Table 2B-2. Zone Diameter and MIC Breakpoints for *Acinetobacter* spp.

Testing Conditions

Medium: Disk diffusion: MHA
Broth dilution: CAMHB; iron-depleted CAMHB for cefiderocol (see Appendix I)[1]
Agar dilution: MHA

Inoculum: Broth culture method or colony suspension, equivalent to a 0.5 McFarland standard

Incubation: 35°C±2°C; ambient air; 20-24 hours, all methods

Routine QC Recommendations (see Tables 4A-1 and 5A-1 for acceptable QC ranges)

Escherichia coli ATCC®[a] 25922 (for tetracyclines and trimethoprim-sulfamethoxazole)
Pseudomonas aeruginosa ATCC® 27853

Refer to Tables 4A-2 and 5A-2 to select strains for routine QC of β-lactam combination agents.

When a commercial test system is used for susceptibility testing, refer to the manufacturer's instructions for QC test recommendations and QC ranges.

General Comment

(1) For disk diffusion, test a maximum of 12 disks on a 150-mm plate and no more than 6 disks on a 100-mm plate; disks should be placed no less than 24 mm apart, center to center (see M02,[2] Subchapter 3.6). Each zone diameter should be clearly measurable; overlapping zones prevent accurate measurement. Measure the diameter of the zones of complete inhibition (as judged by the unaided eye), including the diameter of the disk (see the *M02 Disk Diffusion Reading Guide*[3]). Hold the Petri plate a few inches above a black background illuminated with reflected light. The zone margin should be considered the area showing no obvious, visible growth that can be detected with the unaided eye. Ignore faint growth of tiny colonies that can be detected only with a magnifying lens at the edge of the zone of inhibited growth. With trimethoprim and the sulfonamides, antagonists in the medium may allow some slight growth; therefore, disregard slight growth (20% or less of the lawn of growth) and measure the more obvious margin to determine the zone diameter.

Table 2B-2. *Acinetobacter* spp. (Continued)

Test/Report Group	Antimicrobial Agent	Disk Content	Interpretive Categories and Zone Diameter Breakpoints, nearest whole mm			Interpretive Categories and MIC Breakpoints, µg/mL			Comments
			S	I	R	S	I	R	
PENICILLINS									
O	Piperacillin	100 µg	≥21	18-20	≤17	≤16	32-64	≥128	
Β-LACTAM COMBINATION AGENTS									
A	Ampicillin-sulbactam	10/10 µg	≥15	12-14	≤11	≤8/4	16/8	≥32/16	
B	Piperacillin-tazobactam	100/10 µg	≥21	18-20	≤17	≤16/4	32/4-64/4	≥128/4	
O	Ticarcillin-clavulanate	75/10 µg	≥20	15-19	≤14	≤16/2	32/2-64/2	≥128/2	
CEPHEMS (PARENTERAL) (Including cephalosporins I, II, III, and IV. Please refer to Glossary I.)									
A	Ceftazidime	30 µg	≥18	15-17	≤14	≤8	16	≥32	
B	Cefepime	30 µg	≥18	15-17	≤14	≤8	16	≥32	
B	Cefotaxime	30 µg	≥23	15-22	≤14	≤8	16-32	≥64	
B	Ceftriaxone	30 µg	≥21	14-20	≤13	≤8	16-32	≥64	
Inv.	Cefiderocol	30 µg	≥15	11-14	≤10	≤4	8	≥16	**(2)** Breakpoints are based on a dosage regimen of 2 g every 8 h administered over 3 h.
CARBAPENEMS									
A	Doripenem	10 µg	≥18	15-17	≤14	≤2	4	≥8	**(3)** Breakpoints for doripenem are based on a dosage regimen of 500 mg administered every 8 h.
A	Imipenem	10 µg	≥22	19-21	≤18	≤2	4	≥8	**(4)** Breakpoints for imipenem are based on a dosage regimen of 500 mg administered every 6 h.
A	Meropenem	10 µg	≥18	15-17	≤14	≤2	4	≥8	**(5)** Breakpoints for meropenem are based on a dosage regimen of 1 g administered every 8 h or 500 mg administered every 6 h.

