

<b>Catalog</b>	<b>Unit</b>
TBP0149-1000	1000U

### Description

Taq Plus DNA Polymerase is a specially formulated blend of Taq DNA Polymerase and proofreading DNA Polymerase, designed to enhance both the fidelity and efficiency of PCR amplification. This synergistic enzyme combination enables the amplification of long DNA templates up to 10 kb, with greater accuracy and yield compared to Taq DNA Polymerase alone. The resulting PCR products include a mix of blunt ends and 3' single-base (A) overhangs, making them well-suited for direct T/A cloning applications.

### Product Details

**Concentration:** 5U/ $\mu$ l

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

**Storage:** -20°C

### 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 $\times$ Taq Plus Buffer	5 $\mu$ l	1 $\times$
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

5ng-20ng 6.6 KB lambda DNA as the template

Temperature	Time	Cycles
94°C	1 min	22 cycles
94°C	30 sec	
60°C	30 sec	
72°C	10 min	
72°C	10 min	

5ng-20ng 8.5KB lambda DNA as the template

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

**For research use only**