

Filmarray Biomerieux



- El sistema **FilmArray™** es un **sistema de PCR multiplex** certificado por la FDA
 - **Sencillo:** 2 minutos de manipulación
 - **Fácil:** No precisa medir ni pipeteos precisos
 - **Rápido:** Tiempo al resultado de una hora aproximadamente
 - **Integral:** Analiza la mayor variedad de patógenos que causan infecciones respiratorias, del torrente sanguíneo, meningitis y encefalitis, y gastrointestinales, además de genes de resistencia a antibióticos.

Conceptos básicos

El [Panel Respiratorio FilmArray®](#): analiza **20 virus y bacterias respiratorias**.

El [Panel de Identificación de Hemocultivos \(BCID\) FilmArray®](#): analiza **24 patógenos y 3 genes de resistencia antibiótica** asociados con **infecciones del torrente sanguíneo**. Con una sola prueba puede identificar patógenos en **9 de cada 10 hemocultivos positivos**.

El [Panel Gastrointestinal FilmArray®](#): analiza **22 patógenos gastrointestinales comunes** incluyendo virus, bacterias y protozoos que causan diarrea infecciosa.

El [Panel de Encefalitis/Meningitis FilmArray®](#): analiza **14 bacterias, virus y parásitos relevantes**, directamente en el líquido cefalorraquídeo.

Panel meningitis/encefalitis

Bacterias

Escherichia coli K1

Haemophilus influenzae

Listeria monocytogenes

Neisseria meningitidis

Streptococcus agalactiae

Streptococcus pneumoniae

Levaduras

Cryptococcus neoformans/gattii

Virus

Citomegalovirus (CMV)

Enterovirus

Virus herpes simple 1 (VHS-1)

Virus herpes simple 2 (VHS-2)

Herpesvirus humano 6 (HHV-6)

Parechovirus humano

Virus varicela-zóster (VZV)

Panel gastrointestinal

Bacterias	
<i>Campylobacter (jejuni, coli y upsaliensis)</i>	<i>E. coli</i> O157
<i>Clostridium difficile (Toxina A/B)</i>	<i>E. coli</i> enteroagregativa (EAEC)
<i>Plesiomonas shigelloides</i>	<i>E. coli</i> enteropatógena (EPEC)
<i>Salmonella</i>	<i>E. coli</i> enterotoxigénica (ETEC) lt/st
<i>Yersinia enterocolitica</i>	<i>E. coli</i> productora de toxinas tipo Shiga (STEC) stx1/stx2
<i>Vibrio (parahaemolyticus, vulnificus, y cholerae)</i>	<i>Shigella</i> / <i>E. coli</i> enteroinvasiva (EIEC)
<i>Vibrio cholerae</i>	

Virus		Parásitos	
Adenovirus F 40/41		<i>Cryptosporidium</i>	
Astrovirus		<i>Cyclospora cayetanensis</i>	
Norovirus GI/GII		<i>Entamoeba histolytica</i>	
Rotavirus A		<i>Giardia lamblia</i>	
Sapovirus (I,II, IV, y			

Panel de sepsis

Bacterias Gram+	Bacterias Gram-
<i>Enterococcus</i>	<i>Acinetobacter baumannii</i>
<i>Listeria monocytogenes</i>	<i>Haemophilus influenzae</i>
<i>Staphylococcus</i>	<i>Neisseria meningitidis</i>
<i>Staphylococcus aureus</i>	<i>Pseudomonas aeruginosa</i>
<i>Streptococcus</i>	Enterobacteriaceae
<i>Streptococcus agalactiae</i>	Complejo <i>Enterobacter cloacae</i>
<i>Streptococcus pyogenes</i>	<i>Escherichia coli</i>
<i>Streptococcus pneumoniae</i>	<i>Klebsiella oxytoca</i>
	<i>Klebsiella pneumoniae</i>
	<i>Proteus</i>
	<i>Serratia marcescens</i>

Levaduras	Genes de resistencia antibiótica
<i>Candida albicans</i>	mecA - resistencia a Meticilina
<i>Candida glabrata</i>	vanA/B - resistencia a Vancomicina
<i>Candida krusei</i>	KPC - resistencia a carbapenems
<i>Candida parapsilosis</i>	
<i>Candida tropicalis</i>	

