AccuPower® Streptococcus agalactiae Real-Time PCR Kit (V0/2023-03-17)

[Cat. No.] K-2974

Introduction

AccuPower® Streptococcus agalactiae Real-Time PCR Kit is a product that can detect *Streptococcus agalactiae* (*S. agalactiae*), which causes bovine mastitis, by real-time PCR.
S. agalactiae is a gram-positive bacterium known to be one of the causative agents of bovine mastitis. It is a zoonotic bacterium that is pathogenic to dairy cows, fish, and humans. Bovine mastitis caused by *S. agalactiae* is the most common disease in dairy cows and causes great economic losses such as reduced milk yield. Because the disease path and factors are very complex, comprehensive management such as breeding environment and feed is required. This product contains all Real-time PCR components specific to *S. agalactiae*, 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	*S. agalactiae* Forward primer	0.32 µM
	S. agalactiae Reverse primer	0.32 µM
	S. agalactiae 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

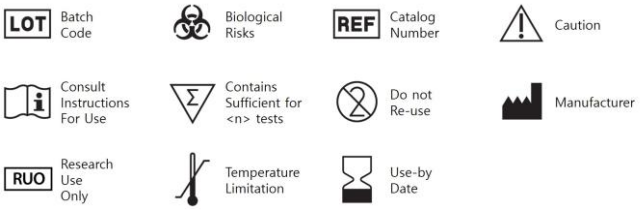
Ordering Information

Description	Cat. No.
AccuPower® Streptococcus agalactiae Real-Time PCR Kit, 1.25 ml of 2X Master Mix solution, 100 tests	K-2974

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® Streptococcus agalactiae 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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