

Recombinant Mouse Pck1 Protein, Myc/DDK-tagged

Cat. No. Pck1-4712M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Purified recombinant protein of mouse full-length phosphoenolpyruvate carboxykinase 1, cytosolic (Pck1), with C-terminal MYC/DDK tag, expressed in HEK293T cells.
Species	Mouse
Source	HEK293
Description	Cytosolic phosphoenolpyruvate carboxykinase that catalyzes the reversible decarboxylation and phosphorylation of oxaloacetate (OAA) and acts as the rate-limiting enzyme in gluconeogenesis. Regulates cataplerosis and anaplerosis, the processes that control the levels of metabolic intermediates in the citric acid cycle 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 At high glucose levels, it catalyzes the anaplerotic conversion of phosphoenolpyruvate to oxaloacetate Acts as a regulator of formation and maintenance of memory CD8+ T-cells: up-regulated in these cells, where it generates phosphoenolpyruvate, via gluconeogenesis The resultant phosphoenolpyruvate flows to glycogen and pentose phosphate pathway, which is essential for memory CD8+ T-cells homeostasis 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. The protein kinase activity regulates

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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.

Molecular Mass	69.4 kDa
Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining
Stability	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
Storage	Store at -80 centigrade after receiving vials.
Concentration	>50 µg/mL as determined by microplate BCA method
Storage Buffer	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

GENE INFORMATION

Gene Name	Pck1 phosphoenolpyruvate carboxykinase 1, cytosolic [Mus musculus (house mouse)]
Official Symbol	Pck1
Synonyms	PCK1; phosphoenolpyruvate carboxykinase 1, cytosolic; phosphoenolpyruvate carboxykinase, cytosolic [GTP]; PEPCK-C; phosphoenolpyruvate carboxylase; phosphoenolpyruvate carboxykinase, cytosolic; PEPCK; Pck-1; AI265463
Gene ID	18534

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mRNA Refseq	NM_011044
Protein Refseq	NP_035174
UniProt ID	Q9Z2V4

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