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SANTA CRUZ BIOTECHNOLOGY, INC.

MMP-23 siRNA (m): sc-41564

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Matrix metalloproteinases (MMPs) are highly homologous Zn^{2+} endopeptidases involved in extracellular matrix breakdown. MMP mediated extracellular remodeling occurs in normal physiological processes, such as embryonic development, reproduction, and tissue remodeling, and disease processes, including arthritis and metastasis.MMP-23 exhibits sequence similarity with most MMPs, but displays a difference in domain structure. The MMP-23 protein contains prepro-, catalytic, cysteine-rich, Interleukin-1 receptor-related, and proline-rich domains. Lacking a recognizable signal sequence, MMP-23 has a short prodomain. In addition, MMP-23 contains a single cysteine residue that can be part of the cysteine-switch mechanism operation for maintaining enzyme latency. MMP-23 is a membrane-anchored glycoprotein with type II topology. Subcellular localization is predominantly perinuclear. A dramatic switch in MMP-23 mRNA localization from granulosa cells to theca-externa/fibroblasts and ovarian surface epithelium occurs during follicular development. MMP-23 is expressed in ovary, testis, and prostate, suggesting that MMP-23 plays a specialized role in the reproductive processes. The human MMP-23 gene maps to chromosome 1p36.33.

REFERENCES

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3. Velasco, G., Pendas, A.M., Rueyo, A., Knauper, V., Murphy, G. and Lopez-Otin, C. 1999. Cloning and characterization of human MMP-23, a new matrix metalloproteinase predominantly expressed in reproductive tissues and lacking conserved domains in other family members. J. Biol. Chem. 8: 4570-4576.
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CHROMOSOMAL LOCATION

Genetic locus: Mmp23 (mouse) mapping to 4 E2.

PRODUCT

MMP-23 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 MMP-23 shRNA Plasmid (m): sc-41564-SH and MMP-23 shRNA (m) Lentiviral Particles: sc-41564-V as alternate gene silencing products.

For independent verification of MMP-23 (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-41564A, sc-41564B and sc-41564C.

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

MMP-23 siRNA (m) is recommended for the inhibition of MMP-23 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MMP-23 gene expression knockdown using RT-PCR Primer: MMP-23 (m)-PR: sc-41564-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.