

SWINE HEALTH

Title: Generating swine influenza virus (SIV) oral fluid diagnostic Reference Standards for community use - **NPB #12-052**

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SCIENTIFIC ABSTRACT

Influenza A virus is an important component of the porcine respiratory disease complex (Thacker et al., 2001) and a pathogen with a major economic impact on swine production. Holtkamp (2007a,b) reported that influenza was among the three most costly swine infectious diseases in every stage of pig production (breeding, nursery, and finishing) in the U.S.

The public health issues related to SIV must also be taken seriously. The loss of export markets during the 2009-2010 H1N1 influenza pandemic cost U.S. producers \$27 per pig (Anon, 2011). With 20% of the annual U.S. pork production exported to international markets (Anon, 2011), the economic viability of U.S. swine producers is synonymous with the public's perception of the health status of the U.S. national herd

This project was designed to accelerate the development of oral fluid-based SIV diagnostic assays by increasing the efficiency of researchers working in this area. Reference Standards make it possible to quickly and easily compare protocols and/or tests between laboratories because the results are based on the same, well-characterized specimens. This is an important gain in efficiency during assay development.

Once assays are implemented in the diagnostic laboratories, Reference Standards are used as "in house" controls. "In house" controls are run to monitor and verify assay performance (Statistical Process Control). Different diagnostic laboratories running the same "in house controls" are quickly able to compare and "trouble-shoot" the assays they run in common.

Thus, the purpose of this project was to develop SIV Reference Standards to be shared among laboratories, including researchers working on SIV diagnostic assay development and diagnosticians routinely running anti-SIV antibody assays.

These research results were submitted in fulfillment of checkoff-funded research projects. This report is published directly as submitted by the project's principal investigator. This report has not been peer-reviewed.

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