SANTA CRUZ BIOTECHNOLOGY, INC.

Fibromodulin siRNA (m): sc-44823

BACKGROUND

Small leucine-rich proteoglycans (SLRPs) such as Decorin, Biglycan, Fibromodulin, and Lumican mediate extracellular matrix organization and are binding partners of TGFβ. Fibromodulin is a collagen-binding Keratan sulphate proteoglycan that influences adhesion processes of connective tissue, and plays a role in fibrillogenesis by regulating collagen fibril spacing and thickness. The core proteins of SLRPs consist of a central region of leucine-rich repeats flanked by disulfide-linkages of the terminal domains. Fibromodulin is a ubiquitous protein that is most prominent in articular cartilage, tendon, and ligament. The human Fibromodulin gene maps to chromosome 1q32.1 and encodes a 376 amino acid protein.

REFERENCES

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2. Sztrolovics, R., et al. 1994. Localization of the human Fibromodulin gene (FMOD) to chromosome 1q32 and completion of the cDNA sequence. Genomics 23: 715-717.
3. Online Mendelian Inheritance in Man, OMIM™. 1995. Johns Hopkins University, Baltimore, MD. MIM Number: 600245. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Roughley, P.J., et al. 1996. Changes with age in the structure of Fibromodulin in human articular cartilage. Osteoarthr. Cartil. 4: 153-161.
5. Petri, J.B., et al. 1999. The small proteoglycan Fibromodulin is expressed in mitotic, but not in postmitotic fibroblasts. Mol. Cell Biol. Res. Commun. 1: 59-65.
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7. Schaefer, L., et al. 2001. Small proteoglycans in human diabetic nephropathy: discrepancy between glomerular expression and protein accumulation of decorin, biglycan, lumican, and fibromodulin. FASEB J. 15: 559-561.
8. LocusLink Report (LocusID: 2331). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: Fmod (mouse) mapping to 1 E4.

PRODUCT

Fibromodulin 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 Fibromodulin shRNA Plasmid (m): sc-44823-SH and Fibromodulin shRNA (m) Lentiviral Particles: sc-44823-V as alternate gene silencing products.

For independent verification of Fibromodulin (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-44823A, sc-44823B and sc-44823C.

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

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

Fibromodulin (H-11): sc-166406 is recommended as a control antibody for monitoring of Fibromodulin 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 Fibromodulin gene expression knockdown using RT-PCR Primer: Fibromodulin (m)-PR: sc-44823-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.

PROTOCOLS

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