

PEPCK-C Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10737**Specification**

PEPCK-C Antibody - Product Information

Application	WB
Primary Accession	O9Z2V4
Other Accession	AAH37629.1
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	69355

PEPCK-C Antibody - Additional Information**Gene ID** 18534

Positive Control	Jurkat cell lysate, 3T3 cell lysate, rat kidney tissue lysate
Application & Usage	The antibody can be used for Western blotting (0.5-4 µg/ml).

Other Names

Cytosolic Phosphoenolpyruvate carboxykinase 1, PEPCK-C; Phosphoenolpyruvate carboxylase

Target/Specificity

PEPCK-C

Antibody Form

Liquid

Appearance

Colorless liquid

Formulation

100 µg (0.5 mg/ml) affinity purified rabbit anti-PEPCK-C polyclonal antibody in phosphate buffered saline (PBS), pH 7.2, containing 30% glycerol, 0.5% BSA, 0.01% thimerosal

Handling

The antibody solution should be gently mixed before use.

Reconstitution & Storage

-20 °C

Background Descriptions**Precautions**

PEPCK-C Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

PEPCK-C Antibody - Protein Information

Name Pck1 {ECO:0000312|MGI:MGI:97501}

Function

Cytosolic phosphoenolpyruvate carboxykinase that catalyzes the reversible decarboxylation and phosphorylation of oxaloacetate (OAA) and acts as the rate-limiting enzyme in gluconeogenesis (PubMed:11916968, PubMed:11792850, PubMed:30193097, PubMed:29230018). Regulates cataplerosis and anaplerosis, the processes that control the levels of metabolic intermediates in the citric acid cycle (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 (PubMed:29230018). The resultant phosphoenolpyruvate flows to glycogen and pentose phosphate pathway, which is essential for memory CD8(+) T-cells homeostasis (PubMed:29230018). 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 (By similarity). 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 (By similarity).

Cellular Location

Cytoplasm, cytosol {ECO:0000250|UniProtKB:P35558}. Endoplasmic reticulum {ECO:0000250|UniProtKB:P35558}. Note=Phosphorylation at Ser-90 promotes translocation to the endoplasmic reticulum {ECO:0000250|UniProtKB:P35558}

PEPCK-C 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](#)

PEPCK-C Antibody - Images

PEPCK-C Antibody - Background

Phosphoenolpyruvate carboxykinase (PEPCK) is a key enzyme in stimulating glucose production. PEPCK catalyzes the conversion of oxaloacetate to phosphoenolpyruvate. There are two forms of PEPCK, the cytosolic form also known as PEPCK-C and the mitochondrial form, or PEPCK-M.