

Temperature-Sensitive Trivalent Bordetella Avium Vaccine Development

ID: 2016-021

Executive Statement:

A breakthrough in combating turkey coryza through the development of a temperature-sensitive trivalent vaccine targeting new strains of Bordetella avium.

Technology Overview:

This technology outlines the development of a new, temperature-sensitive trivalent vaccine designed to protect turkey populations from emerging strains of Bordetella avium, a pathogen responsible for turkey coryza. By leveraging temperature-sensitive mutants that thrive in the cooler nasal passages but not in the warmer lower respiratory tract of turkeys, this vaccine represents an innovative approach to disease prevention in poultry. The development process involved isolating Bordetella avium strains, inducing mutations for temperature sensitivity, and testing the resultant mutants for their efficacy and safety in turkey poults.

Key Advantages:

- Targeted approach to combating emerging strains of Bordetella avium
- Utilizes temperature sensitivity to ensure safety and efficacy
- Offers a potential solution to the decreased efficacy of existing vaccines
- Can significantly reduce losses in the turkey industry caused by turkey coryza
- Chemical mutagenesis provides a cost-effective method for vaccine development

Problems Addressed:

- Emergence of new, resistant strains of Bordetella avium in turkeys
- Decreased efficacy of the existing ART-VAX vaccine against turkey coryza
- Need for a rapid and effective response to outbreaks affecting the turkey industry

Market Applications:

- Veterinary vaccine production for the poultry industry
- Disease management and prevention in turkey farming operations
- Research and development of temperature-sensitive vaccines for other avian diseases