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

Introduction

AccuPower® *DualStar*™ qPCR PreMix enables accurate and rapid quantification of target genes in a wide range of samples through real-time PCR with hydrolysis probe method. By applying BIONEER's patented enzyme-mediate HotStart technology, non-specific reactions are reduced during zero cycles and amplification efficiency is improved even with a trace amount of template DNA. This product contains vacuum-dried components for real-time PCR, except for template DNA, target-specific primers and fluorogenic probes. By just adding template DNA, target-specific primers and probes, reproducible results with high sensitivity and specificity can be obtained. It can be applied in hydrolysis probe-based real-time PCR experiments for the amplification and detection of genomic DNA and cDNA targets, differential gene expression profiling, Single Nucleotide Polymorphism (SNP) analysis, and evaluation of RNAi products.

Applications

- Gene expression profiling
- Target DNA quantification
- Microbial detection
- Viral/bacterial pathogen load determination
- Evaluation of primer pair performance for probe-based real-time PCR

Features & Benefits

- Specificity: Minimized non-specific amplification and maximized PCR efficiency by using BIONEER's differentiated PyroHotstart technology.
- Compatibility: Wide choice of real-time PCR instruments for optimal results.
- Comprehensiveness: Effective real-time PCR regardless of gene types, including DNA, cDNA and high GC templates.
- Convenience: Reactants are individually packaged in each of the PCR tubes, it allows any user simply perform real-time PCR by adding template DNA, target-specific primers, and probes.
- Stability: Included stabilizer enables enzyme activity to be stable for up to 2 years at -20°C.
- 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.

Components

Components	Tube/Plate	50X ROX dye	DEPC-D.W.
K-6100	96 tubes		1.2 ml x 2 ea
K-6110	96 tubes		1.2 ml x 4 ea
K-6103	96-well plate		1.2 ml x 2 ea
K-6113	96-well plate		1.2 ml x 4 ea
K-6101	96 tubes	0.2 ml	1.2 ml x 2 ea
K-6111	96 tubes	0.2 ml	1.2 ml x 4 ea
K-6104	96-well plate	0.2 ml	1.2 ml x 2 ea
K-6114	96-well plate	0.2 ml	1.2 ml x 4 ea
K-6102	96 tubes		1.2 ml x 2 ea
K-6112	96 tubes		1.2 ml x 4 ea

*** Note:** ROX dye is used for normalization of intensity by background subtraction. The use of ROX dye is recommended for Applied Biosystems 7500 Real-Time PCR System (Applied Biosystems), but not required for *Exicycler*™ 96 Real-Time PCR System (BIONEER) and CFX96 Real-Time PCR System (Bio-Rad).

Composition

Composition	Concentration
Taq DNA Polymerase	1 U
dNTPs (dATP, dCTP, dGTP, dTTP)	1.2 mM
HotStart reaction buffer with 1.5 mM $MgCl_2$	1X
Stabilizer	1X

Specifications

Taq DNA Polymerase	
5' to 3' exonuclease activity	Yes
3' to 5' exonuclease activity	No
3'–A overhang	Yes

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

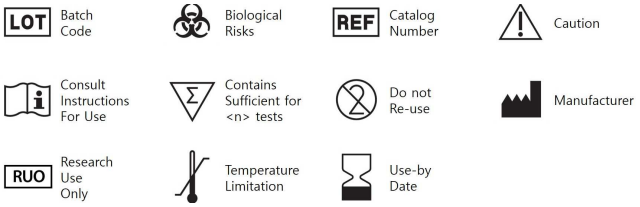
Ordering Information

Description					Cat. No.
Exicycler	8-tube strips	20 µl	optical film included	96 rxn	K-6100
		50 µl		96 rxn	K-6110
	96-well plate	20 µl		96 rxn	K-6103
		50 µl		96 rxn	K-6113
ABI7500	8-tube strips	20 µl	optical film included	96 rxn	K-6101
		50 µl		96 rxn	K-6111
	96-well plate	20 µl		96 rxn	K-6104
		50 µl		96 rxn	K-6114
CFX96	8-tube strips	20 µl	optical film included	96 rxn	K-6102
		50 µl		96 rxn	K-6112

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 colspan="3">Recommended protocol for Exicycler™ 96 (BIONEER), Applied Biosystems 7500 Real-Time PCR System (Applied Biosystems), and CFX96 Real-Time PCR System (Bio-Rad).</td></tr>
<tr><td>1</td><td> 
Preparation of reaction mixture</td><td>
1. Add template DNA, target-specific primers, hydrolysis probe (not provided), 50X ROX dye (optional), and DEPC-D.W. into AccuPower® DualStar™ qPCR PreMix tubes to make a total volume of 20 µl or 50 µl. Do not include dried pellet.

• 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>Total genomic DNA</td><td>10 pg-1 µg</td><td>10 pg-1 µg</td></tr>
<tr><td>cDNA</td><td>10 pg-1 µg</td><td>10 pg-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>Template DNA</td><td>Variable</td><td>Variable</td></tr>
<tr><td>Forward primer (10 pmol/µl)</td><td>1-2 µl</td><td>2-5 µl</td></tr>
<tr><td>Reverse primer (10 pmol/µl)</td><td>1-2 µl</td><td>2-5 µl</td></tr>
<tr><td>Hydrolysis probe (10 pmol/µl)</td><td>1-2 µl</td><td>2-5 µl</td></tr>
<tr><td>(Optional) 50X ROX dye</td><td>0.4 µl</td><td>1 µl</td></tr>
<tr><td>DEPC-D.W.</td><td>Variable</td><td>Variable</td></tr>
<tr><td>Total volume</td><td>20 µl</td><td>50 µl</td></tr>
</table>
* Note: This protocol was validated with the TaqMan® probe as a hydrolysis probe.

2. Seal real-time PCR tubes or plate with adhesive optical sealing film (Cat. No. 3111-4110, provided).

3. Dissolve the vacuum-dried pellet by vortexing, and briefly spin down.
</td></tr>
<tr><td>2</td><td> 
Real-time PCR</td><td>
4. 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>3-5 min</td><td>1 cycle</td></tr>
<tr><td>Denaturation</td><td>95°C</td><td>5-30 sec</td><td rowspan="2">40-45 cycles</td></tr>
<tr><td>Annealing & Extension</td><td>55-60°C</td><td>30-35 sec</td></tr>
</table>
* Note: Users can adjust the protocol according to their instrument and template DNA sequences to get optimal results.

5. After the reaction is completed, analyze the results.
</td></tr>
</table>