

Technical Information

Malt Extract Agar Base, Modified as per Thom and Church

Product Code: DM 1995

Application: - 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

Principle & Interpretation

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.

Malt Extract Agar has been used for many years for the isolation, detection of and enumeration 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.

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, perform biochemical test and serological test for confirmation.

Methodology

Suspend 31.28 grams of powder media in 1000 ml distilled water. Add 2.35 gm glycerol. Shake well & heat to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Avoid overheating.

Quality Control

Physical 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 Range 4.50-4.90

Cultural Response/Characteristics

DM 1995: Cultural characteristics observed after an incubation at 25 - 30°C for 40 - 48 hours

Organism	Inoculum (CFU)	Growth	Recovery
* <i>Aspergillus brasiliensis</i> ATCC 16404	50-100	good-luxuriant	
<i>Candida albicans</i> ATCC 10231	50-100	good-luxuriant	≥70%
<i>Saccharomyces cerevisiae</i> ATCC 9763	50-100	good-luxuriant	≥70%

Storage and Shelf Life

Dried media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

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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