



TECHNOLOGY

Infectious Bronchitis Virus Vaccine using Newcastle Disease Virus Vector

OVERVIEW

Background

The Infectious Bronchitis Virus (IBV) is of significance to the poultry industry due to its contagious nature and the economic losses caused from IBV infections and deaths in chickens. IBV targets the respiratory, renal and reproductive systems and egg production in chickens. Currently available IBV vaccines have several limitations including low safety, tendency of vaccine strains to undergo reversion to virulence, the occurrence of pathological reactions, secondary bacterial infections and genetic instability among others. There is therefore a need for an improved IBV vaccine that overcomes these issues with current vaccines.

Innovative Technology

Researchers at University of Maryland have developed a strategy to use the Newcastle Disease Virus (NDV) vector as the basis for the IBV vaccine. The new IBV vaccine is considered bivalent due to the inclusion of both NDV and IBV antigenic elements. Compared to currently available IBV vaccine, this present vaccine precludes the creation of IBV variant viruses, provides local and systemic immunity, has better safety profiles and can be distinguished from the naturally occurring IBV strains through serologic tests.

Advantages

- Effective bivalent IBV and NDV vaccine compared to currently available vaccines
- High safety profile from the use of NDV vector
- Vaccine does not create IBV variant viruses that may revert to virulence
- Vaccine provides local and systemic immunity.
- The vaccine strain can be distinguished from the naturally occurring IBV strains through serologic tests

Applications

- Bivalent IBV and NDV vaccine
- Multivalent engineered NDV vaccine for other pathogens

CONTACT INFO

UM Ventures
0134 Lee Building
7809 Regents Drive
College Park, MD 20742
Email: umdtechtransfer@umd.edu
Phone: (301) 405-3947 | Fax: (301) 314-9502

Additional Information

INSTITUTION

University of Maryland, College Park

EXTERNAL RESOURCES

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