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| MC 6.01 AST-GN95 Susceptibility Reporting Guidelines |
| **Purpose** | This procedure provides instruction and guidance for routine testing and reporting of Antimicrobial Agents / organism groupings for the AST-GN95 Vitek card for patient testing. Organisms with intrinsic resistance to antimicrobial agents will not be reported. AST-GN95 card will not be used for ***Stenotrophomonas maltophilia***, ***Burkholderia cepacia*** ***complex* andNon-Enterobacterales, excluding *Pseudomonas aeruginosa*.**  |
| **Principal and Clinical Significance** | The decisions for the most appropriate antimicrobial agents to test and report are made with input from Pharmacy, Infectious Disease and the Clinical Laboratory. The goal is to provide clinically relevant information that will decrease the chance of developing antibiotic resistance, harmful effects of inappropriate antimicrobial use and avoid reporting results that could adversely affect patient care. |
| **Policy Statements** | This procedure applies to Microbiologists who perform culture set-up and plate reading. |
| **Special Safety Precautions** | Microbiologists are subject to occupational risks associated with specimen handling.1. [*Biohazard Containment*](file:///G%3A%5CLab%20Procedures%5CMicrobiology%5C1NEW%20Micro%20Procedure%20Manual.%20%28same%20as%20in%20Starnet%29%5CMCVI%203%20Safety%5CMCVI%203.1%20Biohazard%20Containment.docx)
2. [*Biohazardous Spills*](file:///G%3A%5CLab%20Procedures%5CMicrobiology%5C1NEW%20Micro%20Procedure%20Manual.%20%28same%20as%20in%20Starnet%29%5CMCVI%203%20Safety%5CMCVI%203.4%20Biohazardous%20Spills.docx)
3. [*Safety in the Microbiology Laboratory*](file:///G%3A%5CLab%20Procedures%5CMicrobiology%5C1NEW%20Micro%20Procedure%20Manual.%20%28same%20as%20in%20Starnet%29%5CMCVI%203%20Safety%5CMCVI%203.2%20Safety%20in%20the%20Microbiology%20Lab.docx)
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| **Procedure** | 1. The AST-GN95 card follows CLSI guidelines and breakpoints.
2. Perform and report KB or MicroScan results for antimicrobial agents that have a card

limitation for patient testing following organism tables below. |
| **Reflexive Testing for Cefpodoxime** | 1. Report Cefpodoxime when cefazolin is resistant on urine cultures that isolated ***E.coli,******Klebsiella pneumoniae,******Proteus mirabilis***and is ESBL negative.
2. Run a XN08 card to obtain a Cefpodoxime result and release only the Cefpodoxime. Refer to the MC 6.02 AST-XN08 for further reporting instructions.
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| **Additional Testing** | 1. Perform AST-XN08 testing in addition to the AST-GN95 card for all *Pseudomonas aeruginosa* isolates to report Meropenem.
2. Perform AST-XN08 testing on *Proteus* spp., *Morganella* spp., and *Providencia* spp. isolates when Imipenem, Piperacillin/Tazobactam, Ceftriaxone and Ceftazidime are resistant, to report Meropenem.
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| **MDRO comment** | Use the MDRO comment is these situations:* Positive for ESBL
* Positive for carbapenem producing organisms (using codes KPC, NDM, etc).
* *Enterobacterales* resistant to any carbapenem.
* *Proteus* spp., *Morganella* spp., *Providencia* spp. when non-susceptible to Imipenem and one other carbapenem.
* *Pseudomonas aeruginosa* when there are non-susceptible results for 3 or more classes of antibiotics. (Example: non-susceptible to a penicillin, cephalosporin, fluoroquinolones, aminoglycoside or carbapenem.
* Use code **NCPO** when testing for carbapenemase producing organisms is negative from MDH.
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| **Product Limitations** |

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| Antibiotic | Product Limitations |
| Ampicillin | *Citrobacter spp, Enterobacter spp, Pantoea spp, Serratia spp* and *Cronobacter sakazakii* are intrinsically resistant, Do not report. |
| Ampicillin/Sulbactam | *Citrobacter spp, Enterobacter spp, Pantoea spp, Serratia spp* and *Cronobacter sakazakii* are intrinsically resistant, Do not report. |
| Cefazolin | **Report only on *E.coli, K. pneumoniae, P. mirabilis* from** **urine.**Perform KB on all other organisms unless intrinsically resistant, refer to CLSI chart for intrinsic resistance.Perform KB on non-urine sources |
| Cefepime | Perform KB on *Morganella spp* and *Hafnia alvei*Do not report onBordetella *bronchiseptica*Perform KB on *Acinetobacter spp*.  |
| Ceftazidime |  |
| Ceftriaxone | Perform alternate method on *Proteus vulgaris, Enterobacter cloacae, Enterobacter cloacae complex, and Morganella spp.*Perform alternate methodon *Providencia rettgeri* if resistant |
| Ciprofloxacin |  |
| Ertapenem | Perform alternate method with MIC of 0.25-0.5Perform alternate method on *Hafnia alvei* |
| ESBL |  |
| Gentamicin |  |
| Imipenem | Perform alternate method on *Serratia marcescens*Perform KB on *Aeromonas spp.* if resistant |
| Nitrofurantoin (urine) |  |
| Levofloxacin |  |
| Piperacillin /Tazobactam | Perform alternate method on *Serratia marcescens*Perform KB on *P. aeruginosa* if resistant |
| Tobramycin |  |
| Trimeth/Sulfa |   |

Table 1For Non-Enterobacteriaceae, perform MicroScan. There are no CLSI guidelines for KB with Non-Enterobacteriaceae. |
| **References** | Vitek AST-GN95 Gram Negative Susceptibility Card bioMerieux 2017/11CLSI M100 edition 29 Performance Standards for Antimicrobial Susceptibility Testing 1/2019 |
| **Training Plan/ Competency Assessment** | **Training Plan** | **Initial Competency Assessment** |
| 1. Employee must read the procedure.
2. Employee will observe trainer performing the procedure.
3. Employee will demonstrate the ability to perform procedure, record results and document corrective action after instruction by the trainer.
 | 1. Direct observation.
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| **Historical Record** |  |  |  |  |
|  | **Version** | **Written/Revised by:** | **Effective Date:** | **Summary of Revisions** |
| 1 | Susan DeMeyere | 11/5/2019 | Initial version |
| 2 | Susan DeMeyere | 12/6/2019 | Organized product limitation tables. Removed *PSAR* lower breakpoint validation. |
| 3 | Susan DeMeyere | 1/26/2021 | Removed Validation for lower breakpoint section. Removed validation for Ertapenem.  |
|  | 4 | Susan DeMeyere | 8/9/2021 | Added instructions for reflex testing for Cefpodoxime |  |  |
| 5 | Susan DeMeyere | 9/10/2021 | Added instructions to perform KB on *Acinetobacter spp*. and to perform MicroScan for non-Enterobacteriaceae. |
| 6 | Susan DeMeyere | 9/19/2022 | Added additional testing and MDRO comment section.  |
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