AccuPower® PCR Master Mix

[Cat. No.] K-2018, K-2018-1

Introduction

AccuPower® PCR Master Mix is a ready-to-use mixture containing *Top* 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

- Conventional PCR
- Primer extension
- TA cloning
- Gene sequencing

Features & Benefits

- Stability: Included stabilizer enables to maintain the activity of master mix for more than a year. It ensures superior amplification efficiency with stability and uniform activity of polymerase in the process of PCR.
- User-friendly: Reactants are included in a tube, it allows any user simply perform PCR by adding template DNA and primers.
- Sensitivity: Excellent sensitivity and amplification efficiency even with small amounts of DNA.
- 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

2X Master Mix	Concentration
Top 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

Top DNA Polymerase	
5’ to 3’ exonuclease activity	No
3’ to 5’ exonuclease activity	No
3’–A overhang	Yes
Fragment size	Up to 10 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.

Precautions

- This enzyme is specifically optimized for increasing base incorporation rate by inactivating 5’ to 3’ exonuclease activity. Therefore, this product is not recommended to use for real-time PCR using hydrolysis probe method.

Online Resources

Korean **English**

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

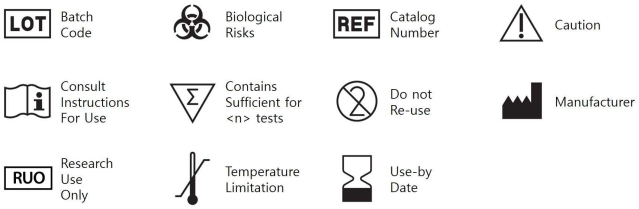
Ordering Information

Description		Cat. No.
1 ml of 2X Master Mix solution	1 ml x 1 ea	K-2018
10 ml of 2X Master Mix solution	1 ml x 10 ea	K-2018-1

Notice

BIONEER corporation reserves the right to make corrections, modifications, improvements and other changes to its products, services, specifications or product descriptions at any time without notice.

Explanation of Symbols



Copyright 2022 BIONEER Corporation. All Rights Reserved.

Experimental Procedures

1 Thaw reagents

1. Thaw *AccuPower*® PCR Master Mix on ice and mix thoroughly before use. Then, briefly spin down components.
2. Dispense appropriate volumes of *AccuPower*® PCR Master Mix into PCR tubes (not provided).

2 Preparation of reaction mixture

3. Add template DNA, primers, and nuclease-free water into PCR tubes to make a total volume of 20 µl or 50 µl.

- Amount of template

Template DNA	Amount of template	
	20 µl reaction	50 µl reaction
Bacteriophage λ, Plasmid DNA	100 fg-200 ng	100 fg-500 ng
Total genomic DNA	1-500 ng	1 ng-1 µg

- Preparation of reaction mixture

Components	20 µl reaction	50 µl reaction
2X PCR Master Mix solution	10 µl	25 µl
Template DNA	Variable	Variable
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

4. Mix the reaction mixture by pipetting or vortexing, and briefly spin down.

3 Incubate reactions in a thermal cycler

5. Perform the reaction under the following conditions.

Step	Temperature	Time	Cycles
Pre-denaturation	95°C	5 min	1 cycle
Denaturation	95°C	20 sec	
Annealing	45-65°C	20 sec	25-35 cycles
Extension	72°C	0.5-1 min/kb	
Final extension	72°C	3-5 min	1 cycle

4 Analyze with gel electrophoresis

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

7. 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	95°C	5 min	1 cycle
Denaturation	95°C	20 sec	30-35 cycles
Annealing/Extension	68°C	1 min/kb	
Final extension	72°C	3-5 min	1 cycle

Copyright 2022 BIONEER Corporation. All Rights Reserved.