Visit Number:	42226504068	Registered	08-03-2026 13:46:40
Patient Name:	140527جيهان عبدالحميد محمد	Collected	08-03-2026 14:28:45
Age / Sex:	59 Year / Female	Authenticated	09-03-2026 12:52:35
Referred By:	Prof : محمد عبداللطيف احمد مجاهد	Reported	09-03-2026 13:39:21
Client Name:	0		

MICROBIOLOGY REPORT

FilmArray® Pneumonia Panel *plus* - IVD

BIOFIRE — www.BioFireDx.com

Run Information

Sample ID	42226510825	Run Date	09 Mar 2026 12:21 PM
Protocol	SPUTUM v3.3	Serial No.	123352547
Pouch Type	Pneumoplus v2.0	Lot No.	3SUJ25
Controls	Passed	Operator	IDH 1 (IMA)
Run Status	Completed	Instrument	TM15983

Detection Summary

Bacteria

		Bin (copies/mL)		Bin (copies/mL)			
				10^4	10^5	10^6	≥10^7
Detected:	✓	≥10^7	*Klebsiella pneumoniae* group				
	✓	≥10^7	*Proteus* spp.				
	✓	10^6	*Acinetobacter calcoaceticus-baumannii* complex				

⚠ **Note:** Detection of bacterial nucleic acid may be indicative of colonizing or normal respiratory flora and may not indicate the causative agent of pneumonia. Semi-quantitative Bin (copies/mL) results generated by the FilmArray Pneumonia Panel *plus* are not equivalent to CFU/mL and do not consistently correlate with the quantity of bacterial analytes compared to CFU/mL. For specimens with multiple bacteria detected, the relative abundance of nucleic acids (copies/mL) may not correlate with the relative abundance of bacteria as determined by culture (CFU/mL). Clinical correlation is advised to determine significance of semi-quantitative Bin (copies/mL) for clinical management.

Antimicrobial Resistance Genes

Detected: ✓ CTX-M
✓ NDM
✓ OXA-48-like

⚠ **Note:** Antimicrobial resistance can occur via multiple mechanisms. A Not Detected result for a genetic marker of antimicrobial resistance does not indicate susceptibility to associated antimicrobial drugs or drug classes. A Detected result for a genetic marker of antimicrobial resistance cannot be definitively linked to the microorganism(s) detected. Culture is required to obtain isolates for antimicrobial susceptibility testing and FilmArray Pneumonia Panel *plus* results should be used in conjunction with culture results for the determination of susceptibility or resistance.

Atypical Bacteria

Detected: None

Viruses

Detected: ✓ Human Metapneumovirus

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Ass.Prof. of Medical Microbiology
Faculty of Medicine, Cairo University
Yasmine Elkholy

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Run Status	Completed	Instrument	TM15983

Result Summary

Bacteria

		Bin (copies/mL)		Bin (copies/mL)			
				10^4	10^5	10^6	≥10^7
✓	Detected	10^6	*Acinetobacter calcoaceticus-baumannii complex*				
	Not Detected		*Enterobacter cloacae complex*				
	Not Detected		*Escherichia coli*				
	Not Detected		*Haemophilus influenzae*				
	Not Detected		*Klebsiella aerogenes*				
	Not Detected		*Klebsiella oxytoca*				
✓	Detected	≥10^7	*Klebsiella pneumoniae group*				
	Not Detected		*Moraxella catarrhalis*				
✓	Detected	≥10^7	*Proteus spp.*				
	Not Detected		*Pseudomonas aeruginosa*				
	Not Detected		*Serratia marcescens*				
	Not Detected		*Staphylococcus aureus*				
	Not Detected		*Streptococcus agalactiae*				
	Not Detected		*Streptococcus pneumoniae*				
	Not Detected		*Streptococcus pyogenes*				

⚠ **Note:** Detection of bacterial nucleic acid may be indicative of colonizing or normal respiratory flora and may not indicate the causative agent of pneumonia. Semi-quantitative Bin (copies/mL) results generated by the FilmArray Pneumonia Panel *plus* are not equivalent to CFU/mL and do not consistently correlate with the quantity of bacterial analytes compared to CFU/mL. For specimens with multiple bacteria detected, the relative abundance of nucleic acids (copies/mL) may not correlate with the relative abundance of bacteria as determined by culture (CFU/mL). Clinical correlation is advised to determine significance of semi-quantitative Bin (copies/mL) for clinical management.

