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Validation of a new application on the BioLisa® kit Besnoitia Ab

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Introduction : Besnoitiosis is a parasitic disease of economic importance caused by cyst-forming protozoa from the genus Besnoitia. It is a chronic and debilitating vector-borne disease characterized by both cutaneous and systemic manifestations. This disease is now considered an emerging disease by the European Food Safety Authority (EFSA) due to an increased number of cases and the geographical expansion of besnoitiosis in cattle herds in several European countries.
In the absence of curative and preventive treatments to fight against this disease, the management of affected live stock to limit contamination and the spread of besnoitiosis remains essential.
In order to be able to achieve general surveillance plans, and because PCR diagnosis seems to miss detection of contaminants, serological diagnostic tools seem essential. The BioLisa® kit Besnoitia Ab reagent has been, for individual serum, validated by the Expert French Laboratory (LE) of besnoitiose and an application for the detection of pool sera has been developed.
Materials and Method : The BioLisa® kit Besnoitia Ab reagent is an indirect ELISA for the detection of antibodies against Besnoitia besnoti in bovine sera. The development of a new application on this reagent for the detection of antibodies in pool of sera was done on different panels to validate the different criteria requested by the reference laboratory and has been validate following the AFNOR standards.
Results and discussion : The BioLisa® kit Besnoitia Ab reagent showed good diagnostic performances on pools of 10 sera, both in term of analytical sensitiviy and specificity, and diagnostic sensitivity and specificity, according to the specifications of the Laboratory expert.
In addition, the robustness, the reproductiblity and repeatability of the reagent have been tested, and this reagent appears to meet all the criteria requested.
The BioLisa® kit Besnoitia Ab is therefore a useful tool to manage the besnoitiosis, for the introduction on individual sera and on pool of serum during the disease control plan.

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