



# Porcine Circovirus (PCV) Detection Solution

Porcine circovirus (PCV) is one of the smallest known autonomously replicating mammalian viruses ever discovered. It belongs to the family Circoviridae and has a single-stranded circular DNA genome of approximately 1.7 kb. PCV can be divided into four types according to its genotype, namely PCV1, PCV2, PCV3, and PCV4, with PCV4 being a recently reported type that requires further study.

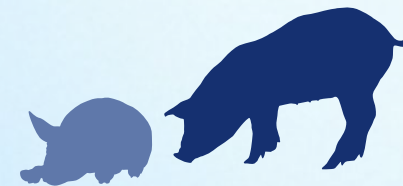
PCV1 is considered nonpathogenic, while PCV2 is the most well-known pathogenic type, causing severe systemic diseases like Post-Weaning Multisystemic Wasting Syndrome (PMWS), Porcine Dermatitis and Nephropathy Syndrome (PDNS) or other associated conditions. PCV2 and PCV3 are often co-infected with each other. PCV2 was discovered earlier and has become widely distributed worldwide, whereas PCV3 has gradually shown an epidemic trend globally in recent years. The pathogenicity of PCV3 is still under investigation, but studies have linked it to reproductive failure and respiratory diseases.

PCV is highly transmissible and can spread through direct contact, vertical transmission from sows to piglets, aerosol transmission, and contaminated feed or equipment. Its ability to co-infect with other swine pathogens further exacerbates disease severity and economic losses in pig farming. Therefore, rapid and accurate diagnosis of PCV is essential. Tianlong Porcine Circovirus (PCV) Detection Solution can qualitatively detect PCV in serum, whole blood, blood swabs, and tissue samples based on the Fluorescence PCR Method. The solution can help determine whether suspected infected pigs are infected with PCV2 or PCV3, assisting in clinical diagnosis.

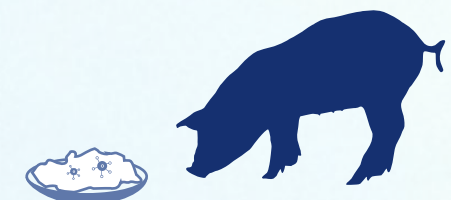
## ABOUT PCV

About PCV	PCV2	PCV3
Discovery	1990s	2016
Pathogenicity	Pathogenic (causes Porcine Circovirus-Associated Diseases (PCVAD))	Emerging, mild to moderate disease
Signs or Symptoms	Post-weaning Multisystemic Wasting Syndrome (PMWS), Porcine Dermatitis and Nephropathy Syndrome (PDNS), reproductive failure, respiratory issues	Reproductive failure, respiratory issues, neurological signs
Clinical Significance	High (major cause of Porcine Circovirus-Associated Diseases (PCVAD))	Emerging concern, still under study

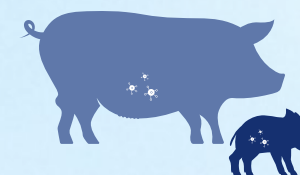
## TRANSMISSION ROUTE



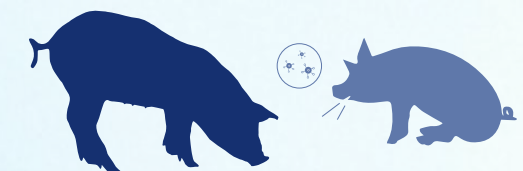
**Direct Contact**  
Contact of infected animals through bodily fluids



**Indirect Transmission**  
Contact of fomites and through environmental contamination



**Vertical Transmission**  
From sow to offspring



**Aerosol Transmission**  
Potentially spread via aerosols

## FEATURES



### Reliable Detection

Reliable detection of Porcine Circovirus (PCV), covering the genotype PCV2 and PCV3



### Various Specimen

Compatible with multiple sample types, including serum, whole blood, blood swab, tissue sample



### Internal Control

With internal control in the kit to monitor and prevent false negative results effectively



### Providing Integrated Solution

Provides a rapid test solution that detects PCV with a high degree of sensitivity and specificity



### Good Compatibility

Widely applicable in instruments with FAM and VIC channels



### High Precision

The precision values of intra and inter Ct values were all <5%

## DATA INTERPRETATION

Figure 1: Amplification curve of PCV2 in gradient concentrations

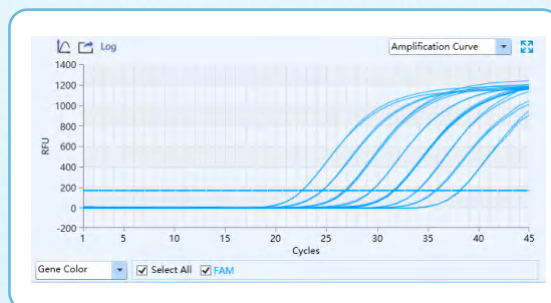


Figure 2: Repetitive amplification curve of PCV2 in high concentrations and low concentrations

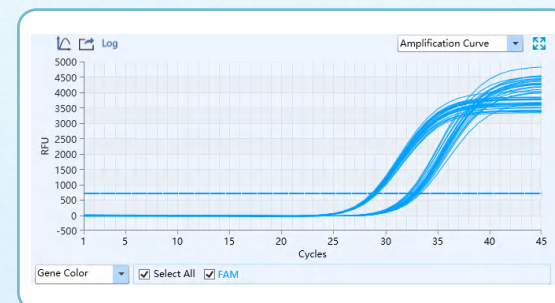


Figure 3: Amplification curve of PCV3 in gradient concentrations

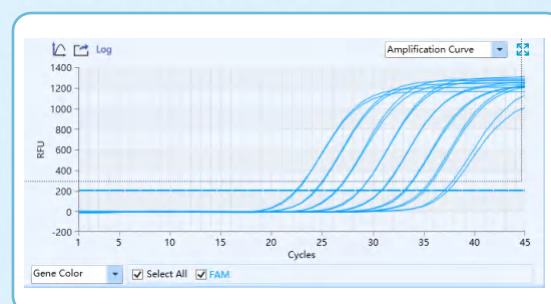
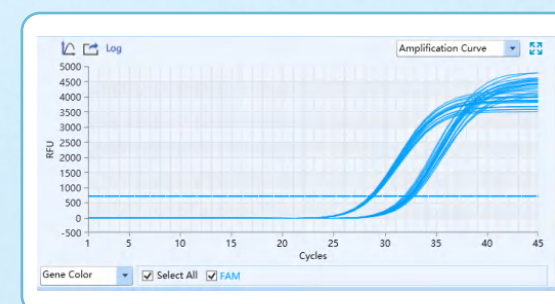


Figure 4: Repetitive amplification curve of PCV3 in high concentrations and low concentrations



## ORDERING INFORMATION

Product Name	Porcine Circovirus Type 2 (PCV2) Nucleic Acid Detection Kit (Fluorescence PCR Method)	Porcine Circovirus Type 3 (PCV3) Nucleic Acid Detection Kit (Fluorescence PCR Method)
Target Gene	PCV2	PCV3
Specification	50T/Kit	50T/Kit
Technology	Fluorescence PCR Method	
Specimen	Serum, whole blood, blood swab, tissue sample	
Sensitivity	500 copies/mL	
Precision	<5%	
Storage & Validity	-25~-15°C for 12 months	
Applicable Equipment	Instruments with FAM and VIC channels, such as Tianlong Gentier Real-time PCR system, Applied Biosystems™ QuantStudio™ 5 Real-Time PCR System and Applied Biosystems™ 7500 Real-Time PCR Systems.	

## ASSAY WORKFLOW



Version 1.0

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