Malt Agar

M253

Malt Agar is used for the detection and isolation of yeasts and moulds from dairy products, foods and other materials. Also used for carrying stock cultures of yeasts and moulds.

Composition**

Ingredients	Gms / Litre
Malt extract	30.000
Agar	15.000
Final pH (at 25°C)	5.5±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 45 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 118°C for 15 minutes. Avoid overheating, as it will result in a softer and darker agar.

Principle And Interpretation

Media based on malt extract may be considered as general growth substrates due to their richness and nutrient balance. They are very suitable for the cultivation of fastidious microorganisms. With acidic pH, they are used for the isolation, cultivation and maintenance of yeast and moulds.

Malt media for yeasts and moulds have been widely used for many years. In 1919, Reddish (1) prepared a satisfactory substitute for beer wort from malt extract. Malt Agar is included in Official Methods of Analysis of AOAC International (2). It is recommended by APHA (3) for use in both antibiotic and acidified standard methods for yeast and mould counts in food. This medium is also used for maintaining stock cultures of fungi.

Malt Agar contains malt extract, which 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 (4). Heating process during rehydration and sterilization should be for shorter period as excessive heat causes partial hydrolysis of the agar, which results in inability to gel properly when cooled. If desired additional 5 grams of agar may be added.

Quality Control

Appearance
Cream to brownish yellow homogeneous free flowing powder

Gelling
Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium
Light amber coloured clear to slightly opalescent gel forms in tubes or Petri plates

Reaction
Reaction of 4.5% w/v aqueous solution at 25°C. pH : 5.5±0.2

pH
5.30-5.70

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

Cultural Response

Organism	Inoculum (CFU)	Growth	Recovery
**Aspergillus brasiliensis* ATCC 16404	50-100	luxuriant	

Candida albicans ATCC 10231	50-100	luxuriant	>=70%
Saccharomyces cerevisiae ATCC 9763	50-100	luxuriant	>=70%

**Key: Formerly known as Aspergillus niger*

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, 1919, Abstr. Bacteriol., 3:6.
2. Williams, (Ed.), 2005, Official Methods of Analysis of the Association of Official Analytical Chemists, 19th Ed., AOAC, Washington, D.C.
3. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.
4. Can. Dept. Agr. Pamphlet, 92-N.S.

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