

Decorin siRNA (h): sc-40993

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 (human) mapping to 12q21.33.

PRODUCT

Decorin siRNA (h) 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 (h): sc-40993-SH and Decorin shRNA (h) Lentiviral Particles: sc-40993-V as alternate gene silencing products.

For independent verification of Decorin (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-40993A, sc-40993B and sc-40993C.

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

Decorin siRNA (h) is recommended for the inhibition of Decorin 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 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

Decorin (9XX): sc-73896 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).

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 Decorin gene expression knockdown using RT-PCR Primer: Decorin (h)-PR: sc-40993-PR (20 μ l, 488 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.