



Technical Bulletin

Microbiology-More on MIC's

New MIC Panel Available!

Phoenix Central Laboratory for Veterinarians offers Kirby-Bauer *and* MIC susceptibility testing for most pathogens isolated from a submitted culture. Susceptibility testing measures whether or not a microorganism can grow when it is exposed to a variety of antimicrobials. This testing can be done in a couple of ways.

The following descriptions should help you decide which test to order:

- 1) The Kirby-Bauer disk diffusion method measures the zones of growth inhibition around paper disks that are impregnated with specific antibiotics. A special type of agar plate is used to grow the pure bacterial isolate. The doctor chooses an appropriate antimicrobial agent from those on the report that were categorized as "Susceptible or Sensitive." If there are no "Susceptible or Sensitive" choices, then the doctor may select one categorized as "Intermediate." This may mean a higher dosage of antimicrobial and may involve a longer duration of therapy and therefore, higher risk for medication side effects. A pathogen may be "Resistant" to all of the antimicrobials in the panel. In this case, the doctor may prescribe a combination of antibiotics that work together to inhibit the bacteria when neither one alone will be effective.

- 2) The second method of testing is called the "Minimum Inhibitory Concentration" method (MIC). This method has the advantage of producing a more defined estimation of the level of resistance in less sensitive or problematic strains of bacteria as described above. The disadvantage is that it is somewhat more costly. Phoenix Central Laboratory has a new MIC panel available to help you in treating these problem cases. This panel will provide you with several treatment choices and will enable more precise dosage information. The antibiotics included in this panel are amikacin, ampicillin, amoxicillin with clavulanic acid ("Clavamox"), cephalothin, cefpodoxime ("Simplicef"), clindamycin, trimethoprim/sulfa ("Bactrim"), enrofloxacin ("Baytril"), erythromycin, cefazolin, ceftiofur, gentamicin, imipenem, orbifloxacin ("Orbax"), penicillin, rifampin, chloramphenicol, marbofloxacin ("Zeniquin"), tetracycline, ticarcillin, ticarcillin with clavulanic acid ("Timentin"), and ceftiofur ("Naxcel"). This panel is available for an additional charge of \$16.00 per organism, over the basic Culture and Sensitivity charge of \$29.50.

Keep in mind that up to two MIC panels are still included in the price of each *URINE* "Culture and Sensitivity" ordered. This smaller MIC panel consists of seven antibiotics that are known to concentrate in the bladder. Up to two Kirby-Bauer disk diffusion susceptibility panels are performed routinely on pathogens from other sources. The antibiotics for these panels vary by species of animal tested.

We hope that you find our new MIC panel helpful. Please call us if you have any questions or concerns. To request the new panel simply write "Extended MIC Panel" and test code #531 at the bottom of your test request form or call to add it on to an existing culture.