Single Gene qPCR Primer Set

[Cat. No.] S-6042-S200

Introduction

Single Gene qPCR Primer Set is designed by primer Blast (NCBI) and BIONEER's bioinformatics tool for intercalating dye-based method. All primers are designed and validated in accordance with the MIQE (Minimum Information for Publication of Quantitative Real-Time PCR Experiments) guidelines*. The target specificity and PCR efficiency are verified and provided as a forward and reverse primer set. This product is optimized for utilization of *AccuPower*® 2X GreenStar™ qPCR Master Mix (Cat. No. K-6251) and *Exicycler*™ 96 (Cat. No. A-2060) that gives the best result. It can be used directly in the experiment without further verification, and you can derive ready-to-publish data.

* Bustin, S.A., et al. 2009. The MIQE Guidelines: Minimum Information for Publication of Quantitative Real-Time PCR Experiments, Clinical Chemistry 55:4, 611-622.

Features & Benefits

- Target-specific primer design using primer blast and our bioinformatics tool
- Exclusion of self-primer-dimer formation sequence
- Identification of single peak in the dissociation curve
- Short amplicon size of 80-160 bp
- Wide amplification range of copies of about 10^2-10^7
- qPCR amplification efficiency of 90-110% in compliance with the MIQE Guidelines

Components

Product Type	Components	Amount
Lyophilized primer set	Forward primer Reverse primer	3 nmol
Dissolved primer set	Forward primer Reverse primer	30 µl (100 pmol/µl)

Storage

- **(Lyophilized primer set)** This product is shipped at ambient (15-20°C) temperature. Store at ambient temperature without direct sunlight for long term storage. Once dispensed, primers should be stored at -20°C and repeated freeze and thaw cycles (more than once) are not recommended
- **(Dissolved primer set)** This product is shipped with dry-ice embedded. Primers should be stored at -20°C and repeated freeze and thaw cycles (more than once) are not recommended

Online Resources

Korean **English**

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

Ordering Information

Description	Cat. No.
Single Gene qPCR Primer Set	S-6042-S200

*** Note:** Each of forward and reverse primer is supplied for 200 rxn in two separate single tubes.

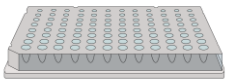
Notice

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> 
Preparation of primers</td><td>1-1. [Lyophilized primer set] Dissolve forward and reverse primers in 500 µl of nuclease-free water to make a concentration of 6 pmol/µl.

1-2. [Dissolved primer set] Dilute forward and reverse primers in 470 µl of nuclease-free water to make a concentration of 6 pmol/µl and the final volume is 500 µl.</td></tr>
<tr><td>2</td><td> 
Preparation of reaction mixture</td><td>2. Add template DNA, primers, nuclease-free water, and AccuPower® 2X GreenStar™ qPCR Master Mix (K-6251, not provided) into real-time PCR plate (not provided) 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>AccuPower® 2X GreenStar™ qPCR Master Mix</td><td>10 µl</td><td>25 µl</td></tr>
<tr><td>Template DNA</td><td>5 pg-100 ng</td><td>5 pg-100 ng</td></tr>
<tr><td>Forward primer (6 pmol/µl)</td><td>1 µl</td><td>2.5 µl</td></tr>
<tr><td>Reverse primer (6 pmol/µl)</td><td>1 µl</td><td>2.5 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>
3. Seal real-time PCR plate with adhesive optical sealing film (3111-4110, not provided) and briefly spin down.</td></tr>
<tr><td>3</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>10 min</td><td>1 cycle</td></tr>
<tr><td>Denaturation</td><td>95°C</td><td>5 sec</td><td rowspan="3">40 cycles</td></tr>
<tr><td>Annealing</td><td>58°C</td><td>25 sec</td></tr>
<tr><td>Extension</td><td>72°C</td><td>30 sec</td></tr>
<tr><td>Detection</td><td colspan="2">Scan</td><td></td></tr>
<tr><td>Final extension</td><td>65°C</td><td>5 min</td><td>1 cycle</td></tr>
<tr><td>Melting</td><td>65-95°C</td><td>1 sec</td><td>-</td></tr>
</table>
5. After the reaction, perform data analysis.</td></tr>
</table>