DNase I

Cat No: DN9061 Volume: 1ml

Contents: DNase I (5U/µl) 1ml
10x Reaction buffer with $mgcl_2$ 1ml

Store at: -20 °C

Description

DNase I, (RNase free) is an endonuclease that nonspecifically cleaves DNA to release di-, tri-, and oligonucleotide products with 5'- phosphorylated and 3'- hydroxylated ends. DNase I acts on single- and double-stranded DNA, chromatin and RNA:DNA hybrids.

Features

Recombinant enzyme.
Purified for non-animal host with a lower level of intrinsic RNases.

Applications

Degradation of DNA template in transcription reactions
Removal of contaminating Genomic DNA From RNA sample
DNase I footprinting
Nick translation

Definition of activity unit

One unit of the enzyme completely degrades 1µg of plasmid DNA in 10 min at 37 °C. Enzyme activity is assayed in following mixture: 40 mM (PH 8.0), 10 mM $MgSO_4$, 1mM $CaCl_2$, 1µg of pUC19 DNA.

Source

AE Coli strain that carries an MBP fusion clone of Bovine Pancreatic DNase I.

Molecular Weight

29 KDa monomer

Quality control

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

Storage buffer

The enzyme is supplied in: 10 mM Tris-HCL (PH 7.5), 10 mM $CaCl_2$, 10 mM $MgCl_2$, 50% (v/v) glycerol.

10xReaction Buffer with $MgCl_2$

100 mM Tris-HCL (PH 7.5 at 25°C), 25 mM $MgCl_2$, 1 mM $CaCl_2$.

Inhibition and Inactivation

Inhibitors: metal chelators, transition metal (e.g., Zn) in millimolar concentrations, SDS (even at concentrations less than 0.1%), reducing agent (DTT and meta- 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 1 mol of EGTA/EDTA per mol of Mn^{2+}/Mg^{2+}.

Note

DNase I is sensitive to physical denaturation. Mix gently by inverting the tube. Do not vortex.

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