



Bennet's Agar

M694

Bennets Agar is used for the sporulation and cultivation of *Nocardia* and *Streptomyces* species.

Composition**

Ingredients	Gms / Litre
Yeast extract	1.000
Beef extract	1.000
Casein enzymic hydrolysate	2.000
Dextrose	10.000
Agar	15.000
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 29 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Nocardia are found worldwide in soil that is rich with organic matter. Most *Nocardia* infections are acquired by inhalation of the bacteria or through traumatic introduction. *Nocardia* are opportunistic pathogens, causing disease primarily among the young, the elderly, and those who are immunocompromised. *Nocardia* typically induce a pyogenic response with abscess formation. *Nocardia* cause disease in every region of the body. However, the regions of the body most affected are lungs, skin, eyes, and muscle (1). *Streptomyces* are found predominantly in soil and in decaying vegetation, and most produce spores. *Streptomyces* are most commonly limited to causing actinomycotic mycetoma (2). Areas of the body more prone to formation of mycetomas are those that are frequently traumatized or that come into contact with soil.

Developments in cultivation and selective isolation procedures have yielded information on the occurrence, distribution, number and activity of *Nocardiaceae* family members (3). Bennets Agar has been recommended by Jones (4) for cultivation of *Nocardia*.

The medium contains nitrogenous nutrients such as yeast extract, beef extract and casein enzymic hydrolysate. They also serve as sources of carbon and essential growth factors. Dextrose is an energy source.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Light yellow coloured, clear to slightly opalescent gel forms in Petri plates.

Reaction

Reaction of 2.9% w/v aqueous solution at 25°C. pH : 7.3±0.2

pH

7.10-7.50

Cultural Response

M694: Cultural characteristics observed after an incubation at 25-30°C for 24-48 hours.

Organism

Growth

Streptomyces griseus ATCC 10137 luxuriant

Streptomyces lavendulae luxuriant
ATCC 8664

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

1. Murray P. R., Baron E. J., Jorgensen J. H, Pfaller M. A., Tenover F. C., Tenover F. C., (Eds.), 8th Ed., 2003, Manual of Clinical Microbiology, ASM, Washington, D.C.
2. Mahgoub E.S., 1990, Principles and Practice of Infectious Disease, 3rd Ed., Churchill Livingstone, New York.
3. Goodfellow M. and A.G. O'Donnell, 1989, In: S. Baumberg, M. Rodes and I. Hunter (Ed) Microbial Products: New Approaches. Cambridge University Press, Cambridge. 343-383.
4. Jones K.L., 1949, J. Bacteriol. 57:141-145.

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