T7 Exonuclease

Cat. No. : RK20574

Product components

Components	Component number	Concentration	Size-1 1,000 U	Size-2 5,000 U
T7 Exonuclease	RM20566	10,000 U/mL	100 μL	500 μL
10X ABuffer S	RM20147	10X	1.25 mL	2 × 1.25 mL

Product Description

T7 Exonuclease is a double-stranded DNA-specific exonuclease that degrades linear or nicked double-stranded DNA in the 5′ to 3′ direction. The enzyme does not digest supercoiled dsDNA.

Product Source

The T7 Exonuclease gene is expressed and purified from *E. coli*.

Storage

-20℃

Unit Definition

One unit is defined as the amount of enzyme required to produce 1 nmol of acid-soluble deoxyribonucleotide from 0.15 mM sonicated [^{3}H]-DNA in a total reaction volume of 50 μL in 30 minutes at 37°C in 1X ABuffer S.

Reaction Conditions

1X ABuffer S, Incubate at 25°C

1X ABuffer S

20 mM Tris-acetate, 50 mM Potassium Acetate, 10 mM Magnesium Acetate, 1 mM DTT, pH 7.9 @ 25°C

Storage Conditions

10 mM Tris-HCl, 0.1 mM EDTA, 5 mM DTT, 50% glycerol, pH 8 @ 25℃

Heat Inactivation

No

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Operation Description

1. Set-up the following reaction on ice, noting that the enzyme should be added at the end and then gently mix the reaction by pipetting up and down and microcentrifugation.

Components	50 μL Reaction
10X ABuffer S	5 μL(1X)
DNA	Variable(up to 1μg)
T7 Exonuclease	1 μL(10 U)
Nuclease-Free-Water	up to 50 μL

2. Incubate at 25°C for 30 minutes.
3. Terminate reaction by adding EDTA to at least 11 mM.
4. To purify digested samples, we recommend using one of the following steps:

① Column clean up or Agarose gel recovery.

② Performing a phenol/chloroform extraction followed by ethanol precipitation.

Note: For more precise results or partial digestion reactions, it is recommended to determine the specific enzyme-to-substrate ratio through titration of the enzyme and substrate.

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