECO:0000303|PubMed:8490617, ECO:0000312|HGNC:HGNC:8724}

Application Details

WB 1:1000-1:5000
IHC 1:50-1:200

Contents

Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

Immunogen

A synthesized peptide derived from human PCK1

Purification

Affinity-chromatography

Storage

Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Anti-PCK1 Rabbit Monoclonal 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

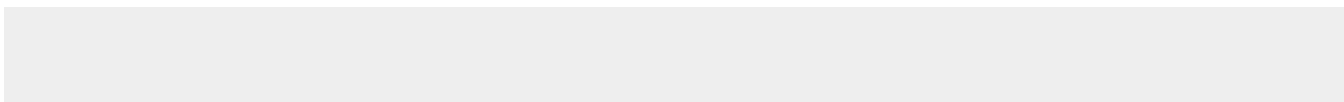
Major sites of expression are liver, kidney and adipocytes.

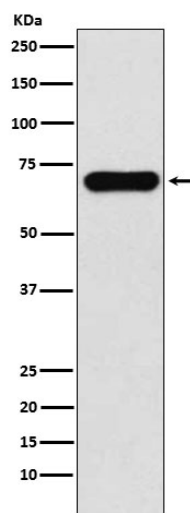
Anti-PCK1 Rabbit Monoclonal Antibody - Protocols

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](#)

Anti-PCK1 Rabbit Monoclonal Antibody - Images





Western blot analysis of PCK1 expression in Human fetal kidney lysate.