

## SHORT COMMUNICATION

# Detection of African Swine Fever Antibodies in Experimental and Field Samples from the Russian Federation: Implications for Control

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**Summary**

African swine fever (ASF) re-entered in Europe in 2007 by Georgia rapidly affecting neighbouring countries. Since then, ASF has caused severe problems to the Russian Federation (RF) and spread to Northern and Western regions, including Ukraine (2012 and 2014) and Belarus (2013). At the beginning of 2014, dead wild boars were found in Lithuania and Poland. Several outbreaks have been later notified in the European Union (EU), affecting domestic pigs and wild boar of Latvia, Lithuania and Poland, and also wild boar in Estonia, causing major problems for the EU pig sector. Some studies have been performed with this ASFV isolate, revealing that it belongs to genotype II and causes an acute form of the disease. However, few data are available about the presence of antibodies in field and experimental samples from the affected area. This study analysed samples from experimental infections with ASFV isolated from the RF in 2013 (74 sera and 3 tissue exudates), and field samples from the RF from 2013 to 2014 (266 samples, including 32 and 7 tissue exudates from domestic pigs and wild boar, respectively). All samples were tested by a commercial ELISA and, some of them (79), also by immunochromatographic tests. Positive and doubtful samples were confirmed by immunoblotting test. Positive results were found in experimental and field samples, which confirm the presence of antibodies against ASFV in the RF. Antibodies were detected in animals inoculated with three different ASFV isolates, with some differences found among them. Only a small percentage of field samples was positive for ASF antibodies (3.7%), in agreement with other observations that reported a high virulence for the ASFV isolates in the area. These results confirm the potential presence of survivor animals that should be considered in affected areas to help design effective control and eradication plans against ASF.

**Introduction**

Genotype II of African swine fever virus (ASFV) was introduced in 2007 into Georgia (Rowlands et al., 2008), from where it subsequently spread causing huge losses in the Russian Federation (RF) and several Trans-Caucasus countries (TCC). The most affected country was the RF, where a highly virulent ASFV isolate implied slaughtering thousands of animals throughout the territory, which extended

to Northern and Western regions (Gogin et al., 2013). In 2012 and 2013, ASF continued spreading and reached Ukraine and Belarus, from where it presumably moved towards Central Europe, as confirmed by the appearance of two dead wild boar positive to ASF in Lithuania (very close to the border with Belarus) in January 2014 with identical genetic characteristics to Ukrainian and Belarusian ASF isolates (Gallardo et al., 2014a). Since then, several cases in wild boar have been detected in Poland close to the border