GenDEPOT

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Certificate of Analysis

Product Name : RNase A , Pharmaceutical Grade

Cat No : RN103 **Lot No : 03071813**

TEST	Result
Product Type	Native Enzymes
Molecular Weight	13.7kDa (amino acid sequence)
Source	Bovine Pancreas
CAS No	9001-99-4
Form	Lyophilized powder
Activity	10,190 units per mg dry weight

Description : RNase A is an endoribonuclease that attacks at the 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 His^{12} or His^{119}, which are present in the active site of the enzyme.

Unit Definition : One Unit hydrolyzes yeast RNA liberating soluble oligonucleotide causing an increase in absorbance at 260nm of 1.0 at 37°C, pH5.0.

Absence of DNase activity: RNase A is incubated with 1ug of pUC19 DNA at 37°C for 6 hours in 20ul of restriction enzyme buffer. The DNA is analyzed by agarose-gel Electrophoresis and ethidium-bromide staining: no increase in the amount of linear or relaxed circular DNA I seen.

Thermal stability: 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.

Optimal temperature : 60 °C. (activity range of 15–70 °C)

Optimal pH : 7.6 (activity range of 6-10)

Inhibitors : Ribonuclease inhibitor.

Preparation of Stock Solution : Solutions prepared from powdered RNase A products 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 -15 ~ -25 °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.

Stock solutions stored in frozen aliquots remain active for at least 6 months.

Storage/Stability : Under –20°C. Keep dry. Warm to room temperature before opening.

RNase A is properly lyophilized formulation maintaining adequate physical and chemical stability of the protein during shipping and long-term storage, even at ambient temperatures.

Caution : Avoid contact with eyes, skin and clothing.
Wash all areas of contact with copious amounts of water.
See Material Safety Data Sheet for additional information.
For laboratory or further manufacturing use only.
Not intended for household use.

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