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SANTA CRUZ BIOTECHNOLOGY, INC.

PCYT2 siRNA (m): sc-152121

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 Myo D, 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

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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.
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6. Zhu, L., Michel, V. and Bakovic, M. 2009. Regulation of the mouse CTP: phosphoethanolamine cytidylyltransferase gene Pcyt2 during myogenesis. Gene 447: 51-59.
7. Fullerton, M.D., Hakimuddin, F., Bonen, A. and Bakovic, M. 2009. The development of a metabolic disease phenotype in CTP:phosphoethanolamine cytidylyltransferase-deficient mice. J. Biol. Chem. 284: 25704-25713.
8. Fullerton, M.D. and Bakovic, M. 2010. Complementation of the metabolic defect in CTP:phosphoethanolamine cytidylyltransferase (PCYT2)-deficient primary hepatocytes. Metabolism 59: 1691-1700.

CHROMOSOMAL LOCATION

Genetic locus: Pcyt2 (mouse) mapping to 11 E2.

PROTOCOLS

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

PRODUCT

PCYT2 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PCYT2 shRNA Plasmid (m): sc-152121-SH and PCYT2 shRNA (m) Lentiviral Particles: sc-152121-V as alternate gene silencing products.

For independent verification of PCYT2 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-152121A, sc-152121B and sc-152121C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

PCYT2 siRNA (m) is recommended for the inhibition of PCYT2 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PCYT2 gene expression knockdown using RT-PCR Primer: PCYT2 (m)-PR: sc-152121-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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