2 × AceTaq® Master Mix

P411/P412

Version 9.1

Vazyme biotech co., ltd.

Introduction

This product includes AceTaq® DNA Polymerse, dNTPs, and an optimized buffer system that allows for amplification by simply adding primers and templates, reducing pipetting and improving throughput and reproducibility. A protective agent added to the amplification system allows the 2 × AceTaq® Master Mix to maintain stable activity after repeated freeze-thaw cycles. This product is available in a version containing electrophoresis buffer and dye. It can be directly electrophoresed after the reaction. The 3' end of the PCR product, A, can be directly cloned into the T vector and used in the ClonExpress® Cloning Kit (C112/C113/C114).

Components

Components	P411-01	P411-02	P411-03
2 × AceTaq Master Mix	1 ml	5 × 1 ml	15 × 1 ml

Components	P412-01	P412-02	P412-03
2 × AceTaq Master Mix (Dye Plus)	1 ml	5 × 1 ml	15 × 1 ml

Storage

Stored at -20˚C.

Protocol

Reaction system

ddH_2O	To 50 μl
2 × AceTaq Master Mix	25 μl
Primer1 (10 μM)	2 μl
Primer2 (10 μM)	2 μl
Template DNA*	x μl

*The optimal reaction concentration of different templates is different. The following table shows the recommended template usage for 50 μl reaction system.

Human genomic DNA	1 - 500 ng
E.coli genomic DNA	1 - 100 ng
λDNA	0.1 - 1 ng
Plasmid DNA	0.1 - 1 ng

Reaction procedure

95˚C	5 min (Pre-denaturation)[a]	
95˚C	30 sec	30-35 cycles
55˚C[b]	30 sec	
72˚C	60 sec/kb	
72˚C	7 min (Complete Extension)	

a. The pre-denaturation time takes at least 5 minutes. If the amplification is not ideal, the pre-denaturation time of 95˚C can be extended appropriately, up to 10 min.

b. The annealing temperature needs to be adjusted according to the Tm value of the primer, and is generally set to be lower than the primer Tm value of 3 - 5˚C.

Notes

Primer Designing

1. Choose C or G as the last base of the 3' end of the primer;
2. Avoid continuous mismatch at the last 8 bases of the 3' end of the primer;
3. Avoid hairpin structure at the 3' end of the primer;
4. Tm of the primers should be between 55°C - 65°C;
5. 5' adding sequence should not be included when calculate Tm of the primers;
6. GC content of the primers should be between 40% - 60%;
7. Tm and GC content of forward and reverse primers should be as similar as possible.

ISO 9001: 2015