DATA SHEET

Jena Bioscience

RNase A (DNase free)

Endoribonuclease
Bovine pancreas

Cat. No.	Amount
EN-179S	2 x 50 mg
EN-179L	2 x 250 mg

For general laboratory use.

Shipping: shipped at ambient temperature

Storage Conditions: store at 2-8 °C

Additional Storage Conditions: stock solutions in TE buffer should be aliquoted and stored at -20 °C

Shelf Life: 12 months

Molecular Weight: 13.7 kDa (monomer)

CAS#: 9001-99-4

EC number: 232-646-6

Purity: ≥ 90 % (ion exchange chromatography), salt free, chromatographically homogeneous lyophilisate

Form: dry powder

Applications:
Plasmid and genomic DNA preparation

Removal of RNA from recombinant protein preparations

Ribonuclease protection assays

Mapping single-base mutations in DNA or RNA

Description:
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.
RNase A is free of detectable DNase and protease activity, a heat treatment of the enzyme is not necessary before use.

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 as the RNA strand in RNA-DNA hybrids. At NaCl concentrations of 0.3 M or higher, RNase A specifically cleaves ssRNA.

Stability:
RNase A is an extremely stable enzyme, remarkable resistant to heating. It renatures easily after treatment with most denaturing agents.

Inactivation:
Ribonuclease inhibitor, Vanadyl-ribonucleoside complexes, arabinonucleosides, Zn^{2+}, Cu^{2+}, penicillin, Vitamin B12, SDS, DEPC, 4 M guanidinium thiocyanate plus 0.1 M 2-mercaptoethanol. Most polyanions show some inhibitory effect. Inactivated by phenol/chloroform extraction.

Isoelectric point (pI): 9.6

Optimal pH: 7.0 (activity range 6 - 10)

Activity:
≥ 80 Kunitz units/mg

Unit definition: 1 Kunitz unit 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.

Selected References:
Burell *et al.* (1993) Enzymes of Molecular Biology, **Vol. 16**: 263.
Asubel *et al.* (1994 - 2005) Current Protocols in Molecular Biology, vol. 1, *John*

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