SANTA CRUZ BIOTECHNOLOGY, INC.

RNase 4 (N-14): sc-165372

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

RNase 4 and RNase 5/Ang-1 are unique among the RNase A ribonuclease genes in that they maintain a complex gene locus that is conserved across species with transcription initiated from tissue-specific dual promoters followed by differential exon splicing. Rnase4 (ribonuclease, RNase A family 4) gene can produce 2 transcripts both encoding 148 amino acid proteins. Rnase 4 is a member of the pancreatic-type of secretory ribonucleases, a subset of the ribonuclease A superfamily. RNase 4 prefers poly(C) as a substrate and hydrolyzes 2',3'-cyclic nucleotides, with a pH optimum near 8.0. mRNA encoding RNase 4 is detectable in human pancreas, lung, skeletal muscle, heart, kidney and placenta; liver represents the most abundant source.

REFERENCES

1. Beintema, J.J., et al. 1989. Differences in glycosylation pattern of human secretory ribonucleases. Biochem. J. 255: 501-505.
2. Mizuta, K., et al. 1990. Purification and characterization of three ribonucleases from human kidney: comparison with urine ribonucleases. Arch. Biochem. Biophys. 281: 144-151.
3. Haugg, M., et al. 1992. The DNA sequences of the human and hamster secretory ribonucleases determined with the polymerase chain reaction (PCR). Nucleic. Acids Res. 20: 612-612.
4. Sakakibara, R., et al. 1992. Characterization of a unique nonsecretory ribonuclease from urine of pregnant women. J. Biochem. 111: 325-330.
5. Rodríguez, M., et al. 2006. A cytotoxic ribonuclease variant with a discontinuous nuclear localization signal constituted by basic residues scattered over three areas of the molecule. J. Mol. Biol. 360: 548-557.
6. Schienman, J.E., et al. 2006. Duplication and divergence of 2 distinct pancreatic ribonuclease genes in leaf-eating African and Asian colobine monkeys. Mol. Biol. Evol. 23: 1465-1479.

CHROMOSOMAL LOCATION

Genetic locus: RNASE4 (human) mapping to 14q11.2.

SOURCE

RNase 4 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RNase 4 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-165372 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

RNase 4 (N-14) is recommended for detection of RNase 4 of human and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other RNase family members.

Suitable for use as control antibody for RNase 4 siRNA (h): sc-92305, RNase 4 shRNA Plasmid (h): sc-92305-SH and RNase 4 shRNA (h) Lentiviral Particles: sc-92305-V.

Molecular Weight of native RNase 4: 83 kDa.

Molecular Weight of truncated RNase 4: 37 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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