

Molecular UTI Lab Report

CLINIC INFORMATION

PATIENT INFORMATION

SPECIMEN INFORMATION

<b>Provider:</b>	<b>Name:</b> John Doe	<b>Date Collected:</b> 6/8/2020
	<b>DOB:</b> 1/1/1990	<b>Date Received by Lab:</b> 6/8/2020
	<b>Gender:</b> Female	<b>Run Date:</b> 6/8/2020
		<b>Date Reported:</b> 6/9/2020
		<b>Source:</b> CC URINE

UTI Summary - Organism(s) Detected

Pathogen Detected	Lab Result (Qualitative)	Recommended Treatment																	
		Ampicillin	Amoxicillin	Cefazolin/ Cephalixin (1st)	Cefuroxime, Cefoxitin (2nd)	Ceftazidime, Ceftriaxone (3rd)	Cefdinir (3rd)	Cefepime (4th)	Trimethoprim-sulfamethoxazole	Doxycycline	Carbapenems	Vancomycin	Ciprofloxacin	Levofloxacin	Clindamycin	Nitrofurantoin	Amikacin	Gentamicin	Mercolide (azithromycin)
E. coli	Detected - MEDIUM	X	X	X	X	X		X	X		X		X	X		X	X	X	

STD and Yeast Pathogens Summary - Organism(s) Detected

Pathogen Detected	Lab Result (Qualitative)	Recommended Treatment

Antibiotic Resistance Summary - Resistance Gene(s) Identified

Class and (Gene Name)	Lab Result (Qualitative)	Recommended Treatment																	
		Ampicillin	Amoxicillin	Cefazolin/ Cephalixin (1st)	Cefuroxime, Cefoxitin (2nd)	Ceftazidime, Ceftriaxone (3rd)	Cefdinir (3rd)	Cefepime (4th)	Trimethoprim-sulfamethoxazole	Doxycycline	Carbapenems	Vancomycin	Ciprofloxacin	Levofloxacin	Clindamycin	Nitrofurantoin	Amikacin	Gentamicin	Mercolide (azithromycin)
Fluoroquinolones	Detected												R	R					
Trimethoprim	Detected							R											
Sulfonamides	Detected							R											

Lab Technician:

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Methodology statement: Real-time PCR assays are designed to detect pathogens with clinical significance and analytical sensitivity and specificity greater than 99%.

Limitations: While these assays are very sensitive and specific, theoretically these assays could detect pathogens not listed, resulting in a false positive.

In addition, while these assays are very specific, there may be target pathogen sequences with unknown sequence variability which may not be detected, resulting in a false negative result.

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**UTI Pathogens**

Tests Performed	Lab Result (Qualitative)	Recommended Treatment																	
		Ampicillin	Amoxicillin	Cefazolin/Cephalexin (1st)	Cefuroxime, Cefoxitin (2nd)	Ceftazidime, Ceftriaxone (3rd)	Cefdinir (3rd)	Cefepime (4th)	Trimethoprim- sulfamethoxazole	Doxycycline	Carbapenems	Vancomycin	Ciprofloxacin	Levofloxacin	Clindamycin	Nitrofurantoin	Amikacin	Gentamicin	Macrolide (azithromycin)
A. baumannii						X			X	X	X		X	X				X	
C. freundii/braakii	Not detected	X	X	X	X	X		X	X		X		X	X		X	X	X	
Citrobacter koseri	Not detected	X	X	X	X	X		X	X		X		X	X		X	X	X	
E. aerogenes	Not detected	X	X	X	X	X		X	X		X		X	X		X	X	X	
E. cloacae	Not detected	X	X	X	X	X		X	X		X		X	X		X	X	X	
B. fragilis	Not detected																		
Enterococcus spp. (E. faecalis/E. faecium)	Not detected	X										X	X	X					
E. coli	Detected - MEDIUM	X	X	X	X	X		X	X		X		X	X		X	X	X	
K. oxytoca/michiganensis	Not detected	X	X	X	X	X		X	X		X		X	X		X	X	X	
K. pneumoniae	Not detected	X	X	X	X	X		X	X		X		X	X		X	X	X	
Morganella morganii	Not detected	X	X	X	X	X		X	X		X		X	X		X	X	X	
Proteus mirabilis	Not detected	X	X	X	X	X		X	X		X		X	X		X	X	X	
Pseudomonas aeruginosa	Not detected					X		X			X		X					X	
S. epidermidis	Not detected								X	X		X			X	X			X
S. saprophyticus	Not detected								X	X		X			X	X			X
Staphylococcus aureus	Not detected								X	X		X			X	X			X
S. pyogenes (Group A)	Not detected	X										X			X				
Serratia marcescens	Not detected	X	X	X	X	X		X	X		X		X	X		X	X	X	

