

# Taq Platinum DNA Polymerase

Cat. no.4992768

Storage: -30~-15°C for two years.

Concentration: 2.5 U/μl

Product size

Product Components	4992768
Taq Platinum DNA Polymerase	250 U
10×Taq Platinum Buffer I	1.8 ml
10×Taq Platinum Buffer II	1.8 ml

TIANGEN BIOTECH (BEIJING) CO., LTD.

[HTTP://WWW.TIANGEN.COM/EN](http://www.tiangen.com/en)

The product is used for research only, neither intended for the diagnosis, or treatment of a disease, nor for the food, or cosmetics etc.

## Introduction

Taq Platinum DNA Polymerase is a chemically modified hot-start polymerase with 3'-5' and 5'-3' exonuclease activity. It is inactive at ambient temperatures and must be activated by heat treatment (5-10 min at 94°C). This prevents the extension of non-specifically annealed primers or primer-dimers at low temperatures during PCR setup, and therefore highly increases the sensitivity and specificity of PCR amplification. Taq Platinum DNA Polymerase has unique high fidelity and it possesses higher extension rate and amplification efficiency than Pfu DNA Polymerase.

Taq Platinum DNA Polymerase generates PCR products with 3'-dA overhangs that can be directly used in TA-cloning. To obtain higher cloning efficiency, however, PCR products could be purified and added 3'-dA overhangs before TA cloning procedures.

## Unit Definition

One unit of Taq Platinum DNA Polymerase is defined as the amount that incorporates 10 nmol of dNTPs into acid-insoluble substrates within 30 min at 74°C with activated salmon sperm DNA as the template/primer.

## Quality Control

The purity of Taq Platinum DNA Polymerase needs to be higher than 99% in SDS-PAGE test, and no exogenous enzyme activity should be included. Taq Platinum DNA Polymerase needs to be capable to amplify single copy gene in human genome and need to be stable for 1 week under room temperature (15-30°C).

## Storage Buffer

20 mM Tris-HCl (pH 8.0), 0.1 mM EDTA, 1 mM DTT, 100 mM KCl, Stabilizers, 50% Glycerol

## 10×Taq Platinum Buffer

**Buffer I** : 200 mM Tris-HCl (pH 8.8), 100 mM KCl, 100 mM (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, 15 mM MgSO<sub>4</sub>, other components

**Buffer II** : 200 mM Tris-HCl (pH 9.0), 200 mM KCl, 60 mM (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, 15 mM MgCl<sub>2</sub>, other components

● **Please use Buffer I at first. When DNA amplification cannot be confirmed, the result may be improved by using Buffer II.**

## Applications

Amplify DNA fragments from complex templates (e.g. Genome) with high fidelity, for applications such as gene cloning, Site-directed mutagenesis, SNP Analysis etc.

## Example

**Note: The following example is only for reference, user must set up optimal reaction system according to different reaction conditions such as different templates or primers etc.**

- For 50 μl PCR reaction system: 1 kb fragment of human genomic DNA was amplified (If use different reaction system, please proportionally increase or decrease the amount of reaction components referring to this system).

Template	< 1 μg
Primer 1(10 μM)	1 μl
Primer 2(10 μM)	1 μl
10×Taq Platinum Buffer	5 μl
dNTP Mixture(2.5 mM)	4 μl
Taq Platinum (2.5 U/μl)	0.5-1 μl
ddH <sub>2</sub> O	up to 50 μl

- PCR cycles set-up:

94°C 5 min	} 30 cycles
94°C 30 sec	
55°C 30 sec	
72°C 2 min	
72°C 5 min	

- Result detection: Load 5 μl PCR products to agrose gel for PCR detecting.