

# MUL1 siRNA (h): sc-78840

## BACKGROUND

MUL1 (mitochondrial E3 ubiquitin protein ligase 1), also known as GIDE, MAPL, MULAN or RNF218, is a 352 amino acid multi-pass mitochondrial outer membrane protein that is widely expressed with highest levels in heart, skeletal muscle, placenta, kidney and liver. Existing as a homooligomer, MUL1 contains one RING-type zinc finger, which is required for E3 ligase activity. MUL1 acts as an E3 ubiquitin-protein ligase that participates in the control of mitochondrial morphology, promotes mitochondrial fragmentation and influences mitochondrial localization. Overexpression of MUL1 activates JNK (c Jun N terminal kinase) through Tak1 (transforming growth factor  $\beta$ -activated kinase 1) and induces caspase-dependent apoptosis. MUL1 is encoded by a gene located on human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes, comprises nearly 8% of the human genome and houses a large number of disease-associated gene.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: MUL1 (human) mapping to 1p36.12.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

MUL1 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 MUL1 shRNA Plasmid (h): sc-78840-SH and MUL1 shRNA (h) Lentiviral Particles: sc-78840-V as alternate gene silencing products.

For independent verification of MUL1 (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-78840A, sc-78840B and sc-78840C.

## 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

MUL1 siRNA (h) is recommended for the inhibition of MUL1 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 MUL1 gene expression knockdown using RT-PCR Primer: MUL1 (h)-PR: sc-78840-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.