DIAGNOSTIC THE BRUCELLOSIS USING THE ENZYME IMMUNOASSAY

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Brucellosis is a highly contagious chronic infection that is accompanied by damage to the reproductive organs. Outbreaks of brucellosis inflict large economic losses. Farmers suffer significant losses due to abortion, the birth of weakened and stillborn animals. Addressing quality brucellosis diagnosis remains an important objective, particularly in countries with developed livestock. The main method of detecting diseased animals is routine diagnostic testing for brucellosis. Most often use enzyme immunoassay, which allows to carry out simultaneously a large number of tests and to receive result in short time.

The aim of the work was to carry out a comparative study of the diagnostic ability of the DIA®-Brucella ab.combi-V and ID Screen® Brucellosis Serum Indirect Multi-species test systems, which are designed to detect antibodies to brucellosis pathogens in a variety of farm animals.

For analysis, 29 samples from different animals that were positive for brucellosis and containing different concentrations of specific antibodies were used. To determine the specificity of the test systems used 32 blood sera and 2 samples of milk from cows that do not contain antibodies to brucellosis, as well as 3 sera with cross-reactive factors -antibodies to *Francisella tularensis* (1 sera), to *Yersinia sp.* (2 samples).

The DIA®-Brucella ab.combi-V test system identified all the 29 tested samples as positive. Only 24 samples were tested positive by the ID Screen® Brucellosis Serum Indirect Multi-species test system. The results of 4 samples were uncertain, 1 sample was negative. In the study of 32 sera from different animals and 2 samples of milk from cows that did not contain antibodies to brucellosis, in both test systems, a negative result of the analysis was obtained. In the study of sera with cross-reactive factors in both test systems revealed 1 false-positive result with serum with antibodies to *Yersinia sp.*

Studies have shown that the DIA®-Brucella ab.combi-V test system has a higher diagnostic capacity than the ID Screen® Brucellosis Serum Indirect Multi-species test system. The diagnostic sensitivity of the DIA®-Brucella ab.combi-V and the ID Screen® Brucellosis Serum Indirect Multi-species test system is 100% and 82.7%, respectively. The specificity of the two test systems studied was comparable.