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SZABO-SCANDIC Handels GmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

CPT1-C siRNA (m): sc-142550

BACKGROUND

The mitochondrial β -oxidation of long-chain fatty acids is initiated by the sequential action of CPT (carnitine palmitoyltransferase) I and II, together with carnitine carrier. CPTI catalyzes the first reaction in the transport of long-chain fatty acids from the cytoplasm to mitochondria, a rate-limiting step in β -oxidation. CPT1-C (carnitine palmitoyltransferase 1C), also known as CATL1, CPT1P, CPTIC or CPTI-B, is an 803 amino acid multi-pass membrane protein involved in lipid metabolism. Expressed primarily in testis and brain, CPT1-C belongs to the carnitine/choline acetyltransferase family and catalyzes the conversion of palmitoyl-CoA and L-Carnitine to CoA and L-palmitoylcarnitine. CPT1-C exists as three alternatively spliced isoforms that are encoded by a gene that maps to human chromosome 19q13.33.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Cpt1c (mouse) mapping to 7 B4.

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.

PRODUCT

CPT1-C 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CPT1-C shRNA Plasmid (m): sc-142550-SH and CPT1-C shRNA (m) Lentiviral Particles: sc-142550-V as alternate gene silencing products.

For independent verification of CPT1-C (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-142550A, sc-142550B and sc-142550C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CPT1-C siRNA (m) is recommended for the inhibition of CPT1-C 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 μ M in 66 μ l. 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 CPT1-C gene expression knockdown using RT-PCR Primer: CPT1-C (m)-PR: sc-142550-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.