Panel respiratorio

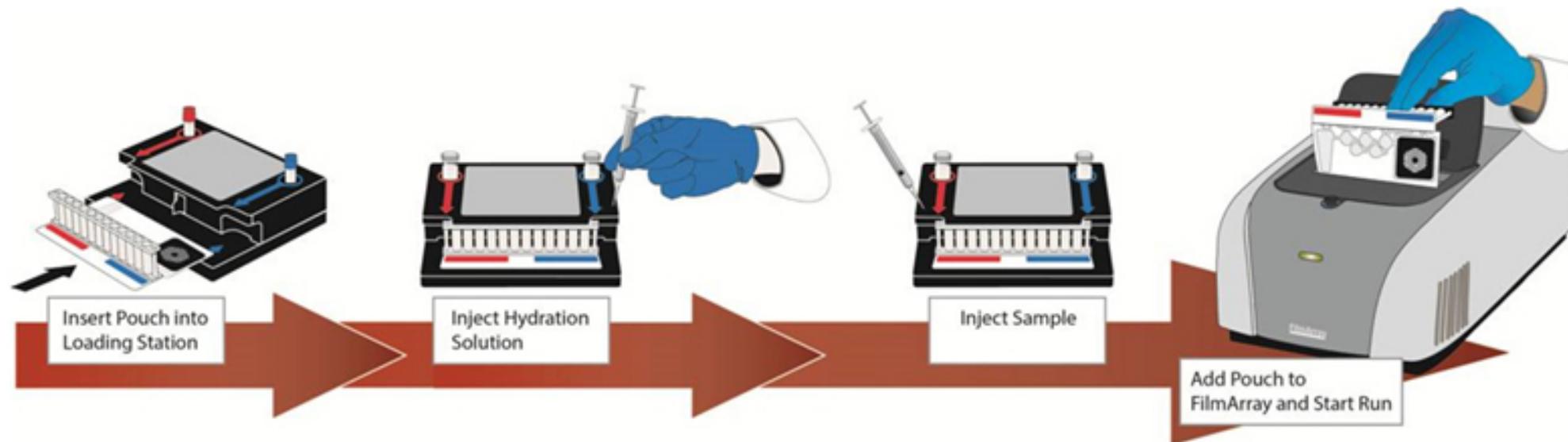
Viruse

Adenovirus
Coronavirus 229E
Coronavirus HKU1
Coronavirus OC43
Coronavirus NL63
Metapneumovirus humano
Rinovirus/Enterovirus humano
Influenza A

Bacterias

Influenza A/H1
Influenza A/H1-2009
Influenza A/H3
Influenza B
Parainfluenza 1
Parainfluenza 2
Parainfluenza 3
Parainfluenza 4
VRS
Bordetella pertussis
Chlamydophila pneumoniae
Mycoplasma pneumoniae

