

Pfu DNA Polymerase with Standard Buffer (+dNTPs)

Product code	02-021 200 U 02-021-5 200 U x 5																
Size	200 U																
Storage	-20°C																
Concentration	2.5 U/μl																
Product Description	<i>Pyrococcus furiosus</i> DNA polymerase (Pfu DNA polymerase) gene was expressed in <i>E.coli</i> 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.																
Definition of activity	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.																
Purity	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).																
Components	Pfu DNA polymerase (2.5U/μl): 50 mM Tris-HCl (pH 8.2), 0.1 mM EDTA, 1 mM DTT, 50% glycerol, 0.1% Tween20, 0.1% Igepal CA-630 (02-Pfd 80 μl) 10 x Standard Buffer (Pfu): 200 mM Tris-HCl (pH 8.8), 100 mM KCl, 100 mM (NH₄)₂SO₄, 20 mM MgSO₄, 1% Triton X-100, 1 mg/ml BSA (02-Psd 1.0 ml) 2.5 mM (each) dNTPs (02-Dnt 640μl)																
Application	· cloning · DNA expression · site-directed mutagenesis <table border="1"> <thead> <tr> <th colspan="2">General composition of PCR reaction mixture (total 50μl)</th> </tr> </thead> <tbody> <tr> <td>Pfu DNA polymerase (2.5 U/μl) (02-Pfd)</td> <td>0.5 μl</td> </tr> <tr> <td>10x Standard Buffer (Pfu) (02-Psd)</td> <td>5 μl</td> </tr> <tr> <td>2.5mM (each) dNTPs (02-Dnt)</td> <td>4 μl</td> </tr> <tr> <td>Template</td> <td><500 ng</td> </tr> <tr> <td>Primer 1</td> <td>0.2~1.0 μM (final conc.)</td> </tr> <tr> <td>Primer 2</td> <td>0.2~1.0 μM (final conc.)</td> </tr> <tr> <td>Sterile distilled water</td> <td>up to 50 μl</td> </tr> </tbody> </table>	General composition of PCR reaction mixture (total 50μl)		Pfu DNA polymerase (2.5 U/μl) (02-Pfd)	0.5 μl	10x Standard Buffer (Pfu) (02-Psd)	5 μl	2.5mM (each) dNTPs (02-Dnt)	4 μl	Template	<500 ng	Primer 1	0.2~1.0 μM (final conc.)	Primer 2	0.2~1.0 μM (final conc.)	Sterile distilled water	up to 50 μl
General composition of PCR reaction mixture (total 50μl)																	
Pfu DNA polymerase (2.5 U/μl) (02-Pfd)	0.5 μl																
10x Standard Buffer (Pfu) (02-Psd)	5 μl																
2.5mM (each) dNTPs (02-Dnt)	4 μl																
Template	<500 ng																
Primer 1	0.2~1.0 μM (final conc.)																
Primer 2	0.2~1.0 μM (final conc.)																
Sterile distilled water	up to 50 μl																
Related product	02-001 Taq DNA polymerase with Standard Buffer (+dNTPs) 02-022 Pfu Super DNA polymerase with Standard Buffer (+dNTPs)																
Please note: All products are FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES. NOT FOR MILITARY USE.																	

Data Images: 02-021 *Pfu* DNA Polymerase with Standard Buffer (+dNTPs)

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

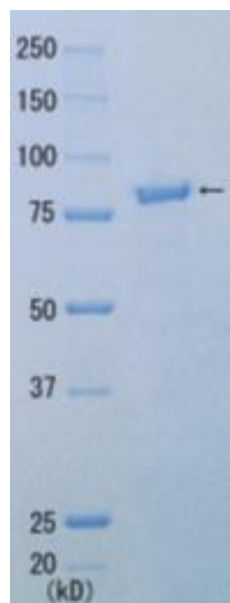
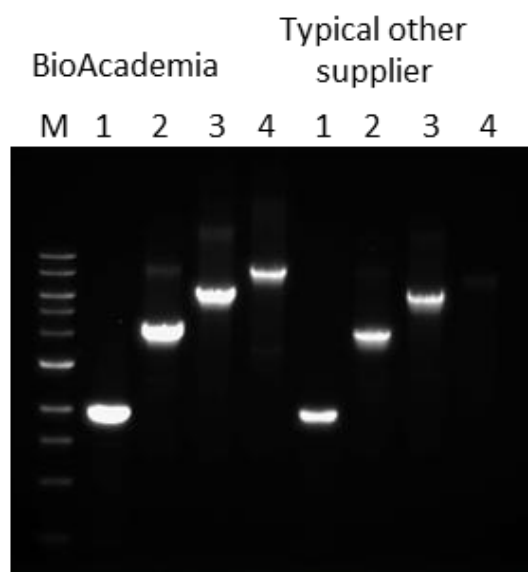


Fig.2 Amplification of λ DNA

PCR condition

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



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