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HDGF siRNA (m): sc-45879

BACKGROUND

Hepatoma derived growth factor (HDGF) is the original member of a family of polypeptides designated HDGF-related proteins (HRPs). HDGF was initially characterized as a secreted mitogen from the Huh-7 human hepatoma cell line. This nuclear targeted vascular smooth muscle (VSM) cell mitogen is a heparin-binding protein that is highly expressed in tumor cells where it stimulates proliferation. HDGF is also reported to be involved in organ development and lung remodeling after injury by promoting proliferation of lung epithelial cells. During development, HDGF expression is high in the nucleus and cytoplasm of smooth muscle and endothelial cells. Expression declines after birth but increases during vascular injury.

REFERENCES

1. Everett, A.D., et al. 2001. Nuclear targeting is required for hepatoma-derived growth factor-stimulated mitogenesis in vascular smooth muscle cells. *J. Biol. Chem.* 276: 37564-37568.
2. Dietz, F., et al. 2002. The family of hepatoma-derived growth factor proteins: characterization of a new member HRP-4 and classification of its subfamilies. *Biochem. J.* 366: 491-500.
3. Enomoto, H., et al. 2002. Hepatoma-derived growth factor is highly expressed in developing liver and promotes fetal hepatocyte proliferation. *Hepatology* 36: 1519-1527.
4. Everett, A.D., et al. 2003. Hepatoma derived growth factor is a nuclear targeted mitogen. *Curr. Drug Targets* 4: 367-371.
5. Okuda Y, et al. 2003. Hepatoma-derived growth factor induces tumorigenesis *in vivo* through both direct angiogenic activity and induction of vascular endothelial growth factor. *Cancer Sci.* 94: 1034-1041.

CHROMOSOMAL LOCATION

Genetic locus: *Hdgf* (mouse) mapping to 3 F1.

PRODUCT

HDGF 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 HDGF shRNA Plasmid (m): sc-45879-SH and HDGF shRNA (m) Lentiviral Particles: sc-45879-V as alternate gene silencing products.

For independent verification of HDGF (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-45879A, sc-45879B and sc-45879C.

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.

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

HDGF shRNA (m) Lentiviral Particles is recommended for the inhibition of HDGF 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.

GENE EXPRESSION MONITORING

HDGF (E-7): sc-271344 is recommended as a control antibody for monitoring of HDGF 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 HDGF gene expression knockdown using RT-PCR Primer: HDGF (m)-PR: sc-45879-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.