

DIRECT IDENTIFICATION OF *STREPTOCOCCUS PNEUMONIAE* SEROTYPES IN CULTURE NEGATIVE SAMPLES BY A PCR REVERSE-HYBRIDIZATION TECHNIQUE

Juan Carlos Sanz¹, Ruth de Luis², Susana del Río², Susana Gamen², José Yuste³

¹Unidad de Microbiología Clínica, Laboratorio Regional de Salud Pública. Dirección General de Salud Pública. Madrid, Spain; ²OPERON S.A. Zaragoza, Spain;

³Laboratorio de Referencia de Neumococo. Centro Nacional de Microbiología. Instituto de Salud Carlos III. Madrid, Spain

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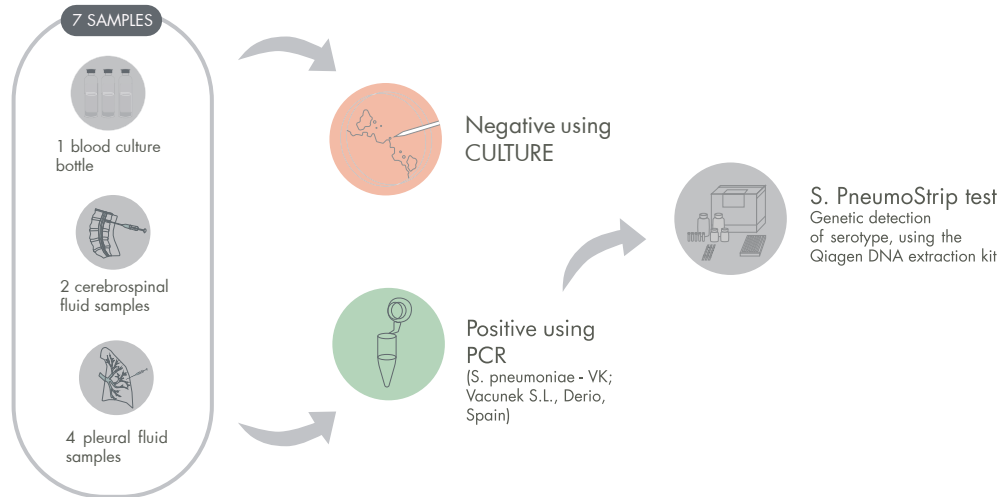
INTRODUCTION AND PURPOSE

S. pneumoniae is one of the leading causes of sepsis, meningitis and respiratory disease worldwide. There are over 90 different capsular serotypes of *S. pneumoniae*. Determination of the capsular serotype of *S. pneumoniae* can provide useful information for vaccine efficacy and impact studies, as well as being a tool for understanding pneumococcal epidemiology.

The Quellung reaction is the gold standard for pneumococcal serotyping in invasive pneumococcal disease cases. This method requires strains growing in culture. However, in some instances bacterial autolysis and empirical antibiotic therapy makes difficult the availability of pure colonies. The objective of this work was to assess the performance of a technique (*S. PneumoStrip* test; Operon S.A., Zaragoza, Spain) based on PCR followed by a reverse strip hybridization for the detection of *S. pneumoniae* serotypes directly in culture negative samples. This test allows the identification of 76 serotypes of pneumococcus (42 individually and 34 as pairs).



METHODS



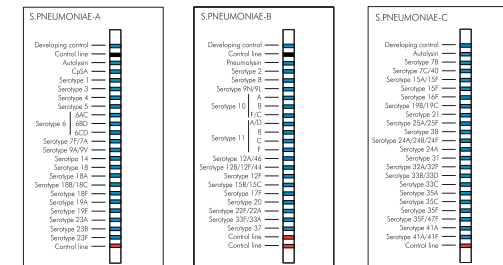
RESULTS

Table 1: serotypes detected by *S. PneumoStrip*

SAMPLE	CLINICAL SYMPTOMS	SEROTYPE DETECTED
Blood culture sample	Bacteremia	12F
Cerebrospinal fluid	Bacteremia	9N/9L
Cerebrospinal fluid	Meningitis	23B
Pleural fluid	Empyema	3
Pleural fluid	Empyema	33F/33A
Pleural fluid	Empyema	19A
Pleural fluid	Empyema	19A

* In the 7 samples, the *S. PneumoStrip* showed positive results for the *lytA*, *ply* genes

Graphic 1: control strips for the identification of serotype with *S. Pneumoniae*



CONCLUSIONS

Although the number of cases studied is small, *S. PneumoStrip* test seems to be a good alternative technique for direct serotyping of *Streptococcus pneumoniae* in culture negative clinical samples from invasive pneumococcal disease patients.



Contact: r.deluis@operon.es



Disclosure: Ms. Ruth de Luis, Ms. Susana Gamen and Ms. Susana del Río; OPERON S.A. (Zaragoza, SPAIN)