



nm23-H5 siRNA (m): sc-150006

BACKGROUND

The nm23 gene family is implicated in a variety of biological processes, including cell proliferation, differentiation and development, signal transduction, G protein-coupled receptor endocytosis, and gene expression. Members of the nm23 family are putative metastasis suppressor genes that encode nucleoside diphosphate kinases (NDPK). NDPKs form oligomers that play a role in the synthesis of nucleoside triphosphates other than ATP. Nm23-H1, nm23-H2 and nm23-H3 are indicators of a poor prognosis in human hematopoietic malignancies, as high expression levels of nm23-H1 and -H2 are positively correlated with histological differentiation. Nm23-H5 is specifically expressed in germinal cells of testis, where it plays a critical role in spermiogenesis by increasing the cellular levels of GPX-5 to eliminate reactive oxygen species.

REFERENCES

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3. Venturelli, D., Cesi, V., Ransac, S., Engelhard, A., Perrotti, D. and Calabretta, B. 2000. The nucleoside diphosphate kinase activity of DRnm23 is not required for inhibition of differentiation and induction of apoptosis in 32Dcl3 myeloid precursor cells. *Exp. Cell Res.* 257: 265-271.
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5. Munier, A., Serres, C., Kann, M.L., Boissan, M., Lesaffre, C., Capeau, J., Fouquet, J.P. and Lacombe, M.L. 2003. Nm23/NDP kinases in human male germ cells: role in spermiogenesis and sperm motility? *Exp. Cell Res.* 289: 295-306.
6. Choi, Y.J., Cho, S.K., Hwang, K.C., Park, C., Kim, J.H., Park, S.B., Hwang, S. and Kim, J.H. 2009. Nm23-M5 mediates round and elongated spermatid survival by regulating GPX-5 levels. *FEBS Lett.* 583: 1292-1298.

CHROMOSOMAL LOCATION

Genetic locus: Nme5 (mouse) mapping to 18 B1.

PRODUCT

nm23-H5 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see nm23-H5 shRNA Plasmid (m): sc-150006-SH and nm23-H5 shRNA (m) Lentiviral Particles: sc-150006-V as alternate gene silencing products.

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

APPLICATIONS

nm23-H5 siRNA (m) is recommended for the inhibition of nm23-H5 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 μ M in 66 μ 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 nm23-H5 gene expression knockdown using RT-PCR Primer: nm23-H5 (m)-PR: sc-150006-PR (20 μ l). 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.