

RNase A Solution Protocol

For research use only

Introduction

RNase A is a 13.7 kDa basic endoribonuclease (124 amino acids) purified from bovine pancreas that specifically degrades single-stranded RNA. It catalyzes the cleavage of phosphodiester bonds at the 3'-side of pyrimidine residues (cytosine and uracil) via a 2',3'-cyclic phosphate intermediate, leaving DNA unaffected due to the lack of 2'-OH groups. Widely utilized for removing RNA contamination during plasmid and genomic DNA isolation, as well as recombinant protein purification, this endonuclease-free RNase A solution is rigorously quality-controlled and ready to use for single-base mutation mapping, ribonuclease protection assays, and all molecular biology applications requiring rapid, complete RNA digestion.

Specifications

- Storage: Stored at 2-8°C for up to 6 months, Shipped at room temperature
- Certified TSE/BSE Free

Components

Cat. Number	Volume	Concentration	Unit definition
RA100550	550 µl	10 mg/ml	One Kunitz unit is the amount of enzyme causing the hydrolysis of RNA at a rate such that the velocity constant (k) equals unity at 25°C and pH 5.0.
RA101000	1 ml	1,000 U/ ml	
RA500050	50 µl	50 mg/ml 5,000 U/ ml	
RA500130	130 µl		
RA500200	200 µl		
RA501500	1.5 ml		

Procedure

- **For plasmid purification:** Before use in plasmid DNA purification, centrifuge RNase A solution briefly, and then add into Buffer PD1 to obtain a final concentration of 200 µg/ml. PD1 and RNase A mixture should be stored at 2–8°C for up to 6 months.
- **For genomic DNA purification:** After homogenizing the sample with lysis buffer, briefly centrifuge the RNase A solution, add RNase A to the sample lysate to a final concentration of 200 µg/ml and mix thoroughly by vortexing. Incubate at room temperature for 5 minutes to degrade RNA. Proceed with the subsequent DNA purification steps according to the appropriate protocol.

RNase A Functional Test Data

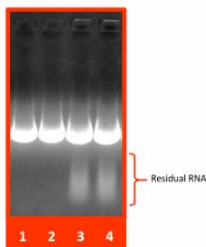


Figure1. RNase A was added to the corresponding plasmid DNA purification buffer in lanes 1 and 2 and no RNase A was added in lanes 3 and 4. RNA contamination is clearly visible in the absence of RNase A.