

## SWINE HEALTH

**Title:** Identification of genetic signatures for African swine fever virus serologic group specificity –  
NPB #12-106 revised

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**Date Submitted:** July 1, 2013

### Scientific Abstract:

African swine fever (ASF) is arguably the most significant emerging disease threat for the swine industry worldwide. There is no vaccine for ASF available; however, it is clear that vaccination is possible since protection against homologous reinfection has been definitively demonstrated. Vaccine progress is hindered by lack of knowledge concerning the extent of ASFV strain variation and the viral antigens responsible for protective immunity. Eight ASFV serogroups have been identified and notably, and of great significance with respect to vaccine design and development, viruses within serogroups provide cross-protection from challenge with viruses within the serogroup. Here, we have used a collection of serologically-grouped ASFV isolates and a large and diverse collection of ASF viruses to identify genetic signature(s) for ASFV serologic group specificity and to further define ASFV strain variability. Overall, the concordance between CD2v region phylogenetic data and serogroup-specific typing provides predictive value of CD2v locus genotyping in predicting serologic, and potentially cross protective, virus groups.

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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 This report has not been peer-reviewed.

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