COMPARATIVE ANALYSIS OF THE EFFICACY OF TWO MODIFICATION OF PCR FOR THE DIAGNOSIS OF PORCINE CIRCOVIRUS INFECTION

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Economic feasibility of swine keeping is closely linking with the performance of animals and technologies compliance for livestock production. Obstacles to obtaining high-quality and safe products for consumers are often porcine virus infections, which are used for the diagnosis of molecular genetic research methods, including the classic PCR and PCR in real time.

The research results obtained by scientists suggest that the PCR in real time is a more sensitive and specific than classic PCR.

The aim of our research was to conduct comparative analysis of the efficacy of two PCR modifications for PCV diagnosis.

In order to conduct the efficacy of two PCR modifications for PCV diagnosis there was studied 121 samples of clinical material from pigs from farms Zaporizhia, Kharkiv, Poltava, Sumy, Dnipropetrovsk, Kherson and Odessa regions.

In the first stage of our test, samples were tested in classic PCR. PCV II genetic material was detected in 60 samples of clinical material. In the second stage, all samples were tested by PCR in real time. PCV II genetic material was detected in 65 samples. It was found that all of the positive samples for the presence of PCV II DNA in classic PCR were also positive in RT-PCR, while part of the sample (n = 5), negative for the presence of PCV II genetic material in classic PCR were positive in RT-PCR. However, working out a specific pathogen DNA fragment in these samples took place from 30-31 cycles, which may indicate not enough primary pathogen DNA template or primer dimers developments.

Thus, PCR in real time is more specific and allows to visually observe developments fragment of specific pathogen, but more economically costly (considering the use of specific dyes and probes). Whereas classic PCR is more suitable for use not only in diagnosis, but also to prepare samples for further molecular genetic studies - sequencing, cloning etc. It makes both modifications usable.

Keywords: CVIP, PCR, RT-PCR, CVP-II.