SANTA CRUZ BIOTECHNOLOGY, INC.

RNH1 (A-9): sc-365783

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. Antitumor 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. Fu, P., et al. 2005. Antitumor effect of hematopoietic cells carrying the gene of ribonuclease inhibitor. Cancer Gene Ther. 12: 268-275.
5. Dickson, K.A., et al. 2005. Ribonuclease inhibitor: structure and function. Prog. Nucleic Acid Res. Mol. Biol. 80: 349-374.
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 (A-9) is a mouse monoclonal antibody raised against amino acids 1-135 mapping at 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.

RNH1 (A-9) is available conjugated to agarose (sc-365783 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365783 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365783 PE), fluorescein (sc-365783 FITC), Alexa Fluor® 488 (sc-365783 AF488), Alexa Fluor® 546 (sc-365783 AF546), Alexa Fluor® 594 (sc-365783 AF594) or Alexa Fluor® 647 (sc-365783 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365783 AF680) or Alexa Fluor® 790 (sc-365783 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

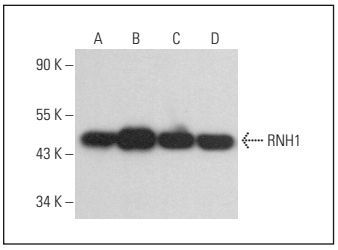
RNH1 (A-9) is recommended for detection of RNH1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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.

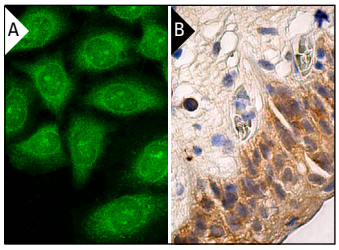
Molecular Weight of RNH1: 50 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or JAR cell lysate: sc-2276.

DATA



RNH1 (A-9): sc-365783. Western blot analysis of RNH1 expression in Hep G2 (**A**), HeLa (**B**), JAR (**C**) and K-562 (**D**) whole cell lysates.



RNH1 (A-9): sc-365783. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic staining of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Chennupati, V., et al. 2018. Ribonuclease inhibitor 1 regulates erythropoiesis by controlling GATA1 translation. J. Clin. Invest. 128: 1597-1614.
2. Bombaci, G., et al. 2022. LRR-protein RNH1 dampens the inflammasome activation and is associated with COVID-19 severity. Life Sci. Alliance 5: e202101226.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.