

Carbapenem Resistant Organisms

- I. If an organism is an *Enterobacteriales* and resistant to Meropenem (MIC \geq 4) or Ertapenem (MIC \geq 2) by Vitek, confirm result by setting up a GNX2F panel.
- II. Isolates exhibiting Carbapenem resistance are forwarded to RIDOH for genetic testing to determine presence or absence of carbapenem-resistance genes when the following situations occur:
 1. Isolate recovered is:
 - a. *Enterobacteriales* **AND** isolate is resistant to at least one of the following:
 - i. Imipenem, Meropenem, Doripenem, Ertapenem by standard susceptibility testing methods (i.e., minimum inhibitory concentrations of \geq 4 μ g/mL for Imipenem, Meropenem, Doripenem, or \geq 2 μ g/mL for Ertapenem)
 - b. Non-mucoid *Pseudomonas aeruginosa* or *Acinetobacter baumannii* **AND** isolate is resistant to at least one of the following:
 - i. Imipenem, Meropenem, or Doripenem by standard susceptibility testing methods (i.e., minimum inhibitory concentrations of \geq 8 μ g/mL)
- III. Reporting:
 1. If the organism is carbapenem resistant add the isolate comment: **&CRE**
“Carbapenem Resistance Detected. Isolate forwarded to RIDOH for confirmation.”
 2. If the organism (*E. coli*, *K. pneumoniae*, or *K. oxytoca*) was also a rule out ESBL:
 - a. If the ESBL test was Positive, report out according to procedure.
 - b. If the ESBL test was Negative, use the canned comment: **&ESBU**
“Unable to confirm the presence of ESBL due to multiple resistance mechanisms.”
 3. Subculture isolate to send to RIDOH for further testing.
 4. Stock isolate in appropriate freezer box, refer to [Isolate Stocking Procedure](#).
 5. The provider/unit and Infection Control must be notified if isolate is a Carbapenem Resistant *Enterobacteriales*, refer to [Critical Results Notification](#).
 6. Culture may be finalized.
- IV. References
 1. January 2015 CDC surveillance definition for CRE
<http://www.cdc.gov/hai/organisms/cre/definition.html>
 2. RIDOH specimen submissions – Carbapenem Resistant Bacteria
<http://www.health.ri.gov/programs/laboratory/biological/about/specimensubmission/>