

PEPCK (H-300): sc-32879

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 PCPCK-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, PCK2 (human) mapping to 14q11.2; Pck1 (mouse) mapping to 2 H3, Pck2 (mouse) mapping to 14 C3.

SOURCE

PEPCK (H-300) is a rabbit polyclonal antibody raised against amino acids 341-640 mapping at the C-terminus of PEPCK-M of human 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 (H-300) is recommended for detection of PEPCK-M and PEPCK-C of mouse, rat and 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PEPCK (H-300) is also recommended for detection of PEPCK-M and PEPCK-C in additional species, including equine, canine, bovine and porcine.

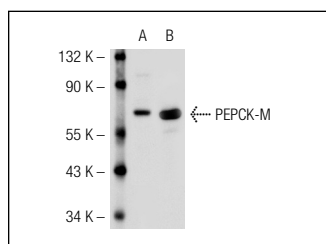
Molecular Weight of PEPCK: 62 kDa.

Positive Controls: PEPCK-M (m): 293T Lysate: sc-122487, mouse kidney extract: sc-2255 or Hep G2 cell lysate: sc-2227.

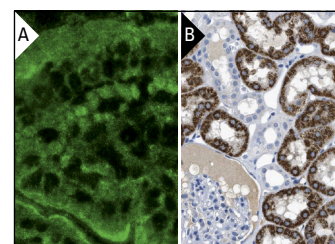
RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



PEPCK (H-300): sc-32879. Western blot analysis of PEPCK-M expression in non-transfected: sc-117752 (A) and mouse PEPCK-M transfected: sc-122487 (B) 293T whole cell lysates.



PEPCK (H-300): sc-32879. Immunofluorescence staining of normal mouse intestine frozen section showing cytoplasmic staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

- Inoue, Y., et al. 2008. Efficient delivery of siRNA using dendritic poly (L-lysine) for loss-of-function analysis. *J. Control. Release* 126: 59-66.
- Hwang, B., et al. 2009. Pyruvate dehydrogenase kinase isoenzyme 4 (PDHK4) deficiency attenuates the long-term negative effects of a high-saturated fat diet. *Biochem. J.* 423: 243-252.
- Lutz, S.Z., et al. 2011. Genetic ablation of cGMP-dependent protein kinase type I causes liver inflammation and fasting hyperglycemia. *Diabetes* 60: 1566-1576.
- Sackmann-Sala, L., et al. 2012. Heterogeneity among white adipose tissue depots in male C57BL/6J mice. *Obesity* 20: 101-111.
- Oliveira, V., et al. 2015. Diets containing α -Linolenic (ω 3) or Oleic (ω 9) fatty acids rescues obese mice from Insulin resistance. *Endocrinology* 156: 4033-4046.



Try **PEPCK (F-3): sc-271029** or **PEPCK (E-1): sc-271204**, our highly recommended monoclonal alternatives to PEPCK (H-300). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **PEPCK (F-3): sc-271029**.