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## Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

## Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand


**SZABO-SCANDIC HandelsgmbH**

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

SANTA CRUZ BIOTECHNOLOGY, INC.

# TRMU siRNA (m): sc-154686

## BACKGROUND

TRMU (tRNA 5-methylaminomethyl-2-thiouridylate methyltransferase), also known as MTO2, MTU1, TRMT, TRMT1 or TRNT1, is a 421 amino acid mitochondrial protein that is evolutionarily conserved and is involved in mitochondrial tRNA modification. Expressed ubiquitously, with higher levels of expression in brain, heart, kidney and liver, TRMU functions to catalyze the 2-thiolation of uridine at the wobble position of select tRNA amino acids, including lysine, glutamine and glutamate. This event is required for the formation of 5-taurinomethyl-2-thiouridine, a hypermodified nucleotide that is essential for proper stabilization, aminoacylation and overall function of tRNAs. Polymorphisms in the gene encoding TRMU are thought to aggravate the mitochondrial dysfunction associated with aminoglycoside-induced and non-syndromic deafness, suggesting a role for TRMU in the development of this disorder. Multiple isoforms of TRMU exist due to alternative splicing events.

## REFERENCES


1. Prezant, T.R., et al. 1993. Mitochondrial ribosomal RNA mutation associated with both antibiotic-induced and non-syndromic deafness. Nat. Genet. 4: 289-294.
2. Guan, M.X., et al. 1996. Biochemical evidence for nuclear gene involvement in phenotype of non-syndromic deafness associated with mitochondrial 12S rRNA mutation. Hum. Mol. Genet. 5: 963-971.
3. Guan, M.X., et al. 2001. Nuclear background determines biochemical phenotype in the deafness-associated mitochondrial 12S rRNA mutation. Hum. Mol. Genet. 10: 573-580.
4. Yan, Q. and Guan, M.X. 2004. Identification and characterization of mouse TRMU gene encoding the mitochondrial 5-methylaminomethyl-2-thiouridylate-methyltransferase. Biochim. Biophys. Acta 1676: 119-126.
5. Umeda, N., et al. 2005. Mitochondria-specific RNA-modifying enzymes responsible for the biosynthesis of the wobble base in mitochondrial tRNAs. Implications for the molecular pathogenesis of human mitochondrial diseases. J. Biol. Chem. 280: 1613-1624.


## CHROMOSOMAL LOCATION

Genetic locus: Trmu (mouse) mapping to 15 E2.

## PRODUCT

TRMU siRNA (m) 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 TRMU shRNA Plasmid (m): sc-154686-SH and TRMU shRNA (m) Lentiviral Particles: sc-154686-V as alternate gene silencing products.

For independent verification of TRMU (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-154686A, sc-154686B and sc-154686C.

## RESEARCH USE

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

## 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

TRMU siRNA (m) is recommended for the inhibition of TRMU expression in mouse 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 TRMU gene expression knockdown using RT-PCR Primer: TRMU (m)-PR: sc-154686-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## PROTOCOLS

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