AccuPower® NOS PCR Kit

[Cat. No.] K-2951

Introduction

AccuPower® NOS PCR Kit is ready-to-use premix for PCR that can be used to detect bacterium derived NOS terminator to check whether soybeans are genetically modified.
Genetically modified organisms (GMOs) are organisms whose genetic material has been artificially modified to obtain desired characteristics, such as increased yield and resistance to pests and pathogens. Only those that have the approval of a regulatory agency, such as the Ministry of Food and Drug Safety in South Korea can be sold. Nowadays, many countries/regions require manufacturers to label products that include genetically modified products, leading to an increase in the demand for GMO detection technology.
This product contains vacuum-dried components specific to NOS terminator including DNA polymerase, primers, dNTPs, and reaction buffer required for PCR. This ready-to-use kit simplifies preparation of PCR mixture as the user only has to add template DNA and nuclease-free water. After the reaction, since tracking dye is included, the samples can be applied directly on agarose gel for analysis without adding extra solution.

Features & Benefits

- Convenience & Reproducibility: All reactants necessary for PCR including primers are lyophilized in each PCR tube, providing reproducible results in a convenient way.
- Sensitivity: By applying the patented PyroHotStart (Enzyme-mediated HotStart) technology that minimizes non-specific reactions and maximizes reaction efficiency, only the target gene can be effectively amplified even with a trace amount of template DNA.
- Stability: Included stabilizer in the PCR reaction mixture provides increased stability compared to solution-type products.

Composition

Composition	25 µl reaction
Top 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
NOS Forward primer	0.5 µM
NOS Reverse primer	0.5 µM

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

Specifications

Top DNA Polymerase	
5'→3' exonuclease activity	No
3'→5' exonuclease activity	No
3'–A overhang	Yes
Fragment size	151 bp

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

English

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

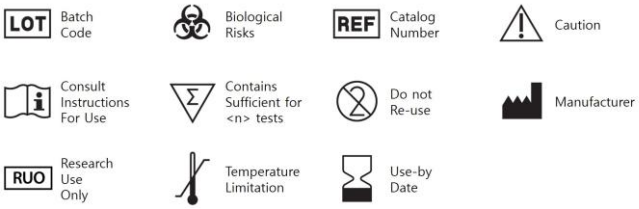
Ordering Information

Description	Cat. No.
AccuPower® NOS PCR Kit, 0.2 ml thin-wall 8-tube strips with attached cap / 96 tubes	K-2951

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.

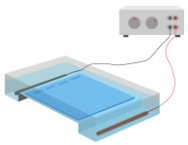
Explanation of Symbols



Experimental Procedures

<table>
<tr><th colspan="2">Steps</th><th>Procedure Details</th></tr>
<tr><td>1</td><td> 
Add template DNA</td><td>1. After preparing the template DNA and nuclease-free water, add the template DNA to the AccuPower® NOS PCR Kit.</td></tr>
<tr><td>2</td><td> 
Preparation of reaction mixture</td><td>2. Add nuclease-free water into PCR tubes to make a total volume of 25 µl.
(Do not include the volume of the dried premix in the PCR tubes.)

3. Completely dissolve the vacuum-dried pellet by vortexing, and briefly spin down.</td></tr>
<tr><td>3</td><td> 
Incubate reactions in a thermal cycler</td><td>4. Place PCR tubes on the thermal cycler.

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>10 min</td><td>1 cycle</td></tr><tr><td>Denaturation</td><td>95°C</td><td>30 sec</td><td></td></tr><tr><td>Annealing</td><td>60°C</td><td>30 sec</td><td>40 cycles</td></tr><tr><td>Extension</td><td>72°C</td><td>30 sec</td><td></td></tr><tr><td>Final extension</td><td>72°C</td><td>7 min</td><td>1 cycle</td></tr></table>* Note: Users can adjust the protocol according to their instrument and template sequences to get optimal results.</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.

7. Load samples on agarose gel without adding a loading-dye mixture, and perform gel electrophoresis for analysis.</td></tr>
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