SANTA CRUZ BIOTECHNOLOGY, INC.

TRMT112 siRNA (m): sc-108122

BACKGROUND

Transfer RNA (tRNA) modifications help regulate the efficiency of mRNA translation by maintaining the correct reading frames. N^2,N^2-dimethylguanosine tRNA methyltransferase, also known as TRMT1 or tRNA (guanine-26,N^2-N^2) methyltransferase, is a 659 amino acid enzyme that is responsible for tRNA modifications in eukaryotes. Using S-adenosyl-L-methionine as a methyl donor, TRMT1 dimethylates a single guanine residue at position 26 of tRNA. TRMT1, which was initially identified in yeast and *C. elegans,* has a 26% and 31% sequence identity to its yeast and *C. elegans* homologs, respectively. There are two isoforms of TRMT1 produced by alternative splicing events. The TRMT1 gene maps to chromosome 19p13.13 and mutations in this gene lead to abrogated enzyme activity and a decrease in protein levels.

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CHROMOSOMAL LOCATION

Genetic locus: Trmt112 (mouse) mapping to 19 A.

RESEARCH USE

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

PRODUCT

TRMT112 siRNA (m) is a target-specific 19-25 nt siRNA 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 TRMT112 shRNA Plasmid (m): sc-108122-SH and TRMT112 shRNA (m) Lentiviral Particles: sc-108122-V as alternate gene silencing products.

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

TRMT112 siRNA (m) is recommended for the inhibition of TRMT112 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 TRMT112 gene expression knockdown using RT-PCR Primer: TRMT112 (m)-PR: sc-108122-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.