

Seasonal & Pandemic Influenza 2007

Poster Section: Surveillance and Diagnostics, with an Update on Rapid Diagnostics

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Poster Title: A Multiplex Real-Time Assay for Simultaneous Detection of Influenza A, Influenza B, and RSV

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Influenza A, influenza B, and respiratory syncytial virus are major causes of respiratory tract infections in young children, the elderly, and immunocompromised patients. These viruses can produce symptoms ranging from fever, sore throat, and myalgia to more serious complications, such as bronchitis, pneumonia, and death. Detection of these viruses has traditionally relied on culture or DFA, but PCR assays have established themselves as potentially useful diagnostic tools due to superior sensitivity and rapid turn-around time. We validated a multiplex, real-time reverse-transcription PCR test that amplifies and detects influenza A, influenza B, and RSV in a single reaction. Virus typing is determined by post-PCR melt curve analysis. A noncompetitive armored RNA internal control was co-extracted with each sample to monitor nucleic acid extraction and RT-PCR inhibition. We compared this real-time assay with culture, DFA, and a commercially available multiplex RT-PCR assay by testing a collection of 95 positive samples and observed 99% agreement. Additionally, 30 RT-PCR negative samples were tested by this real-time assay, with 77% agreement. Assay specificity was assessed, and the limit of detection for a number of different sample types was measured.