

PCK1 Antibody (C-term) Blocking Peptide
Synthetic peptide
Catalog # BP8093b**Specification****PCK1 Antibody (C-term) Blocking Peptide -
Product Information**Primary Accession [P35558](#)**PCK1 Antibody (C-term) Blocking Peptide -
Additional Information****Gene ID** 5105**Other Names**Phosphoenolpyruvate carboxykinase,
cytosolic [GTP], PEPCK-C, PCK1, PEPCK1**Target/Specificity**The synthetic peptide sequence is selected
from aa 606~622 of human PCK1.**Format**Peptides are lyophilized in a solid powder
format. Peptides can be reconstituted in
solution using the appropriate buffer as
needed.**Storage**Maintain refrigerated at 2-8°C for up to 6
months. For long term storage store at
-20°C.**Precautions**This product is for research use only. Not
for use in diagnostic or therapeutic
procedures.**PCK1 Antibody (C-term) Blocking Peptide -
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**PCK1 Antibody (C-term) Blocking Peptide -
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. A mitochondrial isozyme of the encoded protein also has been characterized.

**PCK1 Antibody (C-term) Blocking Peptide -
References**

Dunten, P., et al., J. Mol. Biol. 316(2):257-264 (2002). Strausberg, R.L., et al., Proc. Natl. Acad. Sci. U.S.A. 99(26):16899-16903 (2002). Deloukas, P., et al., Nature 414(6866):865-871 (2001). O'Brien, R.M., et al., Biochim. Biophys. Acta 1264(3):284-288 (1995). Ting, C.N., et al., Genomics 16(3):698-706 (1993).

rate-limiting enzyme in gluconeogenesis (PubMed:30193097, PubMed:24863970, PubMed:26971250, PubMed:28216384). Regulates cataplerosis and anaplerosis, the processes that control the levels of metabolic intermediates in the citric acid cycle (PubMed:30193097, PubMed:24863970, PubMed:26971250, PubMed:28216384). 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.

PCK1 Antibody (C-term) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)