SANTA CRUZ BIOTECHNOLOGY, INC.

MTFmt siRNA (h): sc-90010

BACKGROUND

MTFmt (Methionyl-tRNA formyltransferase, mitochondrial) is a 389 amino acid enzyme that formylates methionyl-tRNA in mitochondria. Human MTFmt shares shares 30% sequence similarity with prokaryotic MTFmt. In *E. coli,* methionyl-tRNA formyltransferase discriminates between the initiator Met-tRNA and the elongator Met-tRNA that are incorporated at internal residues of a protein. In contrast, mammalian mitochondria have only one Met-tRNA gene that is processed to produce formylated and nonformylated forms. It is thought that MTFmt balances the ratio of these versions of Met-tRNA depending on the needs of protein synthesis.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: MTFMT (human) mapping to 15q22.31.

PRODUCT

MTFmt 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 MTFmt shRNA Plasmid (h): sc-90010-SH and MTFmt shRNA (h) Lentiviral Particles: sc-90010-V as alternate gene silencing products.

For independent verification of MTFmt (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-90010A, sc-90010B and sc-90010C.

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

MTFmt siRNA (h) is recommended for the inhibition of MTFmt 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 MTFmt gene expression knockdown using RT-PCR Primer: MTFmt (h)-PR: sc-90010-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.

PROTOCOLS

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