SANTA CRUZ BIOTECHNOLOGY, INC.

MSG1 siRNA (m): sc-38050

BACKGROUND

Pigmentation is a highly characteristic and distinguishing feature of differentiated melanocytes. Generally speaking, pigmentation decreases with melanoma progression and/or loss of several other differentiated properties of melanocytes. The MSG1 gene, which encodes the MSG1 protein, is expressed at high levels in strongly pigmented melanoma cells, but at low levels in weakly pigmented cells, suggesting that MSG1 may be associated with pigmentation. MSG1 localizes to the nucleus and only demonstrates expression in melanocytes and testis. The deduced 193-amino acid human MSG1 protein shares 75% sequence homology with mouse MSG1. The MSG1 protein contains a serine/threonine-rich region, and research indicates that a fusion protein containing MSG1 and a DNA-binding domain activates transcription in mammalian cells; the activation of which is dependent upon the acidic domain of MSG1.

REFERENCES

1. Shioda, T., et al. 1996. MSG1, a novel melanocyte-specific gene, encodes a nuclear protein and is associated with pigmentation. Proc. Natl. Acad. Sci. USA 93: 12298-12303.
2. Watahiki, M.K., et al. 1999. The MSG1 and AXR1 genes of *Arabidopsis* are likely to act independently in growth-curvature responses of hypocotyls. Planta 207: 362-369.
3. Vachtenheim, J. and Novotná, H. 2000. Expression of genes for microphthalmia isoforms, Pax3 and MSG1, in human melanomas. Cell. Mol. Biol. (Noisy-le-grand) 45: 1075-1082.
4. Yahata, T., et al. 2000. The MSG1 non-DNA-binding transactivator binds to the p300/CBP coactivators, enhancing their functional link to the Smad transcription factors. J. Biol. Chem. 275: 8825-8834.
5. Ahmed, N.U., et al. 2001. Aberrant expression of MSG1 transcriptional activator in human malignant melanoma *in vivo*. Pigment Cell Res. 14: 140-143.
6. Nair, S.S., et al. 2001. Over-expression of MSG1 transcriptional co-activator increases melanin in B16 melanoma cells: a possible role for MSG1 in melanogenesis. Pigment Cell Res. 14: 206-209.

CHROMOSOMAL LOCATION

Genetic locus: Cited1 (mouse) mapping to X D.

PRODUCT

MSG1 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 MSG1 shRNA Plasmid (m): sc-38050-SH and MSG1 shRNA (m) Lentiviral Particles: sc-38050-V as alternate gene silencing products.

For independent verification of MSG1 (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-38050A, sc-38050B and sc-38050C.

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

MSG1 siRNA (m) is recommended for the inhibition of MSG1 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

MSG1 (D-7): sc-393585 is recommended as a control antibody for monitoring of MSG1 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 MSG1 gene expression knockdown using RT-PCR Primer: MSG1 (m)-PR: sc-38050-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.