Pfu DNA Polymerase

Cat. No.: E00021

Size: 250 U

Unit Definition:

1 unit of enzyme incorporates 10 nmol of dNTP into acid-insoluble material in 30 min at 74 °C.

Version: 08/03/2006

PRODUCT INFORMATION

Description

Pfu DNA Polymerase is a thermostable DNA Polymerase isolated from an *E.coli* strain that carries the pol gene from Pyrococcus furiosus. As one of the most thermostable DNA Polymerase known with 3' to 5' proofreading activity, the enzyme catalyze DNA systhesis at optimal temperature near 75°C with very low error rate (about eight times more accurate than *Taq* DNA Polymerase). *Pfu* DNA Polymerase generates blunt-ended PCR fragments that are required for blunt-end PCR cloning.

10 X reaction Buffer (with Mg^{2+})

200 mM Tris-HCl (pH 8.7 at 25°C), 100 mM $(NH4)_2SO_4$, 100 mM KCl, 1% (v/v) Triton X-100, 1 mg/ml BSA and 20 mM $MgSO_4$.

Storage Buffer and Concentration

Supplied in 2.5 units/µl in 50 mM Tris HCl (pH 8.1), 0.1 mM EDTA, 1 mM DTT, 0.1% (v/v) Nonidet P40, 0.1% (v/v) Tween 20 and 50% (v/v) glycerol.

Storage

-20 °C.

Applications

Pfu DNA Polymerase can be used in most applications including the following:

- High fidelity PCR amplification.
- High fidelity blunt-end cloning.
- Site-directed mutagenesis.

QC Tests

PCR* performance and activity.

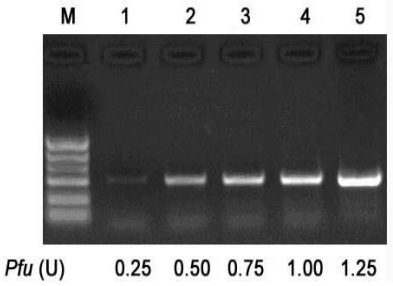

Figure 1. PCR amplification of a 544 bp gene from E. coli genomic DNA using *Pfu* DNA Polymerase. 0.25, 0.50, 0.75, 1.00 and 1.25 U of the enzyme were used in 50 µl of PCR reaction 1 (Lane 1), 2 (Lane 2), 3 (Lane 3), 4 (Lane 4) and 5 (Lane 5), respectively. 5 µl of PCR reaction was loaded in each lane. M is a 100 bp DNA Marker.

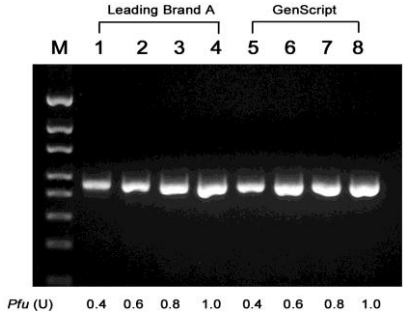

Figure 2. GenScript *Pfu* was compared with the *Pfu* from a leading brand (A) for the PCR amplification of a 544 bp gene from *E. coli* genomic DNA. 0.4, 0.6, 0.8, and 1.0 U of the enzymes were used in 50 µl of PCR reactions as shown in Figure 2. 10 µl of PCR reaction was loaded in each lane. M is a 100 bp DNA Marker.

** For non-clinical research use only. **

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