AccuPower® *GoldHotStart Taq* PCR Master Mix (V2/2022-02-07)

[Cat. No.] K-2629, K-2630

Introduction

AccuPower® *GoldHotStart Taq* PCR Master Mix is the powerful technology for convenient and easy performance that allows enhanced specificity and DNA amplification. By applying antibody-based *GoldHotStart Taq* DNA Polymerase, it provides reduced non-specific reactions such as mis-priming and primer dimer during PCR at a low temperature. This product is a ready-to-use mixture containing *GoldHotStart 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

- High specificity PCR
- High sensitivity PCR
- gDNA template PCR
- Low-copy target PCR
- Multiple primer pairs PCR
- cDNA template PCR
- TA cloning

Features & Benefits

- Specificity & Efficiency: Minimized non-specific amplification and maximized PCR efficiency by using *GoldHotstart Taq* DNA Polymerase.
- 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.
- 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.
- Diversity: Comprehensive compatible types of samples for amplification such as gDNA templates, low-copy targets, etc.
- 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	20 µl reaction
GoldHotStart 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

GoldHotStart Taq DNA Polymerase	
5’ to 3’ exonuclease activity	Yes
3’ to 5’ exonuclease activity	No
3’–A overhang	Yes
Fragment size	Up to 5 kb (human)

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

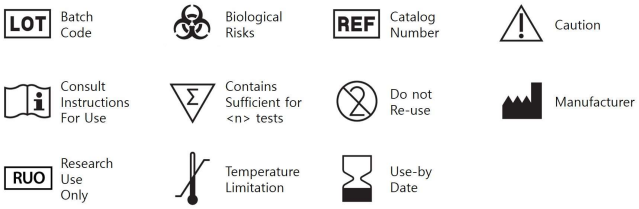
Ordering Information

Description		Cat. No.
2.5 ml of 2X Master Mix solution	1.25 ml x 2 ea	K-2629
25 ml of 2X Master Mix solution	12.5 ml x 2 ea	K-2630

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.

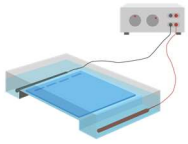
Explanation of Symbols



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® GoldHotStart Taq PCR Master Mix on ice and mix thoroughly before use. Then, briefly spin down components.

2. Dispense appropriate volumes of AccuPower® GoldHotStart 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.

• 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 (1-500 ng)</td><td>Variable</td><td>Variable</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 vortexing or pipetting, 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>5 min</td><td>1 cycle</td></tr>
<tr><td>Denaturation</td><td>95°C</td><td>15-30 sec</td><td rowspan="3">25-35 cycles</td></tr>
<tr><td>Annealing</td><td>45-65°C*</td><td>15-30 sec</td></tr>
<tr><td>Extension</td><td>72°C</td><td>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>
* Note: The optimal annealing temperature depends on the melting temperature of 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>
</table>