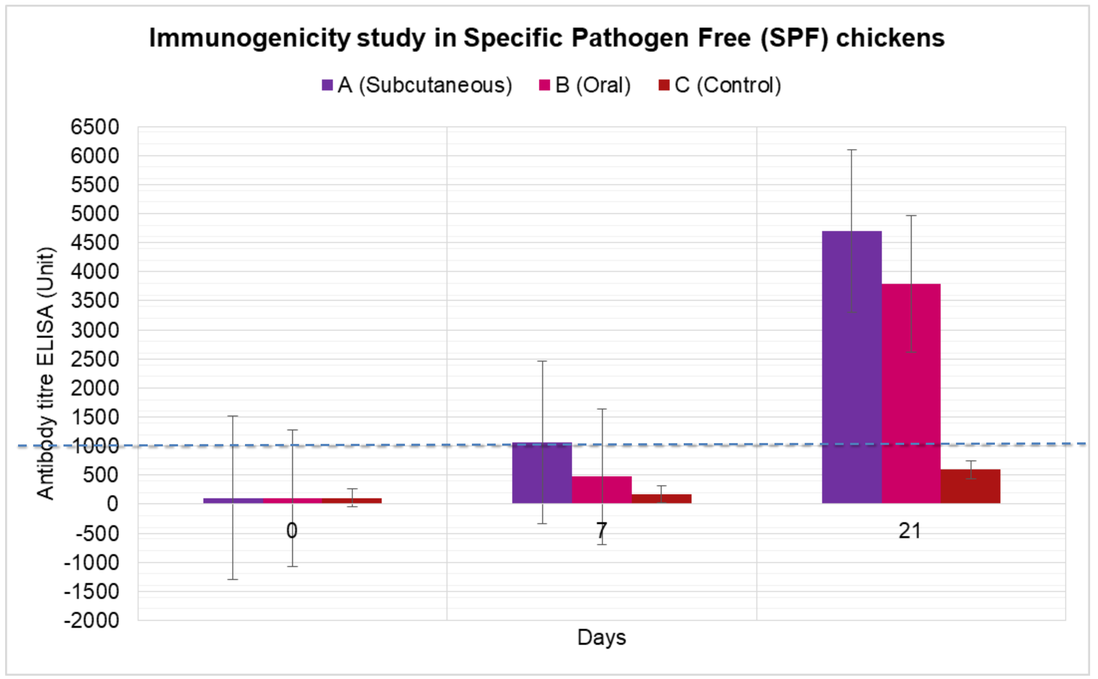
CRISPRvac $_{cf}$UPMT27
A FOWL ADENOVIRUS VACCINE

PATENT NO. PI2020007226



BRIEF TECHNOLOGY

CRISPRvac $_{cf}$UPMT27 is a modified live attenuated Fowl Adenovirus (FAdV) strain developed using CRISPR technology and proofed to be safe and immunogenic in chicken liver cells, SPF eggs and SPF chickens. Thus, feasible vaccine candidate to be applied in countries

CURRENT ISSUES

A global emerging trend of FAdV-associated diseases has marked the past two decades of Fowl adenovirus infection. In Malaysia, the first cases of IBH were reported in 2005 from commercial broiler chickens with high mortality and involving major poultry producing areas. This issue remains a significant threat to the extent that prevention and control, deems difficult. Current practice using conventional vaccines formulated from infected liver homogenate have failed to protect the poultry industry. Hence, vaccination is not a common practice in the country and suitable vaccine against the disease is unavailable. A situation of high infection pressure has prioritized the development of commercial vaccines for control and prevention of FAdVs worldwide.

INVENTIVENESS

A novel modified strain contains a special feature at their gene sequences which reduced it virulent nature. The interaction of the modified antigen and host cell receptor is delayed, enabling the host to elicit high antibody titre.

✓ The use of CRISPR technology to produce attenuated virus rather than the conventional continuous passaging method which is time-consuming and prone to technical errors.

USEFULNESS & APPLICATION

- ✓ Efficient method of preparation
- ✓ Mimic natural genome editing
- ✓ No cloning required
- ✓ Time and cost effective
- ✓ Ethically safe and immunogenic
- ✓ Easy to handle, store and transport
- ✓ Oral administration
- ✓ Non-toxic: bodyweight increase consistently.

IMPACT OF THE PRODUCT

- ✓ Improve disease prevention and control program
- ✓ Increase poultry productivity
- ✓ Enhance poultry sustainability
- ✓ Improve economic and social welfare of communities
- ✓ Improve animal welfare, food safety and security
- ✓ Contribute to country income generation

MARKET POTENTIAL

- ✓ National and international scientific communities working in animal health
- ✓ Poultry industry
- ✓ Local and global veterinary pharmaceutical companies
- ✓ Government departments and agencies
- ✓ Federation Of Livestock Farmers Associations

TRL : 5 - Validation in real environment

Project Leader : Assoc. Prof. Dr. Nurulfiza Mat Isa
Team members : Prof. Dato' Dr. Mohd Hair Bejo, Prof. Dr. Abdul Rahman Omar, Prof. Datin Paduka Dr. Aini Ideris, Assoc. Prof. Dr. Mariatulqabtiah Abdul Razak and Salisu Ahmed
Dept./Faculty : Institute of Bioscience
Email : nurulfiza@upm.edu.my
Phone : +603-97691942
Expertise : Biotechnology

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