SANTA CRUZ BIOTECHNOLOGY, INC.

RNH1 (D-3): sc-515591

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. Kou, B., et al. 2005. Gene therapeutic exploration: retrovirus-mediated soluble vascular endothelial growth factor receptor-2 (sFLK-1) inhibits the tumorigenicity of S180, MCF-7, and B16 cells *in vivo*. Oncol. Res. 15: 239-247.
7. Rutkoski, T.J., et al. 2005. Disruption of shape-complementarity markers to create cytotoxic variants of ribonuclease A. J. Mol. Biol. 354: 41-54.
8. Wang, T., et al. 2005. Inhibition of B16 melanoma growth *in vivo* by retroviral vector-mediated human ribonuclease inhibitor. Angiogenesis 8: 73-81.

CHROMOSOMAL LOCATION

Genetic locus: Rnh1 (mouse) mapping to 7 F5.

SOURCE

RNH1 (D-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 427-443 at the C-terminus of RNH1 of mouse 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-515591 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

RNH1 (D-3) is recommended for detection of RNH1 of mouse and rat 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 (m): sc-61366, RNH1 shRNA Plasmid (m): sc-61366-SH and RNH1 shRNA (m) Lentiviral Particles: sc-61366-V.

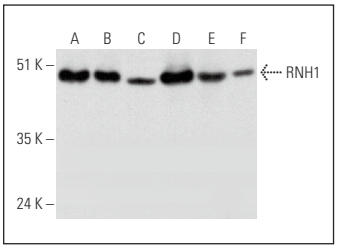
Molecular Weight of RNH1: 50 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, C6 whole cell lysate: sc-364373 or 3T3-L1 cell lysate: sc-2243.

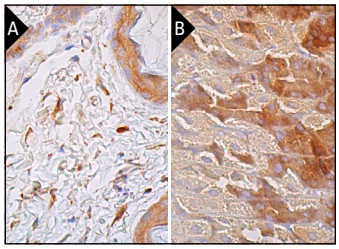
RECOMMENDED SUPPORT REAGENTS

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 (D-3): sc-515591. Western blot analysis of RNH1 expression in NIH/3T3 (**A**), 3T3-L1 (**B**), C6 (**C**) and RAW 264.7 (**D**) whole cell lysates and mouse liver (**E**) and rat placenta (**F**) tissue extracts.



RNH1 (D-3): sc-515591. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse skin tissue showing cytoplasmic staining of epidermal cells (**A**) and mouse stomach tissue showing cytoplasmic staining of glandular cells (**B**). Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detection reagents used: m-IgGκ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216.

STORAGE

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

RESEARCH USE

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