3165 McKelvey Rd, Suite 110
Bridgeton, MO 63044
Phone: 314- 743-3748
Fax: 314- 743-3749
CLIA # 26D1101943
Laboratory Director: Guihua Cao, M.D., Ph.D.

Molecular Diagnostic Report

Facility Information		Patient Information			Specimen Information	
Provider Name:	SPECIALIST, DR.	**Name:**	Test, Patient		**Accession No:**	22202269111
Provider ID:	1124198981	DOB:	5/5/1970	Gen: Female	Collected On:	11/18/2022 8:50:37 AM
Address:					Received On:	11/18/2022 8:50:00 AM
Facility Name:	Test - Location				Sample Type:	

Wound Infection Pathogens Panel

Detected Pathogen Results Summary:

***** The Genomic Copy Equivalent/mL is calculated semi-quantitatively using delta Ct method. Percentages indicate the relative quantity of each pathogen in a given specimen. Pathogen levels are defined based on the GCE/mL value **(high = >1x10^5 and low = <1x10^5).**

Pathogen Name	Genomic Copy Equivalent/mL	Relative Strain Qty (%)	Clinical	Flag
Pseudomonas aeruginosa	1.3x10^5	34.80	High	
Bacteroides fragillis	1.2x10^5	32.57	High	
Finegoldia magna or Peptostreptococcus maganus	9.7x10^4	25.39	Low	
Peptoniphilus harei	1.4x10^4	3.72	Low	
Enterococcus faecalis	1.0x10^4	2.65	Low	
Escherichia coli	3.2x10^3	0.85	Low	
Corynebacterium jeikeium	1.2x10^2	0.03	Low	

Summary Of Recommended Antibiotics:

Pathogen Name	Priority	Antibiotic Name (John Hopkins)	Activity Spectrum (Sanford)	Resistant genes Express f/nf	Recommended Antibiotics (AIM Labs)	Route of Administration **
Bacteroides fragillis	**Preferred**	Imipenem/Cilastatin	++	nf	Imipenem/Cilastatin	IV
		Meropenem	++	nf	Meropenem	IV
		Ertapenem	++	nf	Ertapenem	IV/IM
		Piperacillin/Tazobactam	++	nf	Piperacillin/Tazobactam	IV
		Doripenem	+	nf	Doripenem	IV
Finegoldia magna or Peptostreptococcus maganus	**Preferred**	Penicillin	++	nf	Penicillin	PO/IV/IM
		Amoxicillin	++	nf	Amoxicillin	PO
		Clindamycin	+	f		PO/IV/IM
		Meropenem	+	nf	Meropenem	IV
		Ertapenem	+	nf	Ertapenem	IV/IM
		Doripenem	+	nf	Doripenem	IV
		Amoxicillin/clavulanate	+	nf	Amoxicillin/clavulanate	PO
		Ampicillin/Sulbactam	+	nf	Ampicillin/Sulbactam	IV/IM

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Finegoldia magna or Peptostreptococcus maganus	**Alternative**	Moxifloxacin	+	nf	Moxifloxacin	PO/IV
		Levofloxacin	+	nf	Levofloxacin	PO/IV
		Linezolid	+	nf	Linezolid	PO/IV
		Daptomycin	+	nf	Daptomycin	IV
		Vancomycin	+	f		PO/IV
Pseudomonas aeruginosa	**Preferred**	Cefepime	++	f		IV/IM
		Ceftazidime	++	f		IV/IM
		Piperacillin/Tazobactam	++	nf	Piperacillin/Tazobactam	IV
		Meropenem	++	nf	Meropenem	IV
		Ciprofloxacin	+	nf	Ciprofloxacin	PO/IV
		Levofloxacin	+	nf	Levofloxacin	PO/IV
		Gentamicin	+	nf	Gentamicin	IV/IM
		Aztreonam	+	nf	Aztreonam	IV/IM
		Piperacillin		nf	Piperacillin	IV/IM
	Alternative	Tobramycin	+	nf	Tobramycin	IV/IM
		Plazomicin	±	nf	Plazomicin	IV
		Fosfomycin	±	nf	Fosfomycin	PO
		Nitrofurantoin	0	nf		PO

Antibiotic results are summarized only for those pathogens that show a relative quantity of ≥10%.

