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Inspiration for Life Science

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Catalog No. BAM-02-031-5-EX

Pfu DNA Polymerase, Economy

BACKGROUND

***Pyrococcus furiosus* DNA polymerase (*Pfu* DNA polymerase)** gene was expressed in *E.Coli* in large quantities and highly purified. The enzyme has thermostable DNA polymerase activity and 3' -> 5' exonuclease (proofreading) activity. The MW is 90 kDa, same as that of the natural *Pfu* DNA polymerase.

- *Pfu* DNA polymerase is thermostabe and has low error rates.
- It is suitable for PCR and primer extension reactions that require high fidelity synthesis.
- *Pfu* DNA polymerase-generated PCR fragments are blunt-ended.

Applications:
1) Cloning
2) DNA expression
3) site-directed mutagenesis

Size: 5 x 200 U (2.5U/μl)

Concentration: 2.5 units/ul, where one unit is defined as the amount of enzyme that can incorporate 10 nmols of dNTPs into an acid-insoluble material in 30 minutes at 72°C when activated salmon sperm DNA was used as template/primer.

Form: 50mM Tris-HCl (pH 8.2), 0.1mM EDTA, 1mM DTT, 50% glycerol, 0.1% Tween20, 0.1% Igepal CA-630

Quality Assurance: Greater than 95% of protein determined by SDS-PAGE (CBB staining) (Fig.1)
The absence of endonucleases and exonucleases was confirmed.

PCR Test: Good amplification result was obtained in PCR reaction using λDNA as a template (Fig.2).

Reagents Supplied with Enzyme: 10 x Reaction Buffer (*Pfu*): 200mM Tris-HCl (pH 8.8), 100mM KCl, 100mM $(NH_4)_2SO_4$, 20mM $MgSO_4$, 1% TritonX-100, 1 mg/ml BSA

Storage: Store at -20°C

References:

Related Products

BAM-02-001-EX	Taq DNA Polymerase(+dNTPs)
BAM-02-011-EX	Taq DNA Polymerase

General composition of PCR reaction mixture (total 50ul)	
Pfu DNA polymerase (2.5 units/ul)	0.5 ul
10 x Reaction Buffer (*Pfu*)	5 ul
2.5mM (each) dNTPs	4 ul
Template	<500ng
Primer 1	0.2 ~ 1.0 uM (final conc.)
Primer 2	0.2 ~ 1.0 uM (final conc.)
Sterile distilled water	up to 50 ul

PCR condition

98°C 10 sec
55°C 30 sec } 30 cycles
72°C 10 min

(2 min in the case of 2 kb DNA)

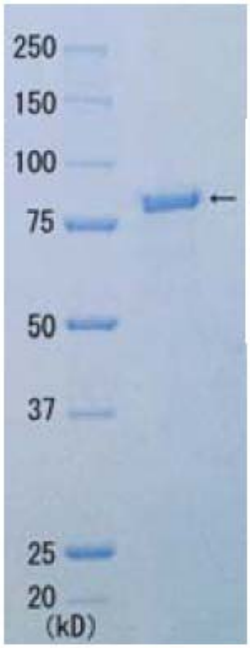
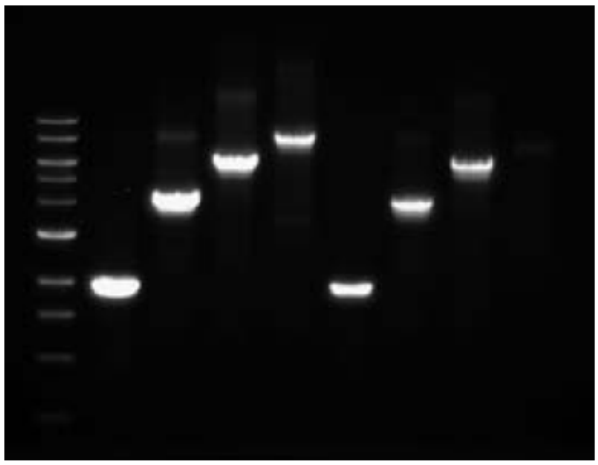


Fig.1 SDS-PAGE of *Pfu* DNA polymerase



Lane M: marker
1: 2 kb
2: 4 kb
3: 6 kb
4: 8 kb

Fig.2 Amplification of λ DNA

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