 915 East First Street Duluth, MN 55805	<b>Antibiotic Panels 2022</b> St. Luke's Microbiology	
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**Principle**

The following tables display the antimicrobial agents included in our laboratory's routine Antimicrobial Susceptibility Testing platforms. Each table lists the antimicrobials (grouped by class or subclass) routinely used to determine in vitro susceptibility of bacterial pathogens isolated from human specimens. Results obtained from antimicrobial susceptibility testing are selectively reported based on recommendations from the Clinical and Laboratory Standards Institute (CLSI), Lab Medical Directors, Infectious Disease, St. Luke's Antimicrobial Stewardship Committee, and AST panel manufacturer guidelines.

Please note

- *In vitro* susceptibility does not guarantee clinical response. The decision to treat with a particular agent should not be based solely on the antimicrobial susceptibility result.
- Aminoglycosides (non-synergistic use), clindamycin, and trimethoprim-sulfamethoxazole are not clinically effective in the treatment of *Enterococcus* spp.
- The following antimicrobial agents are not considered effective for treating CSF infections caused by the organisms listed in these tables, and will not be reported on CSF specimens: (1) Agents administered by oral route only, (2) 1<sup>st</sup> and 2<sup>nd</sup> generation cephalosporins, (3) Clindamycin, (4) Macrolides, (5) Tetracyclines, and (6) Fluoroquinolones.

**Table 1. Antimicrobials routinely tested against Gram Positive Aerobic Bacteria**


Gram Positive Aerobe ( <i>Staphylococcus</i> and <i>Enterococcus</i> spp.) Antimicrobial Reporting Chart	β-lactams													Macrolides		Lincosamide	Aminoglycosides			Lipopeptide	Glycopeptide	Oxazolidinone	Ansamycin	Streptogramin	Fluoroquinolones	Nitrofurantoin	Tetracycline	Folate Pathway Antagonist		
	Penicillins (Labile)		Penicillin (Stable)	Cephalosporins					β-lactam combos	Carbapenems																				
	Penicillin	Ampicillin		Oxacillin	Cephalothin	Cefazolin	Cefotaxime	Ceftriaxone			Cefepime	Ceftaroline	Amoxicillin/K clavulanate	Ampicillin/ Sulbactam	Piperacillin/ Tazobactam	Imipenem	Meropenem	Azithromycin	Erythromycin	Clindamycin	Gentamicin Synergy Screen	Streptomycin Synergy Screen	Gentamicin	Daptomycin <sup>1</sup>	Vancomycin	Linezolid <sup>2</sup>	Rifampin	Synercid	Ciprofloxacin	Levofloxacin
Abbreviation	P	Am	Ox	Cf	Cfz	Cft	Cax	Cpe	Cpt	Aug	A/S	P/T	Imp	Mer	Azi	E	Cd	GmS	SmS	Gm	Dap	Va	Lzd	Rif	Syn	Cp	Lvx	Fd	T/S	
<i>Staphylococcus aureus</i>		X	X	X	X	X	X	X	X	X	X	X	X	SYS	SYS	SYS	SYS			X	X	X	X	X	SYS	X	X	UR		X
<i>Other Staphylococcus spp.</i>		X	X	X	X	X		X		X	X	X	X	SYS	SYS	SYS	SYS			X	X	X	X	X	X		X	UR		X
<i>Enterococcus</i> spp.	X	X																X	X	X	X	X	X			UR	UR	UR	UR	
β-hemolytic streptococcus & <i>S. pneumoniae</i> (SPN)	X					X	X	X		SPN				SPN		X	X					X							SPN	SPN

X – routinely reported when appropriate (limitations noted by superscripts)    SYS – Reported on Systemic (non-urine) sources only    UR – Reported on Urine sources only    SPN – *S. pneumoniae* only  
 1 – Daptomycin reported when Vancomycin inactive (except on respiratory tract isolates)    2 – Linezolid reported when Vancomycin or Daptomycin inactive

**Table 2. Antimicrobials Routinely Tested against Gram Negative Aerobic Bacilli**

Gram Negative Aerobe Antimicrobial Reporting Chart	Beta-Lactams																Aminoglycosides			Fluoroquinolones			Tetracyclines		Folate Pathway Ant			
	Monobactam	Penicillin	Cephamycin	Cephalosporins (generation)					β-lactam combos					Carbapenems														
				1 <sup>st</sup> gen.	2 <sup>nd</sup> gen.	3 <sup>rd</sup> gen.		4 <sup>th</sup> gen.							5 <sup>th</sup> gen.													
	Aztreonam	Ampicillin	Cefoxitin	Cefazolin	Cefuroxime	Cefotaxime	Ceftriaxone	Ceftazidime	Cefepime	Ceftaroline	Amoxicillin/K Clavulan	Ampicillin/Sulbactam	Ceftazidime/Avibactam	Ceftolozane/Tazobactam	Meropenem/Vaborbactam	Piperacillin/Tazobactam	Ertapenem	Meropenem	Tobramycin	Gentamicin	Amikacin	Ciprofloxacin	Levofloxacin	Moxifloxacin	Tetracycline	Minocycline	Nitrofurantoin	Trimethoprim/ Sulfamethoxazole
Abbreviation	Azt	Am	Cfx	Cfz	Crn	Cft	Cax	Caz	Cpe	Cpt	Aug	A/S	CZA	C/T	MEV	P/T	Etp	Mer	To	Gm	Ak	Cp	Lvx	Mxf	Te	Min	Fd	T/S
Enterobacterales	X	X	X	X	X	X	X	X	X		X	X	RQ1	RQ2	RQ3	X	X	X	X	X	X	X	X	SYS	X	X	UR	X
<i>Pseudomonas aeruginosa</i>	X							X	X				RQ1	RQ2		X		X	X	X	X	X	X					
<i>Acinetobacter</i> spp.						X	X	X	X			X				X		X	X	X	X	X	X		UR	X		X
<i>Stenotrophomonas maltophilia</i>								X															X					X

RQ1 – Ceftazidime/Avibactam, Ceftolozane/Tazobactam, and Meropenem/Vaborbactam agents are only reported by request, and only on *P. aeruginosa* and specific species of Enterobacterales  
 RQ2 - Performance of ceftolozane/tazobactam is unknown for *P. aeruginosa*. C/T is not active against Enterobacterales spp. that produce metallo-beta lactamases and serine carbapenemases.  
 SYS: Only Systemic therapy reported. URN: Only Urine therapy reported. RQ3 –reported only by request.  
**Footnote:** Shaded boxes denote drug/organism combinations not acceptable for reporting based on manufacturer/FDA guidelines.

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**References**

Clinical and Laboratory Standards Institute (CLSI). *Performance Standards for Antimicrobial Susceptibility Testing. 30<sup>th</sup> ed. CLSI supplement M100* (ISBN 978-1-68440-066-9 [Print]; ISBN 978-68440-067-6 [Electronic]). Clinical and Laboratory Standards Institute, 950 West Valley Road, Suite 2500, Wayne, Pennsylvania 19087 USA, 2020.

*Microscan Therapy Guide for Use with LabPro Software v5.0 (and later)*. Technical Document 9020-8076, Rev. AB. Beckman Coulter, Inc. 250 S. Kraemer Blvd., Brea, CA 92821, USA, 2020.

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**APPROVAL SIGNATURES**

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