- **[++] Recommended**: Agent is a first line therapy: reliably active in vitro, clinically effective, guideline recommended, recommended as a first-line agent or acceptable alternative agent in the Sanford Guide.
- **[+] Active: Agent** is a potential alternative agent (active in vitro, possesses class activity comparable to known effective agents or a therapeutically interchangeable agents and hence likely to be clinically effective, but second line due to overly broad spectrum, toxicity, limited clinical experience, or paucity of direct evidence of effectiveness).
- **[±] Variable**: Variable activity such that the agent, although clinically effective in some settings or types of infections is not reliably effective in others, or should be used in combination with another agent, and/or its efficacy is limited by resistance which has been associated with treatment failure.
- **[0] Not Recommended**: Agent is a poor alternative to other agents because resistance to likely to be present or occur, due to poor drug penetration to site of infection or an unfavorable toxicity profile, or there is insufficient clinical data to support effectiveness.

f – expression of resistant gene found
nf - expression of resistant gene not found

Tested Antibiotic Resistance Genes (ABR) Summary:

Tested Antibiotics	ABR Class	Detected/Not Detected	Antibiotic Names
ACT/MIR, ACC4, blaCMY2, CMY-1/MOX	**AmpC-beta lactamase**	**Not Detected**	**Penicillin, Ampicillin, Amoxycillin**
blaACT, CTX-M	**AmpC-beta lactamase variant, Broad spectrum Beta lactamase**	**Not Detected**	**Cefazolin, Cefaclor, Cefdinir, Cefuroxime, Cefadroxil, Cephalexin, Cefepime, Ceftriaxone, Cefixime, Ceftaroline Fosamil**
MecA, MecC, femA	**Antistaphylococcal Penicillin, Methicillin resistance**	**Not Detected**	**Methicillin, Nafcillin, Oxacillin**

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VIM-1, NDM-1, PER-1, KPC, blaGES	Beta lactamase, New Delhi metallo Beta lactamase, Extended spectrum Beta lactamase, Carbamapenase Beta lactamase, Guiana extended spectrum β-lactamase	Not Detected	Penicillin, Amoxicillin, Cephalosporin, Cefoxitin, Aztreonam, Clavulinic acid, Doripenem, Ertapenem, Imipenem, Meropenem, Cefazolin, Cefaclor, Cefdinir, Cefuroxime, Cefadroxil, Cephalexin, Cefepime, Ceftriaxone, Cefixime, Ceftaroline Fosamil, Cefoxitin, Cefotetan, Cefmetazole
IMP-1, blaIMP-1	Carbapenem	Not Detected	Imipenem, Meropenem, Ertapenem, Doripenem
pACM1, blaFOX	Cephalosporins	Not Detected	Cefadroxil, Cephalaxin, Cefazolin, Cefaclor, Cefdinir, Cefuroxime, Cefepime, Ceftriaxone, Cefixime, Ceftaroline Fosamil, Cefotaxime, Ceftazidime, Cefpodoxime
MCR-1	Colistin	Not Detected	Colistin, Daptomycin
dfrA5, Sul1, Sul2	DHFR inhibitor, Sulfonamide	Detected	Trimethoprim (TMP), Sulfisoxazole, Sulfamethoxazole, Sulfadiazine, Sulfasalazine, Zonisamide, Dapsone
vanA, vanB	Glycopeptide	Detected	Vancomycin, Teicoplanin, Telavancin, Oritavancin
vanA, vanB	Glycopeptide	Detected	Vancomycin, Teicoplanin, Telavancin, Oritavancin
Erm(B), mefA, Erm (C). Erm(A)	Macrolide	Detected	Erythromycin, Clarithromycin, Azithromycin, Telithromycin, Clindamycin, Quinupristin/Dalfopristin
OXA-48, OXA-51	Oxacillinase	Not Detected	Cefazolin, Cefaclor, Cefdinir, Cefuroxime, Cefadroxil, Cephalexin, Cefepime, Ceftriaxone, Cefixime, Ceftaroline Fosamil, Penicillin, Amoxycillin, Cephalosporin, Cefoxitin, Aztreonam, Clavulanic Acid
Cfr	Phenicols, Lincosamides, Oxazolidinones	Not Detected	Linezolid, Tedizolid, Erythromycin, Clarithromycin, Fidaxomicin, Azithromycin, Clindamycin
qnrA2, qnrB	Quinolones, Fluoro-Quinolones	Not Detected	Ciprofloxacin, Norfloxacin, Ofloxacin, Levofloxacin, Moxifloxacin
Tet(M), Tet(S)	Tetracycline	Detected	Tetracycline, Doxycycline, Minocycline
VEB	Vietnamese Extended spectrum Beta lactamase	Not Detected	Aztreonam, Cefazolin, Cefaclor, Cefdinir, Cefuroxime, Cefadroxil, Cephalexin, Cefepime, Ceftriaxone, Cefixime, Ceftaroline Fosamil

