[Cat. No.] K-2985

Introduction

AccuPower® Lactococcus garvieae Real-Time PCR Kit is a product that can detect *Lactococcus garvieae* (*L. garvieae*), which causes disease in farmed fish, by real-time PCR.

L. garvieae is a gram-positive bacterium and is pathogenic to farmed fish such as rainbow trout, yellowtail, and mullet. Infected farmed fish show symptoms such as clouding of the eyes, discoloration of the gills, bleeding of the fins, and abdominal distension and finally leading to death. It is an important pathogen that causes collective outbreaks when water temperature rises in summer time. Infection of *L. garvieae* causes large economic losses in both marine and freshwater aquaculture.

This product contains all Real-time PCR components specific to *L. garvieae* 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 (1x10^8 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 U
	dNTPs (dATP, dCTP, dGTP, dTTP)	Each 300 µM
	Reaction buffer with 2 mM $MgCl_2$	1X
Oligo Mix	*L. garvieae* Forward primer	0.32 µM
	L. garvieae Reverse primer	0.32 µM
	L. garvieae Probe (FAM)	0.32 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

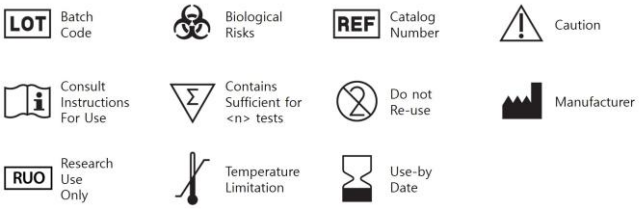
Ordering Information

Description	Cat. No.
AccuPower® Lactococcus garvieae Real-Time PCR Kit, 1.25 ml of 2X Master Mix solution, 100 tests	K-2985

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 reaction mixture</td><td>1. Thaw all components of AccuPower® Lactococcus garvieae Real-Time PCR Kit on ice and mix thoroughly before use. Then, briefly spin down all components.</td></tr>
<tr><td>2</td><td> 
Composition of reaction mixture</td><td>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).
<table>
<tr><th>Components</th><th>Amount</th></tr>
<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>
</table></td></tr>
<tr><td>3</td><td> 
Real-time PCR</td><td>3. Place PCR tubes or plate on the Real-Time Quantitative thermal cycler.

4. 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>10 sec</td><td rowspan="2">45 cycles</td></tr>
<tr><td>Annealing & Extension</td><td>55°C</td><td>20 sec</td></tr>
</table>
* Note: Users can adjust the protocol according to their instrument and template sequences to get optimal results.

5. After the reaction is completed, analyze the results.</td></tr>
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