

# HAI-2 siRNA (m): sc-39557

## BACKGROUND

Tissue damage, such as hepatic and renal injury, initiates hepatocyte growth factor activator (HGFAC)-mediated limited proteolytic activation of the inactive single-chain precursor form of HGF. Initially, HGFAC is produced as a precursor protein, which is activated by limited proteolysis and is neutralized by specific inhibitors known as HGF activator inhibitors, designated HAIs. HAIs belong to the Kunitz-type serine protease inhibitor family. HAIs target HGF activator and are involved in the regulation of proteolytic activation of HGF in injured tissues. Human HAI-1 transcript is expressed in various human tissues, such as adult placenta, kidney, pancreas, prostate and small intestine, and fetal kidney and lung. It translates into a 478 amino acid protein. The human HAI-2 gene maps to chromosome 19q13.1 and encodes a 252 amino acid protein, also designated human placental bikunin or kop (Kunitz domain containing protein over-expressed in pancreatic cancer). HAI-1 and HAI-2 are produced in membrane-associated forms, which are secreted as active, proteolytically truncated proteins.

## REFERENCES

1. Shimomura, T., et al. 1997. Hepatocyte growth factor activator inhibitor, a novel Kunitz-type serine protease inhibitor. *J. Biol. Chem.* 272: 6370-6376.
2. Marlor, C.W., et al. 1997. Identification and cloning of human placental Bikunin, a novel serine protease inhibitor containing two Kunitz domains. *J. Biol. Chem.* 272: 12202-12208.
3. Kawaguchi, T., et al. 1997. Purification and cloning of hepatocyte growth factor activator inhibitor type 2, a Kunitz-type serine protease inhibitor. *J. Biol. Chem.* 272: 27558-27564.
4. Muller-Pillasch, F., et al. 1998. Cloning of a new Kunitz-type protease inhibitor with a putative transmembrane domain overexpressed in pancreatic cancer. *Biochim. Biophys. Acta* 1395: 88-95.
5. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 605124. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: Spint2 (mouse) mapping to 7 B1.

## PRODUCT

HAI-2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see HAI-2 shRNA Plasmid (m): sc-39557-SH and HAI-2 shRNA (m) Lentiviral Particles: sc-39557-V as alternate gene silencing products.

For independent verification of HAI-2 (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-39557A, sc-39557B and sc-39557C.

## PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

HAI-2 siRNA (m) is recommended for the inhibition of HAI-2 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  $\mu$ M in 66  $\mu$ 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

HAI-2 (H-9): sc-398119 is recommended as a control antibody for monitoring of HAI-2 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 HAI-2 gene expression knockdown using RT-PCR Primer: HAI-2 (m)-PR: sc-39557-PR (20  $\mu$ l). 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.