

## URICULT® Urine Culture Paddles -Veterinary Instructions

URICULT® is a disposable culture media paddle designed for semi-quantitative enumeration and presumptive identification of uropathogens. URICULT® is for in-vitro diagnostic use only.

### Storage

Store URICULT® paddles at room temperature (20°-25°C) in the closed box. Protect from drafts, light, and heat. Do not freeze. Occasionally a small amount of moisture will form within the vial. This is normal however contact with the media should be avoided by storing the vials upright.

### Precautions

This product is for IN VITRO diagnostic use only. Culture specimens may contain microorganisms which can be potentially infectious to personnel. Strict adherence to aseptic techniques and established precautions against biohazards should be followed throughout the procedure. Properly dispose of isolates and all items that contact patient specimens.

### Specimen Requirements

If reliable results are to be obtained, proper collection techniques and prompt inoculation are essential with this as with other procedures for detection of urinary tract infections.

1. As the distal portions of the urogenital tract are normally colonized by numerous commensal organisms, it is advisable that some method of aseptically collecting the specimen (i.e. cystocentesis, catheterization) be employed. A midstream "free catch" sample may be acceptable in some instances but not recommended.
2. To avoid changes in bacterial count, the URICULT® paddle should be inoculated and incubated as soon as possible after specimen collection.
4. For best results, specimens should be cultured at time of collection; however, if that is not possible specimens should be refrigerated (4°C) until testing can be performed. Do not refrigerate specimens for more than 24 hrs. NOTE: Do not use URICULT® culture paddle containers to collect urine specimens.

### Test Procedure

1. Unscrew the vial cap with attached paddle and remove from vial.
2. Holding the paddle by the cap, immerse into the urine so that both sides of the paddle contact the specimen. Smaller volume specimens can be dispensed directly on to both sides of the culture paddle.
3. Remove the paddle from the specimen and allow all excess urine to drain back into the collection container.
4. Replace paddle in its original vial and secure the cap, leaving about one screw-turn loose. Label vial with patient name and date of inoculation.
6. Incubate vial at 35-37°C for 18-24 hours.

### Interpretation of Results

Following incubation, a colony count estimate is performed and the color of the CLED agar and colony morphology on both agars is compared to the URICULT® color wall chart for presumptive identification. Colony counts should be performed only on the CLED agar and estimates are determined by comparison to the provided density chart. The accuracy of the colony count can be enhanced by streaking the CLED agar with a 10 ul calibrated loop and multiplying the number of observed colonies by 100. As a guideline, colony counts for samples taken by cystocentesis that exceed 1000 cfm/ml should be considered significant and supportive of a diagnosis of UTI. Colony counts of 100-1000 cfm/ml should be viewed as suspicious and counts of 100 or below should be considered contaminants. These guidelines should be increased tenfold for samples taken from dogs via catheter\*. It is recommended that positive cultures meeting quantitation criteria for UTI be further investigated or sent to an outside reference laboratory for confirmation and susceptibility testing. Note: While these guidelines can provide important diagnostic information, they are only guidelines and should always be interpreted in conjunction with the patient's clinical presentation.

For presumptive identification, refer to the URICULT® color wall chart. Additional biochemical tests are necessary for definitive identification and colonies may be taken directly from the C.L.E.D. media for subculture. Alternatively, the entire URICULT® device can be submitted to the Microbiology laboratory.

NOTE: When the URICULT® media exhibits a significant colony count displaying a large variety of different micro-organisms, retesting is recommended. While urinary tract infections involving mixed flora do occur, it is more likely that the original specimen was contaminated. When re-testing, take special care to follow the recommendations under “Specimen Requirements”.

\*Data adapted from Urinalysis: A Clinical Guide to Compassionate Patient Care. Carl A. Osborne, DVM, PhD and Jerry B. Stevens, DVM, PhD. 1999 Bayer Corporation.

### **Media Descriptions and Formulae**

C.L.E.D. (Cystine Lactose Electrolyte Deficient Agar) is a non-selective medium that supports the growth of Gram (+) and Gram (-) species. Electrolyte deficiency prevents swarming of most Proteus strains. This medium was developed by MacKey and Sandys specifically for enumeration of bacteria in urine.

EOSIN METHYLENE BLUE AGAR (E.M.B.) is a differential medium for the isolation and detection of Gram negative enteric bacilli. Growth of most Gram positive species is suppressed. Dark pigmented (blue/black) colonies include Enterobacter, Klebsiella and E. coli. E. coli generally has a green sheen. Colorless colonies include Proteus, Pseudomonas, Salmonella or Shigella.

MacCONKEY Agar is similar to E.M.B. agar in that it promotes the growth of enteric gram-negative bacilli while inhibiting the growth of most Gram-positive organisms. Fermenters usually form brick-red colonies surrounded by a zone of precipitated bile or red colonies surrounded by a zone of red pigmentation. These colonies include E. coli, Enterobacter, and Klebsiella. Non-fermenters are amber or colorless and include Proteus, Pseudomonas, Salmonella, and Shigella.

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