SANTA CRUZ BIOTECHNOLOGY, INC.

Tesmin (MTL5) siRNA (h): sc-76646

BACKGROUND

Metallothionein proteins are highly conserved low-molecular-weight cysteine-rich proteins that are induced by and bind to heavy metal ions and have no enzymatic activity. Metallothionein proteins may play a central role in the regulation of cell growth, differentiation and are involved in spermatogenesis. Tesmin (testis-specific metallothionein-like protein), also designated MTLT, CXCDC2 or MTL5, is a 508 amino acid nuclear and cytoplasmic protein that is specifically expressed in spermatocytes. A member of the lin-54 family, Tesmin may be involved in multiple stages of spermatogenesis and spermiogenesis, possibly during sperm maturation and/or morphogenesis. Tesmin contains two CXC domains and exists as three alternatively spliced isoforms. Tesmin is encoded by a gene located on human chromosome 11, which houses over 1,400 genes and comprises nearly 4% of the human genome.

REFERENCES

1. De, S.K., et al. 1991. High levels of metallothionein messenger RNAs in male germ cells of the adult mouse. Mol. Endocrinol. 5: 628-636.
2. Salehi-Ashtiani, K., et al. 1993. Testis-specific expression of a metallothionein I-driven transgene correlates with undermethylation of the locus in testicular DNA. Proc. Natl. Acad. Sci. USA 90: 8886-8890.
3. Sugihara, T., et al. 1999. A novel testis-specific metallothionein-like protein, tesmin, is an early marker of male germ cell differentiation. Genomics 57: 130-136.
4. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 604374. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Matsuura, T., et al. 2002. Germ cell-specific nucleocytoplasmic shuttling protein, tesmin, responsive to heavy metal stress in mouse testes. J. Inorg. Biochem. 88: 183-191.
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CHROMOSOMAL LOCATION

Genetic locus: MTL5 (human) mapping to 11q13.3.

PRODUCT

Tesmin (MTL5) 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Tesmin (MTL5) shRNA Plasmid (h): sc-76646-SH and Tesmin (MTL5) shRNA (h) Lentiviral Particles: sc-76646-V as alternate gene silencing products.

For independent verification of Tesmin (MTL5) (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-76646A, sc-76646B and sc-76646C.

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

Tesmin (MTL5) siRNA (h) is recommended for the inhibition of Tesmin (MTL5) 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 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 Tesmin (MTL5) gene expression knockdown using RT-PCR Primer: Tesmin (MTL5) (h)-PR: sc-76646-PR (20 µl). 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.