TIANGEN®

ET191024

Taq Platinum DNA Polymerase

Cat. no.4992768

Storage: -20°C.

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

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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 therefor 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.

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 $(NH_4)_2SO_4$, 15 mM $MgSO_4$, other components
Buffer Ⅱ : 200 mM Tris-HCl (pH 9.0), 200 mM KCl, 60 mM $(NH_4)_2SO_4$, 15 mM $MgCl_2$, 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*.

1. 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_2O	up to 50 μl

2. PCR cycles set-up:

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

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