# *AccuPower*® *Kudoa septempunctata* Real-time PCR Kit (V0/2024-03-18)

## [Cat. No.] K-2999

## Introduction

The *AccuPower*® *Kudoa septempunctata* Real-time PCR Kit is intended for Real-Time PCR detection of *K. septempunctata* in samples by using DNA extracted from the fish muscle.
This product is based on BIONEER's proprietary technology (enzyme-mediated HotStart method), which increases PCR reaction efficiency and helps to analyze the accurate results by effectively suppressing the production of nonspecific amplification products at a low concentration of DNA.
This kit is a vacuum-dried product and contains all PCR components (DNA polymerase, dNTPs, reaction buffer, primers, probe, stabilizer), so users can easily prepare a reaction solution by adding only template DNA and DEPC-D.W.
This product was produced by referring to the [*Kudoa* Diagnostic Manual (ISBN: 979-11-85344-00-3)] published by the National Institute of Fisheries Science of the Republic of Korea.

## 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* Real-Time PCR PreMix | 8-well strip x 12 ea |
| Q-*Kudoa*-KS Positive Control (PC) DNA ($2\times10^7$ copies/μl) | 50 μl x 1 ea |
| Internal positive control | 100 μl x 1 ea |
| DEPC-D.W. | 1.5 ml x 2 ea |
| Sealing film | 1 ea |
| Product manual | 1 ea |

## Composition

| Composition | 25 μl reaction |
|---|---|
| *Taq* DNA Polymerase | 1 U |
| dNTPs (dATP, dCTP, dGTP, dTTP) | Each 300 μM |
| Reaction buffer with 2 mM $MgCl_2$ | 1X |
| IPC Forward primer | 0.3 μM |
| IPC Reverse primer | 0.3 μM |
| IPC Forward probe (TAMRA) | 0.4 μM |
| *K. septempunctata* Forward primer | 0.5 μM |
| *K. septempunctata* Reverse primer | 0.5 μM |
| *K. septempunctata* probe (FAM) | 0.4 μM |

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

## 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

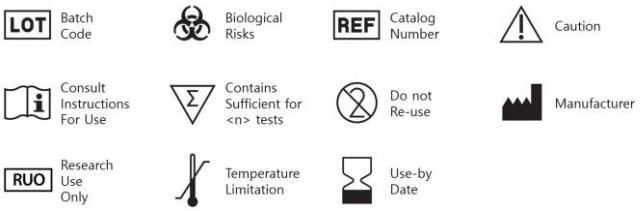
## Ordering Information

| Description | Cat. No. |
|---|---|
| *AccuPower*® *Kudoa septempunctata* Real-time PCR Kit, *Exicycler*™ 8-well strips / 96 tubes | K-2999 |

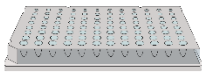
## Notice

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>  <br>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>  <br>Preparation of reaction mixture</td><td>2. Add template DNA and nuclease-free water into PCR tubes to make a total volume of 25 µl (Based on 1 test).<br><br>
<table>
<tr><th></th><th>NTC</th><th>PC</th><th>Sample</th></tr>
<tr><td>PC DNA or template DNA</td><td>-</td><td>5 µl</td><td>2-5 µl</td></tr>
<tr><td>DEPC-D.W.</td><td>25 µl</td><td>20 µl</td><td>Up to 25 µl</td></tr>
<tr><td>Total volume</td><td></td><td>25 µl</td><td></td></tr>
</table>
3. Completely dissolve the vacuum-dried pellet by vortexing, and briefly spin down.</td></tr>
<tr><td>3</td><td>  <br>Real-time PCR</td><td>4. After place PCR tubes or plate on the real-time quantitative thermal cycler, perform the reaction under the following conditions.<br><br>
<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>5 sec</td><td rowspan="2">45 cycles</td></tr>
<tr><td>Annealing & Extension</td><td>60°C</td><td>30 sec</td></tr>
</table>
***Note:** Users can adjust the protocol according to their instrument and template sequences to get optimal results.<br><br>
5. After completion of real-time PCR, the results are analyzed.</td></tr>
</table>