Tested Pathogen/Genes:

Pathogen Name	Detected or Not Detected
Acinetobacter baumanii	Not Detected
Anaerococcus vaginalis	Not Detected
Bacteroides fragillis	Detected
Candida albicans	Not Detected
Candida glabrata	Not Detected
Candida parapsilosis	Not Detected
Candida tropicalis	Not Detected
Citrobacter freundii	Not Detected
Clostridium perfringenes	Not Detected
Clostridium septicum	Not Detected
Corynebacterium jeikeium	Detected
Corynebacterium striatum	Not Detected
Corynebacterium tuberculostearicum	Not Detected
Enterobacter aerogenes	Not Detected
Enterobacter cloacae	Not Detected
Enterococcus faecalis	Detected
Enterococcus faecium	Not Detected
Escherichia coli	Detected
Finegoldia magna or Peptostreptococcus maganus	Detected
Fusobacterium necrophorum	Not Detected

Pathogen Name	Detected or Not Detected
Klebsiella pneumoniae	Not Detected
Peptoniphilus harei	Detected
Peptoniphilus ivorii	Not Detected
Peptostreptococcus anaerobius	Not Detected
Pseudomonas aeruginosa	Detected
Serratia marcescens	Not Detected
Staphylococcus aureus	Not Detected
Staphylococcus haemolyticus	Not Detected
Staphylococcus lugdunensis	Not Detected
Staphylococcus saprophyticus	Not Detected
Streptococcus agalactiae	Not Detected
Streptococcus pneumoniae	Not Detected
Streptococcus pyogenes	Not Detected
Trichophyton rubrum	Not Detected

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Fusobacterium nucleatum	Not Detected

* Disclaimer: This molecular diagnostics test was validated by AIM Laboratories under CLIA regulations. As such, this test is for clinical purpose only and not for research. It has not been cleared or approved by the FDA.
Suggested antibiotics for treatment purpose is based on the antimicrobial stewardship from the Sanford database guide and the John Hopkins ABX guide. It is up to the physician's judgement to select antibiotics and treatment options based on clinical symptoms, and patient's physical and biological conditions.

Methodology: The pathogen and antibiotic resistance gene panels are detected by real-time TaqMan probe-based PCR technology using nucleic acid amplification test (NAAT). The primers and probes were designed by Applied Biosystems and arrayed on OpenArray cards. AIM Laboratories analyzed test samples using Applied Biosystem QuantStudio 12K Flex Real-Time PCR-v1.3 system.

Limitations: This test detects only the listed pathogens and genes on the panel. The detected ABR genes in a given specimen is not specific to detected pathogen(s) in the same specimen. Therefore, ABR genes may be detected in bacterial strains not listed/tested in the panel.