

RNH1 (G-1): sc-166485

BACKGROUND

RNH1, the placental ribonuclease (RNase) inhibitor, is an acidic 460 amino acid protein which contains an unusually high content of leucine and cysteine residues. It is a member of a family of proteinaceous cytoplasmic RNase inhibitors that are expressed in many tissues and bind to both intracellular and extracellular RNases in the cytosol. RNH1 binds to a diverse variety of mammalian RNases and holds them in a latent form. It is also important in the control of mRNA turnover. RNH1 inhibits angiogenesis by reversibly binding angiogenin, a member of the RNaseA superfamily. Because angiogenesis is necessary for the growth and metastasis of tumors, RNH1 may play an important role in cancer gene therapy.

REFERENCES

- Zhang, B., et al. 2002. Antitumor effect through human endostatin gene transfer in mice bearing B16 melanoma. *Zhonghua Zhong Liu Za Zhi* 24: 451-454.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 173320. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Chen, J.X., et al. 2005. Antitumor effects of human ribonuclease inhibitor gene transfected on B16 melanoma cells. *Int. J. Biochem. Cell Biol.* 37: 1219-1231.
- Fu, P., et al. 2005. Antitumor effect of hematopoietic cells carrying the gene of ribonuclease inhibitor. *Cancer Gene Ther.* 12: 268-275.
- Iyer, S., et al. 2005. Molecular recognition of human eosinophil-derived neurotoxin (RNase 2) by placental ribonuclease inhibitor. *J. Mol. Biol.* 347: 637-655.
- Kou, B., et al. 2005. Gene therapeutic exploration: retrovirus-mediated soluble vascular endothelial growth factor receptor-2 (sFLK-1) inhibits the tumorigenicity of S180, MCF7, and B16 cells *in vivo*. *Oncol. Res.* 15: 239-247.

CHROMOSOMAL LOCATION

Genetic locus: RNH1 (human) mapping to 11p15.5; Rnh1 (mouse) mapping to 7 F5.

SOURCE

RNH1 (G-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 100-125 near the N-terminus of RNH1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-166485 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

RNH1 (G-1) is recommended for detection of RNH1 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), immunohistochemistry (including paraffin-embedded sections) (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 RNH1 siRNA (h): sc-61365, RNH1 siRNA (m): sc-61366, RNH1 shRNA Plasmid (h): sc-61365-SH, RNH1 shRNA Plasmid (m): sc-61366-SH, RNH1 shRNA (h) Lentiviral Particles: sc-61365-V and RNH1 shRNA (m) Lentiviral Particles: sc-61366-V.

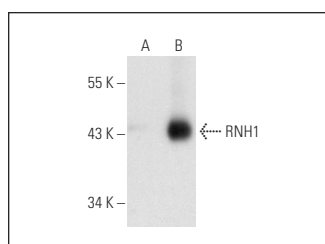
Molecular Weight of RNH1: 50 kDa.

Positive Controls: RNH1 (h2): 293T Lysate: sc-116168.

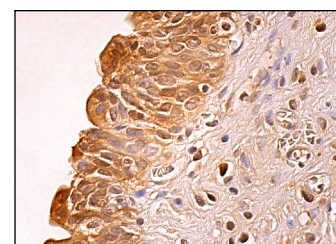
RECOMMENDED SUPPORT REAGENTS

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™ Molecular Weight Standards: sc-2035, UltraCruz® 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® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



RNH1 (G-1): sc-166485. Western blot analysis of RNH1 expression in non-transfected: sc-117752 (A) and human RNH1 transfected: sc-116168 (B) 293T whole cell lysates.



RNH1 (G-1): sc-166485. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic and nuclear staining of urothelial cells.

SELECT PRODUCT CITATIONS

- Ohashi, A., et al. 2017. The expression and localization of RNase and RNase inhibitor in blood cells and vascular endothelial cells in homeostasis of the vascular system. *PLoS ONE* 12: e0174237.

STORAGE

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