

# PPC-DC (T-16): sc-102063

## BACKGROUND

Phosphopantothenoylcysteine decarboxylase (PPC-DC) is a 204 amino acid protein that plays a role in the biosynthesis of coenzyme A (CoA) from pantothenate (Vitamin B). CoA is an essential cofactor in all living organisms and is involved in several key biochemical pathways, including the tricarboxylic acid cycle and fatty acid metabolism. Altered CoA levels are associated with aberrant mitosis and meiosis in flies and the neurodegenerative Hallervorden-Spatz syndrome in humans. The biosynthesis of CoA from pantothenate requires several steps: the phosphorylation of pantothenate, the conversion of 4'-phosphopantothenate to 4'-phosphopantetheine, the adenylation by phosphopantetheine adenylyltransferase to form dephospho-CoA and the phosphorylation by dephospho-CoA kinase to form CoA. PPC-DC plays a direct role in this pathway by converting 4'-phosphopantothenate into 4'-phosphopantetheine. Potentially forming a homotrimer, PPC-DC has two named isoforms produced by alternative splicing.

## REFERENCES

1. Strauss, E., et al. 2001. Phosphopantothenoylcysteine synthetase from *Escherichia coli*. Identification and characterization of the last unidentified coenzyme A biosynthetic enzyme in bacteria. *J. Biol. Chem.* 276: 13513-13516.
2. Daugherty, M., et al. 2002. Complete reconstitution of the human coenzyme A biosynthetic pathway via comparative genomics. *J. Biol. Chem.* 277: 21431-21439.
3. Zhyvoloup, A., et al. 2002. Molecular cloning of CoA Synthase. The missing link in CoA biosynthesis. *J. Biol. Chem.* 277: 22107-22110.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609854. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Kupke, T., et al. 2003. 4'-phospho-pantetheine and coenzyme A biosynthesis in plants. *J. Biol. Chem.* 278: 38229-38237.
6. Zhyvoloup, A., et al. 2003. Subcellular localization and regulation of coenzyme A synthase. *J. Biol. Chem.* 278: 50316-50321.
7. Strauss, E., et al. 2004. Mechanistic studies on phosphopantothenoylcysteine decarboxylase: trapping of an enethiolate intermediate with a mechanism-based inactivating agent. *Biochemistry.* 43: 15520-15533.

## CHROMOSOMAL LOCATION

Genetic locus: PPCDC (human) mapping to 15q24.2.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## SOURCE

PPC-DC (T-16) is a purified rabbit polyclonal antibody raised against PPC-DC of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

## APPLICATIONS

PPC-DC (T-16) is recommended for detection of PPC-DC of human and dog 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PPC-DC siRNA (h): sc-90137, PPC-DC shRNA Plasmid (h): sc-90137-SH and PPC-DC shRNA (h) Lentiviral Particles: sc-90137-V.

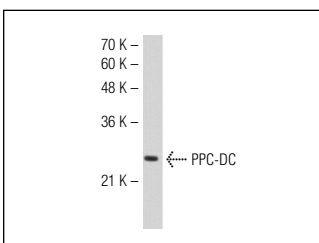
Molecular Weight of PPC-DC: 22 kDa.

Positive Controls: 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).

## DATA



PPC-DC (T-16): sc-102063. Western blot analysis of PPC-DC expression in Hep G2 whole cell lysate.

## RESEARCH USE

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