AccuPower® *Taq* PCR Master Mix

[Cat. No.] K-2609, K-2610

Introduction

AccuPower® *Taq* PCR Master Mix is the powerful technology for convenient and easy performance of DNA amplification. This product is a ready-to-use mixture containing *Taq* 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.
- Sensitivity: Excellent sensitivity and amplification efficiency even with small amounts of DNA.
- User-friendly: Reactants are included in a tube, 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

2X Master Mix	Concentration
Taq 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

Taq DNA Polymerase	
5’ to 3’ exonuclease activity	Yes
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.

Online Resources

Korean **English**

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

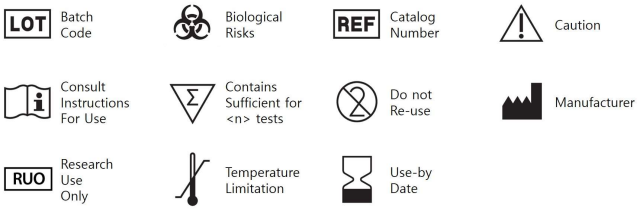
Ordering Information

Description		Cat. No.
2.5 ml of 2X Master Mix solution	1.25 ml x 2 ea	K-2609
25 ml of 2X Master Mix solution	12.5 ml x 2 ea	K-2610

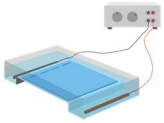
Notice

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



Experimental Procedures

<table>
<tr><th colspan="2">Steps</th><th>Procedure Details</th></tr>
<tr><td>1</td><td> 
Thaw reagents</td><td>1. Thaw AccuPower® Taq PCR Master Mix on ice and mix thoroughly before use. Then, briefly spin down components.
2. Dispense appropriate volumes of AccuPower® Taq PCR Master Mix into PCR tubes (not provided).</td></tr>
<tr><td>2</td><td> 
Preparation of reaction mixture</td><td>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
<table>
<tr><th rowspan="2">Template DNA</th><th colspan="2">Amount of template</th></tr>
<tr><th>20 µl reaction</th><th>50 µl reaction</th></tr>
<tr><td>Bacteriophage λ, Plasmid DNA</td><td>100 fg-200 ng</td><td>100 fg-500 ng</td></tr>
<tr><td>Total genomic DNA</td><td>1-500 ng</td><td>1 ng-1 µg</td></tr>
</table>
• Preparation of reaction mixture
<table>
<tr><th>Components</th><th>20 µl reaction</th><th>50 µl reaction</th></tr>
<tr><td>2X PCR Master Mix solution</td><td>10 µl</td><td>25 µl</td></tr>
<tr><td>Template DNA</td><td>Variable (1-5 µl)</td><td>Variable (1-25 µl)</td></tr>
<tr><td>Forward primer (10 pmol/µl)</td><td>0.5-2 µl</td><td>1-5 µl</td></tr>
<tr><td>Reverse primer (10 pmol/µl)</td><td>0.5-2 µl</td><td>1-5 µl</td></tr>
<tr><td>Nuclease-free water</td><td>Variable</td><td>Variable</td></tr>
<tr><td>Total volume</td><td>20 µl</td><td>50 µl</td></tr>
</table>
4. Mix the reaction mixture by pipetting or vortexing, and briefly spin down.</td></tr>
<tr><td>3</td><td> 
Incubate reactions in a thermal cycler</td><td>5. Perform the reaction under the following conditions.
<table>
<tr><th>Step</th><th>Temperature</th><th>Time</th><th>Cycles</th></tr>
<tr><td>Pre-denaturation</td><td>95°C</td><td>1-5 min*</td><td>1 cycle</td></tr>
<tr><td>Denaturation</td><td>95°C</td><td>30 sec</td><td rowspan="3">25-35 cycles</td></tr>
<tr><td>Annealing</td><td>45-65°C†</td><td>30 sec</td></tr>
<tr><td>Extension</td><td>72°C</td><td>0.5-1 min/kb</td></tr>
<tr><td>Final extension</td><td>72°C</td><td>3-5 min</td><td>1 cycle</td></tr>
</table>
* When using genomic DNA as template DNA, set it to 5 min.
† The optimal annealing temperature depends on the melting temperature of the primers.</td></tr>
<tr><td>4</td><td> 
Analyze with gel electrophoresis</td><td>6. After the reaction, maintain the reaction mixture at 4-8°C. The samples can be stored at -20°C until use.
7. Load 5 µl of samples on agarose gel without adding a loading-dye mixture, and perform gel electrophoresis for analysis.</td></tr>
<tr><td></td><td> 
Option</td><td>• If primer's Tm value is more than 65°C or PCR product size is more than 5 kb, follow the conditions as below.
<table>
<tr><th>Step</th><th>Temperature</th><th>Time</th><th>Cycles</th></tr>
<tr><td>Pre-denaturation</td><td>95°C</td><td>1-5 min</td><td>1 cycle</td></tr>
<tr><td>Denaturation</td><td>95°C</td><td>30 sec</td><td rowspan="2">25-35 cycles</td></tr>
<tr><td>Annealing/Extension</td><td>68°C</td><td>1 min/kb</td></tr>
<tr><td>Final extension</td><td>68°C</td><td>3-5 min</td><td>1 cycle</td></tr>
</table></td></tr>
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