

# Multiplex PCR assay in spinal fluid to identify simultaneously bacterial pathogens associated to acute bacterial meningitis in Chilean children

## Diseño y evaluación de una reacción de polimerasa en cadena (RPC) múltiple, para la identificación de bacterias

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**Background:** Acute bacterial meningitis (ABM) is a serious disease that needs rapid diagnosis for an accurate treatment. The most important etiological agents are: *Streptococcus pneumoniae*, *Neisseria meningitidis* and *Haemophilus influenzae* type b. Overall pathogen detection rate in patients with ABM in Chile is 83%. **Aim:** To evaluate a Polymerase Chain Reaction (PCR) protocol for simultaneous detection of several pathogens in patients with ABM. **Material and methods:** We designed and evaluated a multiplex PCR protocol for simultaneous specific genes identifications of *S pneumoniae* (*lytA* and *ply* genes), *N meningitidis* (*ctrA*, *crgA*) and *H influenzae* (*bexA*) in cerebrospinal fluid (CSF) samples from pediatric patients with suspected diagnosis of ABM. Sensitivity, specificity and minimum detection levels of DNA were determined. Amplifications of rDNA 16S gene was done to confirm extraction of bacterial DNA. **Results:** Ninety nine CSF samples were studied, 90 from children with fever and negative C