



Starch M-Protein Agar

M801

Intended Use:

Recommended for detection of saccharolytic marine bacteria.

Composition**

| Ingredients | Gms / Litre |
|---------------------|-------------|
| M-protein powder | 1.000 |
| Starch | 10.000 |
| Sea water | 37.000 |
| Agar | 15.000 |
| Final pH (at 25°C) | 7.2±0.2 |

**Formula adjusted, standardized to suit performance parameters

- Equivalent to Casein powder

Directions

Suspend 63.0 grams in distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Starch M-Protein Agar is recommended for detection of saccharolytic marine bacteria and actinomycetes (1, 2). Widely distributed in nature, actinomycetes constitute a considerable proportion of the population of soil, lakes and river muds. Traditionally actinomycetes have been isolated from terrestrial sources, although the first report of mycelium forming actinomycetes being recovered from marine sediments appeared several decades ago (3) Marine sediments are known potential sources for isolation of novel actinomycetes yielding new products and are recognized as source of novel antibiotic and anticancer agents (4,5). The actinomyces have an extensive impact on the environment by decomposing and transforming a wide variety of complex organic residues. *Actinomycetes* thus represent an important group of microbes found in environment and plays significant role not only in therapeutic applications but also on recycling of organic matter (6). This medium has starch as the complex carbohydrate source and M-protein powder as nitrogen source. The salts of seawater provides complex ionic sources that makes the medium suitable for marine microbial flora and also buffers the medium.

Type of specimen

Marine isolates

Specimen Collection and Handling

For marine samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards. After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

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 specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. Due to nutritional variations, some strains may show poor growth on media.
2. Further biochemical tests must be carried out for confirmation.

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

Off-white to yellow coloured homogeneous free flowing powder

Please refer disclaimer Overleaf.

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Yellow coloured clear to slightly opalescent gel forms in petri plates.

Reaction

Reaction of 6.3% aqueous solution at 25°C. pH : 7.2±0.2

pH

7.00-7.40

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours .

Cultural Response

| Organism | Growth | Inoculum (CFU) | Recovery |
|---|----------------|----------------|----------|
| Cultural Response <i>Streptococcus limosus</i> ATCC 19778 | luxuriant | 50-100 | >=50% |
| <i>Streptomyces praecox</i> ATCC 3374 | luxuriant | 50-100 | >=50% |
| <i>Vibrio cholerae</i> ATCC 15748 | good-luxuriant | 50-100 | >=50% |

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°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. Use before expiry date on the label.

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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