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Product Information

Version 2.2.02

A4193 DNase I (Deoxyribonuclease I)

Source:	from Bovine Pancreas
Activity:	>2000 Kunitz units/mg
CAS #:	9003-98-9
MW:	31 kDa
Storage:	Store at –20°C.

Description

Bovine pancreatic deoxyribonuclease I (DNase I) is an endonuclease which splits phosphodiester linkages, preferentially adjacent to a pyrimidine nucleotide yielding polynucleotides with free hydroxyl group at the 3' position and phosphate group at the 5' position.

Unit Definition

One unit of the enzyme completely degrades 1µg of plasmid DNA in 10 min at 25°C.

Enzyme Activity Test

Materials

Plasmid DNA: 2.5 kb PCR products
Reagent A: 1M Sodium Acetate buffer, pH 5.0 at 25°C
Reagent B: 100 mM Magnesium Sulfate solution (MgSO4)
Reagent C: 150 mM sodium chloride (NaCl)

Reaction Buffer

Reagent A: 2.5ml
Reagent B: 1.25ml
Deionized Water: 18.25ml

Mix by gentle stirring and adjust to PH 5.0 at 25°C with 1M HCl or 1M NaOH, if necessary.

DNase I Solution

Immediately before use, prepare a solution 1mg/ml in cold Reagent C. Undissolved particles can be filtered out.
Notes: DNase I is sensitive to physical denaturation. Mix gently by inverting the tube. Do not vortex.

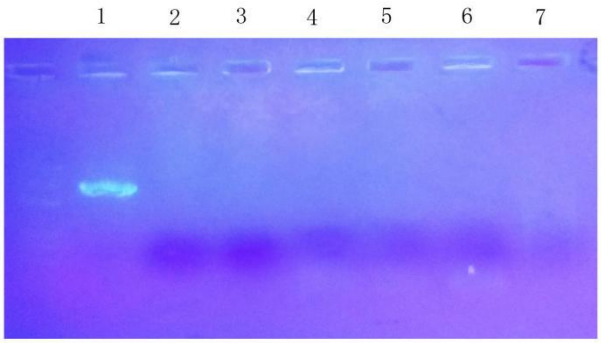
Reaction System

Reaction buffer: 15µl
DNA: 1µg
DNase I Solution: 1µl

Reaction Conditions

Incubation at 25°C for 30 minutes.

Results



Supplement: 1: 2.5 kb (1µg), 2-7: 2.5 kb (1µg) with DNase I treatment
Conclusion: 2.5 kb DNA fragment can be degraded by DNase I.

Quality Control
The absence of ribonucleases confirmed by appropriate quality test. Functionally tested for digestion of template DNA after *in vitro* transcription.

Inhibition and Inactivation
Inhibitors: metal chelators, transition metals (e.g., Zn) in millimolar concentrations, SDS (even at concentrations less than 0.1%), reducing agents (DTT and beta-mercaptoethanol), ionic strength above 50-100 mM.

Inactivated by heating at 65°C for 10 min in the presence of EGTA or EDTA (use at least 1 mol of EGTA/EDTA per 1 mol of Mn^{2+}/Mg^{2+}).

This material is for laboratory research purpose and/or in vitro use only and is not to be used in humans or animals.