

## RNase A

REF: EG20003S

## Storage Condition

-20°C

## Components

Component	EG20003S	EG20003M
RNase A	100 mg	1 g

## Description

Ribonuclease A (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 phosphate is hydrolyzed to the corresponding 3'-nucleoside phosphate.

RNase A exhibits the highest activity in cleaving single-stranded RNA and demonstrates varying activities under different reaction conditions. At low salt concentrations (0~100 mM NaCl), RNase A cleaves single-stranded and double-stranded RNA as well the RNA strand in RNA-DNA hybrids. However, at NaCl concentrations of 0.3 M or higher, RNase A specifically cleaves single-stranded RNA.

## Enzyme Activity

≥80 Kunitz U/mg.

## Applications

1. Removal of RNA during Plasmid and genomic DNA extraction.
2. Removal of RNA from recombinant protein preparations.
3. Ribonuclease protection assay. Used in conjunction with RNase T1.
4. RNA sequence analysis.

## Quality Control Assays

### Protein Purity

The enzyme is ≥85% pure as determined by SDS-PAGE analysis using Coomassie Blue staining.

### Non-specific Nuclease Activity

A 20 µl 1× CutOne® Buffer containing 15 ng of dsDNA fragments and 10 µg of RNase A incubated for 16 hours at 37°C results in no detectable degradation of the dsDNA fragments as determined by agarose gel electrophoresis.

### Function

A 10 µl reaction containing 1 µg of RNA and 5 ng of RNase A incubated for 1 hour at 37°C results in complete digestion as determined by agarose gel electrophoresis.

## Notice

1. This product does not contain DNase and can be used directly after dissolution. The recommended working concentration is 1~100 µg/ml. The recommended storage buffer is 50 mM Tris-HCl (pH 7.4) with 50% glycerol.
2. Not inactivated by heating, reliably removed by spin column or phenol/chloroform extraction.