M-BCG Yeast and Mould Agar

M1504

Intended Use:

Recommended for the detection of fungi in routine analysis of beverages using membrane filtration technique.

Composition**

Ingredients	g / L
Yeast extract	9.000
Dextrose (Glucose)	50.000
Biopeptone	10.000
Magnesium sulphate	2.100
Potassium dihydrogen phosphate	2.000
Diastase	0.050
Thiamine hydrochloride	0.050
Bromocresol green	0.026
Agar	15.000
Final pH (at 25°C)	4.6±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 8.82 grams in 100 ml purified/distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at Δ 118-121°C for 10 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Δ corresponds to 12-15 lbs pressure respectively

Principle And Interpretation

The microbiology of beverages will vary greatly depending upon the method of processing and the means of preservation. High microbial populations often indicate poor quality in raw material, unsanitary equipments or opportunity for growth in the food at some stage in the process. Heat processed beverages will be free of aciduric microorganism but may yield low numbers of viable spore forming bacteria when cultured on non-selective media. Bacteria cannot grow in the high acid environment and therefore direct microscopic count for yeast, bacteria or moulds may provide a clue to the conditions of sanitization during processing. Heat resistant spores may be present in low numbers. Because of their slow growth and poor competitive ability, yeast and moulds often manifest themselves on or in foods in which the environment is less favourable for bacterial growth. M-BCG (Bromocresol Green) Yeast and Mould Agar is used for the detection of fungi in routine analysis of beverages using membrane filter technique (1).

This medium is used for enrichment of yeasts and moulds from populations containing bacteria.

The medium is highly nutritious for the growth of yeasts and moulds. Biopeptone and yeast extract provide nitrogenous compounds and vitamin B complex. Thiamine is also a B vitamin in the medium. Dextrose acts as the energy source. Diastase is a mixture of amylolytic enzymes. Bromocresol green is the pH indicator, which is green at acidic pH (pH 4.0) while blue at pH 5.6. Potassium phosphate helps in maintaining buffering action in the medium. The low pH inhibits bacterial growth. The membrane filter is directly placed on the agar surface of M-BCG Yeast and Mould Agar and incubated at 30-35°C for 48 hours.

Type of specimen

Beverage samples

Specimen Collection and Handling

For beverage samples follow appropriate techniques for handling specimens as per established guidelines (2,3). 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. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
2. Further biochemical testing is required for complete 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 light green homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Green coloured opalescent gel forms in Petri plates

Reaction

Reaction of 8.82% w/v aqueous solution at 25°C. pH : 4.6±0.2

pH

4.40-4.80

Cultural Response

Cultural characteristics observed after an incubation at 25 - 30°C for 48 - 72 hours.

Organism	Inoculum (CFU)	Growth
#*Aspergillus brasiliensis* ATCC 16404 (00053*)	50-100	good-luxuriant
Candida albicans ATCC 10231 (00054*)	50-100	good-luxuriant
Saccharomyces cerevisiae ATCC 9763 (00058*)	50-100	good-luxuriant

Key : (*) - Corresponding WDCM numbers. (#) - Formerly known as *Aspergillus niger*

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°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 sample must be decontaminated and disposed of in accordance with current laboratory techniques (2,3).

Reference

1. MacFaddin J.F., 1985, Media for Isolation –Cultivation-identification-Maintenance of Medical Bacteria,Vol. I, Williams and Wilkins, Baltimore.
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
3. Jorgensen, J.H., Pfaller , M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W.(2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

Revision : 03 / 2025