# PRODUCT INFORMATION

## Ribonuclease A from bovine pancreas Art.-Nr. 34390

## Product description:

**General**

RNase A is an endoribonuclease that attacks at the 3'-phosphate of a pyrimidine nucleotide. The sequence of pG-pG-pC-pA-pG will be cleaved to give pG-pG-pCp and A-pG. The highest activity is exhibited with ssRNA[1].

**Features**

- Activity: ca. 70 Kunitz units/mg*, lyophilisate
- Purity: min. 70 %
- Molecular weight (Mr): ca. 13700 (monomer)
- Isoelectric point (pI): 9.6
- Optimal pH: 7.0 (activity range 6 - 10)

**Stability and storage**

RNase A is an extremely stable enzyme, remarkable resistant to heating. It readily renatures following treatment with most denaturing agents.

The lyophilisate should be stored at +2 °C to +8 °C. Prepare stock solutions in TE buffer and store in aliquots at –20 °C.

**Application**

- Plasmid and genomic DNA preparation
- Removal of RNA from recombinant protein preparations.
- Ribonuclease protection assays
- Mapping single-base mutations in DNA or RNA

**Inhibition/ Inactivation**

Ribonuclease inhibitor, vanadylribonucleoside complexes, arabino nucleosides, $Zn^{2+}$, $Cu^{2+}$, penicillin, vitamin B12, SDS, DEPC, 4 M guanidinium thiocyanate plus 0.1 M 2-mercaptoethanol. Most polyanions have an inhibitory effect. Inactivated by phenol/chloroform extraction.

**Reaction conditions**

Working concentration: 1 – 100 µg/ml (depending on application)

The enzyme is active under a wide range of reaction conditions. At low salt concentrations (0 to 100 mM NaCl), RNase cleaves ss and dsRNA as well the RNA strand in RNA-DNA hybrids. At NaCl concentrations of 0.3 M or higher, RNase A specifically cleaves ssRNA[2].

**DNAse-free RNase:** Solve RNase A in TE buffer at 1 mg/ml and boil solution for 10 – 15 minutes. Store aliquots at –20 °C.

***Unit definition:** 1 U is that amount of activity which is capable of causing within 1 minute a decrease in absorbance at 300 nm equivalent to the maximum possible change in a 0.05 % solution of yeast RNA at 25 °C, pH 5.0.

[1]Burell, M.M., Enzymes of Molecular Biology, Vol. 16, 263 – 270 (1993).
[2]Asubel, f. M., et al., Current Protocols in Molecular Biology, vol. 1, John Wiley & Sons, Inc., Brooklyn, NY, 3.13.1, 1994 - 2005

Version 07/24

SERVA Electrophoresis GmbH ● Carl-Benz-Str.7 ● D-69115 Heidelberg
Telefon: +49 6221 13840-0 ● E-Mail: info@serva.de ● Internet: www.serva.de