RESEARCH ABSTRACT

SWINE HEALTH

Title: Working toward a CSFV oral fluid antibody ELISA: defining oral fluid antibody (IgA, IgG) kinetics against envelope glycoproteins (E2, Erns) – **NPB #15-176**

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Scientific Abstract:

Classical swine fever virus (CSFV) is a highly contagious disease that still need an effective tools for disease surveillance and monitoring for CSFV endemic and free-area. Diagnostic assays based on oral fluid have been shown to be capable of excellence diagnostic performance for diagnosis of many swine diseases. The aim of the study was to define oral fluid antibody (IgA, IgG) kinetics against two immunogenic envelope glycoproteins (E2, Erns) of the CSFV and initiate the foundation to the logical development of a CSFV oral fluid antibody ELISA. In this study, a panel of well-characterized oral fluid samples (*n*=732) created from CSFV-inoculated and CSFV-vaccinated pigs were used to study the kinetics of specific-isotype antibody (IgA, IgG) against E2 and Erns proteins. Generally, IgG oral fluid antibody provided strong S/P responses and consistency in the detection than IgA oral fluid antibody in both inoculated and vaccinated animals. That is, E2 and Erns IgG antibodies could be detected in oral fluid of both inoculated and vaccinated pigs as early as DPI/DPV10 and became 100% positive by DPI 14 in infected pigs and by DPV 21 in vaccinated pigs. In contrast, E2 and Erns IgA antibody showed weaker and inconsistent in the responses. Oral fluid CSFV IgG antibody (E2 and Erns) ELISAs provided high sensitivity and specificity to detect antibody produced from inoculation and vaccination. The assays demonstrate the feasibility of using oral fluid for an active CSFV surveillance and monitoring program with ability of large scale screening and cost-effective testing.