RESEARCH ABSTRACT

SWINE HEALTH

Title: Development of a Vaccine for F18+ Enterotoxigenic ***E. coli*** in Weaned Pigs – **r: NPB #04-026**

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Abstract In this investigation we attempted to establish that a topical (transcutaneous) vaccine delivery strategy pioneered in mice could be applied to intestinal tract infections of pigs, such as enterotoxigenic *E. coli*. Initial attempts to protect pigs from *E. coli* diarrhea by transcutaneous delivery of fimbrial antigen largely failed and the level an immune response to the fimbrial antigen was disappointing. Subsequent investigations were conducted in an attempt to optimize the method of topical vaccine delivery. Thus far we have not been successful in obtaining a desirable systemic or mucosal immune response, but are continuing to explore methods to optimize this method of vaccine delivery. Alternative methods to the delivery of vaccines to address diseases of the intestinal, respiratory, or urogenital tract (diseases of mucosal epithelium) all have limitations. Consequently, vaccines to such diseases are largely unavailable. Results from studies by other investigators using a mouse model suggest that topical vaccine delivery has substantial potential. However, our discussions with the developers of the mouse model suggest that perfecting the vaccine delivery method will be no trivial task. We plan continued work in this area.