VIRAL DISEASES

VVD-067

PORCINE CIRCOVIRUS TYPE 3 (PCV3) IN POLAND - DETECTION AND GENETIC DIVERSITY

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Porcine circovirus type 3 (PCV3) is a novel pathogen first discovered in 2016 in USA. PCV3 is suspected to be involved in numerous diseases, but its true role in pigs health is still unknown.

The objective of this study was to investigate the prevalence and molecular diversity of PCV3 in serum samples collected from14 pigs farms from Poland.

Materials & methods

Serum samples were collected from 14 Polish pigs farms. Samples were pooled by 4-6 before DNA extraction, and tested with in house real time PCR for PCV3. ORF2 fragment from selected samples was sequenced.

Results

PCV3 DNA was detected in 12 out of 14 farms, in 5.9% to 65% of tested pools. Overall, PCV3 was detected in 24.5% serum pools from pigs and in 29.0% serum pools from sows. The virus was most common in weaned pigs (26.1%) and finishers (28.0%). Only one serum pool from 3-week-old piglets was PCV3 positive (5.0%). Nucleotide identity of partial ORF2 sequences from 9 farms ranged from about 95% to >99%. Surprisingly, some sequences were >99% identical to the sequences from USA and China.

Discussion & conclusion

The results show that PCV3 is highly prevalent in Poland. No correlation between the presence of PCV3 in serum and health status of pigs was found. 3-week-old piglets are mostly free from infection, what suggests that passive immunity is protective. The analysis of partial ORF2 sequences indicates high genetic diversity of PCV3 in Poland.

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