SANTA CRUZ BIOTECHNOLOGY, INC.

PEPCK-C (P-14): sc-74825

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (P-14) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of PEPCK-C of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-74825 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PEPCK-C (P-14) is recommended for detection of 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-C (P-14) is also recommended for detection of PEPCK-C in additional species, including equine, canine, bovine and porcine.

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: Hep G2 whole cell lysate: sc-2227, mouse liver extract: sc-2256 or PEPCK-C (m): 293T Lysate: sc-127314.

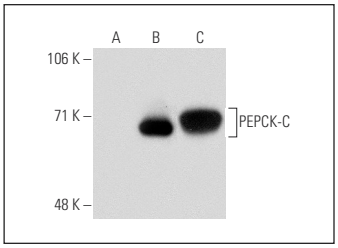
STORAGE

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

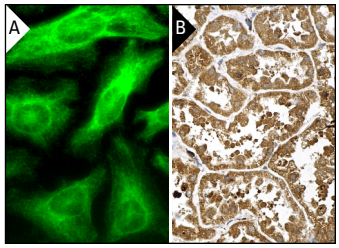
RESEARCH USE

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

DATA



PEPCK-C (P-14): sc-74825. Western blot analysis of PEPCK-C expression in non-transfected: sc-117752 (**A**) and mouse PEPCK-C transfected: sc-127314 (**B**) 293T whole cell lysates and mouse liver tissue extract (**C**).



PEPCK-C (P-14): sc-74825. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules (**B**).

SELECT PRODUCT CITATIONS

1. Markan, K.R., et al. 2010. Enhanced glycogen metabolism in adipose tissue decreases triglyceride mobilization. Am. J. Physiol. Endocrinol. Metab. 299: E117-E125.
2. Yasui, K., et al. 2011. Effects of oolong tea on gene expression of gluconeogenic enzymes in the mouse liver and in rat hepatoma H4IIE cells. J. Med. Food 14: 930-938.
3. Yasui, K., et al. 2011. Effects of a catechin-free fraction derived from green tea on gene expression of gluconeogenic enzymes in rat hepatoma H4IIE cells and in the mouse liver. Biomed. Res. 32: 119-125.
4. Yasui, K., et al. 2011. Effects of (-)-epigallocatechin-3-O-gallate on expression of gluconeogenesis-related genes in the mouse duodenum. Biomed. Res. 32: 313-320.
5. Davies, S., et al. 2013. The effect of acute stress and long-term corticosteroid administration on plasma metabolites in an urban and desert songbird. Physiol. Biochem. Zool. 86: 47-60.

PROTOCOLS

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