AccuPower® Pasteurella multocida PCR Kit

[Cat. No.] K-2904

Introduction

AccuPower® Pasteurella multocida PCR Kit is a ready-to-use premix for PCR that can be used to detect *Pasteurella multocida* (*P. multocida*) which causes pneumonia and sepsis in pigs, rabbits and cattle.

P. multocida is a bacterium that infects a wide range of animals such as pigs, rabbits, cows, and birds. Symptoms include pneumonia, cough, shortness of breath, fever, skin discoloration, loss of appetite, etc. In the worst case, it may lead to death. In the case of pigs, infection of *P. multocida* is accompanied by other respiratory diseases such as porcine reproductive and respiratory syndrome (PRRS) and atrophic rhinitis (AR). Farmers may suffer from increased mortality rate and reduced growth rate of pigs, which further leads to economic loss due to the delayed shipping. Pneumonia caused by *P. multocida* and by other pathogens have similar symptoms, which is why *P. multocida*-specific PCR is required for the distinguishment.

This product contains vacuum-dried components specific to *P. multocida* including DNA polymerase, primers, dNTPs, and reaction buffer required for PCR. This ready-to-use kit simplifies preparation of PCR mixture as the user only has to add template DNA and nuclease-free water. After the reaction, since tracking dye is included, the samples can be applied directly on agarose gel for analysis without adding extra solution.

Features & Benefits

- Convenience & Reproducibility: All reactants necessary for PCR including primers are lyophilized in each PCR tube, providing reproducible results in a convenient way.
- Sensitivity: By applying the patented PyroHotStart (Enzyme-mediated HotStart) technology 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.
- Stability: Included stabilizer in the PCR reaction mixture provides increased stability compared to solution-type products.

Composition

Composition	20 µl reaction
Top DNA Polymerase	1 U
dNTPs (dATP, dCTP, dGTP, dTTP)	Each 250 µM
Reaction buffer with 1.5 mM $MgCl_2$	1X
Stabilizer and tracking dye	O
KMT1 Forward primer	0.5 µM
KMT1 Reverse primer	0.5 µM

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

Specifications

Top DNA Polymerase	
5'→3' exonuclease activity	No
3'→5' exonuclease activity	No
3'–A overhang	Yes
Fragment size	460 bp

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

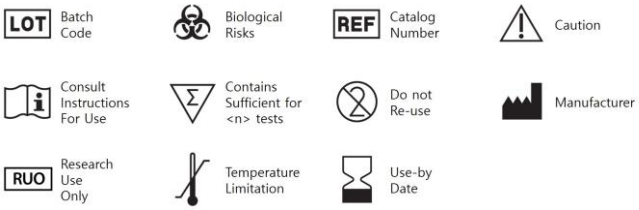
Ordering Information

Description	Cat. No.
AccuPower® Pasteurella multocida PCR Kit, 0.2 ml thin-wall 8-tube strips with attached cap / 96 tubes	K-2904

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.

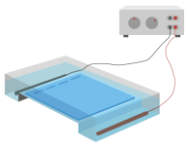
Explanation of Symbols



Experimental Procedures

<table>
<tr><th colspan="2">Steps</th><th>Procedure Details</th></tr>
<tr><td>1</td><td> 
Add template DNA</td><td>1. After preparing the template DNA and nuclease-free water, add the template DNA to the AccuPower® Pasteurella multocida PCR Kit.</td></tr>
<tr><td>2</td><td> 
Preparation of reaction mixture</td><td>2. Add nuclease-free water into PCR tubes to make a total volume of 20 µl.
(Do not include the volume of the dried premix in the PCR tubes.)

3. Completely dissolve the vacuum-dried pellet by vortexing, and briefly spin down.</td></tr>
<tr><td>3</td><td> 
Incubate reactions in a thermal cycler</td><td>4. Place PCR tubes on the thermal cycler.

5. 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>94°C</td><td>10 min</td><td>1 cycle</td></tr>
<tr><td>Denaturation</td><td>94°C</td><td>30 sec</td><td></td></tr>
<tr><td>Annealing</td><td>55°C</td><td>30 sec</td><td>40 cycles</td></tr>
<tr><td>Extension</td><td>72°C</td><td>30 sec</td><td></td></tr>
<tr><td>Final extension</td><td>72°C</td><td>10 min</td><td>1 cycle</td></tr>
</table>
* Note: Users can adjust the protocol according to their instrument and template sequences to get optimal results.</td></tr>
<tr><td>4</td><td> 
Analyze with gel electrophoresis</td><td>6. After the reaction, maintain the reaction mixture at 4-8°C.

7. Load samples on agarose gel without adding a loading-dye mixture, and perform gel electrophoresis for analysis.</td></tr>
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