

PEPCK-C (M-40): sc-135279

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.

REFERENCES

1. Beale, E.G., et al. 1986. Insulin decreases H4IIE cell PEPCK mRNA by a mechanism that does not involve cAMP. *Diabetes* 35: 546-549.
2. O'Brien, R.M., et al. 1990. Identification of a sequence in the PEPCK gene that mediates a negative effect of Insulin on transcription. *Science* 249: 533-537.
3. Wang, Y., et al. 1991. Insulin and other regulatory factors modulate the growth and the phosphoenolpyruvate carboxykinase (PEPCK) activity of primary rabbit kidney proximal tubule cells in serum free medium. *J. Cell. Physiol.* 147: 374-382.
4. Horikawa, Y., et al. 2003. Identification of a novel variant in the phosphoenolpyruvate carboxykinase gene promoter in Japanese patients with type 2 diabetes. *Horm. Metab. Res.* 35: 308-312.

CHROMOSOMAL LOCATION

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

SOURCE

PEPCK-C (M-40) is a rabbit polyclonal antibody raised against amino acids 1-40 mapping at the N-terminus of PEPCK-C of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

PEPCK-C (M-40) is recommended for detection of PEPCK-C of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, 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.

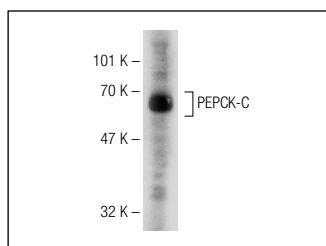
Molecular Weight of PEPCK-C: 67 kDa.

Positive Controls: mouse liver extract: sc-2256.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PEPCK-C (M-40): sc-135279. Western blot analysis of PEPCK-C expression in mouse liver tissue extract.

SELECT PRODUCT CITATIONS

1. Winiarska, K., et al. 2015. ERK1/2 pathway is involved in renal gluconeogenesis inhibition under conditions of lowered NADPH oxidase activity. *Free Radic. Biol. Med.* 81: 13-21.

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Try **PEPCK (F-3): sc-271029** or **PEPCK-C (F-11): sc-377027**, our highly recommended monoclonal alternatives to PEPCK-C (M-40). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **PEPCK (F-3): sc-271029**.