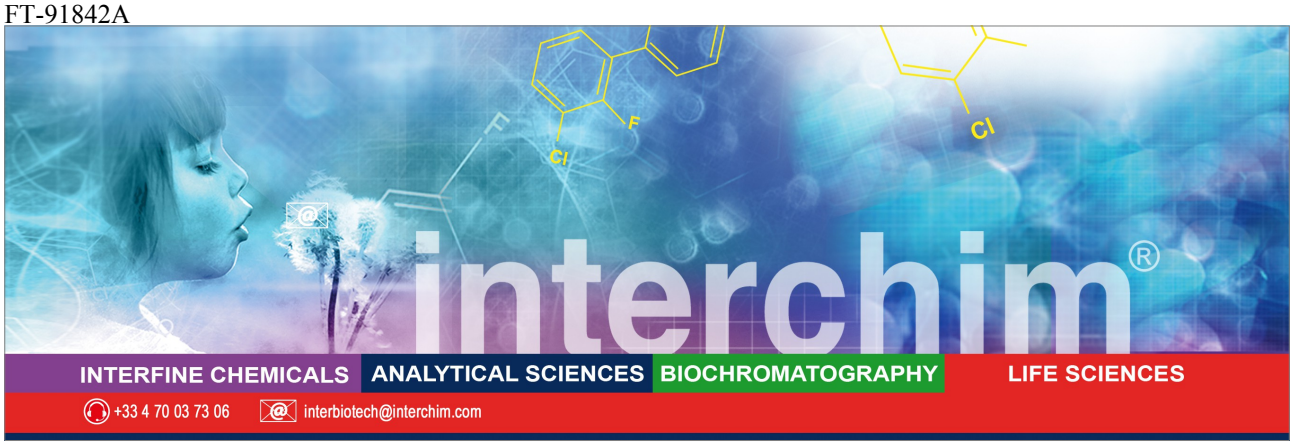
FT-91842A



Ribonuclease A

Enzymatic manipulation of DNA and RNA – Minipreps of plasmid DNA – In-situ hybridisation of cellular RNA – Removal of RNA from plasmid preparations

Product Description

Name :	**Ribonuclease A**
	from bovine pancreas (salt free, freeze dried)
Catalog Number :	91842A, 100mg
	91842B, 500mg
CAS-Number:	[9001-99-4]
Molecular weight:	approx. 13.7 kDa
Activity:	min. 70U/mg (Kunits)
Unit definition:	One unit is defined as the amount of enzyme necessary to hydrolyse RNA to yield a velocity constant, k=1, at 25°C and pH5.0 (also known as Kunitz-Unit).

Storage: - 20°C.

Introduction

Ribonuclease A (RNAse A) is an endoribonuclease, that specifically cleaves single-stranded RNA 3' to pyrimidine residues (cytosine, uracil). Thereby, it generates pyrimidine-3'-phosphate or oligonucleotides with terminal pyrimidine-3'-phosphates. The pH-optimum is in the range of 7.0 to 7.5. RNAse is used for the purification of RNA-free DNA, for the removal of non-hybridised regions of RNA : DNA hybrides or as a molecular weight marker. The enzyme is inhibited by diethyl pyrocarbonate (DEPC), guanidinium salts (4M GuaSCN), ß-mercaptoethanol, heavy metals, vanadyl-ribonucleoside-complexes, RNAse- inhibitor from human placenta and competitively by DNA, respectively. Regarding the latter, the effect of denatured DNA is higher than by native nucleic acids. Nevertheless, RNAse A is very active under very different conditions and difficult to inactivate. At low salt concentrations (up to 100mM NaCl), RNAse A cleaves single - and double-stranded RNA and RNA in RNA : DNA hybrides. Under high salt concentrations (>300 mM NaCl) single-stranded RNA is cleaved only. To remove the enzyme from samples, it has to be digested by proteinase K (frequently, SDS at a final concentration of 0.6% is added) and several phenol extractions are required.

Directions for use

Stock solutions

Recommended stock solutions are: from 1 – 10mg/mL in 10mM Tris/HCl, pH7.5, 15mM NaCl or in 10mM Tris/HCl, pH7.5, 1mM EDTA, pH8.0 (TE-buffer).

Working concentrations

The recommended working concentration is from 0.1 to 10µg/mL.
10µg/mL (Removal of RNA from plasmid preparations: 1 hr, RT)
100ng/mL (Preparation of "blunt ends" of double-stranded cDNA).

Stability

RNAse A aggregates during lyophilisation and storage. It has a high affinity to glass surfaces, which has to be taken into consideration. At neutral pH (e.g. PBS pH 7.4) and high concentrations (>10 mg/mL) the enzyme will precipitate. At 4°C (lyophilised) it is stable for several years (dry storage). The solution is stable for several years (if stored at -20°C) or several weeks (if stored at +4°C)

Related products

- Proteinase K, 858706

Ordering information

Catalog size quantities and prices may be found at http://www.interchim.com.
Please inquire for higher quantities (availability, shipment conditions).

For any information, please ask : Uptima / Interchim; Hotline : +33(0)4 70 03 73 06
Order on-line or Contact your local distributor