Laboratory Result Analysis

Powered by ARKSTONE Antimicrobial Stewardship

Report ID	PSAU22050476	**Patient**	Johnson, Mary	**DOB**	8/11/1940	**Collected**	9/21/2022
Source	Urine	**Facility**	Demo	**Resulted**	9/22/2022	**Received**	9/22/2022

Organisms Detected

Common pathogens in bold

- **Actinobaculum schaalii**
- **Aerococcus urinae**
- **Enterococcus faecium**
- **Escherichia coli**
- **Klebsiella oxytoca**

Resistance Detected

Beta-lactam

Extended-Spectrum Beta-Lactamase

TMP-SMX

Antimicrobial Resistance ARKSCORE

LO 5 HI

No Allergies Reported

OneChoice Drug Info

Nitrofurantoin (Macrobid)

Dosing Req ☑ Renal ☐ Hepatic

Side Effects Neuropathy

Interactions Antiacid

Adverse Reaction ARKSCORE

LO 3 HI

For more about this analysis, scan, click, or call 1-833-933-ARK-3

Infection Complexity ARKSCORE

LOW 5 HIGH

ONECHOICE®

Nitrofurantoin (Macrobid) 100 mg PO BID (variable activity) x 5 days for possible simple UTI*

Alternative Treatment Options with Adverse Reaction ArkScore™

- **Fosfomycin** ARKSCORE 1 3 gm PO (variable activity) x 1 dose for possible simple UTI*
- **Levofloxacin** ARKSCORE 5 250-750 mg PO daily x 7 days with **Linezolid** ARKSCORE 4 600 mg PO BID (variable activity) x 7-10 days for possible complicated UTI*
- **Meropenem** (IV) ARKSCORE 3 1 gm IV Q8H (variable activity) x 5 days with **Vancomycin** (IV) ARKSCORE 4 dose not defined (variable activity) x undefined duration for possible complicated UTI*

Why is this the OneChoice?

The detected organisms can be pathogenic when found in urine samples. Resistance genes were detected in seven classes, of which TMP-SMX, beta-lactam and ESBL resistance affect the treatment of some or all of the detected pathogens, limiting available options.‡

When should this be treated?

Asymptomatic bacteriuria does not typically need treatment, and microbe detection may not indicate infection. However, treatment may be necessary during pregnancy or prior to urological procedures. Simple UTIs are typically treated for 3 days (fluoroquinolones/TMP-SMX), or 5 days (beta-lactams). In more complicated cases therapy may be extended to 7-14 days. STI treatment is specific to the microbe being treated and antimicrobial being used.‡

Are there any special considerations?

Multiple microbes detected may indicate contamination or colonization. Enterococcus faecium may have intrinsic resistance to certain antimicrobials, making it difficult to treat. The ideal treatment for A. schaalii and Aerococcus urinae is unknown and may require additional evaluation. A. schaalii, Aerococcus urinae, and Enterococcus faecium may require modified dosing and duration. Antibiotics should therefore be used with caution as drug failure is possible.‡

Infection Control Precautions: ☑ Standard ☑ Contact

* Dosing and duration of treatment based on adult patient, with no medical history, normal BMI, renal and hepatic functions, and minimal time required to treat simple infections. Treatment is directed at common pathogens noted above, and the most commonly associated antibiotic resistance based on genes detected. Resistance is variable and drug failure is possible. Additional microbiology workup and treatment modification may be needed.

‡ For education purposes only. Clinical correlation and physician judgement required when making a diagnosis or treatment decisions. Recommendations based on laboratory results, and limited to specimen source, organisms, resistance genes, allergies, and ICD10 codes. Patient has not been examined nor their medical history reviewed.

