

Urine culture results up to 24 hours earlier with advanced accuracy—at no additional cost



Bacterial urinary tract infections (UTIs) are a common diagnosis in veterinary patients. A quantitative urine culture with minimum inhibitory concentration (MIC) antibiotic susceptibility testing is recommended to confirm bacteriuria and guide antibiotic selection. Timely and accurate culture results are essential for successful management of this often-painful condition. IDEXX Reference Laboratories is excited to announce improved laboratory work flows that, combined with our leading-edge technology, will provide accurate urine culture results up to 24 hours earlier.

Effective October 11, 2017, urine culture results will be up to 24 hours earlier with advanced accuracy at no additional charge.

These changes will make it easier than ever to diagnose and manage urinary tract infections in your patients.

Faster urine culture results with advanced accuracy

In 2014, IDEXX invested in new matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF) technology in our reference laboratories for rapid microbial identification within minutes compared to traditional manual bench methods. This technology provided IDEXX with an increased ability to identify organisms to the species level, resulting in more specific and accurate identifications. We are now combining this advanced technology with improved work flows in the laboratory, so that your urine culture results will be available up to 24 hours earlier than before, allowing you to communicate to clients and potentially treat your patients with an appropriate antibiotic faster.

Negative urine culture results also provide valuable information, allowing you to focus on other differentials and next steps for your patients with lower urinary tract signs. Traditionally, negative or “no growth” culture results at IDEXX have been reported with preliminary “no growth so far” results at 16–24 hours and a final “no growth” result at 48 hours of incubation. However, in human medicine, it is recommended that a urine culture be reported negative if no growth is present following 18–24 hours of incubation.^{1–3} IDEXX Reference Laboratories performed several internal studies⁴ to evaluate whether the same recommendation could be made for veterinary patients.

An initial retrospective study of preliminary and final results from urine cultures performed at IDEXX determined that negative results should be read no earlier than 22 hours of incubation in order to maintain the desired sensitivity. A second prospective study was performed where the initial plate review was performed at 24 (+/- 2) hours after plating, and the final plate review was performed at 48 (+/- 2) hours. A total of 4,102 cultures from U.S. and Canadian IDEXX microbiology laboratories that were negative on initial plate evaluation were compared to results at 48 hours. The absence of growth was confirmed when re-evaluated at 48 hours in greater than 99.85% of the cultures. Six cultures (0.15%) were negative at 24 hours, but they had light growth at 48 hours. In addition, 15 out of 4,102 (0.4%) initially negative cultures had developed evidence of environmental contaminant growth by 48 hours. These results suggest that holding cultures until 48 hours may reduce the specificity of urine cultures by allowing for the growth of environmental contaminants.

These studies clearly demonstrated that there is no benefit to delaying the reporting of negative cultures for an additional day. Based on the compelling results of these studies, negative (no growth) cultures will now be reported following an overnight culture (24 hours of incubation) allowing you to pursue noninfectious causes of urinary signs sooner.

Faster reporting of urine culture results means improved care for your patients. In some cases, initiation of antibiotic therapy may be delayed until culture results are back, depending on the severity of

clinical signs. The selection of antibiotics based on susceptibility results only in patients with positive urine cultures will help minimize the development of antibiotic-resistant strains and maximize treatment success in your patients.

Ordering information

Test code	Test name and contents
CUL	Aerobic Culture (Organism ID and Susceptibility) Urine culture: organism ID and susceptibility
UNAUC	Urinalysis with Urine Culture Urinalysis: physical, chemical, and microscopic analyses Urine culture: organism ID and susceptibility Note: Urine culture is performed regardless of findings of urinalysis.

Specimen requirements: 5 mL urine in a sterile container (collection by cystocentesis and submission in a nonadditive tube, WTT preferred)

Ordering your tests online

Did you know that you can search for diagnostic tests, create requisitions, and review status and results on vetconnectplus.ca?

Contacting IDEXX

For questions regarding specimen submissions or test results, please contact our Laboratory Customer Support Team at **1-800-667-3411**.

Additional resources

For guidance on the diagnosis and management of urinary tract infections, visit idexx.ca/UrineBacteria.

To learn more about how to use your urine culture MIC susceptibility results to select the best antibiotic for your patient, visit idexx.ca/MIC.

References

- Graham JC, Galloway A. ACP Best Practice No 167: the laboratory diagnosis of urinary tract infection. *J Clin Pathol*. 2001;54(12):911–919.
- Cavagnolo R. Evaluation of incubation times for urine cultures. *J Clin Micro*. 1995;33(7):1954–1956.
- Urine specimen processing. In: *Procedures/Guidelines for the Microbiology Laboratory*. Saskatoon, SK: College of Physicians and Surgeons of Saskatchewan Laboratory Quality Assurance Program; 2010:15–17.
- Data on file at IDEXX Laboratories, Inc. Westbrook, Maine USA.