SANTA CRUZ BIOTECHNOLOGY, INC.

PCYT2 (E-22): sc-133897

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Phosphatidylethanolamine (PtdEtn) is a major membrane phospholipid which serves to play a primary role in cell membrane structure and is also involved in cell division, cell signaling, activation, phagocytosis and autophagy. PCYT2 (phosphorylethanolamine transferase), also known as ethanolamine-phosphate cytidylyltransferase, is a 389 amino acid protein that catalyzes the formation of CDP-ethanolamine from ethanolamine. This product combined with diacylglycerol form phosphatidylethanolamine via the *de novo* Kennedy pathway. PCYT2 is expressed at highest levels in heart, liver and skeletal muscle. Elevated levels of MyoD, reduced content of Sp1 and a changed ratio of Sp1 to Sp3 all together stimulate upregulation of PCTY2 transcription during C2C12 muscle cell differentiation. Disruption of the PCYT2 gene in mice leads to death after embryo implantation, establishing the necessity of PCYT2 for murine development.

REFERENCES

1. Nakashima, A., Hosaka, K. and Nikawa, J. 1997. Cloning of a human cDNA for CTP-phosphoethanolamine cytidylyltransferase by complementation *in vivo* of a yeast mutant. J. Biol. Chem. 272: 9567-9572.
2. Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 602679. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Bakovic, M., Fullerton, M.D. and Michel, V. 2007. Metabolic and molecular aspects of ethanolamine phospholipid biosynthesis: the role of CTP:phosphoethanolamine cytidylyltransferase (PCYT2). Biochem. Cell Biol. 85: 283-300.
4. Tie, A. and Bakovic, M. 2007. Alternative splicing of CTP:phosphoethanolamine cytidylyltransferase produces two isoforms that differ in catalytic properties. J. Lipid Res. 48: 2172-2181.
5. Fullerton, M.D., Hakimuddin, F. and Bakovic, M. 2007. Developmental and metabolic effects of disruption of the mouse CTP:phosphoethanolamine cytidylyltransferase gene (Pcyt2). Mol. Cell. Biol. 27: 3327-3336.

CHROMOSOMAL LOCATION

Genetic locus: PCYT2 (human) mapping to 17q25.3; Pcyt2 (mouse) mapping to 11 E2.

SOURCE

PCYT2 (E-22) is a Protein A purified rabbit polyclonal antibody raised against synthetic PCYT2 peptide 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.

STORAGE

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

APPLICATIONS

PCYT2 (E-22) is recommended for detection of PCYT2 of mouse 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PCYT2 siRNA (h): sc-93621, PCYT2 siRNA (m): sc-152121, PCYT2 shRNA Plasmid (h): sc-93621-SH, PCYT2 shRNA Plasmid (m): sc-152121-SH, PCYT2 shRNA (h) Lentiviral Particles: sc-93621-V and PCYT2 shRNA (m) Lentiviral Particles: sc-152121-V.

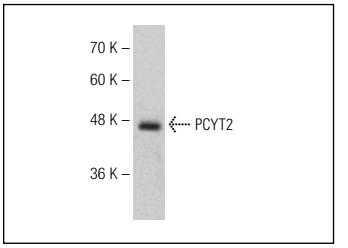
Molecular Weight of PCYT2: 44 kDa.

Positive Controls: PCYT2 (m2): 293T Lysate: sc-125791 or Jurkat whole cell lysate: sc-2204.

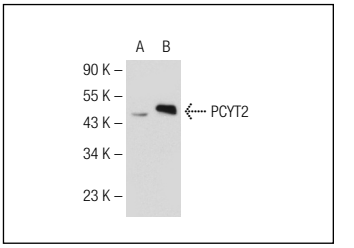
RECOMMENDED SECONDARY REAGENTS

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



PCYT2 (E-22): sc-133897. Western blot analysis of PCYT2 expression in Jurkat whole cell lysate.



PCYT2 (E-22): sc-133897. Western blot analysis of PCYT2 expression in non-transfected: sc-117752 (**A**) and mouse PCYT2 transfected: sc-125791 (**B**) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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