

Product Components

Components	Component Number	Size-1	Size-2
DNase I (Powder)	RM29865	100 mg	1 g

Product Description

Deoxyribonuclease I (DNase I) is an endonuclease that nonspecifically cleaves DNA to release di-, tri-, and oligonucleotide products with 5'phosphorylated and 3'-hydroxylated ends. The activity of DNase I depends on Ca^{2+} and also be activated by divalent metal ions Zn^{2+} , Mn^{2+} , etc. 5 mM Ca^{2+} protects the enzyme from hydrolysis. In the presence of Mg^{2+} , the enzyme can randomly identify and cut any site on any strand of DNA; In the presence of Mn^{2+} , two strands of DNA can be recognized simultaneously and cut at nearly identical sites, forming a flat-ended or sticky-end DNA fragment with 1-2 nucleotide protrusions.

This product is supplied in powder form and is commonly used to remove DNA during RNA or protein extraction.

Source

Bovine pancreas

Storage

Ice pack transport, stored in a dry environment at -20°C

Enzyme activity

≥ 500 Kunitz units/mg protein

Preparation of storage solutions

Preparation of 5 mg/mL DNase I solution: 10 mM Tris-HCl, pH 7.5, 50 mM NaCl, 10 mM MgCl_2 , 1 mM DTT, 50% (v/v) glycerol, aliquot stored at -20°C , can be stored for more than 2 years.

Reaction Buffer(10X): 100 mM Tris-HCl (pH7.5 @ 25°C), 25 mM MgCl_2 , 1 mM CaCl_2 .

Inactivation or inhibition

Heat treatment at 80°C for 10 min will cause irreversible inactivation of DNase I, and EDTA and G-myosin can inhibit the activity of DNase I. Phenol chloroform extraction can also inactivate DNase I.

Reducing agents such as DTT and mercaptoethanol, as well as metal ion chelating agents, SDS and salt concentrations above 50-100 mM have significant inhibitory effects on DNase I.