

Vancomycin Disk Test

I. PRINCIPLE

The vancomycin disk test is performed as a susceptibility procedure to help differentiate the Gram-positive, catalase-negative cocci. *Aerococcus*, *Gemella*, *Lactococcus*, *Streptococcus*, and some enterococci are susceptible to vancomycin. *Leuconostoc*, *Pediococcus*, *Lactobacillus*, and some enterococci are resistant.

II. REAGENTS

- A. Vancomycin Disks, 30 µg (BD Microbiology Systems). Store at 2-8 °C until stated expiration date
- B. BAP, Store at 2-8 °C until stated expiration date
- C. Sterile inoculating loop
- D. Sterile swabs
- E. Sterile forceps
- F. Sterile saline
- G. 0.5 McFarland turbidity standard

III. QUALITY CONTROL

- A. Quality control is performed with each new lot number of vancomycin disks and includes the following organisms and their expected reactions:

Control organisms:

E. faecalis ATCC 29212

E. coli ATCC 25922

Expected result

S (≥ 12 mm)

R (≤ 9 mm)

- B. If controls do not display expected results, controls must be repeated. Notify the supervisor.

IV. PROCEDURE

- A. Using a pure culture of catalase-negative, gram-positive cocci, prepare a suspension in sterile saline. The suspension should be equivalent to a 0.5 McFarland turbidity standard.
- B. Using a sterile swab, inoculate a BAP with the bacterial suspension. Streak the entire plate in 3 directions to enhance confluent growth.
- C. Place a vancomycin disk on the inoculated BAP.
- D. Incubate at 35 °C in a CO₂ incubator for 18-24 h.
- E. Observe the plate for the presence of a zone of inhibition around the vancomycin disk.

V. INTERPRETATION

- A. *Leuconostoc* sp., *Pediococcus* sp., *Lactobacillus* sp., and some *Enterococcus* sp. are resistant to vancomycin with growth to the edge of the disk (≤ 9 mm).
- B. *Aerococcus* sp, *Gemella* sp., *Lactococcus* sp., *Streptococcus* sp., and some *Enterococcus* sp. are susceptible to vancomycin and produce a zone of inhibition (≥ 12 mm).

VI. REFERENCES:

- A. Koneman, E.W., S.D. Allen, W.M. Janda, P.C. Schreckberger, W.C. Winn, Jr., 1992. Diagnostic Microbiology, 4th ed., J.B. Lippincott Company, Philadelphia.
- B. Murray, P.R., E.J. Baron, M.A. Pfaller, F.C. Tenover, R.H. Tenover. 1995. Manual of Clinical Microbiology, 6th ed., ASM Press, Washington, D.C.
- C. Package insert: BBL Sensi-Disc Antimicrobial Susceptibility Test Discs, 1990. Becton Dickinson and Company.

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Updates and Revisions: