

# Comparison of Exgene™ Viral DNA/RNA kit to other commercial kits for pathogen nucleic acid extraction from rooster whole blood

## Experimental Conditions

### Materials Required

- Exgene™ Viral DNA/RNA (128-150)
- Syringe for animal whole blood collection
- 1.5 ml microcentrifuge tube
- Microcentrifuge ( $\leq 14,000 \times g$ )
- Vortex mixer
- Pipette & sterilized pipette tips
- Suitable protector (e.g., lab coat, disposable gloves, goggles, etc.)
- Ice

### Sample Information

Pathogen	<i>Mycoplasma Gallisepticum</i> (MG)	Infectious Bronchitis Virus (IBV)
Target	Bacterial DNA	Viral RNA
Sample	Pathogen-infected rooster whole blood	
Sample amount	200 $\mu$ l	
Elution volume	50 $\mu$ l	

## Protocol

### Exgene™ Viral DNA/RNA Protocol

\* For more details and methods, please refer to [the handbook of Exgene™ Viral DNA/RNA](#).

### Preparation of Proteinase K and Carrier RNA Solution

#### • Proteinase K solution

To obtain a 20 mg/ml Proteinase K solution, add 650  $\mu$ l of PK Storage Buffer to the tube of lyophilized 13 mg of Proteinase K, and mix carefully to avoid foaming.

#### • Carrier RNA solution

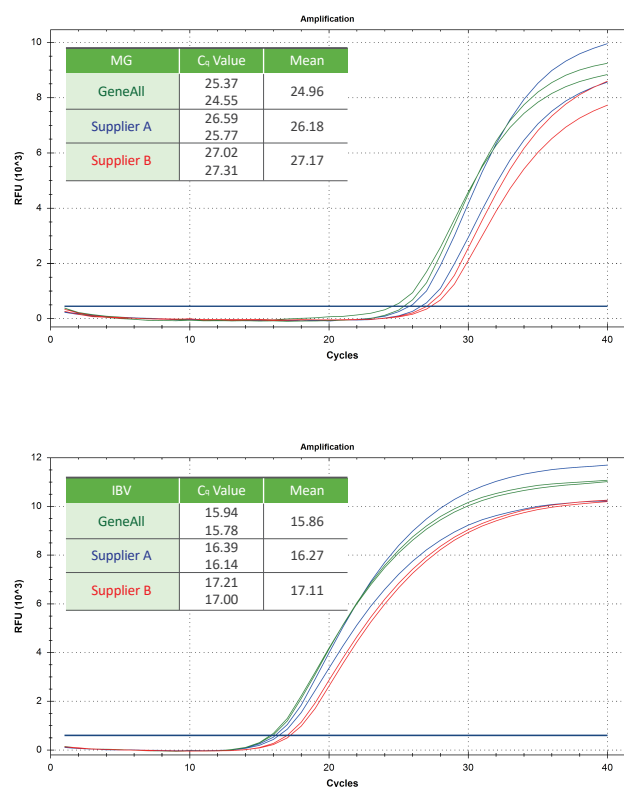
To obtain a 1  $\mu$ g/ $\mu$ l Carrier RNA solution, add 370  $\mu$ l of Nuclease-free water to the tube containing lyophilized Carrier RNA. Dissolve the Carrier RNA thoroughly, divide it into conveniently sized aliquots.

## Sample Preparation

### • Pathogen-infected rooster whole blood

1. Pipet 10  $\mu$ l of Proteinase K solution (20 mg/ml) into the bottom of a 1.5 ml microcentrifuge tube (not provided).
2. Transfer 200  $\mu$ l of each pathogen-infected rooster whole blood collected in the syringe to the 1.5 ml microcentrifuge tube.
3. The subsequent protocol follows **step 3 on page 10 of protocol in the Exgene™ Viral DNA/RNA handbook**.

## Result



**Figure 1. Comparison of bacterial DNA and viral RNA detection by qPCR analysis of rooster blood samples obtained from Exgene™ Viral DNA/RNA kit and competitor kits.** Nucleic acids were extracted from blood samples of two types of pathogen-infected roosters using GeneAll's Exgene™ Viral DNA/RNA kit ('Green') and competitor kits ('Blue' and 'Red'), with each extraction performed in duplicate.

Real-time PCR was performed on following extraction of bacterial DNA and viral RNA. Each pathogen nucleic acid was amplified with target-specific primers and probes. The PCR data shows that Exgene™ Viral DNA/RNA kit is more efficient in extracting and detecting the nucleic acids of interest from the rooster blood samples.

- Real-time PCR system: CFX96™ System (1855201, supplier B)
- qPCR kit: RealAmp™ 2X qPCR Master Mix (801-020)
- RT-qPCR kit: HyperScript™ One-step RT-PCR Master Mix (602-110)