

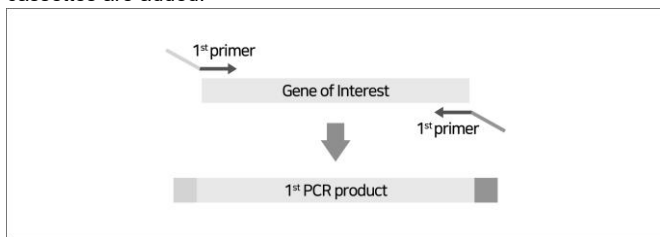
[Cat. No.] **K-7400, K-7401, K-7400-CP**

Introduction

ExiProgen™ ProXpress PCR Template Kit generates template DNA for cell-free protein expression using a two-step PCR process, with no cloning required. The template DNA includes essential elements such as a T7 promoter, a ribosomal binding site (RBS), a T7 terminator, and a 6x histidine tag for recombinant protein production.

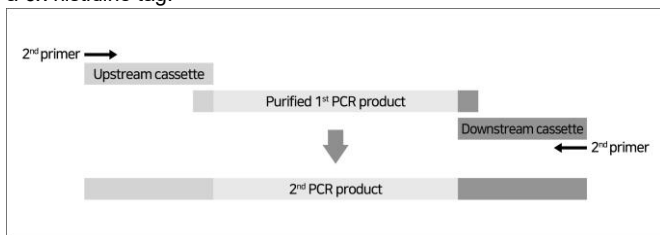
A. First PCR

In the first PCR, target genes are amplified from the DNA (cDNA, genomic DNA, plasmid DNA, etc.) and partial sequences of cassettes are added.



B. Second Overlapping PCR

In the second PCR, the cassettes are added to the upstream and downstream of first PCR products. The cassettes are DNA fragments containing sequences of a T7 promoter, a RBS, a T7 terminator, and a 6x histidine tag.



C. Structure of Template DNA

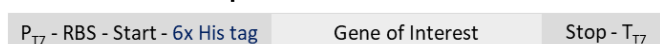


Figure 1. 6x His-tagged template DNA at the N-terminal

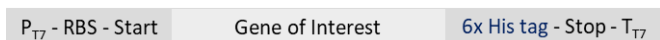


Figure 2. 6x His-tagged template DNA at the C-terminal

Features & Benefits

- Rapid: Saves time by getting the template DNA through PCR instead of time-consuming cloning steps.
- Minimized PCR error: Provides AccuPower® ProFi Taq PCR PreMix, having high accuracy and precision, to lower the error rate as much as possible.

Components

Components	K-7400	K-7401	K-7400-CP
AccuPower® ProFi Taq PCR Premix	20 µl x 96 tubes	20 µl x 192 tubes	-
N terminus upstream cassette (5 ng/µl)	70 µl	70 µl x 2 ea	400 µl

cassette (5 ng/µl)	(Green, NU)	(Green, NU)	
N terminus downstream cassette (5 ng/µl)	70 µl	70 µl x 2 ea	400 µl
C terminus upstream cassette (5 ng/µl)	(Green, ND)	(Green, ND)	
C terminus downstream cassette (5 ng/µl)	70 µl	70 µl x 2 ea	400 µl
C terminus downstream cassette (5 ng/µl)	(Red, CU)	(Red, CU)	
C terminus downstream cassette (5 ng/µl)	70 µl	70 µl x 2 ea	400 µl
C terminus downstream cassette (5 ng/µl)	(Red, CD)	(Red, CD)	
2 nd Forward primer (10 pmol/µl)	70 µl	70 µl x 2 ea	400 µl
2 nd Forward primer	(Black, 2F)	(Black, 2F)	
2 nd Reverse primer (10 pmol/µl)	70 µl	70 µl x 2 ea	400 µl
2 nd Reverse primer	(Black, 2R)	(Black, 2R)	

* Note: For research use only. Not for use in diagnostic or therapeutic procedures.

Specifications

	K-7400	K-7401	K-7400-CP
Reactions	16 rxns	32 rxns	100 rxns
Target DNA size		≤ 1.6 kb	

Storage

Store at a temperature between -70°C and -20°C.

Online Resources



Korean



English

Visit our [product page](#) for additional information and protocols

Ordering Information

Description	Reactions	Cat. No.
ExiProgen™ ProXpress PCR Template Kit	16	K-7400
	32	K-7401
	100	K-7400-CP

