

2X ACE LAMP Master Mix (Dye Plus)

Cat# EP1410 – 1ml | EP1411 – 5* 1ml | EP1412 – 15* 1ml

Storage: All components should be stored at -20°C.

INTRODUCTION

2× ACE LAMP Master Mix (Dye Plus) 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× ACE LAMP Master Mix (Dye Plus) 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× ACE LAMP Master Mix (Dye Plus) 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.

CONTENTS

Component	EP1410	EP1411	EP1412
2X ACE LAMP Master Mix (Dye Plus)	1ml	5* 1ml	15* 1ml

PROTOCOL

1. General reaction mixture for PCR:

ddH ₂ O	to 50 µl
2× ACE LAMP 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	10 - 200 ng
Bacterial Genomic DNA	1 - 100 ng
λ DNA	0.1 - 10 ng
Plasmid DNA	0.1 - 10 ng

2. Thermocycling conditions:

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

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

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

* For amplification of a DNA fragment > 5 kb, it is recommended to use long primers which T_m between 68°C and 70°C. The temperature for both annealing and extension should be 68°C, 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°C - 65°C;
5. Additional sequence should not be included when calculating T_m 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 primers should be as similar as possible.

PRODUCT USE LIMITATION

These products are intended for research use only.