SANTA CRUZ BIOTECHNOLOGY, INC.

nm23-H4 siRNA (h): sc-61207

BACKGROUND

The nm23 gene (metastasis inhibition factor nm23), a potential suppressor of metastasis, is expressed at a much lower level in highly metastatic cells than in cells with lower metastatic potential. Based on sequence analysis, nm23, also designated nucleoside diphosphate kinase A (NDK A) or tumor metastatic process-associated protein, appears to be highly related to nucleotide diphosphate kinases (NDP). NDP kinases A and B are identical to two isotypes of human nm23 homologs, nm23-H1 and nm23-H2, respectively. nm23-H2 is also identical in sequence to PuF, a transcription factor that binds to nuclease-hypersensitive elements at positions 142 to 115 of the human c-Myc promoter. nm23-H3 and nm23-H4 are important for the synthesis of nucleoside triphosphates and may play a role in apoptosis induction and hematopoiesis. nm23-H4 localizes to the mitochondrial intermembrane space and is widely expressed, with higher levels detected in prostate, heart, liver, small intestine, and skeletal muscle tissues. Low amounts of nm23-H4 are observed in the brain and in blood leukocytes.

REFERENCES

1. Milon, L., et al. 1997. nm23-H4, a new member of the family of human nm23/nucleoside diphosphate kinase genes localised on chromosome 16p13. Hum. Genet. 99: 550-557.
2. Milon, L., et al. 2000. The human nm23-H4 gene product is a mitochondrial nucleoside diphosphate kinase. J. Biol. Chem. 275: 14264-14272.
3. Daniels, R.J., et al. 2001. Sequence, structure and pathology of the fully annotated terminal 2 Mb of the short arm of human chromosome 16. Hum. Mol. Genet. 10: 339-352.
4. Masse, K., et al. 2002. Characterization of the nm23-M2, nm23-M3 and nm23-M4 mouse genes: comparison with their human orthologs. Gene 296: 87-97.

CHROMOSOMAL LOCATION

Genetic locus: NME4 (human) mapping to 16p13.3.

PRODUCT

nm23-H4 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 nm23-H4 shRNA Plasmid (h): sc-61207-SH and nm23-H4 shRNA (h) Lentiviral Particles: sc-61207-V as alternate gene silencing products.

For independent verification of nm23-H4 (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-61207A, sc-61207B and sc-61207C.

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.

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-H4 siRNA (h) is recommended for the inhibition of nm23-H4 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 nm23-H4 gene expression knockdown using RT-PCR Primer: nm23-H4 (h)-PR: sc-61207-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.