

RNH1 (F-1): sc-166683

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

1. Zhang, B., et al. 2002. Anti-tumor effect through human endostatin gene transfer in mice bearing B16 melanoma. *Zhonghua Zhong Liu Za Zhi* 24: 451-454.
2. 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/>
3. 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.
4. Dickson, K.A., et al. 2005. Ribonuclease inhibitor: structure and function. *Prog. Nucleic Acid Res. Mol. Biol.* 80: 349-374.
5. Fu, P., et al. 2005. Anti-tumor effect of hematopoietic cells carrying the gene of ribonuclease inhibitor. *Cancer Gene Ther.* 12: 268-275.
6. Iyer, S., et al. 2005. Molecular recognition of human eosinophil-derived neurotoxin (RNase 2) by placental ribonuclease inhibitor. *J. Mol. Biol.* 347: 637-655.

CHROMOSOMAL LOCATION

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

SOURCE

RNH1 (F-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 IgG_{2b} 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-166683 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

RNH1 (F-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.

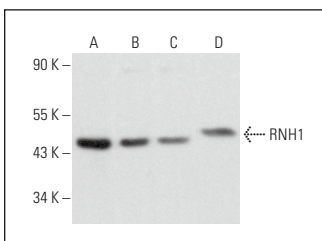
Positive Controls: HeLa whole cell lysate: sc-2200, JAR cell lysate: sc-2276 or HT-1080 whole cell lysate: sc-364183.

RECOMMENDED SUPPORT REAGENTS

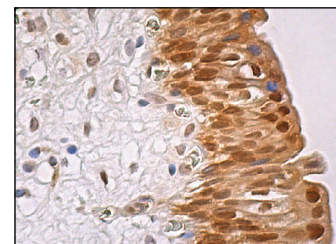
To ensure optimal results, the following support reagents are recommended:

- 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 (F-1): sc-166683. Western blot analysis of RNH1 expression in HeLa (A), JAR (B), K-562 (C) and HT-1080 (D) whole cell lysates.



RNH1 (F-1): sc-166683. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic and nuclear staining of urothelial cells.

SELECT PRODUCT CITATIONS

1. Yi, Z., et al. 2017. Aggregation of a hepatitis C virus replicase module induced by ablation of p97/VCP. *J. Gen. Virol.* 98: 1667-1678.

RESEARCH USE

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