



MRP-S14 siRNA (h): sc-62637

BACKGROUND

MRP-S14 (mitochondrial 28S ribosomal protein S14, S14mt) is a 128 amino acid protein encoded by the human gene MRPS14. MRP-S14 is a component of the mitochondrial ribosome small subunit (28S) which comprises a 12S rRNA and about 30 distinct proteins. The human mitochondrial ribosome has 29 distinct proteins in the small subunit. Fourteen of this group of proteins are homologs of the *Escherichia coli* 30S ribosomal proteins S2, S5, S6, S7, S9, S10, S11, S12, S14, S15, S16, S17, S18 and S21. These proteins also have homologs in *Drosophila melanogaster*, *Caenorhabditis elegans* and *Saccharomyces cerevisiae* mitochondrial ribosomes.

REFERENCES

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2. Koc, E.C., Burkhart, W., Blackburn, K., Moseley, A., Koc, H. and Spremulli, L.L. 2000. A proteomics approach to the identification of mammalian mitochondrial small subunit ribosomal proteins. *J. Biol. Chem.* 275: 32585-32591.
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CHROMOSOMAL LOCATION

Genetic locus: MRPS14 (human) mapping to 1q25.1.

PRODUCT

MRP-S14 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 MRP-S14 shRNA Plasmid (h): sc-62637-SH and MRP-S14 shRNA (h) Lentiviral Particles: sc-62637-V as alternate gene silencing products.

For independent verification of MRP-S14 (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-62637A, sc-62637B and sc-62637C.

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

MRP-S14 siRNA (h) is recommended for the inhibition of MRP-S14 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 MRP-S14 gene expression knockdown using RT-PCR Primer: MRP-S14 (h)-PR: sc-62637-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.

PROTOCOLS

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