Multiplex qPCR assay for rapid and selective diagnosis of Zika and other arboviruses

Technology #cu16221

This technology is a rapid, highly sensitive multiplex qPCR assay that enables differential diagnosis of Zika virus (ZIKV) and other arboviruses.

Unmet Need: Reliable, selective diagnosis of Zika infection

Current diagnosis of Zika infection is based on the presence of symptoms which are difficult to distinguish from other arbovirus infections. While diagnostic assays for Zika exist, they are cross-reactive with dengue viral infection, rendering differential diagnosis impossible. To circumvent this, a series of singleplex qPCR assays for individual arbovirus infections (Zika, dengue, Chikungunya, West Nile, and others) can be performed and the results compared. However, performing individual assays is costly and time-intensive. As such, there is a need for a rapid, selective method to reliably diagnose ZIKV infection.

The Technology: Rapid diagnostic assay that distinguishes Zika from other arboviruses

This technology is a multiplex qPCR assay that can be performed on serum or urine, enabling concurrent evaluation of Zika, dengue, Chikungunya, and West Nile viral infection. Unlike singleplex qPCR assays, this technology can readily distinguish between Zika and dengue infection. Additionally, this technology is compatible with multiple qPCR systems, including the BD Max, Bio-Rad, and ABI platforms. In sum, this technology provides a multiplex qPCR assay for the rapid diagnosis of Zika and other arboviruses in a cost-effective and selective manner.

A prototype of this technology can detect fewer than 50 copies of viral DNA/RNA in a sample control and has been implemented on multiple qPCR platforms.

Applications:

• Clinical diagnosis of specific arbovirus infections
• Discovery of early-stage arbovirus outbreaks
• Surveillance of ongoing arbovirus outbreaks
• Research tool for post-outbreak evaluation of patient samples

Advantages:
• Reliable, selective diagnosis of Zika and other arbovirus infections
• Rapid diagnosis of Zika and other arbovirus infections
• Tests for multiple viruses in a single assay
• Compatible with existing qPCR platforms

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Patent Information:

Patent Pending

Related Publications: N/A

Tech Ventures Reference:

• IR CU16221
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