Table 2B-2. *Acinetobacter* spp. (Continued)

Test/Report Group	Antimicrobial Agent	Disk Content	Interpretive Categories and Zone Diameter Breakpoints, nearest whole mm			Interpretive Categories and MIC Breakpoints, µg/mL			Comments
			S	I	R	S	I	R	
LIPOPEPTIDES									
(6) WARNING: Clinical and PK/PD data demonstrate colistin and polymyxin B have limited clinical efficacy, even if an intermediate result is obtained. Alternative agents are strongly preferred. Colistin and polymyxin B should be used in combination with one or more active antimicrobial agents. Consultation with an infectious diseases specialist is recommended.									
O	Colistin or polymyxin B	- -	- -	- -	- -	- -	≤2 ≤2	≥4 ≥4	**(7)** Colistin (methanesulfonate) should be given with a loading dose and maximum renally adjusted doses (see International Consensus Guidelines[4]). **(8)** Polymyxin B should be given with a loading dose and maximum recommended doses (see International Consensus Guidelines[4]). **(9)** When colistin or polymyxin B is given systemically, the drug is unlikely to be effective for pneumonia. **(10)** The only approved MIC method is broth microdilution. CBDE, CAT, disk diffusion, and gradient diffusion should not be performed. **(11)** Applies to *A. baumannii* complex only.
AMINOGLYCOSIDES									
A	Gentamicin	10 µg	≥15	13-14	≤12	≤4	8	≥16	
A	Tobramycin	10 µg	≥15	13-14	≤12	≤4	8	≥16	
B	Amikacin	30 µg	≥17	15-16	≤14	≤16	32	≥64	
O	Netilmicin	-	-	-	-	≤8	16	≥32	
TETRACYCLINES									
(12) Organisms that are susceptible to tetracycline are also considered susceptible to doxycycline and minocycline. However, some organisms that are intermediate or resistant to tetracycline may be susceptible to doxycycline, minocycline, or both.									
B	Doxycycline	30 µg	≥13	10-12	≤9	≤4	8	≥16	
B	Minocycline	30 µg	≥16	13-15	≤12	≤4	8	≥16	
U	Tetracycline	30 µg	≥15	12-14	≤11	≤4	8	≥16	

Table 2B-2. *Acinetobacter* spp. (Continued)

Test/Report Group	Antimicrobial Agent	Disk Content	Interpretive Categories and Zone Diameter Breakpoints, nearest whole mm			Interpretive Categories and MIC Breakpoints, µg/mL			Comments
			S	I	R	S	I	R	
FLUOROQUINOLONES									
A	Ciprofloxacin	5 µg	≥21	16-20	≤15	≤1	2	≥4	
A	Levofloxacin	5 µg	≥17	14-16	≤13	≤2	4	≥8	
O	Gatifloxacin	5 µg	≥18	15-17	≤14	≤2	4	≥8	
FOLATE PATHWAY ANTAGONISTS									
B	Trimethoprim-sulfamethoxazole	1.25/23.75 µg	≥ 16	11-15	≤10	≤2/38	-	≥4/76	

Abbreviations: ATCC®, American Type Culture Collection; CAMHB, cation-adjusted Mueller-Hinton broth; CAT, colistin agar test; CBDE, colistin broth elution test; I, intermediate; MHA, Mueller-Hinton agar; MIC, minimal inhibitory concentration; PK/PD, pharmacokinetic/pharmacodynamic; QC, quality control; R, resistant; S, susceptible.

Footnote

a. ATCC® is a registered trademark of the American Type Culture Collection.

References for Table 2B-2

[1] Hackel MA, Tsuji M, Yamano Y, Echols R, Karlowsky JA, Sahm DF. Reproducibility of broth microdilution MICs for the novel siderophore cephalosporin, cefiderocol, determined using iron-depleted cation-adjusted Mueller-Hinton broth. *Diagn Microbiol Infect Dis*. 2019;94(4):321-325.

[2] CLSI. *Performance Standards for Antimicrobial Disk Susceptibility Tests*. 13th ed. CLSI standard M02. Clinical and Laboratory Standards Institute; 2018.

[3] CLSI. *M02 Disk Diffusion Reading Guide*. 1st ed. CLSI quick guide M02QG. Clinical and Laboratory Standards Institute; 2018.

[4] Tsuji BT, Pogue JM, Zavascki AP, et al. International consensus guidelines for the optimal use of the polymyxins: endorsed by the American College of Clinical Pharmacy (ACCP), European Society of Clinical Microbiology and Infectious Diseases (ESCMID), Infectious Diseases Society of America (IDSA), International Society for Anti-Infective Pharmacology (ISAP), Society of Critical Care Medicine (SCCM), and Society of Infectious Diseases Pharmacists (SIDP). *Pharmacotherapy*. 2019;39(1):10-39.