Bsu DNA Polymerase (Large Fragment)

Instruction for Use

Cat. No./Spec.: P1131/100 μL

Concentration: 5mg/mL

Note: 1 μg the protein is approximately 10 U.

Product Description

Bsu DNA Polymerase (Large Fragment) is derived from *Bacillus subtilis*, and is obtained by truncating the N-terminal 296 amino acids of *Bacillus subtilis* DNA polymerase I. This enzyme retains the 5'→3' polymerase activity of *Bacillus subtilis* DNA polymerase I, but does not have 5'→3' exonuclease and 3'→5' exonuclease activity. The enzyme has a optimal reaction temperature of 37°C and strong strand displacement activity, making it suitable for isothermal amplification of DNA or cDNA synthesis.

Components

Component	P1131
Bsu DNA Polymerase (Large Fragment) (5mg/mL)	100 μL

Storage Condition

Store at -20°C.

Unit Definition

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

Scope of Application

1. DNA isothermal amplification;
2. cDNA synthesis.

Quality Control

Protein purity detection: using SDS-PAGE gel electrophoresis with purity no lower than 95%.

Nuclease activity assay: 5 μg of Bsu DNA Polymerase was incubated with 200 ng of supercoiled plasmid DNA at 37℃ for 4 hours. Agarose gel electrophoresis was used to detect that less than 10% of the plasmid DNA was converted to nicked or linear forms.

Nonspecific nuclease activity assay: 5 μg of Bsu DNA Polymerase was incubated with 15 ng of double-stranded DNA fragments at 37°C for 16 hours. Agarose gel electrophoresis was used to detect that there was no change in the double-stranded DNA substrate.

RNase activity assay. 5 μg of Bsu DNA Polymerase was incubated with 500 ng of total RNA at 37°C for 1 hour, and agarose gel electrophoresis was used to detect that over 90% of the RNA remained intact.

Host DNA residue detection: a specific primer probe set for the 16S rDNA of Escherichia coli was used, and fluorescence quantitative PCR was used to detect 5 μg Bsu DNA Polymerase. The residual host genomic DNA of Escherichia coli was less than 10 copies.

Heat Inactivation

75°C for 20 minutes

Note

1. Due to the lack of 3'→5' exonuclease activity, Bsu DNA Polymerase (Large Fragment) cannot excise 3' unpaired protruding ends and is 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-).

This product is for research use only.