

RNase A, Recombinant

Rev 06/21

CATALOG #:	M1517-25 M1517-50	25 mg 50 mg
ALTERNATIVE NAMES:	Ribonuclease A, Pancreatic Ribonuclease, Ribonuclease I Ribonuclease 3'-pyrimidinooligonucleotidohydrolase	
MOL. WEIGHT:	13.7 kDa	
PURITY:	≥ 90% by SDS-PAGE	
SOURCE:	Genetically engineered bovine pancreatic ribonuclease expressed in eukaryotic yeast cells	
ENDOTOXIN LEVEL:	Endotoxin free as determined by the LAL method	
DNASE:	DNase-free	
SPECIES:	Bovine pancreatic ribonuclease	
FORM:	Lyophilized powder	
RECONSTITUTION:	Reconstitute to a concentration of 1-100 µg/ml in 10 mM Tris-HCl (pH 8.0), depending on the application. Use 10 µg/ml for removal of RNA from plasmid preparations and incubate the sample for 1 h at room temperature. Use 100 ng/ml for the removal of RNA from an RNA:DNA hybrid in the preparation of double-stranded DNA from cDNA.	
SPECIFIC ACTIVITY:	≥ 60 Kunitz units/mg of protein. Maximum activity is observed at 60 °C, although the enzyme exhibits activity in the temperature range of 15-70 °C.	
UNIT DEFINITION:	A Kunitz unit of enzyme causes an increase in A ₃₀₀ equivalent to the complete hydrolysis of a 0.05% (w/v) yeast RNA to oligonucleotides in one minute at 25 °C and pH 5.0.	
pH RANGE	6-10. Optimal pH is 7.6.	
STORAGE CONDITIONS:	Store at -20 °C or -80 °C. After reconstitution, divide into small aliquots and store at -20 °C or -80 °C to avoid repeated freeze-thaw cycles.	
DESCRIPTION:	RNase A is an endoribonuclease that specifically cleaves RNA at the phosphodiester bond between the 3' phosphate group of a pyrimidine nucleotide and 5'-ribose of an adjacent nucleotide. The highest activity is demonstrated with single stranded RNA. The recombinant enzyme is identical to the native RNase A in amino acid sequence, structure and specifications. 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 concentrations of 0.3 M or higher, RNase A specifically cleaves single-stranded RNA. Precipitation may occur at high concentrations (>10 mg/ml) of the enzyme. The enzyme is inhibited by diethyl pyrocarbonate (DEPC), guanidinium salts, β-mercaptoethanol, heavy metals and RNase-inhibitors. RNase A has a high affinity to glass surfaces. Special care and precautions should be taken in the lab with this enzyme to ensure cross contamination with RNA work does not occur.	

APPLICATIONS:

- Analysis of RNA sequences
- Removal of RNA from plasmid, genomic DNA preparation and protein samples
- RNase protection assays
- cDNA preparation and cloning

RELATED PRODUCTS:

RNase H, E.coli (Cat. No. M1513)
 RNase R (Cat. No. M1228)
 RNase A (Cat. No. M1227)
 EZSolution™ Benzo-Endonuclease (Cat. No. 9215)
 RNaseOFF ribonuclease Inhibitor (Cat. No. M1238)

FOR RESEARCH USE ONLY! Not to be used in humans.