

PEPCK-C (m): 293T Lysate: sc-127314

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

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4. Barthel, A., et al. 2003. Novel concepts in Insulin regulation of hepatic gluconeogenesis. *Am. J. Physiol. Endocrinol. Metab.* 285: 685-692.
5. 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.
6. Barthel, A., et al. 2003. Novel aspects in the mechanisms of steroid diabetes and the regulation of hepatic glucose production by Insulin and steroids. *Med. Klin.* 98: 283-286.
7. Shklyav, S., et al. 2003. Sustained peripheral expression of transgene adiponectin offsets the development of diet-induced obesity in rats. *Proc. Natl. Acad. Sci. USA* 100: 14217-14222.
8. Inoue, E. and Yamauchi, J. 2006. AMP-activated protein kinase regulates PEPCK gene expression by direct phosphorylation of a novel zinc finger transcription factor. *Biochem. Biophys. Res. Commun.* 351: 793-799.
9. Sullivan, S.M. and Holyoak, T. 2007. Structures of rat cytosolic PEPCK: insight into the mechanism of phosphorylation and decarboxylation of oxaloacetic acid. *Biochemistry* 46: 10078-10088.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: Pck1 (mouse) mapping to 2 H3.

PRODUCT

PEPCK-C (m): 293T Lysate represents a lysate of mouse PEPCK-C transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

PEPCK-C (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive PEPCK-C antibodies. Recommended use: 10-20 µl per lane.

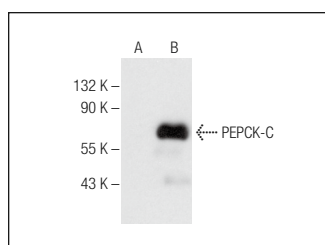
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

PEPCK-C (F-11): sc-377027 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse PEPCK-C expression in PEPCK-C transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

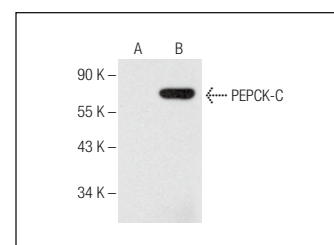
RECOMMENDED SUPPORT REAGENTS

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.

DATA



PEPCK-C (F-11): sc-377027. 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.



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

RESEARCH USE

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