K710520 MICROCOXIDASE TEST STRIPS

DISCUSSION

Cytochrome oxidase is an enzyme which participates in the electron transport and nitrate metabolism mechanisms of some bacteria. While most oxidase tests are used to initially characterize gram negative bacilli (see LIMITATIONS), this test is specifically designed to work for *Micrococci. Micrococcus sp*. are positive for the cytochrome oxidase enzyme while most *Staphylococcus sp*. are negative. Key MicroCoxidase Test Strips indicate oxidase positive organisms by the appearance of a deep blue to black color within 10-30 seconds when the colony is rubbed on a moistened strip.

MSDS DATA:
MicroCoxidase strips are impregnated with a solution of DMSO and tetra methyl p-phenyldiamine HCl in distilled water. The tetra methyl p-phenyl diamine HCl may be hazardous if inhaled, ingested or absorbed through the skin. To the best of our knowledge, the chemical, physical and toxicological properties of this chemical have not been thoroughly investigated. No hazards are expected in the handling of the strips.

INSTRUCTIONS:
(1)Moisten a section of the strip by using a loop to place a drop of distilled water on the strip and rub it about lightly. For ease in handling, simply lay the strip in the moist lid of the petri dish and do not add additional water.
(2)Transfer a small amount of bacteria to the strip and rub gently.
(3)Observe the strip for 10-30 seconds. A positive result is the appearance of a deep blue color where the bacteria have been smeared. **CRITICAL:** Disregard color which appears after longer standing. Any test can appear positive after 30 seconds.

LIMITATIONS:

It is normal for the strips to have a slight blue tinge when manufactured. A positive result will be an extremely dark color which is easy to interpret.
(1) Because a nichrome wire loop can cause a false positive result, a plastic or platinum loop or a wooden applicator stick should always be used to transfer the bacteria.
(2) Care should be taken when testing pigmented organisms that the color of the culture is not confused with a positive test. In this situation, watch for a deepening to a blue-black color.
(3) Do not use these strips for gram-negative bacteria as those organisms will have a false positive reaction. For those organisms use K520, Key Oxidase Strips.
(4) This test is designed primarily to separate *Staphylococcus aureus* from *Micrococcus luteus*. Some strains of *Staphylococcus* (s*ciuri, lentus, vitulus, and fleuretii)* are ocassionally positive for oxidase. More tests are needed to separate those organisms. Refer to the Manual for Clinical Microbiology for suggested tests.

MATERIALS REQUIRED:

Key MicroCoxidase Test Strips require preliminary growth on appropriate media. Consult a reference such as the Manual of Clinical Microbiology for recommendations. Key MicroCoxidase strips are provided 25 per bottle. The following materials are needed but not provided:
distilled water
plastic or platinum loop or wood stick
forceps (if using optional method)

QUALITY CONTROL:

Positive and Negative controls should be run daily. There is room on each strip for both positive and negative controls to be run with each test if desired. Key suggests *Micrococcus luteus* ATCC 4698 for the positive control, and S*taphylococcus aureus* ATCC 25923 for the negative control. Discard used strips in a manner appropriate for biohazardous material.

STORAGE:

Store tightly covered in the **dark** at 2-8C. The chemicals in the strip are extremely sensitive to light and heat. Strips do not have to be warmed to room temperature to use.

REFERENCES:

(1) Bailey and Scott's Diagnostic Microbiology, 8th Edition. Chapters 26 & 28.
(2) Manual of Clinical Microbiology, 5th Edition, Chapters 30 & 41.
(3) Journal of Clinical Microbiology, June 1984,Vol 19, Chapter 6, page 875-879.

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