



SCOT siRNA (h): sc-91720

BACKGROUND

SCOT, also known as OXCT1 (3-oxoacid CoA transferase 1) or OXCT, is a 520 amino acid protein that localizes to the mitochondrial matrix and belongs to the 3-oxoacid CoA-transferase family. Expressed abundantly in heart and also present in brain, muscle and kidney, SCOT exists as a homodimer that catalyzes the conversion of succinyl-CoA and a 3-oxo acid to succinate and a 3-oxoacyl-CoA, a reaction that is essential for ketone body catabolism. Defects in the gene encoding SCOT are associated with ketoacidosis, a build up of ketones in the blood that can lead to diabetic coma and, if untreated, death. The gene encoding SCOT maps to human chromosome 5, which contains 181 million base pairs and comprises nearly 6% of the human genome. Deletion of the p arm of chromosome 5 leads to Cri du chat syndrome, while deletion of the q arm or of chromosome 5 altogether is common in therapy-related acute myelogenous leukemias and myelodysplastic syndrome.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: OXCT1 (human) mapping to 5p13.1.

RESEARCH USE

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

PRODUCT

SCOT 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SCOT shRNA Plasmid (h): sc-91720-SH and SCOT shRNA (h) Lentiviral Particles: sc-91720-V as alternate gene silencing products.

For independent verification of SCOT (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-91720A, sc-91720B and sc-91720C.

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

SCOT siRNA (h) is recommended for the inhibition of SCOT 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 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 SCOT gene expression knockdown using RT-PCR Primer: SCOT (h)-PR: sc-91720-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Zuo, Q., et al. 2025. Co-targeting of metabolism using dietary and pharmacologic approaches reduces breast cancer metastatic burden. *NPJ Breast Cancer* 11: 3.

PROTOCOLS

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