



Malt Extract Broth Base

M255

Malt Extract Broth Base is recommended for the detection, isolation and enumeration of yeasts and moulds.

Composition**

Ingredients	Gms / Litre
Malt extract	17.000
Mycological peptone	3.000
Final pH (at 25°C)	5.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 20 grams in 1000 ml distilled water and soak for 15 minutes. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 10 lbs pressure (115°C) for 10 minutes. Mix well before dispensing. Avoid overheating. If desired, to adjust acidic pH use 10% Lactic Acid (FD095).

Principle And Interpretation

The laboratory diagnosis of fungal infection relies largely on direct as opposed to indirect methods. Diagnosis is almost always based upon the mycological laboratory investigation. Considerable importance should be placed upon direct microscopy in addition to isolation of the organisms. Media used for the isolation of fungi are acidic and are designed to be inhibitory to bacteria. 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 Medium is similar to the formula of Galloway and Burgess (2) used for the detection, isolation and enumeration of yeasts and moulds. Malt Extract Broth is recommended for the examination of yeasts and moulds in the U.S. Food and Drug Administrations Bacteriological Analytical Manual (2). For mycological counts it may be desirable to prepare more acidic medium in order to suppress bacterial growth.

Malt extract provides an acidic environment and nutrients favourable for growth and metabolism of yeasts and moulds. Mycological peptone rapidly gives a luxuriant growth with typical morphology and pigmentation. For mycological count, it is advisable to adjust the reaction of medium more acidic with addition of 10% lactic acid. Antibiotics may be added as sterile solutions to the molten medium immediately before dispensing into sterile tubes (3) in order to suppress bacterial growth.

Malt Extract Broth Base has been widely used in the maintenance, isolation and identification of fungi and it is also proposed in several pharmacopeias as a medium for the control of sterility in pharmaceutical products, though it is mostly used for comparative morphological studies.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Amber coloured clear solution in tubes

Reaction

Reaction of 2.0% 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
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Cultural Response

* <i>Aspergillus brasiliensis</i> ATCC 16404	50-100	luxuriant
<i>Candida albicans</i> ATCC 10231	50-100	luxuriant
<i>Saccharomyces cerevisiae</i> ATCC 9763	50-100	luxuriant

*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 A., 1919, Abstr. Bacteriol., 3:6.
2. FDA Bacteriological Analytical Manual, 2005, 18th Ed., AOAC, Washington, DC.
3. Galloway L. D. and Burgess R., 1952, Applied Mycology and Bacteriology, 3rd Ed., Leonard Hill, London, pg. 54 and 57.

Revision : 1 / 2011

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