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



Batch Code



Catalog Number



Caution



Consult Instructions For Use



Contains Sufficient for <n> tests



Do not Re-use



Manufacturer



Research Use Only




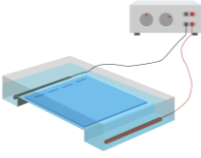




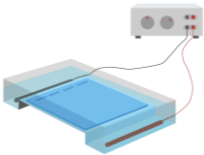
Temperature Limitation



Use-by Date

Experimental Procedures

Steps		Procedure Details																								
1	 Primer design	<p>1. Design and order the gene-specific primers as shown below. The 1st Forward and Reverse primer ordered below is supplied with overlapping sequences (21-mer) to both the upstream and downstream cassettes respectively at the 5'-end of each primer.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Primers</th> <th style="text-align: left;">Sequences (5' to 3')</th> </tr> </thead> <tbody> <tr> <td>1st Forward primer (39-mer)</td> <td>XXXXXXXXXXXXXXXXXXXX (overlapping on upstream cassette) + 18-mer from the 5'-end of the target gene except for the start codon</td> </tr> <tr> <td>1st Reverse primer (39-mer)</td> <td>XXXXXXXXXXXXXXXXXXXX (overlapping on downstream cassette) + 18-mer from the 3'-end of the target gene except for the stop codon in reverse complementary sequence</td> </tr> </tbody> </table> <p>* Note: The 1st Forward/Reverse primer sets come in two types, each with Cat. No. N-8229 or N-8230, and which to choose depends on the location of the 6x histidine tag on the template DNA the user wants to synthesize. Refer to the example on our product page for easy understanding.</p>	Primers	Sequences (5' to 3')	1 st Forward primer (39-mer)	XXXXXXXXXXXXXXXXXXXX (overlapping on upstream cassette) + 18-mer from the 5'-end of the target gene except for the start codon	1 st Reverse primer (39-mer)	XXXXXXXXXXXXXXXXXXXX (overlapping on downstream cassette) + 18-mer from the 3'-end of the target gene except for the stop codon in reverse complementary sequence																		
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2	 Preparation of reaction mixture	<p>2. Add first PCR components into the <i>AccuPower® ProFi Taq</i> PCR PreMix tubes to a total volume of 20 µl. Do not calculate the dried pellet.</p> <ul style="list-style-type: none"> Preparation of reaction mixture <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Components</th> <th style="text-align: center;">Negative</th> <th style="text-align: center;">Sample</th> </tr> </thead> <tbody> <tr> <td>Template DNA (1-500 ng)</td> <td style="text-align: center;">-</td> <td style="text-align: center;">Variable</td> </tr> <tr> <td>1st Forward primer (10 pmol/µl)</td> <td style="text-align: center;">1 µl</td> <td style="text-align: center;">1 µl</td> </tr> <tr> <td>1st Reverse primer (10 pmol/µl)</td> <td style="text-align: center;">1 µl</td> <td style="text-align: center;">1 µl</td> </tr> <tr> <td>Distilled water</td> <td style="text-align: center;">18 µl</td> <td style="text-align: center;">Variable</td> </tr> <tr> <td>Total volume</td> <td style="text-align: center;">20 µl</td> <td style="text-align: center;">20 µl</td> </tr> </tbody> </table> <p>3. Dissolve the vacuum-dried blue pellet by tapping or pipetting, and briefly spin down.</p>	Components	Negative	Sample	Template DNA (1-500 ng)	-	Variable	1 st Forward primer (10 pmol/µl)	1 µl	1 µl	1 st Reverse primer (10 pmol/µl)	1 µl	1 µl	Distilled water	18 µl	Variable	Total volume	20 µl	20 µl						
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4	 Analyze with gel electrophoresis	<p>5. Load the samples on the agarose gel without adding a loading-dye mixture, and perform gel electrophoresis for analysis.</p> <p>* Note: The size of the target product should be 80 bp larger than the size of your target gene due to the first-step primers.</p> <p>6. Purify the samples using a gel purification kit.</p>																								

<p style="text-align: center;">5</p>	 <p style="text-align: center;">Preparation of reaction mixture</p>	<p>7. Add second PCR components into the <i>AccuPower® ProFi Taq</i> PCR PreMix tubes to a total volume of 20 µl. Do not calculate the dried pellet.</p> <ul style="list-style-type: none"> Preparation of reaction mixture <table border="1" data-bbox="512 398 1449 712"> <thead> <tr> <th>Components</th> <th>Negative</th> <th>Sample</th> </tr> </thead> <tbody> <tr> <td>Template DNA (Purified 1st PCR product)</td> <td style="text-align: center;">-</td> <td>Variable (>10 ng)</td> </tr> <tr> <td>Upstream cassette (5 ng/µl)</td> <td style="text-align: center;">1 µl</td> <td style="text-align: center;">1 µl</td> </tr> <tr> <td>Downstream cassette (5 ng/µl)</td> <td style="text-align: center;">1 µl</td> <td style="text-align: center;">1 µl</td> </tr> <tr> <td>2nd Forward primer (10 pmol/µl)</td> <td style="text-align: center;">1 µl</td> <td style="text-align: center;">1 µl</td> </tr> <tr> <td>2nd Reverse primer (10 pmol/µl)</td> <td style="text-align: center;">1 µl</td> <td style="text-align: center;">1 µl</td> </tr> <tr> <td>Distilled water</td> <td style="text-align: center;">16 µl</td> <td>Variable</td> </tr> <tr> <td>Total volume</td> <td style="text-align: center;">20 µl</td> <td style="text-align: center;">20 µl</td> </tr> </tbody> </table> <p>8. Dissolve the vacuum-dried blue pellet by tapping or pipetting, and briefly spin down.</p>	Components	Negative	Sample	Template DNA (Purified 1 st PCR product)	-	Variable (>10 ng)	Upstream cassette (5 ng/µl)	1 µl	1 µl	Downstream cassette (5 ng/µl)	1 µl	1 µl	2 nd Forward primer (10 pmol/µl)	1 µl	1 µl	2 nd Reverse primer (10 pmol/µl)	1 µl	1 µl	Distilled water	16 µl	Variable	Total volume	20 µl	20 µl
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