



MK siRNA (m): sc-39712

BACKGROUND

Midkine, or MK, is a heparin-binding molecule involved in the regulation of growth and differentiation during embryogenesis. MK expression is tightly regulated during embryonic development by steroid receptors of the retinoic acid superfamily. The mature human MK protein is 118 amino acids in length and contains five intrachain disulfide bonds. MK is a non-glycosylated protein that shows greater than 87% identity between human and mouse. The carboxy-terminus of MK contains the principle heparin-binding site and the molecule's neurite-promoting sequences; both the amino- and carboxy-terminal sequences are required for the molecule's neurotrophic properties. An association between overexpression of MK and colon adenocarcinoma has been shown in families suffering from familial polyposis. In addition, MK functions to enhance the activity of plasminogen activator (PA).

REFERENCES

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- Tsutsui, J., et al. 1991. A new family of heparin-binding factors: strong conservation of midkine (MK) sequences between the human and the mouse. *Biochem. Biophys. Res. Commun.* 176: 792-797.
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- Aridome, K., et al. 1995. Increased midkine gene expression in human gastrointestinal cancers. *Jpn. J. Cancer Res.* 86: 655-661.
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- Pedraza, C., et al. 1995. A retinoic acid-responsive element in human midkine gene. *J. Biochem.* 117: 845-849.
- Ahmed, K.M., et al. 2000. Genetic variations of the midkine (MK) gene in human sporadic colorectal and gastric cancers. *Int. J. Mol. Med.* 6: 281-287.

CHROMOSOMAL LOCATION

Genetic locus: Mdk (mouse) mapping to 2 E1.

PRODUCT

MK 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MK shRNA Plasmid (m): sc-39712-SH and MK shRNA (m) Lentiviral Particles: sc-39712-V as alternate gene silencing products.

For independent verification of MK (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-39712A, sc-39712B and sc-39712C.

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

MK siRNA (m) is recommended for the inhibition of MK 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MK gene expression knockdown using RT-PCR Primer: MK (m)-PR: sc-39712-PR (20 μ l, 469 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.