SANTA CRUZ BIOTECHNOLOGY, INC.

CCT B siRNA (m): sc-142176

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.
2. Lykidis, A., et al. 1998. Cloning and characterization of a second human CTP:phosphocholine cytidylyltransferase. J. Biol. Chem. 273: 14022-14029.
3. Clement, J.M. and Kent, C. 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.
5. Cornell, R.B. and Northwood, I.C. 2000. Regulation of CTP:phosphocholine cytidylyltransferase by amphitropism and relocalization. Trends Biochem. Sci. 25: 441-447.
6. Karim, M., et al. 2003. Gene structure, expression and identification of a new CTP:phosphocholine cytidylyltransferase β isoform. Biochim. Biophys. Acta 1633: 1-12.

CHROMOSOMAL LOCATION

Genetic locus: Pcyt1b (mouse) mapping to X C3.

PRODUCT

CCT B 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 CCT B shRNA Plasmid (m): sc-142176-SH and CCT B shRNA (m) Lentiviral Particles: sc-142176-V as alternate gene silencing products.

For independent verification of CCT B (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-142176A, sc-142176B and sc-142176C.

PROTOCOLS

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

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 (m) is recommended for the inhibition of CCT B 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 CCT B gene expression knockdown using RT-PCR Primer: CCT B (m)-PR: sc-142176-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.