SANTA CRUZ BIOTECHNOLOGY, INC.

TMLH siRNA (h): sc-91155

BACKGROUND

Carnitine is a quaternary ammonium compound that is required for fatty acid transport into the mitochondria. This step is necessary to utilize fatty acids in β-oxidation to obtain usable energy for the citric acid cycle. TMLH (trimethyllysine hydroxylase), also known as ε-trimethyllysine 2-oxoglutarate dioxygenase and TML-α-ketoglutarate dioxygenase, is a 421 amino acid mitochondrial matrix protein that converts trimethyllysine (TML) into hydroxytrimethyllysine (HTML), the first of four steps in carnitine biosynthesis. Expressed in both fetal and adult human tissue, there are two isoforms of TMLH, desginated TMLHa and TMLHb, that are produced as a result of alternative splicing events. Interestingly, TMLHb negatively affect TMLH activity, suggesting that it may act as a crucial physiological negative regulator of TMLH.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: TMLHE (human) mapping to Xq28.

PROTOCOLS

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

PRODUCT

TMLH 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 TMLH shRNA Plasmid (h): sc-91155-SH and TMLH shRNA (h) Lentiviral Particles: sc-91155-V as alternate gene silencing products.

For independent verification of TMLH (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-91155A, sc-91155B and sc-91155C.

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

TMLH siRNA (h) is recommended for the inhibition of TMLH 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 TMLH gene expression knockdown using RT-PCR Primer: TMLH (h)-PR: sc-91155-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.