

Decorin siRNA (m): sc-40994

BACKGROUND

Decorin is a small leucine-rich proteoglycan (SLRP) family member that consists of a glycosaminoglycan chain-containing core protein. The core protein contains ten leucine rich repeats that contain sites for glycosylation, flanked by disulfide bond stabilizing loops. Decorin binds to Collagen Type I, II and IV *in vivo* and promotes the formation of fibers with variations in stability and solubility. The Decorin core protein binds to growth factors, intercellular matrix molecules, such as Fibronectin and Thrombospondin, and to the Decorin endocytosis receptor. Decorin binds to and inhibits TGF β and is a direct or indirect negative modulator of TGF β synthesis. Inhibition of Decorin core protein gene expression by the combination of IFN- γ and TNF α may contribute to cartilage destruction that is characteristic of inflammatory joint diseases. The human Decorin gene maps to chromosome 12q21.33 and encodes a 359 amino acid protein.

REFERENCES

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3. Dodge, G.R., Diaz, A., Sanz-Rodriguez, C., Reginato, A.M. and Jimenez, S.A. 1998. Effects of interferon- γ and tumor necrosis factor α on the expression of the genes encoding aggrecan, Biglycan, and Decorin core proteins in cultured human chondrocytes. *Arthritis Rheum.* 41: 274-283.
4. Stander, M., Naumann, U., Wick, W. and Weller, M. 1999. Transforming growth factor β and p21: multiple molecular targets of Decorin-mediated suppression of neoplastic growth. *Cell Tissue Res.* 296: 221-227.
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6. LocusLink Report (LocusID: 1634). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: Dcn (mouse) mapping to 10 C3.

PRODUCT

Decorin 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Decorin shRNA Plasmid (m): sc-40994-SH and Decorin shRNA (m) Lentiviral Particles: sc-40994-V as alternate gene silencing products.

For independent verification of Decorin (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-40994A, sc-40994B and sc-40994C.

STORAGE AND RESUSPENSION

Store lyophilized shRNA plasmid DNA at 4° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at 4° C for short term storage or -80° C for long term storage. Avoid repeated freeze thaw cycles.

Resuspend lyophilized shRNA plasmid DNA in 200 μ l of the deionized water provided. Resuspension of the shRNA plasmid DNA in 200 μ l of deionized water makes a 0.1 μ g/ μ l solution in a 10 mM Tris, 1 mM EDTA buffered solution.

APPLICATIONS

Decorin shRNA Plasmid (m) is recommended for the inhibition of Decorin expression in mouse cells.

SUPPORT REAGENTS

For optimal shRNA Plasmid transfection efficiency, Santa Cruz Biotechnology's shRNA Plasmid Transfection Reagent: sc-108061 (0.2 ml) and shRNA Plasmid Transfection Medium: sc-108062 (20 ml) are recommended. Control shRNAs are available as 20 μ g lyophilized plasmid DNA. Each encodes a scrambled shRNA sequence that will not lead to the specific degradation of any known cellular mRNA. Control shRNA Plasmids include: sc-108060, sc-108065 and sc-108066.

GENE EXPRESSION MONITORING

Decorin (C-11): sc-518162 is recommended as a control antibody for monitoring of Decorin 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Decorin gene expression knockdown using RT-PCR Primer: Decorin (m)-PR: sc-40994-PR (20 μ l, 513 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.

PROTOCOLS

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