TaqMan Array Cards for Pneumococcal Detection and Serotyping

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Technology description

Market Summary

Streptococcus pneumonia (Spn) is a gram-positive bacteria and significant human pathogen responsible for most pneumonia cases. Typically, Spn resides asymptomatically in healthy carriers while colonizing the respiratory tract, sinuses, and nasal cavity. However, in susceptible individuals with weaker immune systems, such as the elderly and young children, it may become pathogenic leading to cases of pneumonia and meningitis. More than 90 different serotypes are known, and these types differ in virulence, prevalence, and extent of drug resistance. Current techniques for identifying and distinguishing Spn serotypes are time consuming and often require extensive lab equipment, making it difficult to do on-site or in resource-constrained locations. There is a need to simplify this process.

Technical Summary

Emory researchers, along with collaborators at the Centers for Disease Control and Prevention, have developed an easier way to identify Streptococcus pneumonia (Spn) and distinguish serotypes from CSF using genotypic TaqMan array cards they call PneumoTaq. TaqMan uses unique hydrolysis probes that are designed to increase the specificity of qPCR above and beyond what is possible with other qPCR techniques. The array card can be used with QuantStudio RT PCR machine to identify Spn from cerebral spinal fluid samples.

Application area

Diagnostic for identifying Streptococcus pneumonia serotypes.

Advantages

Allows for rapid detection and serotype identification of Streptococcus pneumonia infections.

Institution

Emory University

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