SANTA CRUZ BIOTECHNOLOGY, INC.

CCT B siRNA (h): sc-91132

BACKGROUND

CTP: phosphocholine cytidylyltransferase (CCT) is a key enzyme that regulates the biosynthesis of phosphatidylcholine, a major component of biological membranes. CCT B (choline-phosphate cytidylyltransferase B), also known as Phosphorylcholine transferase B, is a 369 amino acid cytoplasmic protein that, along with CCT A, controls phosphatidylcholine synthesis in mammals. Highly expressed in placenta, brain, testis and ovary, CCT B is extensively phosphorylated during its post-translational modification. Knockdown of CCT B mRNA results in gonadal dysfunction in mice. CCT B utilizes CTP and choline phosphate to make diphosphate and CDP-choline, a reaction that is dependent upon the presence of stimulatory lipids. There are three isoforms of CCT B that are produced as a result of alternative splicing events.

REFERENCES

1. Kent, C. 1997. CTP: phosphocholine cytidylyltransferase. Biochim. Biophys. Acta 1348: 79-90.
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3. Clement, J.M., et al. 1999. CTP: phosphocholine cytidylyltransferase: insights into regulatory mechanisms and novel functions. Biochem. Biophys. Res. Commun. 257: 643-650.
4. Lykidis, A., et al. 1999. Distribution of CTP: phosphocholine cytidylyltransferase (CCT) isoforms. Identification of a new CCTβ splice variant. J. Biol. Chem. 274: 26992-27001.
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6. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 604926. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Karim, M., et al. 2003. Gene structure, expression and identification of a new CTP:phosphocholine cytidylyltransferase β isoform. Biochim. Biophys. Acta 1633: 1-12.
8. Marcucci, H., et al. 2008. Characterization of the murine CTP:phosphocholine cytidylyltransferase β gene promoter. Biochim. Biophys. Acta 1781: 254-262.
9. Lee, J., et al. 2009. Crystal structure of a mammalian CTP: phosphocholine cytidylyltransferase catalytic domain reveals novel active site residues within a highly conserved nucleotidyltransferase fold. J. Biol. Chem. 284: 33535-33548.

CHROMOSOMAL LOCATION

Genetic locus: PCYT1B (human) mapping to Xp22.11.

PROTOCOLS

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

PRODUCT

CCT B siRNA (h) 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 CCT B shRNA Plasmid (h): sc-91132-SH and CCT B shRNA (h) Lentiviral Particles: sc-91132-V as alternate gene silencing products.

For independent verification of CCT B (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-91132A, sc-91132B and sc-91132C.

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

CCT B siRNA (h) is recommended for the inhibition of CCT B expression in human 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 CCT B gene expression knockdown using RT-PCR Primer: CCT B (h)-PR: sc-91132-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.