

# Antimicrobial Testing FAQs

SERVICE AVAILABLE Monday-Friday- 8AM-5PM  
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## UTCVM BACTERIOLOGY & MYCOLOGY LABORATORY

### What's New in Antimicrobial Susceptibility Testing (AST) in our lab?

We are excited to let you know we have acquired a BIOMIC V3, an instrument that automates the reading and interpretation of broth dilution susceptibility tests in a 96-well format. In order to improve the accuracy, speed and standardization of reading, we will be moving towards AST via broth dilution using commercially available panels and will be reporting Minimum Inhibitory Concentration (MIC) of the antimicrobials tested.

### What to Expect when I order a culture:

A sample from an infected site is cultured to recover the bacteria or fungus that is causing the infection followed by AST on the **predominant/relevant isolate** cultured from the specimen. During the culture process, pathogens are isolated (separated out from any other potential contaminant microbes present) and are identified. Once the pathogens have been identified, we determine whether susceptibility testing can be done. Susceptibility testing is not performed on all the isolates obtained. The AST is performed to determine the likelihood that a particular antimicrobial drug will be effective in stopping the growth of the agent causing the infection. In most clinical cases one bacterial agent is responsible for infection however, polymicrobial infections are not uncommon. We determine the significance of a bacterial isolate considering multiple factors such as number of colonies, location of infection, and the nature of bacteria isolated.

### Will there be price changes?

With the current pricing, you will receive culture results with AST results for **ONE** significant isolate. There will be additional charges if you wish to pursue more than one AST. Our experienced microbiologists will make every effort to ensure that you will be receiving AST results of the significant isolates, not potential contaminants.

### Do you continue to offer Disk Diffusion/ Kirby-Bauer (KB) AST?

KB AST tests results are qualitative and the test itself is cumbersome as we have to maintain several custom designed panels in the laboratory so this test will not be offered as a routine test. However, we will be able to design custom panels and perform AST for you in case if you wish to pursue this approach. Please call the lab and discuss if you wish to obtain a quote.

### What will my results look like?

You will receive a list of antimicrobials suitable for a bacterial pathogen infecting specific site and an MIC value if interpretive criteria for the break point available for the organism and site. Selecting an antimicrobial for treatment is not straight forward. In addition to the MIC values, other factors such as animal species, up to date drug kinetics (if available), location of infection, and condition of the patient must be taken into consideration while selecting the drug. Please do not hesitate to call the lab if you have any questions.

### Example of New MIC Results

Organism	<i>Escherichia coli</i>	MM	Category	MIC (mcg/ml)
Ampicillin MIC			R	> 8
Amoxicillin-clavulanate MIC			R	> 8
Cefpodoxime MIC			S	<=1
Prodoxofacin MIC			S	<= 0.25
Trimethoprim-sulfamethoxazole MIC			R	> 4
Cefovecin MIC			NA	1
Gentamicin MIC			S	0.5
Cephalexin MIC			R	8
Doxycycline MIC			S	2
Imipenem MIC			S	<=1
Orbifloxacin MIC			S	<=1
Amikacin MIC			S	<= 4
Cefazolin MIC			I	4
Marbofloxacin MIC			S	<= 0.125
Enrofloxacin MIC			S	<= 0.125
Chloramphenicol MIC			S	4
Piperacillin-tazobactam MIC			S	<= 8
Tetracycline MIC			S	<= 4
Ceftazidime MIC			S	<= 4