

Pfu DNA Polymerase (with dNTPs), Economy

02-021 200 U 2.5U/μl

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 thermostable 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

Storage Conditions:

50mM Tris-HCl (pH 8.2), 0.1mM EDTA, 1mM DTT, 50% glycerol, 0.1% Tween20, 0.1% Igepal CA-630, Store at -20

Concentration: 2.5 units/μl, 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 when activated salmon sperm DNA was used as template/primer.

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 (NH₄)₂SO₄, 20mM MgSO₄, 1% TritonX-100, 1 mg/ml BSA
2.5mM (each) dNTPs

General composition of PCR reaction mixture (total 50μl)

<i>Pfu</i> DNA polymerase (2.5 units/μl)	0.5 μl
10 x Reaction Buffer (<i>Pfu</i>)	5 μl
2.5mM (each) dNTPs	4 μl
Template	<500ng
Primer 1	0.2 ~ 1.0μM (final conc.)
Primer 2	0.2 ~ 1.0μM (final conc.)
Sterile distilled water	up to 50μl

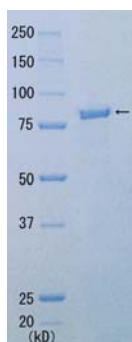


Fig.1 SDS-PAGE of *Pfu* DNA polymerase

PCR condition

98	10sec	} 30cycles
55	30sec	
72	10min	
(2min in the case of 2kb DNA)		

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

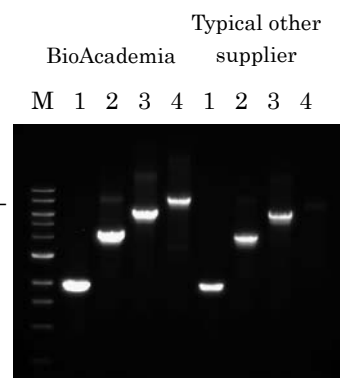


Fig.2 Amplification of λ DNA

Related products: # 02-001 Taq DNA Polymerase (+dNTPa) #02-011 Taq DNA Polymerase