

MFAP4 siRNA (m): sc-149403

BACKGROUND

Microfibrils are an important component of the extracellular matrix of many tissues and can either associate with or without elastin. Several microfibril associated proteins (MFAPs) have been cloned, including MFAP1, MFAP3 and MFAP4. The MFAP1 and MFAP3 genes are localized near the fibrillin genes FBN1 and FBN2, respectively. Mutations in FBN1 are linked to Marfan syndrome. Mutations in FBN2 have been linked to congenital contractural arachnoidactyly. This suggests roles for MFAP1 and MFAP3 in heritable diseases affecting microfibrils. Deletion of MFAP4 was found in 30 of 31 patients with Smith-Magenis syndrome (SMS), a clinically recognizable multiple congenital anomaly/mental retardation syndrome.

REFERENCES

1. Yeh, H., Chow, M., Abrams, W.R., Fan, J., Foster, J., Mitchell, H., Muenke, M. and Rosenbloom, J. 1994. Structure of the human gene encoding the associated microfibrillar protein (MFAP1) and localization to chromosome 15q15-q21. *Genomics* 23: 443-449.
2. Abrams, W.R., Ma, R.I., Kucich, U., Bashir, M.M., Decker, S., Tsipouras, P., McPherson, J.D., Wasmuth, J.J. and Rosenbloom, J. 1995. Molecular cloning of the microfibrillar protein MFAP3 and assignment of the gene to human chromosome 5q32-q33.2. *Genomics* 26: 47-54.
3. Zhao, Z., Lee, C.C., Jiralerspong, S., Juyal, R.C., Lu, F., Baldini, A., Greenberg, F., Caskey, C.T. and Patel, P.I. 1995. The gene for a human microfibril-associated glycoprotein is commonly deleted in Smith-Magenis syndrome patients. *Hum. Mol. Genet.* 4: 589-597.
4. Liu, W., Faraco, J., Qian, C. and Francke, U. 1997. The gene for microfibril-associated protein-1 (MFAP1) is located several megabases centromeric to FBN1 and is not mutated in Marfan syndrome. *Hum. Genet.* 99: 578-584.
5. Lausen, M., Lynch, N., Schlosser, A., Tornøe, I., Saekmose, S.G., Teisner, B., Willis, A.C., Crouch, E., Schwaible, W. and Holmskov, U. 1999. Microfibril-associated protein 4 is present in lung washings and binds to the collagen region of lung surfactant protein D. *J. Biol. Chem.* 274: 32234-32240.

CHROMOSOMAL LOCATION

Genetic locus: Mfap4 (mouse) mapping to 11 B2.

PRODUCT

MFAP4 siRNA (m) is a pool of 2 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 MFAP4 shRNA Plasmid (m): sc-149403-SH and MFAP4 shRNA (m) Lentiviral Particles: sc-149403-V as alternate gene silencing products.

For independent verification of MFAP4 (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-149403A and sc-149403B.

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

MFAP4 siRNA (m) is recommended for the inhibition of MFAP4 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 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

MFAP4 (A-9): sc-398438 is recommended as a control antibody for monitoring of MFAP4 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 MFAP4 gene expression knockdown using RT-PCR Primer: MFAP4 (m)-PR: sc-149403-PR (20 μ l, 577 bp). 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.