

MTERF siRNA (h): sc-89678

BACKGROUND

Members of the mTERF family, including MTERF, MTERFD1, MTERFD2 and MTERFD3, are mitochondrial proteins that are believed to be transcription termination factors. MTERF (mitochondrial transcription termination factor 1) is composed of 399 amino acids and contains three leucine zippers that form a three-stranded coiled-coil that binds to DNA. It has been suggested that only the phosphorylated form of MTERF has transcription termination activity. MTERFD1 is also thought to act as a mitochondrial transcription regulator and is expressed as two isoforms produced by alternative splicing. MTERFD3 is believed to be involved in cell cycle regulation and cell growth by modulating mitochondrial transcription. MTERFD3 is expressed in heart, skeletal muscle, pancreas and liver.

REFERENCES

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6. Chen, Y., Zhou, G., Yu, M., He, Y., Tang, W., Lai, J., He, J., Liu, W. and Tan, D. 2005. Cloning and functional analysis of human mTERFL encoding a novel mitochondrial transcription termination factor-like protein. *Biochem. Biophys. Res. Commun.* 337: 1112-1118.

CHROMOSOMAL LOCATION

Genetic locus: MTERF (human) mapping to 7q21.2.

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.

PRODUCT

MTERF 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 MTERF shRNA Plasmid (h): sc-89678-SH and MTERF shRNA (h) Lentiviral Particles: sc-89678-V as alternate gene silencing products.

For independent verification of MTERF (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-89678A, sc-89678B and sc-89678C.

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

MTERF siRNA (h) is recommended for the inhibition of MTERF 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 MTERF gene expression knockdown using RT-PCR Primer: MTERF (h)-PR: sc-89678-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.