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BIONOVAS

RNASE A, DNASE FREE HIGH PURITY GRADE

CAS# MC100-022
Storage : -20 °C

Synonyms: Ribonuclease I; Pancreatic ribonuclease; Ribonuclease 3'- pyrimidinooligonucleotidohydrolase; RNAse A; Endoribonuclease I

Product Description

A major application for Ribonuclease A (RNAse A) is the removal of RNA from preparations of plasmid DNA. In this application, the presence of DNAse activity as an impurity is a concern. The boiling-water bath method used to eliminate contaminating DNase acitivity has proven unreliable. For this reason, Bio Basic Inc. developed a proprietary chromatographic preparation method for elimination of DNase activity. 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.4 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 weight: 113.7 kDa (amino acid sequence)
Extinction coefficient: 2 E1% = 7.0 (280 nm) Isoelectric point:3 pI = 9.6
Optimal temperature: 60 °C (activity range of 15-70 °C) Optimal pH: activity range of 6-10
Inhibitors: ribonuclease inhibitor
The chromatographically purified product is supplied as an essentially salt-free lyophilized powder.
Activity: ³60 Kunitz units/mg protein

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.
Note: RNAse A is stable to both heat and detergents. In addition, it adsorbs strongly to glass. Scrupulous precautions are necessary to insure that residues of RNAse A do not cause artifacts in processes requiring intact RNA.

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 mg/ml.

Preparation Instructions

A stock solution of 10 mg/ml RNAse A could be prepared by dissolving 100mg of RNAse A in 9.925ml of 0.01M NaOAC (pH 5.2), plus 0.075ml of 1M Tris (not pH adjusted). Please verify final pH to be neutral.

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