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Matrilin-2 shRNA (h) Lentiviral Particles: sc-45447-V

BACKGROUND

The matrilin family proteins are secreted extracellular matrix proteins. Matrilin-1 is a homotrimer that binds to collagen and is a component of the extracellular matrix of nonarticular cartilage. It is secreted primarily by chondrocytes in a characteristic spatial, temporal and developmental stage-specific pattern during skeletogenesis. Matrilin-2 is a secreted protein involved in matrix assembly. Matrilin-3 is a secreted protein expressed solely in cartilaginous tissues. It is important in the extracellular matrix of cartilage and in the formation of extracellular filamentous networks. Matrilin-4, expressed in embryonic kidney, lung and placenta, is a secreted protein important to the extracellular matrix of cartilage.

REFERENCES

1. Deak, F., et al. 1999. The matrilins: a novel family of oligomeric extracellular matrix proteins. *Matrix Biol.* 18: 55-64.
2. Strusberg, I., et al. 2002. Association analysis of genotypic frequencies of Matrilin-1 gene in patients with osteoarthritis. *Clin. Exp. Rheumatol.* 20: 543-545.
3. Ohno, S., et al. 2003. Immunohistochemical study of Matrilin-1 in arthritic articular cartilage of the mandibular condyle. *J. Oral Pathol. Med.* 32: 237-242.
4. Wiberg, C., et al. 2003. Complexes of Matrilin-1 and Biglycan or Decorin connect Collagen VI microfibrils to both Collagen II and aggrecan. *J. Biol. Chem.* 278: 37698-37704.
5. Mann H.H., et al. 2004. Interactions between the cartilage oligomeric matrix protein and matrilins. Implications for matrix assembly and the pathogenesis of chondrodysplasias. *J. Biol. Chem.* 279: 25294-25298.

CHROMOSOMAL LOCATION

Genetic locus: MATN2 (human) mapping to 8q22.1.

PRODUCT

Matrilin-2 shRNA (h) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200 μ l frozen stock containing 1.0×10^6 infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see Matrilin-2 siRNA (h): sc-45447 and Matrilin-2 shRNA Plasmid (h): sc-45447-SH as alternate gene silencing products.

RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.

APPLICATIONS

Matrilin-2 shRNA (h) Lentiviral Particles is recommended for the inhibition of Matrilin-2 expression in human cells.

SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 μ l frozen viral stock containing 1.0×10^6 infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

GENE EXPRESSION MONITORING

Matrilin-2 (V-20): sc-27926 is recommended as a control antibody for monitoring of Matrilin-2 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 (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Matrilin-2 gene expression knockdown using RT-PCR Primer: Matrilin-2 (h)-PR: sc-45447-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

STORAGE

Store lentiviral particles at -80° C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at 4° C for up to one week. Avoid repeated freeze thaw cycles.

PROTOCOLS

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