

# MRP-S16 siRNA (h): sc-90541

## BACKGROUND

Mitochondrial ribosomes consist of a large 39S subunit and a small 28S subunit, both of which are comprised of multiple mitochondrial ribosomal proteins (MRPs) that are encoded by nuclear genes and are essential for protein synthesis within mitochondria. MRP-S16 (mitochondrial ribosomal protein S16) is a 137 amino acid protein that localizes to the mitochondrion, where it exists as a component of the 28S ribosomal subunit and works in conjunction with other MRPs to mediate protein synthesis. Defects in the gene encoding MRP-S16 are the cause of COXPD2 (combined phosphorylation deficiency type 2), a disease characterized by severe multi-system failure and symptoms such as fatal neonatal metabolic acidosis with agenesis of the corpus callosum.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: MRPS16 (human) mapping to 10q22.2.

## PRODUCT

MRP-S16 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MRP-S16 shRNA Plasmid (h): sc-90541-SH and MRP-S16 shRNA (h) Lentiviral Particles: sc-90541-V as alternate gene silencing products.

For independent verification of MRP-S16 (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-90541A, sc-90541B and sc-90541C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

MRP-S16 siRNA (h) is recommended for the inhibition of MRP-S16 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  $\mu$ M in 66  $\mu$ 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-S16 gene expression knockdown using RT-PCR Primer: MRP-S16 (h)-PR: sc-90541-PR (20  $\mu$ 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.