SANTA CRUZ BIOTECHNOLOGY, INC.

HGFL siRNA (h): sc-39570

BACKGROUND

Hepatocyte growth factor, or HGF, is a pleiotropic growth factor variously referred to as scatter factor, hematopoietin A and mammary growth factor. Biologically active HGF is composed of a disulfide linked α chain and a β chain, both of which are highly glycosylated. A related protein, hepatocyte growth factor-like protein (HGFL), shares structural similarity to HGF. Also referred to as macrophage-stimulating protein, or MSP, HGFL is a mediator of the inflammatory response and is required to evoke the chemotactic response of peritoneal macrophages. This is in contrast to HGF, which is primarily associated with the growth and differentiation of the epithelia and endothelia. The receptor tyrosine kinase Ron, exhibits a high degree of homology with the HGF receptor c-Met, and is expressed by several epithelial tissues as well as by granulocytes and monocytes. Although HGF stimulation has no effect on Ron tyrosine kinase activity, in epithelial cells HGFL induces the autophosphorylation of Ron which is followed by DNA synthesis. This data suggests Ron to be the *in vivo* HGFL receptor.

REFERENCES

1. Han, S., et al. 1991. Characterization of the DNF15S2 locus on human chromosome 3: identification of a gene coding for four kringle domains with homology to hepatocyte growth factor. Biochemistry 30: 9768-9780.
2. Bezerra, J.A., et al. 1993. Are hepatocyte growth factor-like protein and macrophage stimulating protein the same protein? Protein Sci. 2: 666-668.
3. Donate, L.E., et al. 1994. Molecular evolution and domain stucture of plasminogen-related growth factors (HGF/SF and HGF1/MSP). Protein Sci. 3: 2378-2394.
4. Gaudino, G., et al. 1994. RON is a heterodimeric tyrosine kinase receptor activated by the HGF homologue MSP. EMBO J. 13: 3524-3532.
5. Miyazawa, K., et al. 1994. Proteolytic activation of hepatocyte growth factor in response to tissue injury. J. Biol. Chem. 269: 8966-8970.
6. Niranjan, B., et al. 1995. HGF/SF: a potent cytokine for mammary growth, morphogenesis and development. Development 121: 2897-2908.
7. Naldini, L., et al. 1995. Biological activation of pro-HGF (hepatocyte growth factor) by urokinase is controlled by a stoichiometric reaction. J. Biol. Chem. 270: 603-611.

CHROMOSOMAL LOCATION

Genetic locus: MST1 (human) mapping to 3p21.31.

PRODUCT

HGFL 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 HGFL shRNA Plasmid (h): sc-39570-SH and HGFL shRNA (h) Lentiviral Particles: sc-39570-V as alternate gene silencing products.

For independent verification of HGFL (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-39570A, sc-39570B and sc-39570C.

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

HGFL siRNA (h) is recommended for the inhibition of HGFL 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

HGFL α (57J13): sc-80040 is recommended as a control antibody for monitoring of HGFL 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor HGFL gene expression knockdown using RT-PCR Primer: HGFL (h)-PR: sc-39570-PR (20 µl, 530 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Rong, X., et al. 2019. Molecular mechanisms of tyrosine kinase inhibitor resistance induced by membranous/cytoplasmic/nuclear translocation of epidermal growth factor receptor. J. Thorac. Oncol. 14: 1766-1783.
2. Ye, X., et al. 2020. Lipopolysaccharide induces neuroinflammation in microglia by activating the MTOR pathway and downregulating Vps34 to inhibit autophagosome formation. J. Neuroinflammation 17: 18.

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.