k980520 OXIDASE DROPPITS

DISCUSSION

Cytochrome oxidase is an enzyme which participates in the electron transport and nitrate metabolism mechanisms of some bacteria. The oxidase test can be used to initially characterize gram negative bacilli. Both fermentative and nonfermentative categories of bacteria include both oxidase positive and oxidase negative species. Most fermentors are oxidase negative, with the exceptions occuring in the genera *Vibrio, Pasteurella, Aeromonas* and *Chromobacterium.*

Most nonfermentors are oxidase positive. The oxidase test is also very useful for a presumptive identification of *Neisseria spp.*, as all *Neisseria spp*. are oxidase positive, though the enzyme involved is indophenol oxidase. Key Oxidase reagent indicates 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 piece of filter paper..

MATERIAL SAFETY DATA:

Oxidase sdroppits contain a solution of ascorbic acid and tetra methyl p-phenyl diamine 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 reagent.

INSTRUCTIONS:

(1)Moisten a piece of filter paper with the reagent. For ease in handling, simply lay the strip in the lid of the petri dish.
(2)Transfer a small amount of bacteria to the paper 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.

OPTIONAL METHOD:

Drop a drop onto the colony to be tested or drop into the control well of diagnostic strips such as API. The test will turn immediately. This will destroy the colonies touched by the reagent so be sure to have a backup plate if this method is used.

PRECAUTION \ LIMITATIONS:

(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.

MATERIALS REQUIRED:

Key Oxidase Reagent require preliminary growth on appropriate media. Consult a reference such as the Manual of Clinical Microbiology for recommendations. Key Oxidase reagent is provided in 3ml vials. The following materials are needed but not provided:
Filter paper
plastic or platinum loop or wood stick for harvesting

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 *E. coli ATCC 25922* for the negative control, and *Pseudomonas aeruginosa ATCC 27853* for the positive control. Discard used paper in a manner appropriate for biohazardous material.

STORAGE:

Store tightly covered in the **dark** at 2-8C. Exposure to light will destroy the reagents.

REFERENCES:

(1) Bailey and Scott's Diagnostic Microbiology, 8th Edition. Chapters 26 & 28.
(2) Manual of Clinical Microbiology, 5th Edition, Chapters 30 & 41.

KEY SCIENTIFIC PRODUCTS
1113 EAST REYNOLDS ST.
STAMFORD, TEXAS 79553
WWW.KEYSCIENTIFIC.COM
Voice 800-843-1539
Fax 888-440-4208