2x PCR mix

Cat. No.: SM208-0100 Size: 100 Reactions (2 × 1.25 ml)
Cat. No.: SM208-0004 Size: 4 Reactions (1 × 100 µl)

Description

2x PCR mix is a ready-to-use PCR reaction mixture. Simply add primers, template, the reagent will execute primer extensions and other molecular biology applications. 2x PCR mix is a pre-mixed solution containing *Taq* DNA polymerase, PCR reaction buffers, and dNTPs.

2x PCR mix contains the *Taq* DNA polymerase, is purified from the *E. coli.,* and expressing the Thermus aquaticus DNA polymerase gene. This enzyme has a 5' → 3' DNA polymerase and the 5' → 3' exonuclease activity but lacks the 3' → 5' exonuclease activity. 2x PCR mix mixture is supplied at the 2X concentration to allow 50% of the final reaction volume to be used for the addition of primer and template solutions. Reagents are provided with the sufficient amplification reactions of 50 µl each.

Feature

➢ No need to prepare PCR Reagents.

Application

➢ PCR Amplification

Kit Content

Content	SM208-0100	SM208-0004
2x PCR mix	1.25 ml X 2 vials	100 µl X 1 vial

Quality Control

The quality of the 2x PCR mix is tested on a lot-to-lot basis to ensure consistent product quality.

Required Materials

➢ Electrophoresis equipments.
➢ DNA Markers.
➢ BLooK LED transilluminator or UV epi-illuminator.

Buffer Preparation

➢ TE buffer, pH8.0 (Selective): 10 mM Tris-HCl, pH 8.0 with 1 mM EDTA

Storage

Store at room temperature up to 3 months
Store at 4°C up to 6 months
Store at -20°C up to 1 year
Shipping temperature: 4°C

2x PCR mix Protocol

Standard PCR with 2x PCR mix

1. For each 50 µl reaction, assemble the following components in a 0.2 ml PCR tube on ice before the experiment:

Component	Volume (µl)	Final Concentration
2x PCR mix	25	1X
Forward primer (5-10 µM)	1	0.1-0.2 µM
Reverse primer (5-10 µM)	1	0.1-0.2 µM
DNA template	1	-
Add ddH_2O to	50	

2. Mix gently. If necessary, centrifuge briefly. Cap the tube and place it in the thermal cycler.
3. To process in the thermal cycler for 25-35 cycles as follows:

Process	Temperature (°C)	Time	Cycles
Initial Denaturation	94	2-5 minutes	1
Denaturation	94	20-40 seconds	25-35
Annealing	the proper annealing temperature	1 minute	
Extension	72	2 minutes	
Final extension	72	5 minutes	1

Note: Optimal conditions for amplification will vary depending on the primers and thermal cycler used. It may be necessary to optimize the system.

4. After the PCR reaction, analysis product using DNA electrophoresis.

Troubleshooting

Refer to the table below to troubleshoot problems that you may encounter when you did PCR amplification with the kit.

Problem	Cause	Solution
Low yield of PCR products	Incomplete concentration of start materials	Use the appropriate method for the DNA preparation based on the amount of the starting materials.

Problem	Cause	Solution
DNA degrade	DNA is not fresh	Avoid repeated freeze / thaw cycles of the sample.
		Keep DNA preparations on ice or frozen in order to avoid the degradation.
	Dnase contaminant	Use the fresh TAE or TBE electrophoresis buffer.
		Maintain a sterile work environment to avoid contamination from DNase.

Related Ordering Information

Cat. No.	Description	Size
BK001	BlooK LED Transilluminator	1 Set
SD010-R500	1 Kb DNA Ladder RTU	500 µl
SN005-0100	Plasmid *mini*PREP Kit	100 Reactions
SL001-1000	Novel Juice Supplied in 6X Loading Buffer	1000 µl

Caution

- During operation, always wear a lab coat, disposable gloves, and protective equipment.
- All products are for research use only.