

Molecular Diagnostic Report

Facility Information		Patient Information		Specimen Information	
Provider Name:	SPECIALIST, DR	Name:	Test, Patient	Accession No:	2309035635
Provider ID:	7777777	DOB:	4/20/1946	Gen:	Female
Address:	111 Parkway DRIVE CHESTERFIELD, MO 63005			Collected On:	9/12/2023 8:00:00 AM
				Received On:	9/12/2023 11:53:00 AM
Facility Name:	AIM LABORATORIES LLC - CLINICAL			Sample Type:	

Urinary Tract Infectious Disease Pathogens – Advanced Panel - PCR Test

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 = $>1 \times 10^5$ and low = $<1 \times 10^5$).

Pathogen Name	Genomic Copy Equivalent/mL *	Relative Strain Qty (%)	Clinical	Flag
Escherichia coli	2.5×10^4	100.00	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 **
Escherichia coli	Preferred	Nitrofurantoin	+	nf	Nitrofurantoin	PO
		Ertapenem	+	nf	Ertapenem	IV/IM
		Imipenem/Cilastatin	+	nf	Imipenem/Cilastatin	IV
		Meropenem	+	nf	Meropenem	IV
		Ciprofloxacin	+	nf	Ciprofloxacin	PO/IV
		Levofloxacin	+	nf	Levofloxacin	PO/IV
		Trimethoprim / Sulfamethoxazole	±	nf	Trimethoprim / Sulfamethoxazole	PO/IV
	Alternative	Fosfomycin	+	nf	Fosfomycin	PO
		Amoxicillin/Clavulanate	+	nf	Amoxicillin/Clavulanate	PO
		Ceftazidime/avibactam	+	nf	Ceftazidime/avibactam	IV

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

- **[++] 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

** References:

<https://reference.medscape.com/drug/duricef-ultracef-cefadroxil-342489>

<https://medlineplus.gov/druginfo/meds/a682730.html>

Tested Antibiotic Resistance Genes (ABR) Summary:

Tested Pathogen/Genes:

Pathogen Name	Detected or Not Detected	Pathogen Name	Detected or Not Detected
Acinetobacter baumannii-calcoaceticus complex	Not Detected	Klebsiella oxytoca	Not Detected
Aerococcus urinae	Not Detected	Klebsiella pneumoniae	Not Detected
Alloscardovia omnicolens	Not Detected	Morganella morganii	Not Detected
Candida albicans	Not Detected	Mycobacterium tuberculosis	Not Detected
Candida glabrata	Not Detected	Mycoplasma genitalium	Not Detected
Candida krusei (Pichia kudriavzevii)	Not Detected	Mycoplasma hominis	Not Detected
Candida parapsilosis	Not Detected	Neisseria gonorrhoeae	Not Detected
Candida tropicalis	Not Detected	Proteus vulgaris	Not Detected
Chlamydia trachomatis	Not Detected	Providencia stuartii	Not Detected
Citrobacter freundii	Not Detected	Pseudomonas aeruginosa	Not Detected
Citrobacter koseri	Not Detected	Serratia marcescens	Not Detected
Corynebacterium riegelii	Not Detected	Staphylococcus aureus	Not Detected
Corynebacterium urealyticum	Not Detected	Staphylococcus saprophyticus	Not Detected
Enterobacter aerogenes	Not Detected	Streptococcus agalactiae	Not Detected
Enterococcus faecalis	Not Detected	Trichomonas vaginalis	Not Detected
Enterococcus faecium	Not Detected	Ureaplasma urealyticum	Not Detected
Escherichia coli	Detected		
Herpes simplex virus 1	Not Detected		
Herpes simplex virus 2	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.