

ISO 9001/14000 certified

For research use only

Cat. No. INT-IP12526 | 48 **Tests**

Porcine reproductive & respiratory syndrome virus Detection Kit

Test for the detection of Porcine Reproductive and Respiratory Syndrome Virus (PRRS) by one-step RT-PCR

User Manual

REV.2.2



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7. NOTICE

- This product was designed to detect more than 100 copies of target gene(or gene segment). When the copy number of target present in the test reaction is less than 100, a false-negative(a negative test result when the attribute for which the subject is being tested actually exists in that subject) may occur. Use this product For Research Use Only.
- Do not use any reagent after the expiration date.
- Do not use together with reagents of other products.
- Follow the instructions.
- Take care in handling of specimen to minimize risk of infection.
- The PCR process is covered by patents issued and applicable in certain countries. iNTRON Biotechnology, Inc. does not encourage or support the unauthorized or unlicensed use of the PCR process. Use of this product is recommended for persons that either have a license to perform PCR or are not required to obtain a license.

8. TROUBLE SHOOTING

- ① In the case of difficult to interpret results due to non-specific bands.
☞ Reduce amount of template by 1/10 dilution and reacts again.
- ② Preparation of PCR reaction at room temperature may cause the non-specific band.
- ③ All procedure should be carried out on ice.

9. ORDERING INFORMATION

Product	Catalog No.
Porcine reproductive & respiratory syndrome virus Detection Kit	IP12526
Viral Gene-spin™ Viral DNA/RNA Extraction kit	17151
SiZer™ 100 DNA Marker	24073

1. DESCRIPTION

The etiologic agent is a virus in the group Arteriviridae. The virus is enveloped and ranges in size from 45 to 80 nm. Inactivation is possible after treatment with ether or chloroform; however, the virus is very stable under freezing conditions, retaining its infectivity for 4 mo at -70°C. As the temperature rises, infectivity is reduced (15-20 min at 56°C).

PRRS appears to have two distinct clinical phases: reproductive failure and postweaning respiratory diseases. The reproductive phase of the disease includes increases in the number of stillborn piglets, mummified fetuses, premature farrowings, and weak-born pigs. Stillbirths and mummies may increase up to 25-35%, and abortions can exceed 10%. Anorexia and agalactia are evident in lactating sows and result in increased (30-50%) preweaning mortality. Suckling piglets develop a characteristic thumping respiratory pattern, and histopathologic examination of lung tissue reveals a severe, necrotizing, interstitial pneumonia.

Porcine reproductive & respiratory syndrome virus Detection Kit is direct detection of porcine reproductive and respiratory syndrome virus (PRRSV) on the basis of a genetic database, so it can diagnose very fast and accurately. It can amplify only specific gene using the RT-PCR (Reverse Transcription-Polymerase Chain Reaction) method, and take only 2~3 hours for detection. Therefore, it is a very fast accurate, reliable technique.

2. STORAGE

The components of **Porcine reproductive & respiratory syndrome virus Detection Kit** should be stored at -20°C, under this condition, the kit is stable until expiration date stated on the label.

3. CONTENTS

<i>Porcine reproductive & respiratory syndrome virus</i> RT-PCR Pre-mixture	48 tubes
DNase/RNase-free water (white cap)	1 vial
PRRS positive control (Yellow cap)	1 vial

Component in 20µl reaction
OptiScript™ RT System
RT-PCR buffer
dNTPs
i-StarTaq™ DNA Polymerase
Chemical stabilizer
8-MOP (dissolved in DMSO)
Primers for PRRS

4. SPECIMEN

Performs the test with whole blood, pulmonary lavage, lung, tonsil swab, semen or fetal thoracic fluid. The specimen should be stored at -20°C prior to use.

5. ADDITIONAL REQUIRED MATERIALS

- Disposable gloves
- RNA extraction kit (see 6.1 RNA preparation method)
- Pipettes
- Sterile pipette tip
- Vortex mixer
- Centrifuge for microcentrifuge tubes
- Thermal cycler
- Electrophoresis kit
- UV transilluminator

6. PROCEDURE

Please read through the entire procedure before starting.

6.1 RNA Preparation

Various manufacturers offer RNA isolation kits. Please carry out the RNA isolation according to the manufacturer's instructions. The following standard extraction kit is recommended.

Product	Catalog No.	Manufacturer
Viral gene-spin™ Viral DNA/RNA Extraction Kit	17151	iNtRON Biotechnology, Inc.

6.2 Amplification

- ① Prepare appropriate RT-PCR premix tubes and label. And one RT-PCR premix tube for positive control.
- ② Add 2 μl of template RNA into the RT-PCR premix tube.
- ③ Add 18 μl of DNase/RNase-free water into the RT-PCR premix tube to total volume as 20 μl .
- ④ Add 2 μl of positive control and 18 μl of RNase-free water into a RT-PCR premix tube for monitoring of amplification and easy interpretation.
- ⑤ Dissolve the blue pellet by pipetting.
Note : The pellet is easily dissolved, by letting the mixture stand at R.T. for 1-2minutes after adding water.
- ⑥ (Optional) Add mineral oil. This step is unnecessary when using a thermal cycler that employs a top heating method (general methods).
- ⑦ Perform PCR reaction of samples as the below process using PCR machine.

RT-PCR cycle		Temp.	Time
1 Cycle	Reverse transcription reaction	45 °C	30 min.
	Inactivation of reverse transcriptase	94 °C	5 min
40 Cycles	Denaturation	94 °C	30 sec.
	Annealing	54 °C	30 sec.
	Extension	72 °C	40 sec.
1 Cycle	Final extension	72 °C	5 min.

6.3 Detection of Amplified Products

- ① Prepare 1.5% agarose gel containing Ethidium bromide (Et-Br).
- ② Load 7 μl of PCR product and positive control on agarose gel without adding a loading-dye buffer and perform electrophoresis.
- ③ Run electrophoresis by 100V (required about 30~40 minutes).
- ④ Identify the result on ultra-violet (UV) transilluminator.

6.4 Interpretation

- Expected PCR product size : 312 bp

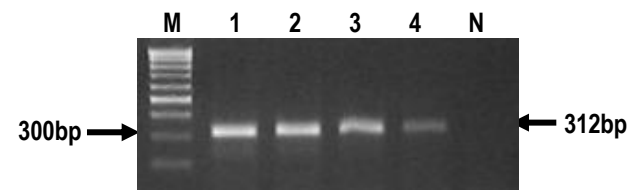


Fig 1. Electrophoresis of PCR product by *Porcine reproductive & respiratory syndrome virus* Detection Kit
 Lane M : 100bp molecular ladder (iNtRON Biotechnology)
 Lane 1~4 : PRRS positive sample
 Lane N : Negative control

6.5 Elimination of carry-over contamination

- Each PCR/RT-PCR Pre-mixture contains 8-methoxypsoralen (8-MOP) for preventing of carry-over contamination.
- All PCR products should be discarded after UV irradiation (10 min/365nm) for preventing from carry-over contamination.