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SANTA CRUZ BIOTECHNOLOGY, INC.

nm23-H5 siRNA (m): sc-150006

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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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2. Munier, A., Feral, C., Milon, L., Pinon, V.P., Gyapay, G., Capeau, J., Guellaen, G. and Lacombe, M.L. 1998. A new human nm23 homologue (nm23-H5) specifically expressed in testis germinal cells. FEBS Lett. 434: 289-294.
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 µM 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 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

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 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 nm23-H5 gene expression knockdown using RT-PCR Primer: nm23-H5 (m)-PR: sc-150006-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.