SANTA CRUZ BIOTECHNOLOGY, INC.

MMP-26 siRNA (h): sc-106230

BACKGROUND

Metalloproteinases (MMPs) are a family of proteins that are involved in the breakdown of the extracellular matrix during normal cellular events, including reproduction, tissue remodeling and embryonic development. MMP-26 (matrix metallopeptidase-26), also known as Endometase or Matrilysin-2, is a 261 amino acid metalloproteinase that is secreted as an inactive protein and is activated upon cleavage by extracellular proteinases. Expressed specifically in the placenta and uterus, MMP-26 hydrolyzes (and subsequently degrades) a variety of proteins such as Fibrinogen, Fibronectin, Vitronectin and Collagen Type IV (COL4). MMP-26 binds zinc and calcium as cofactors and, unlike other MMP family members, lacks a conserved C-terminal domain. MMP-26 is widely expressed in a number of malignant tumor lines where it is thought to play an important role in tissue remodeling events that are associated with carcinogenesis.

REFERENCES

1. Uría, J.A. and López-Otín, C. 2000. Matrilysin-2, a new matrix metalloproteinase expressed in human tumors and showing the minimal domain organization required for secretion, latency, and activity. Cancer Res. 60: 4745-4751.
2. Park, H.I., et al. 2000. Identification and characterization of human endometase (matrix metalloproteinase-26) from endometrial tumor. J. Biol. Chem. 275: 20540-20544.
3. de Coignac, A.B., et al. 2000. Cloning of MMP-26. A novel matrilysin-like proteinase. Eur. J. Biochem. 267: 3323-3329.
4. Li, W., et al. 2004. Matrix metalloproteinase-26 is associated with estrogen-dependent malignancies and targets α1-antitrypsin serpin. Cancer Res. 64: 8657-8665.
5. Pilka, R., et al. 2004. Endometrial TIMP-4 mRNA is high at midcycle and in hyperplasia, but down-regulated in malignant tumours. Coordinated expression with MMP-26. Mol. Hum. Reprod. 10: 641-650.
6. Bister, V., et al. 2005. Matrilysins-1 and -2 (MMP-7 and -26) and metalloelastase (MMP-12), unlike MMP-19, are up-regulated in necrotizing enterocolitis. J. Pediatr. Gastroenterol. Nutr. 40: 60-66.

CHROMOSOMAL LOCATION

Genetic locus: MMP26 (human) mapping to 11p15.4.

PRODUCT

MMP-26 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MMP-26 shRNA Plasmid (h): sc-106230-SH and MMP-26 shRNA (h) Lentiviral Particles: sc-106230-V as alternate gene silencing products.

For independent verification of MMP-26 (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-106230A, sc-106230B and sc-106230C.

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-26 siRNA (h) is recommended for the inhibition of MMP-26 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 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

MMP-26 (TG-9): sc-100558 is recommended as a control antibody for monitoring of MMP-26 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 MMP-26 gene expression knockdown using RT-PCR Primer: MMP-26 (h)-PR: sc-106230-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.