Taq DNA Polymerase, Economy

02-011　200 U　(5U/μl),　02-011-5　5 x 200 U　(5U/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˚C 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 $MgCl_2$

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) gene was expressed in *E.Coli* in large quantities and highly purified. The enzyme has thermostable DNA polymerase activity and the MW is 94 kDa, same as that of the natural enzyme.

This enzyme is suitable for PCR reactions; capable of amplifying DNA with various primers.

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).

Related Products:

 # 02-001 Taq DNA Polymerase(+dNTPs)

 # 02-021 Pfu DNA Polymerase(+dNTPs)

General composition of PCR reaction mixture (total 50 μl)	
Taq DNA polymerase (5 units/μl)	*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 of enzyme is not recommended.

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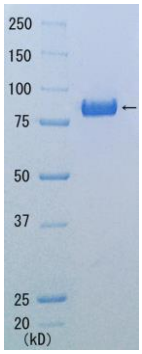
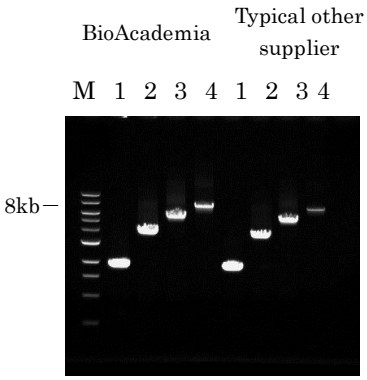


*Taq*DNA polymerase

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



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

PCR condition
98℃　10 sec
57℃　30 sec　　25 cycles
72℃　8 min
(2 min in the case of 2 kb DNA)

Fig.2　Amplification of λDNA

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