DNase I-ST, RNase-free

REF: EG24202S

Storage Condition

-20℃

Components

Component	Amount
DNase I-ST, RNase-free (2 U/μl)	1000 U
10× DNase I-ST Buffer	1.25 ml

Description

This product is an engineered variant of DNase I, which exhibits significantly improved salt tolerance compared to the wild-type enzyme. It can fully digest DNA in 300 mM salt. This product is free from RNase contamination.

Definition of Activity Unit

One unit is defined as the amount of enzyme which will completely degrade 1 μg of pUC19 DNA in 10 minutes at 37℃ in DNase I Reaction Buffer.

Applications

1. Degradation of DNA template in transcription reactions.
2. Removal of contaminating genomic DNA from RNA samples.
3. DNase I footprinting.
4. Nick Translation.
5. DNA library construction.

Quality Control Assays

Protein Purity

The enzyme is ≥90% pure as determined by SDS-PAGE analysis using Coomassie Blue staining.

RNase Activity

A 10 μl reaction containing 500 ng of total RNA and 2 U of DNase I-ST, RNase-free incubated for 1 hours at 37 ℃ results in >90% of the substrate RNA remains intact as determined by agarose gel electrophoresis.

Protocol

1. Digestion of genomic DNA in a sample for RT-PCR

Set up the following reaction on ice:

Reagent	Amount
RNA	1 μg
10× DNase I-ST Buffer	1 μl
DNase I-ST, RNase-free (2 U/μl)	0.5 μl
Nuclease-Free Water	up to 10 μl

Incubate for 15 min at 37℃ .

Column based purification or Phenol/chloroform treatment.

2. Degradation of DNA template in transcription reactions

Perform the following procedures:

① 1 U DNase I-ST was added to the transcription reaction system of 1 μg template DNA. The amount of enzyme can be optimized according to actual needs.

② Incubate for 15 min at 37℃ .

③ Column based purification or Phenol/chloroform treatment.

Notice

1. When performing RNA-related experiments, be careful to maintain an RNase-free environment.
2. When using this product to remove DNA from RNA samples, RNase Inhibitor, Murine (REF: EG20002S) can be added to the reaction system to protect RNA from degradation.
3. Avoid violent shocks when preparing samples.
4. For your safety and health, please wear a lab coat, disposable gloves, and a mask while conducting the experiment.

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