Proc.# **2013.008**

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| Procedure | Optochin (P) Disk |

**Principle:** The optochin disk tests the organism's fragility of the bacterial cell membrane by checking for its susceptibility to optochin (ethyl-hydrocuprein hydrochloride). Organisms that are susceptible to optochin can be presumptively reported as *Streptococcus pneumoniae* assuming they are alpha hemolytic streptococci.

**Specimen:**

1.0 ***Patient Preparation:*** Not applicable

2.0 ***Type of Specimen:*** Pure culture of alpha hemolytic streptococci.

3.0 ***Specimen Handling:*** Routine safety procedures for working in a bacteriological laboratory are followed.

**Equipment and Materials:**

1.0 ***Equipment*** 35-36°C incubator.

2.0 ***Materials:*** BAP, candle jar or other CO2 environment, sterile loop, Optochin disks.

3.0 ***Materials Preparation:*** No special preparation.

4.0 ***Peformance Parameters:*** Quality control organisms perform as expected.

5.0 ***Storage Requirements:*** BAPs and Optochin disks are stored at 2-8°C until use.

**Calibration:** Not applicable

**Quality Control:** Once a week quality control is performed on a known positive *(St. pneumoniae)* and a known negative (Streptococcus bovis) organism. Results are recorded on the OC spreadsheet. Patient tests should also be checked for purity of the organism before calling the test negative.

**Procedure:**

1. Pick 3-4 similar colonies and streak on a BAP in a lawn so confluent growth will be obtained.

2. Aseptically place an Optochin (P) disk in the center of the streaked area. Apply gentle pressure so the disk adheres to the plate.

3. Invert plate and place in 35-36°C incubator in candle jar.

4. Incubate 18-24 hours.

5. Interpretation:

a. A positive test is indicated by a zone of inhibition of at least 14 mm.

b. A negative test shows no zone of inhibition.

c. Zones of 6-14 mm should be considered negative or confirmed by setting up the gram positive combo plate if there is still doubt of the identification.

**Calculations:** Not applicable

**Reporting Results:** Results are recorded on the bacti worksheets and identification of any significant organism is reported via the microbiology computer system.

**Medical Alert Values:** See individual culture procedures for specific medical alert values.

**Notes:**

A pure culture should be used for the Optochin test to eliminate the possibility of false negative test.

1.0 ***Reference Ranges:*** *St. pneumoniae* can be isolated from a variety of clinical specimens. The significance of the presence of the organism is dependent on clinical judgment.

2.0 ***Abnormal Results:*** Not applicable

3.0 ***Reporting Format*** See Reporting Results

**References:**

Manual of Clinical Microbiolociy, 4th Ed., ASM, Washington, DC, 1985.

Package inserts from Taxo P Disks, BBL, Cockeysville, MD.

Contributor Lake Area Technical Institute, Watertown, SD

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