



MICROGEN DIAGNOSTICS
2002 W LOOP 289, SUITE 116 | LUBBOCK, TX 79407
FAX: 1-407-204-1401 | PHONE: 1-855-208-0019

PATIENT	Sample Report MG001	SPECIMEN	Semen 08:45	PHYSICIAN	Sharma, Rajendra
DOB	xx/xx/xxxx	RECEIVED DATE	07/22/2022	PHONE	-
PATIENT ID		REPORTED DATE	07/24/2022 09:11 AM	FAX	-
GENDER	Male	COLLECTED DATE	07/15/2022	ACCESSION	

RESISTANCE GENES DETECTED
Tetracycline tetM

LEVEL 2 NGS REPORT				ANTIMICROBIALS FOR CONSIDERATION																		
				Gram Stain	Respiration	Extended spectrum penicillins/Beta-lactamase inhibitors e.g. Augmentin	Fluoroquinolones e.g. Levofloxacin	Glycopeptides e.g. Vancomycin	Aminoglycosides+Aminopenicillins e.g. Ampicillin/Gentamicin	Ampicillin/Amoxicillin	Fosfomycin	Linezolid (Zyvox)	Lipopeptides e.g. Cubicidin	Nitrofurantoin e.g. Macrobid	Penicillins e.g. Penicillin	Metronidazole (Flagyl)	Clindamycin	Macrolides e.g. Erythromycin				
COMPLETE (NGS & PCR RESULTS)		DNA copies per mL	NGS																			
BACTERIAL LOAD	Medium	10 ⁵ -10 ⁷	%																			
Enterococcus faecalis		7.10 x 10 ⁴	80%	+	FAn	√	√	√	√	√	√	√	√	√								
Campylobacter ureolyticus		NGS	5%	-	An	√	√								√	√	√					
Prevotella timonensis		NGS	5%	-	An			√							√							
FUNGI DETECTED				%	ANTIFUNGALS FOR CONSIDERATION																	
None																						

LAB REPORT KEY

DNA copies per mL: [NGS] = Detected by Next-Gen Seq. Only Bacterial Load: < 10 ⁵ = LOW 10 ⁵ to 10 ⁷ = MED > 10 ⁷ = HIGH	Gram Stain: [+] = Positive [-] = Negative [V] = Variable [N] = Not Applicable [U] = Unknown	Respiration: [Ae] = Aerobic [An] = Anaerobic [Fan] = Facultative anaerobic [Unk] = Unknown	Antimicrobial: [V] = Proven to be effective. [R] = Resistance genes detected. [] = Empty Fields denote Unknown. [PO] = Available in Oral formulations. [IV] = Intravenous; [TP] = Topical.
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L1 UTI PANEL qPCR TESTS FOR BACTERIA			FUNGI	STIs	RESISTANCE GENES	
Enterococcus faecalis Staphylococcus aureus Mobiluncus mulieris Ureaplasma parvum	Klebsiella pneumoniae Escherichia coli Gardnerella vaginalis Mycoplasma hominis	Streptococcus agalactiae Mobiluncus curtisii Ureaplasma urealyticum Prevotella bivia	Candida albicans	None	Vancomycin Extended-Spectrum Beta-Lactamase Aminoglycoside Carbapenem Quinolone	Methicillin Beta-lactam Tetracycline Macrolide Bactrim

Antimicrobial class reported as resistant are based on the detected resistance genes included in the qPCR and the published activity and spectrum of resistance for each gene. Resistance mechanisms other than the included in this panel may confer resistance not detected by the resistance genes included in the panel.

The following genes are included in the panel:

- mecA: methicillin resistance (applies only to Staphylococcus spp.)
- vanA: vancomycin resistance (applies only to Enterococcus spp.)
- CTX-M: Extended Spectrum Beta-lactamase (applies to all Gram-negative organisms)
- KPC, NDM & OXA48: carbapenemases (applies to all Gram-negative organisms)
- ermB: macrolide resistance (applies only to Gram-positive organisms)
- qnr & gyrA: quinolone resistance (applies to all organisms)
- tetB & tetM: tetracycline resistance (applies to all organisms)
- aacC6-aph3 & ant-1a-aph2: aminoglycoside resistance (applies to all organisms)
- sul I, sul II: bactrim resistance (applies to all Gram-negative organisms except Neisseria, Moraxella, Veillonella, Megasphaera, Acidaminococcus, Negativicoccus, Paracoccus, Syntrophococcus, Pseudomonas)
- TEM, SHV: beta-lactam resistance (applies only to Escherichia coli, Proteus mirabilis, Klebsiella pneumoniae, Klebsiella oxytoca and Klebsiella aerogenes)

Next Generation Sequencing Results

MicroGen Diagnostics' comprehensive testing (patent pending) is a relative quantitative universal test for bacteria/fungi. DNA sequencing methods are used to identify the microorganisms' genetic signatures and the estimated percentage of organisms present in the specimen. Virtually all bacteria/fungi are screened for in a CAP and CLIA accredited laboratory and the most predominant populations are reported.

