Malt Extract Glucose Peptone Agar

M1874

Malt Extract Glucose Peptone Agar is recommended for the detection, isolation and enumeration of yeasts and moulds in accordance with FDA BAM, 1998.

Composition**

Ingredients	Gms / Litre
Malt extract (Powdered)	20.000
Glucose	20.000
Peptone	1.000
Agar	20.000
Final pH (at 25°C)	5.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 61.0 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15lbs pressure (121°C) for 15 minutes. Cool to 45- 50°C and pour into sterile Petri plates.

Principle And Interpretation

Yeasts and moulds are known to cause various degrees of deterioration and decomposition of foods. They can invade and grow on any type of processed or unprocessed foods and in food mixtures. Several food borne moulds and possibly yeasts may also be hazardous to human and animal health because of their ability to produce mycotoxin.

The laboratory diagnosis of fungal infection relies largely on direct as opposed to indirect methods. The use of malt and malt extracts for the propagation of yeasts and moulds is quite common. Reddish (1) described a culture medium prepared from malt extract that was a satisfactory substitute for wort. Malt Extract Glucose Peptone Agar is recommended by FDA BAM, 1998 for the detection, isolation and enumeration of yeasts and moulds (2). Malt extract provides an acidic environment and nutrients favorable for growth and metabolism of yeasts and moulds. Peptone being the nitrogen source supports the luxuriant growth of the organisms. For mycological count, it is advisable to adjust the reaction of medium more acidic with addition of 10% lactic acid. Antibiotics such as chloramphenicol may be added as sterile solutions to the molten medium immediately before pouring into sterile Petri plates (3) in order to suppress bacterial growth. *Aspergillus* , *Penicillium* and most other foodborne mould genera may be directly viewed on this medium with low power (10-30X) magnification.

Quality Control

Appearance
Cream to beige homogeneous free flowing powder

Gelling
Firm, comparable with 2.0% Agar gel

Colour and Clarity of prepared medium
Amber coloured clear to slightly opalescent gel forms in Petri plates

Reaction
Reaction of 6.1% w/v aqueous solution at 25°C. pH : 5.4±0.2

pH
5.20-5.60

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

Cultural Response

Organism	Inoculum (CFU)	Growth

Cultural Response

Aspergillus brasiliensis ATCC 16404	50-100	luxuriant
Candida albicans ATCC 10231	50-100	luxuriant
Penicillium notatum ATCC 10108	50-100	luxuriant
Penicillium chrysogenum ATCC 10106	50-100	luxuriant

Storage and Shelf Life

Store below 30°C in tightly closed container and prepared medium at 2-8°C. Use before expiry date on 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.Gallowey, L. D, and Burgess, R. 1952. Applied Mycology and Bacteriology.Leonard Hil Ed. 3 ed. London.

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