



## ***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 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.

<b>Applications:</b>	1) Cloning 2) DNA expression 3) site-directed mutagenesis
<b>Size:</b>	200 U (2.5U/μl)
<b>Concentration:</b>	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.
<b>Form:</b>	50mM Tris-HCl (pH 8.2), 0.1mM EDTA, 1mM DTT, 50% glycerol, 0.1% Tween20, 0.1% Igepal CA-630
<b>Quality Assurance:</b>	Greater than 95% of protein determined by SDS-PAGE (CBB staining) (Fig.1) The absence of endonucleases and exonucleases was confirmed.
<b>PCR Test:</b>	Good amplification result was obtained in PCR reaction using λDNA as a template (Fig.2).
<b>Reagents Supplied with Enzyme:</b>	10 x Reaction Buffer ( <i>Pfu</i> ): 200mM Tris-HCl (pH 8.8), 100mM KCl, 100mM (NH <sub>4</sub> ) <sub>2</sub> SO <sub>4</sub> , 20mM MgSO <sub>4</sub> , 1% TritonX-100, 1 mg/ml BSA
<b>Storage:</b>	Store at -20°C
<b>References:</b>	

#### **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)	
<i>Pfu</i> DNA polymerase (2.5 units/ul)	0.5 ul
10 x Reaction Buffer ( <i>Pfu</i> )	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)

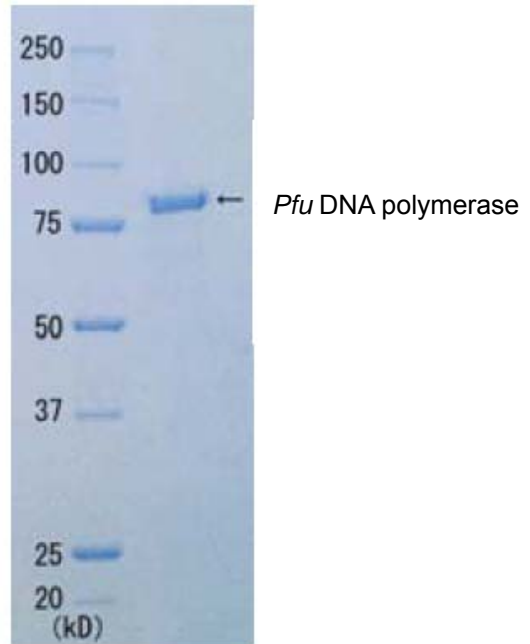


Fig.1 SDS-PAGE of *Pfu* DNA polymerase

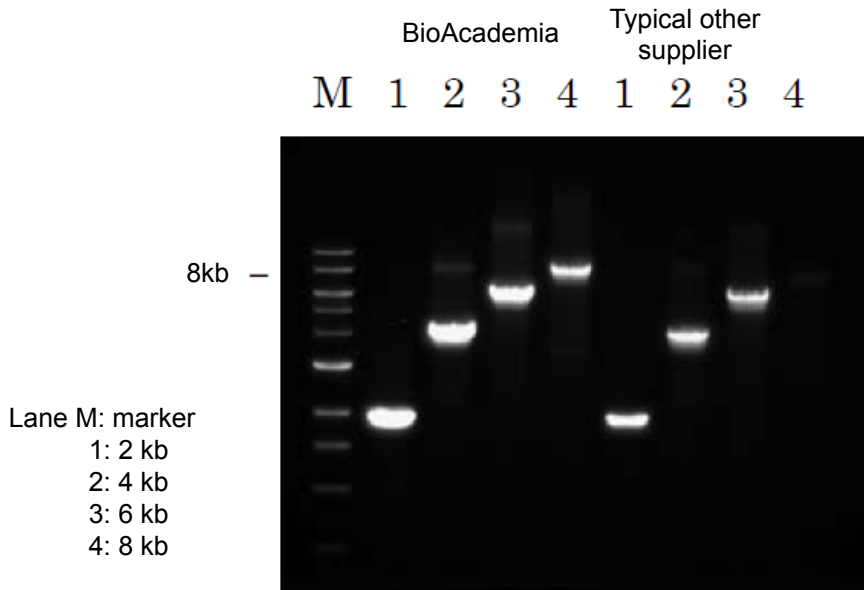


Fig.2 Amplification of  $\lambda$  DNA

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E-mail: [export@cosmobio.co.jp](mailto:export@cosmobio.co.jp)

Phone : +81-3-5632-9617

FAX : +81-3-5632-9618