

## Taq plus DNA Polymerase

Product Number:PC07

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### Storage condition

-20°C

### Conc.

5U/ $\mu$ l

### Description

Taq Plus DNA Polymerase is a mixture of Taq DNA Polymerase and proofreading DNA Polymerase, which allows for the amplification of long templates, up to 10kb, with high fidelity. The two enzymes act synergistically during PCR to generate more accurate and longer PCR products with greater yields compared to Taq DNA Polymerase alone. PCR products, amplified up to 10kb in length with Taq Plus DNA Polymerase, generate a mixture of blunt ends and single base (A) 3' overhang. The products can be used for direct T/A cloning, but its efficiency is not as high as PCR products amplified with Taq polymerase alone.

### Unit Definition

One unit of enzyme catalyzes the incorporation of 10 nanomoles of deoxyribonucleotides into a polynucleotide fraction (adsorbed on DE-81) in 30 mins at 70°C.

### Storage Buffer

20mM Tris-HCl (pH8.0) ;0.1mM EDTA;1mM DTT;100mM KCl;50%glycerol;Stabilizers

### 10×PCR Buffer

500mM Tris-HCl (pH 8.4), 100mM KCl, 25mM MgCl<sub>2</sub> and enzyme stabilizers.

### Package

Bulk

### Protocol

The following basic protocol serves as a general guideline and a starting point for any PCR amplification. Optimal reaction conditions (incubation times and temperatures, concentration of Taq Polymerase, primers, MgCl<sub>2</sub>, and template DNA) vary and need to be optimized.

#### 1. Reaction Mixture Set Up

Component	Volume	Final Concentration
Template DNA(20ng/ $\mu$ l)	1 $\mu$ l	as required
Forward Primer (10 $\mu$ M)	1 $\mu$ l	0.2-0.4 $\mu$ M each
Reverse Primer (10 $\mu$ M)	1 $\mu$ l	0.2-0.4 $\mu$ M each
10×Taq Plus Buffer	5 $\mu$ l	1×
10 mM each dNTPs	1 $\mu$ l	0.2 mM
Taq Plus DNA polymerase	0.3 $\mu$ l	1.5 unit
ddH <sub>2</sub> O to final volume	50 $\mu$ l	Not applicable

#### 2. Recommended thermal cycling conditions

##### 2.1. 5ng-20ng 6.6 KB lambda DNA as the template

Temperature	Time
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**For Research Use Only**



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94°C	1 min	} 22 cycles
94°C	30 sec	
60°C	30 sec	
72°C	10min	
72°C	10min	

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## 2.2. 5ng-20ng 8.5KB lambda DNA as the template

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Temperature	Time	
94°C	40 sec	} 24cycles
94°C	20 sec	
60°C	30 sec	
68°C	11min	
68°C	10min	

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