

# PCB (D-9): sc-365673

## 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 11. Mutations in PCB metabolism (pyruvate carboxylase deficiency) are known to cause lactic acidosis, hypoglycemia and mental retardation.

## REFERENCES

1. Freytag, S.O., et al. 1984. Molecular cloning of a cDNA for human pyruvate carboxylase. Structural relationship to other biotin-containing carboxylases and regulation of mRNA content in differentiating preadipocytes. *J. Biol. Chem.* 259: 12831-12837.
2. MacKay, N., et al. 1994. cDNA cloning of human kidney pyruvate carboxylase. *Biochem. Biophys. Res. Commun.* 202: 1009-1014.
3. Wexler, I.D., et al. 1998. Molecular characterization of pyruvate carboxylase deficiency in two consanguineous families. *Pediatr. Res.* 43: 579-584.
4. Karnik, D., et al. 2004. Hyperammonemia with citrullinemia. *Indian Pediatr.* 41: 842-844.
5. Hall, P.R., et al. 2004. Transcarboxylase 5S structures: assembly and catalytic mechanism of a multienzyme complex subunit. *EMBO J.* 23: 3621-3631.
6. Cline, G.W., et al. 2004. <sup>13</sup>C NMR isotopomer analysis of anaplerotic pathways in INS-1 cells. *J. Biol. Chem.* 279: 44370-44375.

## CHROMOSOMAL LOCATION

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

## SOURCE

PCB (D-9) is a mouse monoclonal antibody raised against amino acids 879-1178 mapping at the C-terminus of PCB of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PCB (D-9) is available conjugated to agarose (sc-365673 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365673 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365673 PE), fluorescein (sc-365673 FITC), Alexa Fluor® 488 (sc-365673 AF488), Alexa Fluor® 546 (sc-365673 AF546), Alexa Fluor® 594 (sc-365673 AF594) or Alexa Fluor® 647 (sc-365673 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365673 AF680) or Alexa Fluor® 790 (sc-365673 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## RESEARCH USE

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

## APPLICATIONS

PCB (D-9) 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).

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.

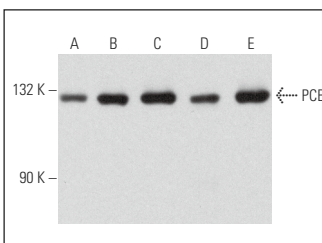
Molecular Weight of PCB: 130 kDa.

Positive Controls: NRK whole cell lysate: sc-364197, Neuro-2A whole cell lysate: sc-364185 or C6 whole cell lysate: sc-364373.

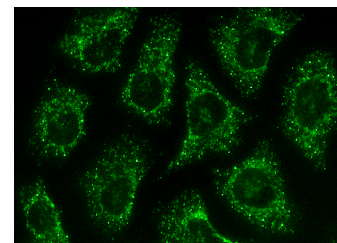
## RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



PCB (D-9): sc-365673. Western blot analysis of PCB expression in Caki-1 (A), c4 (B), Neuro-2A (C), C6 (D) and NRK (E) whole cell lysates.



PCB (D-9): sc-365673. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

1. Igelmann, S., et al. 2021. A hydride transfer complex reprograms NAD metabolism and bypasses senescence. *Mol. Cell* 81: 3848-3865.e19.
2. Ko, S., et al. 2022. Profiling of RNA-binding proteins interacting with glucagon and adipokinetic hormone mRNAs. *J. Lipid Atheroscler.* 11: 55-72.

## STORAGE

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