2× Vazyme LAmp Master Mix

Catalog # P311, P312

Version 5.1

Vazyme biotech co., ltd.

Introduction

2× Vazyme LAmp Master Mix is a blend of Taq DNA Polymerase and a DNA proofreading polymerase with 3' to 5' exonuclease activity. Its fidelity was 6-fold higher than conventional Taq DNA Polymerase. Used with the optimized buffer system, 2× Vazyme LAmp Master Mix is applicable to long PCR products, up to 21 kb. This Master Mix is also able to amplify long fragments accurately from templates of different sources or different length.

2× Vazyme LAmp Master Mix contains Vazyme LAmp DNA Polymerase, dNTP, and optimized buffer. The reaction can be started by adding only primers and template, which simplifies the operation, improves through-put, and enhances result reproducibility. The protective agents included guarantees the stability of the activity of this Master Mix. The PCR product, containing dA at 3'-end, can be cloned into T-vector, and is suitable for One Step Express cloning kit (C112/C113).

Package Information

Components	P311-01 1 ml	P311-02 5 ml	P311-03 15 ml
2× Vazyme LAmp Master Mix	1 ml	5 ml	15 ml

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2× Vazyme LAmp Master Mix (Dye Plus)	1 ml	5 ml	15 ml

Storage

Store at -20℃.

Protocol

1. General reaction mixture for PCR:

ddH_2O	to 50 μl
2× Vazyme LAmp Master Mix	25 μl
Template DNA *	optional
Primer 1 (10 μM)	2 μl
Primer 2 (10 μM)	2 μl

* The optimal final concentration of template may varies. The recommended amount of DNA template for a 50 μl reaction system is as follows:

Human Genomic DNA	10 - 200 ng
Bacterial Genomic DNA	1 - 100 ng
λ DNA	0.1 - 10 ng
Plasmid DNA	0.1 - 10 ng

2. Thermocycling conditions:

Amplification of a DNA fragment < 5 kb:

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

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

Amplification of a DNA fragment > 5 kb:

94℃	1 - 3 min (Pre-denaturation)	
94℃	10 sec	30 - 35 cycles
68℃*	30 - 60 sec / kb	
68℃	7 min (Final extension)	

* For amplification of a DNA fragment > 5 kb, it is recommended to use long primers which Tm between 68℃ and 70℃. The temperature for both annealing and extension should be 68℃, which can significantly improve the amplification specificity. Extending extension time could increase the amplification yield.

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.