

## **RNase A, bovine pancreas**

**Cat:** | BY-21672

**CAS:** 9001-99-4

**EC 3.1.27.5**

**Storage Temperature:** -20°C

### **Product Description**

RNase A is an endoribonuclease that attacks at the 3' phosphate of a pyrimidine nucleotide. sequence of pG-pG-pC-pA-pG will be cleaved to give pG-pG-pCp and A-pG. The highest activity is exhibited with single stranded RNA. RNase A is a single chain polypeptide containing 4 disulfide bridges. In contrast to RNase B, it is not a glycoprotein.

RNase A can be inhibited by alkylation of His<sup>12</sup> or His<sup>119</sup>, which are present in the active site of the enzyme. Activators of RNase A include potassium and sodium salts.

Molecular mass: ~13.7 kDa (amino acid sequence)

Isoelectric point: pI = 9.6

### **Preparation**

An RNase A solution can be made free of DNase by boiling. According to a literature method, prepare a 10 mg/mL stock solution in 10 mM sodium acetate buffer, pH 5.2. Heat to 100 °C for 15 minutes, allow to cool to room temperature, and then adjust to pH 7.4 using 0.1 volume of 1 M Tris-HCl, pH 7.4. Aliquot and store at -20 °C. If RNase A is boiled at a neutral pH, precipitation will occur. When boiled at the lower pH, some precipitation may occur because of protein impurities that are present.

### **Stability**

Store at RNase A at -20 °C. Stock solutions stored in frozen aliquots remain active for at least 6 months. RNase A is a very stable enzyme and solutions have been reported to withstand temperatures up to 100 °C. At 100 °C, an RNase A solution is most stable between pH 2.0 and 4.5.

### **Procedure**

A major application for RNase A is the removal of RNA from preparations of plasmid DNA. For this application, DNase free RNase A is used at a final concentration of 10 µg/mL.