

[Cat. No.] **K-2987**

### Introduction

AccuPower® Bacillus cereus Real-Time PCR Kit is a product that can specifically detect *Bacillus cereus* (*B. cereus*) by real-time PCR.

*B. cereus* is a gram-positive bacterium known to be one of the causative agents of food poisoning. *B. cereus* is commonly found in soil and processed foods. Some are highly pathogenic and cause food-borne diseases in humans and are classified as food poisoning bacteria. When food poisoning occurs due to *B. cereus*, it causes gastrointestinal diseases such as vomiting and diarrhea.

This product contains all Real-time PCR components specific to *B. cereus*, including DNA polymerase, dNTPs, and reaction buffer. The users can easily prepare reaction mixture simply by adding template DNA, Oligo Mix and DEPC-D.W.

### Features & Benefits

- Convenience: All necessary reactants for real-time PCR are included in a tube (i.e., Master Mix Type), allowing the users to perform reaction simply by adding template DNA, Oligo Mix, and DEPC-D.W.
- Sensitivity: By using BIONEER's HotStart Taq DNA Polymerase 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.

### Components

Components	Amount
2X Master Mix	625 µl x 2
Oligo Mix	500 µl
DEPC-D.W.	1.8 ml
Positive Control (1x10 <sup>8</sup> copies/µl)	50 µl

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

### Composition

Composition	25 µl reaction
2X Master Mix	
Taq DNA Polymerase	2.5 U
dNTPs (dATP, dCTP, dGTP, dTTP)	Each 300 µM
Reaction buffer with 2 mM MgCl <sub>2</sub>	1X
Oligo Mix	
<i>B. cereus</i> Forward primer	0.8 µM
<i>B. cereus</i> Reverse primer	0.8 µM
<i>B. cereus</i> Probe (FAM)	0.8 µM
ROX dye	1X

### Specifications

Taq DNA Polymerase	
5'→3' exonuclease activity	Yes
3'→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



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

### Ordering Information

Description	Cat. No.
AccuPower® Bacillus cereus Real-Time PCR Kit, 1.25 ml of 2X Master Mix solution, 100 tests	K-2987




### 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	Biological Risks	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	 <b>Preparation of reaction mixture</b>	<p>1. Thaw all components of <i>AccuPower</i>® Bacillus cereus Real-Time PCR Kit on ice and mix thoroughly before use. Then, briefly spin down all components.</p>															
2	 <b>Composition of reaction mixture</b>	<p>2. Add all components into PCR tubes (not provided) or a plate (not provided) referring to the following list of components (Based on 1 test).</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Components</th> <th style="text-align: left;">Amount</th> </tr> </thead> <tbody> <tr> <td>2X Master Mix</td> <td>12.5 µl</td> </tr> <tr> <td>Oligo Mix</td> <td>5 µl</td> </tr> <tr> <td>Template DNA</td> <td>1-5 µl</td> </tr> <tr> <td>DEPC-D.W.</td> <td>Variable</td> </tr> <tr> <td>Total volume</td> <td>25 µl</td> </tr> </tbody> </table>	Components	Amount	2X Master Mix	12.5 µl	Oligo Mix	5 µl	Template DNA	1-5 µl	DEPC-D.W.	Variable	Total volume	25 µl			
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3	 <b>Real-time PCR</b>	<p>3. Place PCR tubes or plate on the Real-Time Quantitative thermal cycler.</p> <p>4. Perform the reaction under the following conditions.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Step</th> <th style="text-align: left;">Temperature</th> <th style="text-align: left;">Time</th> <th style="text-align: left;">Cycles</th> </tr> </thead> <tbody> <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>10 sec</td> <td rowspan="2">45 cycles</td> </tr> <tr> <td>Annealing &amp; Extension</td> <td>55°C</td> <td>20 sec</td> </tr> </tbody> </table> <p>* <b>Note:</b> Users can adjust the protocol according to their instrument and template sequences to get optimal results.</p> <p>5. After the reaction is completed, analyze the results.</p>	Step	Temperature	Time	Cycles	Pre-denaturation	95°C	5 min	1 cycle	Denaturation	95°C	10 sec	45 cycles	Annealing & Extension	55°C	20 sec
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