AccuPower® VHSV Master Mix

[Cat. No.] K-2911

Introduction

AccuPower® VHSV Master Mix is a product which can detect viral hemorrhagic septicemia virus (VHSV) through real-time polymerase chain reaction (real-time PCR). It mainly infects flounder and rainbow trout, causing darkening of the body, abdominal distension due to oedema, exophthalmia, hemorrhage at various organs and death. Viral hemorrhagic septicemia (VHS) incurs enormous economic losses to freshwater and marine aquaculture not only in Korea but also in many countries around the world, including China, Japan, North America, and Europe.
This product contains all real-time PCR components specific to VHSV, 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/ul)	50 µl
Internal Positive Control (1x10^5 copies/ul)	100 ul
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	VHSV Forward primer	0.6 µM
	VHSV Reverse primer	0.6 µM
	VHSV 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

*** Note**: For VHSV detection primers, a method by Jonstrub *et al.,* (2013) was used.

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

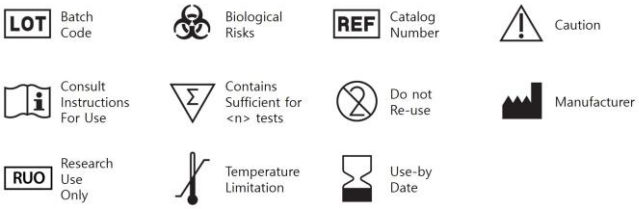
Ordering Information

Description	Cat. No.
AccuPower® VHSV Master Mix, 1.5 ml of Master Mix solution, 100 tests	K-2911

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. Before use, thaw all components of AccuPower® VHSV Master Mix on ice and mix thoroughly. 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 or a plate referring to the following list of components (based on 1 test).
<table>
<tr><th>Components</th><th>Volume (µl)</th></tr>
<tr><td>Master Mix</td><td>15</td></tr>
<tr><td>Oligo Mix</td><td>4</td></tr>
<tr><td>Template RNA (Positive Control)</td><td>5</td></tr>
<tr><td>Internal Positive Control</td><td>1</td></tr>
<tr><td>Total volume</td><td>25</td></tr>
</table></td></tr>
<tr><td>3</td><td> 
Real-time PCR</td><td>3. Place PCR tubes or a 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>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>
</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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