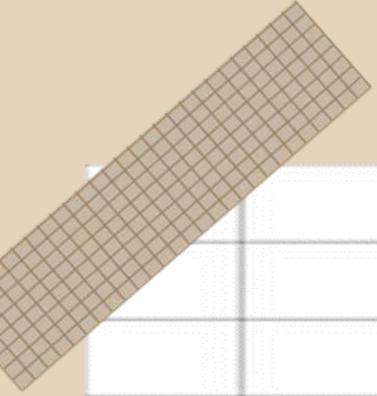
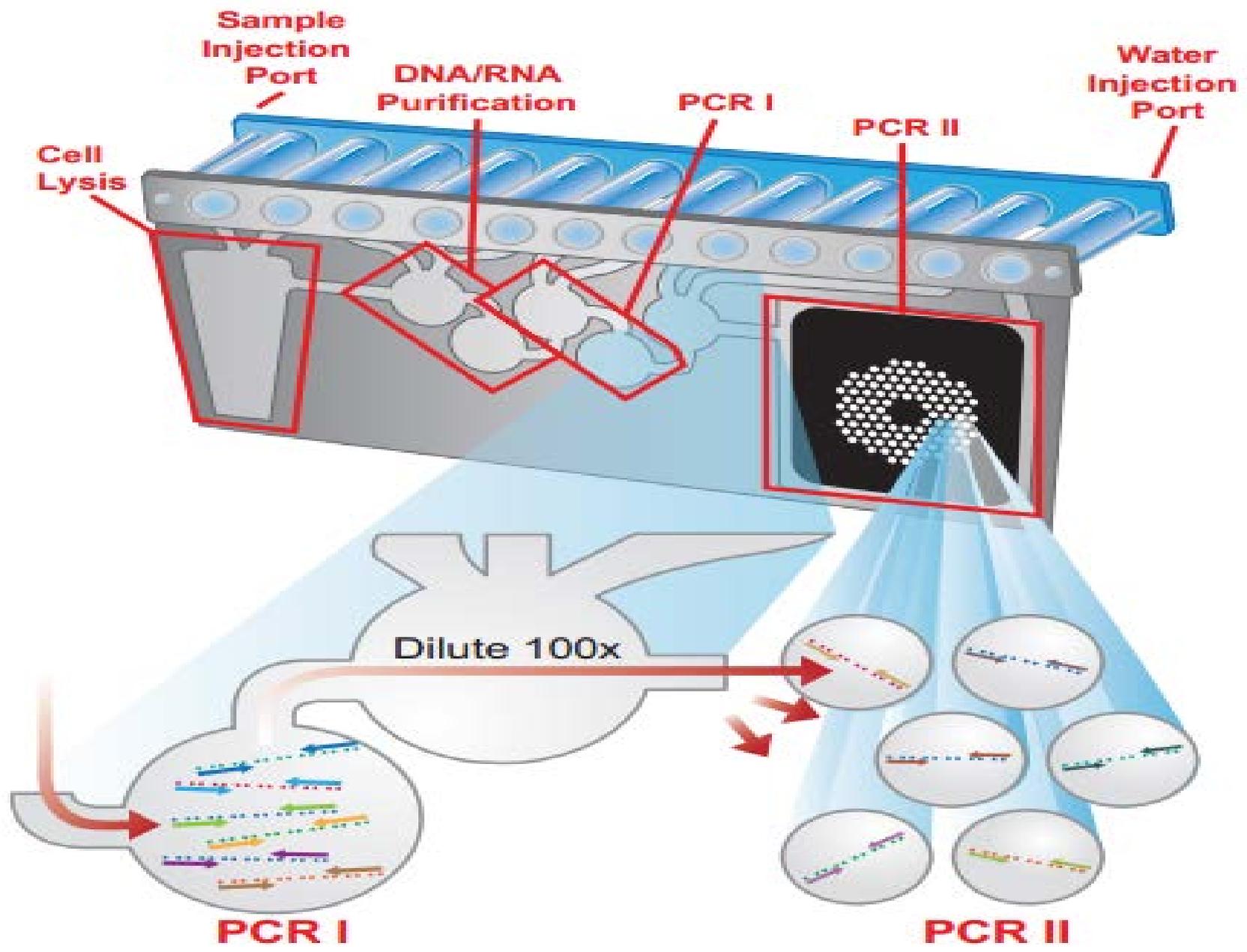
Conceptos básicos



Simple:
Only 2 minutes of
hands-on time

Easy:
No precise
pipetting required

Fast:
Run time of
about 1 hour





FilmArray[®] Meningoencephalitis panel in the diagnosis of central nervous system infections: stewardship and cost analysis in a paediatric hospital in Chile

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Abstract

Background: Central nervous system (CNS) infection has been an ongoing concern in paediatrics. The FilmArray[®] Meningoencephalitis (FAME) panel has greater sensitivity in identifying the aetiology of CNS infections. This study's objective was to compare the aetiological identification and hospitalization costs among patients with suspected CNS infection before and after the use of FAME.

