

# HAI-1 (C-4): sc-137160

## 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<sup>™</sup>. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 605123. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: SPINT1 (human) mapping to 15q15.1; Spint1 (mouse) mapping to 2 E5.

## SOURCE

HAI-1 (C-4) is a mouse monoclonal antibody raised against amino acids 36-215 mapping near the N-terminus of HAI-1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

HAI-1 (C-4) is recommended for detection of HAI-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for HAI-1 siRNA (h): sc-39554, HAI-1 siRNA (m): sc-39555, HAI-1 shRNA Plasmid (h): sc-39554-SH, HAI-1 shRNA Plasmid (m): sc-39555-SH, HAI-1 shRNA (h) Lentiviral Particles: sc-39554-V and HAI-1 shRNA (m) Lentiviral Particles: sc-39555-V.

Molecular Weight of HAI-1 precursor: 58 kDa.

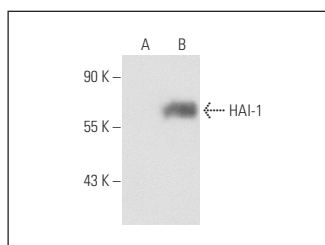
Molecular Weight of truncated HAI-1: 40 kDa.

Positive Controls: HAI-1 (h3): 293T Lysate: sc-159178 or human platelet extract: sc-363773.

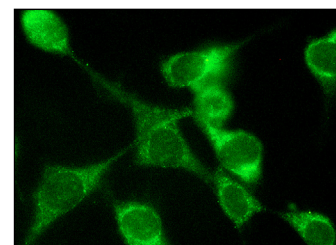
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



HAI-1 (C-4): sc-137160. Western blot analysis of HAI-1 expression in non-transfected: sc-117752 (A) and human HAI-1 transfected: sc-159178 (B) 293T whole cell lysates.



HAI-1 (C-4): sc-137160. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

1. Hong, L., et al. 2020. HAI-1 regulates placental folds development by influencing trophoblast cell proliferation and invasion in pigs. *Gene* 749: 144721.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.