

PCB (H-2): sc-271493

BACKGROUND

Pyruvate carboxylase (PCB) is a biotinylated mitochondrial enzyme that catalyzes the synthesis of oxaloacetate from pyruvate in a tissue specific manner. In addition to covalently binding the biotin cofactor, PCB contains consensus sequences for the attachment of ATP and the substrate pyruvate. The PCB gene is located on the long arm of chromosome 11q13.2. Mutations in PCB metabolism (pyruvate carboxylase deficiency) are known to cause lactic acidosis, hypoglycemia and mental retardation.

CHROMOSOMAL LOCATION

Genetic locus: PC (human) mapping to 11q13.2; Pcx (mouse) mapping to 19 A.

SOURCE

PCB (H-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 954-985 near the C-terminus of PCB of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PCB (H-2) is available conjugated to agarose (sc-271493 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271493 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271493 PE), fluorescein (sc-271493 FITC), Alexa Fluor[®] 488 (sc-271493 AF488), Alexa Fluor[®] 546 (sc-271493 AF546), Alexa Fluor[®] 594 (sc-271493 AF594) or Alexa Fluor[®] 647 (sc-271493 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-271493 AF680) or Alexa Fluor[®] 790 (sc-271493 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271493 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

PCB (H-2) is recommended for detection of PCB 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).

PCB (H-2) is also recommended for detection of PCB in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PCB siRNA (h): sc-45531, PCB siRNA (m): sc-45532, PCB shRNA Plasmid (h): sc-45531-SH, PCB shRNA Plasmid (m): sc-45532-SH, PCB shRNA (h) Lentiviral Particles: sc-45531-V and PCB shRNA (m) Lentiviral Particles: sc-45532-V.

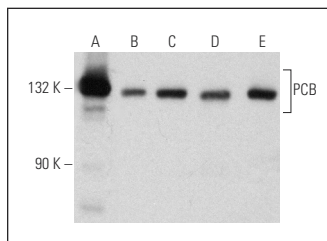
Molecular Weight of PCB: 130 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, c4 whole cell lysate: sc-364186 or Neuro-2A whole cell lysate: sc-364185.

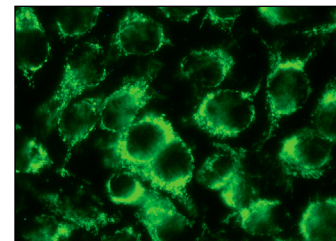
STORAGE

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

DATA



PCB (H-2): sc-271493. Western blot analysis of PCB expression in Hep G2 (A), c4 (B), Neuro-2A (C), C6 (D) and NRK (E) whole cell lysates.



PCB (H-2): sc-271493. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Madiraju, A.K., et al. 2014. Metformin suppresses gluconeogenesis by inhibiting mitochondrial glycerophosphate dehydrogenase. *Nature* 510: 542-546.
- Yin, C., et al. 2016. Exogenous pyruvate facilitates cancer cell adaptation to hypoxia by serving as an oxygen surrogate. *Oncotarget* 7: 47494-47510.
- Linares, J.F., et al. 2017. ATF4-induced metabolic reprogramming is a synthetic vulnerability of the p62-deficient tumor stroma. *Cell Metab.* 26: 817-829.e6.
- Perry, R.J., et al. 2018. Leptin mediates a glucose-fatty acid cycle to maintain glucose homeostasis in starvation. *Cell* 172: 234-248.e17.
- Minuzzi, L.G., et al. 2020. Short-term resistance training increases APPL1 content in the liver and the Insulin sensitivity of mice fed a long-term high-fat diet. *Exp. Clin. Endocrinol. Diabetes* 128: 30-37.
- Lau, A.N., et al. 2020. Dissecting cell-type-specific metabolism in pancreatic ductal adenocarcinoma. *Elife* 9: e56782.
- Gaspar, R.C., et al. 2020. Aging is associated with increased TRB3, ER stress, and hepatic glucose production in the liver of rats. *Exp. Gerontol.* 139: 111021.
- Aquilano, K., et al. 2020. Low-protein/high-carbohydrate diet induces AMPK-dependent canonical and non-canonical thermogenesis in subcutaneous adipose tissue. *Redox Biol.* 36: 101633.
- Liu, S.N., et al. 2020. The Chinese patent medicine, Jin-tang-ning, ameliorates hyperglycemia through improving β cell function in pre-diabetic KKAY mice. *Chin. J. Nat. Med.* 18: 827-836.
- Rosina, M., et al. 2022. Ejection of damaged mitochondria and their removal by macrophages ensure efficient thermogenesis in brown adipose tissue. *Cell Metab.* 34: 533-548.e12.

RESEARCH USE

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