



## Malt Extract Broth Base, Granulated<sup>®</sup>

GM255

### Intended Use:

For the detection, isolation and enumeration of yeasts and moulds.

### Composition\*\*

| Ingredients         | g / L   |
|---------------------|---------|
| 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 20.0 grams in 1000 ml purified/distilled water and soak for 15 minutes. Sterilize by autoclaving at  $\Delta$  115°C for 10 minutes. Mix well and dispense in sterile tubes or flasks as desired. **AVOID OVERHEATING**. If desired, to adjust acidic pH use 10% Lactic Acid (FD095).

$\Delta$  Corresponds to 10 lbs pressure.

### 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 (3). 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 (2) 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 pharmacopoeias as a medium for the control of sterility in pharmaceutical products, though it is mostly used for comparative morphological studies.

### Type of specimen

Clinical samples - skin scrapings

### Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (4,5). After use, contaminated materials must be sterilized by autoclaving before discarding.

### Warning and Precautions

In Vitro diagnostic Use only. For professional use only. Read the label before opening the container. Wear protective gloves/ protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

### Limitations

1. Due to variable nutritional requirements, some strains may show poor growth in this medium.
2. Slight colour variation may be observed depending upon the utilization of the substrate by the organism.

3. Further biochemical identification of organisms is required for confirmation.
4. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
5. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.

## Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

## Quality Control

### Appearance

Cream to yellow granulated 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.

| Organism   | Inoculum (CFU) | Growth    |
|--|----------------|-----------|
| # <i>Aspergillus brasiliensis</i> ATCC 16404 (000053*) | 50-100         | Luxuriant |
| <i>Candida albicans</i> ATCC 10231 (00054*)            | 50-100         | Luxuriant |
| <i>Saccharomyces cerevisiae</i> ATCC 9763 (00058*)     | 50-100         | Luxuriant |

Key: (\*) Corresponding WDCM numbers, # - Formerly known as *Aspergillus niger*

## Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 15-30°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

## Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (4,5).

## Reference

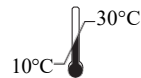
1. Reddish A., 1919, Abstr. Bacteriol., 3:6.
2. Galloway L. D. and Burgess R., 1952, Applied Mycology and Bacteriology, 3rd Ed., Leonard Hill, London, pg. 54 and 57.
3. FDA Bacteriological Analytical Manual, 2005, 18th Ed., AOAC, Washington, DC.
4. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
5. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.



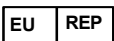
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**In vitro diagnostic  
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