THE UTILIZATION OF THE ENZYME LINKED IMMUNOSORBENT ASSAY FOR THE DETECTION OF ASF ANTIBODIES.

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INTRODUCTION

In this paper a comparative study of a soluble ASF antigen and the mayor structural ASF viral protein (Vp 73) is carried out in order to evaluate their use for the detection of ASF antibodies by the indirect ELISA method. All sera were also tested simultaneously with IEOP and IIF, using the latter one as a reference technique.

MATERIALS AND METHODS.

The soluble ASF antigen and the mayor protein were obtained acording to the publication of Pan et al., 1972 and Tabarés et al., 1981 respectively. A total of 225 positive IIF sera and 452 negative IIF sera were evaluated As control sera a pool of 200 positives sera from Portuguese and Spanish field cases were used as the positive reference while negative control were based on a pool of 200 sera from german pigs. A rabbit IgG peroxydase conjugate anti pig IgG (H+L) (Nordic Lab) was used as a conjugate. The sustrate used was orthophenyldiamine, OPD (Sigma) at 0,04 mg/ml in citrate buffer pH 9,6. The ELISA procedure carried out was the same that we described before (Sánchez-Vizcaino et al. 1979,1980). The indirect immunofluorescence test was done acording to Sánchez Botija et al. 1970 and the immunoelectroosmophoresis as was described by Pan et al., 1978.

RESULTS

The 677 field sera tested by IEOP gave 64 false positive sera and 15 false negative in comparison to IIF, resulting in a sensitivity and specificity index of 93% and 85% respectively. With the ELISA method, using the soluble ASF antigen, the false positive sera were 47 and 5 false negative. Which this gave a sensitivity and specificity index of 97% and 89%, when the same sera were tested simuntaneously by ELISA method using the Vp 73, the results presented a perfect parallelism with the IIF. This test gave a sensitivity and specificity of 100% in relation to the indirect immunofluorescence.

DISCUSSION

The ELISA test described not only present very high sensitivity and specificity but also the advantage of limited cost, possible automatization and objetive reading results which give to the ELISA method the potential for use in epidemiological studies.

It should be menthoned that the Vp 73 also presents the great advantage of being easily prepared and produced in large amounts in infected cells. From two rolle bottles of MS infected cells with $1{,}52 \times 10^{9}$ FCD_{50} of virus 3,6 ml. of the Vp 73 were obtained (Tabarés et al. 1981), and the optimum dilution to be used in the ELISA method that was found in different batches of protein was between 1:1500 to 1:3000.

Another importance aspect of the utilization of Vp 73, is its noninfectability which allows its transport to uncontaminate countries without any danger.

We believe that the ELISA test described in this paper could be an adecuate method for the screening of large swine populations which gives us an effective method for the fight against African Swine Fever.

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