

RNase A, bovine pancreas

Cat:R67620

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. The 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 His¹² or His¹¹⁹, 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 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

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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 μ g/mL.

