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PEPCK-C Blocking Peptide
Catalog # PBV10461b

Specification

PEPCK-C Blocking Peptide - Product Information

Primary Accession	Q9Z2V4
Other Accession	AAH37629.1
Gene ID	18534
Calculated MW	69355

PEPCK-C Blocking Peptide - Additional Information

Gene ID 18534

Application & Usage	**The peptide is used for blocking the antibody activity of PEPCK-C. It usually blocks the antibody activity completely in Western blot analysis by incubating the peptide with equal volume of antibody for 30-60 minutes at 37°C.**

Other Names
Phosphoenolpyruvate carboxykinase, cytosolic [GTP], PEPCK-C, 4.1.1.32, Pck1, Pepck

Target/Specificity
PEPCK-C

Formulation
50 µg (0.5 mg/ml) in phosphate buffered saline (PBS), pH 7.2, containing 50% glycerol, 1% BSA and 0.02% thimerosal.

Reconstitution & Storage
-20 °C

Background Descriptions

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

PEPCK-C Blocking Peptide - 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 Blocking Peptide - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PEPCK-C Blocking Peptide - Images