AccuPower® Clostridium perfringens PCR Kit

[Cat. No.] K-2909

Introduction

AccuPower® Clostridium perfringens PCR Kit is a ready-to-use premix for multiplex PCR that can be used to detect infection of *Clostridium perfringens* (*C. perfringens*).
C. perfringens is a gram-positive, anaerobic rod-shaped pathogenic bacterium. It is a major causative agent of bacterial food poisoning along with *Salmonella* and *Staphylococcus aureus*. When infected, *C. perfringens* bacteria produce A-E toxins and oval-shaped spores. Therefore, quantitative methods are mainly used to detect the five toxins. This product contains vacuum-dried components specific to *C. perfringens* 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.
- Multiple amplification: Generates three multiplex amplification products using only a single tube.
- 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	20 µl reaction
Top DNA Polymerase	1 U
dNTPs (dATP, dCTP, dGTP, dTTP)	Each 250 µM
Reaction buffer with 2 mM $MgCl_2$	1X
Stabilizer and tracking dye	O
C. perfringens α Forward/Reverse primer	0.25 µM
C. perfringens β Forward/Reverse primer	0.25 µM
C. perfringens ε Forward/Reverse primer	0.25 µM
C. perfringens ι Forward/Reverse primer	0.25 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	α : 402 bp β : 236 bp ε : 541 bp ι : 317 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

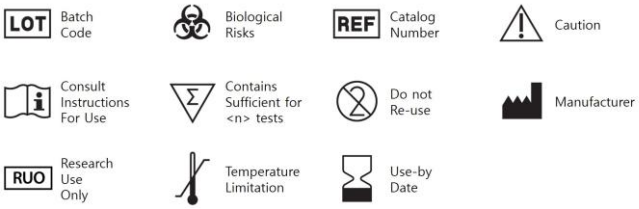
Ordering Information

Description	Cat. No.
AccuPower® Clostridium perfringens PCR Kit, 0.2 ml thin-wall 8-tube strips with attached cap / 96 tubes	K-2909

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

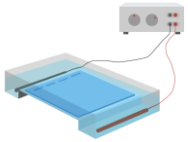


Experimental Procedures

Steps		Procedure Details
1	 **Add template DNA**	1. After preparing the template DNA and nuclease-free water, add the template DNA to the *AccuPower*® Clostridium perfringens PCR Kit.
2	 **Preparation of reaction mixture**	2. Add nuclease-free water into PCR tubes to make a total volume of 20 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.
3	 **Incubate reactions in a thermal cycler**	4. Place PCR tubes on the thermal cycler. 5. Perform the reaction under the following conditions.

Step	Temperature	Time	Cycles
Pre-denaturation	92°C	5 min	1 cycle
Denaturation	92°C	30 sec	
Annealing	57°C	30 sec	45 cycles
Extension	72°C	30 sec	
Final extension	72°C	10 min	1 cycle

* **Note:** Users can adjust the protocol according to their instrument and template sequences to get optimal results.

4	 **Analyze with gel electrophoresis**	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.