

## MC 6.05 AST-YS09 Susceptibility Reporting Guidelines

**Purpose** This procedure provides instruction and guidance for requested testing and reporting of antimicrobial agents / organism groupings for the AST-YS09 Vitek card for patient testing.

**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. Refer to the safety policies located in the safety section of the *Microbiology Procedure Manual*.

- [Biohazard Containment](#)
- [Biohazardous Spills](#)
- [Safety in the Microbiology Laboratory](#)

- Procedure**
1. The AST-YS09 card follows CLSI guidelines and breakpoints.
  2. Follow instructions provided in [MC 7.00 Vitek 2XL procedure](#) for card setup, use of the Vitek 2XL, maintenance and quality control.
  3. Test isolates from sterile body sites, blood, body fluids, eyes and urine or other sites deemed appropriate.
  4. Test isolates grown on appropriate media which includes:
    - Columbia Sheep agar
    - Sabouraud Dextrose Emmons agar
    - Trypticase Soy Agar (TSA)
    - TSA with Sheep Blood
    - ChromID Candida
  5. Test isolates incubated for **18-96 hours** and in an aerobic non-CO<sup>2</sup> 35<sup>o</sup>-37<sup>o</sup> incubator.
  6. Prepare an organism suspension with a density of **1.80-2.20 McFarland**.
  7. Send isolates to FU for antifungal agents not included on the YS09 card or have product or testing limitations listed on the following table.
  8. Add comment code **FUNDRG** to notify physicians to call if additional antifungal agents are required, including amphotericin B.

**Antibiotics reported from card and Product /Testing Limitations**

Antibiotic	Product or Testing Limitations
Caspofungin	Perform alternate method for <i>Candida glabrata</i> with MIC 0.12 S, 0.25 I and 0.5 R
Fluconazole	Perform alternate method on <i>Candida glabrata</i>
Micafungin	
Voriconazole	

**Limitations**

1. The ability of the AST card to detect resistance with following combinations is unknown because resistant strains were not available at the time of testing.
  - Caspofungin: *Candida albicans*, *C. glabrata*, *C. guilliermondii*, *C. krusei*, *C. parapsilosis*, *C. tropicalis*
  - Micafungin: *Candida species*
  - Voriconazole: *Candida albicans*, *C. krusei*, *C. parapsilosis*, *C. tropicalis*, *C. lusitanae*, *C. guilliermondii*
2. Isolates yielding Caspofungin MIC results suggestive of a “non-susceptible” category ( $\geq 2$   $\mu\text{g/ml}$ ) should be submitted to a reference laboratory for further testing.
3. *Candida glabrata* isolates resistant to Micafungin should be submitted to a reference laboratory for further testing.

**Method Performance Specifications**

1. Do not use the card after the expiration date shown on the package liner.
2. Store the card unopened in the package liner. Do not use the card if the protective package liner is damaged or if no desiccant is present.
3. Allow card to come to room temperature before opening the package liner.
4. Do not use powdered gloves. Powder may interfere with the optics.
5. Use clear plastic tubes only.

**Organisms with CLSI breakpoints**

Yeast organisms with CLSI breakpoints	
<i>Candida albicans</i>	<i>Candida krusei</i>
<i>Candida glabrata</i>	<i>Candida parapsilosis</i>
<i>Candida guilliermondii</i>	<i>Candida tropicalis</i>

**Body Reporting Site**

The table below provides guidelines for reporting antifungal agents for specific body sites.

Antifungal Agent	Specimen Site	Routinely Report	Report with Request
Azoles	Sterile body site, Eye	Fluconazole and Voriconazole	
	Urine	Fluconazole	Voriconazole
Echinocandins	Sterile body site	Micafungin and Caspofungin	
	Urine	Do not routinely report	Micafungin and Caspofungin
	Eye	Do not routinely report	

Voriconazole and the Echinocandins on urine sources can be released from HIDE with provider request.

**References**

Vitek 2 AST-YS09 Yeast Susceptibility Card bioMerieux 2019/3  
 CLSI M100 edition 34 Performance Standards for Antimicrobial Susceptibility Testing 2024  
 CLSI M27/M44 edition 3 Performance Standards for Antifungal Susceptibility Testing of Yeasts August 2022

**Training Plan**

**Initial Competency Assessment**

**Training Plan/  
 Competency  
 Assessment**

<ol style="list-style-type: none"> <li>1. Employee must read the procedure.</li> <li>2. Employee will observe trainer performing the procedure.</li> <li>3. Employee will demonstrate the ability to perform procedure, record results and document corrective action after instruction by the trainer.</li> </ol>	<ol style="list-style-type: none"> <li>1. Direct observation.</li> </ol>
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**Historical  
 Record**

Version	Written/Revised by:	Effective Date:	Summary of Revisions
1	Susan DeMeyere	10/4/2021	Initial version
2	Susan DeMeyere	2/17/2025	Updated for CLSI breakpoints and body sites.