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BROADLY PROTECTIVE INFLUENZA VACCINES

THERAPEUTICS

Universal seasonal and pandemic influenza vaccine that alerts the immune system to viral threats from less dominant antigens for broader, long-term protection.

TECHNOLOGY TYPE

Peptide
Infectious Diseases
Influenza
Biologics
Vaccines & Adjuvants

STAGE OF DEVELOPMENT

Feasibility demonstrated in a mouse study with multiple flu strains.

IP PROTECTION

Nationalized PCT Issued in the United States, Europe, and Australia

Vaccine Antigens That Direct Immunity to Conserved Epitopes
US9512182B2

Divisional Patent Issued

Vaccine Antigens That Direct Immunity to Conserved Epitopes
US10087218B2

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Reference Number: U-4621

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TECHNOLOGY SUMMARY

Influenza A causes seasonal epidemics that affect millions of people every year and result in the death of between 250,000 and 500,000 annually. These seasonal epidemics and pandemics arise because of the constant evolution of the virus through both mutations and genetic reassortment. Current flu vaccines are type-specific, and while these vaccines may be effective against the target strain, they fail to prevent illness from variant strains. Universal vaccines target stable viral epitopes rather than the continuously changing seasonal varieties, but fail to provide meaningful protection.

A novel methodology has been developed to create a more functional universal influenza vaccine. The vaccine is designed to block immune response to hemagglutinin primary antigenic determinants and elicit antibodies to less dominant antigens or proteins on the virus. This allows the immune system to recognize viral threats from non-selective proteins that are typically present in many variants of the virus, providing broader protection. The vaccine also uses antibody binding to interrupt essential viral functions and prevent spread of the disease.

FEATURES AND BENEFITS

- Provides more effective, long-term protection against influenza.
- Targets non-dominant antigens present in multiple disease strains to expand protection.
- Has potential applications in humans and livestock.
- May prevent pandemic influenza outbreaks.

INVENTOR PROFILE

Susan C. Bock, Ph.D., Profile

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