Antimicrobial Resistance Genes

✓	Detected	CTX-M
	Not Detected	IMP
	Not Detected	KPC
⊠	N/A	*mecA/C and MREJ*
✓	Detected	NDM
✓	Detected	OXA-48-like
	Not Detected	VIM

⚠ **Note:** Antimicrobial resistance can occur via multiple mechanisms. A Not Detected result for a genetic marker of antimicrobial resistance does not indicate susceptibility to associated antimicrobial drugs or drug classes. A Detected result for a genetic marker of antimicrobial resistance cannot be definitively linked to the microorganism(s) detected. Culture is required to obtain isolates for antimicrobial susceptibility testing and FilmArray Pneumonia Panel *plus* results should be used in conjunction with culture results for the determination of susceptibility or resistance.

Atypical Bacteria

	Not Detected	*Chlamydia pneumoniae*
	Not Detected	*Legionella pneumophila*
	Not Detected	*Mycoplasma pneumoniae*

Viruses

	Not Detected	Adenovirus
	Not Detected	Coronavirus
✓	Detected	Human Metapneumovirus
	Not Detected	Human Rhinovirus/Enterovirus
	Not Detected	Influenza A
	Not Detected	Influenza B
	Not Detected	Middle East Respiratory Syndrome Coronavirus (MERS-CoV)
	Not Detected	Parainfluenza Virus
	Not Detected	Respiratory Syncytial Virus

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- The detection of resistance genes in the BioFire panels provides crucial insights to guide targeted antibiotic therapy.
- Antibiotic susceptibility testing is mandatory to guide specific antibiotic treatment for every case.
- Below, is a general interpretation of detected resistance genes and their implications for treatment:

1. blaKPC, blaNDM, blaVIM, blaIMP, blaOXA-48-like: These genes indicate carbapenemase production, conferring resistance to carbapenems (Ertapenem, Imipenem and Meropenem) and often other beta-lactams (including Penicillins and Cephalosporins).
- Treatment options may include ceftazidime-avibactam (except for NDM producers), meropenem-vaborbactam (for KPC producers), imipenem-relebactam, or cefiderocol, or colistin (in combination with a carbapenem or aminoglycoside) or tigecycline depending on susceptibility testing.
- N.B: In case of metallo-beta lactamase production (blaNDM, blaVIM, blaIMP), aztereonam is recommended.

2. mecA/mecC: These genes confer methicillin resistance in Staphylococcus aureus (MRSA).
Treatment options may include vancomycin, linezolid, daptomycin (Daptomycin is NOT recommended in case of VAP), or ceftaroline depending on susceptibility testing.

3. vanA/vanB : These genes indicate vancomycin resistance in Enterococcus species (VRE).
Treatment options may include linezolid, daptomycin, or tigecycline.

4. CTX-M: Indicates extended-spectrum beta-lactamase (ESBL) production, conferring resistance to against most penicillins and cephalosporins
The preferred treatment option remains carbnapenems though ceftazidime-avibactam or piperacillin-tazobactam (if susceptible) may be alternatives

5. mcr-1: Indicates colistin resistance. Treatment options should be determined after reviewing local antibiogram and consultation of the ICU team.

- Empiric therapy should be adjusted based on the patient's clinical status, local antibiogram, and resistance gene findings.
- Confirmation with phenotypic susceptibility testing is essential before finalizing therapy.
- Consultation with infectious disease specialists is recommended for complex resistance patterns.

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