PB-L
Productos
Bio-Lógicos®

HotMaster *Taq* DNA Polymerase

Cat. no. EC03

Storage: -20℃

Concentration: 2.5 U/μl

Product Size

Product Components	EC0301	EC0302
Hotmaster *Taq* DNA Polymerase	250 U	500 U
10× Hotmaster *Taq* Buffer	1.8 ml	1.8 ml

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http://www.pb-l.com.ar

Introduction

HotMaster *Taq* DNA Polymerase has been developed to provide hot-start PCR for higher PCR specificity. HotMaster inhibitor blocks the substrate binding site of HotMaster *Taq* DNA polymerases in a temperature-dependent manner. Inactive polymerase-inhibitor complexes are formed at temperatures < 40°C, where the affinity of HotMaster inhibitor for Hotmaster *Taq* DNA polymerase is higher than the binding affinity of the template DNA. Between 40°C and 55°C the HotMaster inhibitor competes with the template DNA for binding to the *Taq* DNA polymerase, thereby shifting the binding equilibrium towards complex formation with only target-specific primed template DNA. This minimizes the non-specific amplification in PCR and ensures high sensitivity and specificity.

HotMaster *Taq* DNA Polymerase does not need to be activated by high temperature incubation step. The PCR process is fast and convenient. PCR products generated by HotMaster *Taq* DNA Polymerase have 3'-dA overhangs that can be directly used in TA-cloning.

Unit Definition

One unit of HotMaster *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.

Application

Highly specific DNA amplification: suitable for highly sensitive amplification of genomic DNA with high background (e.g. specific gene sites or detection of exogenetic virus in genomic DNA), DNA sequencing, Multiplex PCR, T-A cloning etc.

Notes before starting

10× HotMaster*Taq* Buffer contain Mg^{2+} (15 mM $MgCl_2$). In some cases, PCR results can be further optimized by appropriately increasing the final Mg^{2+} concentration.

The optimal extension temperature of Hotmaster *Taq* DNA Polymerase is 65°C. The extension temperature can be adjusted between 60-70°C.

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*.

1. 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× HotMaster*Taq* Buffer	5 μl
dNTP Mixture(2.5 mM)	4 μl
HotMaster *Taq* (2.5 U/μl)	0.5-1 μl
ddH_2O	up to 50 μl

2. PCR cycle set-up:

94°C 2 min		
94°C 20 sec	⎫	
55°C 20 sec	⎬	30 cycles
65°C 1 min	⎭	
65°C 5 min		

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