Tli DNA Polymerase (exo-)

REF: EG26106S

Storage Condition

Store at -20℃ for 2 years.

Components

Component	Amount
Tli DNA Polymerase (exo-) (2 U/μl)	100 μl
10× Tli Buffer	1.5 ml
$MgSO_4$ (100 mM)	1 ml

Description

Tli DNA Polymerase (exo-) is derived from a hyperthermophilic bacterium isolated from a submarine thermal vent . The enzyme is genetically modified and recombinantly expressed in Escherichia coli (E. coli), with its 3'→5' exonuclease activity removed. This polymerase features extreme thermostability: its half-life is 23 hours at 95℃ and 8 hours at 100℃ . It also possesses strong strand displacement activity. Its properties and operating protocols are fully consistent with Deep Vent® (exo-) DNA Polymerase. This product is well suited for whole genome amplification technologies such as MALBAC.

Definition of Activity Unit

One unit is defined as the amount of enzyme that can incorporates 10 nmol of dNTP into acid-insoluble material in 30 minutes at 75℃ .

Quality Control Assays

Protein Purity

The enzyme is ≥95% pure as determined by SDS-PAGE analysis using Coomassie Blue staining.

Endonuclease Activity

A 20 μl reaction containing 200 ng of supercoiled plasmid and 2 U of Tli DNA Polymerase (exo-) incubated for 4 hours at 37℃ results in <20% conversion to the nicked or linearized form as determined by agarose gel electrophoresis.

DNase Activity

A 20 μl reaction containing 15 ng of dsDNA fragments and 2 U of Tli DNA Polymerase (exo-) incubated for 16 hours at 37 ℃ results in no detectable degradation of the dsDNA fragments as determined by agarose gel electrophoresis.

RNase Activity

A 10 μl reaction containing 500 ng of RNA and 2 U of Tli DNA Polymerase (exo-) incubated for 1 hour at 37℃ results in >90% of the substrate RNA remains intact as determined by agarose.

Single-stranded DNase Activity

A 20 μl reaction containing 0.2 pmol of single-stranded DNA probe and 2 U of Tli DNA Polymerase (exo-) incubated for 30 minutes at 37℃ results in less than 10% probe degradation as measured by real-time PCR.

Residual Host DNA

The residual E. coli host cell DNA in this product is less than 1 copy/2 U.

Notice

1. To increase amplification yield, add $MgSO_4$ to the reaction system to a final concentration of 1~2 mM. Please note that excessive additional Mg^{2+} may cause non-specific amplification. Determine whether to supplement $MgSO_4$ according to your experimental requirements.

2. For your safety and health, please wear a lab coat, disposable gloves and a mask when performing the operation.

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