[Cat. No.] K-2989

Introduction

AccuPower® Kudoa septempunctata PCR Kit is a product that can detect *Kudoa septempunctata* using DNA extracted from the muscle of marine fish. With a single PCR reaction, the kit enables the detection of *K. septempunctata*. Infected fish with *K. septempunctata* exhibit spore formation under a microscope, typically observed when there are more than 5,000 copies. Based on this criterion, the kit has been developed for low sensitivity detection (5,000 copies and above).

Based on our proprietary enzyme-mediated HotStart method, this product effectively suppresses the production of non-specific amplification products from low-concentration DNA, increases PCR reaction efficiency, and helps in accurate result analysis.

This product includes all the necessary PCR component (DNA polymerase, primers, dNTPs and reaction buffer) for *K. septempunctata* detection, and user can easily prepare the reaction mixture by adding template DNA and DEPC-treated water.

Features & Benefits

- Convenient & Reproducible: PreMix type Includes all the reactants required for one PCR cycle; primers are lyophilized in each PCR tube.
- Sensitivity: Effectively amplify only the target genes, even when only a trace amount of template DNA is available, with the BIONEER's patented *PyroHotStart* technology: an enzyme-mediated Hotstart which minimizes non-specific reactions and maximizes reaction efficiency.
- Stability: Contains a stabilizer in the PCR reaction mixture, making the PreMix type more stable than the solution type products.

Components

Components	Amount
AccuPower® Kudoa septempunctata PCR Premix	8-well strip x 12 ea
Kudoa-KS Positive Control (PC)DNA(1X105 copies/µl)	105 µl x 2 ea
DEPC-D.W.	1.5 ml x 2 ea
Product manual	1 ea

Composition

Composition	20 µl reaction
Top DNA Polymerase	1.2U
dNTPs (dATP, dCTP, dGTP, dTTP)	Each 250 µM
Reaction buffer with 1.5 mM $MgCl_2$	1X
Stabilizer and tracking dye	O
K. septempunctata Forward primer	0.1375 µM
K. septempunctata Reverse primer	0.1375 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	357 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

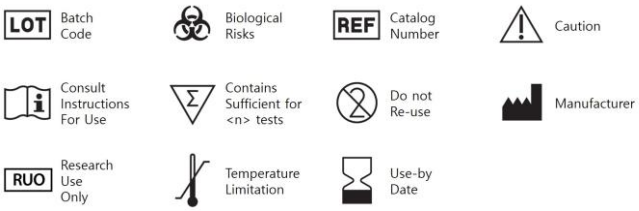
Ordering Information

Description	Cat. No.
AccuPower® Kudoa septempunctata PCR Kit, 0.2 ml thin-wall 8-strip tubes with attached cap / 96 tubes	K-2989

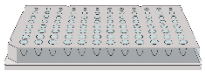
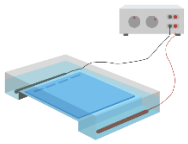
Notice

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 template DNA</td><td>1. Extract template DNA using AccuPrep® Genomic DNA Extraction Kit (K-3032) or equivalent Genomic DNA extraction kit.</td></tr>
<tr><td>2</td><td> 
Preparation of reaction mixture</td><td>2. Add template DNA and 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.).
* Note: Users can adjust the protocol according to their instrument and template sequences to get
<table>
<tr><th></th><th>NTC</th><th>PC</th><th>Sample</th></tr>
<tr><td>PC DNA or Sample DNA</td><td>-</td><td>5 µl</td><td>2~5 µl</td></tr>
<tr><td>DEPC-DW</td><td>20 µl</td><td>15 µl</td><td>18~15 µl</td></tr>
<tr><td colspan="3">Total volume</td><td>20 µl</td></tr>
</table>
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. After place PCR tubes on the thermal cycler, 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>5 min</td><td>1 cycle</td></tr>
<tr><td>Denaturation</td><td>95°C</td><td>5 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>5 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>5. After the PCR reaction is finished, analyze the result through electrophoresis.</td></tr>
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