RNase A Solution (Bovine Pancreas)

Synonyms: Ribonuclease I, Pancreatic ribonuclease, Ribonuclease A, RNase A, Endoribonuclease I

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 phosphate is hydrolyzed to the corresponding 3'-nucleoside phosphate. The highest activity is exhibited with single-stranded RNA. RNase A is a single chain polypeptide containing 4 disulfide bridges.

A major application for RNase A is the removal of RNA from preparations of plasmid DNA. 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 concentrations of 0.3 M or higher, RNase A specifically cleaves single-stranded RNA.

Ordering information

CAT.No.	Product Name	Package
C12123	RNase A Solution (25mg/ml)	10ml
C12124		100ml
C12128	DNase Free RNase A Solution(10mg/ml)	10ml
C12129		100ml

Specifications

CAS No	9001-99-4
purity	≥60% RNase A basis (SDS-PAGE)
enzymatic activity	>50Kunitz units/mg protein
Optimum reaction temperature	60°C (effective active temperature is 15-70°C)
Transportation conditions	Normal temperature transportation
Preservation conditions	-20-8°C, dry storage, long-term storage should be placed at - 20°C.
Application 1: adding in the extraction process	1. **Plasmid Extraction:** add RNase A (25mg/ml) to buffer P1 with a final concentration of 100~300ug/ ml. 2. **DNA extraction:** add RNase A (25mg/ml) to the digestion solution with a final concentration is 100-400ug/ml, mix well and place at room temperature for 10~15 minutes. when SDS/CTAB in lysate exceeds 2%, RNase activity will be significantly inhibited; Guanidine salt (> 4 guanidine hydrochloride or > 3M guanidine isothiocyanate) also significantly inhibited RNase A. When RNase A is added to the lysate, the RNase digestion effect can be extracted by appropriately diluting to reduce the concentration of SDS, CTAB and guanidine salt.
Application 2:	1. **Remove RNA contamination from crude genomic DNA products:** add DNase free RNase A (10mg/ml) to crude DNA products with a final concentration of 10~100ug/ml. after mixing, place at room temperature for 10 minutes. 2. **Remove RNA contamination from plasmid DNA products:** add DNase free RNase A (10mg/ml) to crude DNA products with a final concentration of 10ug/ml. after mixing, it can be directly used for sequencing at room temperature for 10 minutes.