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2×Hieff™ Ultra-Rapid HotStart PCR Master Mix (with Dye)

Product description

2x Hieff™ Ultra-Rapid HotStart PCR Master Mix (with Dye) is based on the modified Taq DNA Polymerase, adding strong extension factor, amplification enhancement factor and optimized buffer system, with super high amplification efficiency. The amplification speed of complex templates such as genome within 3 kb reaches 1-3 sec/kb, and that of simple templates like plasmids within 5 kb reaches 1 sec/kb. This product can greatly save PCR reaction time. At the same time, mix contains dNTP and Mg^{2+}, which can be amplified only by adding primers and templates, which also greatly simplifies the operation steps of the experiment. Furthermore, mix contains electrophoretic indicator dye, which can be directly electrophoresis after the reaction. The protective agent in this product makes the mix maintain stable activity after repeated freeze and thawing. The 3’ -end band A of the PCR product can be easily cloned into the T vector.

Components

Name	10157ES03	10157ES08	10157ES50	10157ES51	10157ES60
2×Hieff™ Ultra-Rapid HotStart PCR Master Mix (with Dye)	1 mL	5×1 mL	50×1 mL	5×10 mL	100×1 mL

Specifications

Product specification	Master Mix
Concentration	2×
Hot Start	Built-in Hot Start
Overhang	3 '-A
Reaction speed	Rapid
Size (Final Product)	Up to 15 kb
Conditions for transportation	Dry ice

Storage

The 2×Hieff™ PCR Master Mix products should be stored at -25~-15°C for 2 years.

Instructions

1. Reaction System

Components	Size (μL)
Template DNA*	suitable
Forward primer (10 μmol/L)	2.5
Reverse primer (10 μmol/L)	2.5
2×Hieff™ Ultra-Rapid HotStart PCR Master Mix (with Dye)**	25
ddH_2O	to 50

Table 1 Reaction system (50 μL)

2. Amplification Protocol

Cycle steps	Temperature (°C)	Time	Cycles
Predenaturation	94	3 min	1
Denaturation	94	10 sec	28-35
Annealing***	60	20 sec	
Extension****	72	1-10 sec/kb	
Final extension	72	5 min	1

Table 2 Amplification protocol

*Recommended usage of different templates:

Type of template	Segment usage range (50 μL reaction system)
Genomic DNA or E. coli liquid	10–1,000 ng
Plasmid or viral DNA	0.5-50 ng
cDNA	1-5 μL (no more than 1/10 of the total volume of the PCR reaction)

Table 3 Recommended usage of different templates

**Reagent use: fully thaw and mix before use.

***Annealing temperature: The annealing temperature is the universal Tm value, and can also be set 1-2°C lower than the primer Tm value.

****Extension speed: Set 1 sec/kb for complex templates such as genome and E. coli within 1 kb; set 3 sec/kb for complex templates such as 1-3 kb genome and E. coli; set 10 sec/kb for complex templates over 3 kb genome and E. coli. You can set the value to 1 sec/kb for a simple template such as a plasmid less than 5 kb, 5 sec/kb for a simple template such as a plasmid between 5 and 10 kb, and 10 sec/kb for a simple template such as a plasmid larger than 10 kb.

Notes

1. For your safety and health, please wear lab coats and disposable gloves for operation.
2. This product is for research use ONLY!