SANTA CRUZ BIOTECHNOLOGY, INC.

CDS2 siRNA (h): sc-72851

BACKGROUND

CDS2 (CDP-diglyceride synthetase 2), also known as phosphatidate cytidylyltransferase 2, is a 445 amino acid enzyme that is localized to the mitochondrial inner membrane. As a multipass-transmembrane protein, CDS2 catalyzes the formation of CDP-diacylgylcerol from phosphaticic acid, which is an important step toward the synthesis of phosphatidylglycerol, phosphatidylinositol and cardiolipin. This is a key regulatory event that determines the amount of phosphatidylinositol 4,5-bisphosphate (PIP2) that is available for signaling. Due to its expression pattern and its role in the phosphoinositide-mediated signaling pathway, the gene encoding CDS2 may be a candidate gene for corneal hereditary endothelial dystrophy 2, a disease characterized by bilateral opacity of the cornea. There are two isoforms of CDS2 which are produced as a result of alternative splicing events.

REFERENCES

1. Weeks, R., et al. 1997. Isolation and expression of an isoform of human CDP-diacylglycerol synthase cDNA. DNA Cell Biol. 16: 281-289.
2. Lykidis, A., et al. 1997. The role of CDP-diacylglycerol synthetase and phosphatidylinositol synthase activity levels in the regulation of cellular phosphatidylinositol content. J. Biol. Chem. 272: 33402-33409.
3. Saito, S., et al. 1998. Localization of mRNAs for CDP-diacylglycerol synthase and phosphatidylinositol synthase in the brain and retina of developing and adult rats. Brain Res. Dev. Brain Res. 110: 21-30.
4. Halford, S., et al. 1998. Isolation and chromosomal localization of two human CDP-diacylglycerol synthase (CDS) genes. Genomics 54: 140-144.
5. Volta, M., et al. 1999. Identification and characterization of CDS2, a mammalian homolog of the *Drosophila* CDP-diacylglycerol synthase gene. Genomics 55: 68-77.
6. Halford, S., et al. 2002. Genomic organization of human CDS2 and evaluation as a candidate gene for corneal hereditary endothelial dystrophy 2 on chromosome 20p13. Exp. Eye Res. 75: 619-623.
7. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603549. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: CDS2 (human) mapping to 20p12.3.

PRODUCT

CDS2 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 CDS2 shRNA Plasmid (h): sc-72851-SH and CDS2 shRNA (h) Lentiviral Particles: sc-72851-V as alternate gene silencing products.

For independent verification of CDS2 (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-72851A, sc-72851B and sc-72851C.

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

CDS2 siRNA (h) is recommended for the inhibition of CDS2 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 CDS2 gene expression knockdown using RT-PCR Primer: CDS2 (h)-PR: sc-72851-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.

PROTOCOLS

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