SANTA CRUZ BIOTECHNOLOGY, INC.

MMADHC siRNA (h): sc-94707

BACKGROUND

MMADHC (methylmalonic aciduria (cobalamin deficiency) cblD type, with homocystinuria), also known as C2orf25, My011 or cblD, is a 296 amino acid mitochondrial protein that plays a role in cobalamin metabolism. Widely expressed, MMADHC is encoded by a gene that maps to human chromosome 2q23.2. Defects in the MMADHC gene are the cause of methylmalonic aciduria and homocystinuria type cblD (MMADHC), a metabolic disorder characterized by insufficient levels of methylcobalamin and adenosylcobalamin. Symptoms of MMADHC include seizures, mental retardation, megaloblastic anemia, hyotonia and developmental delay. Chromosome 2 consists of 237 million bases, encodes over 1,400 genes and makes up approximately 8% of the human genome. A number of genetic diseases are linked to genes on chromosome 2 including Harlequin icthyosis, sitosterolemia and Alström syndrome.

REFERENCES

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PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: MMADHC (human) mapping to 2q23.2.

PRODUCT

MMADHC 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 MMADHC shRNA Plasmid (h): sc-94707-SH and MMADHC shRNA (h) Lentiviral Particles: sc-94707-V as alternate gene silencing products.

For independent verification of MMADHC (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-94707A, sc-94707B and sc-94707C.

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

MMADHC siRNA (h) is recommended for the inhibition of MMADHC 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 MMADHC gene expression knockdown using RT-PCR Primer: MMADHC (h)-PR: sc-94707-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.