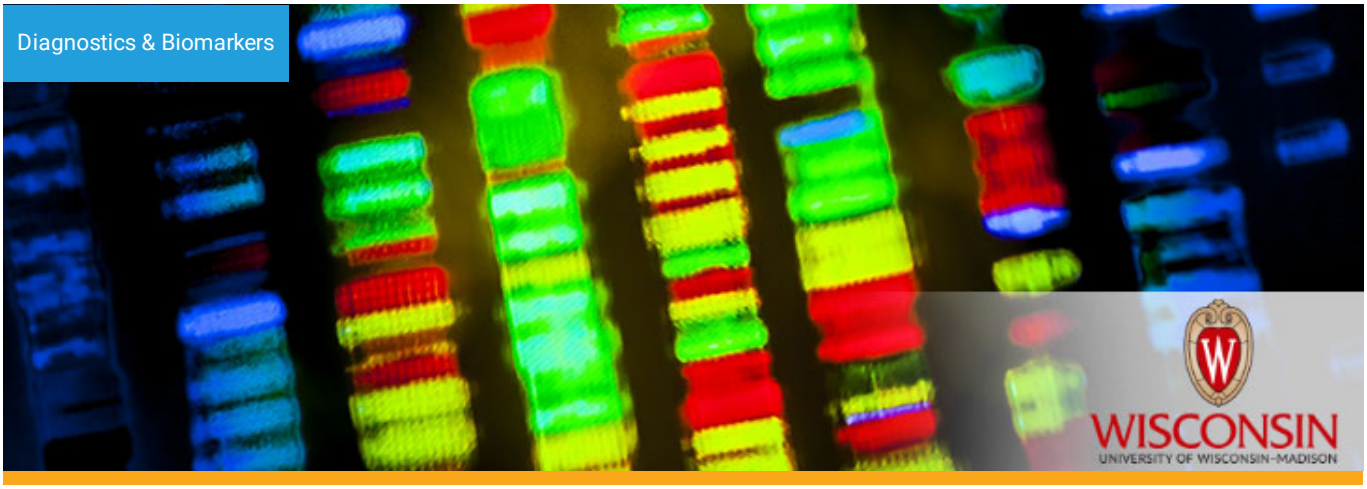

Influenza B Viruses with Reduced Sensitivity to Neuraminidase Inhibitors

View U.S. Patent No. 8,465,960 in PDF format.

WARF: P07341US

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The Wisconsin Alumni Research Foundation (WARF) is seeking commerical partners interested in methods for rapidly idenitfying influenza B viruses that are resistant to treatment with neuraminidase inhibitors.

Overview

Influenza is a major human disease caused by one of three types of influenza viruses. Type A viruses cause the most severe illnesses and are responsible for most epidemics; type B viruses generally cause less severe illnesses; and type C viruses result in mild respiratory illnesses and are not believed to cause epidemics.

Because neuraminidase (NA) is critical for influenza virus infection, NA inhibitors, such as oseltamivir or zanamivir, are used to treat this disease. However, some strains of influenza have become resistant to these inhibitors. While resistant influenza A viruses have been studied, little is known about the frequency and transmissibility of resistant influenza B viruses.

The Invention

UW-Madison researchers have developed methods to rapidly identify influenza B viruses that are resistant to NA inhibitors. The inventors examined the NA inhibitor sensitivity of type B viruses isolated from 496 patients, and sequenced the NA genes of resistant viruses to identify mutations that may be responsible for this reduced sensitivity. Amino acid substitutions at certain positions were associated with resistance to oseltamivir, zanamivir or both.

To detemine the sensitivity of type B influenza viruses, rapid nucleic acid-based assays can detect the presence of these subsitutions. Influenza B viruses with these mutations are likely to be resistant to NA inhibitors, suggesting that alternative treatment options should be considered.

Applications

- Treatment planning for individuals infected with type B influenza viruses

Key Benefits

- Allows resistant strains of influenza B to be identified quickly
- Provides additional diagnostic information to aid physicians in making treatment decisions
- Enables the development of new drugs that can circumvent this resistance
- Provides new tools for evaluating the efficacy of antiviral compounds against influenza B

Technology Fields

- Diagnostics & Biomarkers > Diagnostics

For current licensing status, please contact Jennifer Gottwald at jennifer@warf.org or 608-960-9854