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DIAGNOSIS AND PREVENTION OF INFECTIOUS ANIMAL DISEASES BASED ON MONITORING, MOLECULAR DIAGNOSTICS, AND GENOMICS

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ABSTRACT

This paper presents the results of the study of technical solutions in the field of scientific development of methods for the diagnosis and prevention of infectious diseases of animals based on monitoring, molecular diagnostics, phylogenetic analysis, and genomics on examples of the infectious disease of African swine fever. The result of the study led to the conclusion that the development of new methods and techniques to identify the DNA of the virus of the African swine fever by isothermal amplification using innovative approaches and new technologies continues to be relevant and promising and will allow reaching the objectives in the framework of the project titled "Creation of a complex means of protection against socially and economically important animal diseases based on production strains of microorganisms selected with the genomic sequencing methods". A new method will be developed to detect the DNA of the African swine fever virus by isothermal amplification. The new invention will aim to develop a more sensitive and specific LAMP method with hybridization-fluorescence detection to detect the ASF virus DNA using modified loop primers fluorescently labeled at the 5' end, forming a duplex with an oligonucleotide carrying a fluorescence extinguisher at the 3' end. The topic of the object under study is characterized by novelty and perspective.

Key words: African swine fever, Virus DNA, Genetics, Molecular genetic studies, Polymerase chain reaction