

[Cat. No.] **K-6803**

Introduction

AccuPower® Borrelia burgdorferi Real-Time PCR Kit is a product that can specifically detect *Borrelia burgdorferi* (*B. burgdorferi*) by real-time PCR.

B. burgdorferi is a gram-negative bacterium known as one of the causative agents of Lyme disease. *B. burgdorferi* hosts black-legged ticks and is transmitted to human. Lyme disease characteristically causes erythema migraines, and also fever, headache, and fatigue. Lyme disease is diagnosed in three stages, and if it is not treated in the first stage, the infection spreads through the blood to whole body organs causing arrhythmias, myocarditis, and encephalitis.

This product contains all Real-time PCR components specific to *B. burgdorferi*, 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 ea
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	2.5 U
dNTPs (dATP, dCTP, dGTP, dTTP)	Each 300 µM
Reaction buffer with 2 mM MgCl ₂	1X
Oligo Mix	
<i>B. burgdorferi</i> Forward primer	0.32 µM
<i>B. burgdorferi</i> Reverse primer	0.32 µM
<i>B. burgdorferi</i> 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



English

Visit our **product page** for additional information and protocols

Ordering Information

Description	Cat. No.
AccuPower® Borrelia burgdorferi Real-Time PCR Kit, 1.25 ml of 2X Master Mix solution, 100 tests	K-6803




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

Batch Code	Biological Risks	Catalog Number	Caution
Consult Instructions For Use	Contains Sufficient for <n> tests	Do not Re-use	Manufacturer
Research Use Only	Temperature Limitation	Use-by Date	

Experimental Procedures

Steps		Procedure Details															
1	 Preparation of reaction mixture	<p>1. Thaw all components of <i>AccuPower® Borrelia burgdorferi</i> Real-Time PCR Kit on ice and mix thoroughly before use. Then, briefly spin down all components.</p>															
2	 Composition of reaction mixture	<p>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).</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Components</th> <th style="text-align: left;">Amount</th> </tr> </thead> <tbody> <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> </tbody> </table>	Components	Amount	2X Master Mix	12.5 µl	Oligo Mix	5 µl	Template DNA	1-5 µl	DEPC-D.W.	Variable	Total volume	25 µl			
Components	Amount																
2X Master Mix	12.5 µl																
Oligo Mix	5 µl																
Template DNA	1-5 µl																
DEPC-D.W.	Variable																
Total volume	25 µl																
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>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> </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	Pre-denaturation	95°C	5 min	1 cycle	Denaturation	95°C	10 sec	45 cycles	Annealing & Extension	55°C	20 sec
Step	Temperature	Time	Cycles														
Pre-denaturation	95°C	5 min	1 cycle														
Denaturation	95°C	10 sec	45 cycles														
Annealing & Extension	55°C	20 sec															