



## TECHNOLOGY

# Novel Influenza Virus Vector for Stable Expression of Recombinant Foreign Genes

## OVERVIEW

### Background

The highly variable influenza virus is responsible for the contagious flu that emerges during each winter's flu season. Flu seasons can be unpredictable and severe. In the span of 30 years, between 1976 and 2006 (for the flu season starting from 1976-1977 to 2006-2007) the estimated range of flu-related deaths ranged from 3,000 to 49,000 people (CDC). Seasonal flu vaccines are the best way to prevent the influenza virus infection and its potential complications.

### Innovative Technology

Inventors at the University of Maryland, College Park (UMCP) have developed a novel strategy for engineering influenza viruses that stably express foreign genes. The inventors have demonstrated that this technique enables increased levels of foreign gene expression in infected cells. Influenza viruses generated using this technology not only have the potential to generate improved vaccines against influenza and other pathogenic agents but also to facilitate influenza pathogenesis studies in several biological systems.

### Advantages

- 1) Influenza viruses are known to induce strong cellular and humoral immune responses both at the systemic and the mucosal levels
- 2) Immunoprophylactic and therapeutic benefits from the influenza virus as a vector for foreign genes
- 3) Chromosomal integration of viral genes into the host is virtually inexistent because the influenza virus has a RNA genome without a DNA phase in its replication cycle

### Applications

- 1) Highly effective live attenuated flu vaccine
- 2) Use of influenza virus as a potential delivery vector for other foreign genes

## CONTACT INFO

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## Additional Information

## INSTITUTION

University of Maryland, College Park

**PATENT STATUS**

Patent(s) pending

**LICENSE STATUS**

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**CATEGORIES**

- Vaccines

**EXTERNAL RESOURCES**

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