

PB-L Productos Bio-Lógicos®

# *Taq* Platinum DNA Polymerase

Cat. no. EC01 Storage: -20°C Concentration: 2.5 U/µl

#### Product Size

Product Components	EC0101	EC0102
Taq Platinum DNA	250 U	500 U
Polymerase	200 0	0000
10× Taq Platinum Buffer	1.8 ml	1.8 ml
10× Taq Platinum Buffer 🛛	1.8 ml	1.8 ml

PRODUCTOS BIO-LOGICOS http://www.pb-l.com.ar

## 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-d'A overhangs before TA cloning procedures.

## Unit Definition

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

## 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-HCI (pH 8.4), 200 mM KCI,

 100 mM (NH4)<sub>2</sub>SO<sub>4</sub>, 15 mM MgCl<sub>2</sub>, other components

 Buffer
 I: 200 mM Tris-HCI (pH 8.8), 100 mM KCI,

 100 mM (NH4)<sub>2</sub>SO<sub>4</sub>, 20 mM MgSO<sub>4</sub>, other components

 Please use Buffer I at first. When DNA amplification can not 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 etc.

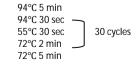
# Example

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

 To 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× <i>Taq</i> Platinum Buffer	5 µl	
dNTP Mixture(2.5 mM)	4 μl	
<i>Taq</i> Platinum (2.5 U/μl)	0.5-1 μl	
 ddH <sub>2</sub> O	up to 50 µl	

2. PCR cycle set-up :



3. Result detection : Load 5  $\mu I$  PCR products to agrose gel for PCR detecting.