

CLSI and MIC Interpretation Tips and Tricks

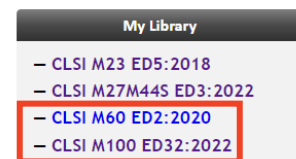


Interpreting CLSI breakpoints:

- NMH microbiology lab uses [VITEK II](#) for most susceptibility testing. There are a finite number of options on the machine, so some drugs are not routinely tested. Some newer drugs are not approved on the machine yet, so the lab will place an [E-test](#) or send out testing to a referral lab.
 - Some susceptibilities are performed via [Kirby-Bauer disk diffusion](#) (such as pip-tazo for *Pseudomonas*), due to lab discrepancies with panel testing. The microbiology lab can confer the zone diameter if needed.
- Many susceptibilities are hidden depending on the site for drugs that inadequately penetrate the site of infection. For example, daptomycin and sputum or piperacillin-tazobactam and CSF
- SDD = susceptible dose dependent. This does not mean intermediate; it is susceptible as long as dosed appropriately (doses are in the comments)
- If a susceptibility pattern looks different than expected, occasionally there can be lab errors, please contact ADSP or the microbiology lab for guidance or to rerun susceptibilities
- Pathogen specific comments:
 - Pseudomonas*: for pan-resistance, cefiderocol and imipenem-relebactam can be requested
 - CRE: for KPC, meropenem-vaborbactam can be requested
 - NDM: ceftazidime-avibactam and aztreonam synergy cannot be tested but should be used first-line
 - See the [ADSP Gram-negative infection guideline](#) for more resistance agent recommendations

Locating CLSI Website and Viewing Breakpoints:

- If you make it to this screen, click guest access



- You can search a bacteria or fungus from here, the M60 is for fungus, the M100 is for bacteria
- When searching, pathogens are grouped. For example, Enterobacterales includes *E. coli*, *Klebsiella*, *Enterobacter*, etc. but does not include non-Enterobacterales Gram-negative such as *Pseudomonas*, which has its own page.
- When searching for the breakpoints, you typically want table 2A. Zone Diameter and MIC Breakpoints:
 - CLSI M100-ED32:2022 Performance Standards for Antimicrobial Susceptibility Testing, 32nd Edition
 - [Instructions for Use of Tables](#)
 - [Overview of Changes](#)
 - [Table 2A. Zone Diameter and MIC Breakpoints for Enterobacterales](#)

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	SDD	I	R	S	SDD	I	R	
β-LACTAM COMBINATION AGENTS (Continued)											
B	Meropenem-vaborbactam	20/10 µg	≥ 18	-	15-17 [^]	≤ 14	≤ 4/8	-	8/8 [^]	≥ 16/8	(20) Breakpoints are based on a dosage regimen of 4 g every 8 h administered over 3 h.

- It is important to note the comment section which tells you what dose is required to achieve the breakpoints.
- For more information on susceptibility testing, see this [Primer for Clinicians](#).
- Contact your local ADSP pharmacist if you have questions on cultures and susceptibilities.