2xTaq MasterMix (for PAGE)

Project number: T665852

Storage conditions: -20° C.

Products

Component	T665852	T6658525	T6658522
	1 ml	ml	5 ml
2 x Taq MasterMix (for PAGE)	1 ml	5 x 1 ml	5 x 5 ml
ddH2O	1 ml	5 x 1 ml	5 x 5 ml

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

Product Description:

The 2×Taq MasterMix is a premixed system consisting of Taq DNA Polymerase, Mg^{2+}, dNTPs, PCR stabilizers and enhancers. The pre-mixed PCR solution makes operation easier and faster, and minimizes human error and contamination. The unique MasterMix formula provides high yield, high reproducibility and good stability of amplification products. The product does not contain dyes, so after the PCR program, you can add appropriate amount of sampling buffer to carry out electrophoresis operation as needed. The amplified PCR product has an "A" base at the 3′ end, so it can be directly used for T/A cloning. It is mainly used for PCR amplification of DNA, DNA sequencing and other experiments, and the PCR amplified product is specially used for polyacrylamide gel electrophoresis detection.

quality control

Tested to be free of exogenous nuclease activity; no host residual DNA by PCR; efficient amplification of single-copy genes from a wide range of genomes.

Usage

The following is an example of a PCR reaction system and reaction conditions for amplifying a 1 kb fragment of human genomic DNA as a template, which should be improved and optimized according to the template, primer structure and size of the target fragment in actual operation.

1.PCR reaction system

reagents	50 μl reaction system	final concentration
2 x Taq MasterMix (for PAGE)	25 μl	1×
Forward Primer, 10 μM	2 μl	0.4 μM
Reverse Primer, 10 μM	2 μl	0.4 μM
Template DNA	<0.5 μg	<0.5 μg/50 μl
ddH2O	up to 50 μl	

Note: Please use the final concentration of 0.1-1.0 μM as a reference for setting the range of primer concentration. If the amplification efficiency is not high, the primer concentration can be increased; if a non-specific reaction occurs, the primer concentration can be decreased to optimize the reaction system.

1.PCR reaction conditions

步骤	温度	时间	
预变性	94℃	2 min	
变性	94℃	30 s	25-35 个循环
退火	55-65℃	30 s	
延伸	72℃	30 s	
终延伸	72℃	2 min	

Attention:

(1) In general, the annealing temperature is 5℃ lower than the melting temperature of the amplification primer, Tm, and when the desired amplification efficiency cannot be obtained, the annealing temperature should be lowered appropriately; when a non-specific reaction occurs, the annealing temperature should be increased, thus optimizing the reaction conditions.

(2) The extension time should be set according to the size of the amplified fragment, and the amplification efficiency of Taq DNA Polymerase of this product is 2 kb/min.

3) The number of cycles can be set according to the downstream application of the amplified product. If the number of cycles is too small, the amount of amplification will be insufficient; if the number of cycles is too large, the chance of mismatch will increase and the non-specific background will be serious. Therefore, the number of cycles should be minimized under the premise of

ensuring the product yield.