

Supplementary material

Supplementary table 1: Detections of typical bacteria sorted by number of detections

Detections by FAP <i>plus</i>	High quality LRT samples (n=126) N (%)	Low quality LRT samples (n=108) N (%)	p-value ¹	Percentage of detections that would have been missed if only high quality samples were analysed - % (95 % CI ²)
<i>Haemophilus influenzae</i>	45 (35.7)	22 (20.4)	0.010*	32.8 (22.8-44.8)
<i>Streptococcus pneumoniae</i>	25 (19.8)	17 (15.7)	0.415	40.5 (27.0-55.5)
<i>Staphylococcus aureus</i>	22 (17.5)	16 (14.8)	0.584	42.1 (27.8-57.8)
<i>Moraxella catarrhalis</i>	22 (17.5)	13 (12.0)	0.246	37.1 (23.1-53.7)
<i>Escherichia coli</i>	8 (6.3)	6 (5.6)	1.000	42.9 (21.3-67.5)
<i>Pseudomonas aeruginosa</i>	8 (6.3)	5 (4.6)	0.776	38.5 (17.6-64.6)
<i>Streptococcus agalactiae</i>	2 (1.6)	7 (6.5)	0.085	77.8 (44.3-94.7)
<i>Klebsiella pneumoniae</i> group	5 (4.0)	2 (1.9)	0.456	28.6 (7.6-64.8)
<i>Proteus spp.</i>	1 (0.8)	4 (3.7)	0.184	80.0 (36.0-98.0)
<i>Serratia marcescens</i>	4 (3.2)	1 (0.9)	0.377	20.0 (2.0-64.0)
<i>Enterobacter cloacae</i> complex	2 (1.6)	2 (1.9)	1.000	50.0 (15.0-85.0)
<i>Klebsiella oxytoca</i>	1 (0.8)	3 (2.8)	0.338	75.0 (28.9-96.6)
<i>Acinetobacter baumannii</i> complex	1 (0.8)	0	1.000	0.0 (0.0-83.3)
<i>Klebsiella aerogenes</i>	0 (0)	0 (0)	NA	NA
<i>Streptococcus pyogenes</i>	0 (0)	0 (0)	NA	NA

*Significant

¹Pearson's chi-squared test for categorical variables with expected counts >5, Fisher's exact test for categorical variables with expected counts ≤5, and independent sample t test for continuous variables. A two tailed p-value ≤ 0.05 was considered statistically significant.

²Confidence intervals computed by the modified Wald method

Abbreviations: FAP plus - BioFire® FilmArray® Pneumonia Panel plus (bioMérieux S.A., Marcy-l'Etoile, France; LRT - lower respiratory tract; CI - confidence interval

Supplementary table 2: Detections of typical bacteria in high-quality sputum samples by culture and FilmArray pneumonia panel *plus* (FAP *plus*) in 126 patents with pneumonia or infectious exacerbations of chronic obstructive pulmonary disease

	Not detected	Detected by FAP <i>plus</i> only	Detected by culture only	Detected by both culture and FAP <i>plus</i>
	N	N (%)	N (%)	N (%)
<i>Acinetobacter baumannii</i> complex	125	1 (100)	0 (0)	0 (0)
<i>Enterobacter cloacae</i> complex	124	2 (100)	0 (0)	0 (0)
<i>Escherichia coli</i>	118	1 (12.5)	0 (0)	7 (87.5)
<i>Haemophilus influenzae</i>	79	10 (21.3)	2 (4.3)	35 (74.5)
<i>Klebsiella aerogenes</i>	126	0 (NA)	0 (NA)	0 (NA)
<i>Klebsiella oxytoca</i>	124	0 (0)	1 (50)	1 (50)
<i>Klebsiella pneumoniae</i>	120	4 (66.7)	1 (16.7)	1 (16.7)
<i>Moraxella catarrhalis</i>	102	9 (37.5)	2 (8.3)	13 (54.2)
<i>Proteus spp</i>	125	1 (100)	0 (0)	0 (0)
<i>Pseudomonas aeruginosa</i>	117	2 (22.2)	1 (11.1)	6 (66.7)
<i>Serratia marcescens</i>	122	2 (50)	0 (0)	2 (50)
<i>Staphylococcus aureus</i>	103	15 (65.2)	1 (4.3)	7 (30.4)
<i>Streptococcus agalactiae</i>	124	2 (100)	0 (0)	0 (0)
<i>Streptococcus pneumoniae</i>	100	9 (34.6)	1 (3.8)	16 (61.5)
<i>Streptococcus pyogenes</i>	126	0 (NA)	0 (NA)	0 (NA)

Abbreviations: FAP plus - BioFire® FilmArray® Pneumonia Panel plus (bioMérieux S.A., Marcy-l'Etoile, France)