DNase I , RNase-free (5,000 U/mL)

Cat. No. : RK20549

Product Components

Components	Component number	1,000 U	5,000 U
DNase I, RNase-free (5,000 U/mL)	RM21312	200 μL	1 mL
10X DNase I Buffer	RM20266	1 mL	1 mL × 5
1X DNase I Dilution Buffer	RM20195	1 mL	1 mL × 5
10X Stop Buffer	RM20196	1 mL	1 mL × 5

Product Description

DNase I (deoxyribonuclease, RNase-free) 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 Mg^{2+}, Mn^{2+}, etc. DNase I act on various DNAs such as single and double-stranded DNA, RNA:DNA hybrids.

Product Source

Bovine pancreas DNase I was expressed in yeast expression system.

Unit Definition

One unit is defined as the amount of enzyme which will completely degrade 1 μg of pBR322 DNA in a total reaction volume of 50 μL in 10 minutes at 37℃.

Storage Buffer

2 mM $CaCl_2$, 10 mM Tris-HCl (pH 7.6) and 50% glycerol.

Storage Temperature

-20℃.

Enzyme inactivation

Stop Solution contains chelating agent to remove divalent cations. Before heat inactivation, Stop solution must be added and mixed to protect from RNA degradation.

Instructions

1. Set up the following reaction in a RNase-free microcentrifuge tube. (For 10 μL reaction system).

Components	Amount
RNA	X μg
10X DNase I Buffer	1 μL
DNase I, RNase-free（5U/μL）	1 U per μg RNA*
ddH_2O	Up to 10 μL

*, The volume of DNase I needed to be calculated and added according to the amount of RNA.

2. Incubate at 37℃ for 15 minutes.

3. 1 μL 10X Stop Solution was added to terminated the reaction. And heated at 65℃ for 10 minutes to inactivate DNase I.The samples could be directly used for the next reverse transcription experiment.

Notes

1. 1 μg RNA or less than 1ug RNA can use 1 U DNase I.

2. To avoid RNA degradation during enzyme inactivation, EDTA should be added to a final concentration of 5 mM. If 10X Stop Buffer has already been used, no further addition is required.