Novel Antiviral Peptides Against Influenza Virus

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WARF: P08294US
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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing truncated versions of the EB peptide that can be used to prevent or treat influenza viral infections.

OVERVIEW

Influenza viruses cause morbidity and mortality worldwide. In the United States, influenza is responsible for approximately 200,000 hospitalizations and 36,000 deaths each year.

Two classes of antiviral drugs are currently approved to treat influenza. Adamantine derivatives prevent the virus from uncoating and releasing its genetic material into a cell. Neuraminidase inhibitors, on the other hand, prevent virus particles from leaving infected host cells and infecting new cells. However, viruses that are resistant to both classes of antivirals are emerging. New types of antiviral drugs are needed for the treatment and control of influenza.

UW-Madison researchers previously described a 20 amino acid peptide known as EB that can be used to enhance immune response to influenza vaccines (see WARF reference number P08262US). EB induces influenza viral particles to aggregate, preventing binding and uptake by epithelial cells. This same property also allows enhanced recognition by antigen presenting cells, leading to enhanced immunogenicity.

THE INVENTION

UW-Madison researchers now have developed truncated versions of the EB peptide that can be used to prevent or treat influenza viral infections. These shorter peptides exhibit antiviral activity against influenza viruses that is comparable to or better than that of EB. Like EB, they inhibit the attachment of influenza virus to host cells, preventing viral infection. However, some of these shorter peptides likely work through a different mechanism than EB.
APPLICATIONS

• Prevention or treatment of influenza virus infection

KEY BENEFITS

• Less expensive to produce than the 20 amino acid form of EB
• Easier to deliver systemically than the longer version of EB
• Capable of inhibiting viral hemagglutination (a measure of the number of viral particles) by more than 90 percent

ADDITIONAL INFORMATION

Related Technologies
See WARF reference number P00258US for more information about EB.
See WARF reference number P08262US for information about the use of the EB peptide as a vaccine adjuvant.

Publications

Tech Fields
Pharmaceuticals & Vitamin D - Antivirals

CONTACT INFORMATION

For current licensing status, please contact Andy DeTienne at adetienne@warf.org or 608-960-9857.