**Lab Technician:** 0

**Organisms Tested:**

*Acinetobacter baumannii, Citrobacter braakii/freundii, Citrobacter koseri, Enterobacter cloacae, Enterococcus spp., Escherichia coli, Klebsiella oxytoca, Klebsiella pneumoniae, Morganella morganii, Proteus mirabilis, Pseudomonas aeruginosa, Staphylococcus aureus, Staphylococcus epidermidis, Staphylococcus saprophyticus, Streptococcus pyogenes, Serratia marcescens, Candida albicans, Candida parapsilosis, Candida krusei, Candida glabrata, Candida dubliniensis, Candida tropicalis, Prevotella bivia, Mycoplasma genitalium, Mycoplasma hominis, Streptococcus agalactiae (GBS), Ureaplasma urealyticum*

**Antibiotic Resistance Genes Tested:**

*Class A β-lactamase (blaKPC), Class A β-lactamase (CTX-M-Group 1), Class B metallo-β-lactamase (blaNDM), Vancomycin (vanA, vanB), Methicillin/Oxacillin (mecA), Sulfonamides, Fluoroquinolones, Trimethoprim*

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### STD and Yeast Pathogens

Tests Performed	Lab Result (Qualitative)	Recommended Treatment
C. albicans	<b>Not detected</b>	
C. parapsilosis	<b>Not detected</b>	
C. krusei	<b>Not detected</b>	
C. glabrata	<b>Not detected</b>	
C. dubliniensis	<b>Not detected</b>	
C. tropicalis	<b>Not detected</b>	
P. bivia	<b>Not detected</b>	
M. genitalium	<b>Not detected</b>	
M. hominis	<b>Not detected</b>	
S. agalactiae (GBS)	<b>Not detected</b>	
U. urealyticum	<b>Not detected</b>	

**Lab Technician:**

0

#### Organisms Tested:

*Acinetobacter baumannii, Citrobacter braakii/freundii, Citrobacter koseri, Enterobacter cloacae, Enterococcus spp., Escherichia coli, Klebsiella oxytoca, Klebsiella pneumoniae, Morganella morganii, Proteus mirabilis, Pseudomonas aeruginosa, Staphylococcus aureus, Staphylococcus epidermidis, Staphylococcus saprophyticus, Streptococcus pyogenes, Serratia marcescens, Candida albicans, Candida parapsilosis, Candida krusei, Candida glabrata, Candida dubliniensis, Candida tropicalis, Prevotella bivia, Mycoplasma genitalium, Mycoplasma hominis, Streptococcus agalactiae (GBS), Ureaplasma urealyticum*

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**ABX Resistance Markers**

Class and (Gene Name)	Lab Result (Qualitative)	Recommended Treatment																	
		Ampicillin	Amoxicillin	Cefazolin/Cephalexin (1st)	Cefuroxime, Cefoxitin (2nd)	Ceftazidime, Ceftriaxone (3rd)	Cefdinir (3rd)	Cefepime (4th)	Trimethoprim- sulfamethoxazole	Doxycycline	Carbapenems	Vancomycin	Ciprofloxacin	Levofloxacin	Clindamycin	Nitrofurantoin	Amikacin	Gentamicin	Marcolide (azithromycin)
Class A Beta-lactamase (CTX-M Group 1)	Not detected			X	X	X													
Class A Beta-lactamase (blaKPC)	Not detected																		
Class B metallo Beta-lactamase (blaNDM)	Not detected	X	X	X	X	X	X	X											
vanA Vancomycin	Not detected											X							
vanB Vancomycin	Not detected											X							
mecA	Not detected	X	X																
Sulfonamides	Detected									X									
Fluoroquinolones	Detected												X	X					
Trimethoprim	Detected									X									

Low = <10,000 CFU/ml

Medium = 50,000-100,000 CFU/ml

High = >100,000 CFU/ml

**Lab Technician:**

0

Controls		
Patient Extraction Control <sub>1</sub>	<b>PASS</b>	(1) Endogenous control confirms sample collection, DNA/RNA extraction, and assay enzyme activity
Endogenous Positive Control <sub>1</sub>	<b>PASS</b>	(2) Positive control is synthetic inactive pathogen.
Pathogen Positive Control <sub>2</sub>	<b>PASS</b>	(3) Negative Control contains primers, probe, and enzymes with no DNA/RNA template
Pathogen Negative Control <sub>3</sub>	<b>PASS</b>	(4) A "Detected" result indicates the presence of a pathogen (99.99% confidence) above the assay cutoff. Assay cutoff is represented by CFU (bacteria), PFU (viruses) or Copy Number (DNA).

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