

2x PCR *Pfu* Master Mix

Catalog Number	Size
#CE102	25, 50, 100 Reactions

Description and Applications

2x *Pfu* PCR Master Mix is a perfect choice for fast, high-fidelity PCR setup that reduces the time required for calculation and pipetting and eliminates the need for buffer optimization. The accuracy of *Pfu* polymerase is approximately 10 times higher compared to *Taq* DNA polymerase and amplifies targets up to 3 kb in size. This product can be used for high fidelity PCR, generation of PCR products for cloning and expression, RT-PCR for cDNA cloning and expression, generation of PCR product for blunt-end cloning, and site-directed mutagenesis.

Product Content and Composition

Product	Size	Content
2x PCR <i>Pfu</i> Master Mix	25 Reactions	625 µL
	50 Reactions	1.25 mL
	100 Reactions	2 × 1.25 mL

Composition	Concentration
<i>Pfu</i> DNA polymerase (supplied in a proprietary reaction buffer (pH 8.5))	50 units/mL
dATP, dGTP, dCTP, dTTP (each)	400 µM
MgCl ₂	3 mM

General Reaction Protocol

Thaw the PCR Master Mix on ice. Vortex the Master Mix and then spin it briefly in a microcentrifuge to collect the material in the bottom of the tube. Keep all components and reagents on ice. Prepare each 50 µL reaction mixture in thin-walled 0.2 mL PCR tubes as follows:

Component	Volume	Final Concentration
<i>Pfu</i> PCR Master Mix, 2x	25 µL	1x
Forward primer	Variable	0.2–1 µM
Reverse primer	Variable	0.2–1 µM
Template DNA	Variable*	10 pg - 1 µg
Nuclease free water	Variable	
Total volume	50 µL	

*Use 0.01–1 ng for plasmid or phage DNA and 0.1–1 µg for genomic DNA

Perform PCR using the following thermal cycling conditions:

Step	Temperature (°C)	Time	Number of cycles
Initial denaturation	95	5 min	1
Denaturation	95	30 s	25-35
Annealing	T _m -5	45 s	
	<i>Approximately 5 °C below T_m of primers</i>		
Extension	72	90 s	
Final extension	72	5 min	1

Storage Conditions

Storage Condition: -20 °C (for long term storage). Product may be stored at 4 °C for up to three months.

Expiration Date: One year from date of opening container.

Disclaimer: This product is for research use only, not for drug, household, or other uses.