Expanded Antimicrobial Susceptibility Testing for Hard-to-Treat Infections

Antimicrobial susceptibility testing for Enterobacterales producing a metallo-beta-lactamase (MBL)

Clinicians and clinical and public health laboratories can request expanded antimicrobial susceptibility testing (ExAST) from CDC’s Antibiotic Resistance Lab Network (AR Lab Network) to find potentially effective treatment options for their patients’ most resistant infections.

› Resistance to new drugs used for treatment of carbapenem-resistant Enterobacterales (CRE) has been identified, specifically to ceftazidime-avibactam, meropenem-vaborbactam, and imipenem-relebactam. However, these bacteria may be susceptible to the combination therapy ceftazidime-avibactam plus aztreonam, a combination of drugs that is an option in current IDSA guidance for treatment of serious infections caused by MBL-producing Enterobacterales.*
› Susceptibility testing is CLIA-compliant and is performed at no cost. MIC results will be reported within 3 business days for treatment of ceftazidime-avibactam, aztreonam, and aztreonam-avibactam to help assess utility of combination therapy.

1. Isolates to submit:
Hospital laboratories and clinicians are encouraged to submit Enterobacterales isolates that:

› Test “not susceptible” to all beta lactams tested, including ceftazidime-avibactam, meropenem-vaborbactam, or imipenem-relebactam. These may be MBL-producing isolates with few treatment options.
-OR-
› Enterobacterales that test positive for NDM, VIM, or IMP genes.

2. What is the testing process?
› Isolates will be tested to confirm carbapenem resistance, carbapenemase production, and to identify the presence of specific carbapenemase genes.
› Isolates meeting the inclusion criteria will be tested against ceftazidime-avibactam, aztreonam, and avibactam-aztreonam.
› AST turn-around time is 3 business days after receipt of isolate.

3. How do I request ExAST and receive results?
› Please email your AR Lab Network Regional Laboratory (see map) to request testing and submission instructions.
› Please provide prior laboratory testing results, including organism identification and AST.
› Please confirm that Infection Prevention and Infectious Diseases services are aware of this patient and isolate.


For more information on CDC’s AR Lab Network, visit: www.cdc.gov/drugresistance/laboratories.html