Detection of African Swine Fever Virus DNA in Blood Samples Stored on FTA Cards from Asymptomatic Pigs in Mbeya Region, Tanzania - DTU Orbit (23/12/2018)

Detection of African Swine Fever Virus DNA in Blood Samples Stored on FTA Cards from Asymptomatic Pigs in Mbeya Region, Tanzania

The aim of the study was to assess whether blood samples collected onto FTA® cards could be used in combination with real-time PCR for the detection of African swine fever virus (ASFV) DNA in samples from resource-poor settings under the assumption that asymptomatically (sub-clinically) infected pigs may be present. Blood samples were collected from clinically healthy pigs from Mbeya Region, Tanzania. The blood samples were stored on FTA® cards and analysed by real-time PCR assays in duplicate; three pigs had high levels of viral DNA (Ct values of 27-29), and three pigs had a low level of viral DNA (Ct 36-45). Four pigs were positive in one of the duplicate samples only, but clear products of the expected size were obtained when the reactions were analysed by gel electrophoresis. For comparison, blood samples from pigs experimentally infected with either a pathogenic (OURT T88/1) or a non-pathogenic (OURT T88/3) isolate of ASFV were collected, stored on FTA® cards and analysed in the same way. The blood from pigs infected with the OURT T88/1 isolate showed high levels of viral DNA (Ct 22-33), whereas infection with non-pathogenic OURT T88/3 isolate resulted in only low levels of viral DNA (Ct 39) in samples collected at 10-14 days after inoculation.