SANTA CRUZ BIOTECHNOLOGY, INC.

MATP siRNA (m): sc-60987

BACKGROUND

The membrane-associated transporter protein (MATP) is a 530 amino acid protein that spans the lipid bilayer 12 times. MATP is a melanocyte differentiation antigen that is expressed in a high percentage of melanoma cell lines. MATP is transcriptionally modulated by MITF, a melanocyte-specific transcription factor that may act indirectly or bind to a remote regulatory sequence. MATP may play a role in skin cancer, as its gene is expressed in a high percentage of melanoma cell lines, but not at significant levels in normal tissues. Mutations in the MATP gene have also been linked to albinism.

REFERENCES

1. Baxter, L.L. and Pavan, W.J. 2002. The oculocutaneous albinism type IV gene MATP is a new marker of pigment cell precursors during mouse embryonic development. Mech. Dev. 116: 209-212.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606202. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Rundshagen, U., et al. 2004. Mutations in the MATP gene in five German patients affected by oculocutaneous albinism type 4. Hum. Mutat. 23: 106-110.
4. Yuasa, I., et al. 2004. MATP polymorphisms in Germans and Japanese: the L374F mutation as a population marker for Caucasoids. Int. J. Legal Med. 118: 364-366.
5. Blalock, J.E. 2005. The immune system as the sixth sense. J. Intern. Med. 257: 126-138.
6. Graf, J., et al. 2005. Single nucleotide polymorphisms in the MATP gene are associated with normal human pigmentation variation. Hum. Mutat. 25: 278-284.
7. Inagaki, K., et al. 2005. OCA4: evidence for a founder effect for the p.D157N mutation of the MATP gene in Japanese and Korean. Pigment Cell Res. 18: 385-388.
8. Suzuki, T., et al. 2005. A Korean case of oculocutaneous albinism type IV caused by a D157N mutation in the MATP gene. Br. J. Dermatol. 152: 174-175.

CHROMOSOMAL LOCATION

Genetic locus: Slc45a2 (mouse) mapping to 15 A1.

PRODUCT

MATP 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 MATP shRNA Plasmid (m): sc-60987-SH and MATP shRNA (m) Lentiviral Particles: sc-60987-V as alternate gene silencing products.

For independent verification of MATP (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-60987A, sc-60987B and sc-60987C.

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

MATP siRNA (m) is recommended for the inhibition of MATP 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.

GENE EXPRESSION MONITORING

MATP (F-4): sc-377397 is recommended as a control antibody for monitoring of MATP 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 MATP gene expression knockdown using RT-PCR Primer: MATP (m)-PR: sc-60987-PR (20 µl). 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.