ANTIBIOTIC CLASSES AND MOST-COMMONLY USED EXAMPLES			
CLASS	GENERIC formulations	CLASS	GENERIC formulations
Allylamines	Amorolfine; Naftifine	Flucytosine	5-fluorocytosine (Ancobon)
Aminoglycosides	Gentamycin; Tobramycin	Fluoroquinolones	Norfloxacin(PO); Levofloxacin; Oxaxifloxacin(PO); Ciprofloxacin(PO)
Aminoglycosides+Aminopenicillins	Ampicillin/Gentamicin	Glycopeptides	Vancomycin; Teicoplanin
Aminopenicillins	Amoxicillin; Ampicillin(PO)	Imidazoles	Ketoconazole(PO); Clotrimazole; Oxiconazole
Antifolates	TMP/SMX	Lipopeptides	Daptomycin
Anti-Pseudomonal Penicillins	Piperacillin; Nafcillin	Macrolides	Erythromycin; Azithromycin(PO)
Anti-Pseudomonal penicillins/Beta-lactamase inhibitors	Piperacillin/Tazobactam	Naphthyridones	Nalidixic acid
Anti-tuberculosis	Isoniazid; Rifampin; Streptomycin	Oxacephems	Moxalactam
Aztreonam	Azactam	Penicillins	Penicillin G; Penicillin V(PO)
Carbapenems	Cilistatin/Imipenem; Meropenem	Polyenes	Natamycin; Amphoterin B
Cephalosporins First Gen	Cephalexin(PO); Cefazolin	Polyenes+Flucytosine	Amphotericin B/5-fluorocytosine
Cephalosporins Fourth Gen	Cefepime	Tetracyclines	Doxycycline(PO); Minocycline
Cephalosporins Second Gen	Cefprozil; Cefotetan	Triazoles	Fluconazole(PO); Terconazole
Cephalosporins Third Gen	Cefixime; Cefdinir; Ceftazidime	Triazoles+Echinocandins	Voriconazole/Anidulafungin
Cephameycins	Cefoxitin		
Echinocandins	Caspofugin; Micafungin		
Extended spectrum penicillins / Beta-lactamase inhibitors	Amoxicillin / Clavulanate(PO); Ampicillin / Sulbactam		

Complete Antibiotic Analysis

ANTIBIOTIC DISCLAIMER: Southwest Regional PCR, DBA MicroGen Diagnostics, LLC assumes no liability to patients with respect to the actions of physicians, health care facilities and other users, and is not responsible for any injury, death or damage resulting from the use, misuse or interpretation of information obtained through this antibiotic report. Therapeutic options listed by the program are based upon national antibiotic susceptibility data and antibiograms. Therapy should not be undertaken without a thorough assessment of the indications, contraindications and side effects of any prospective drug or intervention. Furthermore, the database is curated and derived from incidence and prevalence statistics whose accuracy will vary widely for individual diseases and regions of the country. Changes in endemicity, incidence, and drugs of choice may occur. The list of drugs, infectious diseases and even country names will vary with time. Although we endeavor to include such new information on a timely basis, a delay cannot be avoided. For more information please contact us at 855-208-0019.





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DISCLAIMER: (i) This test was developed and performance characteristics have been determined by Southwest Regional PCR Laboratory dba MicroGen DX. It has not been cleared or approved by the U.S. Food and Drug Administration (FDA), however, the FDA has determined that such clearance or approval is not necessary. This test is used for clinical purposes. Its use should not be regarded as investigational or for research. This laboratory is certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA 88) as qualified to perform high complexity clinical laboratory testing. (ii) A negative result does not rule out the presence of PCR inhibitors, or DNA extraction inhibitors such as lidocaine, in patients' specimens or microbial DNA concentrations below the level of detection of the assay. (iii) This test is performed pursuant to an agreement with Roche Molecular Systems, Inc. (iv) Relative quantitation of swabs refers to analyte load levels of $< 10^5$, 10^5 to 10^7 , and $> 10^7$ for low, medium and high respectively. Southwest Regional PCR Laboratory dba MicroGen DX licenses are CLIA 45D1086390 and CAP 7214171.

ANTIBIOTIC ANALYSIS

This antimicrobial recommendation sheet is not based on antibiotic sensitivities but is based on antimicrobial reference guides such as the Johns Hopkins ABX Guide.