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HDMCP siRNA (m): sc-145916

BACKGROUND

The hepatocellular carcinoma down-regulated mitochondrial carrier protein (HDMCP) is a 308 amino acid protein that belongs to the mitochondrial carrier family and contains three Solcar repeats. HDMCP is specifically expressed in liver and is down-regulated in hepatocarcinoma. HDMCP is thought to be a long postulated uncoupling protein that catalyzes the physiological "proton leak" in the liver. HDMCP may also serve as a therapeutic target for its ability in alleviating hepatic steatosis. The gene encoding HDMCP maps to human chromosome 14q32.2, which contains about 700 genes and makes up about 3.5% of human cellular DNA. Chromosome 14 encodes the presenilin 1 (PSEN1) gene, which is one of the three key genes associated with the development of Alzheimer's disease. The SERPINA1 gene is located on chromosome 14 and when defective leads to the genetic disorder α 1-antitrypsin deficiency. Notably, the immunoglobulin heavy chain locus is found on chromosome 14 and has been identified as a fusion with the chromosome 19 encoded protein BCL3 in the (14;19) translocations found in a variety of B cell malignancies.

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PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: Slc25a47 (mouse) mapping to 12 F1.

PRODUCT

HDMCP siRNA (m) is a pool of 2 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 HDMCP shRNA Plasmid (m): sc-145916-SH and HDMCP shRNA (m) Lentiviral Particles: sc-145916-V as alternate gene silencing products.

For independent verification of HDMCP (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-145916A and sc-145916B.

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

HDMCP siRNA (m) is recommended for the inhibition of HDMCP 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 HDMCP gene expression knockdown using RT-PCR Primer: HDMCP (m)-PR: sc-145916-PR (20 μ l). 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.