SANTA CRUZ BIOTECHNOLOGY, INC.

MAGP-1 siRNA (m): sc-60981

BACKGROUND

Elastic fibers endow loose connective tissue with a resilience that complements the tensile strength of collagenous fibers. They are composed of the protein elastin and a network of 10-12 nm microfibrils, which contain several glycoproteins, including fibrillin-1, fibrillin-2 and the microfibril-associated glycoproteins MAGP-1 and MAGP-2. During elastogenesis, MAGP-1 and MAGP-2 bind the fibrillins to tropoelastin in the extracellular matrix of several elastic and non-elastic tissues. MAGP-1 is an O-glycosylated protein secreted to the extracellular space and the extracellular matrix. MAGP-1 associates with Biglycan and elastin in a ternary complex. It can make intermolecular disulfide bonds with other MAGP-1 molecules or with other microfibril components and may form transglutaminase cross-links. Underexpression and overexpression of the zebrafish homolog of MAGP-1 (Magp-1) protein levels demonstrate the critical role of MAGP-1 in vascular development.

REFERENCES

1. Gibson, M.A. and Cleary, E.G. 1987. The immunohistochemical localisation of microfibril-associated glycoprotein (MAGP) in elastic and non-elastic tissues. Immunol. Cell Biol. 65: 345-356.
2. Gibson, M.A., et al. 1989. The protein components of the 12 nm microfibrils of elastic and non-elastic tissues. J. Biol. Chem. 264: 4590-4598.
3. Kumaratilake, J.S., et al. 1989. The tissue distribution of microfibrils reacting with a monospecific antibody to MAGP, the major glycoprotein antigen of elastin-associated microfibrils. Eur. J. Cell Biol. 50: 117-127.
4. Kobayashi, R., et al. 1989. Isolation and characterization of a new 36 kDa microfibril-associated glycoprotein from porcine aorta. J. Biol. Chem. 264: 17437-17444.
5. Segade, F., et al. 2002. Identification of a matrix-binding domain in MAGP-1 and MAGP-2 and intracellular localization of alternative splice forms. J. Biol. Chem. 277: 11050-11057.

CHROMOSOMAL LOCATION

Genetic locus: Mfap2 (mouse) mapping to 4 D3.

PRODUCT

MAGP-1 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 MAGP-1 shRNA Plasmid (m): sc-60981-SH and MAGP-1 shRNA (m) Lentiviral Particles: sc-60981-V as alternate gene silencing products.

For independent verification of MAGP-1 (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-60981A, sc-60981B and sc-60981C.

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

MAGP-1 siRNA (m) is recommended for the inhibition of MAGP-1 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

MAGP-1 (G-7): sc-166075 is recommended as a control antibody for monitoring of MAGP-1 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 MAGP-1 gene expression knockdown using RT-PCR Primer: MAGP-1 (m)-PR: sc-60981-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.