Classical swine fever virus detection: results of a real-time reverse transcription polymerase chain reaction ring trial conducted in the framework of the European network of excellence for epizootic disease diagnosis and control - DTU Orbit (08/12/2018)

The current study reports on a real-time reverse transcription polymerase chain reaction (real-time RT-PCR) ring trial for the detection of Classical swine fever virus (CSFV) genomic RNA undertaken by 10 European laboratories. All laboratories were asked to use their routine in-house real-time RT-PCR protocols and a standardized protocol commonly used by the Friedrich-Loeffler-Institute (FLI) on a panel of well-characterized samples. In general, all participants produced results within the acceptable range. The FLI assay, several in-house assays, and the commercial kits had high analytical sensitivity and specificity values. Nevertheless, some in-house systems had unspecific reactions or suboptimal sensitivity with only a single CSFV genotype. Follow-up actions involved either improvement of suboptimal assays or replacement of specific laboratory assays with the FLI protocol, with or without modifications. In conclusion, the ring trial showed reliability of classical swine fever diagnosis on an international level and helped to optimize CSFV-specific RT-PCR diagnostics.