MC 6.02 AST-XN30 Susceptibility Reporting Guidelines

Purpose

This procedure provides instruction and guidance for requested testing and reporting of Antimicrobial Agents / organism groupings for the AST-XN30 Vitek card for patient testing. Organisms with intrinsic resistance to antimicrobial agents will not be reported.

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 plate reading.

Special Safety Precautions

Microbiologists are subject to occupational risks associated with specimen handling.

- *Biohazard Containment*
- *Biohazardous Spills*
- *Safety in the Microbiology Laboratory*

Procedure

1. The AST-XN30 card follows CLSI guidelines and breakpoints.

2. Antibiotics provided on the card include:
    - Amikacin-perform KBS and day of use QC
    - Amoxicillin/Clavulanic Acid
    - Aztreonam
    - Cefotaxime
    - Cefpodoxime
    - Ceftazidime/Avibactam
    - Ceftolozane/Tazobactam
    - Doxycycline
    - Imipenem
    - Imipenem/Relebactam
    - Meropenem/Vaborbactam
    - Minocycline
    - Tigecycline
    - Tobramycin

3. Use the AST-XN30 for Tobramycin or when specific antibiotics are requested.

4. Only report the requested antibiotics or following guidelines for the organism.

5. Report **Cefpodoxime** when cefazolin is resistant on urine cultures that isolated *E. coli, Klebsiella pneumoniae, Proteus mirabilis* and is ESBL negative.

6. Click on the Online tab. Do not click on Select all online susceptibility results. Instead, click on the requested antibiotics. Then, click on Accept Selected.

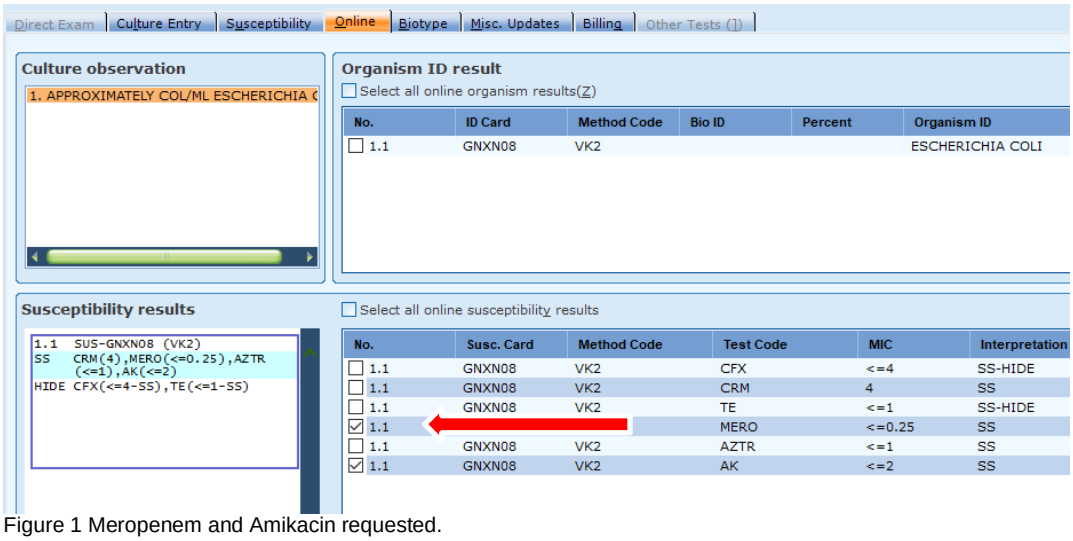

Figure 1 Meropenem and Amikacin requested.

