



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

PATIENT	PATIENT NAME	SPECIMEN	SEMEN SWAB	PHYSICIAN	Singh, Sameer
DOB	MM/DD/YYYY	RECEIVED	MM/DD/YYYY	PHONE	(###)###-####
PATIENT ID	PATIENT ID	COMPLETED	MM/DD/YYYY	FAX	(###)###-####
GENDER	Male	ACCESSION	ACCESSION #	COLLECTED	MM/DD/YYYY

RESISTANCE GENES DETECTED
None

<div style="background-color: #0056b3; color: white; padding: 10px; text-align: center;"> <h2>LEVEL 2 NGS REPORT</h2> </div> <div style="background-color: #e0e0e0; padding: 5px; text-align: center;"> <p>COMPREHENSIVE IDENTIFICATION NEXT-GEN DNA SEQUENCING RESULTS with PRIOR PCR RESULTS.</p> </div>			ANTIMICROBIAL RECOMMENDATION														
			Gram Stain	Respiration	Extended spectrum penicillins/Beta-lactamase inhibitors e.g. Augmentin	Glycopeptides e.g. Vancomycin	Clindamycin	Carbapenems e.g. Merrem	Aminopenicillins e.g. Ampicillin	Penicillins e.g. Penicillin	Metronidazole (Flagyl)	Linezolid (Zyvox)	Lipopeptides e.g. Cubicin	Fluoroquinolones e.g. Levofloxacin	Fosfomycin	Antifolates e.g. Bactrim	Cephalosporins First Gen e.g. Keflex
COMPLETE (NGS & PCR RESULTS)	DNA copies (N/A)	NGS															
BACTERIAL LOAD	LOW	%															
Finnegoldia magna	NGS	26%	+	An	√	√	√	√	√	√							
Staphylococcus epidermidis	NGS	24%	+	FAn	√	√	√	√			√	√	√	√	√	√	√
Corynebacterium glucuronolyticum	NGS	14%	+	FAn	√	√			√		√	√					
Corynebacterium tuberculostearicum	NGS	13%	+	FAn	√	√			√		√	√					
Anaerococcus hydrogenalis	NGS	4%	+	An	√	√	√		√	√	√						
Escherichia coli	NGS	2%	-	FAn	√			√	√			√	√	√	√		
Cutibacterium acnes	NGS	2%	+	An	√	√	√		√	√							
Peptoniphilus harei	NGS	2%	+	An	√	√	√	√	√	√							
Enterococcus faecalis	NGS	2%	+	FAn	√	√			√	√	√	√	√	√			

LAB REPORT KEY		
DNA copies per g: [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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PATIENT ID	PATIENT ID	COMPLETED	MM/DD/YYYY	FAX	(###)###-####
GENDER	Male	ACCESSION	ACCESSION #	COLLECTED	MM/DD/YYYY

RESISTANCE GENES DETECTED
None

LEVEL 2 NGS REPORT COMPREHENSIVE IDENTIFICATION NEXT-GEN DNA SEQUENCING RESULTS with PRIOR PCR RESULTS.			ANTIMICROBIAL RECOMMENDATION																			
			Gram Stain	Respiration	Tetracyclines e.g. Doxycycline	Macrolides e.g. Erythromycin	Cephalosporins Fourth Gen e.g. Maxipime	Cephalosporins Third Gen e.g. Suprax	Nitrofurantoin e.g. Macrobid	Aminoglycosides e.g. Amikacin	Anti-Pseudomonal penicillins/Beta-lactamase inhibitors e.g. Zosyn	Aztreonam	Cephalosporins Second Gen e.g. Cefotax	Colistin	Aminoglycosides+Aminopenicillins e.g. Ampicillin/Gentamicin							
COMPLETE (NGS & PCR RESULTS)	DNA copies (N/A)	NGS																				
BACTERIAL LOAD	LOW	%																				
Finnegoldia magna	NGS	26%	+	An																		
Staphylococcus epidermidis	NGS	24%	+	FAn																		
Corynebacterium glucuronolyticum	NGS	14%	+	FAn	√	√	√	√														
Corynebacterium tuberculostearicum	NGS	13%	+	FAn	√	√																
Anaerococcus hydrogenalis	NGS	4%	+	An																		
Escherichia coli	NGS	2%	-	FAn	√				√	√	√	√	√	√								
Cutibacterium acnes	NGS	2%	+	An	√																	
Peptoniphilus harei	NGS	2%	+	An																		
Enterococcus faecalis	NGS	2%	+	FAn					√												√	
FUNGI DETECTED		%	ANTIFUNGAL RECOMMENDATION																			
None																						

LAB REPORT KEY			
DNA copies per g: [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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qPCR TESTS FOR THE FOLLOWING BACTERIA			FUNGI	STIs	RESISTANCE GENES	
Enterococcus faecalis Pseudomonas aeruginosa Proteus mirabilis Gardnerella vaginalis Ureaplasma parvum Lactobacillus crispatus/acidophilus	Klebsiella pneumoniae Staphylococcus aureus Mobiluncus curtisii Staphylococcus saprophyticus Mycoplasma hominis Lactobacillus gasseri	Streptococcus agalactiae Escherichia coli Mobiluncus mulieris Ureaplasma urealyticum Prevotella bivia	Candida albicans	None	Vancomycin Beta-lactam Tetracycline Macrolide	Methicillin Aminoglycoside Carbapenem Quinolone

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 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; Oxarfloxacin(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; Amphotericin B
Cephalosporins First Gen	Cephalexin(PO); Cefazolin	Polyenes+Flucytosine	Amphotericin B/5-fluorocytosine
Cephalosporins Fourth Gen	Cefepime	Quinolones	Ciprofloxacin (PO); Levofloxacin; Moxifloxacin(PO)
Cephalosporins Second Gen	Cefprozil; Cefotetan	Tetracyclines	Doxycycline(PO); Minocycline
Cephalosporins Third Gen	Cefixime; Cefdinir; Ceftazidime	Triazoles	Fluconazole(PO); Terconazole
Cephameycins	Cefoxitin	Triazoles+Echinocandins	Voriconazole/Anidulafungin
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.

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.

ANTIBIOTIC ANALYSIS

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