UTI Report

Precision Life Sciences, LLC
4850 Goodman Road, Suite 101
Olive Branch, Mississippi 38654

Dr. Doctor, Demo
123456789
Demo

Patient Details

Patient	: Johnson, Mary	**DOB**	: 08/11/1940
Sex	: Female	**Date Collected**	: 09/21/2022
Sample ID	: PSAU22050476	**Date Received**	: 09/22/2022
Specim. Type	: Urine	**Date Reported**	: 09/22/2022

Pathogens Detected

Pathogens	cells/mL Range
Actinobaculum schaalii	**>100,000**
Aerococcus urinae	**>100,000**
Escherichia coli	**>100,000**
Klebsiella oxytoca	**>100,000**
Enterococcus faecium	**10,000-49,999**

Molecular Results

	Pathogen	Presence
	Acinetobacter baumannii	Not Detected
+	Actinobaculum schaalii	Detected
+	Aerococcus urinae	Detected
	Alloscardovia Omnicolens	Not Detected
	Candida albicans	Not Detected
	Candida auris	Not Detected
	Candida glabrata	Not Detected
	Candida parapsilosis	Not Detected
	Citrobacter freundii	Not Detected
	Citrobacter koseri	Not Detected
	Coagulase Negative Staph	Not Detected
	Enterobacter aerogenes	Not Detected
	Enterobacter cloacae	Not Detected
	Enterococcus faecalis	Not Detected
+	Enterococcus faecium	Detected

	Pathogen	Presence
+	Escherichia coli	Detected
+	Klebsiella oxytoca	Detected
	Klebsiella pneumoniae	Not Detected
	Morganella morganii	Not Detected
	Mycoplasma hominis	Not Detected
	Pantoea agglomerans	Not Detected
	Proteus mirabilis	Not Detected
	Proteus vulgaris	Not Detected
	Providencia stuartii	Not Detected
	Pseudomonas aeruginosa	Not Detected
	Serratia marcescens	Not Detected
	Staphylococcus aureus	Not Detected
	Streptococcus agalactiae	Not Detected
	Ureaplasma urealyticum	Not Detected
	Viridans Group Strep	Not Detected

Antibiotic Resistant Genes

	Antibiotics Resistant Gene	Presence
	ampC	Not Detected
	DHA	Not Detected
	IMP-1 group, IMP-16, IMP-7	Not Detected
	OXA-23,OXA-72,OXA-40,blaOXA-48	Not Detected
	VIM	Not Detected
+	CTX-M group 1, CTX-M group 2, CTX-M group 9, CTX-M group 8/25	Detected
	OXA-1, GES	Not Detected
	PER-1, PER-2	Not Detected
+	TEM	Detected
	mecA	Not Detected

	Antibiotics Resistant Gene	Presence
	vanA1, vanA2, vanB	Not Detected
	dfrA5, dfrA1	Not Detected
+	Sul1, Sul2	Detected
	nfsA	NA
	FOX	Not Detected
	ACC	Not Detected
	MOX/CMY	Not Detected
	BIL/LAT/CMY	Not Detected
	SHV	Not Detected
	VEB	Not Detected

QnrA, QnrS, Qnr B	Not Detected	KPC	Not Detected

Methodology and Limitation

Methodology : Microorganisms and antibiotic resistance genes are detected through OpenArray qPCR technology utilizing QuantStudio12K Flex instrumentation.

Limitation: An absence of detection does not imply the absence of microorganisms or antibiotic resistance genes other than those listed oand does not exclude the possibility that the target sequence is present below the limit of detection. The patient's clinical presentation, history, drug-drug interactions, drug sensitivity, and/or allergies are not taken into consideration on this report. It is the responsibility of the physician to determine appropriate drug and dosing choices based on all available data.

Disclaimer

This test was developed, and its performance characteristics determined by Precision Life Sciences. The tests in this UTI panel have not been cleared or approved by the US Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary, provided that the laboratory both (1) maintains its good standing as a clinical testing laboratory with all mandatory accrediting bodies, and (2) continually demonstrates that its testing protocols and procedures achieve a high degree of analytical accuracy. This laboratory is certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA 88) as qualified to perform high complexity clinical testing. This test is used for clinical purposes. It should not be regarded as investigational or for research. Urine specimens received greater than 48 hrs post collection may give unreliable cells/mL counts due to overgrowth of microorganism(s).
Most Coagulase Negative Staphylococci (CNS) are normal skin flora. Only treat if patient history (weakened immune system, catheter usage, central line use, etc.) suggests CNS to be the cause of the infection.
Most Viridans Group Streptococci are normal flora and are not a common cause of Urinary Tract Infections.