Recombinant DNase I (RNase-free)

Cat.No.:HYC117

Product Description

DNase I is an endonuclease that can digest single-stranded and double-stranded DNA to produce single deoxynucleotides or single-stranded or double-stranded oligodeoxynucleotides. It can hydrolyze the phosphodiester bond to produce monodeoxynucleotides and oligodeoxynucleotides containing 5'-phosphate groups and 3'-OH groups. The average digestion product is the smallest polytetranucleotide. DNase I can catalyze many forms of DNA, such as single-stranded DNA,double-stranded DNA, and even chromatin(its cutting rate is affected by histones).The optimum pH range is 7-8. The activity of DNase I depends on Ca^{2+} and can be activated by divalent metal ions,such as Co^{2+}, Mn^{2+}, Zn^{2+}, etc. 5mM Ca^{2+} can protect the enzyme from being hydrolyzed. In the presence of Mg^{2+}, the enzyme can recognize and cut any site on any strand of DNA randomly;and in the presence of Mn^{2+}, it can recognize two strands of DNA at the same time and cut at almost the same site to form blunt ends, or sticky ends with 1-2 nucleotides protruding.

Components

Components	0.5KU	5KU	50KU
Recombinant DNase I (RNase-free)	100μL	1mL	10mL
10 × DNase I Buffer	1mL	5×1mL	5×10mL

Storage

Store at -15°C ~-25°C for 2 year.

Unit Definition

One unit is defined as the amount of enzyme which will completely degrade 1 μg of pBR322 DNA in 10 minutes at 37°C.

Specification

Source	Bovine Pancreas DNase I was expressed in yeast expression system and purified.

Storage Buffer	10 mM Tris-HCl, 2 mM CaCl2, 50% glycerol, pH 7.6 @25℃.
RNase Activity	5 U of DNase I with 1.6 μg MS2 RNA for 4 hours at 37 ℃ yields no degradation as determined by agarose gel electrophoresis.

Instructions

1. Prepare the reaction solution in the RNase-free tube according to the proportions listed below

Components	Volume
RNA	X μg
10×DNase I Buffer	1 uL
Recombinant DNase I (RNase-free)	1 U per μg RNA*
RNase-free Water	Up to 10μL

*Calculate the volume of DNase I that needs to be added based on the amount of RNA.Use 1 U DNase I per μg of RNA. However, if the RNA is less than 1 μg, please use 1 U DNase I.

2. 37 ℃ for 15 minutes;
3. Add 0.5M EDTA to the final concentration of 2.5mM~5mM, and heat at 65℃ for 10 minutes to stop the reaction. The sample can be directly used for the next reaction such as reverse transcription experiment.