Taq DNA Polymerase (with dNTPs), Economy

02-001　200 U　(5 U/ µl) ,　02-001-5　5 x 200 U　(5 U/ µl)

Storage: Ship at 4℃ or -20℃ and store at -20°C.

Concentration: 5 units/ µl

* Note: One unit is defined as the amount of enzyme that can incorporate 10 nmols of total dNTPs into an acid-insoluble material in 30 minutes at 74℃ when activated salmon sperm DNA is used as template/primer.

Storage Buffer: 20mM Tris-HCl (pH 8.0), 100mM KCl, 0.1mM EDTA, 1mM DTT, 50% glycerol, 0.5% Tween 20, 0.5% Igepal CA-630

Supplied Reagents: 10 x Standard Buffer (*Taq*): 100mM Tris-HCl (pH 8.3), 500mM KCl, 15mM $MgCl_2$, 2.5mM (each) dNTPs

Applications:

1) High-throughput PCR
2) Colony PCR
3) Incorporation of dUTP, dITP, and fluorescence-labeled nucleotides
4) Primer extension
5) Addition of a single nucleotide (adenosine) at the 3'-blunt ends

Background: *Thermus aquaticus* DNA polymerase (*Taq* DNA polymerase) was expressed in *E. coli* in large quantities and highly purified. The enzyme has thermostable DNA polymerase activity and the MW is 94 kDa. This enzyme is suitable for PCR reactions; capable of amplifying DNA with various primers.

Quality Assurance: Greater than 95% purity as 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).

Related product:

 # 02-021 Pfu DNA polymerase (+dNTPs), Economy

 # 02-031 Pfu DNA polymerase (-dNTPs), Economy

General composition of PCR reaction mixture (total 50 µl)	
Taq DNA polymerase (5 units/ul)	*0.25 µl
10 x Standard Buffer (*Taq*)	5 µl
2.5mM (each) dNTPs	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

*Use of excess amount is not recommended.

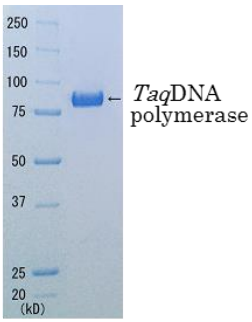
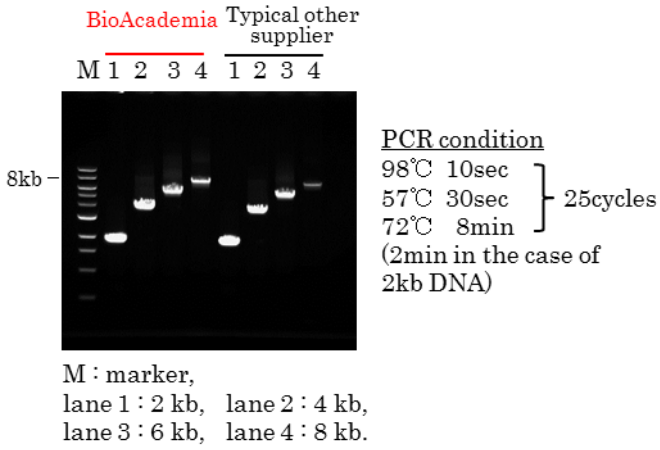


Fig.1 SDS-PAGE of *Taq*DNA polymerase



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

Fig.2 Amplification of λDNA