

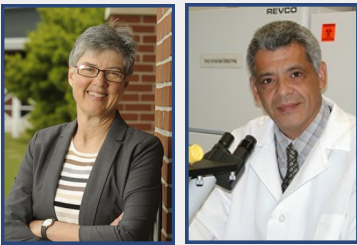
AUBURN UNIVERSITY

INNOVATION ADVANCEMENT & COMMERCIALIZATION

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Reference: IBV vaccine

Inventors



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Licensing Opportunities

- This technology is available for exclusive or non-exclusive licensing.
- Partnering opportunities include licensing and funding of further development.

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Subunit vaccine for Poultry Infectious Bronchitis Virus (IBV)

Overview

Auburn University is seeking a licensee or a partner for further development of a subunit vaccine providing protection against infectious bronchitis virus (IBV) in poultry. IBV is highly prevalent in the poultry industry and causes millions of dollars in losses despite extensive vaccination with commercially available vaccines. Furthermore, studies indicates that current IBV live vaccines lead to new viruses that actually perpetuate IBV infection. This subunit vaccine provides robust protection without the complications associated with currently available live vaccines.

Advantages

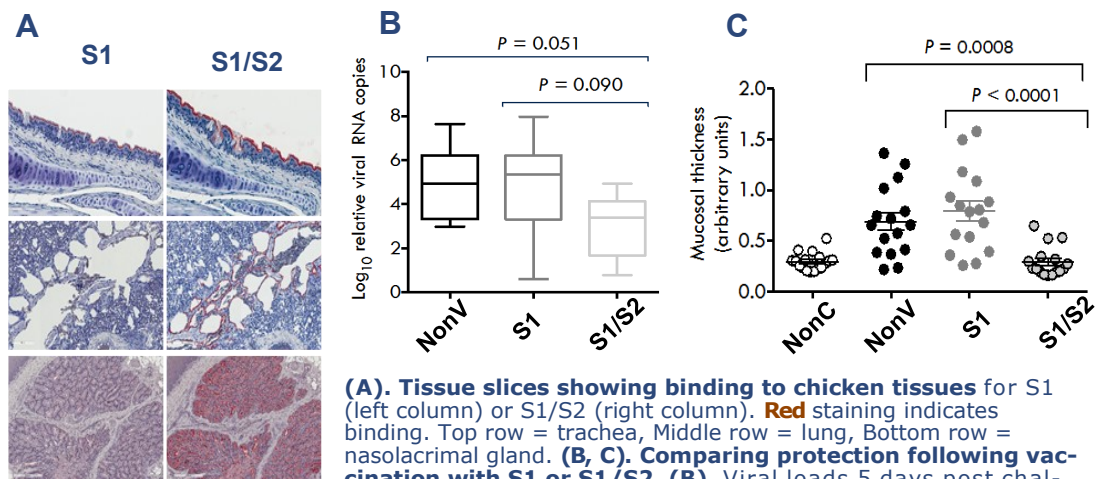
- Easier and faster to develop for emerging serotypes than live attenuated vaccines
- Will not change or produce outbreaks of disease
- Potential for mass delivery via spray or *in ovo*, using viral vectors, nanoparticles, or appropriate adjuvants

Description

Subunit vaccines against IBV have not been commercialized due to lack of effectiveness and difficulty of mass delivery. Lack of effectiveness has been due to choosing an inadequate portion (S1) of the viral attachment protein for immunization. This new approach uses a larger portion of the viral attachment protein (S1/S2) and is better able to attach to chicken tissues compared to S1 alone. Chickens immunized twice by subcutaneous injection with S1/S2 were protected against challenge better than chicken immunized with S1. Twenty-two days after vaccination, virus was reduced in both tears and trachea, and trachea was protected from damage. On a commercial scale, this novel subunit vaccine could be used in layers or breeders by injection, or mass delivered to broilers via spray or *in ovo*, using viral vectors, nanoparticles or adjuvants.

Status

- Provisional patent application has been filed.
- Tests in chickens showed better tissue attachment and reduced viral load & tissue damage
- Studies ongoing/proposed for delivery using viral vectors or via mucosal/*in ovo* routes.



inflammation due to infection. NonC= non-challenged control; NonV=non-vaccinated control.