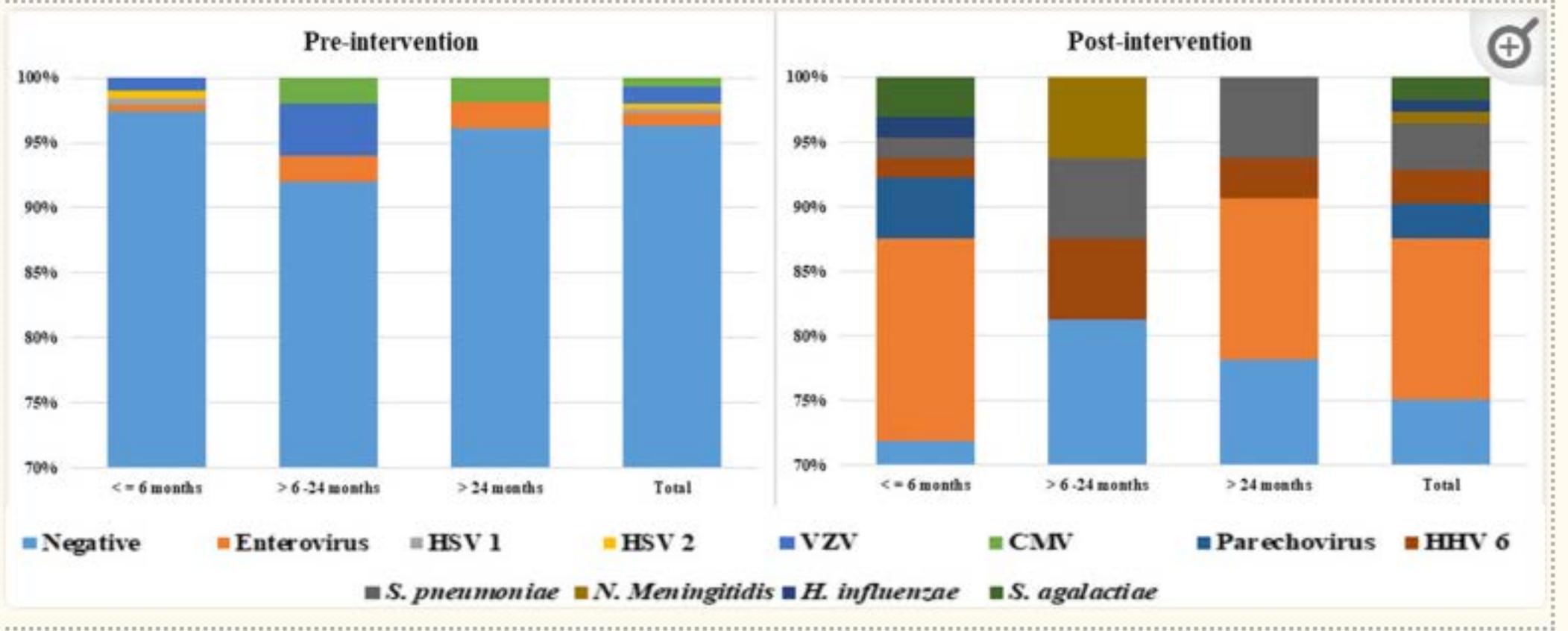
Methods: An analytical observational study was carried out using a retrospective cohort for the pre-intervention (pre-FAME use) period and a prospective cohort for the post-intervention (post-FAME use) period in children with suspected CNS infection.

Results: A total of 409 CSF samples were analysed, 297 pre-intervention and 112 post-intervention. In the pre-intervention period, a total of 85.5% of patients required hospitalization, and in the post-intervention period 92.7% required hospitalization ($p < 0.05$). Median of ICU days was significantly lower in the post-intervention period than it was in the pre-intervention period. The overall positivity was 9.4 and 26.8%, respectively ($p < 0.001$). At ages 6 months and below, we found an increase in overall positivity from 2.6 to 28.1%, along with an increased detection of viral agents, *S. agalactiae*, *S. pneumoniae*, and *N. meningitidis*. The use of this diagnostic technology saved between \$2916 and \$12,240 USD in the cost of ICU bed-days. FAME use provided the opportunity for more accurate aetiological diagnosis of the infections and thus the provision of adequate appropriate treatment.

Conclusions: The cost/benefit ratio between FAME cost and ICU bed-day cost savings is favourable. Implementation of FAME in Chilean public hospitals saves public resources and improves the accuracy of aetiological diagnosis.

Keywords: Diagnostic stewardship, CNS infections, FilmArray[®], Children





[Figura 2](#)

Proporción de casos de infecciones del sistema nervioso central por cada patógeno en ambos períodos según grupo de edad

Tabla 4

Positividad en LCR según grupo de edad

	Pre-intervención	Post-intervención	<i>p</i> valor ^{un}
< 6 meses, n	195	64	
Positividad, n (%)	5 (2,6%)	18 (28,1%)	< 0.001
Participantes con LCR alterado, n (%)	42 (21,5%)	27 (42,2%)	0.005
<i>Positividad en LCR alterado, n (%)</i>	4 (9,5%)	11 (40,7%)	0.002
≥ 6 meses	102	48	
Positividad, n (%)	6 (5,9%)	10 (20,8%)	0.006
Participantes con LCR alterado, n (%)	34 (33,3%)	26 (54,2)	0.034
<i>Positividad en LCR alterado, n (%)</i>	3 (8,8%)	6 (23,1%)	0.125

Tabla 5

Costos por día de cama

	Costos unitarios por día-cama (\$USD ^d)	Pre-intervención		Post-intervención		Ahorro de costos (\$USD) Dif: (2) - (1)
		Cantidad	Costo total (\$USD) (1)	Cantidad	Costo total (\$USD) (2)	
números absolutos						
N° base-días-cama						
<i>un</i>	<i>Público</i> 56	1908	106,848	613	34,328	72,540
<i>b</i>	<i>Privado</i> 640		1,267,200		392,320	874,880
N° días-cama UCI						
<i>un</i>	<i>Público</i> 243	686	166,698	125	30,375	136,323
<i>b</i>	<i>Privado</i> 1020		699,720		127,500	572,220
Usar días de cama por paciente^c						

