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Application

Detection of ASF in Pork

African Swine Fever(ASF) spreading in slaughterhouse in mainland China is caused by African Swine Fever virus(ASFV) bringing hemorrhagic fever among the domestic and wild pigs. This causative agent is highly lethal as it achieves 100% in mortality rate and transmission rate but only can it be detected in a laboratory setting.

Underway scrutiny of pork production in a bid to combat with ASF is issued in an Announcement from Ministry of Agriculture and Rural Affairs. Pork showing negative result in PCR or Immunity testing will be granted permission to be sourced to the market.

The following is a brief introduction to the process and overall solution for the detection of African swine fever virus using nucleic acid extraction and real-time PCR.

Step 1. Sample Pre-treatment

Sampling in Slaughterhouse (collecting blood samples of corresponding diseased (dead) pigs or tissue samples of spleen, lymph nodes, kidneys, etc.) Tissue samples need to be ground before nucleic acid extraction. Blood samples can be directly subjected to automated extraction of downstream nucleic acids without treatment.

Step 1. Automated Nucleic Acid Extraction

Recommendation on automated nucleic acid extraction equipment:

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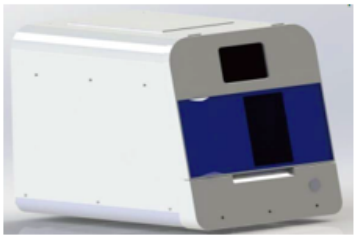
Mini 480 or Mini 8L from Kurabo

With the extraction kit for nucleic acid extraction / no centrifugation needed / high yield / rapid extraction for 48 samples within 30 minutes



Auto 12S/24S system from Kurabo

Rapid nucelic acid extraction for 12 or 24 samples within 30 minutes

Protocol for nucleic acid extraction kit:

DB-S extraction kit for nucleic acid exraction in blood sample.

DT-S or RT-S extraction kit for DNA/RNA extraction in tissue sample.

Step 3. Real-time PCR with Fluorescence Probe

BJS XXPRESS rapid quantitative PCR instrument from British or Japan Kurabo portable rapid quantitative PCR system Model GF-Q150 equipment:

Summary: Convenient / Fast / Accurate

It takes only 45 minutes from sample treatment to PCR result

British BJS XXPRESS rapid quantitative PCR

five fluorescent channels / 96 channels / 40 cycles within 10 mins / Free maintenance for LED light source/ Maximum heating rate: 10 ° C per second / Maximum cooling rate :8 °C per second /Need no Fluorescence calibration after moving / color touch screen / can be operated without computer/ suitable for use in slaughterhouses and farms

Kurabo GF-Q150 Rapid Quantitative PCR

Portable instrument with field monitoring / adjust temperature for 8 ° C per second / 30 cycles within 12 minutes / for mobile laboratory use / save reagent /high detection speed / applicable to most of kits in the market, a platform serving multi-purpose

For more information, please feel free to contact:

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