Bennet's Broth

M1683

Intended Use:

Recommended for cultivation and maintenance of species of *Nocardia, Streptomyces* and *Micromonospora.*

Composition**

Ingredients	g/ L
Yeast extract	1.000
HM peptone B #	1.000
Tryptone	2.000
Dextrose (Glucose)	10.000
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters
Equivalent to Meat extract B

Directions

Suspend 14.00 grams in 1000 ml purified / distilled water. Heat if necessary to dissolve the medium completely. Dispense in tubes or flasks as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Aerobic actinomycetes are commonly termed nocardioform. These nocardioform bacteria include organisms that are recognized human pathogens, as well as several species that are primarily found in the environment (1) developments in cultivation and selective isolation procedures have yielded information on the occurrence, distribution, number and activity of Nocardiaceae family for cultivation of Nocardiae (2). Bennet's liquid medium (devoid of agar) is used for the enrichment of cultivation of Nocardiae (3) which eventually can be isolated on Bennet's agar (M694).

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 (4). Streptomycetes are found predominantly in soil and in decaying vegetation, and most produce spores. *Streptomyces* are most commonly limited to causing actinomycotic mycetoma (5). 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 (6).

The medium contains nitrogenous and carbonaceous nutrients such as yeast extract, HM peptone B and tryptone. They also serve as sources of long chain amino acids and essential growth factors. Dextrose is an energy source.

Type of specimen

Clinical samples - Sputum, respiratory secretions, pus, abscesses.

Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (7,8).
After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro diagnostic Use only. For professional use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1. Further biochemical and serological tests must be carried out for further identification.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder
Colour and Clarity of prepared medium
Light yellow coloured clear solution
Reaction
Reaction of 1.4% w/v aqueous solution at 25°C. pH : 7.3±0.2
pH
7.10-7.50
Cultural Response
Cultural characteristics observed after an incubation at 30°C for 24-48 hours.

Organism	Growth
Streptomyces griseus	luxuriant
Streptomyces lavendulae ATCC 8664	luxuriant
Nocordia salmonicolor	luxuriant

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 15-30°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (7,8).

Reference

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Plot No.C-40, Road No.21Y,
MIDC, Wagle Industrial Area,
Thane (W) -400604, MS, India

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