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ATR-MED®

Product Information

RNase A, DNase and Protease-free

Catalogue Number: 76273-1mL

Store at -25 °C to -15 °C

Product Composition

Components	#76273
RNase A, DNase and Protease-free, 10 mg/mL	10 mg

Product Description

RNase A is an endoribonuclease that specifically degrades single-stranded RNA at C and U residues. It cleaves the phosphodiester bond between the 5'-ribose of a nucleotide and the phosphate group attached to the 3'-ribose of an adjacent pyrimidine nucleotide. The resulting 2', 3'-cyclic phosphates is hydrolyzed to the corresponding 3'-nucleoside phosphate.

Highlights

• RNase A is free of DNase activity. No heating is required before use.

Applications

- Plasmid and genomic DNA preparation.
- Removal of RNA from recombinant protein preparations.
- Ribonuclease protection assays. Used in conjunction with RNase T1.
- Mapping single-base mutations in DNA or RNA
- Plasmid and genomic DNA preparation
- Assignment of single base mutations in DNA or RNA

Source

Bovine pancreas

Molecular Weight

13.7 kDa monomer

Concentration

Protein concentration is determined by measuring the absorbance at 278 nm using molar absorption coefficient

Definition of Activity Unit

One unit of the enzyme causes an increase in absorbance of 1.0 at 260 nm when yeast RNA is hydrolyzed at 37 °C and pH 5.0. Fifty units are approximately equivalent to 1 Kunitz unit

Specific activity

≥ 5000 U/mg protein (≥ 100 Kunitz units/mg protein).

Inhibition and Inactivation

- Inhibitors: the most potent inhibitor is a mammalian ribonuclease inhibitor
- Other inhibitors:

uridine 2',3'-cyclic vanadate, 5'-diphosphoadenosine 3'-phosphate and 5'-diphosphoadenosine 2'-phosphate (2), SDS, diethyl pyrocarbonate, 4 M guanidinium thiocyanate plus 0.1 M 2-mercaptoethanol and heavy metal ions.

- Not inactivated by heating, reliably removed by spin column or phenol/chloroform extraction.

Note

- Recommended concentration of RNase A is 1-100 µg/mL depending on the application.
- The enzyme is active under a wide range of reaction conditions. At low salt concentrations (0 to 100 mM NaCl), RNase A cleaves single-stranded and double-stranded RNA as well the RNA strand in RNA-DNA hybrids. However, at NaCl

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concentrations of 0.3 M or higher, RNase A specifically

cleaves single-stranded RNA

Precautions and Disclaimer

This product is for R&D use only, not for use in drug, diagnostic procedures, household, or other uses. When working with the product, always wear a suitable lab coat and disposable gloves, protective eyewear. For more information, please consult the appropriate material safety data sheets (MSDSs). These are available online as pdf-file or on request (info@atrmed.com). To the extent allowed by law, ATR-MED Inc. will not be liable for special, incidental, indirect, punitive, multiple, or consequential damages in connection with or arising from this document, including your use of it. By use of this product, you accept all the terms and conditions of ATR-MED products. All trademarks are the property ATR-MED unless otherwise specified.

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