SANTA CRUZ BIOTECHNOLOGY, INC.

RNase L (2E9.2G5): sc-23955

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

RNase L encodes a component of the interferon-regulated 2-5A system that functions in the antiviral and antiproliferative roles of interferons. Mutations in this gene have been associated with predisposition to prostate cancer and this gene is a candidate for the hereditary prostate cancer 1 (HPC-1) allele. Interferon treatment enhances levels of both RNase L and a group of synthetases that produce 5'-triphosphorylated, 2',5'-oligoadenylates (2-5A) from ATP. The role of the 2-5A system in the control of viral and cellular growth suggests that defects in the 2-5A-dependent RNase gene could result in reduced immunity to virus infections and cancer.

REFERENCES

1. Wu, H., et al. 1998. Molecular cloning and expression of cDNA for human RNase H. Antisense Nucleic Acid Drug Dev. 8: 53-61.
2. Cerritelli, S., et al. 1998. Cloning, expression, and mapping of ribonucleases H of human and mouse related to bacterial RNase HI. Genomics 53: 300-307.
3. Demettre, E., et al. 2002. Ribonuclease L proteolysis in peripheral blood mononuclear cells of chronic fatigue syndrome patients. J. Biol. Chem. 277: 35746-35751.

CHROMOSOMAL LOCATION

Genetic locus: RNASEL (human) mapping to 1q25.3.

SOURCE

RNase L (2E9.2G5) is a mouse monoclonal antibody raised against purified recombinant human RNase L.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

RNase L (2E9.2G5) is recommended for detection of RNase L of human origin by Western Blotting (starting dilution 1:200, 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for RNase L siRNA (h): sc-45965, RNase L shRNA Plasmid (h): sc-45965-SH and RNase L shRNA (h) Lentiviral Particles: sc-45965-V.

Molecular Weight of native RNase L: 83 kDa.

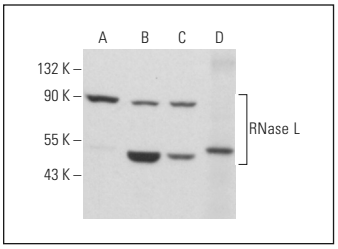
Molecular Weight of truncated RNase L: 37 kDa.

Positive Controls: DU 145 whole cell lysate: sc-2268, PC-3 whole cell lysate: sc-2220 or human liver extract: sc-363766.

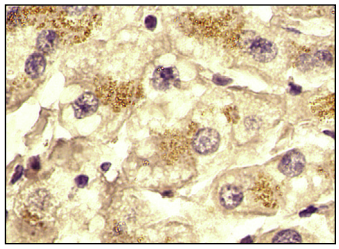
RECOMMENDED SUPPORT REAGENTS

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



RNase L (2E9.2G5): sc-23955. Western blot analysis of RNase L expression in PC-3 (**A**), F9 (**B**) and c4 (**C**) whole cell lysates and rat spleen tissue extract (**D**).



RNase L (2E9.2G5): sc-23955. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Harashima, N., et al. 2014. Transfection of poly(I:C) can induce reactive oxygen species-triggered apoptosis and interferon-β-mediated growth arrest in human renal cell carcinoma cells via innate adjuvant receptors and the 2-5A system. Mol. Cancer 13: 217.
2. Carey, C.M., et al. 2019. Recurrent loss-of-function mutations reveal costs to OAS1 antiviral activity in primates. Cell Host Microbe 25: 336-343.

STORAGE

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

PROTOCOLS

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