



Optochin Discs

DD009

Optochin Discs are used for identification and differentiation of *Streptococcus pneumoniae* and Viridans Streptococci.

Directions

Prepare Soyabean Casein Digest Agar (M290) w/blood or Blood Agar Base (M073) plates and streak pure culture of organism to be tested across one half of the plate. Streak a known Pneumococcus culture across the other half of the plate as positive control. Immediately place Optochin discs in the centre of the two halves of the plate and incubate at 35-37°C for 18-24 hours. Observe for zone of inhibition around the discs.

Principle And Interpretation

Alpha haemolytic (viridans) streptococci and Pneumococcus (*Streptococcus pneumoniae*) cannot be easily distinguished on Blood Agar plates as pneumococci strain shows partial clearing of blood and greenish discolouration (α-hemolysis). Optochin is inhibitory for pneumococcal growth whereas other streptococci strains show good growth or a very small zone of inhibition. Bowers and Jeffries have shown a correlation between bile solubility and full Optochin susceptibility for the differentiation of *Streptococcus pneumoniae* from other streptococci (1).

Hence optochin test is a useful diagnostic aid for identification / differentiation of pneumococci and viridans Streptococci.

Optochin discs are filter paper discs impregnated with optochin. The test is based on the property of viridans streptococci to grow in the presence of Optochin (ethyl hydrocuprein hydrochloride) which inhibits pneumococci. This test is performed for the diagnosis of pneumococcal infections. Specimens of sputum, lung aspirate, pleural fluid, CSF, urine or blood are first examined by Gram's stain, cultured and the isolates are then subjected to Optochin Sensitivity Test.

Quality Control

Appearance

Filter paper discs of 6 mm diameter bearing letters "Op" in continuous printing style.

Cultural response

Cultural response observed after an incubation at 35-37°C for 18-24 hours at on seeded Soyabean Casein Digest Agar (M290) with added sterile defibrinated blood, using Optochin discs.

Organism	Zone of inhibition
<i>Streptococcus pneumoniae</i> ATCC 6303	More than or equal to 15mm

Storage and Shelf Life

Store at 2 - 8°C. Use before expiry date on the label.

Reference

1. Bowers E.F. and Jeffries L.R., 1995, J. Clin. Path., 8:58.

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