Product Information

RNAase A

Product Name: Ribonuclease A for molecular biology
Product Code: RB0473
CAS No. 9001-99-4

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 His^{12} or His^{119}, which are present in the active site of the enzyme. Activators of RNase.

Molecular mass: 13.7 kDa (amino acid sequence)
Extinction coefficient: E1% = 7.1 (280 nm)
Isoelectric point: pI = 9.6
Optimal temperature: 60 °C (activity range of 15–70 °C)
Optimal pH: 7.6 (activity range of 6–10)
Inhibitors: ribonuclease inhibitor
The chromatographically purified product is supplied as an essentially salt-free lyophilized powder.
Activity (Kunitz): ≥50 units/mg protein
DNase and Protease Free: Confirmed

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 ensure RNase A residue does not cause artifacts in processes requiring intact RNA.

Preparation Instructions

When BBI tests the activity of RNAse A, a stock solution is prepared in water at 10 mg/ml. Note: Boiling stock solutions of this RNase A product to inactivate residual DNase is not necessary and may cause precipitation of RNase and possible loss of enzymatic activity. If an RNase A solution is heated at a neutral pH, precipitation will occur. When heated at a lower pH, some precipitation may occur because of protein impurities that are present.

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Storage/Stability

This product remains active for at least 3 years when stored properly at –20 °C.

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 0.2 mg/ml.

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