

SWINE HEALTH

Title: Sequencing, Cloning and Characterization of a 2007 Vietnam PRRSV isolate - **NPB #08-181**

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Scientific Abstract: The genetic material from PRRSV Type 2 sampled in Vietnam (isolate SRV-07) during the outbreak of porcine high fever disease (PHFD) in SE Asia was isolated and forwarded to our Agricultural Research Laboratory, although it was severely delayed. As a result, the findings are incomplete. Only limited SRV-07 sequence has been obtained - consisting of the 5'-end, partial nonstructural protein 2 (nsp2) covering the deletion seen in other PHFD strains, partial nsp7-8, partial ORF3 and all of ORF5 - but the genetic analysis to date has shown high similarity to other Asian PHFD isolates. The genetic material was amplified for derivation of an infectious clone, and we have successfully generated 10.4 kb of the genome in 3 overlapping products. We prepared a subclone covering ORF4-3'end for in vitro generation of RNA to be analyzed in our laboratory and US diagnostic laboratories. Our findings reveal that SRV-07 has a RFLP cut pattern of 1-8-4, but is only 87.4% identical to MN184 isolates in the ORF5 region and has still not been detected in the US, as of February 2010. We prepared primers and probe for Real-Time analysis of SRV-07, and showed that optimal primers could successfully amplify SRV-07 genetic material. Remaining work to be accomplished will include the production of the infectious clone, full genotypic and phenotypic analysis, and providing verification that the prevalent US PRRSV diagnostic laboratories are able to detect similar strains if they appear.

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 This report has not been peer-reviewed.

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