



Inhibitors of Ebola and Other Filoviruses

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WARF: P09098US02

Inventors: Yoshihiro Kawaoka, Shinji Watanabe, Yasuko Hatta

The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in inhibitors of filoviruses, as well as methods of identifying additional agents that inhibit these viruses.

Overview

Ebola, a negative strand RNA virus in the family *Filoviridae*, is among the most lethal human pathogens, causing death in 50 to 90 percent of cases. This virus is highly contagious in aerosol form and is one of the most worrisome potential biological weapons.

Because no approved vaccines or antivirals are available for use against Ebola or other filoviruses, biosafety level-4 (BSL-4) containment is mandatory for work with these viruses. This limitation has hindered basic research as well as the development of vaccines and large-scale screening for effective antiviral compounds.

UW-Madison researchers previously developed a method of engineering Ebola virus so it does not contain a protein necessary for replication (see WARF reference number P01214US). To amplify and sustain this virus, it is grown in a cell line that expresses the protein. Because the modified virus is not capable of replicating on its own, it can be used to screen for compounds that interfere with viral replication and packaging without being dangerous to normal cells or requiring BSL-4 containment.

The Invention

UW-Madison researchers have developed a method of using the modified, biologically contained form of Ebola to identify potential new treatments for Ebola infection. They discovered that the existing drug benzotropine mesylate, which is approved for the treatment of Parkinson's disease and other dystonia disorders, interferes with Ebola infection and virus uptake.

The researchers also identified several other agents that inhibit Ebola infection. The agents include triphenylethylene, steroids, anticholinergics, dopamine antagonists and inhibitors of calcium-independent phospholipase A₂, magnesium-dependent phosphatidate phosphohydrolase and PGE₂ synthase, among others. They can be administered to a human or other mammal to prevent or treat viral infections.

Applications

- Providing new uses for approved drugs
- Identifying agents that can inhibit infection or replication of filoviruses, including Ebola
- Preventing or treating viral infections in humans and other mammals

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- Drugs already are approved for other uses.
- Does not require BSL-4 containment

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- Inhibitors can be used alone or in conjunction with other antiviral, prophylactic or therapeutic compounds.
- Can be used to identify agents that inhibit other filoviruses in addition to Ebola

Additional Information

Related Technologies

- [See WARF reference number P01214US for a reverse genetics approach for engineering Ebola virus.](#)

Tech Fields

- [Therapeutics & Vaccines : Anti-infectives \(antibacterials, antifungals, antivirals\).](#)

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

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