

Deteksi gen psaA streptococcus pneumoniae langsung dari sputum dengan metode PCR = Detection of streptococcus pneumoniae psaA gene in sputum samples by PCR

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Abstrak

Streptococcus pneumoniae dapat menyebabkan terjadinya community-acquired pneumonia, meningitis, dan bakteremia pada semua golongan usia. Penelitian tentang S. pneumoniae di Indonesia masih jarang dilakukan. Uji biakan sebagai metode baku masih memiliki kendala dalam penerapan kondisi optimal untuk pertumbuhan S. pneumoniae, yaitu pada lingkungan atmosfer 5% CO₂ (carbon dioxide), dan spesimen dari pasien seringkali diperoleh setelah pemberian antibiotik sehingga memberikan hasil negatif. Metode molekular saat ini lebih banyak diterapkan karena dianggap lebih sensitif, dapat menghemat waktu, dan mengurangi biaya. Gen psaA mengkode protein psaA (pneumococcal surface adhesin A) yang berperan dalam proses virulensi bakteri, dan ditemukan pada keseluruhan serotipe S. pneumoniae.

Penelitian ini dilakukan untuk identifikasi gen psaA Streptococcus pneumoniae langsung dari sputum dengan metode PCR. Sebanyak 176 sputum dikutsertakan dalam penelitian ini. Hasil uji biakan berdasarkan uji optochin dan uji kelarutan dalam garam empedu menunjukkan hasil positif S. pneumoniae pada 3 sputum. Hasil uji PCR menunjukkan gen psaA positif pada 3 sputum yang juga positif pada hasil biakan (100%), sehingga diperoleh sensitivitas dan spesifisitas 100%.

.....Streptococcus pneumoniae could cause community acquired pneumoniae, meningitis and bacteremia at all age groups. In Indonesia study about S.pneumoniae is still rare. Culture method as gold standard still has some limitations in optimal condition appliance for S pneumoniae growth, which is 5% CO₂ atmosphere condition, and patient specimen is often obtained after antibiotic treatment therefore gives negative result. Molecular method nowadays is more often performed due to better sensitivity, take less time and cost effective. psaA gene codes psaA protein that roles in bacterial virulent process and can be found in all S. pneumoniae serotypes.

This study aimed to identify Streptococcus pneumoniae psaA gene straightly from sputum by PCR method. This study included 176 sputum samples, from culture results there were 3 sputum S. pneumoniae by performing optochin test and bile salt solubility test. There were 3 sputum psaA gene positive has positive from culture results (100%) therefore sensitivity and specificity are 100%.