

# RNase 1 (T-12): sc-169198

## BACKGROUND

RNase1 (ribonuclease, RNase A family, 1 (pancreatic), Rib1) gene encodes a 156 amino acid member of the pancreatic-type of secretory ribonucleases, a subset of the ribonuclease A superfamily. RNase 1 endonuclease cleaves internal phosphodiester RNA bonds on the 3'-side of pyrimidine bases. RNase 1 prefers poly(C) as a substrate and hydrolyzes 2',3'-cyclic nucleotides, with a pH optimum near 8.0. RNase 1 is monomeric and more commonly acts to degrade ds-RNA over ss-RNA. RNase1 is a digestive enzyme that has been recognized to be one of the most attractive model systems for molecular evolutionary studies. The RNase1 gene is conserved in chimpanzee, canine, bovine, mouse and rat, and maps to human chromosome 14q11.2, where it is linked to seven other RNase A superfamily genes. The entire RNase A cluster spans 368 kb.

## REFERENCES

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2. Mizuta, K., Awazu, S., Yasuda, T. and Kishi, K. 1990. Purification and characterization of three ribonucleases from human kidney: comparison with urine ribonucleases. *Arch. Biochem. Biophys.* 281: 144-151.
3. Sakakibara, R., Hashida, K., Kitahara, T. and Ishiguro, M. 1992. Characterization of a unique nonsecretory ribonuclease from urine of pregnant women. *J. Biochem.* 111: 325-330.
4. Haugg, M. and Schein, C.H. 1992. The DNA sequences of the human and hamster secretory ribonucleases determined with the polymerase chain reaction (PCR). *Nucleic Acids Res.* 20: 612.
5. Zhang, J., Zhang, D., McQuade, J.S., Behbehani, M., Tsien, J.Z. and Xu, M. 2002. c-fos regulates neuronal excitability and survival. *Nat. Genet.* 30: 416-420.
6. Rodríguez, M., Benito, A., Tubert, P., Castro, J., Ribó, M., Beaumelle, B. and Vilanova, M. 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.

## CHROMOSOMAL LOCATION

Genetic locus: RNASE1 (human) mapping to 14q11.2; Rnase1 (mouse) mapping to 14 C1.

## SOURCE

RNase 1 (T-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RNase 1 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-169198 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

RNase 1 (T-12) is recommended for detection of RNase 1 of human, mouse and rat origin, and Rnase1I2 of rat 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other RNase family members.

RNase 1 (T-12) is also recommended for detection of RNase 1 in additional species, including equine and canine.

Suitable for use as control antibody for RNase 1 siRNA (h): sc-39300, RNase 1 siRNA (m): sc-39301, RNase 1 shRNA Plasmid (h): sc-39300-SH, RNase 1 shRNA Plasmid (m): sc-39301-SH, RNase 1 shRNA (h) Lentiviral Particles: sc-39300-V and RNase 1 shRNA (m) Lentiviral Particles: sc-39301-V.

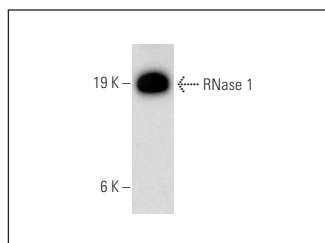
Molecular Weight of RNase 1: 18 kDa.

Positive Controls: mouse pancreas extract: sc-364244.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



RNase 1 (T-12): sc-169198. Western blot analysis of RNase 1 expression in mouse pancreas tissue extract.

## 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.