

[Cat. No.] **K-2919**

Introduction

AccuPower® YHV-1 Master Mix is a product that can detect yellow head disease that infects shrimp through real-time polymerase chain reaction (real-time PCR). Clinical signs of YHV-1 include pale yellow coloring of the head and death. And YHV-1 is causing huge economic losses to shrimp aquaculture in Vietnam, Malaysia, Thailand, as well as several other Asian countries.

This product contains all real-time PCR components specific to YHV-1, including RTase, DNA polymerase, primers, dNTPs, and reaction buffer. The users can easily prepare a reaction mixture simply by adding template RNA, internal positive control (IPC), 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 RNA, oligo mix, and DEPC-D.W.
- Sensitivity: By using BIONEER's PyroHotStart RT reaction and 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 RNA.

Components

Components	Amount
Master Mix	1.5 ml
Oligo Mix	400 µl
Positive Control (2x10 ⁷ copies/µl)	50 µl
Internal Positive Control (1x10 ⁵ copies/µl)	100 µl
PC Dilution Buffer	1 ml
DEPC-DW	1.3 ml

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

Composition

Composition	25 µl reaction
Master Mix	
RocketScript™ Reverse transcriptase	1 U
Taq DNA Polymerase	6 U
dNTPs (dATP, dCTP, dGTP, dTTP)	Each 300 µM
Reaction buffer with 2 mM MgCl ₂	1X
Oligo Mix	
YHV-1 Forward primer	0.6 µM
YHV-1 Reverse primer	0.6 µM
YHV-1 Probe (FAM)	0.6 µM
IPC Forward primer	0.4 µM
IPC Reverse primer	0.4 µM
IPC Probe (Cy5)	0.4 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.

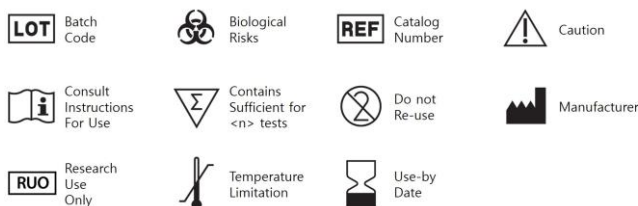
Ordering Information

Description	Cat. No.
AccuPower® YHV-1 Master Mix, 1.5 ml of Master Mix solution, 100 tests	K-2919




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	 Preparation of reaction mixture	<p>1. Before use, thaw all components of <i>AccuPower</i>® YHV-1 Master Mix on ice and mix them thoroughly. Then, briefly spin down all components.</p>																			
2	 Composition of reaction mixture	<p>2. Add all components into PCR tubes or a plate 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: right;">Volume (µl)</th> </tr> </thead> <tbody> <tr> <td>Master Mix</td> <td style="text-align: right;">15</td> </tr> <tr> <td>Oligo Mix</td> <td style="text-align: right;">4</td> </tr> <tr> <td>Template RNA (Positive Control)</td> <td style="text-align: right;">5</td> </tr> <tr> <td>Internal Positive Control</td> <td style="text-align: right;">1</td> </tr> <tr> <td>Total volume</td> <td style="text-align: right;">25</td> </tr> </tbody> </table>	Components	Volume (µl)	Master Mix	15	Oligo Mix	4	Template RNA (Positive Control)	5	Internal Positive Control	1	Total volume	25							
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3	 Real-time PCR	<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>Reverse transcription</td> <td>50°C</td> <td>15 min</td> <td>1 cycle</td> </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 rowspan="2">45 cycles</td> </tr> <tr> <td>Annealing & Extension</td> <td>55°C</td> <td>5 sec</td> </tr> </tbody> </table> <p>* Note: 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	Reverse transcription	50°C	15 min	1 cycle	Pre-denaturation	95°C	5 min	1 cycle	Denaturation	95°C	5 sec	45 cycles	Annealing & Extension	55°C	5 sec
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