Malt Agar, Modified

M1873

Malt Agar, Modified is used for the isolation and enumeration of yeasts and moulds from food products in accordance with FDA BAM, 1998.

Composition**

Ingredients	Gms / Litre
Malt extract (Powdered)	20.000
Agar	20.000
Final pH (at 25°C)	5.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 40 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 121°C for 15 minutes. Cool to 45-50°C and dispense as desired.

Principle And Interpretation

Media based on malt extract is appreciated by many microbiologists due to their richness and nutrient balance especially for the cultivation of fastidious microorganisms. With acidic pH, they are used for the isolation, cultivation and maintenance of yeast and moulds. In 1919, Reddish (1) prepared a satisfactory substitute for beer wort from malt extract. Malt Agar, Modified is recommended for the isolation and enumeration of yeasts and moulds from food products in accordance with FDA BAM, 1998 (2 , 3). This medium can also be used as a general maintenance medium for fungi. Malt extract provides carbon, protein and nutrient sources required for the growth of microorganisms. The acidified medium inhibits the growth of bacteria and allows good recovery of yeasts and moulds.

According to the BAM protocol, 25-50g of the sample should be considered for evaluation. Appropriate dilutions are made using 0.1% peptone water. Spread plate or pour plate can be used for plating the sample. Dichloran Glycerol Medium Base (M1129) can be used for pour plate technique while Dichloran Glycerol Medium Base (M1129) or Dichloran Glycerol Medium Base w/Rose Bengal (M1000) can be used for spread plate techniques. Incubate the plates at 250C for 5 days and the average number of colonies of 3 tests is reported. These colonies are further sub cultured into Potato Dextrose Agar w/2% Agar (M096F) or Malt Agar, Modified (M1873).

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 2.0% Agar gel

Colour and Clarity of prepared medium

Yellow coloured clear to slightly opalescent gel forms in Petri plates or tubes as slants

Cultural Response

Cultural characteristics observed after an incubation at 25 - 30°C for 40 - 48 hours .

Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery
Cultural Response			
Aspergillus brasiliensis ATCC 16404	50-100	good-luxuriant	
Candida albicans ATCC 10231	50-100	good-luxuriant	>=70%

Saccharomyces cerevisiae ATCC 9763	50-100	good-luxuriant >=70%

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.Reddish, A. 1919. Abstr. Bacteriol 3(6).
2.FDA, U.S. 1998. Bacteriological Analytical Manual. 8 ed. Gaithersburg, MD: AOAC International.
3.Official Methods of Analysis of the Association of Official Analytical Chemists. 2005A. S Williams Ed. 19 ed. Washington, D. C: AOAC.

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