

RNase L (H-4): sc-74416

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. Demetree, E., et al. 2002. Ribonuclease L proteolysis in peripheral blood mononuclear cells of chronic fatigue syndrome patients. *J. Biol. Chem.* 277: 35746-35751.
4. ten Asbroek, A., et al. 2002. Ribonuclease H1 maps to chromosome 2 and has at least three pseudogene loci in the human genome. *Genomics* 79: 818-823.
5. Nakazato, H., et al. 2003. Role of genetic polymorphisms of the RNase L gene on familial prostate cancer risk in a Japanese population. *Br. J. Cancer* 89: 691-696.
6. Silverman, R.H. 2003. Implications for RNase L in prostate cancer biology. *Biochemistry* 42: 1805-1812.
7. Li, G., et al. 2004. An apoptotic signaling pathway in the interferon antiviral response mediated by RNase L and c-Jun NH₂-terminal kinase. *J. Biol. Chem.* 279: 1123-1131.
8. SWISS-PROT/TrEMBL (O60930). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

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

SOURCE

RNase L (H-4) is a mouse monoclonal antibody raised against amino acids 442-741 mapping at the C-terminus of RNase L of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

RNase L (H-4) is recommended for detection of RNase L of 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 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.

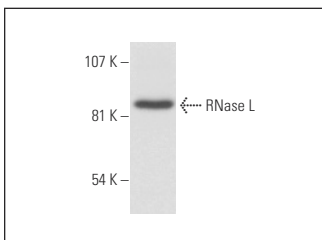
Molecular Weight of truncated RNase L: 37 kDa.

Positive Controls: T98G cell lysate: sc-2294, PC-3 nuclear extract: sc-2152 or DU 145 nuclear extract: sc-24960.

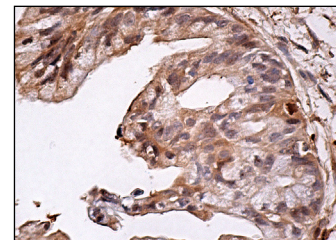
RECOMMENDED SUPPORT REAGENTS

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 (H-4): sc-74416. Western blot analysis of RNase L expression in T98G whole cell lysate.



RNase L (H-4): sc-74416. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic staining of glandular cells.

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.