CYRN45-CHANGYU DNase I (RNase-free)

Catalog number	Package
CYRN4501	1500 Units

Storage: -20 °C for 1 year. Concentration: 3 U/μl.

Kit components

Component	CYRN4501
RNase-free DNase I	0.5 ml
10× DNase Buffer	1 ml
EDTA Stopper	0.5 ml

Description

DNase I (deoxyribonuclease I) is an endonuclease that digests single- or double-stranded DNA to monodeoxyribonucleotides or to single- or double-stranded oligodeoxyribonucleotides. Hydrolysis products have a 5′ phosphate and a 3′ hydroxyl group. DNase I activity depends on calcium and is activated by magnesium or divalent manganese. In the presence of magnesium, DNase I cleaves double-stranded DNA at random sites; in the presence of divalent manganese, it cleaves both strands at the same site, producing blunt ends or sticky ends with 1-2 nucleotide overhangs.

Features

Uses a dedicated DNase and reaction buffer; after digestion no phenol/chloroform extraction is needed and the reaction can be used directly in reverse transcription.

Activity unit: one unit is the amount of enzyme required to completely degrade 1 μg of pBR322 plasmid DNA in 10 minutes at 37 °C.

Source: 31 kd recombinant protein expressed in E. coli.

Enzyme storage buffer: 50 mM Tris-HCl (pH 7.5), 10 mM CaCl2, 50% (v/v) glycerol.

10× DNase Buffer: 100 mM Tris-HCl (pH 7.5 at 25 °C), 25 mM MgCl2, 1 mM CaCl2.

Purity: free of other DNA endonucleases and exonucleases and free of RNase.

Applications

Preparation of DNA-free RNA samples.

Removal of genomic DNA and other DNA contamination from RNA samples before RT-PCR.

Removal of DNA template after in vitro transcription with T7, T3 or SP6 RNA polymerase.

DNase I footprinting studies of DNA-protein interactions.

Nick translation.

Generation of random DNA fragment libraries.

Partial digestion of genomic DNA as a positive control in TUNEL apoptosis assays.

❖ Reaction system and conditions

Component	Volume
RNA	< 3 μg (< 8 μl)
10× DNase Buffer	1 μl

DNase I	1 μl
RNase-free water	Up to 10 μl

1. Add the components above to an RNase-free tube.
2. Incubate at 37 °C for 30 minutes.
3. Add 1 μl of EDTA Stopper.
4. Incubate at 65 °C for 10 minutes to inactivate DNase I.
5. Use an appropriate amount or all of the 10 μl treated RNA directly in reverse transcription.

Notes

Note: Each μl of DNase I can digest no more than 3 μg of RNA. For larger amounts of RNA, scale up DNase I, 10× DNase Buffer and the reaction volume proportionally.

Note: If purified RNA is required after treatment, use the RNAclean RNA Clean Kit (CYRN14) after step 2 (the 37 °C, 30-minute incubation); the EDTA Stopper and 65 °C incubation are then unnecessary.

This product is furnished for LABORATORY RESEARCH USE ONLY. Not for diagnostic or therapeutic use.