

# PEPCK-C (G-9): sc-377136

## BACKGROUND

Normal adjustment to changes in blood glucose levels depends on Insulin signaling as well as enzymes involved in the regulation of gluconeogenesis. Pathological changes to this process are central to the type 2 diabetes phenotype. Phosphoenolpyruvate carboxykinase (PEPCK) plays an important role in this process by stimulating hepatic glucose production. PEPCK expression increases in response to glucagon and glucocorticoids, while Insulin suppresses expression. Modulation of the signals governing PEPCK levels present a potential therapeutic approach to the treatment of Insulin resistance and consequently obesity. The cytosolic form of PEPCK, known as PEPCK-C, and the mitochondrial form, known as PEPCK-M, are encoded by two different nuclear genes in mouse, human and chicken.

## CHROMOSOMAL LOCATION

Genetic locus: PCK1 (human) mapping to 20q13.31; Pck1 (mouse) mapping to 2 H3.

## SOURCE

PEPCK-C (G-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 545-581 near the C-terminus of PEPCK-C of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-377136 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

PEPCK-C (G-9) is recommended for detection of PEPCK-C of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PEPCK-C siRNA (h): sc-76106, PEPCK-C siRNA (m): sc-76107, PEPCK-C shRNA Plasmid (h): sc-76106-SH, PEPCK-C shRNA Plasmid (m): sc-76107-SH, PEPCK-C shRNA (h) Lentiviral Particles: sc-76106-V and PEPCK-C shRNA (m) Lentiviral Particles: sc-76107-V.

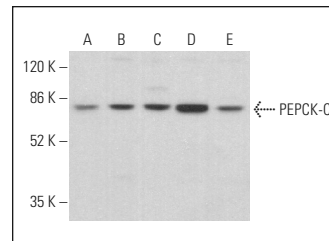
Molecular Weight of PEPCK-C isoforms 1/2: 70/34.

Positive Controls: HeLa whole cell lysate: sc-2200, c4 whole cell lysate: sc-364186 or COLO 205 whole cell lysate: sc-364177.

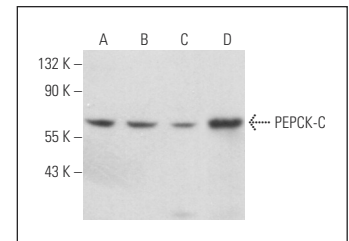
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



PEPCK-C (G-9): sc-377136. Western blot analysis of PEPCK-C expression in Hep G2 (A), HeLa (B), c4 (C), COLO 205 (D) and ACHN (E) whole cell lysates.



PEPCK-C (G-9): sc-377136. Western blot analysis of PEPCK-C expression in KNRK (A), A-431 (B) and ZR-75-1 (C) whole cell lysates and human liver tissue extract (D).

## SELECT PRODUCT CITATIONS

- Feng, B., et al. 2017. Endoplasmic reticulum stress inducer tunicamycin alters hepatic energy homeostasis in mice. *Int. J. Mol. Sci.* 18: 1710.
- Wang, K., et al. 2020. DhHP-6 ameliorates hepatic oxidative stress and Insulin resistance in type 2 diabetes mellitus through the PI3K/Akt and AMPK pathway. *Biochem. J.* 477: 2363-2381.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.



See **PEPCK (F-3): sc-271029** for PEPCK antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.