

## Taxo P Discs (Optochin)

### I. Principle

Taxo P discs are impregnated with approximately 5.0 mcg hydrocupreine hydrochloride (optochin). The growth of pneumococci, but not of other streptococci, is markedly inhibited by the chemical. Pneumococci may, therefore, be differentiated from other alpha-hemolytic streptococci by the formation of a zone of inhibition around a Taxo P disc placed on a blood agar plate heavily inoculated with a pure culture of suspected *Streptococcus pneumoniae*.

### II. Specimen

The organism to be presumptively identified must first be isolated as separate colonies by streaking the specimen onto blood agar.

### III. Reagents

- A. Reagents and materials used
  - 1. Taxo P disc (store at 2-8°C with desiccant until stated expiration date)
    - a. Allow to warm to room temperature before use
  - 2. Trypticase soy agar with 5% sheep blood (BAP). Store at 2-8°C until stated expiration date
  - 3. Bioloop or sterile swab
  - 4. Sterile forceps
  - 5. Millimeter ruler

### IV. Quality Control

- A. Quality control is performed upon receipt of the discs or prior to being placed into use and once weekly thereafter. The organisms used and their expected reactions are:
  - 1. *S. pneumoniae* ATCC 49619                      zone  $\geq$  14 mm
  - 2. *S. sanguis* (viridans) ATCC 10556              no zone formation
- B. If controls do not display expected results, patient isolates and quality control must be repeated. Notify the supervisor.

### V. Procedure

- A. Heavily inoculate a BAP with a pure culture of the patient's alpha-hemolytic *Streptococcus* isolate.
- B. With sterile forceps, place a Taxo P disc onto the inoculated plate.
- C. Incubate plate aerobically at 35°C for 24 hours or as needed to obtain good growth; incubation in a CO<sub>2</sub> enriched atmosphere will enhance growth but reduce zone size.
- D. Measure the diameter of the zone obtained with a millimeter ruler.

## **VI. Results**

- A. Zones of inhibition of 14 mm or more are formed with pure cultures of *S. pneumoniae*. Other organisms may show zone sizes less than 14 mm in diameter. A diameter between 6 and 14 mm is questionable for pneumococci and the strain should be presumptively identified as pneumococcus only if it is bile soluble.

## **VII. Limitations of Procedure**

- A. Taxo P Disc tests are presumptive. Additional tests include bile solubility.

## **VIII. References**

- A. Package insert: BBL Discs for Differentiation of Pneumococci. 1992. Becton Dickinson and Company.
- B. Facklam, RR and RB Carey. 1985. Streptococci and Aerococci, p. 169. In EH Lennette, A Balows, WJ Hausler Jr., HJ Shadomy. Manual of Clinical Microbiology, 4th ed. American Society for Microbiology, Washington, DC.

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Updates and Revisions: