SANTA CRUZ BIOTECHNOLOGY, INC.

MAGP-2 siRNA (h): sc-60982

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. MAGP-2 functions in maintaining extracellular matrix homeostasis through the stabilization of type I procollagen and through the binding of fibrillins to tropoelastin in the extracellular matrix of several elastic and non-elastic tissues. MAGP-2 may function outside of its role in elastic fibers and play a role in cellular differentiation through the binding of Notch 1, which leads to the release of Notch 1 extracellular domain, the subsequent activation of its signaling pathway and the release of soluble Jagged1.

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. 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.
3. Gibson, M.A., et al. 1991. Complementary DNA cloning establishes microfibril-associated glycoprotein (MAGP) to be a discrete component of the elastin-associated microfibrils. J. Biol. Chem. 266: 7596-7601.
4. Chen, Y., et al. 1993. Structure, chromosomal localization, and expression pattern of the murine MAGP gene. J. Biol. Chem. 268: 27381-27389.
5. Gibson, M.A., et al. 1996. Further characterization of proteins associated with elastic fiber microfibrils including the molecular cloning of MAGP-2 (MP25). J. Biol. Chem. 271: 1096-1103.
6. Lemaire, R., et al. 2005. Increased expression of type I collagen induced by microfibril-associated glycoprotein 2: novel mechanistic insights into the molecular basis of dermal fibrosis in scleroderma. Arthritis Rheum. 52: 1812-1823.
7. Nehring, L.C., et al. 2005. The extracellular matrix protein MAGP-2 interacts with Jagged1 and induces its shedding from the cell surface. J. Biol. Chem. 280: 20349-20355.
8. Miyamoto, A., et al. 2006. Microfibrillar proteins MAGP-1 and MAGP-2 induce Notch 1 extracellular domain dissociation and receptor activation. J. Biol. Chem. 281: 10089-10097.

CHROMOSOMAL LOCATION

Genetic locus: MFAP5 (human) mapping to 12p13.31.

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.

PRODUCT

MAGP-2 siRNA (h) is a target-specific 19-25 nt siRNA 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-2 shRNA Plasmid (h): sc-60982-SH and MAGP-2 shRNA (h) Lentiviral Particles: sc-60982-V as alternate gene silencing products.

For independent verification of MAGP-2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-60982A, sc-60982B and sc-60982C.

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-2 siRNA (h) is recommended for the inhibition of MAGP-2 expression in human 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 MAGP-2 gene expression knockdown using RT-PCR Primer: MAGP-2 (h)-PR: sc-60982-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.