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HDGF shRNA (m) Lentiviral Particles: sc-45879-V

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

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.

APPLICATIONS

HDGF shRNA (m) Lentiviral Particles is recommended for the inhibition of HDGF expression in mouse 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

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 (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 $55-60^\circ\text{C}$ and the extension temperature should be $68-72^\circ\text{C}$.

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.

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.