AccuPower® *Pfu* PCR PreMix

[Cat. No.] Please refer to the **Ordering Information**

Introduction

AccuPower® *Pfu* PCR PreMix is ideal for convenient and high fidelity of DNA amplification. Included *Pfu* DNA Polymerase provide highly accurate PCR products through its proof-reading function. This product contains vacuum-dried components including *Pfu* DNA Polymerase, dNTPs, reaction buffer, stabilizer, and tracking dye. It simplifies preparation of reaction mixture by adding template DNA and primers without any extra process. After the reaction, samples can be applied directly on agarose gel for analysis.

Applications

- Gene synthesis
- Gene cloning
- Conventional PCR
- Primer extension
- Site-directed mutagenesis
- High fidelity PCR

Features & Benefits

- High fidelity: Low mutation rate during DNA amplification due to its high fidelity (error rate = 1.9×10^{-6}).
- Sensitivity: Excellent sensitivity and amplification efficiency even with small amounts of DNA.
- Long range PCR: Effective amplification of large size templates allowing various applications such as promoter assay and cloning.
- Stability: Included stabilizer enables delivery at room temperature and provides increased stability compared to solution-type products.
- User-friendly: Reactants are individually packaged in each of the PCR tubes, it allows any user simply perform PCR by adding template DNA and primers.
- Reproducibility: Mass production under ISO 9001 quality system allows minimized deviation between lots and reproducible results in replicated tests performed under same conditions and variation.

Composition

Composition	Concentration
Pfu DNA Polymerase	1 U
dNTPs (dATP, dCTP, dGTP, dTTP)	Each 250 μM
Reaction buffer with 1.5 mM $MgCl_2$	1X
Stabilizer and tracking dye	O

Specifications

Pfu DNA Polymerase	
5' to 3' exonuclease activity	No
3' to 5' exonuclease activity	Yes
3'–A overhang	No
Fragment size	Up to 15 kb

Storage

Store at -20°C. If stored in the recommended temperature, this product will be stable until the expiration date printed out on the label.

Online Resources

Korean **English**

Visit our **product page** for additional information and protocols

Ordering Information

Description			Cat. No.
0.2 ml thin-wall 8-tube strips with attached cap	96 tubes	20 μl/rxn	K-2022
		50 μl/rxn	K-2023
	480 tubes	20 μl/rxn	K-2024
		50 μl/rxn	K-2025
0.5 ml thin-wall 8-tube strips with attached cap	100 tubes	50 μl/rxn	K-2027

Notice

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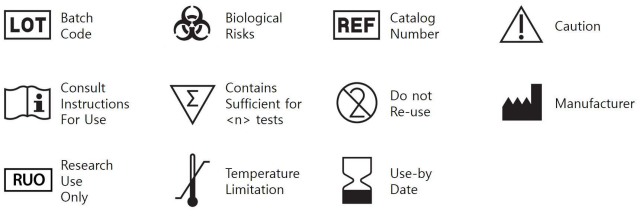
Explanation of Symbols



Experimental Procedures

1 Preparation of reaction mixture

1. Add template DNA, primers, and nuclease-free water into *AccuPower® Pfu* PCR PreMix tubes to make a total volume of 20 µl or 50 µl. Do not include the dried pellet.

- Preparation of reaction mixture

Components	20 µl reaction	50 µl reaction
Template DNA (1-100 ng)	Variable (1-10 µl)	Variable (1-25 µl)
Forward primer (10 pmol/µl)	0.5-2 µl	1-5 µl
Reverse primer (10 pmol/µl)	0.5-2 µl	1-5 µl
Nuclease-free water	Variable	Variable
Total volume	20 µl	50 µl

2. Dissolve the vacuum-dried blue pellet by vortexing or pipetting, and briefly spin down.

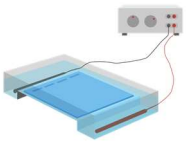
2 Incubate reactions in a thermal cycler

3. Perform the reaction under the following conditions.

Step	Temperature	Time	Cycles
Pre-denaturation	94°C	2-5 min	1 cycle
Denaturation	94°C	0.5-1 min	
Annealing	42-65°C	0.5-1 min	25-35 cycles
Extension	72°C	1-2 min/kb	
Final extension	72°C	5 min	1 cycle

* **Note:** For maximum yield and specificity, temperatures and cycling times should be optimized for each new template DNA or primers.

3 Analyze with gel electrophoresis



4. After the reaction, maintain the reaction mixture at 4-8°C. The samples can be stored at -20°C until use.

5. Load samples on agarose gel without adding a loading-dye mixture, and perform gel electrophoresis for analysis.

Option

- If primer's Tm value is more than 65°C or PCR product size is more than 5 kb, follow the conditions as below.

Step	Temperature	Time	Cycles
Pre-denaturation	94°C	2-5 min	1 cycle
Denaturation	94°C	30 sec	25-35 cycles
Annealing/Extension	68°C	1-2 min/kb	
Final extension	68°C	5 min	1 cycle