2× Taq Plus Master Mix

Catalog # P211 / P212

Version 5.1

Vazyme biotech co., ltd.

Introduction

Taq Plus DNA polymerase is a mixture of Taq DNA polymerase and an enzyme containing 3'→5' exonuclease activity. Its fidelity is 6 times greater than that of Taq DNA Polymerase. Compared with Taq DNA Polymerase, Taq Plus DNA polymerase has stronger amplification performance, higher sensitivity, and is more tolerant of impurities within 5 kb amplifying range.

2× Taq Plus Master Mix contains Taq Plus DNA Polymerase, dNTP, and an optimized buffer system. The amplification can start only with the addition of primer and template, thereby easing PCR setup and improving reproducibility. It can amplify up to 10 kb from human genomic DNA or up to 15 kb from λ DNA. Protective agents in the 2× Taq Plus Master Mix enable the resistance to repeated freeze-thaw cycles.

2× Taq Plus Master Mix also provides another edition with dyes which enable direct loading PCR products onto agarose gels. The obtained PCR products are compatible with ClonExpress II One Step Cloning Kit series (Vazyme, #C112, #C113). The PCR products contain A at the 3'-end and can be directly cloned into T-Vectors.

Package Information

Components	P211-01	P211-02	P211-03
2× Taq Plus Master Mix	5 ml	15 ml	50 ml

Components	P212-01	P212-02	P212-03
2× Taq Plus Master Mix (Dye Plus)	5 ml	15 ml	50 ml

Storage

Store at -20℃.

Unit Definition

One unit (U) is defined as the amount of enzyme that incorporates 10 nmol of dNTPs into acid-insoluble products in 30 min at 74℃ with activated salmon sperm DNA as the template / primer.

Protocol

1. General reaction mixture for PCR:

ddH_2O	to 50 μl
2× Taq Plus Master Mix	25 μl
Template DNA*	Optional
Primer 1 (10 μM)	2 μl
Primer 2 (10 μM)	2 μl

*The recommended amount of DNA template for a 50 μl reaction system is as follows:

Human Genomic DNA	0.1 - 1 μg
Bacterial Genomic DNA	10 - 100 ng
λ DNA	0.5 - 5 ng
Plasmid DNA	0.1 - 10 ng

2. Thermocycling conditions for a routine PCR:

94℃	5 min (Pre-denaturation)	
94℃	30 sec	30 - 35 cycles
55℃*	30 sec	
72℃	60 sec / kb	
72℃	7 min (Final extension)	
4℃	Hold	

*The optimal annealing temperature should be 1℃ - 2℃ lower than the T_m of the primers used.

Primers Designing Notes

1. Choose C or G as the last base of the 3'-end of the primer;
2. Avoid continuous mismatching at the last 8 bases of the 3'-end of the primer;
3. Avoid hairpin structure at the 3'-end of the primer;
4. T_m of the primers should be within the range of 55℃ - 65℃;
5. Additional sequence should not be included when calculating Tm of the primers;
6. GC content of the primers should be within the range of 40% - 60%;
7. T_m and GC content of forward and reverse primes should be as similar as possible.