Malt Extract Agar Base, Modified as per Thom and Church M995

Malt Extract Agar Base, Modified as per Thom and Church is recommended for isolation, detection and enumeration of yeasts and moulds.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	0.780
Maltose	12.750
Dextrin	2.750
Agar	15.000
Final pH (at 25°C)	4.7±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 31.28 grams in 1000 ml distilled water. Add 2.35 gm glycerol. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Avoid overheating.

Principle And Interpretation

Malt Extract medium is recommended for the isolation, detection and enumeration of yeasts and moulds. Malt Extract Agar has been used for many years for the detection of yeast and moulds in a wide variety of materials including dairy products and foods (4). The medium is also suitable for maintaining stock cultures of fungi.

Reddish (1) described a medium prepared from malt extract which was an acceptable substitute for wort. Following the formula of Reddish, Thom and Church (2) used Malt extract as a base from which they prepared the complete media.

Peptic digest of animal tissue provide essential growth nutrients for the growth of fungi. Maltose and dextrin are the suitable carbohydrates for the growth of fungi. The low pH inhibits bacterial growth (3).

Streak the specimen as soon as possible after it is received in the laboratory. Consult appropriate references for information regarding the processing and inoculation of specimens (5). For isolation of fungi from potentially contaminated specimen, a selective medium should be inoculated along with the non-selective medium. Incubate the plates at 25 to 30°C with increased humidity for upto 7 days. Examine the plates for fungal colonies and for confirmation, perform biochemical test and serological diagnosis.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

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 3.12% w/v aqueous solution at 25°C. pH : 4.7±0.2

pH
4.50-4.90

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%

*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, Abst. Bact., 3:6.
2. Thom and Church, 1926, The Aspergilli.
3. Lennett, Balows, Hausler and Shadomy (Eds.), 1985, Manual of Clinical Microbiology, 4th ed., ASM, Washington, D.C.
4. Downes F. P. and Ito K., (Ed.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed. American Public Health Association, Washington, D.C.
5. Ajello L., Georg L. K., Kaplan W. and Kaufman L., 1963, CDC Laboratory Manual for Medical Mycology, Washington, D. C.

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