SANTA CRUZ BIOTECHNOLOGY, INC.

MTA3 siRNA (m): sc-60011

BACKGROUND

Metastasis-associated protein 3 (MTA3) is a subunit of the Mi-2/NuRD transcriptional corepressor complex. MTA3 and the Mi-2/NuRD complex mediate repression of Snail in breast cancer cells where MTA3 works to maintain a differentiated, epithelial status. The protein is involved in gene expression regulation by covalent modifications of histone proteins. There are two known isoforms of MTA3, a short and a long form. The short isoform binds to ER and sequesters it to the cytoplasm and betters non-genomic responses, whereas the long form is found in the nucleus. MTA3 is widely expressed with highest expression in brain, adrenal glands, ovaries and virgin mammary glands. It has been found to be expressed in higher levels in tumors than in adjacent normal tissue in the same individual.

REFERENCES

1. Fujita, N., et al. 2003. MTA3, a Mi-2/NuRD complex subunit, regulates an invasive growth pathway in breast cancer. Cell 113: 207-219.
2. Yao, Y.L., et al. 2003. The metastasis-associated proteins 1 and 2 form distinct protein complexes with histone deacetylase activity. J. Biol. Chem. 278: 42560-42568.
3. Fujita, N., et al. 2004. Hormonal regulation of metastasis-associated protein 3 transcription in breast cancer cells. Mol. Endocrinol. 18: 2937-2949.
4. Fujita, N., et al. 2004. MTA3 and the Mi-2/NuRD complex regulate cell fate during B lymphocyte differentiation. Cell 119: 75-86.
5. Mishra, S.K., et al. 2004. Upstream determinants of estrogen receptor-α regulation of metastatic tumor antigen 3 pathway. J. Biol. Chem. 279: 32709-32715.
6. SWISS-PROT/TrEMBL (Q9BTC8). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

CHROMOSOMAL LOCATION

Genetic locus: Mta3 (mouse) mapping to 17 E4.

PRODUCT

MTA3 siRNA (m) 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 MTA3 shRNA Plasmid (m): sc-60011-SH and MTA3 shRNA (m) Lentiviral Particles: sc-60011-V as alternate gene silencing products.

For independent verification of MTA3 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-60011A, sc-60011B and sc-60011C.

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

MTA3 siRNA (m) is recommended for the inhibition of MTA3 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 MTA3 gene expression knockdown using RT-PCR Primer: MTA3 (m)-PR: sc-60011-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Li, M., et al. 2010. Intercellular transfer of proteins as identified by stable isotope labeling of amino acids in cell culture. J. Biol. Chem. 285: 6285-6297.

RESEARCH USE

For research use only, not for use in diagnostic procedures.