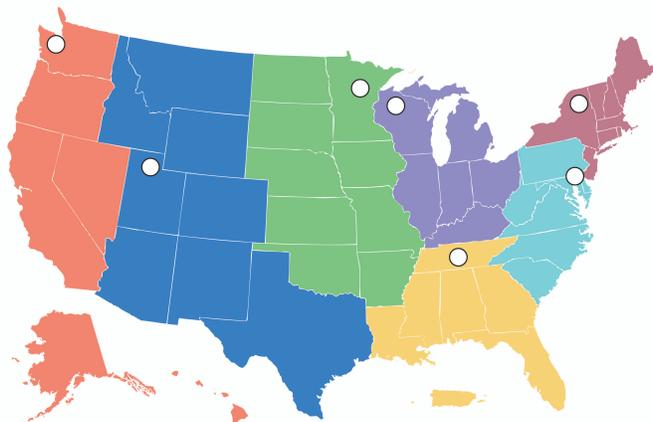


# Expanded Antimicrobial Susceptibility Testing for Hard-to-Treat Infections

## 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.



- **Southeast:** Tennessee Public Health Laboratory | [ARLN.health@tn.gov](mailto:ARLN.health@tn.gov)
- **Mid-Atlantic:** Maryland Public Health Laboratory | [MDPHL.arln@maryland.gov](mailto:MDPHL.arln@maryland.gov)
- **Northeast:** Wadsworth Center Labs | [ARLNcoreNY@health.ny.gov](mailto:ARLNcoreNY@health.ny.gov)
- **Midwest:** Wisconsin State Lab of Hygiene | [wiARLN@slh.wisc.edu](mailto:wiARLN@slh.wisc.edu)
- **West:** Washington State Public Health Labs | [ARLN@doh.wa.gov](mailto:ARLN@doh.wa.gov)
- **Central:** Minnesota Dept. of Health Public Health Lab | [ARLNMN@state.mn.us](mailto:ARLNMN@state.mn.us)
- **Mountain:** Utah Public Health Lab | [ARLNUtah@utah.gov](mailto:ARLNUtah@utah.gov)

\*Tamma PD, Aitken SL, Bonomo RA, Mathers AJ, van Duin D, Clancy CJ. Infectious Diseases Society of America Guidance on the Treatment of Extended-Spectrum  $\beta$ -lactamase Producing Enterobacterales (ESBL-E), Carbapenem-Resistant Enterobacterales (CRE), and Pseudomonas aeruginosa with Difficult-to-Treat Resistance (DTR-P. aeruginosa). Clin Infect Dis. 2021 Apr 8;72(7):e169-e183. doi: 10.1093/cid/ciaa1478. PMID: 33106864.

### 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](http://www.cdc.gov/drugresistance/laboratories.html)



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