Bsu DNA Polymerase (Large Fragment)

REF: EG20401S

Storage Condition

-20℃

Components

Component	Amount
Bsu DNA Polymerase (Large Fragment) (5 mg/ml)	100 μl

Note: 1 μg of protein is approximately equivalent to 10 U.

Description

Bsu DNA Polymerase (Large Fragment) is derived from *Bacillus subtilis*, and the N-terminal 296 amino acids of *Bacillus subtilis* DNA Polymerase I are removed. The enzyme retains the 5'→3' polymerase activity of *Bacillus subtilis* DNA Polymerase I but lacks 5'→3' and 3'→5' exonuclease activities. The enzyme has an optimal reaction temperature of 37℃ , exhibits strong strand displacement activity, and is suitable for DNA isothermal amplification or cDNA synthesis.

Definition of Activity Unit

One unit of activity is defined as the amount of enzyme required to catalyze the incorporation of 10 nmol of dNTP into acid-insoluble material within 30 minutes at 37℃ .

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 5 μg of Bsu DNA Polymerase incubated for 4 hours at 37℃ results in <10% conversion to the nicked or linearized form as determined by agarose gel electrophoresis.

Non-specific Nuclease Activity

A 20 μl reaction containing 15 ng of dsDNA fragments and 5 μg of Bsu DNA Polymerase 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 5 μg of Bsu DNA Polymerase incubated for 1 hour at 37℃ results in >90% of the substrate RNA remains intact as determined by agarose.

Residual Host DNA

The product was tested by TaqMan qPCR with primers specific for the *E.coli* 16S rDNA, and the results show that the *E.coli* genome residues less than 10 copies.

Heat Inactivation

Incubation at 75℃ for 20 minutes.

Notice

1. Due to the lack of 3'→5' exonuclease activity, Bsu DNA Polymerase(Large Fragment) cannot remove unpaired 3' bases, and not suitable for generating blunt ends.

2. Bsu DNA Polymerase (Large Fragment) has 50% activity at 25℃ and is twice as active as Klenow Fragment (3'→5' exo$^-$).

BestEnzymes Biotech Co., Ltd.
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Add: No.17 Huaguoshan Avenue,Lianyungang City, China
Tel: +86 (518) 8558 6628 • E-mail:support@best-enzymes.com • www.best-enzymes.com