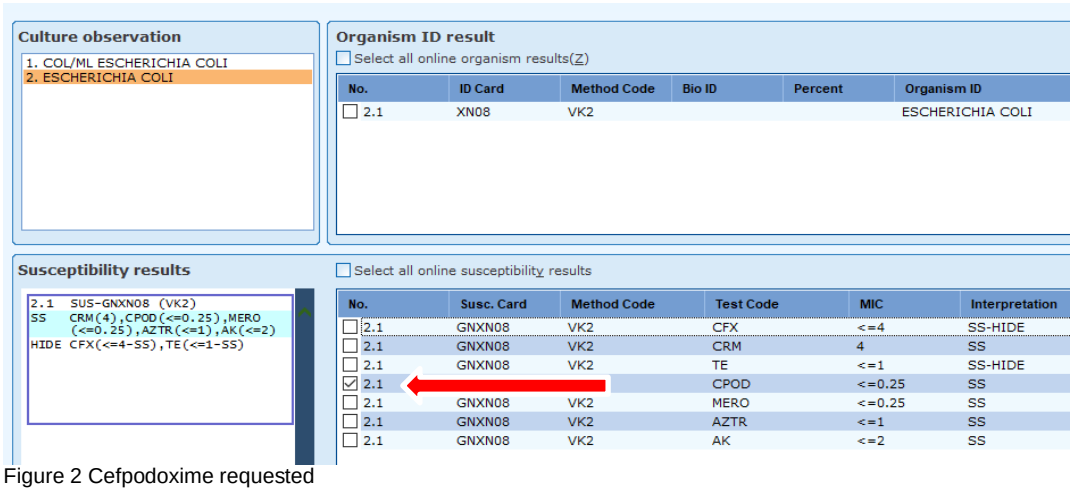

Figure 2 Cefpodoxime requested

7. Only the selected antibiotics will be reported. See Figure 3 & 4.

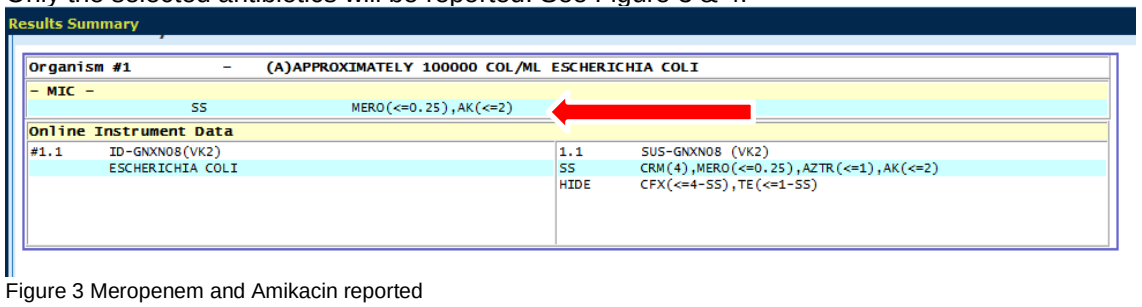

Figure 3 Meropenem and Amikacin reported

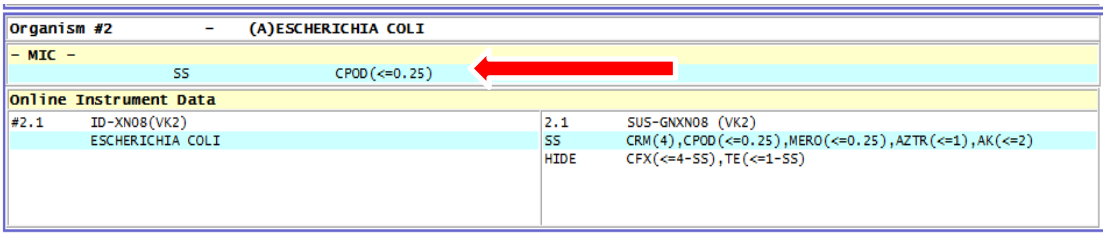

Figure 4 Cefpodoxime reported

8. If you run both the AST-N806 and AST-XN30 at the same time, it will cross into Sunquest as an AST-NS71 and all the results will be combined. Do not click on Select all online susceptibility results. Instead, click on the desired antibiotics.

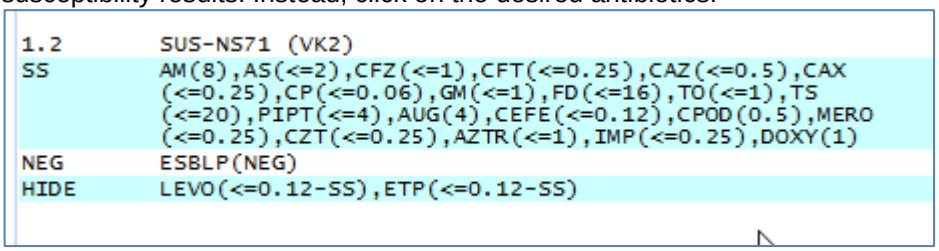

Figure 5 all antibiotics combined

9. Perform and report KB or MicroScan results for antimicrobial agents that have card limitations for patient testing following organism tables below.

Product Limitations

Antibiotic	Product Limitations
Amikacin	Not validated. Perform KB and day of use QC
Amoxicillin/Clavulanic Acid	Perform alternate method on *Providencia spp.* Perform alternate method on intermediate or resistant *Proteus spp.*
Aztreonam	Perform alternate method on *Pseudomonas* spp.
Cefpodoxime	Perform alternate method on *Morganella morganii, Serratia spp.*
Ceftazidime/ Avibactam	Perform alternate method on *Providencia rettgeri.* Perform alternate method *Pseudomonas aeruginosa* when MIC = >=16.
Ceftolozane/ Tazobactam	Perform alternate method on *Morganella morganii, Providencia rettgeri, Serratia marcescens* If resistance is observed on *Citrobacter koseri, Proteus mirabilis*, *Proteus vulgaris and Serratia liquefacians,* send isolate to MDH.
Cefotaxime	Perform alternate method on *Pseudomonas fluorescens, Alcaligenes faecalis, Achromobacter denitrificans, Hafnia alvei, Shigella spp.* Perform alternate method on *Proteus vulgaris* with MIC = 1-4.
Imipenem	Perform alternate method on *Klebsiella aerogenes, Proteus spp., Providencia spp., Morganella spp., Serratia spp.*
Imipenem/ Relebactam	Perform alternate method on *Morganella spp., Proteus spp., Providencia spp., Serratia spp.*
Minocycline	Perform alternate method on *Shigella spp.*
Tobramycin	Perform alternate method on *Providencia stuartii.*

Table 1

For Non-Enterobacterales, perform MicroScan if alternate method is required. There are no CLSI guidelines for KB with Non-Enterobacterales.

References

Vitek AST-XN30 Gram Negative Susceptibility Card bioMerieux 2023/04
CLSI M100 edition 34 Performance Standards for Antimicrobial Susceptibility Testing 2024

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.

Historical Record

Version	Written/Revised by:	Effective Date:	Summary of Revisions
1	Susan DeMeyere	4/14/2020	Initial version
2	Susan DeMeyere	9/19/2022	Added additional situations to test for Meropenem.
3	Susan DeMeyere	7/16/2024	Discontinue AST-XN08 and replace with XN30.