74042 Optochin Disks

The optochin test is a useful diagnostic aid for identification/differentiation of pneumococci and viridans streptococci. Optochin (ethyl hydrocuprein hydrochloride) is inhibitory for pneumococcal growth whereas other streptococci show good growth or a very small zone of inhibition. Because the alpha haemolytic (viridans) streptococci and pneumococci (*Streptococcus pneumoniae*) cannot be differentiated very easy on a Blood Agar plate (show both a partial clearing of blood and a greenish discolouration; α-haemolysis) a further test is used for the diagnosis of pneumococcal infections. These discs are for the examination of specimens like sputum, pleural fluid, lung aspirate, urine or blood. Correlation between bile solubility and full optochin susceptibility for the differentiation of *Streptococcus pneumoniae* from other streptococci was shown by Bowers and Jeffries (1).

Composition:
(1 package contains 50 disks)
Sterile filter paper discs impregnated with optochin

Directions:
First a Gram staining (Cat. No 77730) is made and then the optochin sensitivity test can be performed. Prepare Tryptone Soya Agar (Cat. No 22091) with blood or Blood Agar (Cat. No 70133) 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 37°C. Observe for zone of inhibition around the discs.

Quality control:
Cultural response after 18-24 hours at 35-37°C on seeded Tryptone Soya Agar (Cat. No 22091) with blood using optochin discs.

Test Organisms (ATCC)	Diameter of zone of inhibition
Streptococcus pneumoniae (6303)	15 mm
Streptococcus pyogenes (19615)	resistant to Optochin, no or marginal zone inhibition (≤ 13 mm)

References:

1. E.F. Bowers, L.R. Jeffries, J. Clin. Path., 8, 58 (1995)
2. Bouvet A., Grimont F., Grimont P.A.D., *Streptococcus defectivus sp. nov* and *Streptococcus adjacens sp. nov.*, nutritionally variant streptococci from human clinical specimens., Int. J. Syst. Bacteriol., 39, 290 (1989)
3. Baron E.J., Peterson L.R., Finegold S.M., Bailey and Scott's Diagnostic Microbiology., 9th edition. St. Louis, Mosby (1994)

Precautions and Disclaimer
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.