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2×Es Taq MasterMix

Cat. No. : CW0718S (1 mL)
CW0718M (5 mL)
CW0718L (25 mL)
Storage Condition: Store at -20℃.

Components

Component	CW0718S 1 mL	CW0718M 5 mL	CW0718L 25 mL
2×Es Taq MasterMix	1 mL	5×1 mL	5×5 mL
ddH_2O	1 mL	5×1 mL	5×5 mL

Note: 2 x Es Taq MasterMix contains Es Taq DNA Polymerase, 3 mM $MgCl_2$ and 400 μM each dNTP.

Introduction

The product is a premix system consisting of Es Taq DNA Polymerase, Mg^{2+}, dNTPs, PCR stabilizers and enhancers at a concentration of 2×. Es Taq DNA Polymerase has high amplification efficiency and low mismatch rate. The original MasterMix formula makes the whole reaction system very stable, over 98% success rate in PCR amplification on the first attempt, while complex templates can be effectively amplified, and can minimize human error and contamination. This product does not contain dye, after the PCR procedure is completed, appropriate amount of loading buffer can be added according to the need for electrophoresis. Most PCR products obtained by amplification have an "A" base attached to the 3 'end, so they can be directly used for T/A cloning. It is mainly suitable for conventional PCR reaction and high fidelity gene cloning and other experiments.

Quality control

No exogenous nuclease activity was detected. No host residual DNA was detected by PCR. It can effectively amplify single copy genes in multiple genomes.

Procedure

The following examples show the reaction system and reaction conditions for the amplification of 1 kb fragment using human genomic DNA as template, which should be improved and optimized according to the different templates, primer structures, and target fragment sizes.

1. PCR reaction system

Component	50 μL reaction system	final concentration
2×Es Taq MasterMix	25 μL	1×
Forward Primer，10 μM	2 uL	0.4 μM
Reverse Primer，10 μM	2 μL	0.4 μM
Template DNA	<0.5 μg	<0.5 μg/50 μL
ddH_2O	up to 50 uL	

Note: The final concentration of 0.1-01.0 μM can be set as a reference for setting range. The primer concentration can be increased when the amplification efficiency is not high, and the primer concentration can be reduced in the case of non-specific reactions, so that the reaction system can be optimized.

2. PCR reaction condition

Step	Temperature	Time	
Initialization	94 ℃	2 min	
Denaturation	94 ℃	30 s	25-35 cycles
Annealing	55-65 ℃	30 s	
Extension	72 ℃	30 s	
Terminal Extension	72 ℃	2 min	

Note:1) In general experiments, the annealing temperature is 5 °C lower than the melting temperature (Tm) of the amplification primer, and the annealing temperature should be appropriately reduced when the ideal amplification efficiency cannot be obtained. When nonspecific reactions occur, increase the annealing temperature to optimize reaction conditions

2) The extension time should be set according to the size of the amplified fragment. The amplification efficiency of Es Taq DNA Polymerase is 2 Kb /min.

3) The number of cycles can be set according to the downstream application of the amplification product. If the number of cycles is too low, there is insufficient amplification. If the number of cycles is too high, the mismatch rate increases, leading to significant nonspecific background. Therefore, the number of cycles should be minimized on the premise of ensuring the yield of the product