

African Swine Fever Virus Real Time PCR Detection Kit

■ I Product Introduction

African swine fever (ASF) is a highly contagious viral disease affecting domestic and wild pigs, with a mortality rate that can reach 100%. Although it poses no risk to human health, ASF has devastating consequences for pig populations and the agricultural economy. The African swine fever virus (ASFV), the sole member of the Asfarviridae family, has a double-stranded DNA genome. It is highly resilient in the environment, capable of surviving on surfaces such as clothing, boots, and vehicle wheels, as well as in pork products like ham, sausages, and bacon.

Globally, ASF outbreaks have been reported across multiple continents, including Africa, Europe, Asia, and more recently, the Americas. These outbreaks have severely impacted the swine industry, leading to significant economic losses, trade restrictions, and challenges in controlling the spread of the disease. Due to its highly infectious nature and environmental resistance, controlling ASFV requires stringent biosecurity measures, prompt identification, and culling of infected herds.

Detection methods for ASFV include conventional PCR, isothermal amplification, and antibody-based assays. Among these, fluorescence-based PCR (qPCR) stands out as a gold standard for ASFV detection. This method offers exceptional sensitivity and specificity, enabling the detection of low viral loads even in complex matrices such as blood, tissues, or processed pork products. Additionally, qPCR provides rapid results, is highly reproducible, making it ideal for early diagnosis and large-scale screening in both clinical and field settings. Its ability to incorporate internal controls ensures accuracy and reliability, further enhancing its utility in ASF surveillance and control programs worldwide.

■ I Product Features

- Suitable for pig whole blood, serum, swab, Oral fluid, spleen, lymph nodes, muscle tissues, and fecal samples.
- Duplex real-time PCR (qPCR) for highly sensitive and specific detection of ASFV DNA in 60 min.
- One-tube ready-to-use master mix for simultaneous detection of ASFV and exogenous control.
- Comparable to most common qPCR in the market.

■ I Product Specifications

Parameter Name	Parameter Description
Sample Type	Whole blood, serum, swab, spleen, lymph nodes, muscle tissues, fecal samples and environmental samples.
Target	VP72
LOD	500 copies/mL
Specificity	No cross-reactivity with Classical Swine Fever Virus, Porcine Reproductive and Respiratory Syndrome Virus, Pseudorabies Virus, Porcine Circovirus Type 2, Mycoplasma Hyopneumoniae, Swine Influenza Virus, Porcine Parvovirus, or porcine genomic DNA.
Compatible Instrument	Bioer FQD series and mainstream fluorescence quantitative PCR instruments on the market.
Recommended Extraction kits	BSC71 MagaBio plus Virus DNA/RNA Purification Kit II BSC86 MagaBio plus Virus DNA/RNA Purification Kit III BSC110 MagaBio plus Virus DNA/RNA Purification Kit VI BSC67 SimplyP Virus DNA/RNA Extraction Kit
Detection Time	1 hour
Storage Conditions	Store at -25°C to -15°C

Product Workflow

1. Sample Collection



Sample Type: Whole blood, serum, swab, spleen, lymph nodes, muscle tissues, fecal samples and environmental samples.

2. Nucleic Acid Extraction



Using BSC71/86/110 MagaBio plus Virus DNA/RNA Purification Kit with GenePure Pro Nucleic Acid Purification System.

3. Amplification



Using BSL04 African Swine Fever Virus Real Time PCR Detection Kit with FQD-96C to complete detection in 1 hour.

Application case

Case 1: The African Swine Fever Virus (ASFV), Classical Swine Fever Virus (CSFV), Porcine Reproductive and Respiratory Syndrome Virus (PRRSV), Pseudorabies Virus (PRV), Porcine Circovirus Type 2 (PCV2), Mycoplasma Hyopneumoniae, Swine Influenza Virus, Porcine Parvovirus, healthy pig whole blood, healthy pig serum, healthy pig spleen, healthy pig lymph nodes, healthy pig muscle, and healthy pig feces were tested using the African Swine Fever Virus Fluorescence PCR Detection Kit. The results showed that only the ASFV sample was positive, while all other samples were negative. This indicates that the kit has no cross-reactivity with other viruses or pig-derived samples and demonstrates good specificity.

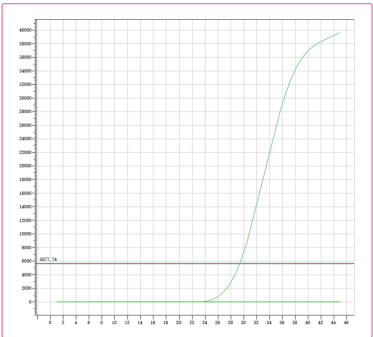


Figure 1: Amplification curves from the cross-validation experiment of the detection kit.

Sample	Ct	Sample	Ct
ASFV	25.3	Porcine Parvovirus	NoCt
CSFV	NoCt	Healthy Pig Whole Blood	NoCt
PRRSV	NoCt	Healthy Pig Serum	NoCt
PRV	NoCt	Healthy Pig Spleen	NoCt
PCV2	NoCt	Healthy Pig Lymph Nodes	NoCt
Mycoplasma Hyopneumoniae	NoCt	Healthy Pig Muscle	NoCt
Swine Influenza Virus	NoCt	Healthy Pig Feces	NoCt

Table 1: Summary of cross-validation results for the detection kit.

Case 2: Low-concentration African Swine Fever Virus (ASFV) samples were tested 10 times using the African Swine Fever Virus Fluorescence PCR Detection Kit. Statistical analysis showed that the coefficient of variation (CV) for the Ct values was less than 1%, demonstrating the kit's excellent precision and reliable experimental results.

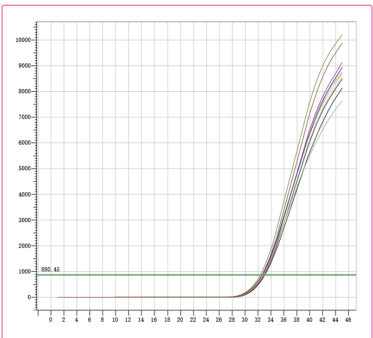


Figure 2: Amplification curves from the reproducibility validation experiment of the detection kit.

Sample	Ct	Sample	Ct
1	32.86	6	32.69
2	32.83	7	33.13
3	32.68	8	32.99
4	32.70	9	32.71
5	32.44	10	32.89
		CV	0.58%

Table 2: Summary of reproducibility validation results for the detection kit.

Ordering Information

Product Name	Cat. No.	Package	Storage Condition
African Swine Fever Virus Real Time PCR Detection Kit	BSL04M1	50T	-25°C~-15°C away from light



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