

Cytokeratin 23 siRNA (h): sc-94056

BACKGROUND

Cytokeratins comprise a diverse group of intermediate filament proteins that are expressed in both keratinized and non-keratinized epithelial tissue. The Cytokeratin proteins play a critical role in differentiation, as well as tissue specialization and function, and maintenance of the overall structural integrity of epithelial cells. There are two types of Cytokeratins, namely the type I Cytokeratins and the type II Cytokeratins. Cytokeratin 23, also known as KRT23, K23, CK23 or HAIK1, is a 422 amino acid intermediate filament protein that functions as a heterotetramer that is composed of two type I and two type II Cytokeratins. Characteristic of most Cytokeratins, Cytokeratin 23 is thought to participate in maintaining the structural integrity of a variety of cells. Cytokeratin 23 expression is induced in pancreatic cancer cells, suggesting a possible role in carcinogenesis.

REFERENCES

1. Zhang, J.S., et al. 2001. Keratin 23 (K23), a novel acidic keratin, is highly induced by histone deacetylase inhibitors during differentiation of pancreatic cancer cells. *Genes Chromosomes Cancer* 30: 123-135.
2. Hesse, M., et al. 2001. Genes for intermediate filament proteins and the draft sequence of the human genome: novel keratin genes and a surprisingly high number of pseudogenes related to keratin genes 8 and 18. *J. Cell Sci.* 114: 2569-2575.
3. Tolstogon, G.V., et al. 2002. Cytoplasmic intermediate filaments are stably associated with nuclear matrices and potentially modulate their DNA-binding function. *DNA Cell Biol.* 21: 213-239.
4. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606194. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Suzuki, A., et al. 2004. Single nucleotide polymorphisms associated with aggressive periodontitis and severe chronic periodontitis in Japanese. *Biochem. Biophys. Res. Commun.* 317: 887-892.

CHROMOSOMAL LOCATION

Genetic locus: KRT23 (human) mapping to 17q21.2.

PRODUCT

Cytokeratin 23 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Cytokeratin 23 shRNA Plasmid (h): sc-94056-SH and Cytokeratin 23 shRNA (h) Lentiviral Particles: sc-94056-V as alternate gene silencing products.

For independent verification of Cytokeratin 23 (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-94056A, sc-94056B and sc-94056C.

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 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

Cytokeratin 23 siRNA (h) is recommended for the inhibition of Cytokeratin 23 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 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.

GENE EXPRESSION MONITORING

Cytokeratin 23 (C-1): sc-365892 is recommended as a control antibody for monitoring of Cytokeratin 23 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Cytokeratin 23 gene expression knockdown using RT-PCR Primer: Cytokeratin 23 (h)-PR: sc-94056-PR (20 μ l). 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.