

Product components

Components	Component number	Concentration	Size (3,000 U)
Thermolabile Exonuclease I	RM20584	20,000 U/mL	150 µL
10X Buffer CutC	RM20106	10X	1.25 mL

Product Description

Thermolabile Exonuclease I acts on single-stranded DNA and catalyzes the removal of nucleotides in the 3'→5' direction. It shows no activity toward double-stranded DNA or RNA.

Source

Recombinantly expressed in E. coli.

Definition of Activity Unit

One unit (U) is defined as the amount of enzyme required to catalyze the release of 2 nmol of acid-soluble nucleotides within 6 min at 37 °C in a 100 µL reaction system containing 1X Buffer CutC and 0.17 mg/mL [3H]-labeled single-stranded E. coli DNA.

Storage Buffer

10 mM Tris-HCl, 250 mM NaCl, 0.1 mM EDTA, 1 mM DTT, 50% Glycerol (pH 7.4 @ 25 °C)

Store

-20 °C

Reaction Conditions

1X Buffer CutC, at 37 °C

Composition of 1X Buffer CutC

50 mM Tris-HCl, 10 mM MgCl₂, 100 mM NaCl, 0.1 mg/mL HSA, pH 7.9 @ 25 °C

Thermal Inactivation

Heat inactivation at 80 °C for 1 min

Protocol

1. Add the reaction components on ice as shown in the table below (for a 20 µL reaction):

Component	Amount
ssDNA	1 µg
10X Buffer CutC	2 µL
Thermolabile Exonuclease I	1 µL
ddH ₂ O	Up to 20 µL

2. Mix the reaction components and centrifuge briefly to collect the solution at the bottom of the tube.

3. Incubate at 37 °C for 4 min.

4. Inactivate the enzyme by heating at 80 °C for 1 min.

Note

- The enzyme can be inactivated by heating at 80 °C for 1 min, at 65 °C for 5 min, or at 60 °C for 15 min.
- Thermolabile Exonuclease I is active in the presence of 25–200 mM NaCl.
- To degrade more ssDNA, it is recommended to increase the amount of enzyme rather than to extend the reaction time.